REEF POWER

Reef Power LLC

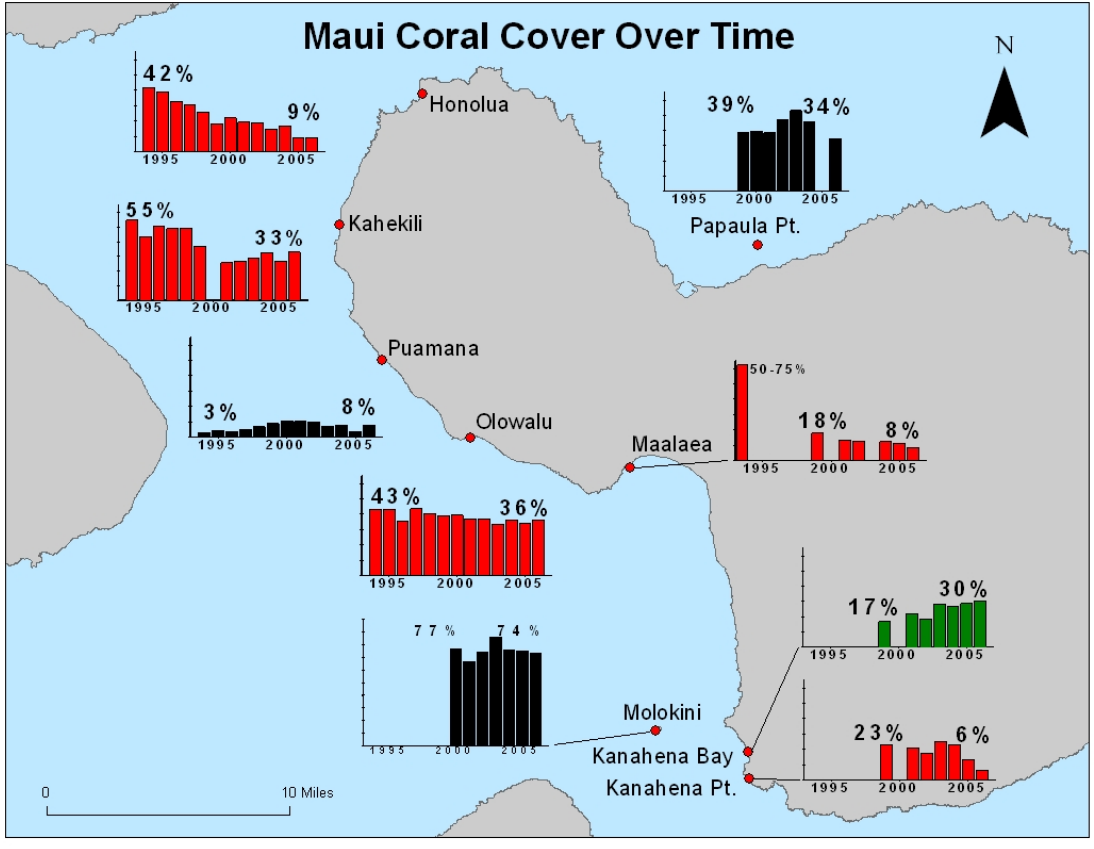
a Maui small business, presents:

"Bill 52 – a proposed Maui County law that enhances municipal wastewater disinfection standards for both injection well and irrigation reuse discharges."

Climate Action, Resilience, and Environment Committee
Maui County Council
1:30 p.m. March 16, 2022


Maui’s reefs are in trouble!

Status of Maui's Coral Reefs



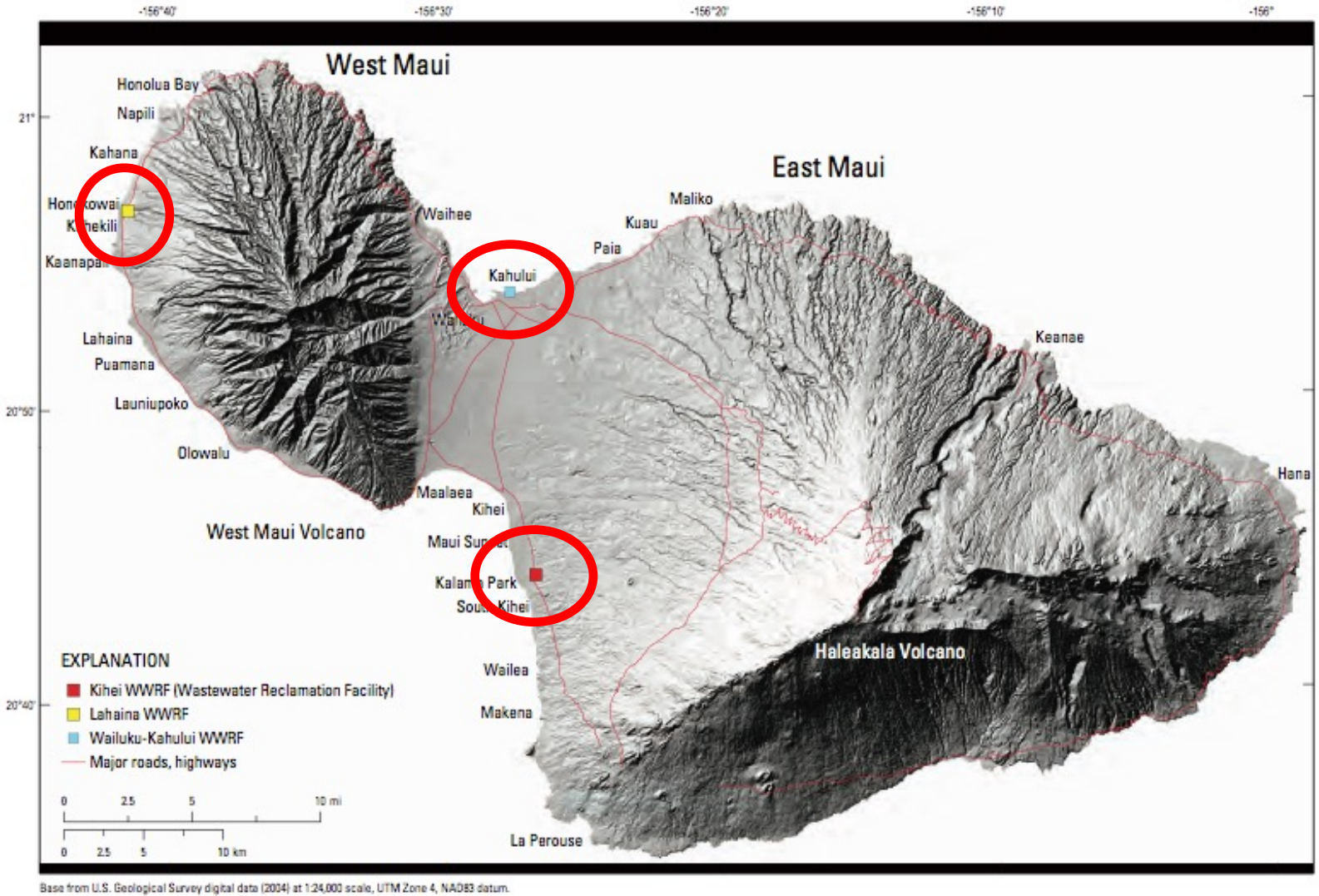
Trends in coral cover at 9 long-term monitoring stations. **Red** indicates >5% decline over monitoring period, **green** indicates >5% increase, **black** = no change (<5%)

Case Study: Total System Collapse at Maalaea

The end result of reef degradation is evident at Maalaea Bay. In 1972, Maalaea coral reefs were described as being 'striking in their diversity and in the presence of rare corals species'. As late as 1993, estimated coral cover was 50-75% close to the site where cover is now 8%. Therefore, in just a few decades, the Maalaea reef has transformed from a healthy and diverse ecosystem into a badly degraded habitat overgrown by algae and with little surviving coral. One consequence of severe loss of living coral is that degrading reefs change from being actively-growing and structurally-complex habitats, into eroding and relatively flat areas which do not support abundant marine life. That process is well advanced at Maalaea, where fish stocks are now in very poor condition, being dominated by small wrasse, triggerfish and puffers. Given that the Maalaea reef is now a poor habitat for most grazing fishes, and that existing blooms of algae will continue to inhibit new coral growth, even in the best of circumstances (without water quality or fishing impacts), recovery of Maalaea would likely take many years.

DLNR report link

Three municipal wastewater reclamation facilities in Maui inject 10+ millions of gallons per day.



Base from U.S. Geological Survey digital data (2004) at 1:24,000 scale, UTM Zone 4, NAD83 datum.

Kihei Wastewater Reclamation Facility – injection wells


This Green Dye Shows Path of Sewage Into Coral Reef at Kahekili Beach in Maui
Video Link
Pause (k)
0:12 / 2:57
Scroll for details

Syllabus

NOTE: Where it is feasible, a syllabus (headnote) will be released, as is being done in connection with this case, at the time the opinion is issued. The syllabus constitutes no part of the opinion of the Court but has been prepared by the Reporter of Decisions for the convenience of the reader. See *United States* v. *Detroit Timber & Lumber Co.,* 200 U. S. 321, 337.

SUPREME COURT OF THE UNITED STATES

Syllabus

COUNTY OF MAUI, HAWAII *v.* HAWAII WILDLIFE FUND ET AL.

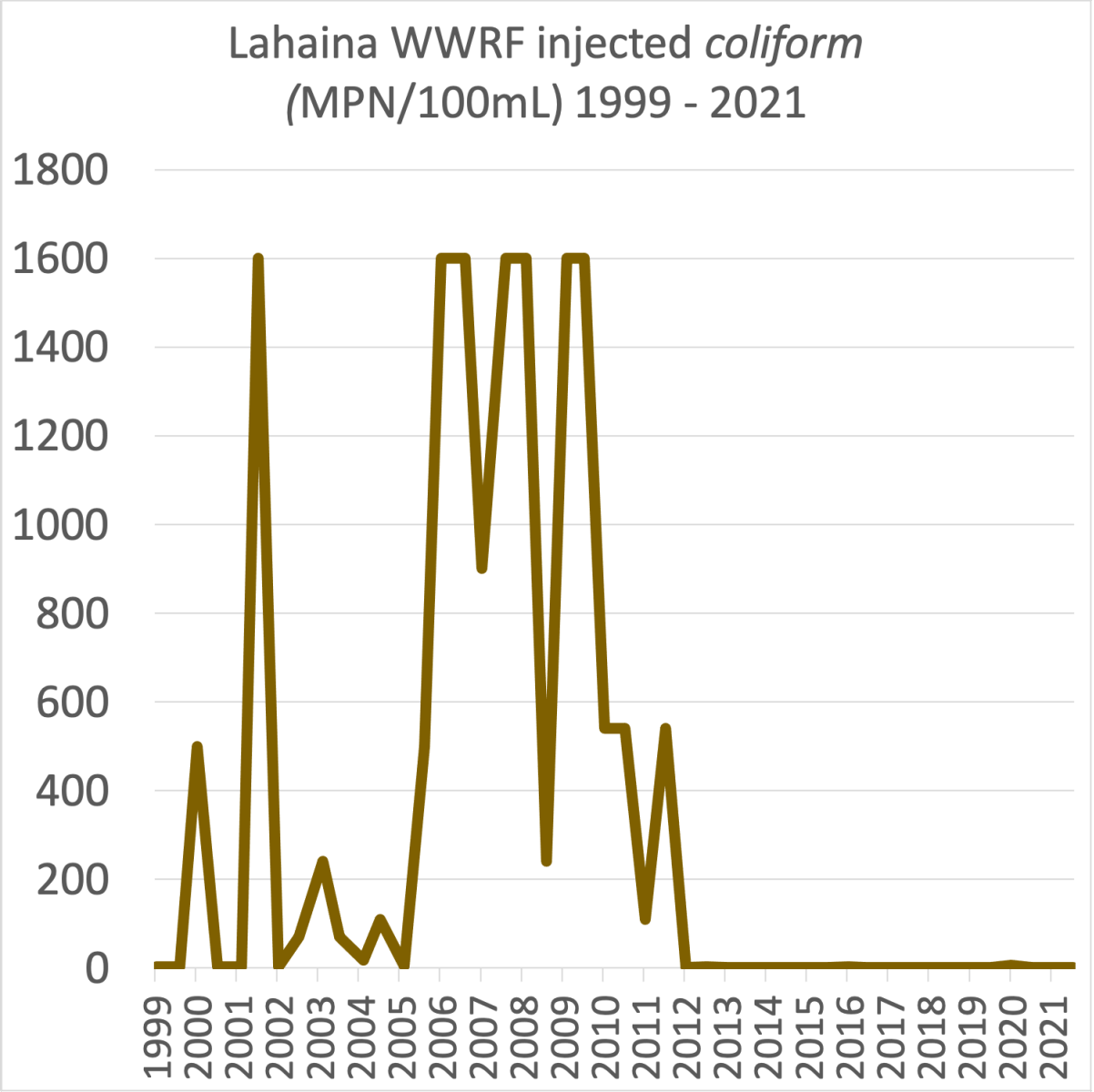
CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

No. 18–260. Argued November 6, 2019—Decided April 23, 2020

The Clean Water Act forbids "any addition" of any pollutant from "any point source" to "navigable waters" without an appropriate permit from the Environmental Protection Agency (EPA). §§ 301(a), 502(12), 86 Stat. 844, 886. The Act defines "pollutant" broadly, §502(6); defines a "point source" as "'any discernible, confined and discrete conveyance . . . from which pollutants are or may be discharged,'" including, *e.g.,* any "'container,'" "'pipe, ditch, channel, tunnel, conduit,'" or "'well,'" §502(14); and defines the term "discharge of a pollutant" as "'any addition of any pollutant to navigable waters [including navigable streams, rivers, the ocean, or coastal waters] from any point source,'" §502(12). It then uses those terms in making "unlawful" "'the discharge of any pollutant by any person'" without an appropriate permit. §301.

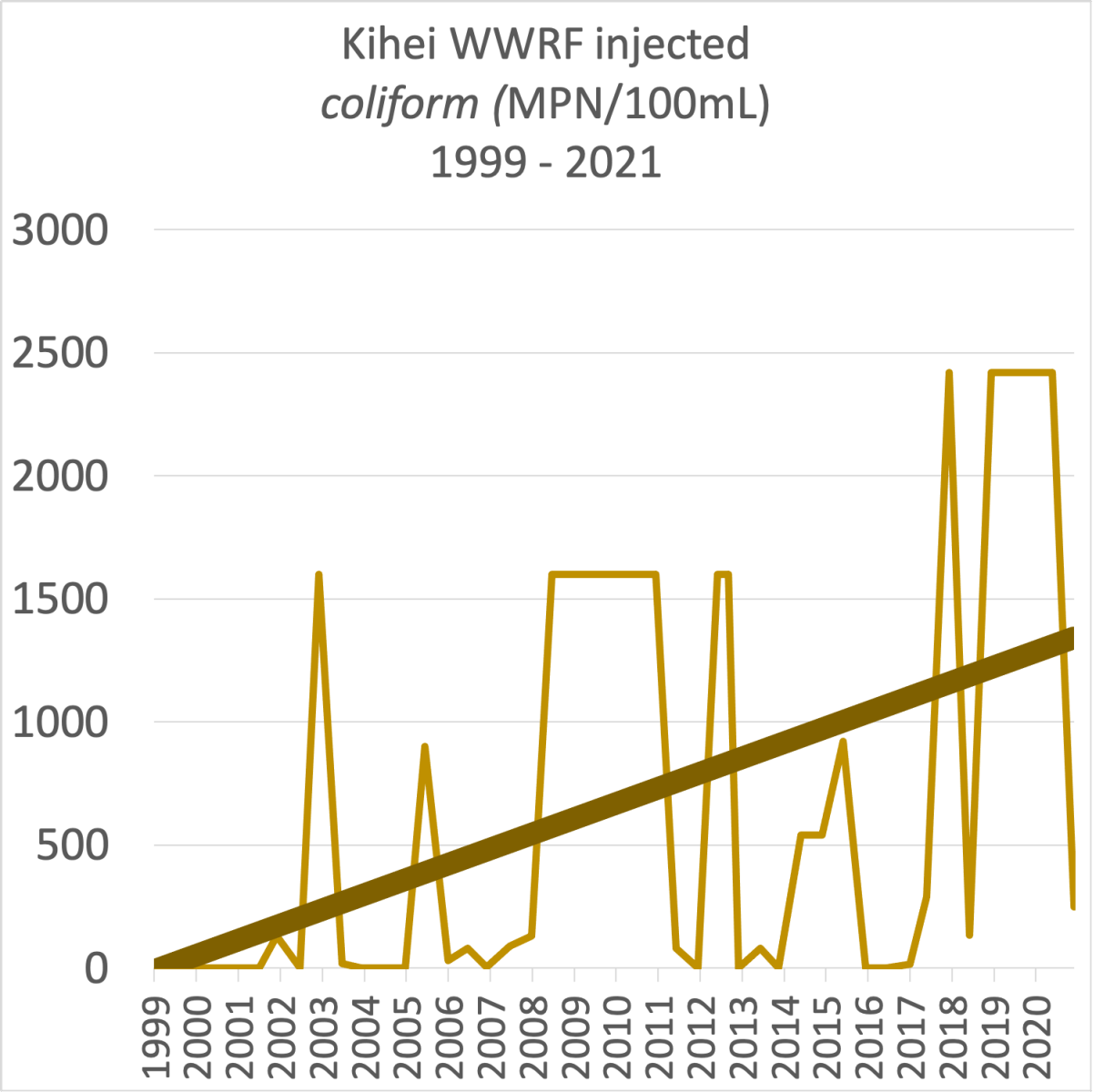
Petitioner County of Maui's wastewater reclamation facility collects sewage from the surrounding area, partially treats it, and each day pumps around 4 million gallons of treated water into the ground through four wells. This effluent then travels about a half mile, through groundwater, to the Pacific Ocean. Respondent environmental groups brought a citizens' Clean Water Act suit, alleging that Maui was "discharg[ing]" a "pollutant" to "navigable waters" without the required permit. The District Court found that the discharge from Maui's wells into the nearby groundwater was "functionally one into navigable water," 24 F. Supp. 3d 980, 998, and granted summary judgment to the environmental groups. The Ninth Circuit affirmed, stating that a permit is required when "pollutants are fairly traceable from the point source to a navigable water." 886 F. 3d 737, 749.


FlushAware
Do you know what happens to the water that goes down the toilet and drain?
Learn About Your Maui Island Wastewater Disposal Method
FlushAware.com



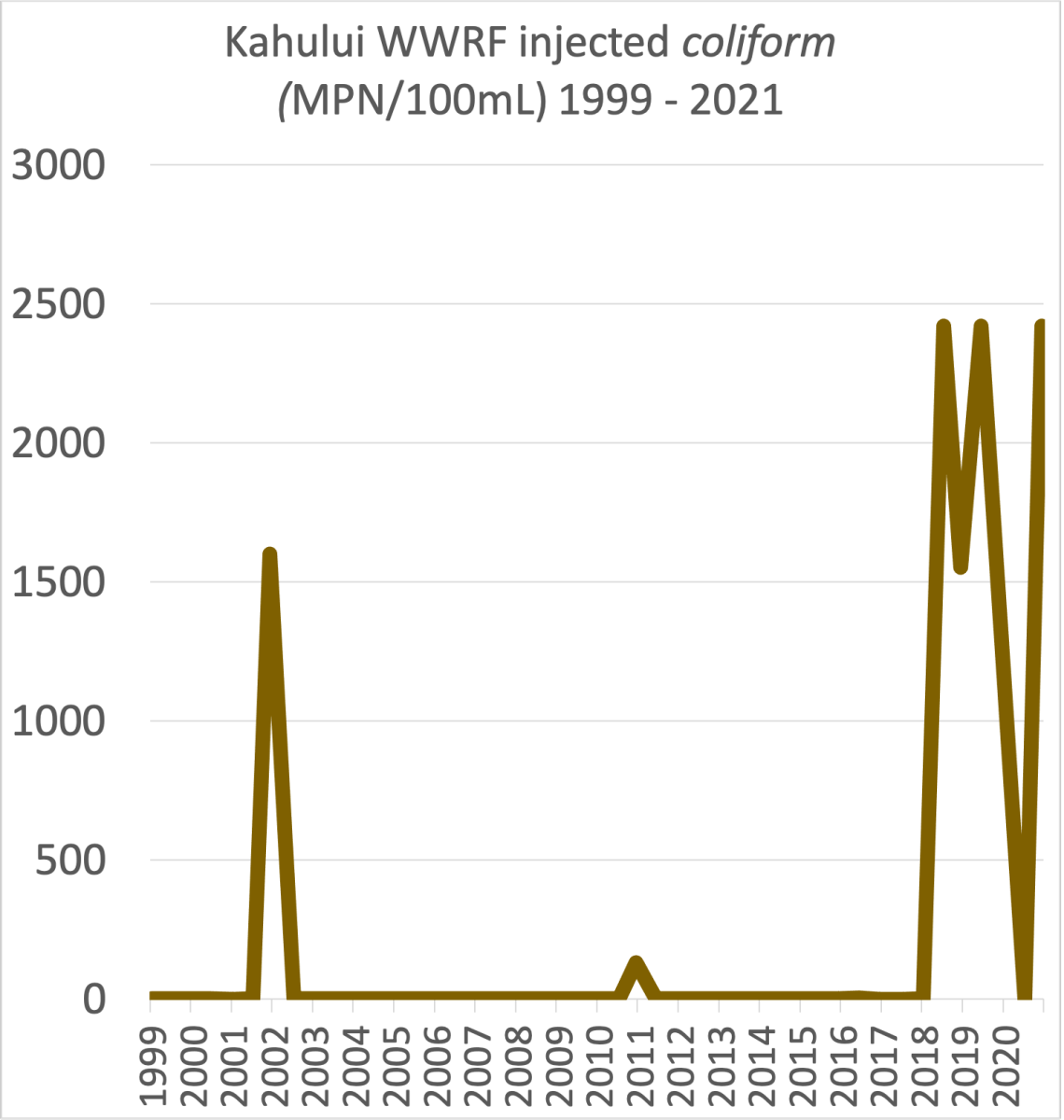
Lahaina WWRF Injection Wells

- No disinfection pre-2012
- Chlorine disinfection in 2012
- UV disinfection in 2015
- Frequent measurements of <1.0 MPN CFU/100mL fecal *coliform*
- *We need all municipal facilities to have UV disinfection performing at a high level as in Lahaina.*



Kihei WWRF Injection Wells

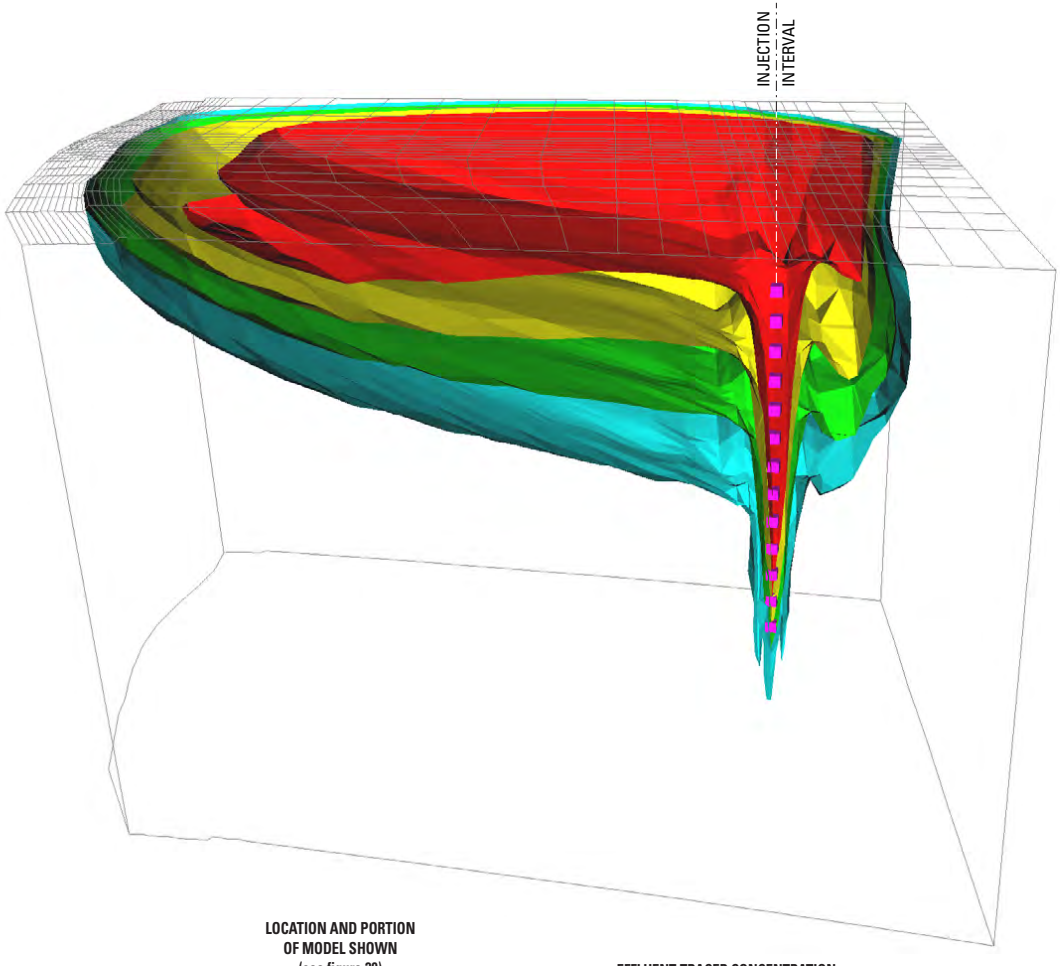
- No disinfection pre-2016
- UV disinfection in 2016
  Steve Parabicoli Report link
- UV disinfection ceased in 2017
- No disinfection since 2017
- County DEM: UV in FY2023
- Frequent measurements of >2419.6 MPN CFU/100mL fecal *coliform*
- 2 out of 18 most recent HI-DOH tests for *enterococcus* exceed the Beach Action Value at Cove Park, inside injection well plume



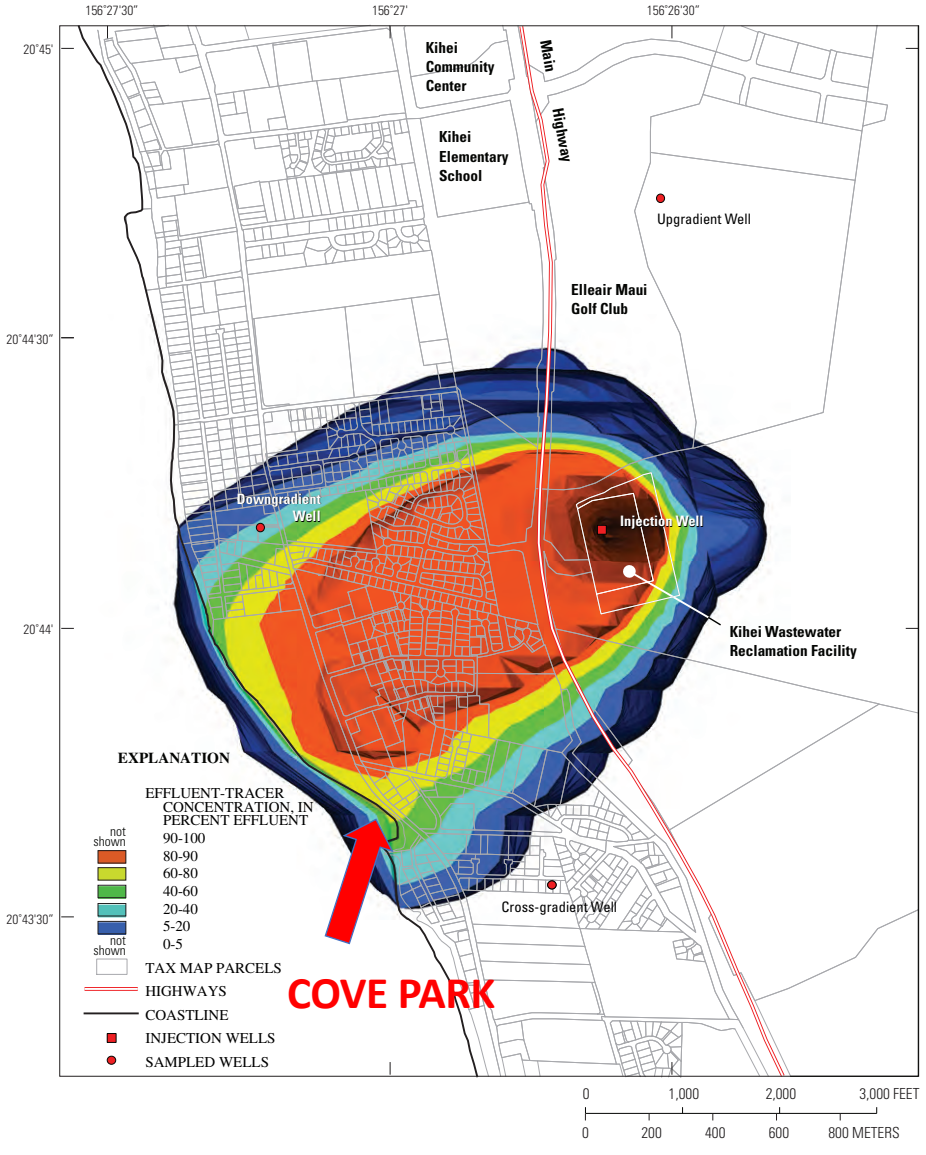
Kahului WWRF Injection Wells

- Chlorine disinfection until 2018
- No disinfection since 2018
- Frequent measurements of >2419.6 MPN CFU/100mL fecal *coliform*
- Occasional Beach Action Value exceedances for *enterococcus* at Kanaha Beach Park and Kahului Harbor

KIHEI SEWER SERVICE AREA



[Hunt 2007 link]



[Hunt 2007 link]

MAUINOW

Maui News

High Bacteria Count at Cove Park, Maui

September 9, 2021, 5:16 PM HST

Article link

PC: file photo by Wendy Osher

The public is advised of a water quality exceedance of enterococci at Cove Park, Maui. Levels of 137 per 100 mL have been detected during routine beach monitoring.

The Department of Health Clean Water Branch provides beach monitoring and notification through its beach program.

The advisory for this beach is posted because testing for enterococci indicate that potentially harmful microorganisms such as bacteria, viruses, protozoa, or parasites may be present in the water. The department advises that wimming at beaches with pollution in the water may make you ill.

State of Hawaii | Department of Health

State of Hawaii, Department of Health
Clean Water Branch

COVE PARK *enterococcus* MEASUREMENTS BY HI DOH RECENTLY SHOW FREQUENT SPIKES NEAR OR ABOVE THE "BEACH ACTION VALUE" OF 130 MPN/100mL

2 out of 18 measurements since September 2021 have exceeded the BAV

Cove Park

Location Identifier	000703
Location Name	Cove Park
Island	Maui
Latitude Decimal Degrees	20.727503
Longitude Decimal Degrees	-156.449739

Sample No	MD12152102
Clostridium Qualifier	
Clostridium Results	0008
Enterococci Qualifier	
Enterococci Results	137

Date	12/15/2021
Time	9:30 AM
Temperature	25.40
Salinity	32.63
Dissolved Oxygen	05.65
Dissolved Oxygen Saturation	083.00
pH	08.06
Turbidity	0011.20
Comments	Sunny, calm, 1 ft shore break, 100 surfers, many homeless people

December 15, 2021 **137 MPN** **100 surfers**

Location Identifier	000703
Location Name	Cove Park
Island	Maui
Latitude Decimal Degrees	20.727503
Longitude Decimal Degrees	-156.449739

Sample No	MD09082102
Clostridium Qualifier	
Clostridium Results	0005
Enterococci Qualifier	
Enterococci Results	137

Date	9/8/2021
Time	9:30 AM
Temperature	27.00
Salinity	31.35
Dissolved Oxygen	06.30
Dissolved Oxygen Saturation	093.90
pH	08.14
Turbidity	0003.84
Comments	Sunny, calm, 2 ft shore break, 50 people, 100 surfers, many homeless people

September 8, 2021 **137 MPN** **100 surfers**

Location Identifier	000703
Location Name	Cove Park
Island	Maui
Latitude Decimal Degrees	20.727503
Longitude Decimal Degrees	-156.449739

Sample No	MD09012102
Clostridium Qualifier	
Clostridium Results	0002
Enterococci Qualifier	
Enterococci Results	124

Date	9/1/2021
Time	10:00 AM
Temperature	27.20
Salinity	32.57
Dissolved Oxygen	06.26
Dissolved Oxygen Saturation	096.00
pH	08.09
Turbidity	0005.08
Comments	Sunny, calm, 3 ft shore break, 200 surfers, many homeless people

September 1, 2021 **124 MPN** **200 surfers**

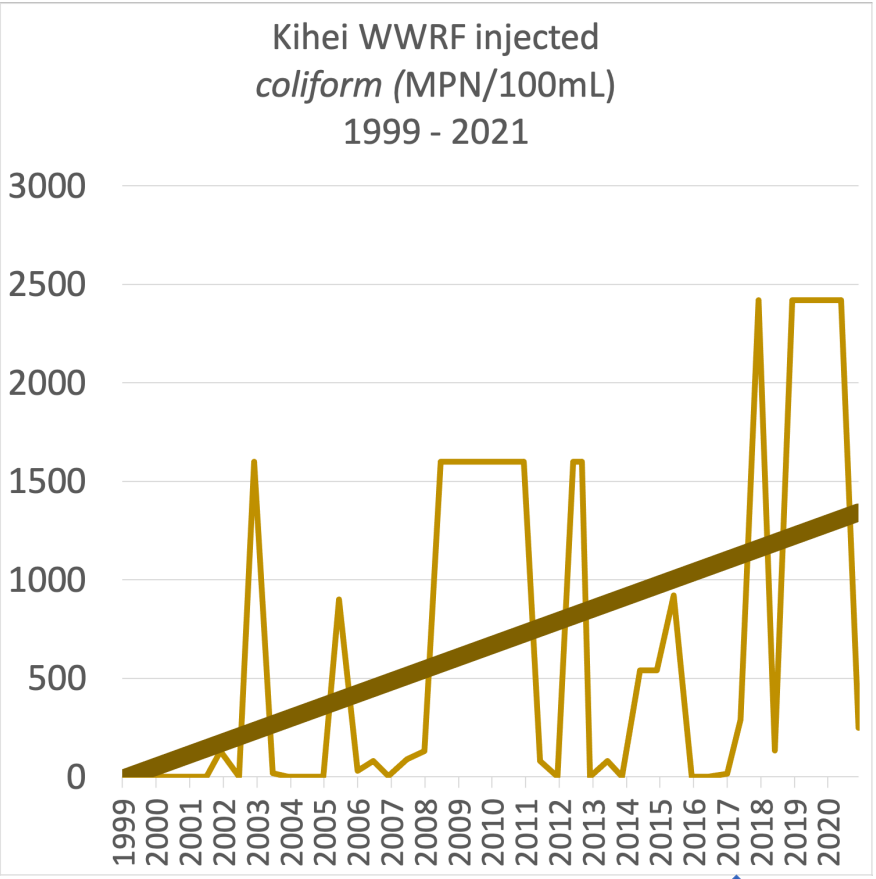
Location Identifier	000703
Location Name	Cove Park
Island	Maui
Latitude Decimal Degrees	20.727503
Longitude Decimal Degrees	-156.449739

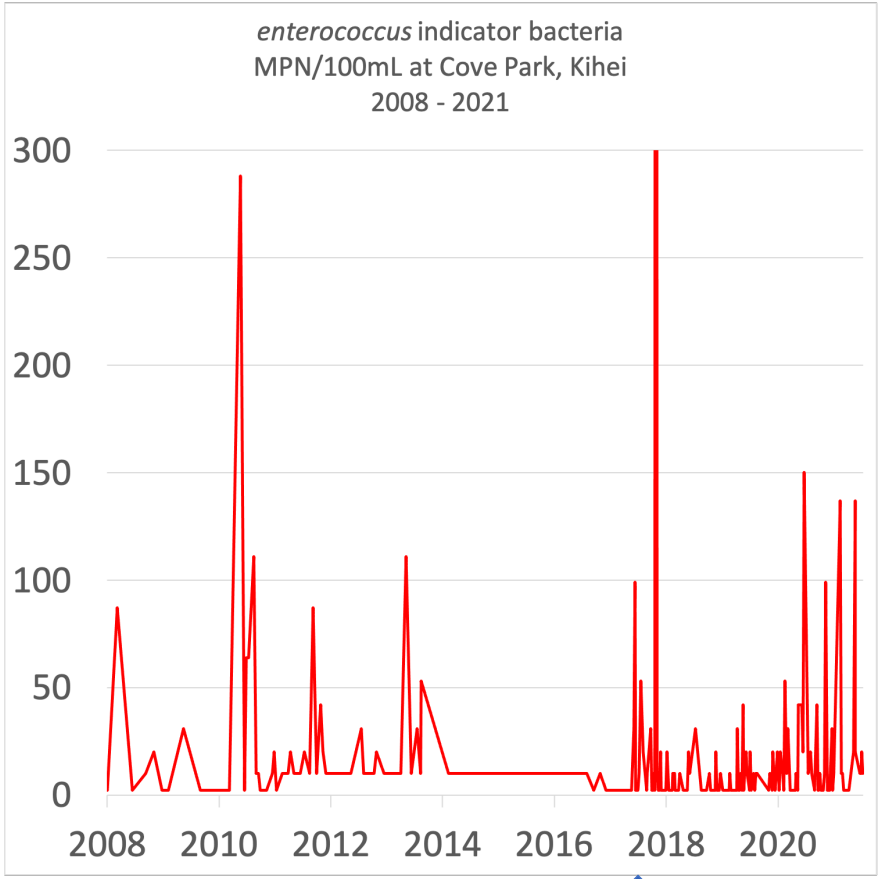
Sample No	MD05231802
Clostridium Qualifier	
Clostridium Results	0006
Enterococci Qualifier	>
Enterococci Results	2005

Date	5/23/2018
Time	9:20 AM
Temperature	26.00
Salinity	31.19
Dissolved Oxygen	06.36
Dissolved Oxygen Saturation	093.40
pH	07.92
Turbidity	0003.67
Comments	Calm, sunny, 1-2 ft shore break, 100 people, rising tide

May 5, 2018 **>2005 MPN** **100 people**

There is a marked shift in effluent *coliform* measurements and Cove Park *enterococcus* readings that correlates with the 2017 cessation of Ultraviolet Disinfection of injected effluent from the Kihei municipal Wastewater Reclamation Facility





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:

Name of pathogen	Major disease or symptoms
Bacteria	
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
Viruses	
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
Protozoa	
Balantidium coli	Balantidiasis
Cryptosporidium spp.	Cryptosporidiosis
Entamoeba histolytica	Acute amoebic dysentery
Giardia duodenalis	Giardiasis
Toxoplasma gondii	Toxoplasmosis

› Hawaii J Med Public Health. 2012 Aug;71(8):218-23.

Risk factors for community-associated Staphylococcus aureus skin infection in children of Maui

Gayle J Early [1], Steven E Seifried

Affiliations + expand

PMID: 22900237 PMCID: PMC3419822

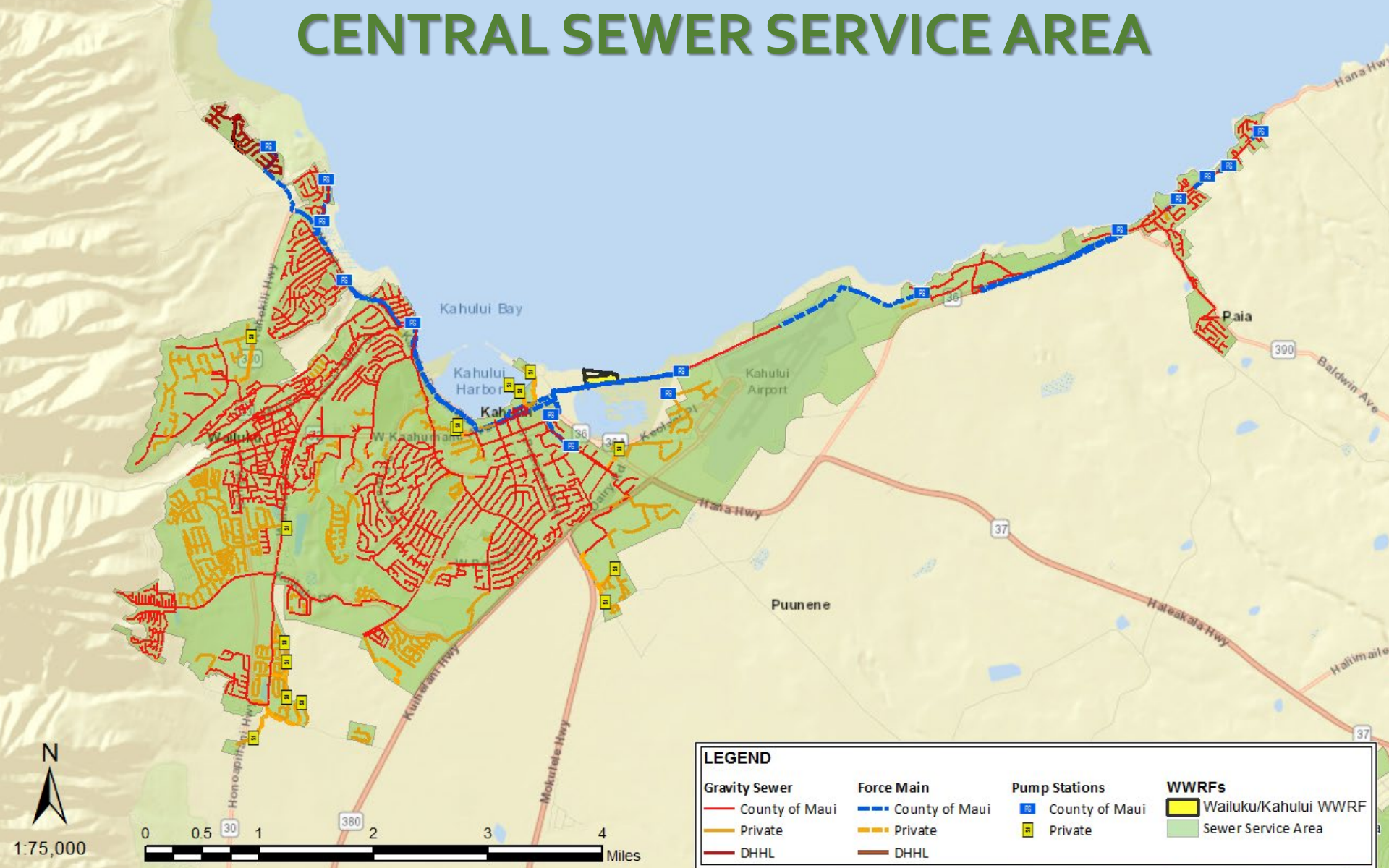
Free PMC article

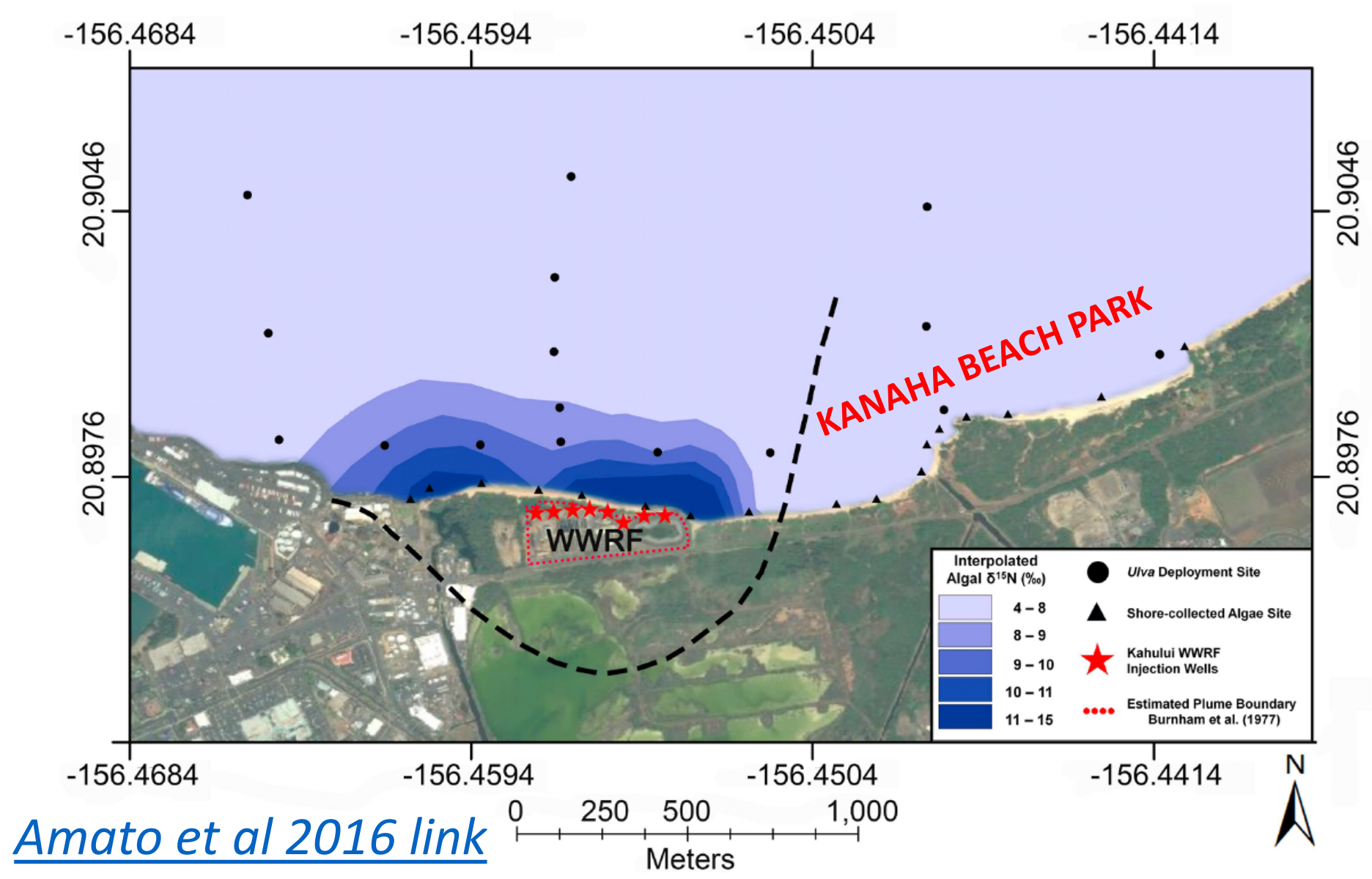
Article link

Abstract

The prevalence of community-associated methicillin-resistant Staphylococcus aureus (CA-MRSA) infection, and Staphylococcus aureus (S. aureus) infection overall, has dramatically increased in the past 10 years. Children and Native Hawaiians and Pacific Islanders (NHPI) are disproportionately affected by CA-MRSA infection. The purpose of this case-control study was to identify risk factors for CA-S. aureus skin infections in children of Maui, Hawai'i, as a foundation for reducing the transmission of these infections. Survey data were obtained from patients in pediatric

CENTRAL SEWER SERVICE AREA





[Amato et al 2016 link]

High bacteria count posted at Kanaha Beach

LOCAL NEWS

NOV 9, 2019

The Maui News

SHARE TWEET

High levels of bacteria have been detected at Kanaha Beach, the state Department of Health announced Friday morning.

During routine beach monitoring, the department's Clean Water Branch detected enterococci levels of 364 per 100 milliliters, indicating that potentially harmful microorganism such as bacteria, viruses, protozoa or parasites may be present in the water.

The advisory will remain in effect until water sample results no longer exceed the threshold level of 130 enterococci per 100 ml.

Swimming at beaches with pollution in the water may lead to illness, the department said.

Children, the elderly and people with weakened immune systems are the most likely to develop illnesses or infections after coming into contact with polluted water, usually while swimming. The department said that while swimming-related illnesses can be unpleasant, they are usually not very serious, requiring little or no treatment or improving quickly upon treatment, and they have no long-term health effects.

The most common illness associated with swimming in water polluted by fecal pathogens is gastroenteritis. It occurs in a variety of forms that can have one or more of the following symptoms: nausea, vomiting, stomachache, diarrhea, headache or fever. Other minor illnesses associated with swimming include ear, eye, nose and throat infections. In highly polluted water, swimmers may occasionally be exposed to more serious diseases.

Article link

Maui News

High Bacteria Count Notification East of Hoaloha Park in Kahului, Maui

December 4, 2020, 5:00 AM HST

Article link

The Hawai‘i State Department of Health has issued a high bacteria count notification and is retesting water at Kahului Harbor east of Hoaloha Park.

The department reports that bacteria levels of 1625 per 100 mL were detected during routine beach monitoring, but is uncertain about the representativeness of the first sample.

“This beach has historically met the acceptable beach threshold level, and there is no known source of fecal contamination. Therefore, DOH has collected another sample and is retesting the site,” according to a department notification.

Sewage spill closes Southern California beaches

A section of the Los Angeles County-run system "collapsed," sending untreated wastewater to already overwhelmed storm drains that lead to sea, officials said.

The release of millions of gallons of untreated sewage into the Dominguez Channel in Carson, Calif., closed some beaches Friday

Dean Musgrove / AP

Article link

Jan. 2, 2022, 6:09 PM HST / Updated Jan. 2, 2022, 7:17 PM HST

By Dennis Romero

Southern California beaches from Orange to Los Angeles counties were closed over the holiday weekend after as many as 7 million gallons of untreated wastewater spilled into the Pacific Ocean, officials said Sunday.

The spill happened after a series of late December storms brought heavy rainfall to the area. A section of Los Angeles County-run sewage system "collapsed," sending untreated wastewater to already overwhelmed storm drains that lead to sea, some blocked by debris, the Los Angeles County Sanitation Districts said in a series of statements.

The collapse was reported Friday night in the city of Carson, and an emergency contractor quickly set up pumps to bypass the problem, but sewage continued to make it to sea the next day, according to the districts.

By New Year's Day additional bypass pumps and the last drops of rain had combined to help end the spill overnight, the sanitation officials said.

County of Maui not planning to invest in disinfection of injected effluent in Kahului until FY2026. Estimated cost of UV disinfection install in Kahului $6M

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.

County of Maui
Fiscal Year 2022-2027 Capital Improvement Program

CBS No: CBS-1169

Project Name: Wailuku-Kahului Wastewater Reclamation Facility (WWRF) Upgrade to R-1

Department: Department of Environmental Management

District: Wailuku-Kahului

Project Type: Sewer

Anticipated Life: 30 years

Prior Years	Appr	Ensuing	Subsequent Years					Total
Expend/Encb	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	6-Year
0	0	0	0	0	0	1,800,000	0	1,800,000

PROJECT DESCRIPTION

The primary objective for this project is to modify the Wailuku-Kahului Wastewater Reclamation Facility to produce a R-1 quality reclaimed water for the Wailuku-Kahului service area. This includes construction of ultraviolet disinfection basins, on-site storage, a pump station and all related piping and electrical to connect to the proposed force main.

PROJECT JUSTIFICATION

Use of reclaimed water will result in the conservation of potable water resources, preservation of brackish water resources and reduction of treated effluent discharged into injection wells.

STRATEGIC PLAN ALIGNMENT

Department's Strategic Plan	Countywide Priority Results
Sustain Reliable Wastewater Infrastructure Ensure Facilities Meet Future Needs Provide Reliable Wastewater Service	A Suitable Public Infrastructure A Strong, Diversified Economy A Prepared, Safe, and Liveable County A Healthy and Sustainable Community

Operating Impact Narrative

Addition of this treatment capability will require an additional position to manage the system, and extra costs for electricity and materials to operate the disinfection system and pumps.

Wailuku-Kahului WWRF
R-1 Recycled Water Study

Prepared for
County of Maui, Wastewater Reclamation Division, Wailuku, HI
August 2015

2015 Reuse study #1 link

2015 Reuse study #2 link

Table 5-6. DOH Reuse Guidelines - Disinfection Requirements

Item	Requirement
General Disinfection	
Inactivation of F-specific bacteriophage MS2 or poliovirus	5-log or 99.99% removal
Fecal coliform bacteria concentration	<2.2 colony forming units (CFU)/100 mL 7-day median, and >23 CFU/100 mL in no more than one sample in 30 days, and <200 CFU/mL at all times
Disinfection via UV	
UV dose	100,000 µWs/cm^2 (for non-membrane filtration)
Minimum UV transmittance	55 percent
Post-filtration turbidity	Automatic diversion from reuse if >2 NTU
Measurements for flow rate, UV intensity, UV transmittance, turbidity, operational UV dose	Continuous
UV System Redundancy	Required such that PWWF can be handled when one bank of lamps (in each channel) is offline

Table 6-3. UV Disinfection Design Criteria	
Description	**Value**
Filtered water UV transmittance	55 percent minimum [a]
Minimum UV dose	100,000 µWs/cm^2
UV technology	Trojan UV3000+
Lamp type	Low pressure high output, in quartz sleeves
End of lamp life factor	0.98
Lamp fouling factor	0.95
Lamp cleaning system	Automatic
Number of channels	3
Number of banks per channel	5 (1 redundant bank per channel)
Total number of banks	15 (12 duty, 3 redundant)
Number of modules per bank	18 [a]
Number of lamps per module	8
Total number of UV lamps	2,160 [a]
Lamp power draw	254 watts/lamp
Maximum power draw	540 kW [a]
Water level control	Fixed weirs
Instrumentation	Continuous UV intensity monitoring Continuous UV transmissivity monitoring
Energy conservation	Automatic lamp dimming

UV costs for parts & power in the $100K's per year

		FY2021	Estimated FY2022	Estimated FY2023
POWER COST:	(per 2 MGD)			
Lahaina WWRF	UV System	$ 112,958.36	$ 137,875.65	$ 144,037.99
Kihei WWRF	UV System	$ 68,107.25	$ 85,134.06	$ 140,608.51
Electrical Cost per KWH	HECO	$ 0.31	$ 0.31	$ 0.32
	S POWER (PV)	$ 0.21	$ 0.21	$ 0.21
Estimated Annual UV Power Cost		$ 181,065.61	$ 223,009.71	$ 284,646.50
MATERIALS/SUPPLIES:				
Lahaina WWRF	UV lamps, sleeves, modules, parts	$ 127,217	$ 132,340	$ 135,000
Kihei WWRF	UV lamps, replacement modules, parts	$ 51,538	$ 121,400	$ 128,000
Estimated Annual UV Equipment Cost		$ 178,756	$ 253,741	$ 263,000

CARE-88

March 16, 2022, Committee meeting

CLIMATE ACTION, RESILIENCE, AND ENVIRONMENT COMMITTEE
Amendment Summary Form

Legislation: Bill 52 (2022) entitled "A BILL FOR AN ORDINANCE AMENDING SECTION 14.21A.015, MAUI COUNTY CODE, RELATING TO PROHIBITED DISCHARGE STANDARDS."

Proposer: Kelly Takaya King, Chair Kelly T. King
Climate Action, Resilience, and Environment Committee.

Description: Amend Bill 52 to clarify that municipal wastewater effluent reused by the County must only meet EPA drinking water standards for fecal coliform bacteria, not all EPA drinking water standards.

Motion: Move to amend Section 1 to insert the words "for fecal coliform bacteria" so that it reads as follows:

"A. General prohibitions. No user **[**shall**]** can introduce or cause to be introduced into the POTW any pollutant or wastewater that causes pass through or interference. These general prohibitions apply to all users of the POW whether or not they are subject to categorical pretreatment standards or any other governmental pretreatment standards or requirements. Municipal wastewater effluent discharged by the County must meet Hawaii state R-1 reuse water standards; municipal wastewater effluent reused by the County must meet EPA drinking water standards for fecal coliform bacteria; the County must allocate sufficient funding for the implementation of this subsection so that its implementation does not cause a significant increases in sewage rates for residents."

Attachment: Proposed CD1 version of Bill 52.

care:misc:088aasf01:brs

REUSE GUIDELINES

Volume 1: Recycled Water Facilities

Prepared by
Hawai'i State Department of Health
Wastewater Branch

January 2016
(Replaces May 15, 2002 Version)

D. R-1 Recycled Water

In order to be classified as R-1 recycled water, wastewater must be oxidized, filtered and disinfected as follows:

3. Disinfection

The disinfection process, when combined with filtration, must have demonstrated inactivation and/or removal of 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least resistant to disinfection as the polio virus may be used for purposes of demonstration.

b. UV Disinfection

1) When using media filtration:

a) The design UV dose shall be 100 mJ/cm^2 or greater under maximum daily flow; and

b) The filtered UV transmittance shall be 55 percent or greater at 254 nanometers (nm).

2) When using membrane filtration:

a) The design UV dose shall be 80 mJ/cm^2 or greater under maximum daily flow; and

b) The filtered UV transmittance shall be 65 percent or greater at 254 nanometers (nm).

3) The minimum acceptable design requirements and commissioning of new UV disinfection systems shall comply with the *NWRI UV Guidelines*.

4) A UV system that is Title 22 certified by California is acceptable to the DOH.

4. Fecal Coliform

a. The median density measured in the disinfected effluent shall not exceed 2.2/100 milliliters using the bacteriological results of the last seven days for which analyses have been completed;

b. The density shall not exceed 23/100 milliliters in more than one sample in any 30-day period; and

c. No sample shall exceed 200/100 milliliters.

d. Frequency of sampling and analysis:

1) Sampling and analysis shall be done daily for fecal coliform when R-1 is being used as allowed (i.e. not directly disposed).

2) If approved by the Director, sampling frequency may be reduced to weekly sampling based on:

a) Use of R-1 when a lower class of recycled water is allowed;
b) Volume of R-1 used;
c) Disinfection or filtration method used;
d) Demonstrated disinfection quality and reliability;
e) Sampling location; and
f) Other factors as determined by the DOH.

Hawaii DOH 2016 Reuse Guidelines link

Environmental Protection Agency

40 CFR Parts 141 and 142
National Primary Drinking Water Regulations: Revisions to the Total Coliform Rule; Final Rule

Part II

FEDERAL REGISTER

Vol. 78 Wednesday,
No. 30 February 13, 2013

EPA drinking water *coliform* rule link

§ 141.52 Maximum contaminant level goals for microbiological contaminants.

(a) MCLGs for the following contaminants are as indicated:

Contaminant	MCLG
(1) *Giardia lamblia*	zero
(2) Viruses	zero
(3) *Legionella*	zero
(4) Total coliforms (including fecal coliforms and *Escherichia coli*.	zero
(5) *Cryptosporidium*	zero
(6) *Escherichia coli (E. coli)*	zero


FlushAware
Do you know what happens to the water that goes down the toilet and drain?
Learn About Your Maui Island Wastewater Disposal Method
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MAUI NUI

MARINE RESOURCE COUNCIL

Special Thanks

B.a.R.E.
Born and Raised Earth

Tax-deductible contributions toward our vision are welcome through our project fiscal sponsor, Maui Nui Marine Resource Council. bit.ly/ReefPower2020

CARE Committee

From: Axel I. Beers
Sent: Wednesday, March 16, 2022 1:28 PM
To: CARE Committee
Cc: Brittney Sunderland; Ellen B. McKinley
Subject: Fw: corrected typo - slides v10.0 for Granicus
Attachments: Travis Liggett CARE March 16 2022 v10.0 FINAL.pdf

Axel Beers, Executive Assistant
Office of Councilmember Kelly T. King
South Maui Residency
Office: 808.270.8018
200 South High Street, 8th Floor
Wailuku, HI 96793
http://mauicounty.us/
Now is the time to provide input to update the South Maui Community Plan! https://southmaui.wearemaui.org/get-involved/

From: travis liggett <travis@reefpowermaui.com>
Sent: Wednesday, March 16, 2022 1:21 PM
To: Axel I. Beers <Axel.Beers@mauicounty.us>; Kelly King <ktkmaui@icloud.com>
Subject: corrected typo - slides v10.0 for Granicus

Aloha Axel,

It's totally fine if it's too late, but attached is a slightly updated set of slides v10.0 that you may upload to Granicus if it's not too late.

It's a minor correction, but if there's time to post the latest then please do.

Mahalo,
Travis