

GET Committee

From: lauracivitulo23@everyactioncustom.com on behalf of Laura Civitello
<lauracivitulo23@everyactioncustom.com>
Sent: Saturday, May 18, 2019 8:16 AM
To: GET Committee
Subject: Resolve the Lahaina Injections Wells case

Dear Maui County GET Committee,

I support the Council seeking to settle the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT) as per CC 19-225,

The County of Maui should not be spending money attempting to gut the Clean Water Act. Instead, the money should be spent ensuring no pollutants reach the ocean from our wastewater facilities.

Sincerely,
Laura Civitello
PO Box 890 Makawao, HI 96768-0890
lauracivitulo23@gmail.com

GET Committee

From: shannonkona@everyactioncustom.com on behalf of Shannon Rudolph
<shannonkona@everyactioncustom.com>
Sent: Saturday, May 18, 2019 8:48 AM
To: GET Committee
Subject: Please settle the Lahaina Injections Wells case

Dear Maui County GET Committee,

I am a 35 yr. Hawai'i resident & frequent visitor to Maui. I never go to Lahaina anymore because of the sewage situation. I can't believe all of the money that has been wasted fighting this issue and the people that have made these horrible decisions are either insane, stupid, or corrupt.

I look forward to the day I can swim around Lahaina again.

I support the Council seeking to settle the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT) as per CC 19-225,

The County of Maui should not be spending money attempting to gut the Clean Water Act. Instead, the money should be spent ensuring no pollutants reach the ocean from our wastewater facilities.

Sincerely,
Shannon Rudolph
PO Box 243 Holualoa, HI 96725-0243
shannonkona@gmail.com

GET Committee

From: tia.pearson@everyactioncustom.com on behalf of Tia Pearson
<tia.pearson@everyactioncustom.com>
Sent: Saturday, May 18, 2019 9:07 AM
To: GET Committee
Subject: Please settle the Lahaina Injections Wells case

Dear Maui County GET Committee,

I support the Council seeking to settle the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT) as per CC 19-225,

The County of Maui should not be spending money attempting to gut the Clean Water Act. Instead, the money should be spent ensuring no pollutants reach the ocean from our wastewater facilities.

Sincerely,
Tia Pearson
PO Box 861697 Wahiawa, HI 96786-8563
tia.pearson@gmail.com

GET Committee

From: info@everyactioncustom.com on behalf of Haunani Hess
<info@everyactioncustom.com>
Sent: Saturday, May 18, 2019 9:39 AM
To: GET Committee
Subject: Please settle the Lahaina Injections Wells case

Dear Maui County GET Committee,

I support the Council seeking to settle the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT) as per CC 19-225,

The County of Maui should not be spending money attempting to gut the Clean Water Act. Instead, the money should be spent ensuring no pollutants reach the ocean from our wastewater facilities.

Sincerely,
Haunani Hess
1626 Aloha Ave Pearl City, HI 96782-3424 info@haunanihess.com

GET Committee

From: mauimarta@everyactioncustom.com on behalf of Martha Martin
<mauimarta@everyactioncustom.com>
Sent: Saturday, May 18, 2019 7:58 PM
To: GET Committee
Subject: Please settle the Lahaina Injections Wells case

Dear Maui County GET Committee,

I support the Council seeking to settle the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT) as per CC 19-225,

The County of Maui should not be spending money attempting to gut the Clean Water Act. Instead, the money should be spent ensuring no pollutants reach the ocean from our wastewater facilities.

Please choose to stop spending more money in suing to be allowed to keep on discharging polluted water, which enters the ocean and may weaken our reefs. Please instead act to solve the waste problem in ways that help our environment.

Sincerely,
Martha Martin
40 Kunihi Ln Apt 226 Kahului, HI 96732-1389 mauimarta@gmail.com

GET Committee

From: heartoneness@everyactioncustom.com on behalf of Sam Garcia
<heartoneness@everyactioncustom.com>
Sent: Saturday, May 18, 2019 8:26 PM
To: GET Committee
Subject: Please settle the Lahaina Injections Wells case

Dear Maui County GET Committee,

I support the Council seeking to settle the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT) as per CC 19-225,

The County of Maui should not be spending money attempting to gut the Clean Water Act. Instead, the money should be spent ensuring no pollutants reach the ocean from our wastewater facilities.

I pray the county of Maui find creative solutions to redirect sewer pollution for either renewable resource energy,, or compostable toilettes, or put the people fiesies in septic tanks or in the earth not the oceans. Please 🙏 The reefs are dying and the sea animals. Especially sea turtles. They are growing tumors on the eyes and fins. It's very sad.
Mahalo

Sincerely,
Sam Garcia
2657 Mo'Olio Pl Kihei, HI 96753
heartoneness@gmail.com

GET Committee

From: 1bethjack@everyactioncustom.com on behalf of Beth Clapper
<1bethjack@everyactioncustom.com>
Sent: Saturday, May 18, 2019 11:34 PM
To: GET Committee
Subject: Please settle the Lahaina Injections Wells case

Dear Maui County GET Committee,

I support the Council seeking to settle the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT) as per CC 19-225,

The County of Maui should not be spending money attempting to gut the Clean Water Act. Instead, the money should be spent ensuring no pollutants reach the ocean from our wastewater facilities.

Sincerely,
Beth Clapper
1300 Limahana Cir Lahaina, HI 96761-2437 1bethjack@gmail.com

GET Committee

From: leslie.labrava@everyactioncustom.com on behalf of Leslie Hutchinson
<leslie.labrava@everyactioncustom.com>
Sent: Saturday, May 18, 2019 11:50 PM
To: GET Committee
Subject: Please settle the Lahaina Injections Wells case

Dear Maui County GET Committee,

I support the Council seeking to settle the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT) as per CC 19-225,

The County of Maui should not be spending money attempting to gut the Clean Water Act. Instead, the money should be spent ensuring no pollutants reach the ocean from our wastewater facilities.

The ocean is already stressed and is getting no help from our national policies- Maui must do better.

Sincerely,
Leslie Hutchinson
35 Waonahale Pl Haiku, HI 96708-5962
leslie.labrava@gmail.com

GET Committee

From: Steve Dollar <sdollar@mrc-hawaii.com>
Sent: Saturday, May 18, 2019 7:28 AM
To: GET Committee
Subject: GET-26 Hawaii Wildlife, et al. v. County of Maui
Attachments: _Testimony to Maui County Council S.Dollar 5-15-19.pdf

The undersigned requests that this communication be entered as testimony in the Council's consideration of matters related to Hawaii Wildlife et al. v. County of Maui, U.S. Supreme Court Docket No. 18-260.

Steven Dollar

Testimony to Maui County Council

My name is Dr. Steven Dollar. I am presently employed by the University of Hawaii at Mānoa as a Coastal Resources Specialist in the School of Ocean and Earth Science & Technology, and am also president of Marine Research Consultants, Inc. My academic credentials includes MS and PhD. degrees from the Department of Oceanography at the University of Hawaii at Mānoa. The subject of my MS degree was documenting the natural and human stressors that shape the composition of coral reefs in Hawaii, while my PhD work documented the environmental effect from deep water sewage discharges on Oahu. My present work includes serving as Co-principal Investigator on a project funded by NASA to develop remote sensing tools to map coral reefs around the world. In Hawaii, I am currently contracted by the Counties of Maui and Hawaii, Hawaii American Water Co. and the U.S. Navy to conduct NPDES permit required Zone of Mixing monitoring on ocean sewage discharges. I also am contracted to do similar NPDES monitoring on point source discharges to the ocean from power plants, aquaculture and agricultural discharges. In the 1990's I was awarded a grant by the U.S. Environmental Protection Agency to investigate the causes of algal blooms in West Maui. In 2011 I was engaged by the County of Maui to conduct assessments to determine the factors affecting coral reefs in Ma'alaea Bay.

Based on this academic and professional experience I, along with Dr. Eric Hochberg of the Bermuda Institute of Ocean Sciences, were retained in 2014 by the legal firm of Hunton Andrews Kurth to conduct scientific studies to evaluate the effects to the marine environment from groundwater seeps off of Kahekili Beach Park in West Maui. This work was predicated on the findings of the final report produced by Dr. Craig Glenn entitled "Lahaina Groundwater Tracer Study (GTS) –Lahaina Maui, Hawaii. Final Report (2013) which presented data indicating that there is a hydrologic connection between the LWRF Injection Wells 3 and 4 and nearshore ocean waters in the form of discharge from two groups of groundwater "seeps" located near the shoreline off of Kahekili Beach Park.

The studies conducted by Dr. Hochberg and myself consisted of two parts: 1) an evaluation of water chemistry designed to trace the distribution of sewage-related material that flowed from the seeps, and 2) an evaluation of the effects of the seeps on the composition of the coral reef community off of Kahekili. The results of these studies were presented in an expert disclosure report in 2015 in the Hawaii Wildlife Fund, et al. v. County of Maui lawsuit. A brief summary of the findings of these investigations is presented below. More detailed information is available on request.

With respect to water chemistry, there was no dispute that a small fraction of the wastewater discharged through two of the LWRF wells flows to the nearshore ocean through two seep groups in the nearshore zone while the remainder of the effluent flows to the deep ocean. While other investigators measured the chemical composition of

the water within the seeps prior to discharge to the ocean, our intent was to measure how the water from the seeps is distributed over the reef. A field sampling program carried out in August 2014 consisted of collecting 198 water samples at 72 sites along nine transect lines that extended from Kahekili Beach to approximately 1,000 feet offshore. Two of the lines passed through the seep sites, one was between the seeps, and three were north and south, respectively, of the seeps. At each sampling site, water samples were collected at the ocean surface, midway in the water column and just above the ocean floor. Results showed that throughout the sampling area, concentrations of nutrients (nitrogen and phosphorus) were higher near the shoreline and decreased with distance from shore. This pattern represents the typical situation along Hawaiian shorelines where naturally occurring groundwater enters the ocean at the shoreline and is mixed with ocean water.

The highest concentrations of dissolved inorganic nutrients occurred just above the sea floor over the seeps. However, at the ocean surface directly over the seeps, nutrient concentrations were substantially reduced. Hence, even though the water discharging from the seeps is far fresher than salty ocean water causing it to rise in the water column, it was quickly mixed to near background levels by ocean waves and currents. Elevated levels of dissolved nitrogen and phosphorus extended approximately 70 feet from the seeps, and did not reach the areas of major reef growth. At distances further from the seeps, there was no indication of enrichment of sewage related nutrients near the seafloor where corals occur. In addition to the documented dilution to near background levels, net transport of water from the seeps is not toward the offshore reef, but rather along shore over areas where corals do not occur. All of these factors point to the conclusion that while the seeps may be enriched with nutrients and other water quality constituents compared to ocean water, there is no basis to expect that this discharge is presently affecting coral communities.

It is also important to note that during the water chemistry survey, all of the recorded temperatures over the reef were above 26.5°C. The temperature of the "anomalously warm buoyant fluid emerging from the seeps" used in the GTS "Aerial Infrared Sea Surface Temperature Mapping" was 26.5°C. Hence, the ambient temperature throughout the reef in August 2014 was equal to or higher than the supposed elevated temperature anomalies from the seep discharge. With natural conditions exceeding the temperature anomalies from the seep, any alleged effect of the seeps in terms of water temperature can be disregarded.

The second part of our investigations had the objective of creating a descriptive and quantitative picture of the biological structure of Kahekili reef. To do this 71 survey sites were selected, extending from the shoreline to the offshore limit of coral occurrence along the length of Kahekili Beach. At each site, 50–100 digital photographs were taken of the reef. Using computer programs these photos were stitched together to form a single seamless image (photomosaic). Using another computer program the

composition of each photomosaic was determined, and tabulated to provide the biological composition of each site. The results of these analyses provide a robust indication of the effects of the seeps on coral community structure.

The data from field surveys, in conjunction with satellite images of the West Maui coastal area, was used to create maps of cover of the various components of the reef (e.g., coral, algae, sand). The resulting maps showed that coral cover is low at the shoreline throughout the survey area, and increases with distance from shore. The nearshore zone where the seeps are located consists of a predominantly bare hard bottom with less than 10% coral cover. Corals are limited in this shallow area because of breaking waves and sand scour. The seeps occur in shallow water near the shoreline in a shallow pavement zone where physical conditions prevent significant coral occurrence along the entire shoreline. Hence, while there are few corals growing at the seeps, there are similarly few corals growing at similar depths and distances from the shoreline everywhere else along the West Maui.

It is also apparent from the maps that there are no significant abnormalities in coral community composition at the sites of the seep discharges. Should the seeps be causing impacts to coral, it would be expected that there would be "halos" of reduced cover around the seeps. No such halos or gradients of changing benthic covers were observed with respect to distance from the seeps.

It can be assumed that some fraction of the injected effluent has reached the seeps during the entire period of operation of the LWRF. If effluent had been impacting reef structure and function continuously for the last three decades, it would be apparent by clear gradients of damaged or dead zones across the reef marked by increasing levels of dead coral with proximity to the seeps. However, data from all sources reveals that there are no such impacts. In fact, data from the UH Coral Reef Assessment and Monitoring Program indicates that there has been increases in coral abundance from 1999 to 2012. The NOAA "Baseline assessments for coral reef community structure and demographics on West Maui : data report, 2017" concludes that "With mean coral cover ranging between 30% and 58%, the Wahikuli and Honokōwai Watersheds contain the greatest extent and concentration of coral-rich habitat in West Maui, with relatively well developed, spur-and-groove coral reef complexes off Canoe Beach, Kahekili Beach Park, and Honokōwai Point." There is no mention in the NOAA report of impacted corals at Kahekili.

Another often mentioned, but never documented assertion, is that algal blooms are caused by the LWRF discharge. As mentioned above, under the auspices of a US EPA grant, I studied the causal effects of algal blooms that occurred in West Maui in the 1990's. One of the major conclusions of these studies was that nutrient enrichment from sugarcane production provided the most likely driver for algal blooms. No algae that caused bloom conditions during the 1990s has occurred since that time. In addition, no

algal blooms have occurred at the seep sites since they have been under investigation. As the LWRF has been in operation for approximately three decades, if it was the cause of algal blooms, they would be occurring.

A final point that appears to have become misinterpreted is the perception that the LWRF is unique in terms of discharging treated effluent to the ocean. With the exception of a relatively small amount of treated effluent that is re-used for irrigation and fertilization of non-consumptive land uses (primarily golf courses and landscaping), ALL treated sewage in Hawaii is discharged to the ocean through either injection wells or ocean outfalls. Treated effluent is discharged through ocean diffusers on the Islands of Oahu, Hawaii and Kauai. Hence, all sewage disposal in Hawaii has a hydrologic connection with the ocean.

Several of these outfalls occur in shallow water in reef habitats. Figure 1 shows diffuser ports from the Hilo Wastewater Treatment Plant (top) and the East Honolulu Wastewater Treatment Plant (bottom). Each of these ocean outfalls consists of multiple ports at water depths of 35-40 feet. Clearly visible plumes of treated effluent can be seen discharging from these ports and rising in the water column. Live corals are growing on the diffusers, sometimes in the direct path of the effluent. There is no growth of algae, and water clarity is not affected by the discharge, indicating there are not high levels of plankton or suspended materials in the water. Ongoing NPDES mandated monitoring in the vicinity of the East Honolulu ocean outfall indicates that over the last 30 years the major effect to coral community structure in the area is the impact from periodic storm waves. Hence, even when discharged from diffuser ports directly over coral reefs in a much higher volume and more concentrated fashion than occurs at the diffuse submarine seeps off Kahekili, there is no long-term impacts to coral reefs. Hence, there can be no *a priori* assertion that sewage discharge to the ocean at Kahekili results in negative impacts to benthic communities.

In summary, results of my scientific investigations reveal that the major factors affecting water quality in the Kahekili area are naturally occurring discharge of groundwater along the shoreline. The highest values of chemical constituents associated with groundwater discharge occurred at the two areas where the submarine seep discharge occurs. However, the effects of the seeps are restricted to a small area and these effects are quickly diluted to background levels over the reef where corals occur. Investigations of the reef community indicate that there are no discernable effects that can be attributable to the seep discharge. As the LWRF has been in operation for several decades, any negative effects to reef structure would be clearly apparent at present. This is not the case.

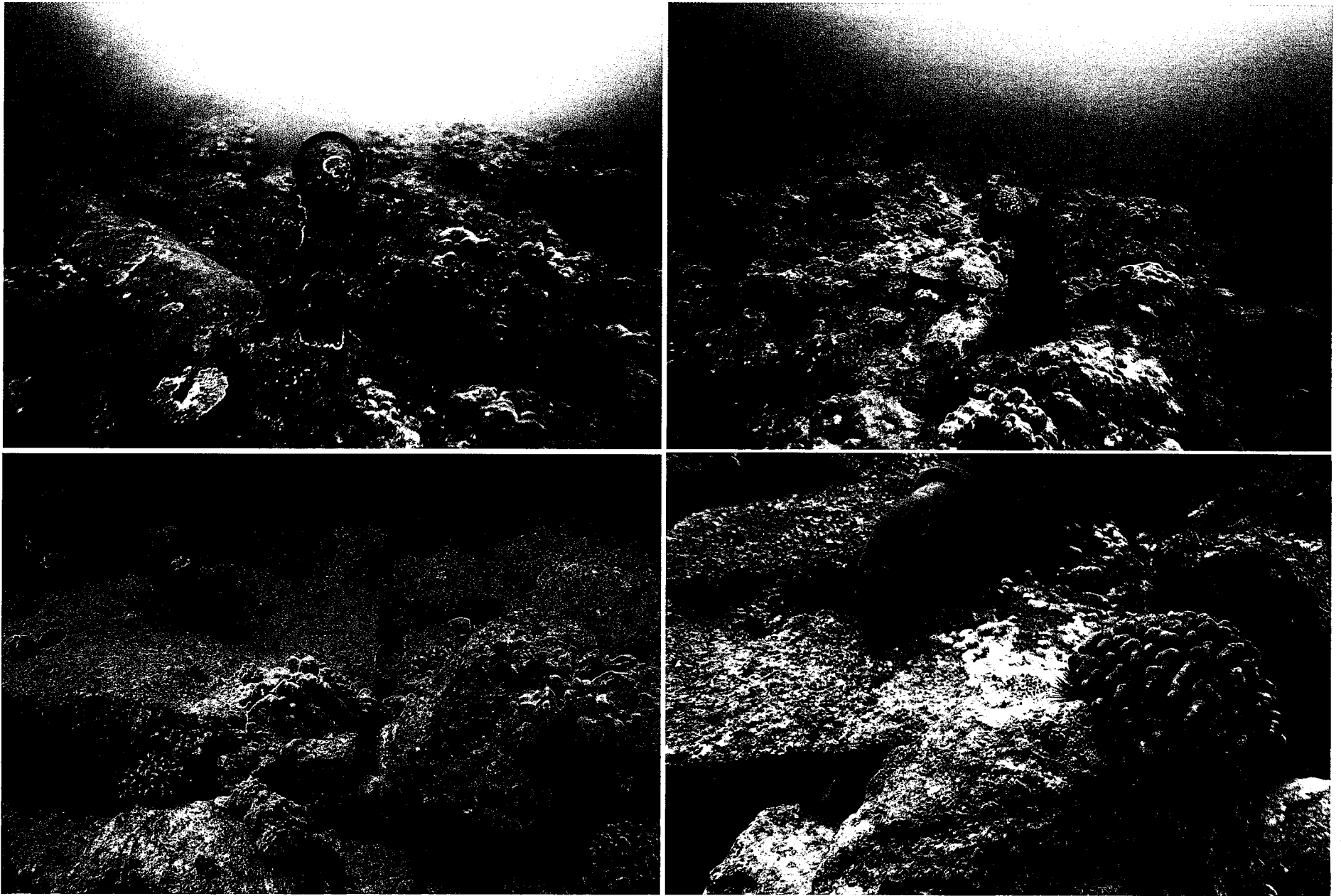


EXHIBIT 1. Photographs of ocean discharge diffusers in Hilo Bay off the Hilo Wastewater Treatment Plant (top) and off Sandy Beach off the East Honolulu Wastewater Treatment Plant (bottom). Both diffusers are at a water depth of approximately 35-40 feet. Concentrated streams of treated effluent of high nutrient concentration, low salinity, and elevated temperature relative to receiving water can be clearly seen in both photos. Note presence of live corals on both outfall structures, lack of presence of filamentous algae, and clarity of water. Both ocean outfalls have been in operation since the 1970's. All photographs taken by S. Dollar.