

# Budget, Finance, and Economic Development Committee on 2022-04-06 9:00 AM - End time: 4:55 p.m.

Meeting Time: 04-06-22 09:00

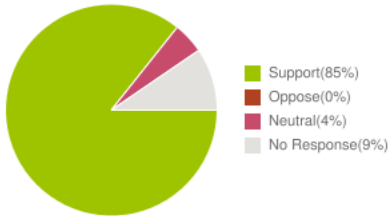
## eComments Report

Meetings	Meeting Time	Agenda Items	Comments	Support	Oppose	Neutral
Budget, Finance, and Economic Development Committee on 2022-04-06 9:00 AM - End time: 4:55 p.m.	04-06-22 09:00	2	21	18	0	1

### Sentiments for All Meetings

The following graphs display sentiments for comments that have location data. Only locations of users who have commented will be shown.

#### Overall Sentiment



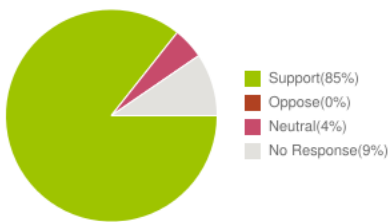
**Budget, Finance, and Economic Development Committee on 2022-04-06 9:00 AM - End time: 4:55 p.m.**  
04-06-22 09:00

Agenda Name	Comments	Support	Oppose	Neutral
A G E N D A	6	5	0	1
BFED-1 Reso 22-80 PROPOSED FISCAL YEAR 2023 BUDGET FOR THE COUNTY OF MAUI (BFED-1)	15	13	0	0

### Sentiments for All Agenda Items

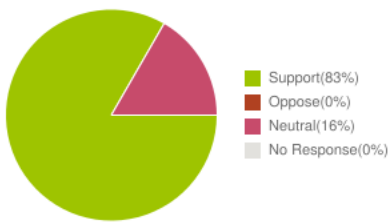
The following graphs display sentiments for comments that have location data. Only locations of users who have commented will be shown.

#### Overall Sentiment



#### Agenda Item: eComments for A G E N D A

#### Overall Sentiment



#### Guest User

Location:

Submitted At: 6:06pm 04-05-22

/Users/Peter/Desktop/PWC Maalaea wastewater testimony.docx

#### Peter Cannon

Location:

Submitted At: 6:03pm 04-05-22

/Users/Peter/Desktop/PWC Maalaea wastewater testimony.docx

#### Carolee Jones

Location:

Submitted At: 5:36pm 04-05-22

Ma'alaea Wastewater Funding: To create a localized wastewater treatment plant as an alternative to injection wells that are polluting Ma'alaea Bay.

Creating this wastewater treatment plant will be a big step forward in preserving our beautiful reefs and clean ocean waters!

**Travis Liggett**

Location:

Submitted At: 4:52pm 04-05-22

Aloha Chair Rawlins-Fernandez and Members of the Budget Committee,

I am writing to point out a critical public health and environmental issue that needs emergency funding in the FY2023 County budget. That need is the installation of ultraviolet light wastewater disinfection capability for injection well discharges at the Kahului-Wailuku municipal wastewater reclamation facility. County of Maui ceased chlorine disinfection of injected municipal wastewater at Kahului in 2018, and since then has not employed any disinfection step for secondary wastewater discharged into nearshore injection wells that flow directly into the ocean via groundwater. We need a law requiring 100% municipal wastewater disinfection such as Bill 52, and we need about \$6 million as cited by the Department of Environmental Management to install UV disinfection in Kahului. Please move quickly on targeted funding to install UV disinfection capability in Kahului. Do not wait on planned comprehensive "R-1" upgrades in future years. The state R-1 standards for fecal coliform need to be met for all municipal wastewater discharges now. Please act to fund municipal ultraviolet wastewater disinfection at Kanaha, for the keiki, the kanaka and the kupuna.

Included please find a document that makes a case for 100% municipal wastewater disinfection in Kahului.

Please visit our new online education system called FlushAware.com. FlushAware teaches Maui Island users the treatment level & destination of their wastewater disposal method, and provides actions for activism & improving life downstream.

Visit today:

[www.FlushAware.com](http://www.FlushAware.com)

Mahalo Members for your hard work!

Sincerely,

Travis Liggett

President, Reef Power LLC

[info@reefpowermaui.com](mailto:info@reefpowermaui.com)

[www.instagram.com/reefpowermaui](http://www.instagram.com/reefpowermaui)

[www.instagram.com/flushaware](http://www.instagram.com/flushaware)

**Bobbie Best**

Location:

Submitted At: 3:37pm 04-05-22

Ma'alaea Wastewater Funding to create a localized wastewater treatment plant as an alternative to injection wells that are polluting Ma'alaea Bay.

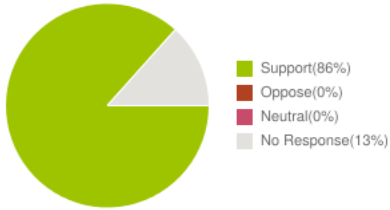
**Lyndon Ibele**

Location:

Submitted At: 9:00am 04-05-22

The Ma'alaea Village Association submits the attached testimony in regards to the County's proposed budget for FY2023 and the lack of funding for a modern wastewater treatment and disposal facility for the village of Ma'alaea. Please see the attached file.

## Overall Sentiment



## Guest User

Location:

Submitted At: 3:23pm 04-06-22

Mayor's FY 2023 budget/ Culture and Arts

Aloha Chair Lee, VC Rawlins, and Council Members,

Mahalo for always allowing me to share my mana'o with you. You all know me as Aunty Mopsy community advocate. I come to you with a different kuleana. I had the privilege of graduating as a Kumu Hula under Ma'iki Aiu Lake in 1974.

Hula has always been part of my Life. As we were taught, Hula is Life and it came with many stories of our beginning as a culture. Mahalo to our King, Kalakaua, also referred to as the Merrie Monarch, who traveled to all the islands to revive the teachings taught underground, of ancient dance and folklore. The invitation of dance and music became part of a celebration at the Iolani Palace. My Memories of Pageantry through chants and dance with Halau Hula O Ma'iki at the Palace will never be forgotten.

Born at that time during 1920's when song with Hawaiian Language lyrics were largely frowned upon, hapa-haole songs with their English lyrics and made up Hawaiian words found an audience drawn to their romanticized description of the scenery and nature of the Hawaiian Islands. Songs such as "Lovely Hula Hands," "Waikiki," and "My Yellow Ginger Lei" are among the favorites of hapa-haole Hula today.

Our chants and songs tell the story of our heritage and our Kuleana to the 'ina, Our way of life. The Art of Hula is life and the construction of H\_lau for \_\_iwi Art provides a long-overdue support for the culture and practitioners that make our home so special. Through the accomplishments of Our Kumu Hula and their Halau's here on Maui, has brought much attention to the Hula world. We cannot forget Maui's musicians who create the beautiful music that they dance to. They tell and celebrate the stories of our home, sing of its beauty and bring both joy and pride to our larger community.

Maui has a chance to be a leader for our state and global community. Instead of being the state of Aloha, we will be the State of Kuleana, taking care of providing the enrich culture of our heritage. Let's continue what King Kalakaua set out to do for the people of Hawaii, bringing life to the folklore and teachings of our k\_puna.

I ask for your kokua in voting to support the full funding of the H\_lau for ' \_iwi Art.

Ke Akua continue to shower you with his blessings for your decisions that you make, for the people of Maui.

Malama Pono,  
Aunty Mopsy

Guest User

Location:

Submitted At: 2:56pm 04-06-22

Testimony in Strong Support of Funding for the H\_lau of \_\_\_iwi Art ("HOA")

My name is Darna Miguel, I was born and raised on Moloka'i. I now live on Maui which I call home.

Mahalo for the opportunity to testify in strong support of funding for the H\_lau of \_\_\_iwi Arts in the proposed FY 2023 budget.

The H\_lau of \_\_\_iwi Art would provide long-overdue support for the culture and practitioners that make our home so special.

Hula is integral to the culture of our community. It preserves knowledge and traditions that have been passed down for generations. Hula and h\_lau hula also represent our islands throughout Hawai\_i and the world. On Maui, so many of the h\_lau hula, kumu hula, and practitioners have brought so much joy and pride to our island.

The H\_lau of \_\_\_iwi Art would support and celebrate the arts and practices of our home. An investment in Hula is ultimately an investment in community. Our island once again has the chance to be a leader for our state and global community. Providing a space dedicated to and designed through the lens of Hula creates a visible and reliable space for education, performance, preservation, and excellence of art and culture in our own home.

Further, as a cultural center for our community and the world, the H\_lau of \_\_\_iwi Art will foster relationships, inspire connection, and uphold cultural excellence.

This space is not only an investment for the near future but will have lasting impacts on our community identity for generations to come.

Mahalo for your service to our island home. Please vote to support full funding of the H\_lau of \_\_\_iwi Art.

Mahalo nui,  
Darna Miguel

**Guest User**

Location:

Submitted At: 2:50pm 04-06-22

April 5, 2022

Re: Testimony in Strong Support of Funding for the H\_lau of \_\_\_iwi Art ("HOA")

Aloha mai k\_kou,

I am H\_k\_lani Holt, Kumu Hula of P\_\_\_ O Hi\_iaka. Waik\_k\_, O\_ahu is my birthplace, Waiehu, Maui is the place that I was raised, and I currently live in Kauahea, Wailuku, Maui. Wailuku is my river, Kaehu is my shoreline, and Maui is my homeland. Mahalo for the opportunity to testify in strong support of funding for the H\_lau of \_\_\_iwi Arts in the proposed FY 2023 budget.

Hula is community and the community is where hula thrives. There are over 25 h\_lau hula in Maui Nui and each of them provide Hawaiian cultural learning for all ages, all ethnicities, all religions, all genders, and all physical capabilities. Hula shares its knowledge and learning with everyone. In addition to cultural learning, hula provides a connection to our home. Over the course of a student's learning they will learn about places, people, history, plants, food, clothing, and a myriad of other information about Hawai\_i. A Hula student will often learn Hawaiian values and outlooks in Hula. They learn about aloha and how to make it a part of their everyday life. They learn how to k\_kua one another, and how to laulima for a comon project. They learn the value of po\_okela or excellence and ho\_ihi, respect. These are all part of the hula student's learning and the pilina or relationship that they develop for Hawai\_i. When doing this it also teaches them how to live well here in our homeland.

The H\_lau of \_\_\_iwi Art would provide long-overdue support for the culture and the practitioners that make our

home so special. Hula provides a place for so many of our \_\_\_iwi arts and practices to thrive. Over many decades, H\_lau Hula and Kumu Hula have contributed to our community. We support leimakers, clothing designers, farmers, instrument makers, florists, fabric stores, caterers, and so many others. Not least of which is also all of the l\_\_au shows and businesses that use hula and Hawaiian culture daily.

An investment in Hula is ultimately an investment in community. Our island once again has the chance to be a leader for our state and global community. Providing a space dedicated to and designed through the lens of Hula creates a visible and reliable space for education, performance, preservation, and excellence of art and culture in our own home. Further, as a cultural center for our community and the world, the H\_lau of \_\_\_iwi Art will inspire connection and uphold cultural excellence. Cultural practitioners like Kumu Hula are experts and leaders of our community. The H\_lau of \_\_\_iwi Art would support and celebrate these arts and practices.

Mahalo for your service to our island home and your deep consideration. Please vote to support full funding of the H\_lau of \_\_\_iwi Art.

Mahalo nui,  
H\_k\_lani Holt  
H\_k\_lani Holt  
Kumu Hula, P\_\_\_ O Hi\_iaka

### **Guest User**

Location:

Submitted At: 2:48pm 04-06-22

Please accept the following written testimonial in support to the Budget, Finance and Economic Development Committee on behalf of MVCB\_s efforts with the Maui Nui Destination Management Action Plan:

On behalf of Surfrider Foundation Maui Chapter, I support continued funding of the Maui Nui Destination Management Action Plan. As the plan describes in researched based detail, the visitor industry has greatly impacted the local environment, culture and quality of living for Maui residents.

The Surfrider Foundation is dedicated to the protection and enjoyment of the world's ocean, waves and beaches, for all people, through a powerful activist network. Locally, we are focused on monitoring water quality, advocating for improved policies to further our mission and continued shoreline access for Maui residents, encouraging zero waste efforts through the hospitality industry, cleaning our shorelines and pushing for improved legislation to reduce plastic pollution at its source.

We have been working with the Maui Visitor and Convention Bureau in our shared goals to meet the requirements of the Maui Nui Destination Management Action Plan. Surfrider Foundation Maui Chapter hosts monthly beach cleanups that are open to the public and our partnership with MVCB connects those volunteer opportunities with visitors. As the coordinator of the Rise Above Plastics program for Surfrider Foundation, I have been working with MVCB to install reef safe sunscreen dispensers at local beaches and condominium complexes. MVCB has also been working to support our Rise Above Plastics On Vacation program which aims to reduce single use plastic water bottles in vacation rentals. The connections and financial backing of the Maui Nui Destination Management Action Plan will greatly assist us in reaching the goals of that program. We understand that visitors come to Maui to enjoy the bounty of natural beauty and aim to educate and involve the industry to protect that same attraction.

Mahalo,

Marina Scott | Vice Chair | Rise Above Plastics Coordinator  
Surfrider Foundation Maui Chapter  
808.359.1180 | vicechair@maui.surfrider.org

As a grassroots organization, membership is essential to the advancement of our mission. Join or renew today.

**Guest User**

Location:

Submitted At: 2:30pm 04-06-22

Testimony in Strong Support of Funding for the H\_lau of \_\_iwi Art :

Aloha mai k\_kou,

My name is Claire Garrigue Kalani and I wlive in H\_'iku Maui. Mahalo for the opportunity to testify in strong support of funding for the H\_lau of \_\_iwi Arts in the proposed FY 2023 budget.

I dance for Pa'u o Hi'iaka Halau for 6 years and I know my kumu has been struggling to get a place for our practice and to store all the items , and to pay for rent too ...

The H\_lau of ' \_iwi arts would be so wonderful !!!

This space is not only an investment for the near future but will have lasting impacts on our community identity for generations to come. Mahalo for your service to our island home. Please vote to support full funding of the H\_lau of \_\_iwi Art.

Mahalo nui,

Claire Garrigue Kalani

### **Guest User**

Location:

Submitted At: 2:00pm 04-06-22

April 6, 2022

Re: Testimony in Strong Support of Funding for the H\_lau of \_\_iwi Art (“HOA”)

Aloha mai k\_kou,

My name is Kahealani Kamahele and I was born and raised in Honolulu, Hawaii. Mahalo for the opportunity to testify in strong support of funding for the H\_lau of \_\_iwi Arts in the proposed FY 2023 budget.

The hula community of all the islands are long-overdue support for cultural practitioners and we are looking for the funding support of the H\_lau of \_\_iwi Arts to make this possible. Maui County is so rich in Hawaiian arts and culture which makes it the nexus for our \_\_iwi arts and practices to thrive. The H\_lau of \_\_iwi Art would not only provide a space for K\_naka Maoli to practice and perpetuate , but become an investment in the community.

The children are our future and it is our kuleana to pass on our cultural traditions. One of the ways this is accomplished is through mo\_olelo and hula. Cultural practitioners such as Kumu Hula are experts and leaders in the community. This space would be dedicated to the perpetuation of hula and various \_\_iwi arts connected to hula. The H\_lau of \_\_iwi Art would provide a space for cultural learning, building relationships, and have a lasting impact on our future generations to come.

Mahalo for your service to our island home. Please vote to support full funding of the H\_lau of \_\_iwi Art.

Mahalo nui,

K\_healani Kamahele

### **Guest User**

Location:

Submitted At: 12:44pm 04-06-22

Aloha mai k\_kou,

My name is Ann Love and my family is from Maui. Mahalo for the opportunity to testify in strong support of funding for the H\_lau of \_\_iwi Arts in the proposed FY 2023 budget. The H\_lau of \_\_iwi Art would provide long-overdue support for the culture and practitioners that makes Maui so special. Hula has always been present in

my life and important in my own Hawaiian identity. It was, is and always will be an integral piece to the culture of our community. It preserves knowledge and traditions that have been passed down for generations. Hula and h\_lau hula also represent our islands throughout Hawai\_i and the world. On Maui, so many of the h\_lau hula, kumu hula, and practitioners have brought so much joy and pride to our island. The H\_lau of \_\_iwi Art would support and celebrate the arts and practices of our home and serve as an example to the other islands as well. An investment in Hula is ultimately an investment in community. Maui once again has the opportunity to be lead the way into the future while building on our precious past and traditions for the state and even the world. Providing a space dedicated to and designed through the lens of Hula creates a visible and reliable space for education, performance, preservation, and excellence of art and culture in our own home. Further, as a cultural center, the H\_lau of \_\_iwi Art will foster relationships, inspire connection, and uphold cultural excellence in the big global picture. as the Maui chiefs lead the way in ancient times let us continue to show who we are in modern times, a solid foundation from the past building for a promising future that will support and nourish generations to come.

Mahalo for your service to Maui our unique island we call home.  
Please vote to support full funding of the H\_lau of \_\_iwi Art.

Mahalo nui,  
Ann Love

### **Guest User**

Location:

Submitted At: 10:12am 04-06-22

Testimony in Strong Support of Funding for the H\_lau of \_\_iwi Art ("HOA")

Aloha mai k\_kou,

My name is Reni Bello and my family is from Maui. Mahalo for the opportunity to testify in strong support of funding for the H\_lau of \_\_iwi Arts in the proposed FY 2023 budget. The H\_lau of \_\_iwi Art would provide long-overdue support for the culture and practitioners that makes Maui so special. Hula has always been present in my life and important in my own Hawaiian identity. It was, is and always will be an integral piece to the culture of our community. It preserves knowledge and traditions that have been passed down for generations. Hula and h\_lau hula also represent our islands throughout Hawai\_i and the world. On Maui, so many of the h\_lau hula, kumu hula, and practitioners have brought so much joy and pride to our island. The H\_lau of \_\_iwi Art would support and celebrate the arts and practices of our home and serve as an example to the other islands as well.

An investment in Hula is ultimately an investment in community. Maui once again has the opportunity to be lead the way into the future while building on our precious past and traditions for the state and even the world. Providing a space dedicated to and designed through the lens of Hula creates a visible and reliable space for education, performance, preservation, and excellence of art and culture in our own home. Further, as a cultural center, the H\_lau of \_\_iwi Art will foster relationships, inspire connection, and uphold cultural excellence in the big global picture. as the Maui chiefs lead the way in ancient times let us continue to show who we are in modern times, a solid foundation from the past building for a promising future that will support and nourish generations to come.

Mahalo for your service to Maui our unique island we call home.  
Please vote to support full funding of the H\_lau of \_\_iwi Art.

Mahalo nui,  
Reni A\_ia\_i Bello

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"We are adhering to life now with our last muscle—the heart." Djuna Barnes

Reni A\_ia\_i Bello

Ka Lamak\_ La\_akea

Spiritual & Hawaiian Culture Consultant, Hawaiian Artist

tel. 808 225-0087

[www.kalamakulaakea.com](http://www.kalamakulaakea.com)



## **BFED Committee**

Location:

Submitted At: 8:40am 04-06-22

Testimonies received from BFED Committee.

## **Guest User**

Location:

Submitted At: 8:27am 04-06-22

Written testimony for Maui County budget hearing in support of H\_lau of \_\_iwi Art

Aloha mai k\_kou, Greetings to you all,

My name is John-Mario Arcilla Sevilla. I was born and raised in Paukukalo. I have lived most of my adult life in New York City, and recently moved to Berkeley, CA, where I lead a community dance organization called Luna Dance Institute. I am writing to enthusiastically endorse the County of Maui's funding of H\_lau of \_\_iwi Art. While I am sure that many will testify to the profound impact of the H\_lau on the preservation and promotion of Native Hawaiian legacies as well as to inherent benefits to the cultural and financial ecosystem of the local Maui and Hawai'i community., I would like to speak of how such a unique endeavor and institution will serve as a beacon to cultural bearers and arts practitioners around the world.

I am a professional dancer and dance educator. As a dancer, I toured all over the world (twice "visiting" Maui!) with major modern dance companies. I have taught dance and dance education at New York University, Drew University and Rutgers University. I have also run dance programs for New York City Ballet and the 92Y Harkness Dance Center. Throughout my years of work in the theater, in schools and in the community, I have experienced the deceptively alluring power of hula, not just dance, on people.

As you may know, hula is an interdisciplinary and holistic practice, not just a dance form. Hula values excellent human behavior toward others and the environment. Hula is an aesthetic experience that extols tradition, good speech and conduct, respect for elders. planning, preparation and practice, collective action, and love of land. These are deep foundational values that transform lives. And the particular responsibility of hula practitioners to care of the environment has vast implications in a world threatened by climate change and environmental injustice. Hula models the good and excellent in human action and is a medium for healing on a personal as well as global scale.

While native to Hawai'i, there are great needs and desires around the world for a place that embodies practices and perspectives that can save lives and heal our planet. H\_lau of \_\_iwi Art would be the first institution of its kind in the world to make a stand for hula as a cultural practice that can shed light on some very dark elements in our world. Hula will teach others to honor their places and people. Hula will demonstrate how people need to work together to overcome challenge. Hula will show how we must pay attention to our history as well as to our current state of affairs. A collective like H\_lau of \_\_iwi Art will gather and share a generosity of spirit. a seriousness of intent, and a joy of the arts that only hula can inspire. H\_lau of \_\_iwi Art will grace Maui and the rest of the planet with poetry, wisdom and inspiration. We will never have enough of such institutions.

No doubt, it may feel strange to give a place to a people (kanaka mauoli) whose legacy had been deeply rooted to the place centuries before any of us were here. From my perspective as a child of Filipino immigrants and from the west coast of the mainland, I respectfully would like say that this institution is the least we can do for Native Hawaiians for the historical injustices that continue to affect their lives to this day. H\_lau of \_\_iwi Art is about cultural survival as much as the survival of humanity.

Respectfully,  
John-Mario Arcilla Sevilla  
Director at Large  
Luna Dance Institute

## **Guest User**

Location:

Submitted At: 8:19am 04-06-22

April 6, 2022

Re: Testimony in Strong Support of Funding for the H\_lau of \_\_\_iwi Art (“HOA”)

Aloha mai k\_kou,

My name is Akiyo Murata and I have been on Maui for over 30 years. Mahalo for the opportunity to testify in strong support of funding for the H\_lau of \_\_\_iwi Arts in the proposed FY 2023 budget.

The H\_lau of \_\_\_iwi Art would provide long-overdue support for the culture and practitioners that make our home so special.

Hula is integral to the culture of our community. It preserves knowledge and traditions that have been passed down for generations.

Hula and h\_lau hula also represent our islands throughout Hawai\_i and the world.

On Maui, so many of the h\_lau hula, kumu hula, and practitioners have brought so much joy and pride to our island.

The H\_lau of \_\_\_iwi Art would support and celebrate the arts and practices of our home.

An investment in Hula is ultimately an investment in community.

Our island once again has the chance to be a leader for our state and global community.

Providing a space dedicated to and designed through the lens of Hula creates a visible and reliable space for education,

performance, preservation, and excellence of art and culture in our own home.

Further, as a cultural center for our community and the world, the H\_lau of \_\_\_iwi Art will foster relationships, inspire connection, and uphold cultural excellence.

This space is not only an investment for the near future but will have lasting impacts on our community identity for generations to come.

Mahalo for your service to our island home. Please vote to support full funding of the H\_lau of \_\_\_iwi Art.

Mahalo nui,

Akiyo Murata

A Haumana of Hula h\_lau

### **Guest User**

Location:

Submitted At: 8:17am 04-06-22

April 5, 2022

Re: Testimony in Strong Support of Funding for the H\_lau of \_\_\_iwi Art (“HOA”)

Aloha mai k\_kou,

My name is Liana Mancini Horovitz. I was raised on Maui and have taught world history classes at the University of Hawai\_i Maui College for the past 17 years. Mahalo for the opportunity to testify in strong support of funding for the H\_lau of \_\_\_iwi Arts in the proposed FY 2023 budget.

The H\_lau of \_\_\_iwi Art would provide long-overdue support for the culture and practitioners that make our home so special. Hula is integral to the culture of our community. It preserves knowledge and traditions that have been passed down for generations. Hula and h\_lau hula also represent our islands throughout Hawai\_i and the world.

On Maui, so many of the h\_lau hula, kumu hula, and practitioners have brought so much joy and pride to our island. The H\_lau of \_\_\_iwi Art would support and celebrate the arts and practices of our home.

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This space is not only an investment for the near future but will have lasting impacts on our community identity for generations to come. Mahalo for your service to our island home. Please vote to support full funding of the H\_lau of \_\_iwi Art.

Mahalo nui,

Liana Mancini Horovitz  
Assistant Professor of History, University of Hawai\_i Maui College  
310 Ka\_ahumanu Ave.  
Box 86  
Kahului, HI 96732

**Guest User**

Location:  
Submitted At: 8:14am 04-06-22

Please Approve Environmental Protection Program Budgets for Ma'alaea Bay

My name is Mary Dungans, and I am the President of Mana'olana Pink Paddlers, a member of Maui Nui Marine Resource Council, and on the advisory committee for Maui Canoe Club. Our canoes are on Sugar Beach in North Kihei. We have paddled Ma'alaea Bay almost daily since 2006. We have seen the changes in the reef, fish and pollution that is negatively affecting our beautiful ocean and reefs.

I am writing on behalf of all of our almost 400 members to ask that you support and approve funding to protect our local coral reefs and nearshore ocean water quality. Specifically we ask for funding for the following:

Ma'alaea Wastewater Funding: To create a localized wastewater treatment plant as an alternative to injection wells that are polluting Ma'alaea Bay.

Visitor Education Programs: To fund programs at the airport, on social media and online to educate visitors about protecting coral reefs, conducted by Maui Nui Marine Resource Council (\$100,000).

Environmental Protection Programs: To fund ocean water quality monitoring, reef friendly landscaping outreach, oyster bioremediation project, projects to prevent sediment runoff from Pohakea Watershed and more, conducted by Maui Nui Marine Resource Council (\$250,000).

Open Space Funds: To complete the acquisition of the lands in the Pohakea Watershed, TMK (3) 6-001-018 (\$750,000).

Maui's beauty and tourism revenue must be protected. Please approve these programs as they are urgent matters.

Mahalo nui loa,

Mary Dungans  
President  
MANA'OLANA PINK PADDLERS  
808 876 1553

email: manaolanapinkpaddlers@gmail.com  
website: <http://www.mauipinks.org>  
Facebook: <https://www.facebook.com/manaolana.pink?fref=ts>

**Guest User**

Location:  
Submitted At: 6:14am 04-06-22

Please confirm that peter@hawaiianresources.net testimony was received? I downloaded it from his email he submitted to all councilmembers, stating that he had difficulty submitting it.

Yuki Lei Sugimura  
Peter <peter@hawaiianresources.net>

**Ethan McKown**

Location:  
Submitted At: 3:32pm 04-05-22

Aloha. Please find attached official correspondence from Congressman Kahele.

## BFED Committee

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**From:** County Clerk  
**Sent:** Tuesday, April 5, 2022 10:21 AM  
**To:** BFED Committee  
**Subject:** FW: Testimony in Support of Funding for the Hālau of 'Ōiwi Art - 4/8/22 Budget Committee Meeting  
**Attachments:** 2022.04.05 Letter to the County Clerk of Maui re Testimony in Support of HO.pdf

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**From:** Vanessa Vazquez <[vvazquez@cades.com](mailto:vvazquez@cades.com)>  
**Sent:** Tuesday, April 5, 2022 10:20 AM  
**To:** County Clerk <[County.Clerk@mauicounty.us](mailto:County.Clerk@mauicounty.us)>  
**Cc:** Cal Chipchase <[cchipchase@cades.com](mailto:cchipchase@cades.com)>  
**Subject:** Testimony in Support of Funding for the Hālau of 'Ōiwi Art - 4/8/22 Budget Committee Meeting

You don't often get email from [vvazquez@cades.com](mailto:vvazquez@cades.com). [Learn why this is important](#)

Aloha,

Attached please find a written testimony letter in support of funding for the Hālau of 'Ōiwi Art in Wailuku, Maui from Calvert G. Chipchase.

Thank you very much,  
Vanessa

**Vanessa L. Vazquez**  
*Legal Assistant*

**Cades Schutte LLP**  
Cades Schutte Building  
1000 Bishop Street, Suite 1200  
Honolulu, HI 96813  
(t) 808.521.9317 | (f) 808.540.5024  
[vvazquez@cades.com](mailto:vvazquez@cades.com) | [www.cades.com](http://www.cades.com)



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by reply e-mail or by telephone (808) 521-9200, and delete the original e-mail and its attachments, and all copies.

April 5, 2022

**Calvert G. Chipchase**  
1000 Bishop Street, Suite 1200  
Honolulu, Hawai'i 96813-4212  
Direct Line: (808) 521-9220  
Direct Fax: (808) 540-5021  
Email: cchipchase@ca-des.com

**VIA EMAIL**  
**county.clerk@mauicounty.us**

County of Maui – Budget, Finance, and Economic Development Committee

Re: Testimony in Support of Funding for the Hālau of ‘Ōiwi Art

To Whom it May Concern:

My name is Cal Chipchase. Thank you for the opportunity to testify **in support** of the Hālau of ‘Ōiwi Art in the proposed FY 2023 budget. I live on O‘ahu, and I am fortunate to have friends on Maui. I often hear from them that Wailuku needs a space dedicated to the study, practice, celebration and perpetuation of hula and other ‘ōiwi arts and practices. The construction of the Hālau of ‘Ōiwi Art in Wailuku will benefit the culture and practitioners that make Hawai‘i so special.

I hope that you will consider supporting fully funding the Hālau for ‘Ōiwi Art.

Very truly yours,



Calvert G. Chipchase  
for  
CADES SCHUTTE  
A Limited Liability Law Partnership

## BFED Committee

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**From:** County Clerk  
**Sent:** Tuesday, April 5, 2022 3:23 PM  
**To:** BFED Committee  
**Subject:** FW: Testimony to the Maui County Council of Budget, Finance, and Economic Development Committee  
**Attachments:** Grove testimony on behalf of HOA FY23 funding.pdf

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**From:** Lisa Grove <[lgrove@groveinsight.com](mailto:lgrove@groveinsight.com)>  
**Sent:** Tuesday, April 5, 2022 3:18 PM  
**To:** County Clerk <[County.Clerk@mauicounty.us](mailto:County.Clerk@mauicounty.us)>  
**Subject:** Testimony to the Maui County Council of Budget, Finance, and Economic Development Committee

You don't often get email from [lgrove@groveinsight.com](mailto:lgrove@groveinsight.com). [Learn why this is important](#)

Aloha,

Please find attached written testimony in support of \$43M in GO Bonds to go to the planning, design and construction of Hālau of 'Ōiwi Art in Wailuku, Maui.

Thank you,  
Lisa Grove



grove insight

Lisa Grove

(she/her)

[lgrove@groveinsight.com](mailto:lgrove@groveinsight.com)

(c) 808-563-0852

PO Box 631718

Lanai City, HI 96763

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April 5, 2022

Aloha Esteemed Leaders,

My name is Lisa Grove and I am a resident of Lānaʻi. Mahalo for the opportunity to testify in **strong support** of funding for the Hālau of ʻŌiwi Arts in the proposed FY 2023 budget.

The Hālau of ʻŌiwi Art would provide long-overdue support for the cultural practitioners who make our islands so special. Hula is integral to the culture of our island communities. Not only does it preserve knowledge and traditions that have been passed down for generations, it is a source of joy and solace to so many who may be struggling due to the pandemic and its aftershocks.

The Hālau of ʻŌiwi Art would support and celebrate the arts and practices critical to the health of the Hawaiian culture and bring so much joy to many. Providing a space dedicated to and designed through the lens of Hula creates a visible and reliable space for education, performance, preservation, and excellence of art and culture.

Being connected to one's heritage is very grounding and our keiki crave these types of experiential learning opportunities. It helps define who they are and what they will be in life.

This space is not only an investment for the near future but will have lasting impacts on our community identity for generations to come. I humbly ask that you please vote to support full funding of the Hālau of ʻŌiwi Art.

Mahalo nui,

Lisa Grove  
Lānaʻi, Hawaii  
Board Chair, Hawaii Land Trust (HILT)  
Board Member, Maui United Way

## BFED Committee

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**From:** County Clerk  
**Sent:** Wednesday, April 6, 2022 7:45 AM  
**To:** BFED Committee  
**Subject:** FW: Testimony in Full Support of Hālau of 'Ōiwi Art ("HOA")  
**Attachments:** Artistry8HOATESTIMONY.pdf

---

**From:** Wailani Artates <[wailani@artistry8.com](mailto:wailani@artistry8.com)>  
**Sent:** Tuesday, April 5, 2022 5:50 PM  
**To:** County Clerk <[County.Clerk@mauicounty.us](mailto:County.Clerk@mauicounty.us)>  
**Subject:** Testimony in Full Support of Hālau of 'Ōiwi Art ("HOA")

You don't often get email from [wailani@artistry8.com](mailto:wailani@artistry8.com). [Learn why this is important](#)

Have a beautiful day!

<><><><><><><><>

Wailani Artates  
Artistry8 :: All Forms of Design + Creativity

<><><><><><><><>

[info@artistry8.com](mailto:info@artistry8.com)  
808.573.8830  
PO Box 880633, Pukalani, HI 96788

Re: Testimony in Strong Support of Funding for Hālau of ‘Ōiwi Art (“HOA”)

Aloha,

I am submitting the below testimony in full support of funding for Hālau of ‘Ōiwi Art.

My name is Wailani Artates, owner and creative director of Artistry8, a small design studio on Maui and a Native Hawaiian. It is important that I mention this because it is important for the council to know that I am native to this land, and I am able to live a good life here in the land of my ancestors, raising my family, doing what I love. I am fortunate to create everyday at different capacities, my children are raised in a home that is filled with creativity, music, art, dance, and culture. We provide this for them, but what if we didn't? Where else would they receive this type of learning? It is critical that we provide a place of learning, a place to practice our culture, a place to celebrate who we are and what makes us so unique. It is so important that we as a community provide all funding needed to make this happen, to create this space, this hālau: Hālau of ‘Ōiwi Art.

Hālau often provides a home, a sense of community, an ohana for many. Unlike many cultural practices, Hula is one that our culture has continued through generations. Hula is the foundation of our legacy as practitioners, the universal language that is known around the world. We all tend to look to kumu hula for guidance in many ways. They are a resource of knowledge, often looked to for entertainment, and needed by their haumana. They deserve this space. We all deserve this space.

Mahalo for your support and your understanding of the importance of Hālau of ‘Ōiwi Art for generations to come. As a member of this community, as a native Hawaiian, I am thankful for your service and would greatly appreciate your vote in full support.

Me ka ha‘aha‘a,

Wailani Artates  
Artistry8  
(808) 298-3163  
wailani@artistry8.com



April 5, 2022

Honorable Keani N.W. Rawlins-Fernandez Committee Chair, and Members of Maui County Council Budget, Finance and Economic Development Committee

**RE: PROPOSED FISCAL YEAR 2023 BUDGET FOR THE COUNTY OF MAUI**

Ma'alaea Village Association (MVA) wishes to identify one critical omission from the Mayor's proposed budget for FY-2023. That omission is \$9.5 million in funding for a long-overdue and critically needed, modern, regional wastewater facility for Ma'alaea.

The Ma'alaea community has no regional wastewater treatment facility. Ma'alaea condominiums, businesses, and the state harbor each operate their own treating facilities and injection wells for effluent disposal. None of the existing facilities provides more than primary treatment, resulting in high nutrient loads in injection well effluent and contributing to the impaired status of Ma'alaea Bay.

As the County knows firsthand, effluent disposal through injection wells is drawing increased scrutiny and the practice will someday soon be phased out. A regional treatment facility for Ma'alaea would replace all the private wastewater treatment systems, improve wastewater treatment, eliminate the use of injection wells for disposal, provide recycled water for community landscaping needs and/or agriculture, and thereby reduce consumption of Maui's precious fresh water supplies.

This need is a critical piece of the mauka-to-makai efforts within the Pohakea Watershed to improve the health of Ma'alaea Bay which is listed by the EPA as an impaired body of water and suffering from severe coral loss. The outdated, private waste-treating systems and injection well effluent, along with agricultural runoff and sedimentation from the Pohakea watershed, have contributed to the severe degradation of reef cover in nearshore ecosystems.

A small, dedicated volunteer committee has been in pursuit of an eco-friendly, state-of-the-art wastewater gathering, treatment and disposal system to serve the needs of the entire Ma'alaea community. The technology exists, with several providers ready to implement a project, and Mahi Pono committing to donate land for siting. However, the funding is lacking.

Over the past three years, the committee (with the support of MVA) has approached County, state, federal and private philanthropic organizations in effort to secure support and funding for this critical infrastructure need. The County however has turned a deaf ear to the community's pleas, while the Mayor himself proclaims that *"Water and Wastewater are critical infrastructure for our County"* (March 24, 2022, letter to Honorable Alice L. Lee, Chair and Members of the Maui County Council). Also in a February 11, 2022 article in the Pacific Business News, the mayor is quoted as stating *"It's time for government to return to its obligation to build infrastructure..."*

It is indeed past time for the County to provide the capital investment for this critical infrastructure need, which will benefit all the people of Maui for future generations due to the positive impact it will have on the health of Ma'alaea Bay. Maui County Council funding will make this a reality.

Sincerely,

Lyndon Ibele, MVA President

KAIALI'I KAHELE  
2ND DISTRICT, HAWAII

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COMMITTEE ON TRANSPORTATION & INFRASTRUCTURE  
SUBCOMMITTEE ON AVIATION  
SUBCOMMITTEE ON HIGHWAYS AND TRANSIT

COMMITTEE ON ARMED SERVICES  
SUBCOMMITTEE ON TACTICAL AIR AND LAND FORCES  
SUBCOMMITTEE ON READINESS

Congress of the United States  
House of Representatives  
Washington, DC 20515

Council of the County of Maui  
Budget, Finance, and Economic Development Committee  
Kalana O Maui Building, 8th floor  
200 S. High St.  
Wailuku, Hawaii 96793

April 6, 2022

Re: Ma'alaea Regional Wastewater Reclamation System

Aloha Council Chair Rawlins-Fernandez and Committee Members,

I am writing in support of Council Member King's proposed budget amendment to fund the Ma'alaea Regional Wastewater Reclamation System. Since taking office, addressing wastewater challenges across our state has been a top priority for my office. With the passing of the Bipartisan Infrastructure Law in the 117<sup>th</sup> Congress, which includes historic investments in wastewater infrastructure programs, now is the time for state and county governments to fully leverage the unprecedented resources delivered by the federal government.

Improving the current wastewater infrastructure in Ma'alaea is long overdue. Since I began engaging with the Ma'alaea community in 2021, it has become clear that the effects of injecting primary-treated wastewater into our near-shore environment has had longstanding, negative impacts on Ma'alaea Bay. The development of the Ma'alaea Regional Wastewater Reclamation System is a critical first step to revitalizing what was once a thriving coastal ecosystem while also benefiting our communities and economy.

A healthy and vibrant Ma'alaea Bay is possible – a gift for future generations. This proposed project stands as an opportunity for county, state, and federal government to deliver for the residents and environment of Ma'alaea. As such, I ask the County of Maui to support the Ma'alaea Regional Wastewater Reclamation System through Council Member King's proposed budget amendment.

Me ka ha'aha'a

A handwritten signature in black ink, consisting of a stylized 'K' followed by a flourish.

Kaiali'i Kahele  
Member of United States Congress



Appeal for County of Maui Fiscal Year 2023 Investment  
Kahului Wastewater Reclamation System Ultraviolet Light Disinfection Installation

April 5, 2022

**SUMMARY** ..... 1

**BACKGROUND** ..... 2

**GEOGRAPHIC COVERAGE**..... 3

**SCOPE OF WORK** ..... 3

**PROJECT STAKEHOLDERS**..... 4

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APPENDIX A DRAFT MUNICIPAL WASTEWATER DISINFECTION LEGISLATION BILL 52 FROM COUNCIL MEMBER KELLY KING ..... 4

APPENDIX B COUNTY OF MAUI DEM FOIA REQUEST RESPONSE CITING UV DISINFECTION COST IN KAHULUI..... 5

APPENDIX C EXCERPT FROM THE NEW ONLINE EDUCATION SYSTEM FLUSHAWARE.COM DESCRIBING KAHULUI DISCHARGES ..... 5

## Summary

This document comprises a formal request by the people of Maui to the County of Maui for FY2023 funding of approximately \$6.0 million to install ultraviolet light wastewater disinfection capability to treat all of the secondary effluent discharging into nearshore injection wells next to Kanaha Beach Park from the Kahului-Wailuku Wastewater Reclamation Facility, to mitigate the risk of infected wastewater currently flowing into nearshore recreation areas during a present or future global pandemic.

Kahului is the largest population center in Maui and is located on the island's north shore. As one of the last places to find affordable housing, Maui's largest town is known to be a place of many working class locals, whose closest beach is at **Kanaha Beach Park**, which is directly adjacent to the injection well plume mapped in a **2016 publication by Dr. Amato et al** from UH Manoa. In 2018, the County of Maui Department of Environmental Management ceased chlorine disinfection of injected secondary wastewater at the Kahului-Wailuku municipal Wastewater Reclamation Facility. Since 2018, the approximately 5,000,000 gallons per day of effluent discharged into nearshore injection wells near Kanaha Park has routinely been measured to have fecal *coliform* counts of colony forming units to exist at levels above the detection limit for the test, or greater than 2419.6 Most Probable Number of colony forming units with the ability to infect per 100 mL of water. See Appendix C for detailed injected fecal *coliform* data, which indicates that the over 30 disease forming pathogens associated with wastewater **identified by the U.S. National Institutes of Health** may be present in the effluent. High bacteria levels are routinely measured in bodies of water near the injection well plume, such as **Kahului Harbor** and **Kanaha Beach Park**. In the publication by Dr. Early, **Risk Factors for Community-Associated Staphylococcus aureus Skin Infection in Children of Maui**, the authors noted that, "Children and Pacific Islanders are particularly vulnerable to CA-MRSA infection." Councilmember Kelly King has developed draft legislation Bill 52 shown in Appendix A that would require disinfection of all municipal wastewater discharged. A FY2023 budgetary allocation by the County of Maui to install UV at Kahului WWRF to mitigate the biohazard risk of infected wastewater would pair nicely with new County legislation Bill 52 requiring 100% disinfection.

The people of Maui would like to see 100% disinfection of municipal wastewater discharged into nearshore recreation areas via injection wells and ground water. The County FY2023 budget is the appropriate mechanism to pay for this upgrade.

The general target population to be served is the population of individuals who spend time swimming or surfing, exposed to infected effluent near Kanaha, and all the beneficiaries of a healthy, sustainable and thriving 'Aina and Kai.

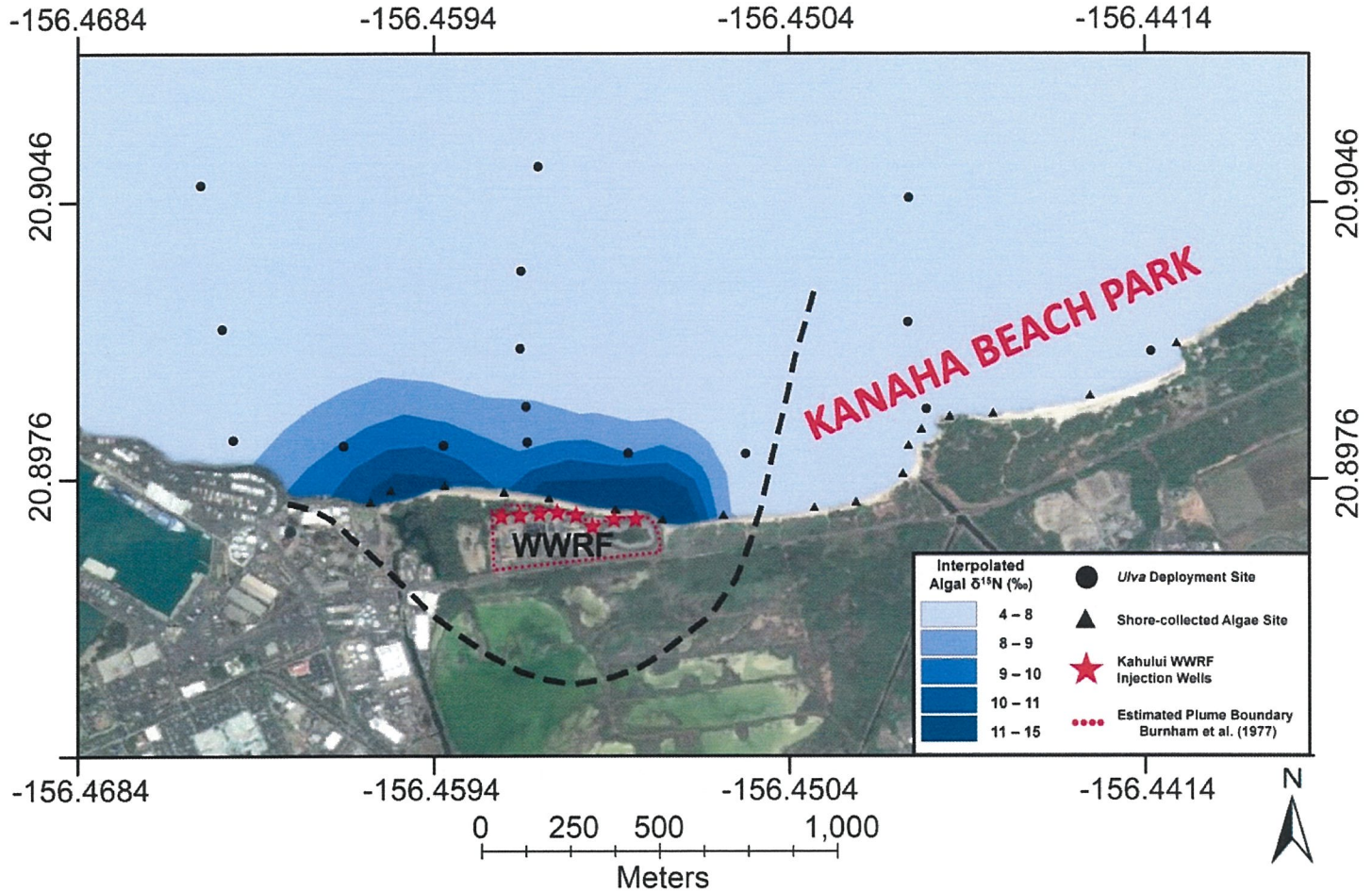
## Background

Wastewater flowing from the Maui County municipal wastewater reclamation facility in Kahului does not undergo a disinfection treatment step before discharge into nearshore injection wells that flow into recreation areas like Kanaha Beach Park. The County stopped disinfection of injected wastewater from Kahului in 2018.

Without any treatment step like UV disinfection, injected wastewater flowing into nearshore recreation areas like Kanaha Beach Park in Kahului places swimmers directly in harm's way. Bacterial monitoring at nearby sites proves this risk. Conditions that make a person more susceptible to contracting a water borne illness from infected wastewater include eczema or any condition that gives rise to breaks in the skin, HIV/AIDS, lymphedema, prednisone treatment, chemotherapy, pregnancy and old age, to name a few.

# Geographic Coverage

The geographic location and extent of the Kahului-Wailuku WWRF infected injection well plume in close proximity to Kanaha Beach Park and the Kahului Harbor nearshore recreation areas, is shown in plots of marine macroalgae  $\delta^{15}\text{N}$  associated with wastewater treatment shown in Figure 5 from **Amato 2016**, below.



## Scope of Work

The funding request, if approved, will task the County of Maui Department of Environmental Management to install UV disinfection capability for injection well discharges at the Kahului WWRF as described in the **2015 Brown & Caldwell report**. Table 6-3 from the report shows the specification for a 55% UVT treatment capability system that DEM will be responsible to install. The County of Maui Department of Environmental Management has estimated the cost of UV disinfection installation in Kahului at \$6 million, shown in their FOIA response in Appendix B.

This biohazard needs mitigation funding now and cannot wait any longer as the effluent is downright dangerous (see Appendix C).



## Project Stakeholders

**Maui Island community members** are the beneficiaries in this project. They will enjoy the benefits of 100% municipal wastewater disinfection with fewer infections and associated medical treatments or death.

We need to recognize that our **North Maui nearshore environment** has rights and honor them.

**Native Hawaiian Community indigenous rights have to be recognized and respected as a part of any planning and use discussions for any geographic area in Hawaii Nei.** A diverse set of other stakeholders also include beach users, fishermen, snorkelers, wind surfers, boaters, local businesses, etc. All depend on the health and future sustainability of the nearshore waters of Maui's North Shore.

The County of Maui **Department of Environmental Management** has a sacred duty to uphold the public trust by actively working to prevent any instance in which a swimmer or surfer interacts with municipal wastewater in the nearshore environment, without first treating that effluent with a reef-safe disinfection step like ultraviolet light wastewater disinfection.

## Measure of Effectiveness

The measure of effectiveness of the program will be quantified progress in reducing the current quantity of the estimated **448 BILLION** fecal *coliform* indicator bacteria injected per day into nearshore municipal injection wells in Kahului. The Key Performance Indicator that will enable us to determine that the project is a "success" will be the decreasing numerical quantity of fecal *coliform* colony forming units discharged.

## Preliminary Cost Estimate

Freedom of Information Act request responses from the County of Maui Department of Environmental Management shown in Appendix B state an estimated cost to install ultraviolet light wastewater disinfection capability for 100% of the injected secondary wastewater effluent in Kahului is approximately \$6,000,000. Presently, the County of Maui DEM does not plan to invest in UV disinfection in Kahului **until FY2026**. County of Maui FY2023 budget allocation funding is needed to immediately initiate the process to install UV disinfection in Kahului.

Appendix A Draft municipal wastewater disinfection legislation Bill 52 from Council Member Kelly King

*Anticipated Bill 52 CD1 language:*

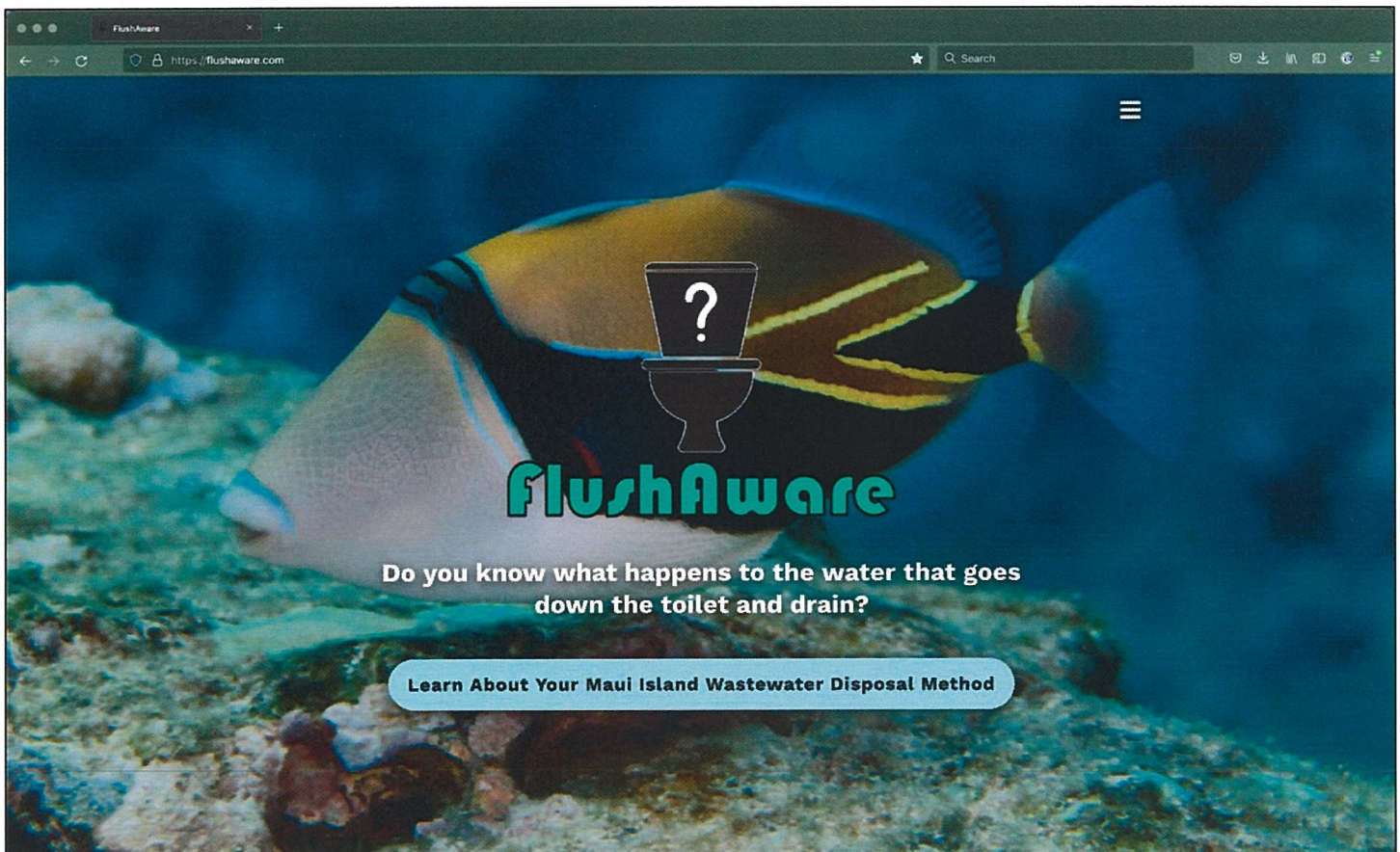
***"Municipal wastewater effluent discharged or reused by the County must meet Hawaii state R-1 reuse standards for fecal coliform bacteria; the County must allocate sufficient funding for the implementation of this subsection so that its implementation does not cause any increases in sewage rates for residents."***

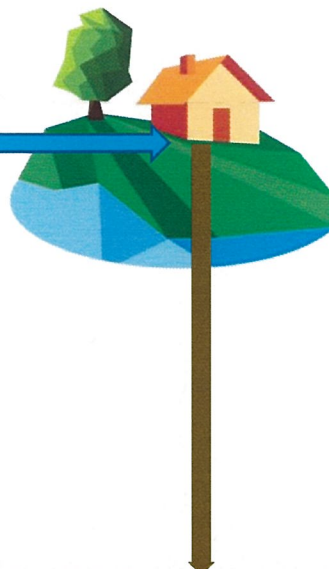


### Wailuku-Kahului Wastewater Reclamation Facility (WWRF) Upgrade to R-1 (CBS-1169)

The plan to upgrade the Kahului/Wailuku WWRF to R-1 is only in the preliminary planning stages. We do not have any preliminary plans, or formal cost estimates at this time. The preliminary estimate in the six year CIP was based on the one channel expansion in Lahaina that cost approximately \$6 million. An actual cost estimate will be prepared once we get closer to design contracts.

We have listed it as a potential project on our six year Capital Improvement Program. At this point in time it is not required until the recycled water force main (CBS-1171) and pump station (CBS-5034) projects are constructed to transfer water to the central valley and the water could be used by customers. These other projects are also on the six year schedule and have design contracts issued and the EIS is in process. The current time line is our best estimate, it is not required to be completed by FY2028. It is dependent on other projects as well as other approvals (mayor's office, County Council, etc.) Note that funding for projects is only approved on a year to year basis during the County Budget process.



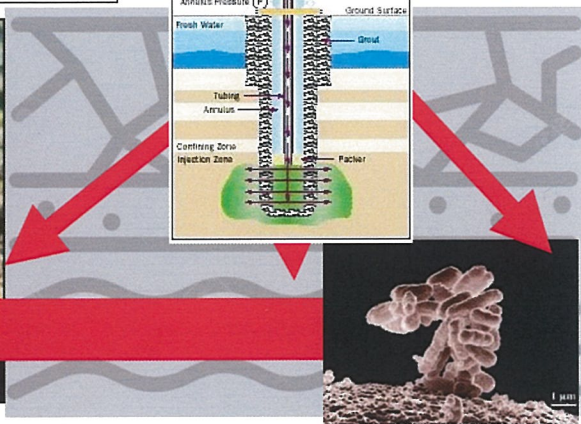
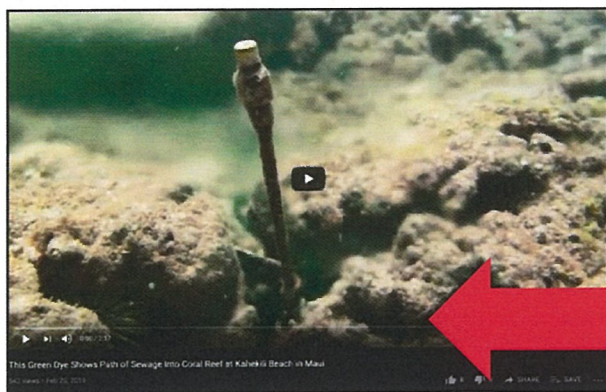
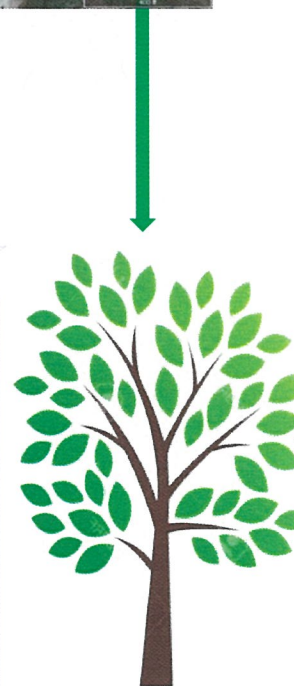
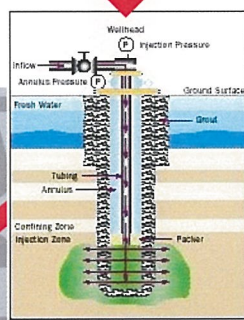
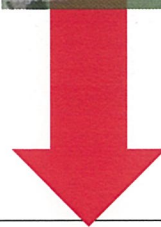


1. Drinking water is transported from the rivers and groundwaters of Na Wai Eha, Maui's Four Great Waters of West Maui, to Kahului and Wailuku, where it enters the resident's home and is used for household activities and flushed down the toilet or drain.

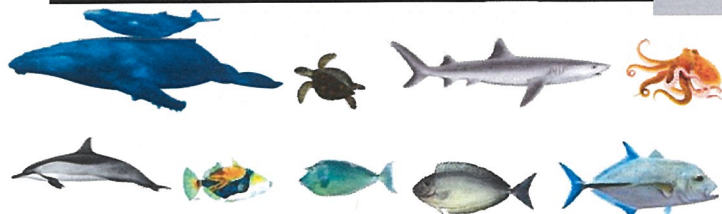
2. Untreated wastewater is conveyed through sewer mains to the Kahului-Wailuku Wastewater Reclamation Facility, then the water is treated to "secondary" standards.

3. A small portion (10%) is chlorine disinfected and is pumped to in-plant irrigation and industrial uses within the facility, the vast majority (90%) remains infected with pathogens and discharges as R-3 into nearshore injection wells.

4. The infected injected wastewater flows through groundwater toward the Pacific Ocean, where it emerges often through the reef itself, via openings that present as direct pathways from the wastewater treatment plant to the reef, similar to the flow shown with green dye in the video below.



*fecal coliform*



## LIST OF PATHOGENIC (ILLNESS-CAUSING) LIFE FORMS COMMONLY FOUND IN INFECTED WASTEWATER, SUCH AS R-3 INJECTED IN KIHEI AND KAHULUI

The list of pathogenic microbial species commonly found in non-disinfected wastewater is long and alarming, shown in the [U.S. NIH list](#) below.

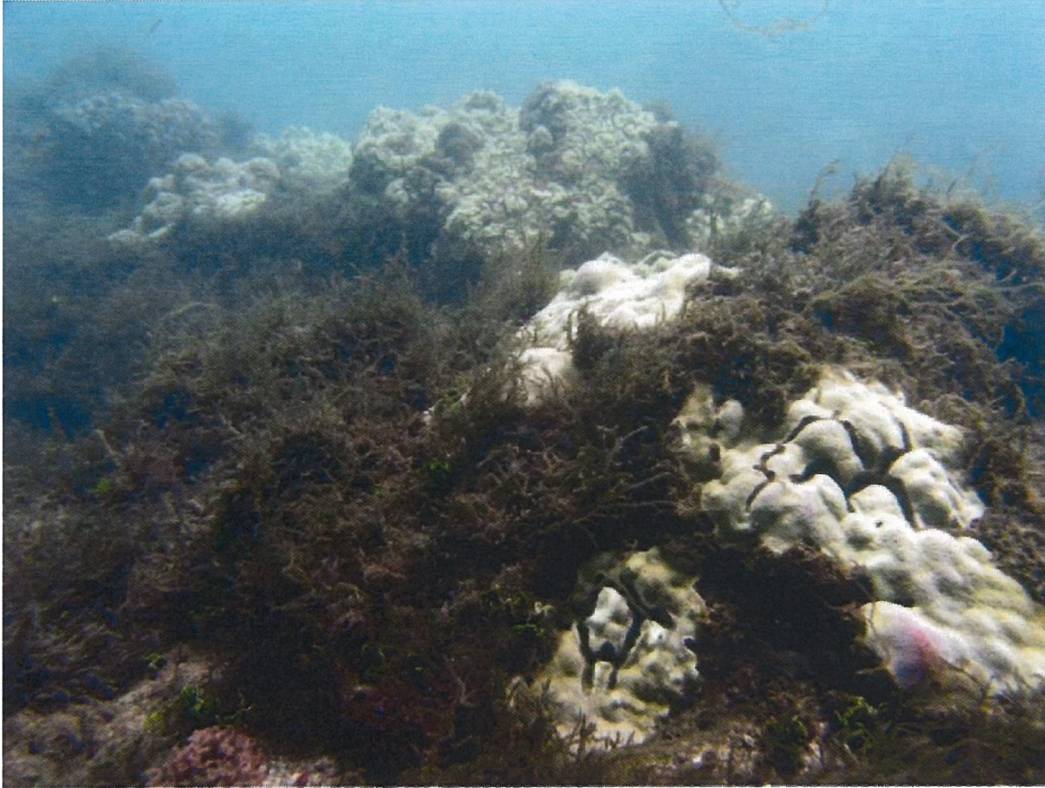
[Respiratory infections such as COVID-19](#) and [skin infections](#) can be caused by water borne pathogens.

*The major pathogens of concern in municipal wastewater and diseases or illness associated with them:*

<u>Name of pathogen</u>	<u>Major disease or symptoms</u>
<b>Bacteria</b>	
Campylobacter jejuni	Gastroenteritis
Escherichia coli	Gastroenteritis
Salmonella spp.	Salmonellosis, typhoid, paratyphoid
Shigella spp.	Bacillary dysentery
Staphylococcus	Skin Infections, bacteremia, toxic shock syndrome, septic arthritis
Streptococcus	Cellulitis, Pink eye, meningitis, pneumonia, endocarditis, necrotizing fasciitis
Vibrio cholerae	Cholera
Yersinia spp.	Gastroenteritis
<b>Viruses</b>	
Adenovirus	Upper respiratory infection and gastroenteritis
Astrovirus	Gastroenteritis
Coxsackie virus	Meningitis, pneumonia, fever
Echovirus	Meningitis, paralysis, encephalitis, fever
Hepatitis virus	Infectious hepatitis, miscarriage, and death
Human calicivirus	Epidemic gastroenteritis with severe diarrhea
Polio virus	Poliomyelitis
Reovirus	Respiratory infections, gastroenteritis
Rotavirus	Acute gastroenteritis with severe diarrhea
TT hepatitis	Hepatitis
COVID-19	Acute respiratory illness
<b>Protozoa</b>	
Balantidium coli	Balantidiasis
Cryptosporidium spp.	Cryptosporidiosis
Entamoeba histolytica	Acute amoebic dysentery
Giardia duodenalis	Giardiasis
Toxoplasma gondii	Toxoplasmosis
<b>Helminths</b>	
Ascaris lumbricoides	Ascariasis
Ascaris suum	Coughing and chest pain
Hymenolepis nana	Hymenolepiasis
Necator americanus	Hookworm disease
Taenia saginata	Insomnia, anorexia
Taenia solium	Insomnia, anorexia
Toxocara canis	Fever, abdominal pain, muscle ache
Trichuris trichiura	Diarrhea, anemia, weight loss

## WASTEWATER CONTAINS PATHOGENS THAT CAUSE DISEASE IN MARINE LIFE

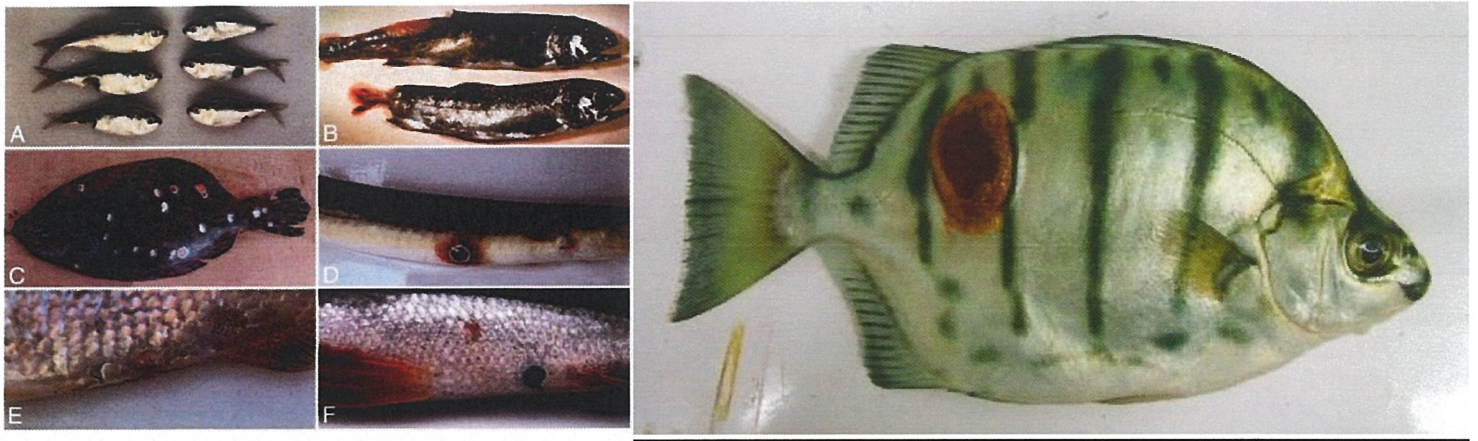
Land-based pollution is a contributor to reef degradation, shown here in Ma'alaea, Maui



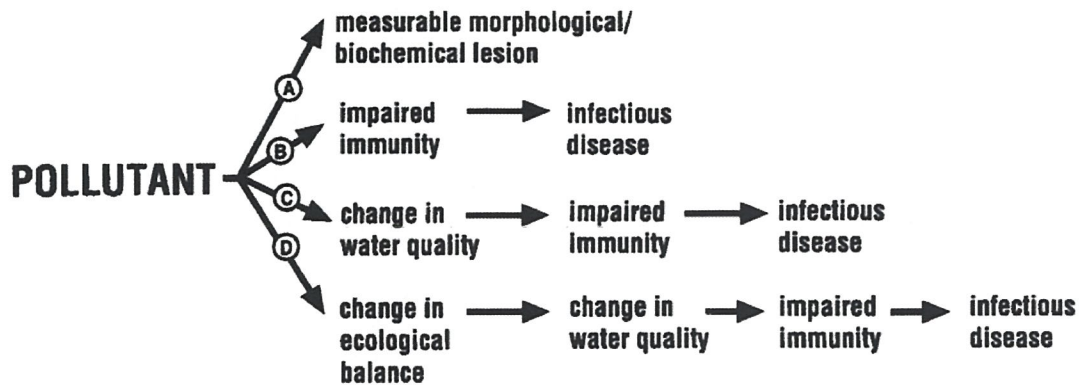
Kihei, Maui, has been called a "ground zero" for fibropapillomatosis, a disease that is caused by a herpes virus and manifests as tumors in turtles. The virus is injected into the environment, and green sea turtles ingest invasive ocean algae, fed by excess nitrogen found in injected wastewater in Kihei, causing the growth of the tumors, a leading cause of death of the endangered species.



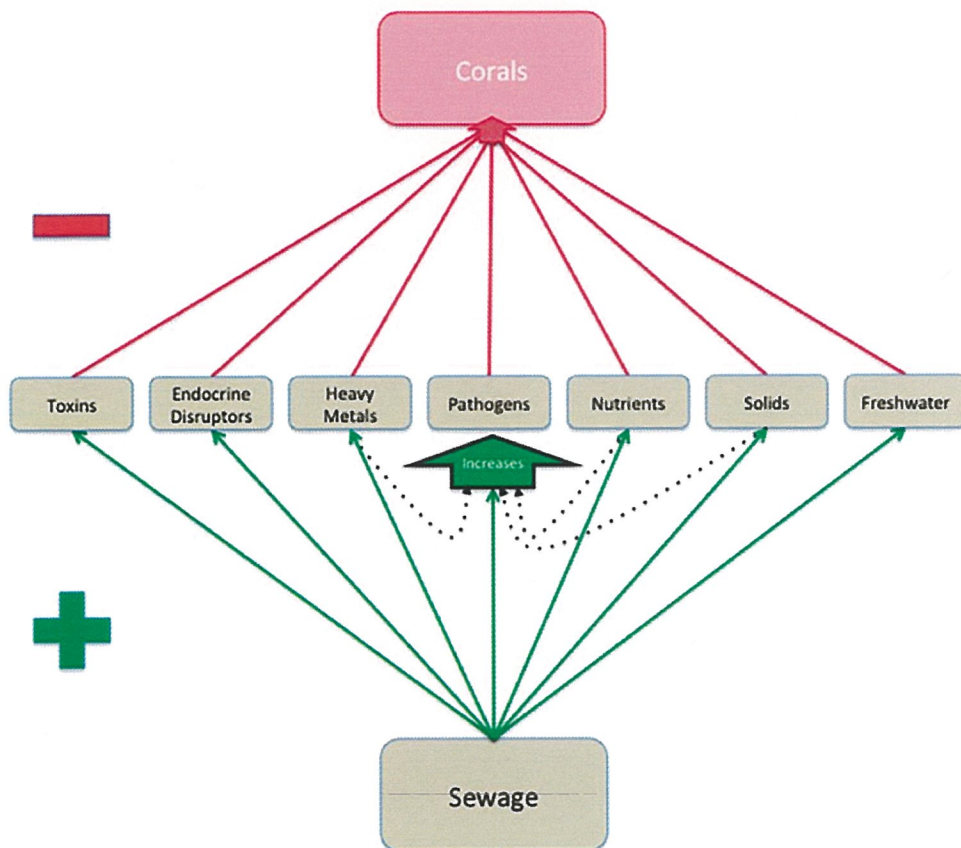
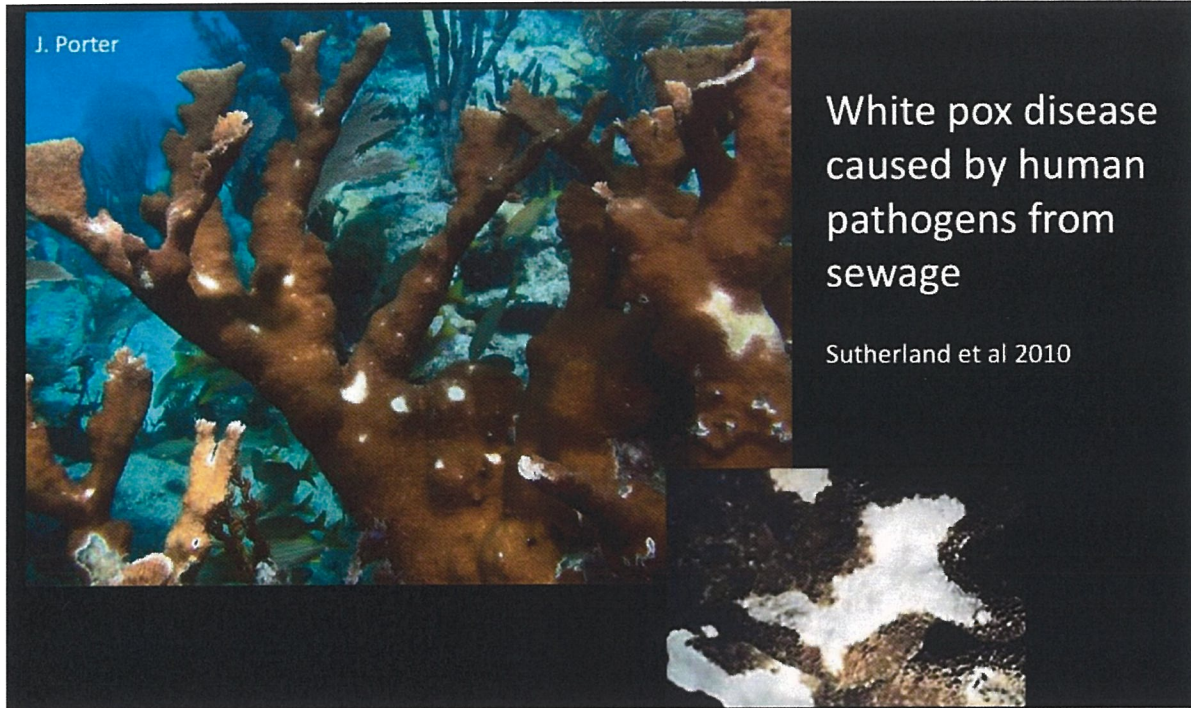
Infectious fish ulcers are a global phenomenon that can be traced to pollution sources like infected wastewater.



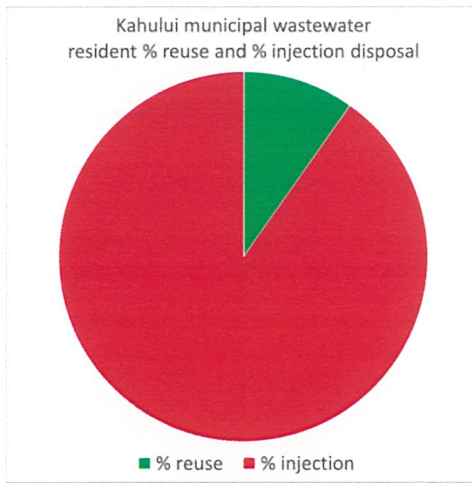
Pollution loading leads to infectious fish ulcers by way of several vectors.



The coral itself is affected by land-based pollution.



**Figure 1.** Interaction diamond illustrating impacts of sewage on concentrations of known stressors to corals and the positive feedbacks those stressors can have.



On average, about 90% of resident wastewater is discharged into nearshore injection wells at the Kahului Wastewater Reclamation Facility, while about 10% is used for in-plant recycling. Detailed County of Maui plant flow reports [here](#).

Ave. 2020 total flow (MGD)	Ave. 2020 reuse flow (MGD)	Ave. 2020 injection flow (MGD)	2020 injected TN (mg/L)	2020 injected TP (mg/L)
5.37	0.53	4.85	10.27	3.03

The average daily plant flow at the Kahului Wastewater Reclamation Facility in 2020 was over 5 MGD, reuse was about 0.5 MGD, and average injection over 4.8 MGD. Total Nitrogen in the same period was over 10 mg/L and Total Phosphorous was over 3 mg/L. Detailed UIC water quality and County of Maui plant flow reports [here](#).

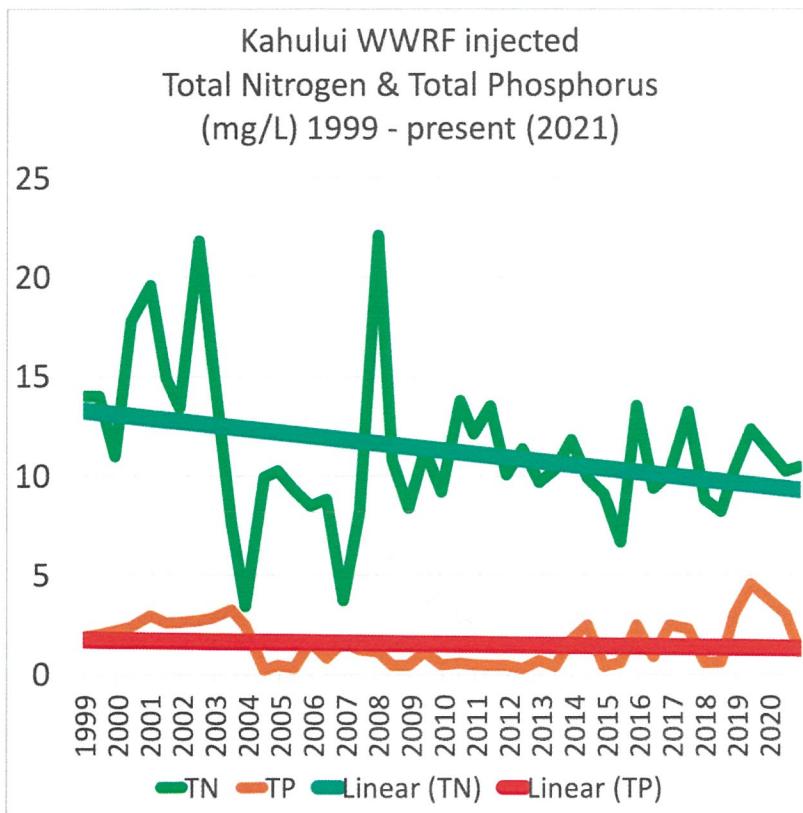
inj. nutrients / census resident / year (lbs/year)	inj. wastewater / census resident / year (gallons/year)	inj. wastewater / census resident / day (gallons/day)
4.0	36,389	100

The total estimated nutrient mass injected per census resident per year at the Kahului Wastewater Reclamation Facility is about 4 pounds of dissolved nutrients per year. Each resident contributes about 36K gallons to injection per year in Kahului, averaging about 100 gallons per resident per day. Detailed UIC water quality and County of Maui plant flow reports [here](#).

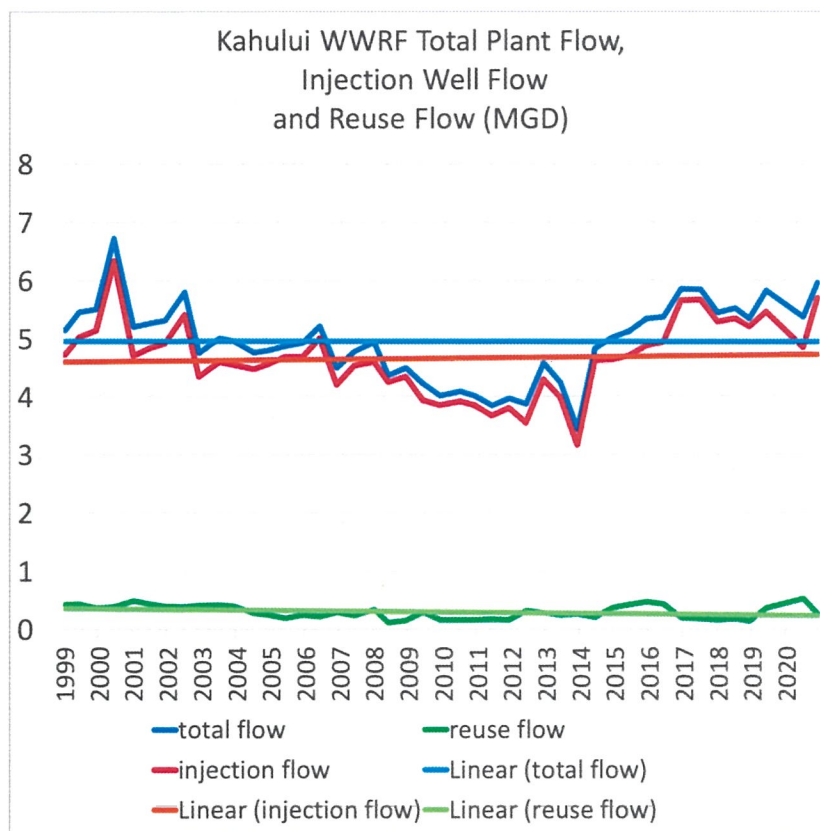
injected <i>coliform</i> cell counts (MPN/100mL)	total inj. <i>coliform</i> cell counts / resident (MPN/year)
> 2419.6	> 3,332,923,119

Injected fecal *coliform* Most Probable Number of colony forming (infection forming) units is recently measured at above 2419.6 per 100 mL, which is above the detection limits for the test used. Total injected fecal *coliform* colony forming units per census resident is over 3 Billion cells per year. Detailed UIC water quality and County of Maui plant flow reports [here](#).

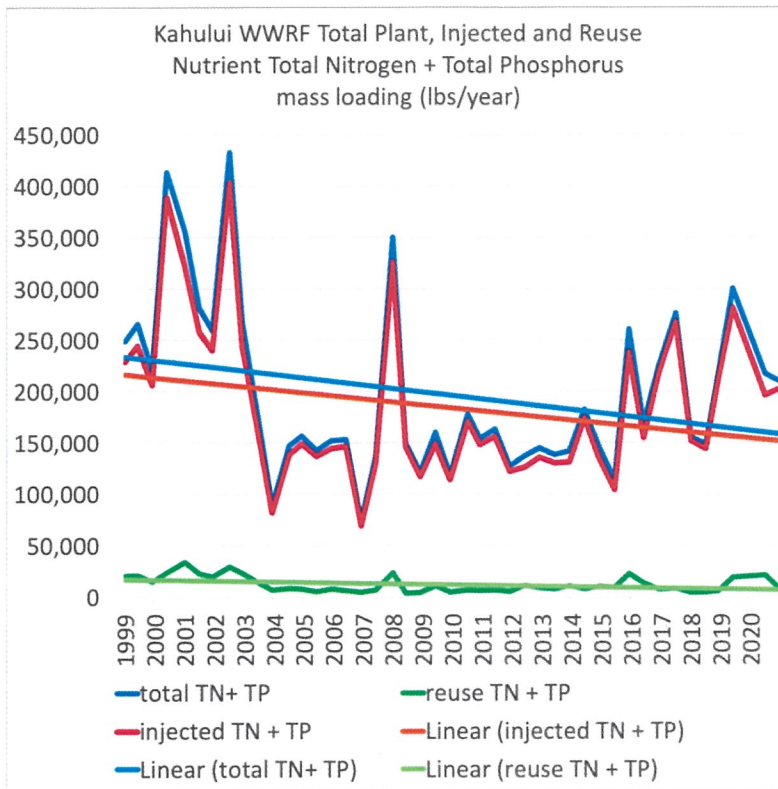




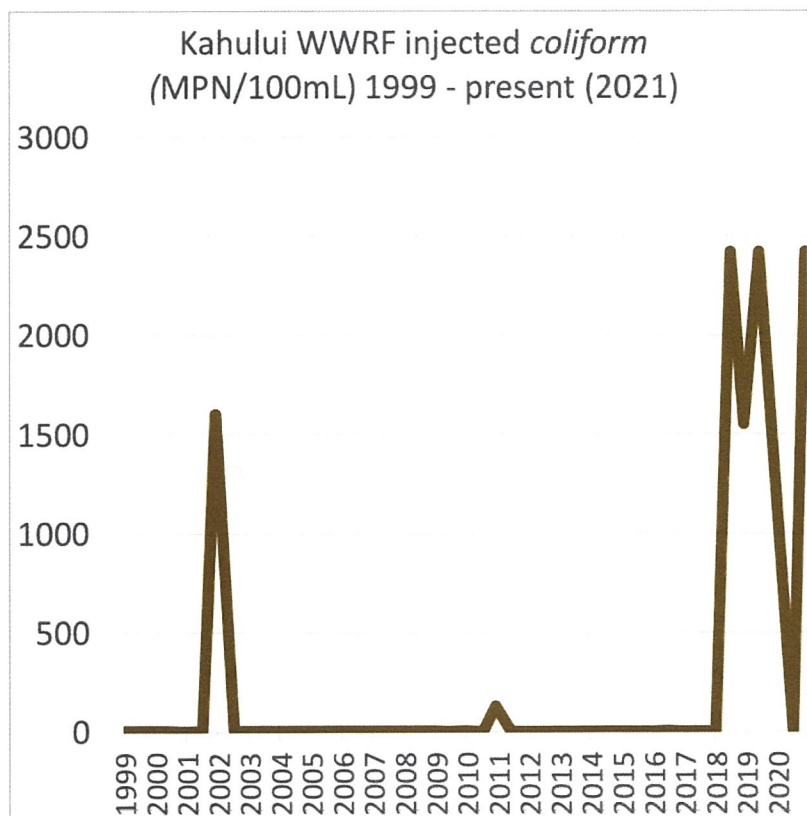
Injected nutrient concentrations in Kahului from 1999-2021 showed a slight downward trend in Total Nitrogen ending up around 10 mg/L. Total Phosphorus trends are steady over the years around 2 mg/L. Detailed UIC water quality and County of Maui plant flow reports [here](#).



Injected flowrates in Kahului from 1999-2021 shows an average plant flow of about 5 MGD, and < 0.5 MGD reuse, with over 4.5 MGD of infected wastewater going to nearshore injection wells. Detailed UIC water quality and County of Maui plant flow reports [here](#).



From 1999-2021 the Kahului Wastewater Reclamation Facility showed an overall decline in total plant nutrient mass discharged and nutrient mass injected, down to about 150,000 lbs. or about 75 tons of dissolved nutrients per year as Nitrogen and Phosphorus. Detailed UIC water quality and County of Maui plant flow reports [here](#).



Fecal *coliform* cell counts from 1999-2021 shows injected municipal wastewater in Kahului appears to have been consistently disinfected until around 2018, after which fecal *coliform* cell counts are routinely measured above the testing detection limit of 249.6 Most Probable Number of colony-forming (or infection forming) units per 100mL of wastewater. Detailed UIC water quality and County of Maui plant flow reports [here](#).

## Kahului-Wailuku Municipal Wastewater Reclamation Facility

### Underground Injection Control compliance monitoring report summary

1999-2021 data set

[drive.google.com/drive/folders/1B3p6fc8rnKI0NtzuUfMXsxQaXj17-CIT](https://drive.google.com/drive/folders/1B3p6fc8rnKI0NtzuUfMXsxQaXj17-CIT)

	<i>total flow</i>	<i>reuse flow</i>	<i>injection flow</i>	Total Nitrogen	Total Phosphorus	<i>coliform</i>
date	MGD	MGD	MGD	mg/L	mg/L	MPN/100mL
6/14/99	5.147	0.424	4.723	14	1.9	< 2
11/17/99	5.458	0.437	5.021	14	2	< 2
5/17/00	5.507	0.37	5.137	10.99	2.2	< 2
11/27/00	6.725	0.385	6.34	17.8	2.38	< 2
6/7/01	5.2	0.493	4.707	19.6	2.95	no data
12/11/01	5.274	0.431	4.843	14.9	2.6	2
5/23/02	5.317	0.4	4.917	13.4	2.63	> 1600
12/27/02	5.799	0.39	5.409	21.8	2.72	< 2
5/28/03	4.752	0.407	4.345	15.7	2.84	< 2
12/17/03	5.009	0.413	4.596	7.62	3.26	< 2
5/7/04	4.954	0.399	4.555	3.41	2.48	< 2
12/7/04	4.756	0.277	4.479	9.93	0.22	< 2
5/26/05	4.802	0.24	4.562	10.27	0.46	< 2
11/15/05	4.875	0.189	4.686	9.29	0.327	< 2
5/15/06	4.933	0.249	4.684	8.49	1.65	2
11/27/06	5.217	0.213	5.004	8.83	0.81	< 2
5/11/07	4.495	0.289	4.206	3.71	1.67	< 2
11/9/07	4.776	0.238	4.538	8.19	1.25	< 2
6/13/08	4.939	0.338	4.601	22.12	1.15	2
11/13/08	4.364	0.111	4.253	10.81	0.47	< 2
5/27/09	4.496	0.154	4.342	8.38	0.46	< 2
11/25/09	4.225	0.291	3.934	11.34	1.13	< 1.8
05/10/10	4.016	0.162	3.854	9.2	0.5	2
12/03/10	4.085	0.161	3.924	13.77	0.56	< 1.8
05/26/11	4.016	0.162	3.854	12.14	0.5	130
11/30/11	3.842	0.167	3.675	13.52	0.47	< 1.8
05/24/12	3.964	0.161	3.803	10.06	0.47	< 1.8
11/30/12	3.868	0.317	3.551	11.38	0.3	< 1.8
05/14/13	4.581	0.281	4.3	9.69	0.7	< 1.8
11/14/13	4.237	0.249	3.988	10.33	0.41	< 1.8
05/22/14	3.441	0.266	3.175	11.82	1.76	< 1.8
11/14/14	4.839	0.21	4.629	9.9	2.5	< 1.8
05/08/15	5.011	0.37	4.641	9.1	0.42	< 1.8
11/16/15	5.127	0.423	4.704	6.69	0.6	< 1
05/26/16	5.348	0.467	4.881	13.53	2.5	< 1
11/18/16	5.376	0.433	4.943	9.4	0.9	4.1
05/30/17	5.856	0.194	5.662	10.12	2.5	no data
12/27/17	5.85	0.179	5.671	13.23	2.3	no data
06/06/18	5.447	0.155	5.292	8.81	0.6	< 1
12/03/18	5.523	0.178	5.345	8.23	0.62	> 2419.6
05/23/19	5.345	0.145	5.2	10.31	3.05	1553.1
11/08/19	5.828	0.367	5.461	12.38	4.56	> 2419.6
12/09/20	5.373	0.526	4.847	10.27	3.03	no data
05/13/21	5.956	0.264	5.692	10.47	1.17	> 2419.6

This data summary table shows nutrient concentrations, fecal *coliform* cell counts, and flowrates for the total plant, reuse and injection for the Kahului-Wailuku Wastewater Reclamation Facility, during the biannual months when the Underground Injection Control Program with the Safe Drinking Water Branch requires testing. Detailed UIC water quality and County of Maui plant flow reports [here](#).



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