GET Committee

From: Richelle Thomson <Richelle.Thomson@co.maui.hi.us>
Sent: Friday, August 30, 2019 3:32 PM
To: bruce.s.anderson@doh.hawaii.gov
Cc: Edward.G.Bohlen@hawaii.gov; GET Committee; Mike J. Molina
Subject: 9th Circuit Court's decision in Hawaii Wildlife v. County of Maui(GET-26)
Attachments: Acrobat.pdf; Acrobat.pdf; Acrobat.pdf

Dr. Anderson,

Please see attached correspondence.

Thank you,

Richelle Thomson

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August 30, 2019

Dr. Bruce Anderson, Director
Department of Health
State of Hawaii
Via email

RE: Ninth Circuit Court of Appeals' decision in Hawaii Wildlife, et al., v. County of Maui (U.S. Supreme Court 18-260) (GET-26)

Dear Dr. Anderson,

Thank you for meeting by phone with Mike Molina, Chair of the Governance, Ethics, and Transparency Committee, and other County personnel yesterday. This correspondence is in follow-up to that conversation at Chair Molina's request.

1. Does DOH agree with the EPA's statement that the Ninth Circuit's decision could require Clean Water Act NPDES permits for cesspools and septic systems?

   For additional reference, please see:

   EPA correspondence dated August 28, 2019, attached.

   Whittier, Robert, and El-Kadi, Aly. *Human Health and Environmental Risk Ranking of On-Site Sewage Disposal Systems for the Hawaiian Islands of Kauai, Molokai, Maui, and Hawaii* (2014), prepared for DOH/SDWB, available at https://health.hawaii.gov/wastewater/files/2015/09/OSDS_NI.pdf: "The majority of these OSDS (80 percent) are cesspools where the effluent receives no treatment prior to being released to the environment. It is estimated that statewide OSDS discharge nearly

70 million gallons per day of minimally treated effluent to groundwater. This produces an estimated nutrient load to the environment of over 12,500 and 3,500 kilograms per day of nitrogen and phosphorus, respectively."

Powerpoint summary of study, attached: *Identifying locations of sewage pollution within Puako's watershed for management actions.*
"The condition at Pūako is that cesspools are in close proximity to the water table, which is 1 to 5 meters in elevation. As a result, homeowners building new homes or renovating existing ones are required to install septic tanks. Presently, there are 49 cesspools, 66 septic tanks, 23 ATUs, and 21 home where the type of OSDS is unknown." Tracer dye tests on cesspools, septic systems, and advanced treatment units showed that dye reached the shoreline in less than 5 hours up to 10 days.

2. There has been some confusion regarding how to interpret HDOH Deputy Director of Environmental Health Keith Kawaoka's June 18, 2018, statement in a letter responding to Councilmember Tasha Kama's questions: "DOH has no plans to enforce NPDES permit requirements against existing septic systems and cesspools."

    a. Is it HDOH's position that cesspools and septic systems are exempt from the 9th Circuit's decision even if these sources can be shown to have a connection to the near shore waters? (See, Whittier & Al Kadi study at link above, Section 6 of which identifies the impacts of such disposal systems to coastal waters and the Puako study attached.)
    b. Although cesspools or septic systems may meet the 9th Circuit's test and be in violation of the Clean Water Act, does this mean that HDOH will not enforce on these properties? Could such properties face citizen's suits?
    c. Is HDOH currently issuing approvals for septic systems located within the coastal zone?

3. Will other sources of pollutants such as drainage systems and irrigation systems that may connect to groundwater and eventually seep to the ocean need NPDES permits?

4. Does the existing Safe Drinking Water Act authority, using Underground Injection Control permits, give the Department of Health the ability to set

limits and conditions directed at protecting groundwater and near shore waters?

5. Is the NPDES program the proper regulatory tool to address discharges to groundwater may eventually reach the ocean?

6. If the 9th Circuit's decision stands, whether this is because the County withdraws from the Supreme Court or whether the Supreme Court agrees with the Ninth Circuit's interpretation of the Clean Water Act, will all or most of the state's 6,888 Class V injection wells require NPDES permits? (See: https://www.epa.gov/uic/uic-injection-well-inventory). Is HDOH prepared to issue NPDES permits for these UIC wells?

7. Does HDOH continue to support the County's efforts to maximize recycled water reuse, and how would the 9th Circuit's decision potentially impact water reuse projects? For example, a golf course in the vicinity of the Lahaina Wastewater Reclamation Facility stores approx. 1 million gallons of recycled water in an unlined pond. Should the recycled water from the pond be "fairly traceable" to the ocean, would that use potentially require an NPDES permit under the 9th Circuit's test?

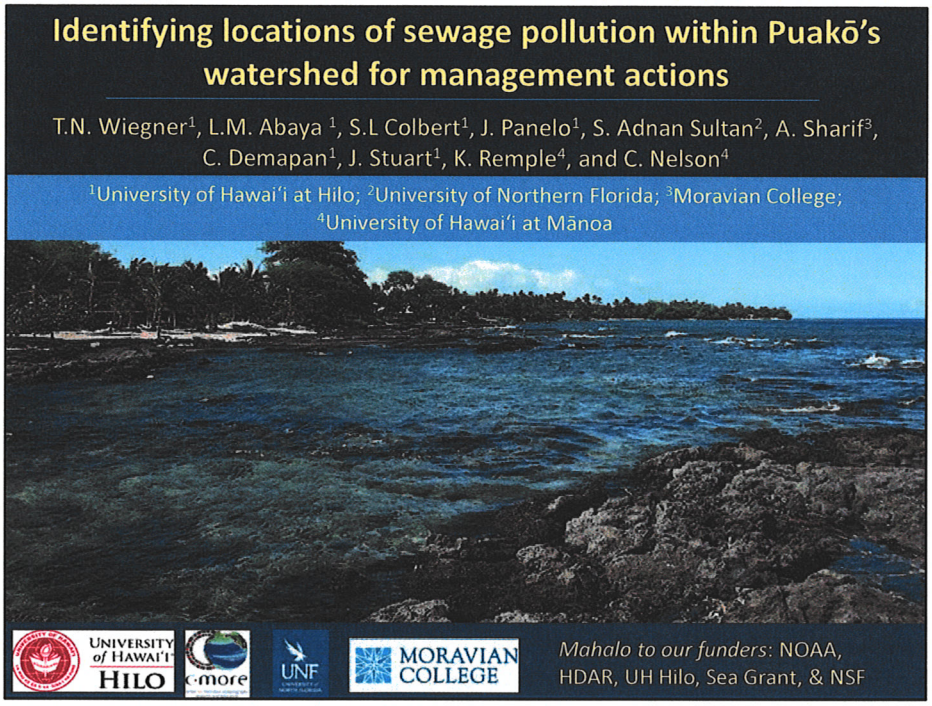
8. Under the 9th Circuit's test, would properties using recycled water require NPDES permits to address runoff to the ocean or a stream from over-spray, over watering, or from watering during rain events, in addition to other permits or permissions such as the water reuse guidelines?

Please direct your response to Mike.Molina@mauicounty.us, with copy to GET.Committee@mauicounty.us and Richelle.Thomson@co.maui.hi.us, and please note in the subject line: "Hawaii Wildlife v. County of Maui, USSC 18-260, GET-26." If you should have any questions, please do not hesitate to contact me.

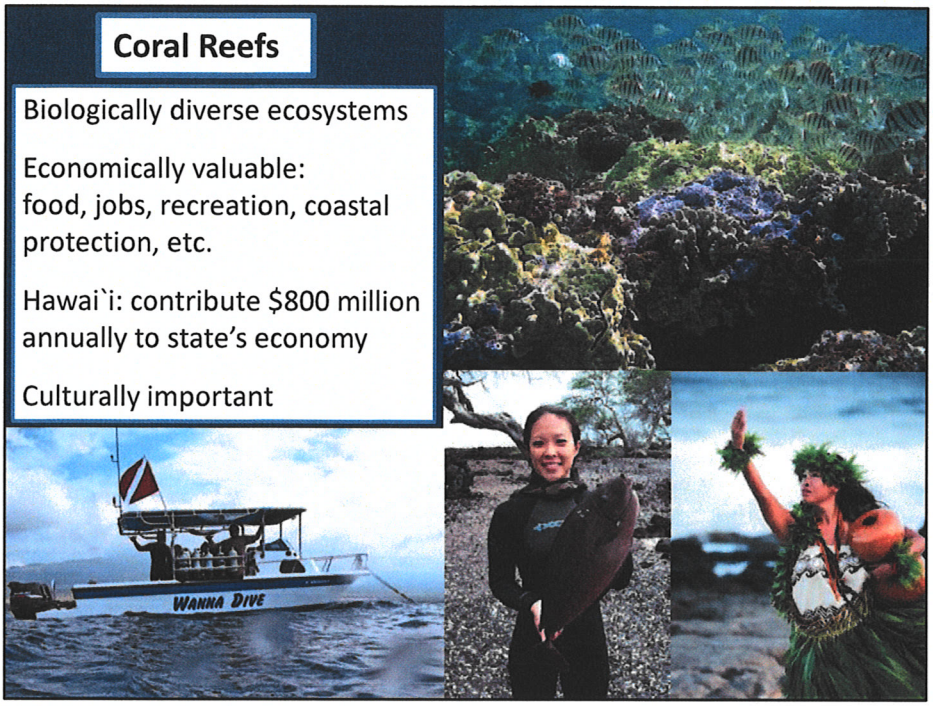
With best regards,

RICHELLE M. THOMSON
Deputy Corporation Counsel

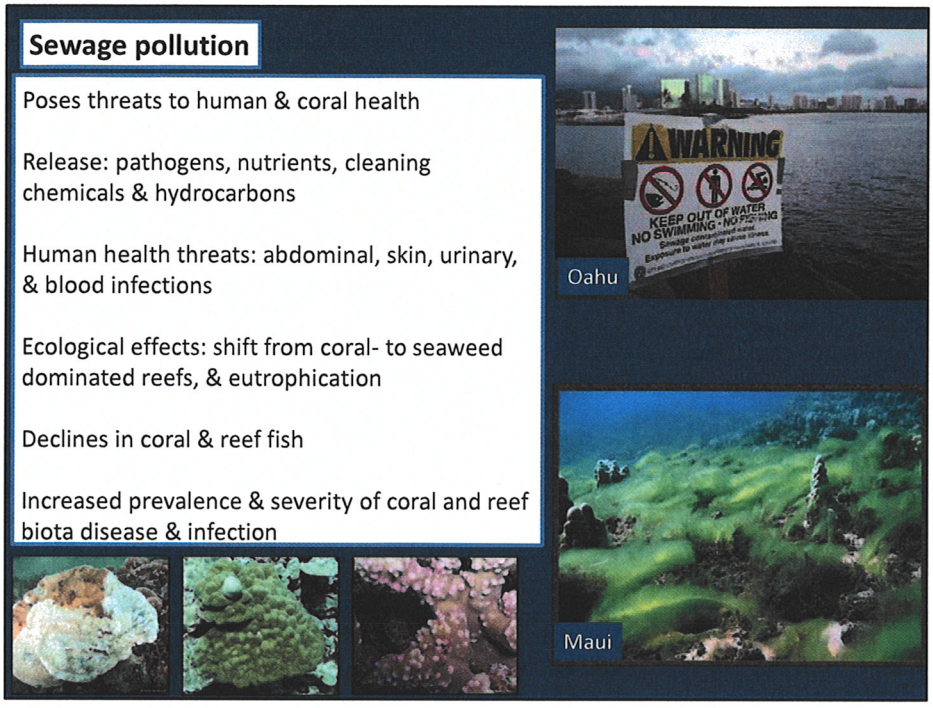
C: Edward Bohlen, Deputy Attorney General, via email



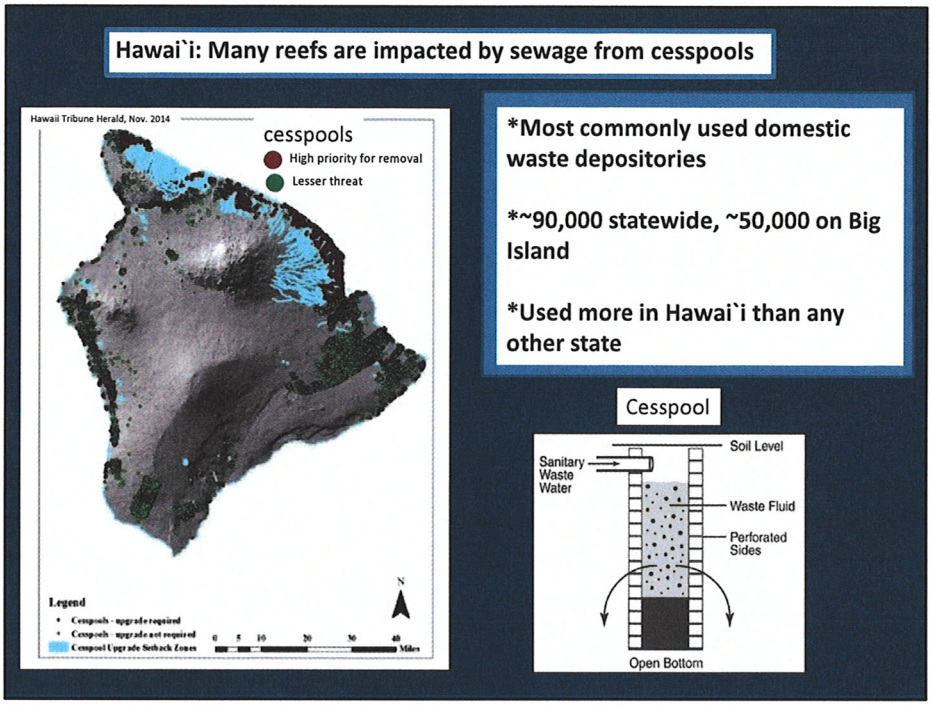
Thank you for inviting us to share our science with you and to the Coral Reef Alliance for organizing this gathering. Before starting, I would like to acknowledge my colleagues in the audience that have contributed to this research effort: Steve Colbert (UHH), Jim Beets (UHH), Courtney Couch (HIMB) and Chad Wiggins (TNC). We are excited to share our findings with you today and, after our brief presentation, we will do our best to answer your questions.



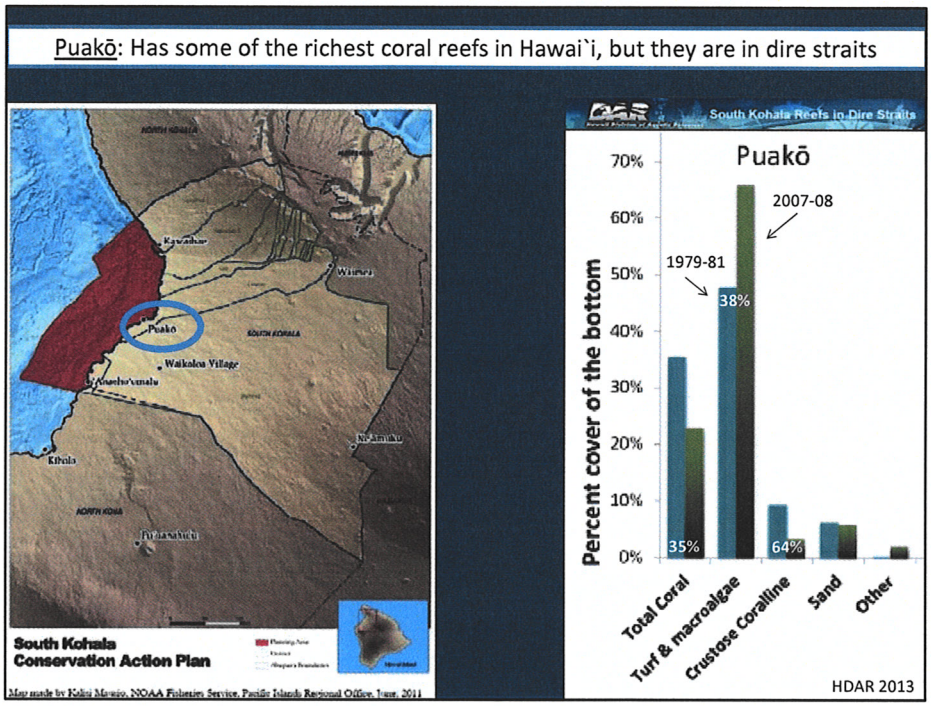
Coral reefs are among the most biologically diverse and economically valuable ecosystems on Earth, providing hundreds of billions of dollars in food, jobs, recreational opportunities, coastal protection, and other valuable services. In Hawai'i alone, for example, coral reefs are estimated to contribute $800 million dollars annually directly to the state's economy. Coral reefs are also culturally important; for example, the Kumulipo, the Hawaiian Creation story, starts with the creation of coral polyp.



Sewage pollution poses a threat to human and coral reef health, with discharge of pathogens, nutrients, cleaning chemicals, and hydrocarbons into nearshore waters. Human health effects from sewage inputs range from abdominal infections, to skin, urinary, and blood ones. Ecological effects of sewage pollution include shifts from coral- to seaweed- dominated reefs, eutrophication, declines corals and reef fish, as well as high occurrence of diseases and infections of reef biota.



Unbeknown to visitors, but well known by residents, Hawai'i's coral reefs are impacted by sewage primarily through a diffuse, widespread source—cesspools. These are the most commonly used domestic wastewater depositories in Hawaii, and they are used more widely here than any other state in the nation. Hawai'i Department of Health estimates that there are presently 90,000 cesspools in the state, with 50,000 are on Hawaii Island. Fall 2016, HDOH finally banned new cesspool construction in the state, the last state in the nation to do so; Rhode Island the second to last state to do it, did it in 1968.

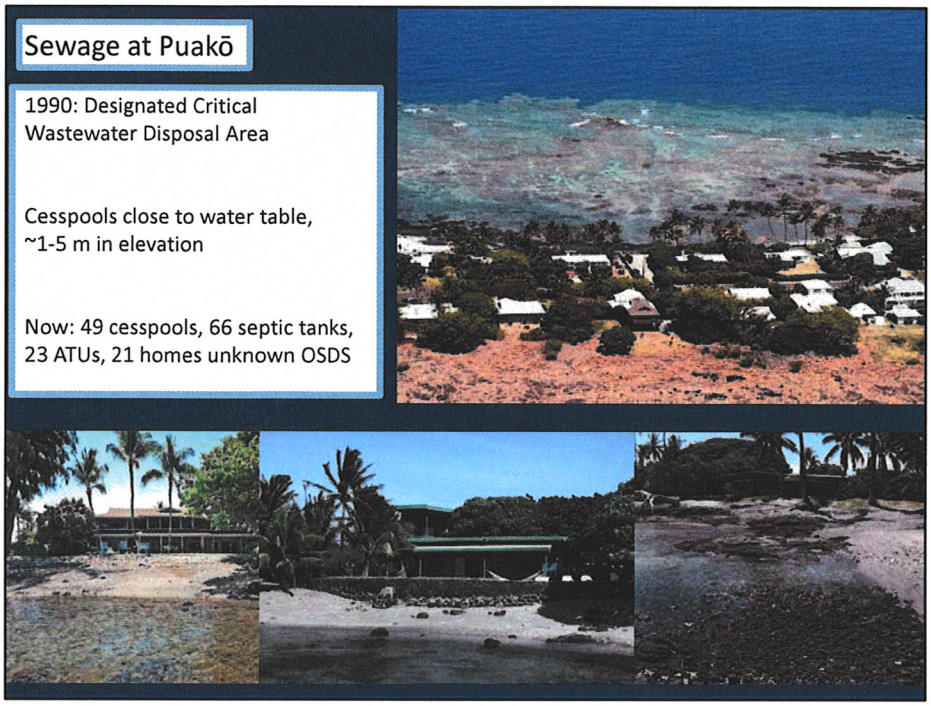


Symptoms of sewage pollution are becoming more apparent on the outer Main Hawaiian Islands in rural areas, such as Hawai'i Island. In these areas, coral reefs are still relatively healthy, underscoring the urgency for improved sewage disposal management.

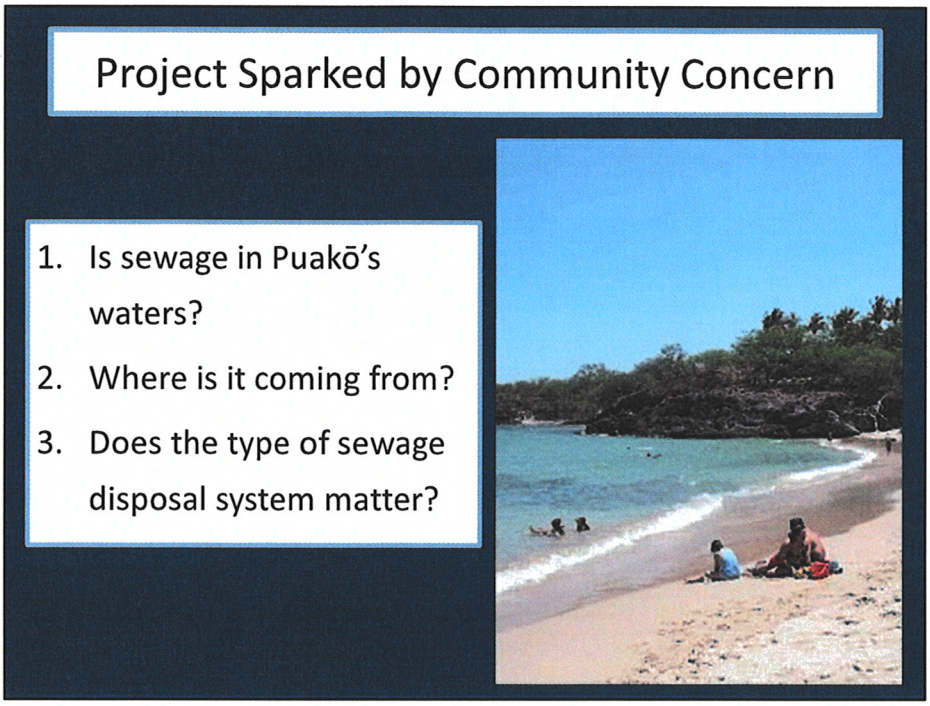
Hence, Hawai'i State's Coral Reef Strategy, Objective 1, is to reduce key anthropogenic threats to nearshore coral reef sites.

Pūako is located in one of two priority sites identified for site-based actions. Pūako's coral reefs are considered some of the richest in the state.

But, according to a recent Hawaii's Division of Aquatic Resources report – Puako's reefs are in dire straights. Coral cover has decreased 35% up to 50%, with algal cover increasing 38% in the last 30 years. It is suspected that sewage pollution maybe one contributing factor to these documented changes to Puako's reefs.



Concern over sewage pollution at Puako is not new; residents have been worried about its impacts to the reef since the 1960s. As a result, in 1990, Pūako was designated as a Critical Wastewater Disposal Area. These are areas where the disposal of wastewater has or may cause adverse effects on human health or the environment due to existing hydrogeological conditions. The condition at Pūako is that cesspools are in close proximity to the water table, which is 1 to 5 meters in elevation. As a result, homeowners building new homes or renovating existing ones are required to install septic tanks. Presently, there are 49 cesspools, 66 septic tanks, 23 ATUs, and 21 home where the type of OSDS is unknown.

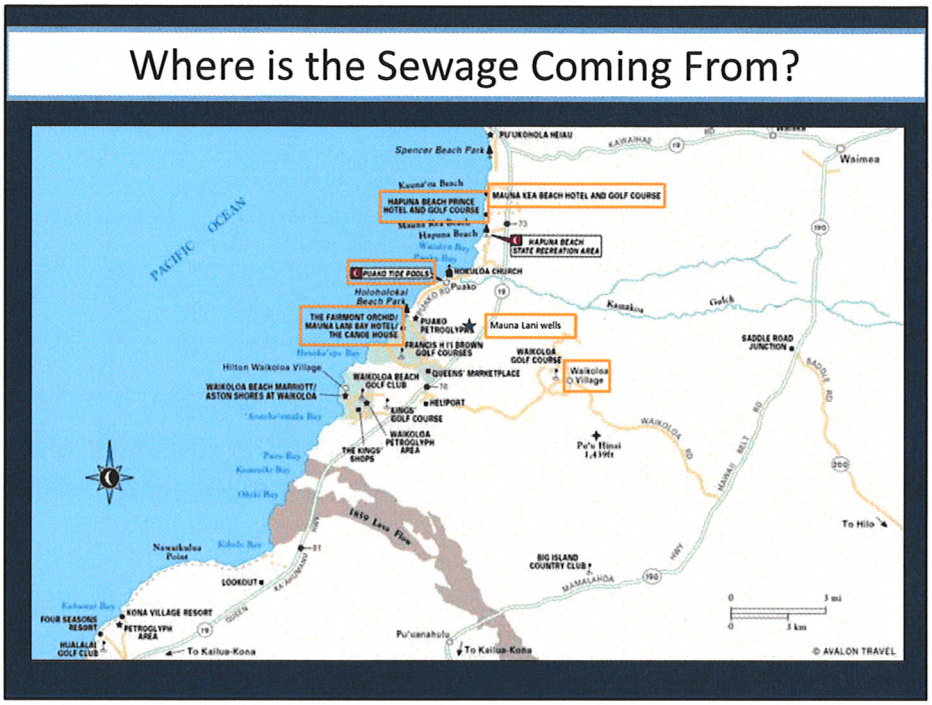


In 2013, the Puako Community Association enlisted UH Hilo and TNC to help answer the questions: Is sewage in Puako's waters? And since then, we have been collecting information through several different research projects to address this question, and the answer is yes.

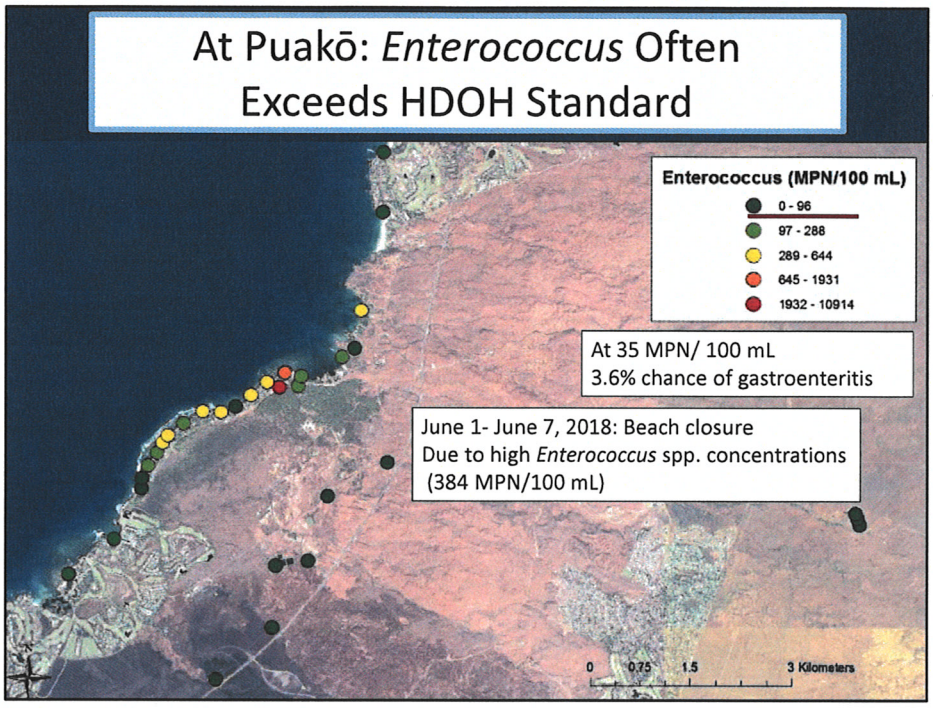
How do we know this? Over the last three years, we have made measurements of sewage indicators (fecal indicator bacteria, stable nitrogen isotopes, nutrients), as well as conducted dye tracer tests. From this research, we have shown that sewage is present, and traveling from homes to the shoreline within hours to days.

And although we have documented this, many community members have asked us whether upslope communities or adjacent resorts could also be contributing sewage pollution to Puako's waters. Our most recent efforts have sought to answer this question, and to address whether the type of sewage disposal system a property has matters with respect to nearshore water quality.

Where is the Sewage Coming From?



We sampled waters from groundwater wells at Waikoloa Village and Mauna Lani, and from resorts' shorelines at Mauna Kea, Hapuna Prince, Fairmont Orchid, and Mauna Lani – analyzing them for sewage indicators. Here is what we found (next slide)



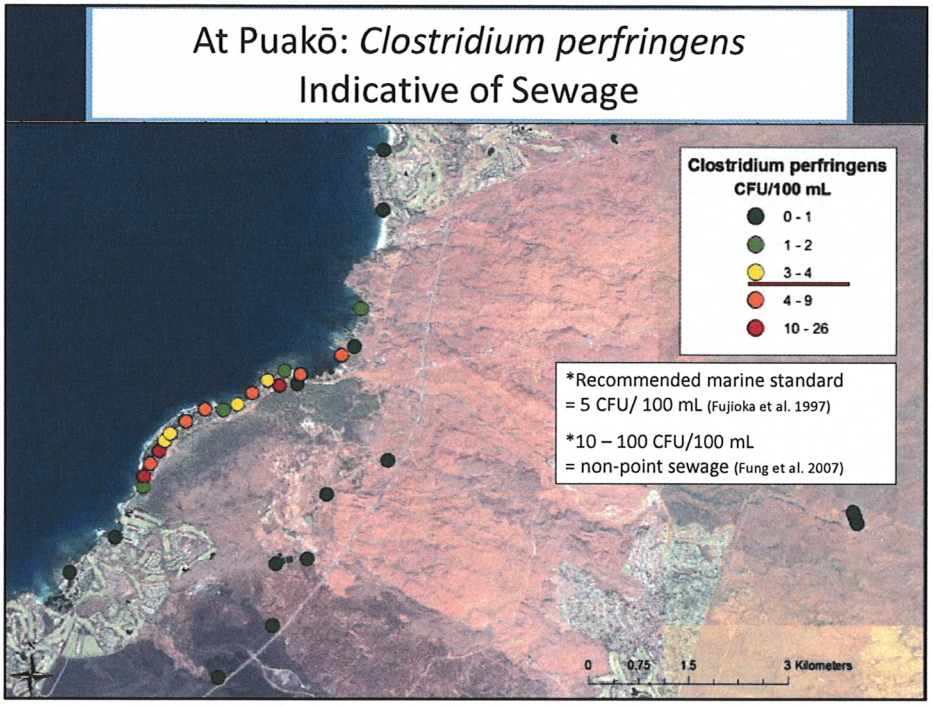
Enterococcus, a FIB, has concentrations that often exceeded HDOH single sample maximum of 104 MPN/ 100 mL.

Upslope wells and resorts' shoreline waters had low concentrations that were all below HDOH's standard.

The US EPA's marine waters recreational standard is 35 MPN/ 100 mL (geomean), and at this level, your chance of getting gastroenteritis is 3.6%.

Most concentrations at Puako are 2 to 3 orders of magnitude higher than this standard

Earlier this month (June 2018), HDOH closed the beach at their sampling site (betweeen Puako Beach Drive 56 and 58) for six days due to elevated concentrations (I think this is one of our stations near the point).

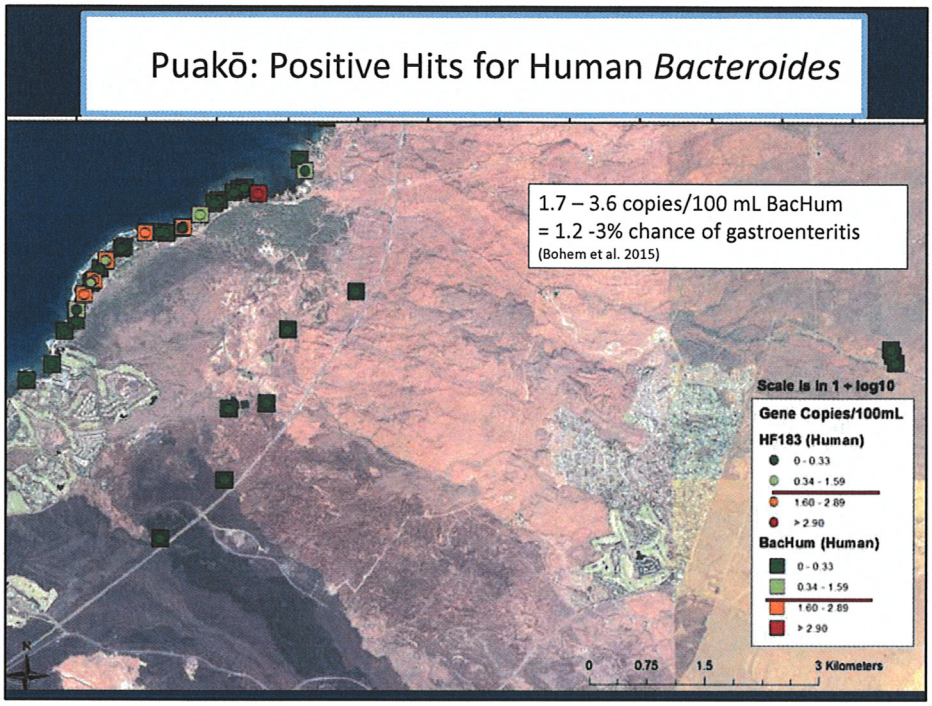


Because Enterococcus can naturally occur in Hawaiian soils, HDOH uses a secondary FIB – Clostridium perfringens which is thought to be a more specific indicator of sewage pollution.

Clostridium perfringens concentrations at Puako often exceeded the recommended marine recreational waters standard of 5 CFU/ 100 mL,

With several stations having values indicative of non-point source sewage pollution (10 -100 CFU/100 mL).

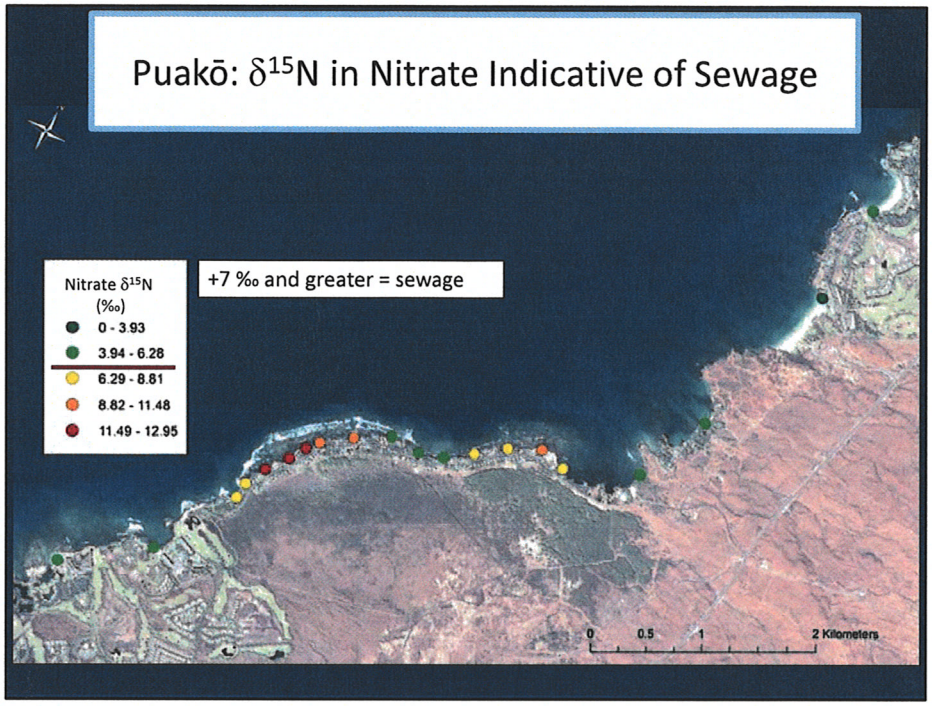
Concentrations upslope and at adjacent resorts were low.



Over the last 10 years or so, more specific methods have been developed to identify fecal bacteria sources to waters. Specifically, molecular markers have been developed for the bacteria Bacteroides, which is the most abundant bacteria in the human gut. We now have methods that can identify ones of human origin in the water.

Positive hits for human bacteroides (using two different markers) only occurred at Puako.

Also, it has been found that when the concentrations are 1.7 -3.6 copies/ 100 mL, your chance of getting gastroenteritis is 1.2-3%. Concentrations were within this range at some stations within Puako.



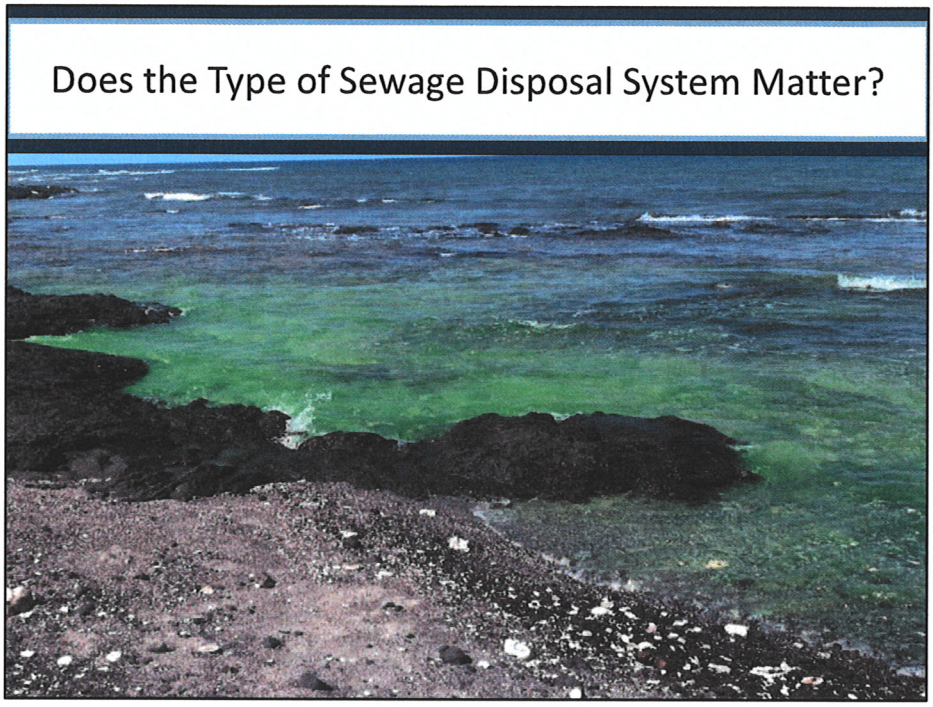
We also measured stable nitrogen isotopes in nitrate. Nitrate is a nutrient.

We found that values at Puako were indicative of sewage (>+7), while values upslope and at adjacent resorts were indicative of soil and fertilizers.

(do we have an updated map which includes resort values?)

Take Home Message #1

- Sewage indicator values were highest along Puakō's shoreline
- Sewage is largely entering the water table at Puakō, and not at the other locations



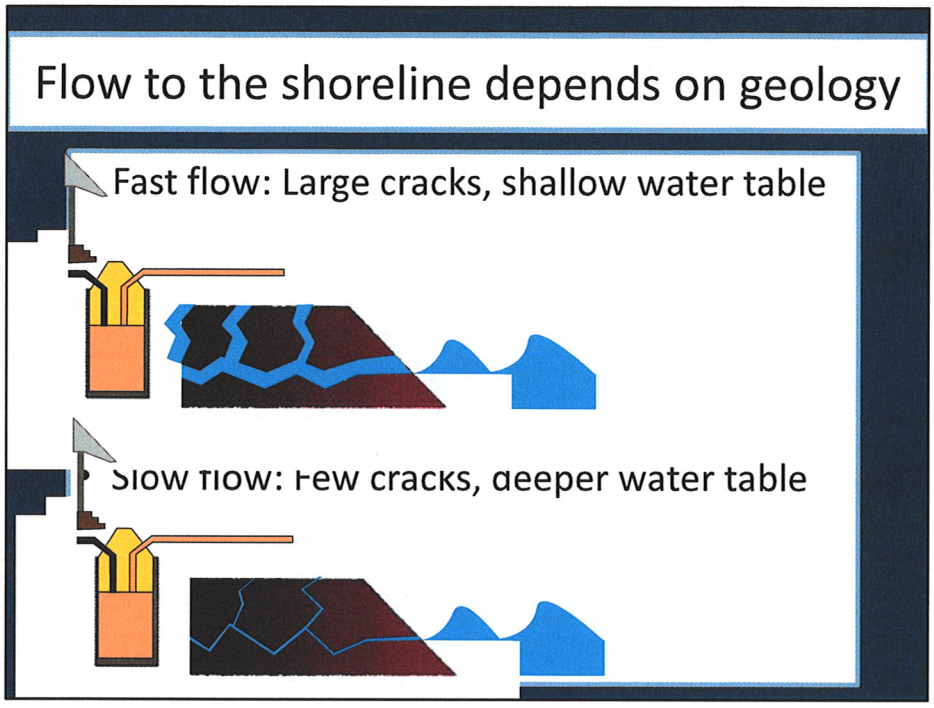
Second question, does the type of sewage system matter? Do they all leach into the water table? Do they differ in their time of travel from the home to the shoreline?

Over the last year and still ongoing, we have been working to answer these questions.

Dye Reached Shoreline Quickly

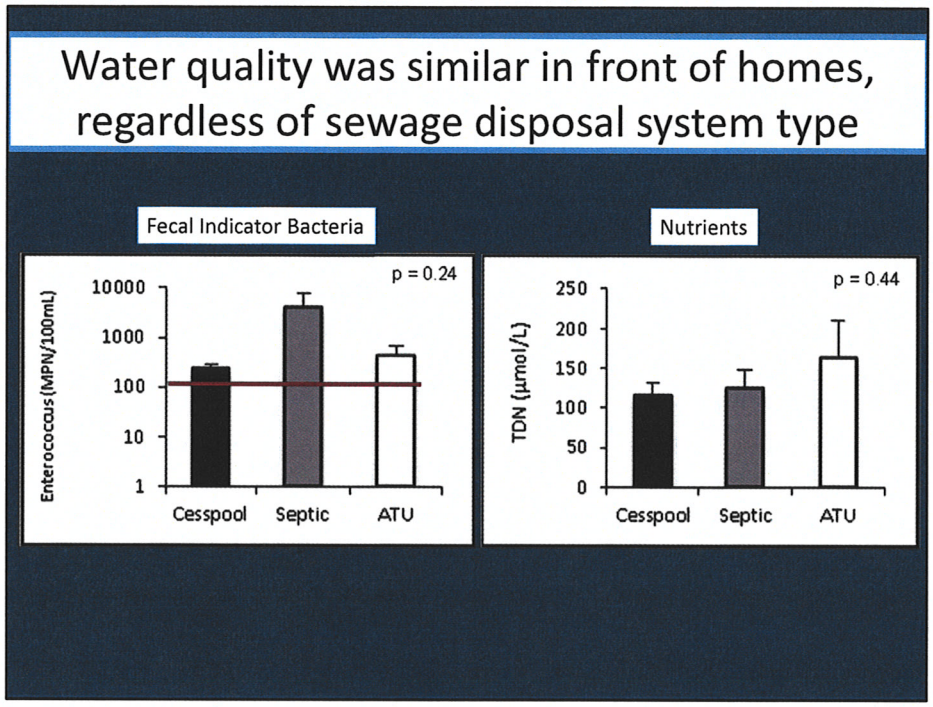
- 9 dye tracer tests:
  - 4 Cesspools
  - 2 Septic Tanks
  - 3 ATUs
- Dye reached shoreline in < 5 h, up to 10 d
- ***No difference among systems***

We have now tested how fast water travels to the shoreline from cesspools, ATUs, and septic tanks. Our dye tracer studies documented dye reaching the shoreline in less than 5 hours up to 10 days. Both the shortest and the longest travel times came from homes with ATUs!



How is this so? Well travel time largely depends on the geology. Dye traveled fast in areas where there are large cracks in the basalt and the water table is close to the ground's surface. Greater chance for dye to hit a crack and reach the water table faster.

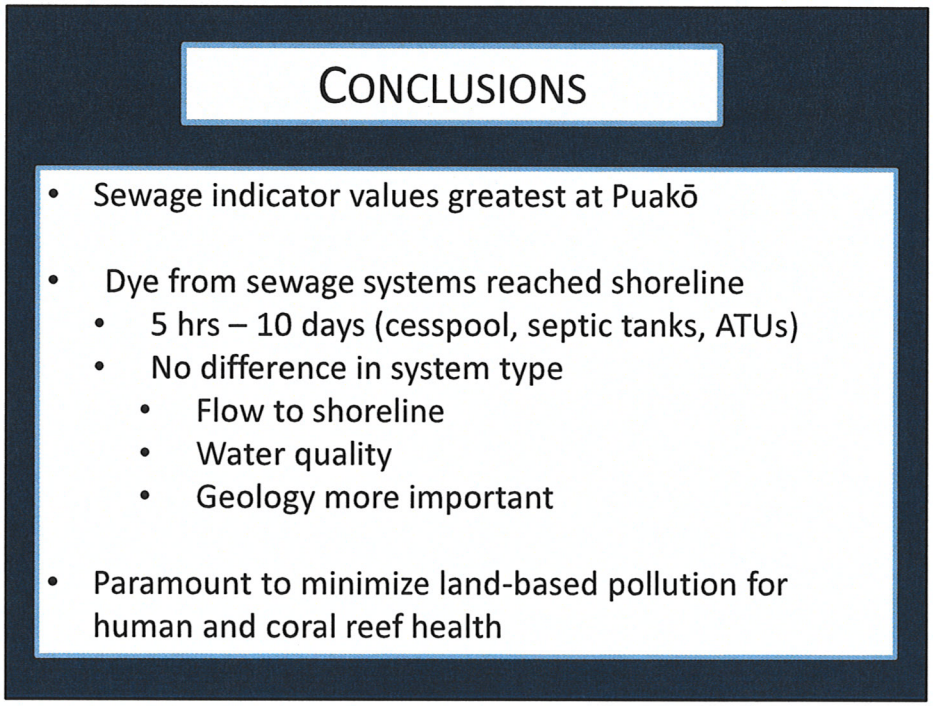
Where the cracks in the basalt are smaller and/or fewer and the water table is deeper, there a smaller chance for the dye to seep into a crack and reach the water table. So, the dye travel time is greater.



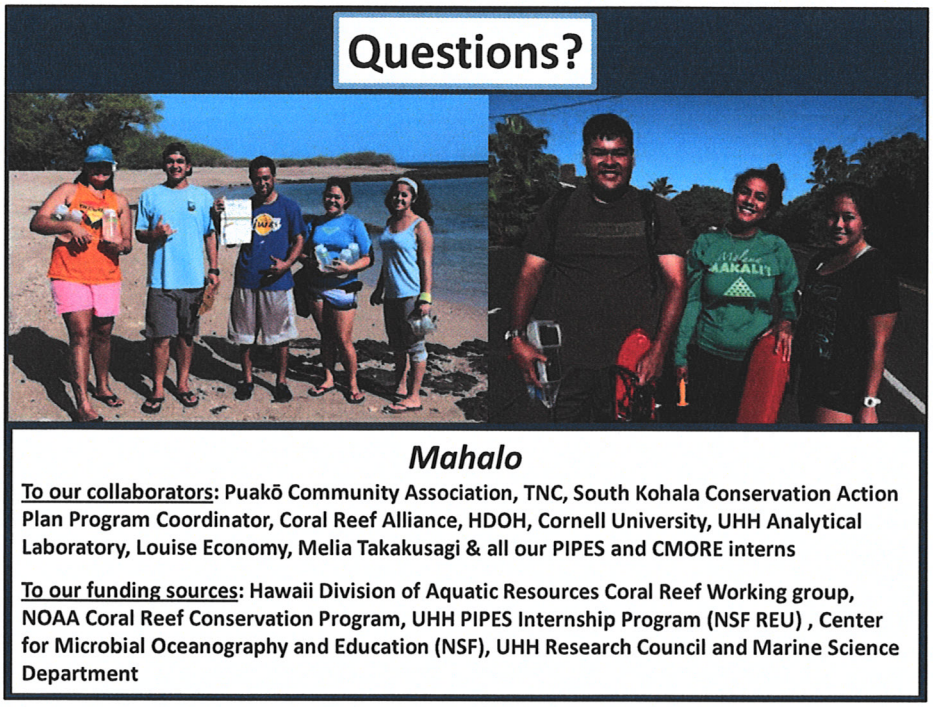
We also assessed water quality in front of the homes with different types of OSDS. We found that water quality was similar in front of all the homes where we sampled, regardless of the system type. For example, Enterococcus was similar in front of homes with different OSDS, and concentrations were greater than the HDOH single sample maximum. A similar pattern was observed for nutrients too. Here is an example of Total Dissolved Nitrogen, concentrations were all greater than 100 umol/L.

Take Home Message #2

- Dye reached shoreline
  - 5 h – 10 d
  - Time affected by geology, not system type
  - No difference among system type
    - flow time
    - water quality



This is a transition slide for CORAL to present their work.



Lastly, I would like to mention that this project of documenting sewage pollution and working with the Puako community to investigate solutions to their problem would not be feasible for one group to do; we have been able to accomplish so much so far from our collaborations with PCA, TNC, Coral Reef Alliance, and Cornell University. It has been an amazing opportunity to work with them, as well as our many other collaborators and funding agencies. Mahalo you for your attention. I'd be happy to take any questions

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
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San Francisco, CA 94105-3901

AUG 2 9 2019

Mr. Michael J. Molina
Chair, GET Committee
County Council
County of Maui
200 S. High Street
Wailuku, Maui, HI 96793

Subject: Hawaii Wildlife Fund, et al. v. County of Maui (USSC 18-260)

Dear Mr. Molina:

On behalf of EPA, this is in response to your correspondence dated August 27, 2019 inviting Mr. David Smith, EPA Region 9, to make a presentation at the Committee's meeting on September 3, 2019. Consistent with Ms. Anna Wildeman's August 28, 2019 email to Ms. Richelle Thomson, EPA Region 9 will not be submitting a presentation. For more information on this matter, please refer to the August 28, 2019 email a copy of which is enclosed for your convenience.

Sincerely,

Laurie Kermish

Laurie Kermish
Water & General Law, Branch Chief
Office of Regional Counsel

Enc.
cc: Sylvia Quast, Regional Counsel
David Smith, Manager Water Division

From: Wildeman, Anna [mailto:wildeman.anna@epa.gov]
Sent: Wednesday, August 28, 2019 1:04 PM
To: Richelle Thomson <Richelle.Thomson@co.maui.hi.us>
Cc: David Fotouhi <Fotouhi.David@epa.gov>
Subject: RE: Hawaii Wildlife v. County of Maui (USSC 18-260)

Hi Richelle,
Thank you for the note and the call this afternoon. As we discussed, it is unusual for EPA to provide live or written testimony for local government proceedings, so EPA will not be submitting formal testimony for the Committee meeting next week. However, I am providing this email to address some of the questions you raised on the phone about EPA's April 23, 2019 *Interpretive Statement on Application of the Clean Water Act National Pollutant Discharge Elimination System Program to Releases of Pollutants >From a Point Source to Groundwater* (84 FR 16810) (Interpretive Statement) and the interaction with the Clean Water Act NPDES permit programs.

As explained in detail in the Interpretive Statement, EPA has concluded that the CWA is best read as excluding all releases of pollutants from a point source to groundwater from NPDES program coverage, regardless of a hydrologic connection between the groundwater and jurisdictional surface water. However, EPA has chosen not to apply the Interpretive Statement in the Ninth and Fourth Circuits to maintain the status quo pending further clarification by the Supreme Court. 84 FR 16812 n. 1.

The County of Maui is subject to the Ninth Circuit Court of Appeals' decision in *Hawai'i Wildlife Fund v. Cty of Maui*, 886 F.3d 737 (9th Cir. 2018), and therefore discharges of pollutants to groundwater that ultimately reach jurisdictional surface waters and are "fairly traceable" back to a point source and more than *de minimis* are currently subject to the NPDES permit program. *Id.* at 749. If the Ninth Circuit's decision is upheld by U.S. Supreme Court, all releases of pollutants from a point source to groundwater that ultimately reach a surface water could be subject to the NPDES permit program. This expansion of the Act's coverage could require NPDES permits for commonplace and ubiquitous activities such as releases from homeowners' backyard septic systems that find their way to jurisdictional surface waters through groundwater. 84 FR 16823. These activities would therefore fall within EPA's state program oversight responsibilities and could subject unpermitted discharges to state or federal enforcement or citizen suit liability under the Clean Water Act.

Regards,
Anna

Anna Wildeman
Principal Deputy Assistant Administrator
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