GET Committee

From: Sierra Ondo <sierraondo@gmail.com>
Sent: Saturday, August 31, 2019 1:08 AM
To: GET Committee
Subject: GET-26 Testimony of Sierra Ondo
Attachments: Sierra Ondo -GET-26.pdf

Aloha, please find attatched my testimony submitted for consideration at the GET hearing on matter GET-26, Tuesday, September 3, 2019.

Mahalo.

Sierra Ondo
August 30th 2019
GET-26 for Sept 3 2019

Aloha Chair Molina, Vice-Chair Rawlins-Fernandez, and Committee Members,

My name is Sierra Ondo. I am a 22 year old graduate student from the islands focusing on a Master's of Science in Conservation Leadership Through Learning. Thank you for allowing me the opportunity to speak before you today about an issue I feel so passionately about.

Growing up in this small island community, we learn what many people term "traditional" values. Simple things like; only take what you need, eat everything you take and think about your neighbor. But, we all know that not everyone plays by these rules. The values we are taught here on the islands are at risk of being overridden by greed and laziness on the part of corporations who have no concern for environmental or social integrity. What brings me here today - and what motivates me to stand up against the degradation that has been happening in nearshore waters of Kahekili Beach Park - is the respect I have for the environment, for the ocean, for the livelihoods and generations that are fueled by both, and for the safety of not only our islands, but the entire nation's rights under the Clean Water Act.

Maui County's use of misinformation to derail this issue has been going on long enough. Facts are facts and they are not going away. The sensitive coral reefs at Kahekili has been dumped on for more than 30 years. One of the most popular snorkeling spots on Maui, which I am sure if completely degraded will negatively affect the islands visitors economy, has seen over 40% of its reef lost. Scientists who have studies and researched this very degradation in Kahekili have suffered from infections, like MRSA and staphylococcus, showing that the wastewater effluent not only affects the marine and coral life, but humans as well. So I must ask: Why has it taken so long for Maui County to properly address this issue? Even in the face of scientific fact - the County did next to nothing.

Maui County has spent $4.3 million in taxpayer money to fight the law, when the most responsible route was to abide by it. That money could have been more effectively spent on upgrading the treatment plant. The amount of money the County has spent fighting this goes to show that the cost for pollution mitigation is not the issue here, that this case is more about the County "winning" than respecting Maui's people, the 'aina, and the needs of future generations, MY generation.

My life has been intertwined with nature and conservation since childhood. As a surfer as well, most of my interests and work have involved the ocean. The Hawaiian islands are an evolutionary and cultural wonder and we all must take responsibility to nurture and save it. I am here to speak for my generation and the generations to come. We need to see real change. Maui County, I ask you to withdraw your case and upgrade the Lahaiana Wastewater Reclamation Facility instead of continuing this fight in the courts. This is indeed a huge mess to clean up, but I and many other residents have accepted this challenge - and we hope you will too - because taking care of what we love requires heart, and leadership.

What is to be Maui County's legacy? Will this Council be known as a group that stood up to the powerful and wealthy interests that are manipulating you and your County lawyers? Or will you be known as pawns in the Trump Administration's unprecedented and ongoing push to do away with as many environmental regulations as possible? Do the right thing: drop this appeal, and solve this issue at home.

Mahalo.

GET Committee

From: Deann colton <Deann.colton.224974200@p2a.co>
Sent: Saturday, August 31, 2019 3:24 AM
To: GET Committee
Subject: RE: 9/3/19 GET meeting; GET-26: It's time to make the pono choice and withdraw the attack against th

Dear Maui County GET Committee,

Hi, I am Deann Colton, 565 Hoomaluhia pl, Kihei, Hawaii 96753. I am submitting this testimony for the September 3, 2019 committee meeting on item GET-26 (settlement in Hawai'i Wildlife Fund, et al., v. County of Maui).

Mauipaws@gmail.com

As a resident of Hawai'i, I urge you to withdraw the appeal to the Supreme Court, focus on solutions for wastewater pollution, and stop the damage to priceless ocean and reef resources. The county should invest in Maui's future by building the necessary infrastructure to reuse the Lahaina facility's treated wastewater for irrigation, which is a true "win-win" solution. In contrast, destroying the law to advance the county's "right to pollute" the ocean is a "lose-lose" for both the county and the people.

We need Maui County's elected representatives to show leadership and turn this situation around. It's time to stop the reckless attack on the law and focus on building a responsible wastewater system of the future at the Lahaina facility.

We don't want Maui to do the dirty work with the Trump administration for our nation's worst polluters by dismantling the nation's bedrock clean water law.

We need your help before Maui County goes down in history as the champion for water pollution in the United States. Please, create a lasting, positive legacy by focusing on the solutions for this pollution problem and upholding—not destroying—the legal protections of clean water for Maui, Hawai'i, and the entire nation.

Regards,
Deann colton
565 hoomaluhia pl
Kihei, HI 96753

GET Committee

From: anthony Goldston-Morris <anthony.GoldstonMorris.224990428@p2a.co>
Sent: Saturday, August 31, 2019 6:32 AM
To: GET Committee
Subject: RE: 9/3/19 GET meeting; GET-26: It's time to make the pono choice and withdraw the attack against th

Dear Maui County GET Committee,

Hi, my name is anthony Goldston-Morris and I live in Haleiwa, Hawaii. I am submitting this testimony for the September 3, 2019 committee meeting on item GET-26 (settlement in Hawai'i Wildlife Fund, et al., v. County of Maui).

As a resident of Hawai'i, I urge you to withdraw the appeal to the Supreme Court, focus on solutions for wastewater pollution, and stop the damage to priceless ocean and reef resources. The county should invest in Maui's future by building the necessary infrastructure to reuse the Lahaina facility's treated wastewater for irrigation, which is a true "win-win" solution. In contrast, destroying the law to advance the county's "right to pollute" the ocean is a "lose-lose" for both the county and the people.

We need Maui County's elected representatives to show leadership and turn this situation around. It's time to stop the reckless attack on the law and focus on building a responsible wastewater system of the future at the Lahaina facility.

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Regards,
anthony Goldston-Morris
59-071 Hakuola rd Haleiwa
Haleiwa, HI 96712

GET Committee

From: Alexa Deike <Alexa.Deike.81833476@p2a.co>
Sent: Saturday, August 31, 2019 7:18 AM
To: GET Committee
Subject: RE: 9/3/19 GET meeting; GET-26: It's time to make the pono choice and withdraw the attack against th

Dear Maui County GET Committee,

Hi, my name is Alexa Deike and I live in Honolulu, Hawaii. I am submitting this testimony for the September 3, 2019 committee meeting on item GET-26 (settlement in Hawai'i Wildlife Fund, et al., v. County of Maui).

As a resident of Hawai'i, I urge you to withdraw the appeal to the Supreme Court, focus on solutions for wastewater pollution, and stop the damage to priceless ocean and reef resources. The county should invest in Maui's future by building the necessary infrastructure to reuse the Lahaina facility's treated wastewater for irrigation, which is a true "win-win" solution. In contrast, destroying the law to advance the county's "right to pollute" the ocean is a "lose-lose" for both the county and the people.

We need Maui County's elected representatives to show leadership and turn this situation around. It's time to stop the reckless attack on the law and focus on building a responsible wastewater system of the future at the Lahaina facility.

We don't want Maui to do the dirty work with the Trump administration for our nation's worst polluters by dismantling the nation's bedrock clean water law.

We need your help before Maui County goes down in history as the champion for water pollution in the United States. Please, create a lasting, positive legacy by focusing on the solutions for this pollution problem and upholding—not destroying—the legal protections of clean water for Maui, Hawai'i, and the entire nation.

Regards,
Alexa Deike
2563 Peter St
Honolulu, HI 96816

GET Committee

From: Debbie Walsh <Debbie.Walsh.16465530@p2a.co>
Sent: Saturday, August 31, 2019 7:25 AM
To: GET Committee
Subject: RE: 9/3/19 GET meeting; GET-26: It's time to make the pono choice and withdraw the attack against th

Dear Maui County GET Committee,

Hi, my name is Debbie Walsh and I live in Keaau, Hawaii. I am submitting this testimony for the September 3, 2019 committee meeting on item GET-26 (settlement in Hawai'i Wildlife Fund, et al., v. County of Maui).

the people count on you to malama our aina and ocean for living things to thrive

As a resident of Hawai'i, I urge you to withdraw the appeal to the Supreme Court, focus on solutions for wastewater pollution, and stop the damage to priceless ocean and reef resources. The county should invest in Maui's future by building the necessary infrastructure to reuse the Lahaina facility's treated wastewater for irrigation, which is a true "win-win" solution. In contrast, destroying the law to advance the county's "right to pollute" the ocean is a "lose-lose" for both the county and the people.

We need Maui County's elected representatives to show leadership and turn this situation around. It's time to stop the reckless attack on the law and focus on building a responsible wastewater system of the future at the Lahaina facility.

We don't want Maui to do the dirty work with the Trump administration for our nation's worst polluters by dismantling the nation's bedrock clean water law.

We need your help before Maui County goes down in history as the champion for water pollution in the United States. Please, create a lasting, positive legacy by focusing on the solutions for this pollution problem and upholding—not destroying—the legal protections of clean water for Maui, Hawai'i, and the entire nation.

Regards,
Debbie Walsh
HC3 13108
Keaau, HI 96749

GET Committee

From: Sol Duncan <Sol.Duncan.224996198@p2a.co>
Sent: Saturday, August 31, 2019 7:37 AM
To: GET Committee
Subject: RE: 9/3/19 GET meeting; GET-26: It's time to make the pono choice and withdraw the attack against th

Dear Maui County GET Committee,

Hi, my name is Sol Duncan and I live in Pearl City, Hawaii. I am submitting this testimony for the September 3, 2019 committee meeting on item GET-26 (settlement in Hawai'i Wildlife Fund, et al., v. County of Maui).

As a resident of Hawai'i, I urge you to withdraw the appeal to the Supreme Court, focus on solutions for wastewater pollution, and stop the damage to priceless ocean and reef resources. The county should invest in Maui's future by building the necessary infrastructure to reuse the Lahaina facility's treated wastewater for irrigation, which is a true "win-win" solution. In contrast, destroying the law to advance the county's "right to pollute" the ocean is a "lose-lose" for both the county and the people.

We need Maui County's elected representatives to show leadership and turn this situation around. It's time to stop the reckless attack on the law and focus on building a responsible wastewater system of the future at the Lahaina facility.

We don't want Maui to do the dirty work with the Trump administration for our nation's worst polluters by dismantling the nation's bedrock clean water law.

We need your help before Maui County goes down in history as the champion for water pollution in the United States. Please, create a lasting, positive legacy by focusing on the solutions for this pollution problem and upholding—not destroying—the legal protections of clean water for Maui, Hawai'i, and the entire nation.

Regards,
Sol Duncan
1174 Waimano Home Rd
Pearl City, HI 96782

GET Committee

From: mauidazed@everyactioncustom.com on behalf of Gadient Gadient <mauidazed@everyactioncustom.com>
Sent: Saturday, August 31, 2019 9:14 AM
To: GET Committee
Subject: Testimony in SUPPORT of resolution CC-19-178 re: settling the Lahaina Injection Wells lawsuit

Dear Maui County GET Committee,

On behalf of the Maui Gadient Ohana who are resident of Kihei. We care about this issue because we understand the value of clean water and healthy oceans, as we are directly impacted by this.
We are writing in support of Maui County settling the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT).

Both the Hawai'i district court and Ninth Circuit appeals court have already ruled that the County must get a permit under the Clean Water Act to continue discharging treated wastewater into the groundwater via the Lahaina injection wells. I ask the County to withdraw its appeal and work with state and community stakeholders to modernize the treatment facility and invest in water reuse solutions.

Settling the case would end a detrimental challenge against the Clean Water Act and allow the County to avoid further penalties as long as it diligently works toward solutions. The Department of Health has already made clear that private cesspools and septic tanks would not need to get NPDES permits, so there is no risk to individual homeowners.

However, if the County continues its appeal, it threatens to gut the federal Clean Water Act. If the County wins the case at the Supreme Court, polluters across the United States would be free to contaminate water bodies as long as they release their waste from a pipe just short of the waters' edge or into the ground. The Trump Administration and industrial polluters like pipeline companies, the oil and gas industry, manufacturers, coal-burning utilities, and mining associations are all hoping that you will continue the appeal. As elected officials, I hope you will do the right thing, not for the Trump Administration and industrial polluters, but for public trust waters and present and future generations in Maui and all of Hawai'i.

Maui County has a history of being leaders in environmental protection, and you can uphold this reputation and continue this legacy by withdrawing the appeal. Please help to uphold the Clean Water Act and protect Maui's reefs, which not only provide many economic benefits, but hold cultural and environmental significance for all of Hawai'i. I ask you to support the settlement of the Lahaina Injection Wells case and withdrawal of the appeal.

Thank you for hearing our voice.
Sincerely,
Maui Gadient Ohana

Sincerely,
Gadient Gadient
940 S Kihei Rd Kihei, HI 96753-9151
mauidazed@yahoo.com

GET Committee

From: Patti Elliott <Patti.Elliott.76948312@p2a.co>
Sent: Saturday, August 31, 2019 9:32 AM
To: GET Committee
Subject: RE: 9/3/19 GET meeting; GET-26: It's time to make the pono choice and withdraw the attack against th

Dear Maui County GET Committee,

Hi, my name is Patti Elliott and I live in Haiku-pauwela, Hawaii. I am submitting this testimony for the September 3, 2019 committee meeting on item GET-26 (settlement in Hawai'i Wildlife Fund, et al., v. County of Maui).

As a resident of Hawai'i, I urge you to withdraw the appeal to the Supreme Court, focus on solutions for wastewater pollution, and stop the damage to priceless ocean and reef resources. The county should invest in Maui's future by building the necessary infrastructure to reuse the Lahaina facility's treated wastewater for irrigation, which is a true "win-win" solution. In contrast, destroying the law to advance the county's "right to pollute" the ocean is a "lose-lose" for both the county and the people.

We need Maui County's elected representatives to show leadership and turn this situation around. It's time to stop the reckless attack on the law and focus on building a responsible wastewater system of the future at the Lahaina facility.

We don't want Maui to do the dirty work with the Trump administration for our nation's worst polluters by dismantling the nation's bedrock clean water law.

We need your help before Maui County goes down in history as the champion for water pollution in the United States. Please, create a lasting, positive legacy by focusing on the solutions for this pollution problem and upholding—not destroying—the legal protections of clean water for Maui, Hawai'i, and the entire nation.

Regards,
Patti Elliott
160 Hohani Pl.
Haiku-pauwela, HI 96708

GET Committee

From: Phaethon Keeney <Phaethon.Keeney.225006221@p2a.co>
Sent: Saturday, August 31, 2019 9:50 AM
To: GET Committee
Subject: RE: 9/3/19 GET meeting; GET-26: It's time to make the pono choice and withdraw the attack against th

Dear Maui County GET Committee,

Hi, my name is Phaethon Keeney and I live in Honokaa, Hawaii. I am submitting this testimony for the September 3, 2019 committee meeting on item GET-26 (settlement in Hawai'i Wildlife Fund, et al., v. County of Maui).

Aloha Maui Councilmembers, we are all watching and feeling incredibly concerned about what is happening in Maui county to Clean Water protections across the State and Nation. Please, please, please do the right thing for our island ohana and protect the ocean, reefs, and our way of life. We do not want to be known as the big business polluters of the Pacific. Our home and hearts are in your hands, this is huge for every one of us. Please do not let water pollution be your legacy. Mahalo nui for standing with the people of Hawaii on this.

As a resident of Hawai'i, I urge you to withdraw the appeal to the Supreme Court, focus on solutions for wastewater pollution, and stop the damage to priceless ocean and reef resources. The county should invest in Maui's future by building the necessary infrastructure to reuse the Lahaina facility's treated wastewater for irrigation, which is a true "win-win" solution. In contrast, destroying the law to advance the county's "right to pollute" the ocean is a "lose-lose" for both the county and the people.

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Regards,
Phaethon Keeney
45-653 Lehua
Honokaa, HI 96727

GET Committee

From: diliberto.rebecca@everyactioncustom.com on behalf of Rebecca DiLiberto <diliberto.rebecca@everyactioncustom.com>
Sent: Saturday, August 31, 2019 10:00 AM
To: GET Committee
Subject: Testimony in SUPPORT of resolution CC-19-178 re: settling the Lahaina Injection Wells lawsuit

Dear Maui County GET Committee,

My name is _____ and I am a resident of _____. I care about this issue because _____.

I am writing in support of Maui County settling the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT).

Both the Hawai'i district court and Ninth Circuit appeals court have already ruled that the County must get a permit under the Clean Water Act to continue discharging treated wastewater into the groundwater via the Lahaina injection wells. I ask the County to withdraw its appeal and work with state and community stakeholders to modernize the treatment facility and invest in water reuse solutions.

Settling the case would end a detrimental challenge against the Clean Water Act and allow the County to avoid further penalties as long as it diligently works toward solutions. The Department of Health has already made clear that private cesspools and septic tanks would not need to get NPDES permits, so there is no risk to individual homeowners.

However, if the County continues its appeal, it threatens to gut the federal Clean Water Act. If the County wins the case at the Supreme Court, polluters across the United States would be free to contaminate water bodies as long as they release their waste from a pipe just short of the waters' edge or into the ground. The Trump Administration and industrial polluters like pipeline companies, the oil and gas industry, manufacturers, coal-burning utilities, and mining associations are all hoping that you will continue the appeal. As elected officials, I hope you will do the right thing, not for the Trump Administration and industrial polluters, but for public trust waters and present and future generations in Maui and all of Hawai'i.

Maui County has a history of being leaders in environmental protection, and you can uphold this reputation and continue this legacy by withdrawing the appeal. Please help to uphold the Clean Water Act and protect Maui's reefs, which not only provide many economic benefits, but hold cultural and environmental significance for all of Hawai'i. I ask you to support the settlement of the Lahaina Injection Wells case and withdrawal of the appeal.

Sincerely,
Rebecca DiLiberto
119 A Hone St Kahului, HI 96732-1421
diliberto.rebecca@gmail.com

GET Committee

From: sarahyogamaui@everyactioncustom.com on behalf of Sarah Leal <sarahyogamaui@everyactioncustom.com>
Sent: Saturday, August 31, 2019 10:21 AM
To: GET Committee
Subject: Testimony in SUPPORT of resolution CC-19-178 re: settling the Lahaina Injection Wells lawsuit

Dear Maui County GET Committee,

My name isSarah Leal__ and I am a resident of _____Maui County. I care about this issue.

I am writing in support of Maui County settling the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT).

Both the Hawai'i district court and Ninth Circuit appeals court have already ruled that the County must get a permit under the Clean Water Act to continue discharging treated wastewater into the groundwater via the Lahaina injection wells. I ask the County to withdraw its appeal and work with state and community stakeholders to modernize the treatment facility and invest in water reuse solutions.

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Maui County has a history of being leaders in environmental protection, and you can uphold this reputation and continue this legacy by withdrawing the appeal. Please help to uphold the Clean Water Act and protect Maui's reefs, which not only provide many economic benefits, but hold cultural and environmental significance for all of Hawai'i. I ask you to support the settlement of the Lahaina Injection Wells case and withdrawal of the appeal.

Sincerely,
Sarah Leal
Wailuku, HI 96793
sarahyogamaui@gmail.com

GET Committee

From: mariecfraser7@everyactioncustom.com on behalf of Marie-Claude Adams <mariecfraser7@everyactioncustom.com>
Sent: Saturday, August 31, 2019 10:51 AM
To: GET Committee
Subject: Testimony in SUPPORT of resolution CC-19-178 re: settling the Lahaina Injection Wells lawsuit

Dear Maui County GET Committee,

My name is ____Marie-Claude Adams_ and I am a resident of __Maui___. I care about this issue because ___clean water is important for us and our island ___.

I am writing in support of Maui County settling the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT).

Both the Hawai'i district court and Ninth Circuit appeals court have already ruled that the County must get a permit under the Clean Water Act to continue discharging treated wastewater into the groundwater via the Lahaina injection wells. I ask the County to withdraw its appeal and work with state and community stakeholders to modernize the treatment facility and invest in water reuse solutions.

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Maui County has a history of being leaders in environmental protection, and you can uphold this reputation and continue this legacy by withdrawing the appeal. Please help to uphold the Clean Water Act and protect Maui's reefs, which not only provide many economic benefits, but hold cultural and environmental significance for all of Hawai'i. I ask you to support the settlement of the Lahaina Injection Wells case and withdrawal of the appeal.

Sincerely,
Marie-Claude Adams
3106 Akala Dr Kihei, HI 96753-9432
mariecfraser7@aol.com

GET Committee

From: bartschtina@everyactioncustom.com on behalf of Tina Bartsch <bartschtina@everyactioncustom.com>
Sent: Saturday, August 31, 2019 11:20 AM
To: GET Committee
Subject: Testimony in SUPPORT of resolution CC-19-178 re: settling the Lahaina Injection Wells lawsuit

Dear Maui County GET Committee,

My name isTina and I am a resident of Maui. I care about this issue because I believe our children should inherit a healthy ocean and Hawaii's economy depends on a pristine ocean environment.

I am writing in support of Maui County settling the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT).

Both the Hawai'i district court and Ninth Circuit appeals court have already ruled that the County must get a permit under the Clean Water Act to continue discharging treated wastewater into the groundwater via the Lahaina injection wells. I ask the County to withdraw its appeal and work with state and community stakeholders to modernize the treatment facility and invest in water reuse solutions.

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Sincerely,
Tina Bartsch
960 Olinda Rd Makawao, HI 96768-7110
bartschtina@yahoo.com

GET Committee

From: misty earnest <misty.earnest.225014989@p2a.co>
Sent: Saturday, August 31, 2019 11:31 AM
To: GET Committee
Subject: RE: 9/3/19 GET meeting; GET-26: It's time to make the pono choice and withdraw the attack against th

Dear Maui County GET Committee,

Hi, my name is misty earnest and I live in Kihei, Hawaii. I am submitting this testimony for the September 3, 2019 committee meeting on item GET-26 (settlement in Hawai'i Wildlife Fund, et al., v. County of Maui).

As a resident of Hawai'i, I urge you to withdraw the appeal to the Supreme Court, focus on solutions for wastewater pollution, and stop the damage to priceless ocean and reef resources. The county should invest in Maui's future by building the necessary infrastructure to reuse the Lahaina facility's treated wastewater for irrigation, which is a true "win-win" solution. In contrast, destroying the law to advance the county's "right to pollute" the ocean is a "lose-lose" for both the county and the people.

We need Maui County's elected representatives to show leadership and turn this situation around. It's time to stop the reckless attack on the law and focus on building a responsible wastewater system of the future at the Lahaina facility.

We don't want Maui to do the dirty work with the Trump administration for our nation's worst polluters by dismantling the nation's bedrock clean water law.

We need your help before Maui County goes down in history as the champion for water pollution in the United States. Please, create a lasting, positive legacy by focusing on the solutions for this pollution problem and upholding—not destroying—the legal protections of clean water for Maui, Hawai'i, and the entire nation.

Regards,
misty earnest
792 Kupulau Dr
Kihei, HI 96753

GET Committee

From: ykshrijani@everyactioncustom.com on behalf of Yoko Kawase <ykshrijani@everyactioncustom.com>
Sent: Saturday, August 31, 2019 12:18 PM
To: GET Committee
Subject: Testimony in SUPPORT of resolution CC-19-178 re: settling the Lahaina Injection Wells lawsuit

Dear Maui County GET Committee,

My name is ___Yoko Kawase__ and I am a resident of __Haiku, Maui___. I care about this issue because __I care about the quality of water for all living creatures____.

I am writing in support of Maui County settling the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT).

Both the Hawai'i district court and Ninth Circuit appeals court have already ruled that the County must get a permit under the Clean Water Act to continue discharging treated wastewater into the groundwater via the Lahaina injection wells. I ask the County to withdraw its appeal and work with state and community stakeholders to modernize the treatment facility and invest in water reuse solutions.

Settling the case would end a detrimental challenge against the Clean Water Act and allow the County to avoid further penalties as long as it diligently works toward solutions. The Department of Health has already made clear that private cesspools and septic tanks would not need to get NPDES permits, so there is no risk to individual homeowners.

However, if the County continues its appeal, it threatens to gut the federal Clean Water Act. If the County wins the case at the Supreme Court, polluters across the United States would be free to contaminate water bodies as long as they release their waste from a pipe just short of the waters' edge or into the ground. The Trump Administration and industrial polluters like pipeline companies, the oil and gas industry, manufacturers, coal-burning utilities, and mining associations are all hoping that you will continue the appeal. As elected officials, I hope you will do the right thing, not for the Trump Administration and industrial polluters, but for public trust waters and present and future generations in Maui and all of Hawai'i.

Maui County has a history of being leaders in environmental protection, and you can uphold this reputation and continue this legacy by withdrawing the appeal. Please help to uphold the Clean Water Act and protect Maui's reefs, which not only provide many economic benefits, but hold cultural and environmental significance for all of Hawai'i. I ask you to support the settlement of the Lahaina Injection Wells case and withdrawal of the appeal.

Sincerely,
Yoko Kawase
Haiku, HI 96708
ykshrijani@yahoo.com

GET Committee

From: marianabechini@everyactioncustom.com on behalf of Mariana Gandolfo <marianabechini@everyactioncustom.com>
Sent: Saturday, August 31, 2019 12:19 PM
To: GET Committee
Subject: Testimony in SUPPORT of resolution CC-19-178 re: settling the Lahaina Injection Wells lawsuit

Dear Maui County GET Committee,

My name is _____ and I am a resident of _____. I care about this issue because _____.

I am writing in support of Maui County settling the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT).

Both the Hawai'i district court and Ninth Circuit appeals court have already ruled that the County must get a permit under the Clean Water Act to continue discharging treated wastewater into the groundwater via the Lahaina injection wells. I ask the County to withdraw its appeal and work with state and community stakeholders to modernize the treatment facility and invest in water reuse solutions.

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Maui County has a history of being leaders in environmental protection, and you can uphold this reputation and continue this legacy by withdrawing the appeal. Please help to uphold the Clean Water Act and protect Maui's reefs, which not only provide many economic benefits, but hold cultural and environmental significance for all of Hawai'i. I ask you to support the settlement of the Lahaina Injection Wells case and withdrawal of the appeal.

Sincerely,
Mariana Gandolfo
Kihei, HI 96753
marianabechini@hotmail.com

GET Committee

From: Meagan Jones <meaganj@hawaii.edu>
Sent: Saturday, August 31, 2019 12:51 PM
To: GET Committee
Subject: Fwd: Testimony in SUPPORT of resolution CC-19-178 re: Settling the Lahaina Injection Wells lawsuit hearing on September 3, 2019
Attachments: LWRF Testimonty.doc; Testimony for LWRF MJ.docx

I may have sent my letter of support yesterday to the wrong email address so I am resending now. Please submit this letter to the County Council.

Begin forwarded message:

From: Meagan Jones <meaganj@hawaii.edu>
Subject: Testimony in SUPPORT of resolution CC-19-178 re: Settling the Lahaina Injection Wells lawsuit hearing on September 3, 2019
Date: August 30, 2019 at 5:05:41 PM HST
To: county.clerk@mauicounty.us

Please deliver this to all of the County Council members before the hearings on Tuesday.

Mahalo,

Meagan

Meagan Jones Gray, PhD
University of Hawaii Maui College
Instructor, Sustainable Science Management
319 Ka`ahumanu Ave., Kahului, HI 96732
(808) 984-3709
meaganj@hawaii.edu

UNIVERSITY of HAWAI'I®
MAUI COLLEGE

Science, Technology, Engineering, and Math (STEM) Department

Testimony in SUPPORT of resolution CC-19-178 re: Settling the Lahaina Injection Wells lawsuit hearing on September 3, 2019

Dear County Council members,

I am writing in support of Maui County settling the Lahaina injection well case. I hoped to attend in person to testify in support of resolution CC-19-178 but I am unable to do so due to a work conflict.

I have lived on Maui for 27 years and worked in the field of marine science and education throughout my tenure on this island. I am core faculty in the Sustainable Science Management program at UHMC, and the co-founder and Executive Director of Whale Trust Maui, a local non-profit organization dedicated to marine research and education programs. While my research has primarily focused on the health, behavior and communication patterns of whales in Hawaii, I am committed to the protection of Maui's nearshore marine environment.

Our ocean is under assault by multiple stressors and it needs our help more than ever. As such, I encourage the County Council to listen and respond to the scientific research that shows a significant decline in our coral reefs near seep areas where effluent from injection wells are entering our nearshore waters. Ross et al. 2012 showed a 40% coral decline in coral reefs at Kahekili Beach. Glenn et al. (2013) demonstrated irrefutable evidence for the hydrologic connection between Lahaina Wastewater Reclamation Facility (LWRF) and the ocean. Validating these and other studies (e.g., Dailer et al. 2010), a recent paper by Murray et al. (2019) demonstated that corals living within the submarine groundwater dicharge area are significantly impacted by sewage-effluent injected at the LWRF.

The most important segment of Maui's economy is tourism, and a healthy and clean ocean is perhaps the most important driver in supporting that industry. Maui has continually shown itself to be at the forefront of environmental issues, and I urge you to do the right thing for the health of our environment and economy by settling the case before it creates further damage not only in our own backyard but to the nation's Clean Water Act.

We must stop adding extra nutrients to our coral reefs and give them a chance to recover. Our economic and financial security are dependent on it. Our health and wellbeing are dependent on it.

Sincerely,

Meagan Jones Gray, PhD

310 W. Ka'ahumanu Avenue Kahului, HI 96732-1617
Telephone: 808 984-3500
www.maui.hawaii.edu

Meagan Jones, PhD
38 Pea Place
Kula, HI 96790
meaganj@hawaii.edu

Testimony in SUPPORT of resolution CC-19-178 re: Settling the Lahaina Injection Wells lawsuit hearing on September 3, 2019

Dear County Council members,

I am writing in support of Maui County settling the Lahaina injection well case. My plan was to attend in person to testify in support of resolution CC-19-178 but I am teaching a class that morning at UH Maui College and am unable to testify in person.

I am

My name is Donna Brown and I am a resident of Lahaina. I have been a UH research diver for almost 30 years and have worked on numerous studies at Kahekili Beach including my own masters research. I have done hundreds of dives there and seen the reef decline first hand. There is no doubt that the nutrients From the Lahaina Wastewater Reclamation Facility (LWRF) are reaching the nearshore waters of Ka'anapali Beach and are damaging the reef. There are reports from UH and USGS, I would be happy to share with you if you haven't seen them. This area was one of the most beautiful reefs on Maui and now much of it is dead and overgrown with turf algae. The Kahekili Herbivore Fisheries Management Area (KHFMA) was designated to address the overgrowth of algae but the truth is that herbivores alone cannot keep up. We must stop adding extra nutrients to the reef.

These same nutrients that harm the reef would be beneficial to the land. After sugar and pineapple left West Maui, the lands have become dry and prone to fires and erosion that also harms our reefs. Instead of spending millions of our taxpayer dollars to fight this case, do the right thing and pump the water up the mountain, put in lateral lines and re-plant native Hawaiian forest plants or use for agriculture. We have all heard that it would be too expensive to pump the water up-hill but there are solutions to finding the money. It is time to think outside the box. Maui should be an example to the rest of the world in a good way. With our economy based on tourism and visitors expectancy of a clean environment, we cannot afford to continue to pollute our nearshore waters and kill our reefs.

If you would like to learn more, I would be happy to share research papers and/or take any of you out to show you the areas where nutrient laden groundwater is killing the reef. Please feel free to contact me.

Aloha, Donna Brown

GET Committee

From: marinaedaian@everyactioncustom.com on behalf of Marina Daian <marinaedaian@everyactioncustom.com>
Sent: Saturday, August 31, 2019 1:13 PM
To: GET Committee
Subject: Testimony in SUPPORT of resolution CC-19-178 re: settling the Lahaina Injection Wells lawsuit

Dear Maui County GET Committee,

My name is marina daianand I am a resident of Maui. I care about this issue because we need to protect what we love.

I am writing in support of Maui County settling the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT).

Both the Hawai'i district court and Ninth Circuit appeals court have already ruled that the County must get a permit under the Clean Water Act to continue discharging treated wastewater into the groundwater via the Lahaina injection wells. I ask the County to withdraw its appeal and work with state and community stakeholders to modernize the treatment facility and invest in water reuse solutions.

Settling the case would end a detrimental challenge against the Clean Water Act and allow the County to avoid further penalties as long as it diligently works toward solutions. The Department of Health has already made clear that private cesspools and septic tanks would not need to get NPDES permits, so there is no risk to individual homeowners.

However, if the County continues its appeal, it threatens to gut the federal Clean Water Act. If the County wins the case at the Supreme Court, polluters across the United States would be free to contaminate water bodies as long as they release their waste from a pipe just short of the waters' edge or into the ground. The Trump Administration and industrial polluters like pipeline companies, the oil and gas industry, manufacturers, coal-burning utilities, and mining associations are all hoping that you will continue the appeal. As elected officials, I hope you will do the right thing, not for the Trump Administration and industrial polluters, but for public trust waters and present and future generations in Maui and all of Hawai'i.

Maui County has a history of being leaders in environmental protection, and you can uphold this reputation and continue this legacy by withdrawing the appeal. Please help to uphold the Clean Water Act and protect Maui's reefs, which not only provide many economic benefits, but hold cultural and environmental significance for all of Hawai'i. I ask you to support the settlement of the Lahaina Injection Wells case and withdrawal of the appeal.

Sincerely,
Marina Daian
Haiku, HI 96708
marinaedaian@gmail.com

GET Committee

From: info@everyactioncustom.com on behalf of Paula Dsian <info@everyactioncustom.com>
Sent: Saturday, August 31, 2019 1:27 PM
To: GET Committee
Subject: Testimony in SUPPORT of resolution CC-19-178 re: settling the Lahaina Injection Wells lawsuit

Dear Maui County GET Committee,

My name is _____ and I am a resident of _____. I care about this issue because _____.

I am writing in support of Maui County settling the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT).

Both the Hawai'i district court and Ninth Circuit appeals court have already ruled that the County must get a permit under the Clean Water Act to continue discharging treated wastewater into the groundwater via the Lahaina injection wells. I ask the County to withdraw its appeal and work with state and community stakeholders to modernize the treatment facility and invest in water reuse solutions.

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Maui County has a history of being leaders in environmental protection, and you can uphold this reputation and continue this legacy by withdrawing the appeal. Please help to uphold the Clean Water Act and protect Maui's reefs, which not only provide many economic benefits, but hold cultural and environmental significance for all of Hawai'i. I ask you to support the settlement of the Lahaina Injection Wells case and withdrawal of the appeal.

Sincerely,
Paula Dsian
Haiku, HI 96708
info@pauladaian.com

GET Committee

From: Phoenix Taredi <Phoenix.Taredi.82871770@p2a.co>
Sent: Saturday, August 31, 2019 1:58 PM
To: GET Committee
Subject: RE: 9/3/19 GET meeting; GET-26: It's time to make the pono choice and withdraw the attack against th

Dear Maui County GET Committee,

Hi, my name is Phoenix Taredi and I live in Paia, Hawaii. I am submitting this testimony for the September 3, 2019 committee meeting on item GET-26 (settlement in Hawai'i Wildlife Fund, et al., v. County of Maui).

We deserve to know!

As a resident of Hawai'i, I urge you to withdraw the appeal to the Supreme Court, focus on solutions for wastewater pollution, and stop the damage to priceless ocean and reef resources. The county should invest in Maui's future by building the necessary infrastructure to reuse the Lahaina facility's treated wastewater for irrigation, which is a true "win-win" solution. In contrast, destroying the law to advance the county's "right to pollute" the ocean is a "lose-lose" for both the county and the people.

We need Maui County's elected representatives to show leadership and turn this situation around. It's time to stop the reckless attack on the law and focus on building a responsible wastewater system of the future at the Lahaina facility.

We don't want Maui to do the dirty work with the Trump administration for our nation's worst polluters by dismantling the nation's bedrock clean water law.

We need your help before Maui County goes down in history as the champion for water pollution in the United States. Please, create a lasting, positive legacy by focusing on the solutions for this pollution problem and upholding—not destroying—the legal protections of clean water for Maui, Hawai'i, and the entire nation.

Regards,
Phoenix Taredi
79 Anohou St
Paia, HI 96779

GET Committee

From: ldlechuga@everyactioncustom.com on behalf of Lokelani Lechuga <ldlechuga@everyactioncustom.com>
Sent: Saturday, August 31, 2019 2:05 PM
To: GET Committee
Subject: Testimony in SUPPORT of resolution CC-19-178 re: settling the Lahaina Injection Wells lawsuit

Dear Maui County GET Committee,

My name is __Lokealni Lechuga___ and I am a resident of _Haiku____. I care about this issue because __we need to preserve and protect our clean water____.

I am writing in support of Maui County settling the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT).

Both the Hawai'i district court and Ninth Circuit appeals court have already ruled that the County must get a permit under the Clean Water Act to continue discharging treated wastewater into the groundwater via the Lahaina injection wells. I ask the County to withdraw its appeal and work with state and community stakeholders to modernize the treatment facility and invest in water reuse solutions.

Settling the case would end a detrimental challenge against the Clean Water Act and allow the County to avoid further penalties as long as it diligently works toward solutions. The Department of Health has already made clear that private cesspools and septic tanks would not need to get NPDES permits, so there is no risk to individual homeowners.

However, if the County continues its appeal, it threatens to gut the federal Clean Water Act. If the County wins the case at the Supreme Court, polluters across the United States would be free to contaminate water bodies as long as they release their waste from a pipe just short of the waters' edge or into the ground. The Trump Administration and industrial polluters like pipeline companies, the oil and gas industry, manufacturers, coal-burning utilities, and mining associations are all hoping that you will continue the appeal. As elected officials, I hope you will do the right thing, not for the Trump Administration and industrial polluters, but for public trust waters and present and future generations in Maui and all of Hawai'i.

Maui County has a history of being leaders in environmental protection, and you can uphold this reputation and continue this legacy by withdrawing the appeal. Please help to uphold the Clean Water Act and protect Maui's reefs, which not only provide many economic benefits, but hold cultural and environmental significance for all of Hawai'i. I ask you to support the settlement of the Lahaina Injection Wells case and withdrawal of the appeal.

Sincerely,
Lokelani Lechuga
1355 Haiku Rd Haiku, HI 96708-5608
ldlechuga@gmail.com

GET Committee

From: taote715@everyactioncustom.com on behalf of Jennifer Yu <taote715@everyactioncustom.com>
Sent: Saturday, August 31, 2019 2:09 PM
To: GET Committee
Subject: Testimony in SUPPORT of resolution CC-19-178 re: settling the Lahaina Injection Wells lawsuit

Dear Maui County GET Committee,

My name is Jennifer and I am a resident of Lahaina. I care about this issue because my neighbors and I are at serious health risks.

I am writing in support of Maui County settling the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT).

Both the Hawai'i district court and Ninth Circuit appeals court have already ruled that the County must get a permit under the Clean Water Act to continue discharging treated wastewater into the groundwater via the Lahaina injection wells. I ask the County to withdraw its appeal and work with state and community stakeholders to modernize the treatment facility and invest in water reuse solutions.

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Maui County has a history of being leaders in environmental protection, and you can uphold this reputation and continue this legacy by withdrawing the appeal. Please help to uphold the Clean Water Act and protect Maui's reefs, which not only provide many economic benefits, but hold cultural and environmental significance for all of Hawai'i. I ask you to support the settlement of the Lahaina Injection Wells case and withdrawal of the appeal.

Sincerely,
Jennifer Yu
Lahaina, HI 96761
taote715@yahoo.com

GET Committee

From: aftonb83@everyactioncustom.com on behalf of Afton Bennett <aftonb83@everyactioncustom.com>
Sent: Saturday, August 31, 2019 2:29 PM
To: GET Committee
Subject: Testimony in SUPPORT of resolution CC-19-178 re: settling the Lahaina Injection Wells lawsuit

Dear Maui County GET Committee,

My name is __Afton Bennett___ and I am a resident of __Kihei.___. I care about this issue because __we are so dependent on healthy coral. Plus, who wants to swim in a toilet?____.

I am writing in support of Maui County settling the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT).

Both the Hawai'i district court and Ninth Circuit appeals court have already ruled that the County must get a permit under the Clean Water Act to continue discharging treated wastewater into the groundwater via the Lahaina injection wells. I ask the County to withdraw its appeal and work with state and community stakeholders to modernize the treatment facility and invest in water reuse solutions.

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Sincerely,
Afton Bennett
2545 S Kihei Rd Kihei, HI 96753-8626
aftonb83@yahoo.com

GET Committee

From: oshea606@everyactioncustom.com on behalf of Dennis O'Shea O'Shea <oshea606@everyactioncustom.com>
Sent: Saturday, August 31, 2019 2:39 PM
To: GET Committee
Subject: Testimony in SUPPORT of resolution CC-19-178 re: settling the Lahaina Injection Wells lawsuit

Dear Maui County GET Committee,

My name is Dennis O'Shea and I am a resident of Lahaina.
I care about this issue because I care about our island and our aina.

I am writing in support of Maui County settling the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT).

Both the Hawai'i district court and Ninth Circuit appeals court have already ruled that the County must get a permit under the Clean Water Act to continue discharging treated wastewater into the groundwater via the Lahaina injection wells. I ask the County to withdraw its appeal and work with state and community stakeholders to modernize the treatment facility and invest in water reuse solutions.
You should have used the $2,000,000 given to you by the state according to Rep. Angus McKelvey to do just that.

Stop screwing around and do your job, or find a new one after our next election.

Mahalo.

Dennis O'Shea

Sincerely,
Dennis O'Shea O'Shea
PO Box 11107 Lahaina, HI 96761-6107
oshea606@gmail.com

GET Committee

From: Tlaloc Tokuda <tlaloctt@hotmail.com>
Sent: Saturday, August 31, 2019 3:22 PM
To: GET Committee
Subject: Think carefully before you vote

Its bad enough that Maui County has for the past 30 yrs been dumping partially treated sewage near Kahekili Beach Park which is the reason for coral reef dead zones. But now after two court cases the County wants to align themselves with the Trump Admin and take the case to the Supreme Court for a pivotal ruling (which the Trump administration and Trump's EPA have change the Clean Water Act). If Maui County wins then the flood gates will be opened and the new **law of the land** will make some of the worst polluters in the country to start dumping all their toxins just shy of the ocean outfall. Does Maui County want to unleash this toxic cocktail on the rest of the US (and the world)? You Council members vote very carefully for if you don't you will unleash a toxic deluge on future generations. Do you want future generations pointing their collective fingers at you for the earth's demise.

Please change course and accept the lower court ruling.

Mahalo,
Tlaloc Tokuda
73-4599 Kukuki St
Kailua Kona, HI 96740

GET Committee

From: jgelert@everyactioncustom.com on behalf of John Gelert <jgelert@everyactioncustom.com>
Sent: Saturday, August 31, 2019 3:56 PM
To: GET Committee
Subject: Testimony in SUPPORT of resolution CC-19-178 re: settling the Lahaina Injection Wells lawsuit

Dear Maui County GET Committee,

My name is John Gelert and I am a resident of Kihei, Hawaii. I care about this issue because I swim frequently in the ocean in Kihei, Wailea, and Makena, and I see lots of algae caused by the nutrients from the wastewater discharge in Kihei. It is causing green sea turtles to have tumors. I also see lots of reports of excess bacteria in the water at Cove Park and hear about a lot of staph infections.

I am writing in support of Maui County settling the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT).

Both the Hawai'i district court and Ninth Circuit appeals court have already ruled that the County must get a permit under the Clean Water Act to continue discharging treated wastewater into the groundwater via the Lahaina injection wells. I ask the County to withdraw its appeal and work with state and community stakeholders to modernize the treatment facility and invest in water reuse solutions.

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However, if the County continues its appeal, it threatens to gut the federal Clean Water Act. If the County wins the case at the Supreme Court, polluters across the United States would be free to contaminate water bodies as long as they release their waste from a pipe just short of the waters' edge or into the ground. The Trump Administration and industrial polluters like pipeline companies, the oil and gas industry, manufacturers, coal-burning utilities, and mining associations are all hoping that you will continue the appeal. As elected officials, I hope you will do the right thing, not for the Trump Administration and industrial polluters, but for public trust waters and present and future generations in Maui and all of Hawai'i.

Maui County has a history of being leaders in environmental protection, and you can uphold this reputation and continue this legacy by withdrawing the appeal. Please help to uphold the Clean Water Act and protect Maui's reefs, which not only provide many economic benefits, but hold cultural and environmental significance for all of Hawai'i. I ask you to support the settlement of the Lahaina Injection Wells case and withdrawal of the appeal.

Sincerely,
John Gelert
140 Uwapo Rd Apt 39-202 Kihei, HI 96753-7442 jgelert@yahoo.com

GET Committee

From: James Kumagai <jskumagai@gmail.com>
Sent: Saturday, August 31, 2019 5:23 PM
To: GET Committee; County Clerk; Kelly King; Tasha A. Kama; Riki Hokama; Alice L. Lee; Mike J. Molina; Tamara A. Paltin; Shane M. Sinenci; Yukilei Sugimura
Subject: Hawaii Wildlife Fund et al v County of Maui GET-26. Testimony by Dr. Hans Krock
Attachments: Krock Testimony on Maui Injection Wells.pdf

Attached is testimony by Dr. Hans Krock for GET-26 hearing on September 3, 2016

James Kumagai

For Dr. Hans Krock

GET Committee

From: James Kumagai <jskumagai@gmail.com>
Sent: Saturday, August 31, 2019 5:23 PM
To: GET Committee; County Clerk; Kelly King; Tasha A. Kama; Riki Hokama; Alice L. Lee; Mike J. Molina; Tamara A. Paltin; Shane M. Sinenci; Yukilei Sugimura
Subject: Hawaii Wildlife Fund et al v County of Maui GET-26. Testimony by Dr. Hans Krock
Attachments: Krock Testimony on Maui Injection Wells.pdf

Attached is testimony by Dr. Hans Krock for GET-26 hearing on September 3, 2016

James Kumagai

For Dr. Hans Krock

August 31, 2019

Mr. Michael Molina, Chair, GET Committee
Members of Governance, Ethics and Transparency Committee
County of Maui Council

Email: Get.committee@mauicounty.us
County.clerk@mauicounty.us
Kelly.King@mauicounty.us
Keani.Rawlins@mauicounty.us
Tasha.Kama@mauicounty.us
Riki.Hokama@mauicounty.us
Alice.Lee@mauicounty.us
Mike.Molina@mauicounty.us
Tamara.Paltin@mauicounty.us
Shane.Sinenci@mauicounty.us
Yukilei.Sugimura@mauicounty.us

Subject: Hawaii Wildlife Fund et al. v. County of Maui, GET-26

Dear Honorable Council Member Molina and Members of the GET Committee:

These comments on the subsurface injection of treated wastewater at the Lahaina wastewater reclamation facility are a follow-up to my previously submitted written joint testimony dated May 16, 2019 and my oral testimony presented at the May 20 2019 hearing. These comments also supplement the recent additional comments submitted jointly for the September 3rd hearing with Dr. James Kumagai and Dr. Victor Moreland.

The Lahaina injection well case pending the U.S. Supreme Court involves classification of the injection well coastal outflow as a point source of pollution (analogous to an open pipe) as opposed to a nonpoint source. Classification as a point source would subject the discharge to the legal requirements for a point source, including an NPDES permit, rather than the current UIC permit requirements. There is an apparent underlying objective of eliminating the present Lahaina subsurface injection system for the treated wastewater. The plaintiffs have cited the environmental damage to the coastal coral reef community primarily caused by nutrients (nitrates) in the outflow.

There are several significant misconceptions regarding the requirement for an NPDES permit and potentially abandoning the Lahaina injection system.

1. The outflow of treated effluent cannot be considered to be a point source of the wastewater treatment plant effluent because there are significant changes as it passes though the subsurface geology. The underground passage provides physical-chemical-biological filtration. Almost all of the particulate matter is removed as are most of the dissolved organic constituents. Essentially all of the phosphate is removed through physical-chemical deposition on sand or other granular particles. Although the discharge still contains nitrate, the effluent no longer serves as a "balanced" source of

nutrients. Undesirable excessive algae growth is curtailed since phosphorus would typically be the limiting nutrient.

2. Nitrate in the effluent is not detrimental to coral. Evaluation of the effects of treatment plant discharges on the local receiving waster ecosystem requires long term study and monitoring. An example is the attached study of the Hawaii Kai outfall. Some of the surprising observations of this study are that the wastewater discharge increased the growth rate of the test coral (*Pocillopora meandrina*) by about 30 percent and that there was an increase in the urchin population which kept down the competing seaweed population.

3. A direct observational study of the Lahaina injection coastal discharge area in 2015 by Dr. Steven J. Dollar of the University of Hawaii shows no detrimental effects on the water quality or benthic community. Consequently, abandoning the injection system would have no beneficial environmental effect.

It would be much more beneficial for the health of the presently stressed coral-based tropical ecosystem to spend our time, effort and funds on:

1. Controlling high water temperature due to global warming.

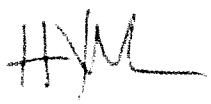
2. Controlling low seawater pH from excess CO_2 emissions (switching away from fossil fuel).

3. Controlling coral smothering and other habitat change from erosion and other non-point sources.

Classifying the Lahaina injection well discharge as a point source and requiring an NPDES permit is clearly not justified and is not a prudent or cost-effective course of action.

I plan to attend the September 3rd GET committee hearing and would be happy to provide further input and respond to any questions. Thank you for the opportunity to provide input on this critical environmental issue.

Sincerely,



Hans J. Krock, PhD, PE
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Phone: 808-228-2233

Attachment

WPCA Conf., Anaheim, 1978

ATTACHMENT
(35 pages)

SECONDARY EFFLUENT EFFECTS

ON A

NEARSHORE SUBTROPICAL ECOSYSTEM

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M & E Pacific, Inc., Honolulu, Hawaii

Ralph L. Bowers
University of Hawaii, Honolulu, Hawaii

Determining the effects of the discharge of municipal wastewater on the ecosystem of a receiving water body involves exploring the interactions of physical, chemical and biological factors. Such determinations are invariably somewhat incomplete because the area of study is not clearly bounded in space or time and the complexity of interactions leave many variables uncontrolled. The general approach is to repeat the study many times and measure the significant uncontrolled variables until the predominant conditions are covered and the patterns of interactions are discernible.

Such investigations are not laboratory experiments but rather comparison studies which can lead to the design of laboratory experiments for determining cause-effect relationships.

The overall objectives of discharge effects studies are to determine if a change is needed in the discharge or the treatment process and to form the basis for the design of that change. Discharge effects studies also add to the understanding of various types of ecosystems and thereby can contribute to the basis for the design of new treatment plants and outfalls elsewhere.

TREATMENT PLANT AND OUTFALL

In this study the effects of the discharge of the effluent of the Hawaii Kai treatment plant were measured on a monthly basis for one year, February 1972 through January 1973, followed by a continuing quarterly monitoring program.

The community of Hawaii Kai is located near the southeastern corner of the island of Oahu. The geographical location of the study area is given in Figure 1. Hawaii Kai is a planned community begun in the early 1960's as a marina related suburb of Honolulu. The sewage generated by Hawaii Kai is domestic and includes some infiltrating brackish ground water. From 1965 to late 1972 treatment consisted of primary clarification and chlorination. Since late 1972 an activated sludge plant has been added. In 1973 the average flow was about 130 l/s (3 mgd). The projected ultimate flow is about 350 l/s (8 mgd). It is expected that about 90 l/s (2 mgd) of the ultimate flow will be used for golf course irrigation.

The outfall, a 91 cm (36 in.) diameter reinforced concrete pipe extending about 425 m (1,400 ft.) offshore to a depth of about 12 to 14 m (40 to 45 ft.), has been in operation since 1965. Discharge occurs through three 20 cm (8 in.) and one 15 cm (6 in.) diameter, periscope style ports spaced at 18 m (60 ft.) intervals, as well as through a 20 cm (8 in.) port at the bottom of the seaward extremety of the pipe.

The characteristics of the Hawaii Kai plant effluent (Table I) are generally typical for domestic wastewater receiving secondary treatment. It should be noted, however, that the activated sludge process at the Hawaii Kai plant has been subject to variations in control which often led to alternating between nitrifying and non-nitrifying conditions. This instability, along with flow and salinity fluctuations, has resulted in more frequent than average instances of process upset with

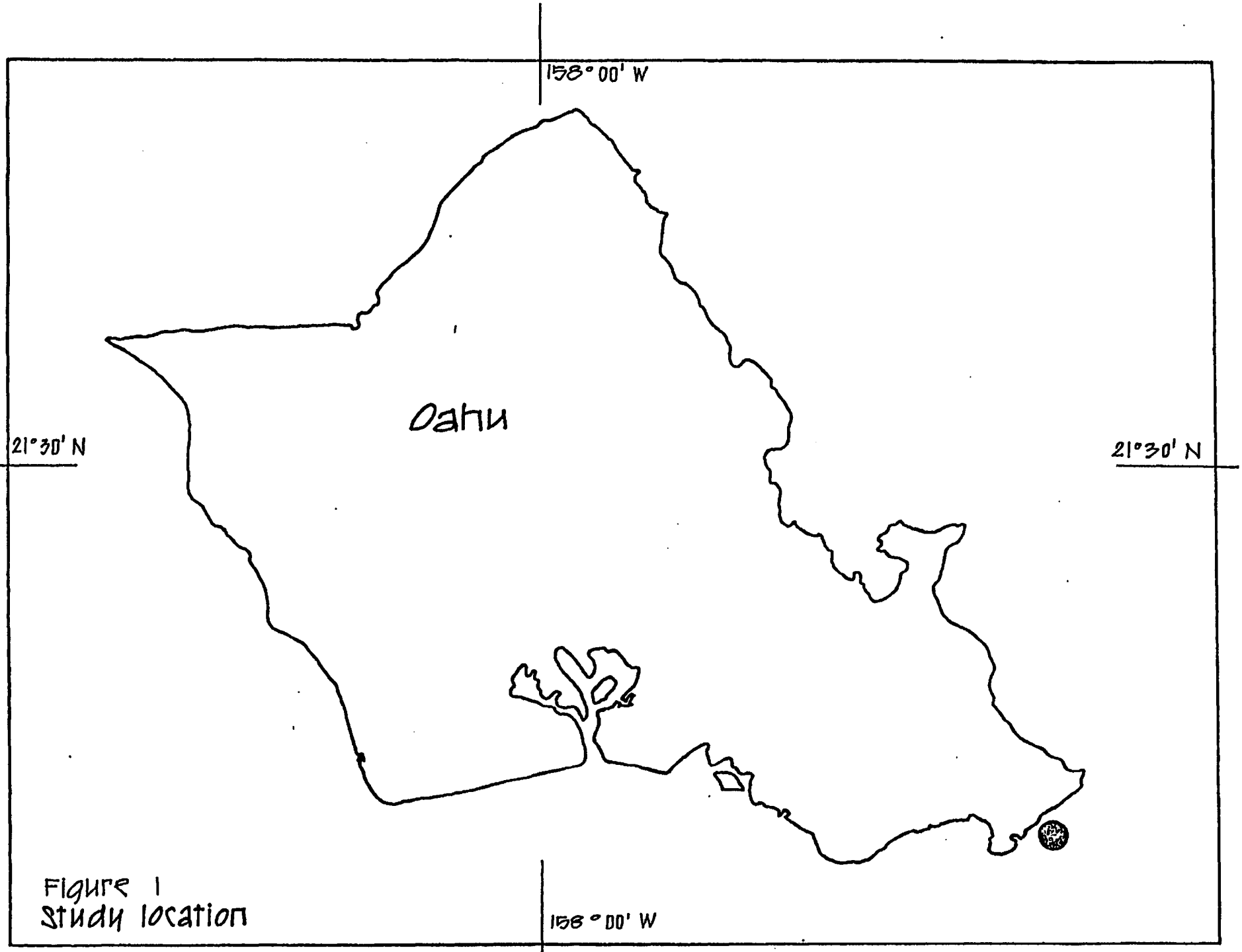


Figure 1
Study location

TABLE I

MEDIAN AND RANGE OF

HAWAII KAI SECONDARY EFFLUENT CHARACTERISTICS*

Parameter	Units	Minimum	Median	Maximum
Temperature	^{o}C	28	29	30
pH	Units	7.0	7.3	7.4
Chlorides	mg/l	760	975	1460
TDS	mg/l	1776	2165	2898
Suspended Solids	mg/l	13	33	81
Settleble Solids	mg/l	1	5	29
Turbidity	NTU	5	55	65
SECCHI Depth	Feet	1.25	2.0	3.0
DO	mg/l	1.2	3.4	4.1
BOD_5	mg/l	6	19	50
PO_4 - P	mg/l	1.7	4.3	5.4
TP	mg/l	3.8	4.6	6.7
TKN	mg/l	2.1	9.9	18.0
Chlorine Residual	mg/l	0**	0.3	3.0
Total Coliform	#/100 ml	10	750	10^7**
Fecal Coliform	#/100 ml	10	400	10^7**

* From monthly monitoring results August 1977 - July 1978

** Chlorinator temporarily out of order

concommitant loss of MLSS to the outfall. Because of the flow pattern of the main pumping station to the plant, such losses were generally highest in the early morning hours and were not fully included in the daytime composite samples (Table I). This means that the suspended solids loading on the ecosystem near the diffuser may have been periodically heavier than is indicated by the median values shown.

OCEANOGRAPHIC CHARACTERISTICS AND DILUTION

The configuration of the coastline and the bathymetry at the discharge area are shown in Figure 2. The salient features of this area are that this is an open coastline that is exposed to the predominant trade wind generated wave climate as well as to summertime south swells and wintertime Kona wind (a southerly direction). The result is that there is good continuous mixing in the area.

The horizontal dispersion coefficient was measured on three occasions using timed aerial photographs of the spread of rhodamine-B dye which had been released by divers at a diffuser port. The dispersion coefficient was then calculated for the intervals between photographs by using Expression 1 which is derived from Fick's first law in combination with the definition (Expression 2) of the "scale" of the dispersion phenomena.[1]

$$k = \tfrac{1}{2} \frac{d\sigma^2}{dt} \qquad (1)$$

and

$$L = 2\sqrt{3}\,\sigma \qquad (2)$$

where

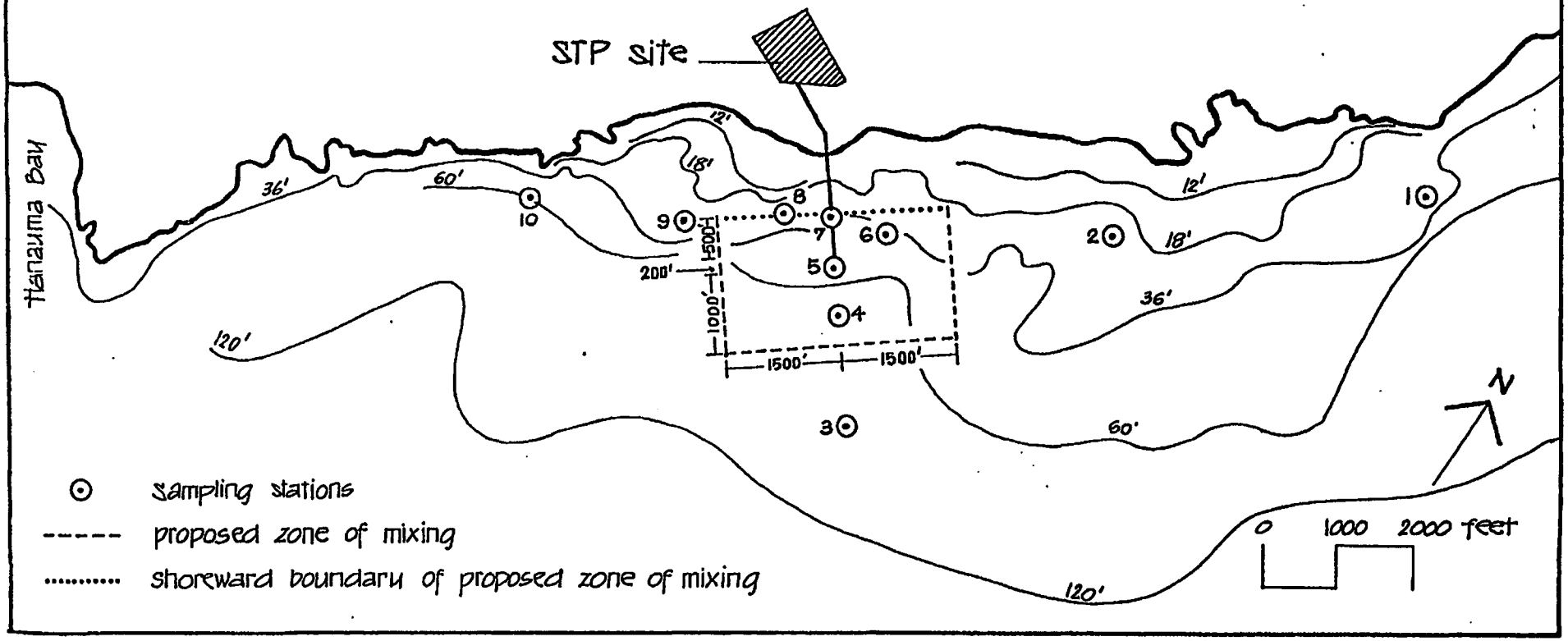
k = Dispersion coefficent

t = Time

σ = Distance of standard deviation of the concentration distribution

L = The scale of the dispersion phenomena

Figure 2
Initial sampling station locations



Integration, assuming that 4σ is approximated by the diameter of a circle with the same area as the visible dye patch, yields the following working definition of the horizontal dispersion coefficient for an open coatal area:

$$k = \frac{A_2 - A_1}{8\pi(T_2 - T_1)} \qquad (3)$$

where

A_1 = Area of visible dye patch at time T_1

A_2 = Area of visible dye patch at time T_1

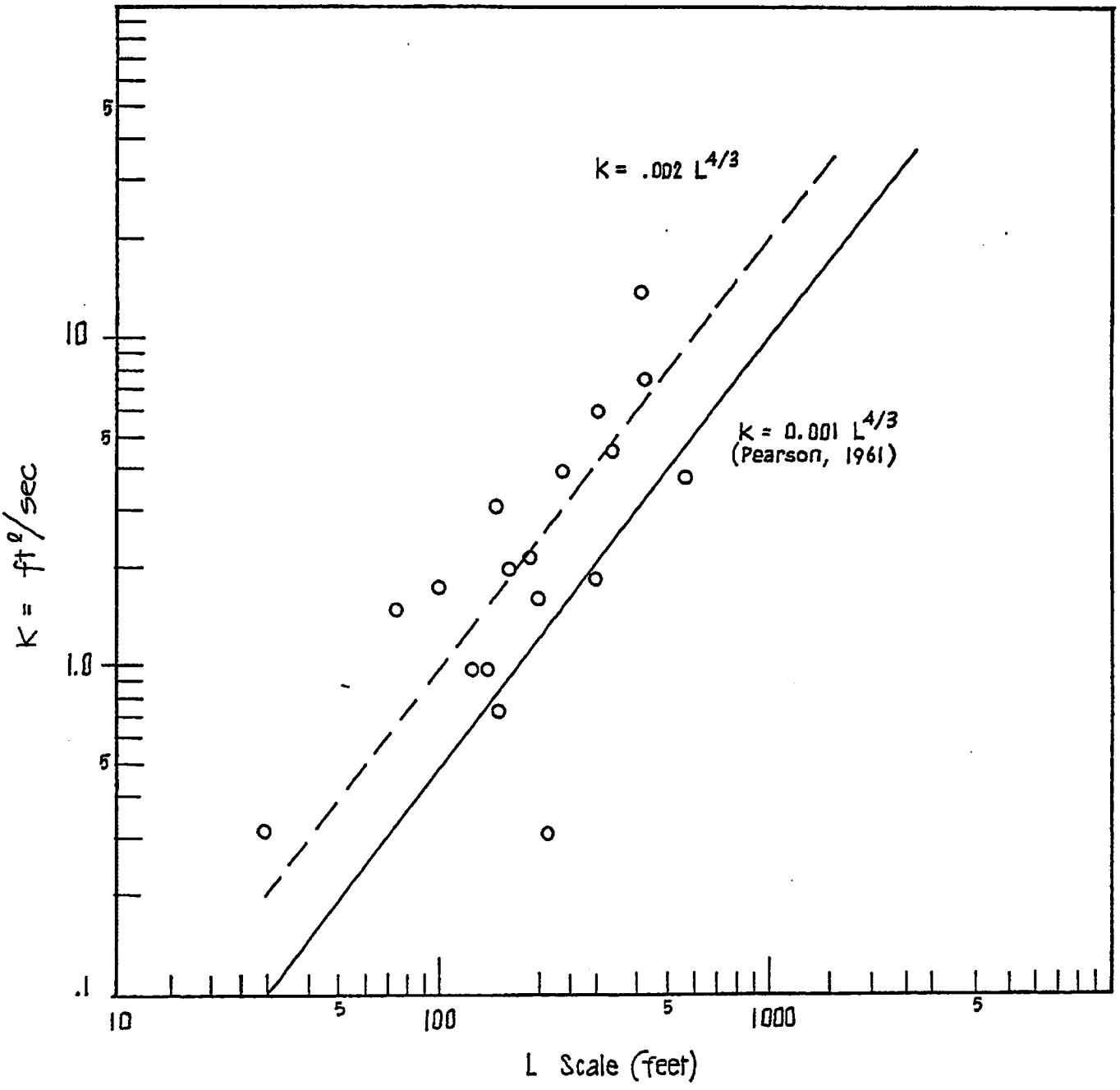
In practice, the successful application of equation 3 was limited to about the first 45 minutes after dye release because after that time the edges of the patch became too dilute to show clearly on the aerial photographs. Diver observations showed that during this period there was no significant variation in the initially established vertical depth of the dye patch.

The combined results of three dye studies are given in Figure 3. In addition to the procedurally induced variations, the scatter in the data is due to the fact that the dimension of the measuring tool (the dye patch) is similar to the thing being measured (the distribution of horizontal eddies). It is evident, however, that the dispersion coefficients in the area of the Hawaii Kai outfall are on the average higher than those that have been commonly used for coastal areas elsewhere.[2] The Hawaii Kai data can be reasonably well approximated by a line which keeps the theoretically important 4/3 exponent on the scale but is higher than the conventional by a factor of two.

$$k = 0.002\ L^{4/3} \qquad (4)$$

The dispersion coefficient was used in calculating[1] the dispersion after initial dilution in the direction of the current.

Figure 3
dispersion coefficient for sandy beach



A current meter and drogues were used to establish a general description of the current structure. The tide related, reversing, longshore current was found to be the predominating current component. The regular trade wind induced surface flow contributed to the southwesterly transport which, along with the influence of the permanent North Equatorial Current and the local bathymetry, result in a net offshore transport. The characteristic current speed in the vicinity of the diffuser is about 15 cm/sec (0.3 knots). Current reversal occurs with an initial slowing of the current followed by a movement resembling a counterclockwise spiral and ending in the establishment of flow in the opposite direction.

Dispersion after initial dilution was calculated using the relationship developed by Brooks.[1]

$$\frac{C}{Co} = \text{erf} \sqrt{\frac{3/2}{\left[1 + \frac{2\beta x}{3b}\right]^3 - 1}} \qquad (5)$$

where

C = Concentration of conservative substance at distance x

Co = Initial concentration of conservative substance

x = Distance from diffuser in direction of current

b = Length of line source

$\beta = \frac{12\ k}{V_x\ b}$

k = Dispersion coefficient = $0.002\ L^{4/3}$

(with the units of L of ft and k of ft^2/sec)

V_x = Current speed in x direction

The minimum initial dilution was calculated using the method developed by Liseth.[3] This method gives the dilution that would be expected under quiescent conditions in unstratified water from a series of diffuser ports. The average initial dilution was estimated using the average current, the projected length of the diffuser perpendicular to the current, and the mixing depth (about 3.6 m). To Check these calculations field measurements of the minimum dilution in the plume were made using total phosphorus to approximate a conservative substance. Comparisons of representative results from the two calculations and the measurements under different current conditions (Table II) show that the calculated minimum dilution is much lower than the measured value. Also, it can be seen that the measured minimum value is not as sensitive to the current speed as is the average dilution but rather responds to a combination of the effluent flowrate and the current speed.

Direct observations of the manner in which the actual diffuser discharge occurs offers an explanation for this disparity between calculated and measured dilutions. In areas exposed to open ocean swells diffuser ports down to 30 m or more do not discharge at a steady rate, as assumed in the calculations, but rather vary in flowrate in response to the changing pressure from passing swells. At shallow depths (15 m or less) and with large amplitude and long period swells (a common condition at the Hawaii Kai diffuser) discharge actually occurs in pulses that alternate with flow of seawater into the diffuser through the diffuser ports. Such a discharge pattern results in a significantly greater minimum dilution than is calculated using the assumption of quiescent or even slow current conditions. The actual minimum dilution, however, is much less than the

TABLE II

COMPARISON OF CALCULATED MINIMUM AND AVERAGE

DILUTIONS WITH MEASURED MINIMUM DILUTION

Effluent Flowrate l/s	Current Speed cm/s	Calculated Minimum Dilution	Measured Minimum Dilution	Calculated Average Dilution
61	21	69	260	746
70	5	65	210	163
101	41	56	250	908

calculated average dilution with moderate and strong current flows because the discrete pulses are areas of higher concentration separated by background seawater rather than a uniform field. This means that the dispersion after initial dilution proceeds from a patchy starting point and not a line source. Although this does not make much difference after dispersion evens out the pattern, it does help explain some of the wide variations in concentrations that are commonly encountered in monitoring such ocean outfalls.

WATER QUALITY CHARACTERISTICS AND PRIMARY EFFLUENT EFFECTS

Measurements of the water quality characteristics in the vicinity of the Hawaii Kai outfall were made monthly for one year at three depths at each of the ten stations shown in Figure 2. The treatment at the Hawaii Kai plant at that time consisted only of primary settling and chlorination. Measurements of the temperature and dissolved oxygen (DO), were made immediately on the boat at the time of sampling. Samples were taken back to the laboratory within two hours where analyses for nitrate plus nitrite nitrogen ($NO_3 + NO_2$), total Kjeldahl nitrogen (TKN), reactive phosphorus, total phosphorus (TP), and chlorophyll-a were conducted according to the methods described by Strickland and Parsons (1968).[4] Total and fecal coliform were measured according to the membrane filter techniques in Standard Methods 13th Edition.[5] Also measured were pH and extinction coefficients.

Evidently because of the good mixing in the area, the data from the three depths at each station (except the diffuser station) showed no consistent or significant differences and consequently all data for each station were grouped and statistically analysed.

The pH at all stations showed little variation with a range of 8.2 to 8.5 while water temperature varied seasonally from 23 to 26°C. The DO did not differ in either direction of saturation more than 0.2 mg/l at any time including at the diffuser, Station 5. It was noted, however, that the stations closest to the shoreline persistently showed 0.1 to 0.2 mg/l higher DO than the most seaward stations. This presumably reflects the longer residence times of waters nearer the shoreline which allow more time for the phytoplankton to respond to the land and outfall derived higher nutrient concentrations.

The statistical analysis of the more variable parameters, TKN, $NO_3 + NO_2$, TP, chlorophyll-a and coliform showed that the cumulative distributions of the field data for background areas conform very well to log-normal distributions. This has been observed by many investigators elsewhere. Examples of these distributions are given in Figures 4, 5, and 6 showing the reactive phosphorus, TP, $NO_3 + NO_2$, and TKN distributions at Station 10 and the chlorophyll-a distribution at Station 9.

The water quality effect of the primary treated wastewater discharge is, of course, most readily detectable at Station 5 located at the diffuser. Figure 7 (TKN at Station 5) shows this effect as a significant deviation from the log-normal distribution.

This deviation is attenuated as dilution progresses, as illustrated in Figure 8 by the smaller deviation from the log-normal of reactive phosphorus and TP at Station 6, some 200 m away from the diffuser. The pattern in Figure 8 can be used to show that the wastewater plume passes by Station 6 about 15 to 20 percent of the time. This frequency approximates that estimated from the results of the tide related longshore current measurements.

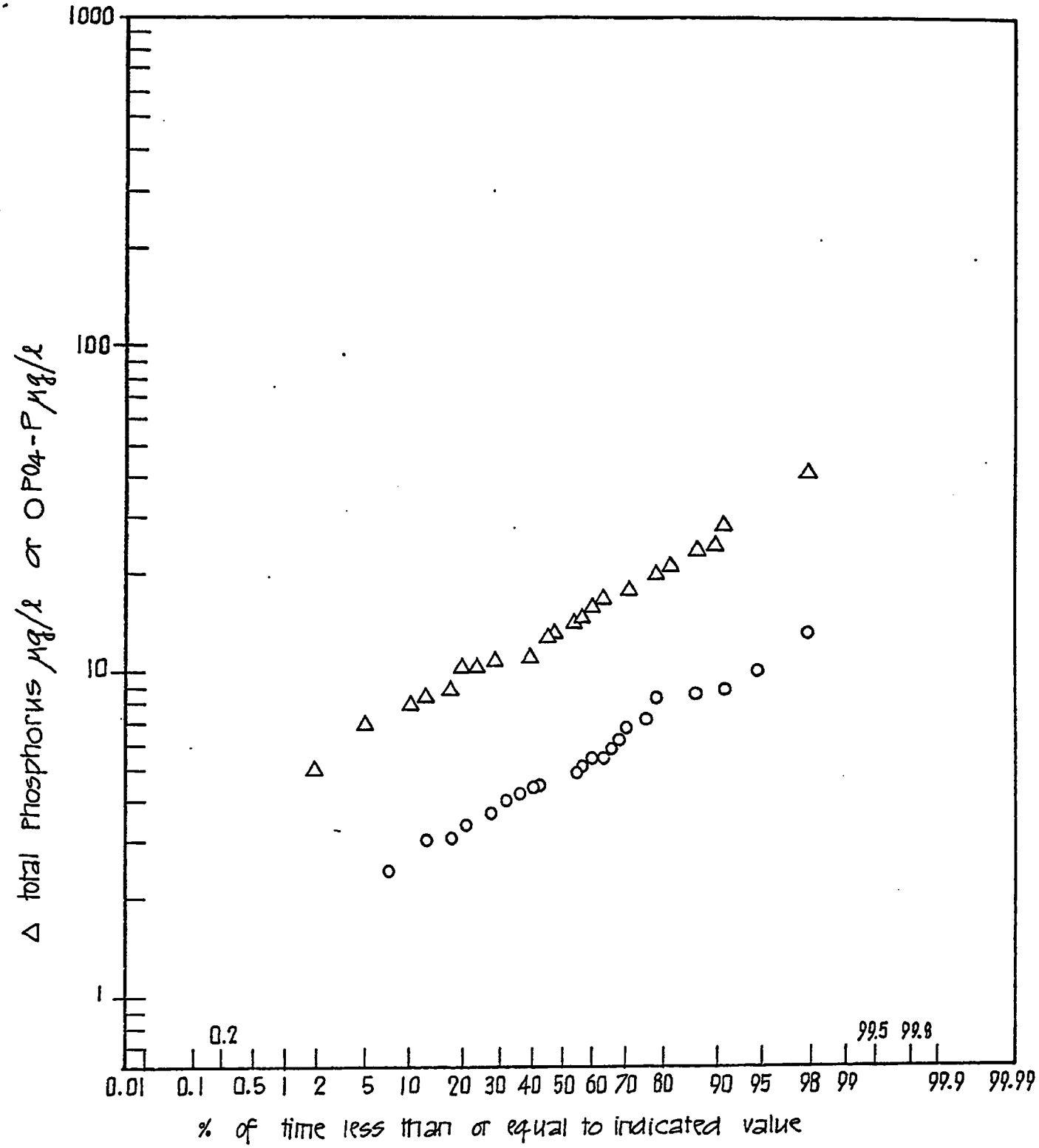


Figure 4
background Phosphorus (station 10)

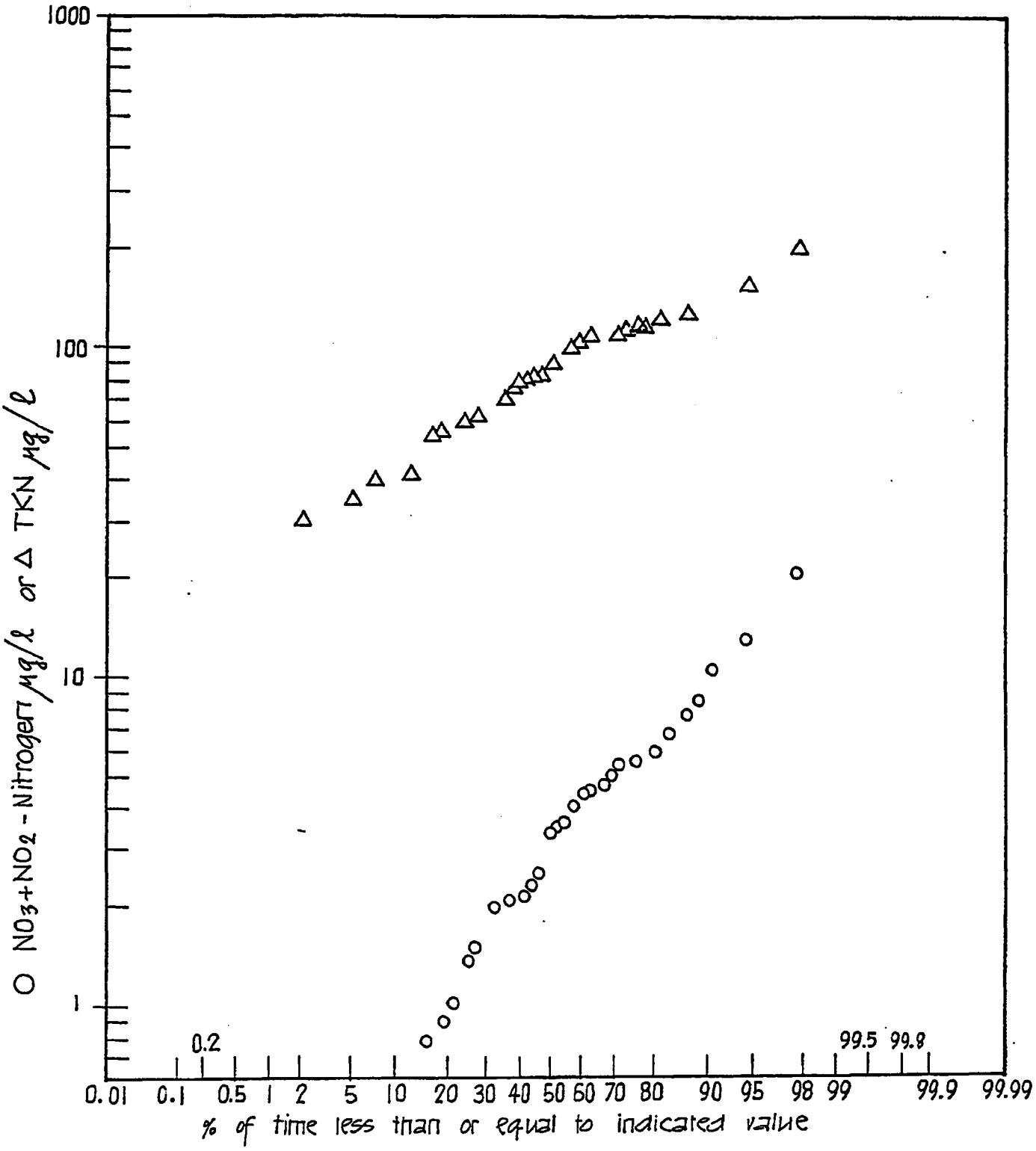


Figure 5
background NO_3+NO_2 and TKN (station 10)

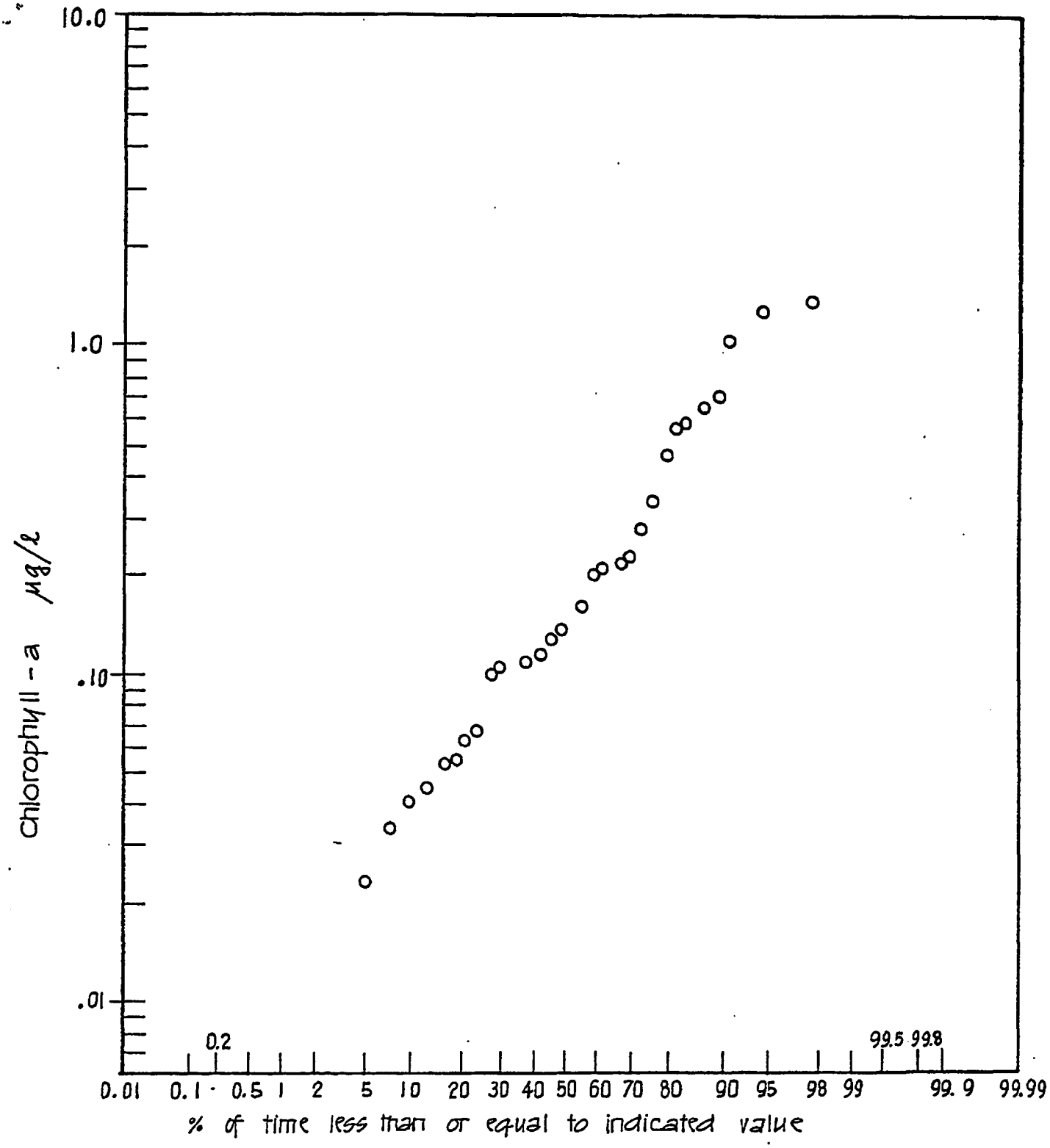


Figure G
background chlorophyll-a (station 9)

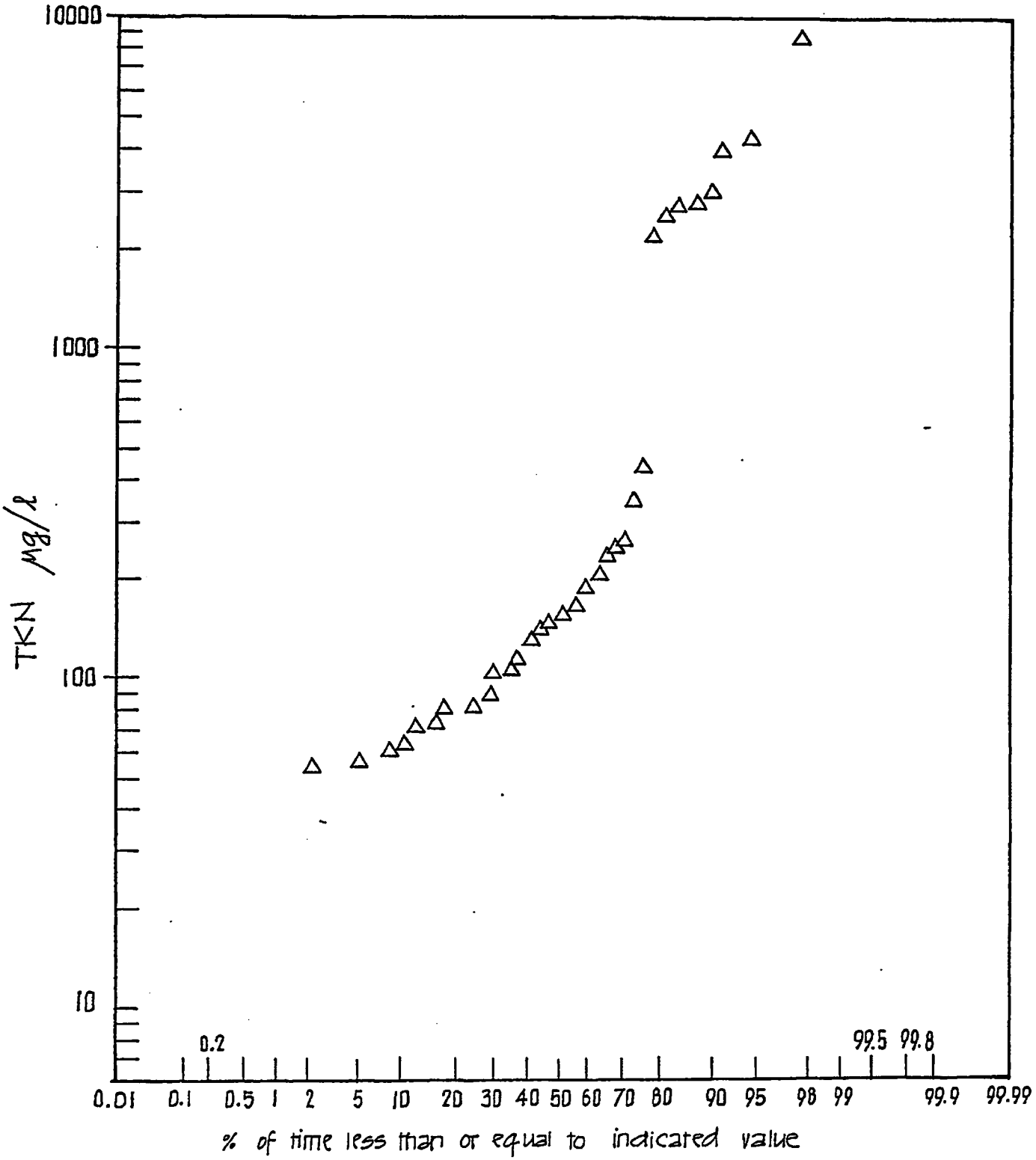


Figure 7
effect of effluent on TKN (station 5)

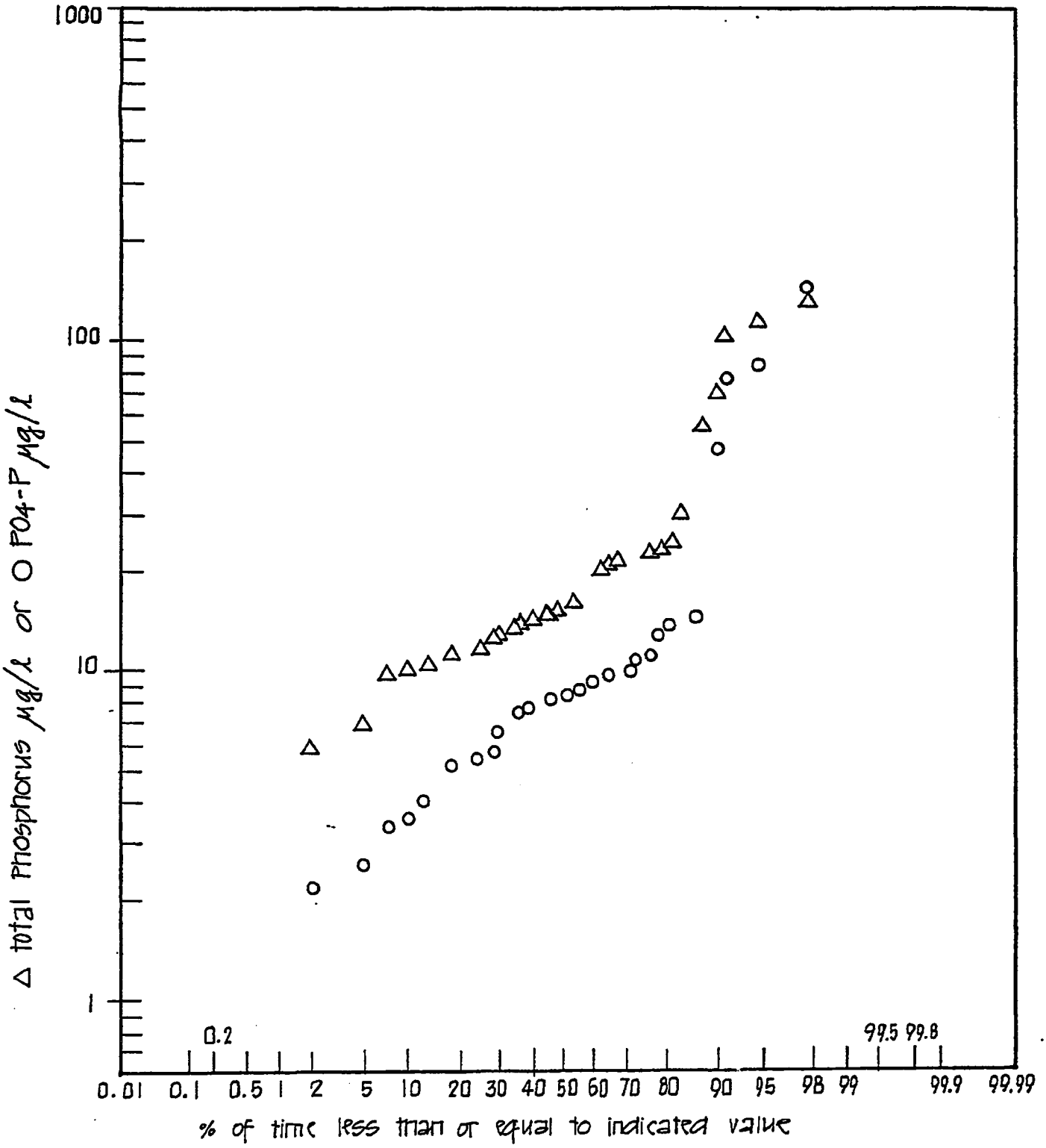


Figure 8.
effect of transported plume on Phosphorus (station 6)

It should be noted, however, that other causes can result in deviations from the log-normal distribution. This is shown in Figure 9 where the reactive phosphorus and TP at Station 1 are strongly influenced some 10 to 15 percent of the time by storm runoff from a channel draining an area that was being developed at the time into a golf course and housing area.

A summary of the geometric mean and ninety percentile concentrations of the major nutrients and chlorophyll-a (Table III) shows that the discharge of primary effluent had a significant influence on the geometric mean values only near the diffuser (Station 5). At the ninety percentile there was also an affect on the phosphorus concentration at Station 6, the next nearest to the diffuser. With the exception of the runoff influenced Station 1, the remainder of the sampling stations were not significantly different from each other in nutrient or chlorophyll-a levels.

The total and fecal coliform levels of samples taken at 1.5 m (5 ft.) showed geometric mean values of two and less-than-two colonies per 100 ml at all stations except at the diffuser where the geometric mean concentrations were 35 total coliform and 16 fecal coliform per 100 ml. It was noticed, however, that even during periods without chlorination significant coliform concentrations were found only within a few hundred meters of the diffuser.

Measurements of the T_{90} disappearance rate of total coliform were made several times using rhodamine-B dye to account for dilution. Innoculation was performed immediately on the boat. The typical results, shown in Figure 10, indicate a T_{90} level of only about 16 minutes. This is much shorter than the commonly published values of several hours for temperate latitudes. Comparably fast die off rates (T_{90} of 18 minutes) were, however,

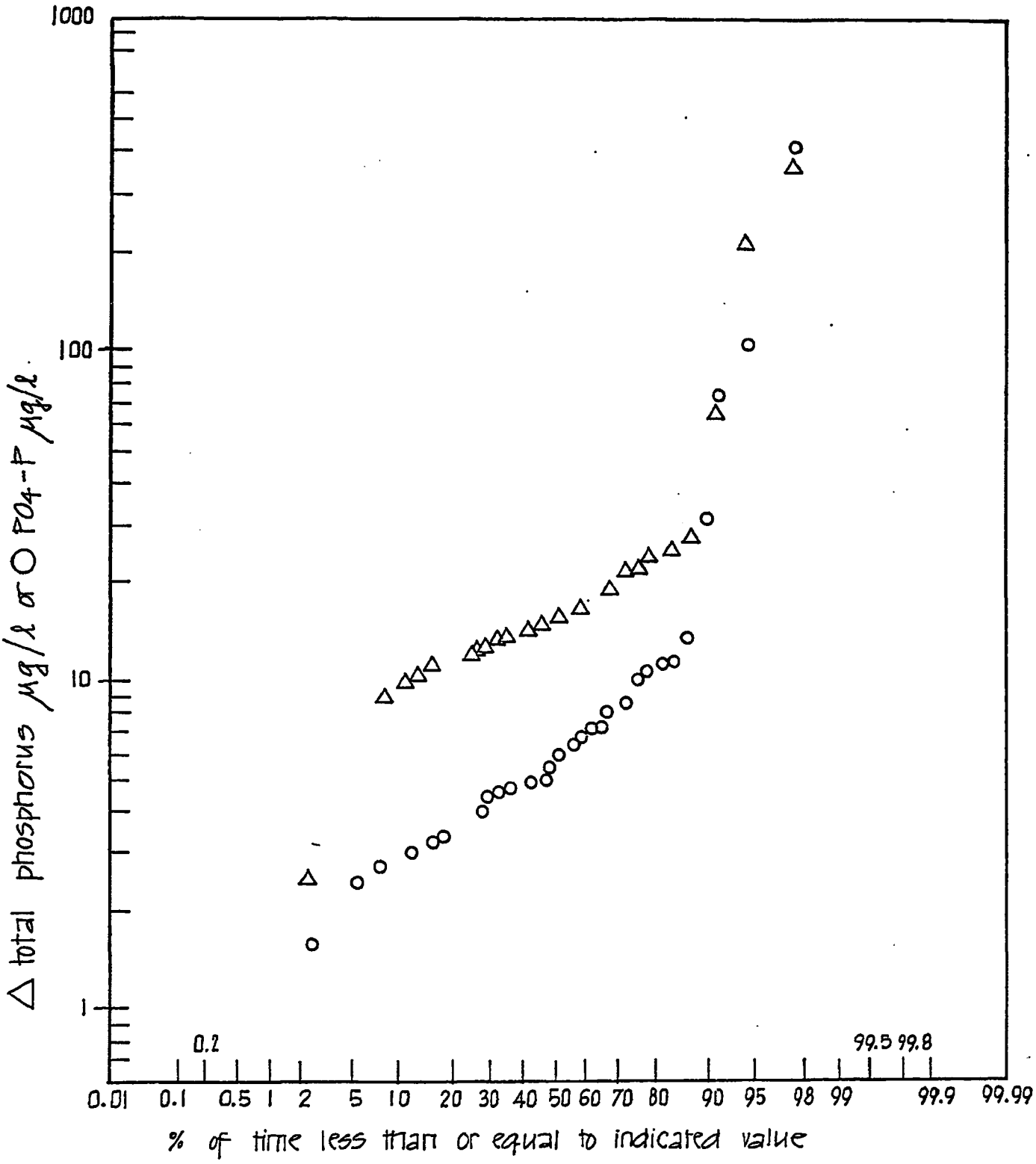


Figure 9
effect of storm runoff on phosphorus (station 1)

TABLE III

NUTRIENTS AND CHLORPHYLL-A WITH PRIMARY EFFLUENT

Station*	$NO_3 + NO_2$-N ug/l 50%	90%	TKN ug/l 50%	90%	TP ug/l 50%	90%	Chlorophyll-a ug/l 50%	90%
1	4	11	123	230	17	55	0.12	0.95
2	3	9	90	200	17	32	0.13	0.55
3	2	6	90	185	15	29	0.12	0.52
4	2	6	87	215	17	44	0.12	0.31
5	5	54	165	3585	35	4350	0.27	1.42
6	4	9	111	188	17	91	0.14	1.15
7	4	9	76	189	15	24	0.15	0.66
8	4	10	82	169	15	31	0.17	0.73
9	3	10	80	165	14	23	0.17	1.01
10	3	9	87	170	15	27	0.15	0.91

* See Figure 4 for locations

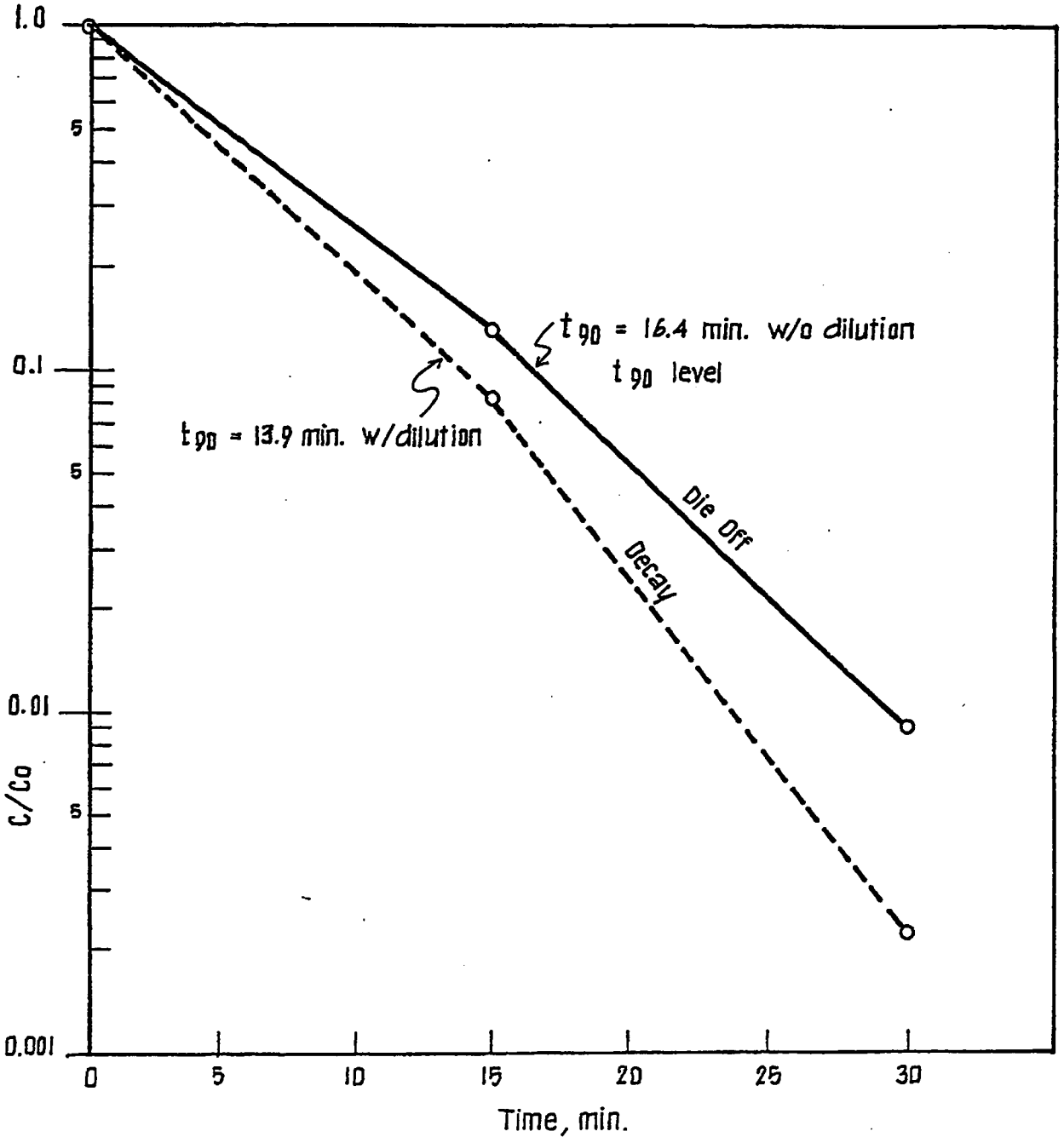


Figure 10
T_{90} decay curve for total coliform
Hawaii Kai outfall · April 4, 1972

measured earlier during the Oahu Water Quality Study[6] and have since been measured in subtropical and tropical areas by the Corps of Engineers and other investigators. Typical values range from 15 to 30 minutes.

WATER QUALITY CHARACTERISTICS AND SECONDARY EFFLUENT EFFECTS

After the intensive one year study of the Hawaii Kai outfall area a zone of mixing was established (using Equation 5) at the boundary of which all State of Hawaii water quality standards would be met at the median level. At this time the Hawaii Kai treatment plant was upgraded to activated sludge secondary treatment. Also, the discharge volume increased from between 90 and 130 l/s (2 to 3 mgd) to between 130 and 170 l/s (3 to 4 mgd).

The new quarterly monitoring program retained five of the original sampling stations for continuity and established four new stations to outline the zone of mixing and one new control station further offshore (Figure 11). Measurements and samples were taken at 1.5 m (5 feet) and analysed in the same manner as described for the intensive one year study. Fifteen monitoring trips have been conducted.

The coliform, pH, temperature and DO measurement results after the initiation of secondary treatment are indistinguishable from those described for the period with primary treatment.

The nutrients and chlorophyll-a concentrations shown in Table IV are not significantly different statistically at the four stations away from the diffuser common to both studies (Stations 6, 7, 8 and 10), except there may have been some increase in TKN and the geometric mean chlorophyll-a concentrations at Stations 6 and 7 may be significantly higher (although the ninety percentile is lower). In any case, no discernible improvements in water quality have occurred away from the immediate vicinity of the diffuser as a result of secondary treatment. The improvements at the

Figure 11
monitoring station locations

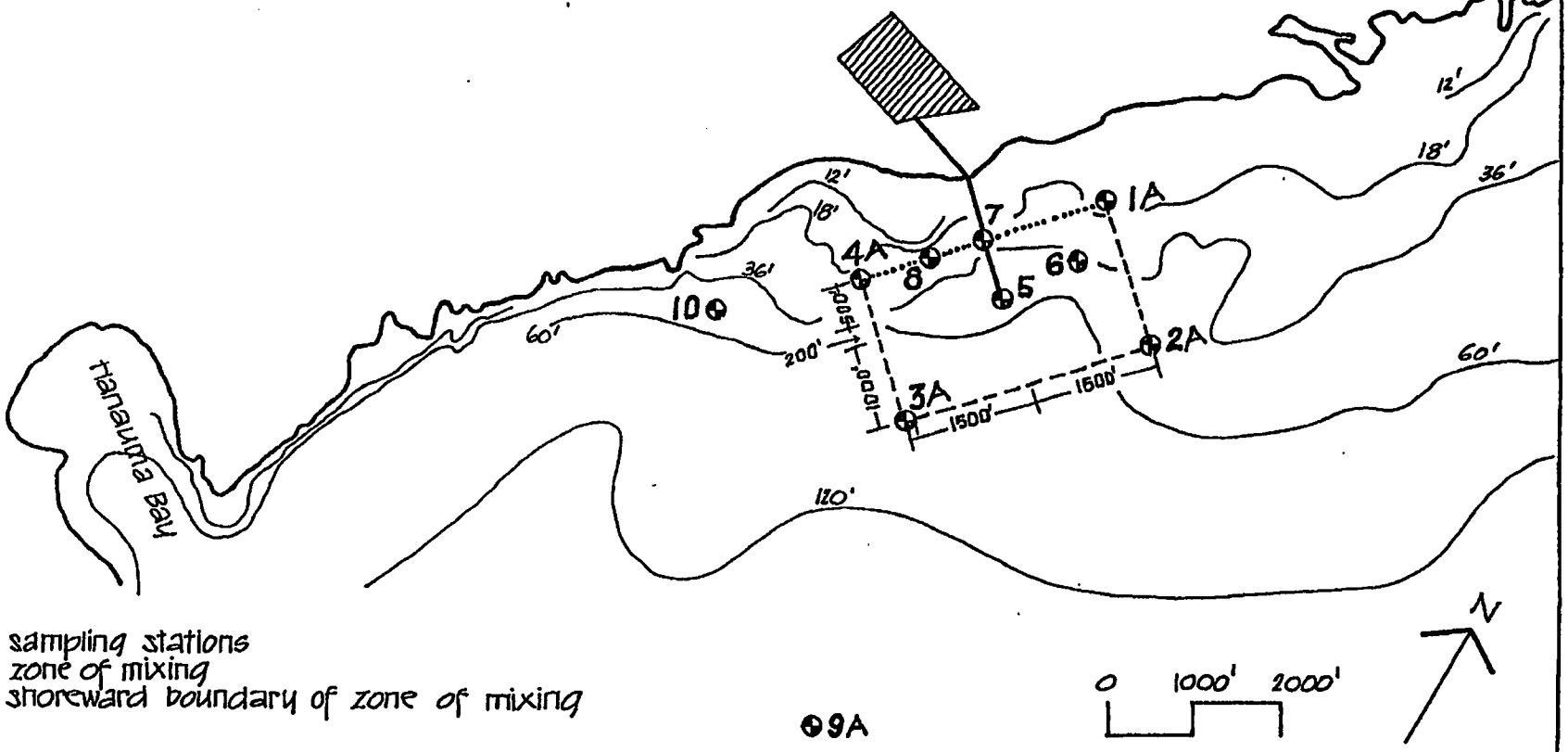


TABLE IV

NUTRIENTS AND CHLOROPHYLL-A WITH SECONDARY EFFLUENT

Station*	$NO_3 + NO_2N$ ug/l 50%	90%	TKN ug/l 50%	90%	TP ug/l 50%	90%	Chlorophyll-a ug/l 50%	90%
1A	5	17	106	217	14	30	0.20	0.54
2A	4	9	97	223	10	35	0.19	0.54
3A	4	15	124	254	10	31	0.18	0.44
4A	5	14	121	263	11	38	0.22	0.56
5	10	29	202	362	34	69	0.20	0.51
6	6	17	122	265	15	36	0.31	0.87
7	5	15	119	244	12	36	0.26	0.57
8	6	16	123	252	13	32	0.20	0.49
9A	3	7	78	200	11	27	0.15	0.36
10	3	6	93	202	12	27	0.17	0.41

* See Figure 11 for locations

diffuser (Station 5) consist of the elimination of high ninety percentile values of TKN and TP which were associated with the higher suspended solids content of primary effluent. The geometric mean values of nutrients at the diffuser have not improved, in fact NO_3 + NO_2 nitrogen has probably increased because of periodic nitrification at the treatment plant.

It should be noted that a possible additional factor is that development has been occurring in the general drainage area of the coastal waters where the outfall is located and that this may have some influence on water quality changes such as the observed TKN increase.

BENTHIC BIOLOGICAL OBSERVATIONS AND MEASUREMENTS

The initial objective of the one year study in 1972 was to quantify the assumed stimulatory effect that the wastewater discharge was apparently having on the frondose algae Dictyopteris australis and D. plagiogramma which were washing up in large quantities on the surfing and recreational areas at Sandy Beach Park and resulting in visual and odor problems.

The study of the benthos in the area of the Hawaii Kai discharge included measurements of Dictyopteris and coral, Pocillopora, growth rates, photographic transects up to 350 m on each side of the diffuser, fish observations, examination of urchin feeding habits and, of particular importance, continued quarterly monitoring of benthic coverage at established transects near the outfall and at a control area over a five-year period.

The basic conclusion that emerges from these studies is that the predominant factor in the makeup of the benthic community of the study area is habitat and that the wastewater discharge may have a subtle effect on the interactions between benthic algae and coral and between urchins and benthic algae within 100 to 200 m of the diffuser.

Dictyopteris is a common type of benthic algae in nearshore Hawaiian waters. Comparative observations made during this study showed that similar concentrations of these algae to that found near the Hawaii Kai outfall in early 1972 were noted off Makapuu, Makaha, Waikiki, Kaiaka Bay, Wailua (Kauai), and in the pristine waters off Niihau. None of these were near wastewater outfalls. Conversely, Dictyopteris was not observed in significant quantities near any other outfall in Hawaii, including Sand Island, Waianae, Kailua or Hilo. Consequently, it can be concluded that Dictyopteris is not particularly associated with outfalls. A comparison of Dictyopteris growth rates showed that the measured 42 grams (dry weight)/m^2-month near the Hawaii Kai outfall was similar to the 50 grams/m^2-month measured at the same time by Harger off Waikiki.[7]

Dictyopteris competes with coral for space on hard substratum. The algae has the advantages of faster growth and the characteristic of collecting drifting sand among its fronds which may serve as an abrasive deterrent to the successful attachment of coral planulae. The factors influencing Dictyopteris density in a suitable habitat are light availability (resulting in depth and seasonal variations), surge (storm related breakage and transport to the shoreline), and urchin grazing pressure. In the case of the Hawaii Kai outfall area significant urchin (primarily Tripneustes gratilla) predation began in the vicinity of the diffuser in May 1972. Within approximately a year and six months the urchins had eliminated virtually all the Dictyopteris in the entire Sandy Beach Park nearshore area. Similar episodes of urchin predation were observed by Doty[8] in Kealakekua Bay, Hawaii and in California by North and others with respect to Kelp.[9]

Generally, the urchin population declines sharply after the elimination of its food source and thereby allows the benthic algae to re-establish itself. The period of this cycle is not known accurately but it does cover several years. In the interim absence of large populations of benthic algae the coral has a better opportunity to establish colonies on the hard substratum.

The urchin population within about 100 m of the diffuser at Hawaii Kai has maintained its high density for the last four years with little variation. This density is 11.0 urchins/m^2 as compared to 4.1 urchins/m^2 at the benthic control station (Station 10, Figure 11) and 0.7 urchins/m^2 at the shallow, surge dominated Station 7 (Figure 11). Four types of urchins make up the bulk of the populations at these stations, Echinothrix calamaris, E. diademe, Echinometra mathaei, and Tripneustes gratilla. The latter two account for almost all of the differences in urchin density between the diffuser and control stations.

With the continued maintenance of such a high urchin population, there is no chance for the re-establishment of the former dense coverage of Dictyopteris. Apparently the cycle has been interrupted in favor of the urchins and coral. A preliminary comparison of the gut contents of urchins from the diffuser and control sites showed that both groups are apparently maintaining themselves on small filamenteous green and red algae, attached diatoms and, in the case of the diffuser sample, on a small variety of sponge. Evidently there is more food of this type in the vicinity of the diffuser than elsewhere. It is possible that the good mixing in the area brings the higher nutrient content plume water in contact with the bottom often enough to maintain a food supply of microalgal growth for the large urchin population.

In addition to the probable indirect effect of the discharge in eliminating a competitor for space, the wastewater discharge may be stimulating the growth of the dominant coral (Pocillopora) near the diffuser directly.

Coral growth is inhibited in the immediate vicinity (3 to 4 m) of discharging diffuser ports. This area is dominated by long spine urchins and microalgal growth. For a distance outside this area, however, the coral growth rate appears to be stimulated by an average of 20 to 30% above that at the control site. In Figures 12, 13, and 14 a comparison is made of the distributions of growth rates, measured with calipers, at the two sites over three study periods of successively greater duration. In each case the distribution of growth rates at the diffuser is greater than that of the control station. Because of the great variability of this parameter, however, the two populations are significantly different only at about the sixty percent level. Nevertheless, it is important to note that the projected control station coral growth rate of 2.2 cm/year is exactly the same as observed by Grigg in his study of coral growth on new lava flows on Hawaii while that of the diffuser station is higher. The wastewater discharge could stimulate either or both the filter feeding coral polyp by slight increases in the ambient organic solids or the symbiotic algae by increases in the nutrient concentration.

In making these growth rate measurements on a selected group of coral heads, it was observed that the loss rates of the two test populations, due to breakage, crown of thorns predation and disease, were equal at about 25 percent per year.

In sum, the apparent effect of the Hawaii Kai wastewater discharge on the benthic community has been exactly opposite of the initial

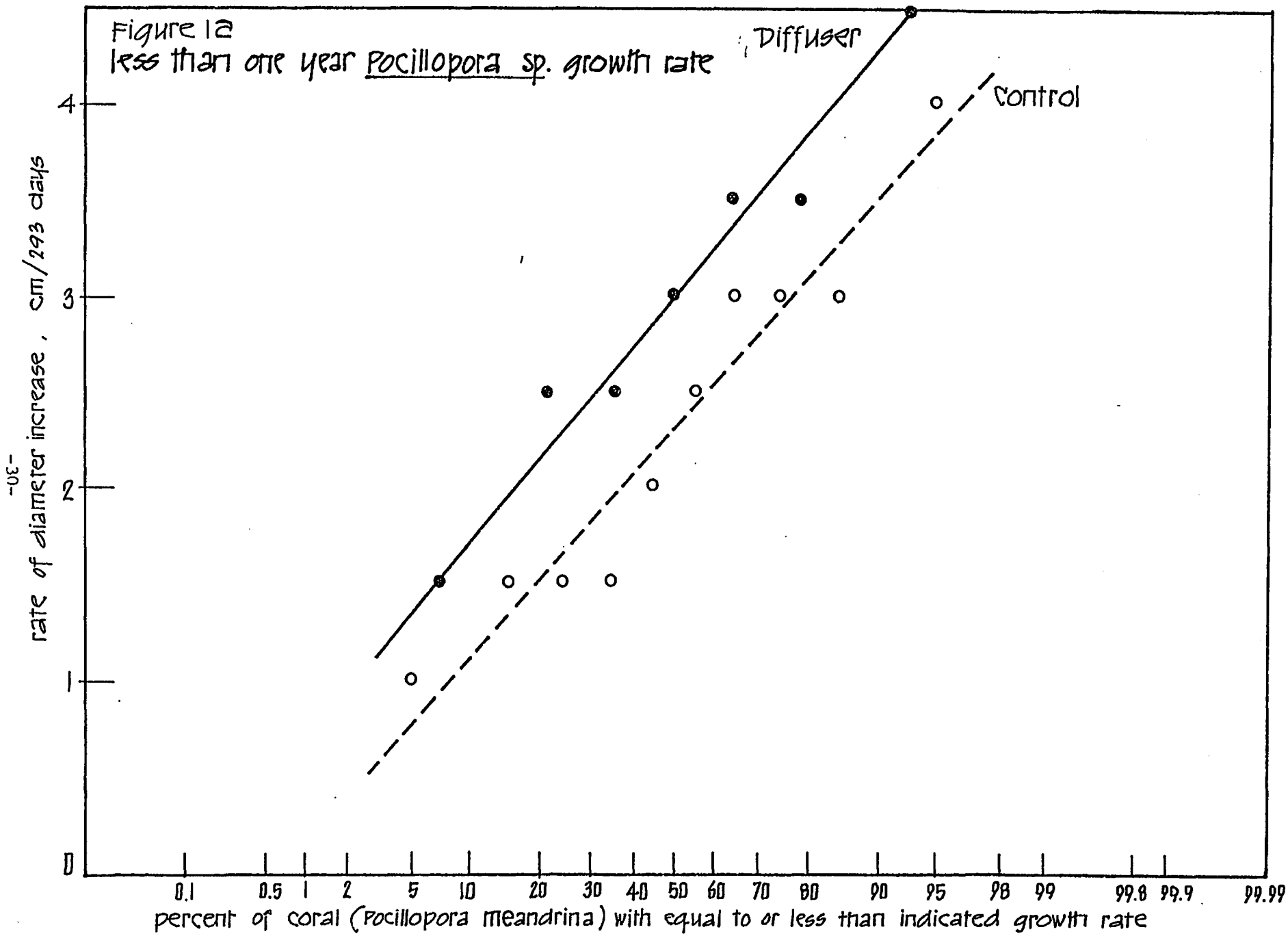


Figure 12
less than one year Pocillopora sp. growth rate
Diffuser
Control
rate of diameter increase, cm/293 days
0
1
2
3
4
0.1
0.5
1
2
5
10
20
30
40
50
60
70
80
90
95
98
99
99.8
99.9
99.99
percent of coral (Pocillopora meandrina) with equal to or less than indicated growth rate

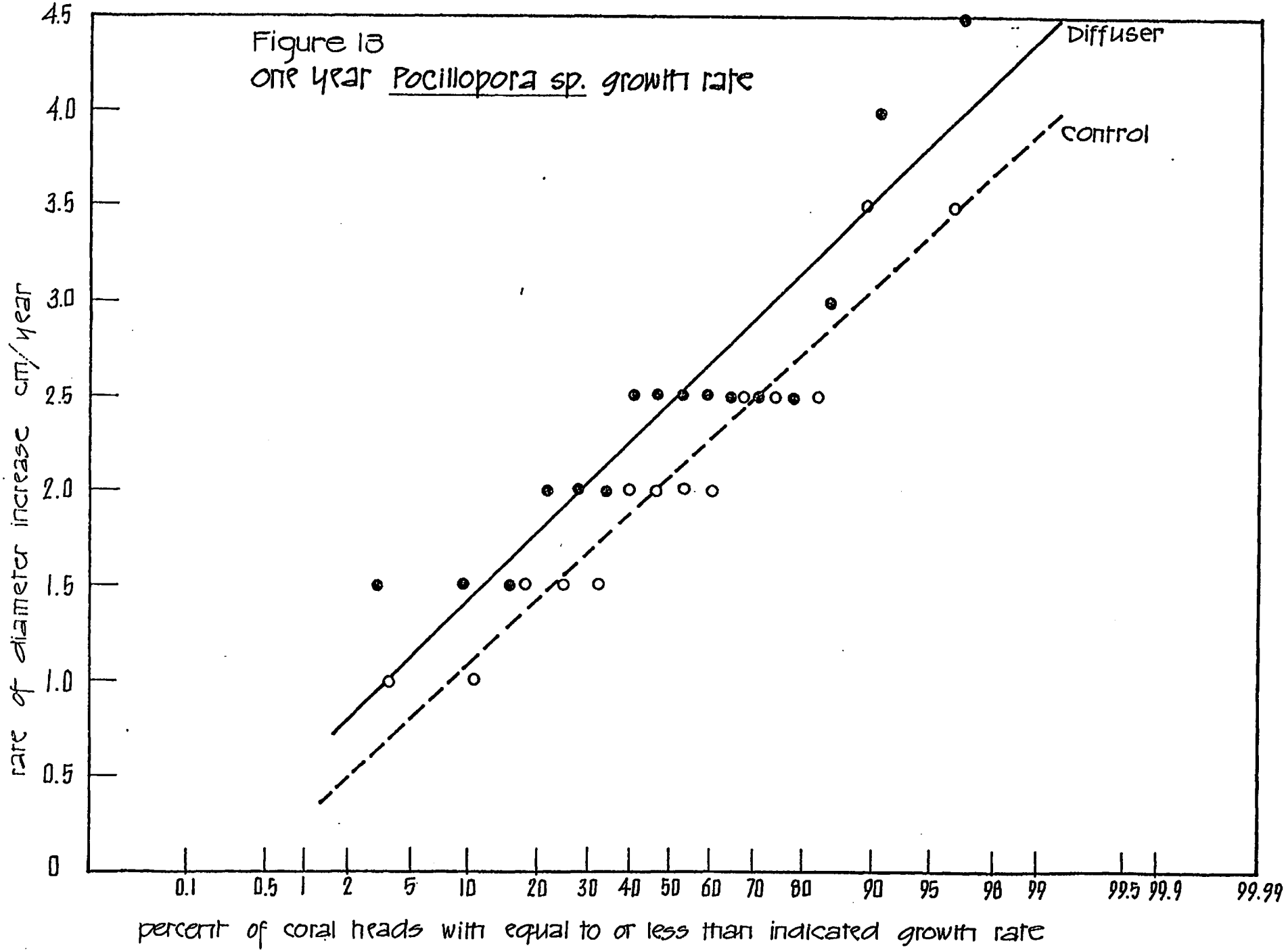


Figure 18
one year Pocillopora sp. growth rate
Diffuser
control
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0
rate of diameter increase cm/year
0.1
0.5
1
2
5
10
20
30
40
50
60
70
80
90
95
98
99
99.5
99.9
99.99
percent of coral heads with equal to or less than indicated growth rate

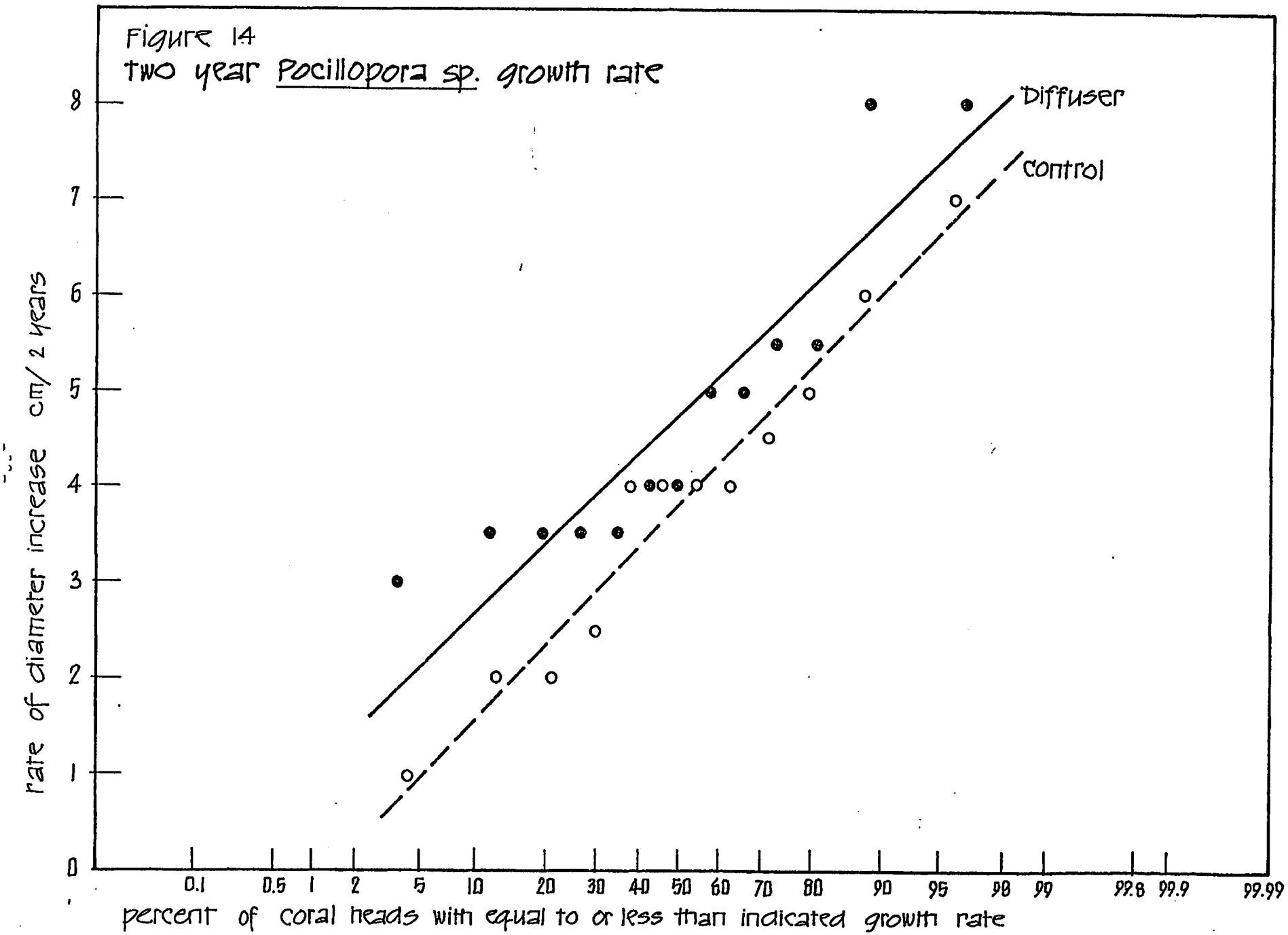


Figure 14
two year Pocillopora sp. growth rate
Diffuser
control
rate of diameter increase cm/ 2 years
0
1
2
3
4
5
6
7
8
0.1
0.5
1
2
5
10
20
30
40
50
60
70
80
90
95
98
99
99.8
99.9
99.99
percent of coral heads with equal to or less than indicated growth rate

supposition of stimulation of the benthic algae and inhibition of coral. In addition, it should be noted that the fish population density around the outfall is significantly higher than in the general area both because of increased habitat around the armor rocks of the pipeline and the added food source. The most common fish in the immediate vicinity of the diffuser ports was the damsel fish, Abudefduf abdominalis.

CONCLUSIONS AND IMPLICATIONS

No significant improvement in receiving water quality was observed with secondary treatment above that with primary treatment. This is probably because the nutrient content of the discharge is much more important in the nutrient poor subtropical waters than the BOD content.

No indication of dissolved oxygen problems or solids accumulation were noted, even during occasional significant upsets of the activated sludge treatment process, because of the good mixing and transport characteristics of the outfall site.

The discharge of wastewater can have subtle effects on the natural interactions of the benthic nearshore ecosystem. These effects may or may not be considered detrimental. In either case, they can be limited in space by selection of a disposal site with good transport characteristics.

The effect of a discharge in an open coastal area on the water column community is usually very small because the residence time is too short for significant phytoplankton growth response to locally higher nutrient concentration. However, if the discharge is located in an embayment or lagoon, there is often enough residence time for the growth of undesirably high concentrations of phytoplankton.

The results of the Hawaii Kai effluent effects study indicate that the most important factors in planning domestic wastewater treatment and disposal systems in tropical and subtropical island areas are possible nutrient effects and transport characteristics. Proper outfall site selection is more important than extensive treatment. For example, in planning a wastewater system for an atoll it would be more cost effective to use primary treatment and an ocean outfall than secondary treatment with an outfall into the lagoon.

ACKNOWLEDGEMENTS

CREDITS. This study was funded by KACOR Realty Co. (formerly Kaiser-Aetna). Significant contributions were made to the study by James Kumagai, Harley Sugiyama, Lionel Low, and Kala Kukea.

AUTHORS. H. J. Krock is Senior Engineer, Laboratory Director, and Chief Diver at M & E Pacific, Inc., Honolulu Hawaii. R. L. Bowers is Instructor in Biology at the Leeward Community College Campus of the University of Hawaii, Honolulu, Hawaii.

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GET Committee

From: Meagan Jones <meaganj@hawaii.edu>
Sent: Saturday, August 31, 2019 12:51 PM
To: GET Committee
Subject: Fwd: Testimony in SUPPORT of resolution CC-19-178 re: Settling the Lahaina Injection Wells lawsuit hearing on September 3, 2019
Attachments: LWRF Testimonty.doc; Testimony for LWRF MJ.docx

I may have sent my letter of support yesterday to the wrong email address so I am resending now. Please submit this letter to the County Council.

Begin forwarded message:

From: Meagan Jones <meaganj@hawaii.edu>
Subject: Testimony in SUPPORT of resolution CC-19-178 re: Settling the Lahaina Injection Wells lawsuit hearing on September 3, 2019
Date: August 30, 2019 at 5:05:41 PM HST
To: county.clerk@mauicounty.us

Please deliver this to all of the County Council members before the hearings on Tuesday.

Mahalo,

Meagan

Meagan Jones Gray, PhD
University of Hawaii Maui College
Instructor, Sustainable Science Management
319 Ka`ahumanu Ave., Kahului, HI 96732
(808) 984-3709
meaganj@hawaii.edu

UNIVERSITY of HAWAI'I®
MAUI COLLEGE

Science, Technology, Engineering, and Math (STEM) Department

Testimony in SUPPORT of resolution CC-19-178 re: Settling the Lahaina Injection Wells lawsuit hearing on September 3, 2019

Dear County Council members,

I am writing in support of Maui County settling the Lahaina injection well case. I hoped to attend in person to testify in support of resolution CC-19-178 but I am unable to do so due to a work conflict.

I have lived on Maui for 27 years and worked in the field of marine science and education throughout my tenure on this island. I am core faculty in the Sustainable Science Management program at UHMC, and the co-founder and Executive Director of Whale Trust Maui, a local non-profit organization dedicated to marine research and education programs. While my research has primarily focused on the health, behavior and communication patterns of whales in Hawaii, I am committed to the protection of Maui's nearshore marine environment.

Our ocean is under assault by multiple stressors and it needs our help more than ever. As such, I encourage the County Council to listen and respond to the scientific research that shows a significant decline in our coral reefs near seep areas where effluent from injection wells are entering our nearshore waters. Ross et al. 2012 showed a 40% coral decline in coral reefs at Kahekili Beach. Glenn et al. (2013) demonstrated irrefutable evidence for the hydrologic connection between Lahaina Wastewater Reclamation Facility (LWRF) and the ocean. Validating these and other studies (e.g., Dailer et al. 2010), a recent paper by Murray et al. (2019) demonstated that corals living within the submarine groundwater dicharge area are significantly impacted by sewage-effluent injected at the LWRF.

The most important segment of Maui's economy is tourism, and a healthy and clean ocean is perhaps the most important driver in supporting that industry. Maui has continually shown itself to be at the forefront of environmental issues, and I urge you to do the right thing for the health of our environment and economy by settling the case before it creates further damage not only in our own backyard but to the nation's Clean Water Act.

We must stop adding extra nutrients to our coral reefs and give them a chance to recover. Our economic and financial security are dependent on it. Our health and wellbeing are dependent on it.

Sincerely,

Meagan Jones Gray, PhD

310 W. Ka'ahumanu Avenue Kahului, HI 96732-1617
Telephone: 808 984-3500
www.maui.hawaii.edu

GET Committee

From: James Kumagai <jskumagai@gmail.com>
Sent: Saturday, August 31, 2019 5:42 PM
To: GET Committee; County Clerk; Kelly King; Tasha A. Kama; Riki Hokama; Alice L. Lee; Mike J. Molina; Tamara A. Paltin; Shane M. Sinenci; Yukilei Sugimura
Subject: Hawaii Wildlife Fund et al v County of Maui, GET-26 Testimony for Sep 3, 2019
Attachments: Testimony Maui Council GET hearing on September 3, 2019.pdf

Resubmitting testimony. Follow up on computer error message. Transmission failed.

James Kumagai
jkumagai@hawaii.rr.com
jskumagai@gmail.com
cell: (808) 226-3779

August 31, 2019

Mr. Michael Molina, Chair, GET Committee
Members of the Governance, Ethics, and Transparency Committee
County of Maui Council

Email: Get.committee@mauicounty.us

Subject: **Hawai'i Wildlife Fund et al. v. County of Maui, GET-26**

Testimony by: James S. Kumagai, PhD, PE
Hans J. Krock, PhD, PE
Victor D. Moreland, PhD, PE

Dear Honorable Council Member Molina and Members of the GET Committee:

We are a science and engineering public interest group consisting of licensed engineers who collectively have a combined total of more than 120 years of experience in the environmental and water pollution control field. We are not involved with any work or contract with the County of Maui and have no conflict and are committed solely to the public interest.

We expressed our concerns in written dated May 16, 2019 and oral testimony presented at the May 20, 2019 public hearing on the issue of the Lahaina WWRF injection wells. We are ever more convinced that declaring injection wells as point sources of discharge doesn't make sense. It goes against the science, experience, and the intent of Section 208, Areawide Waste Treatment Management of the Clean Water Act (CWA). Section 208 explicitly deals with the point and non-point sources of pollution. As its title is saying, do so holistically, take a big-picture approach, deal with all sources of pollution both point and non-point sources as a whole. The "whole" in Section 208 refers not only to the technical but the institutional factors as well. Not only what, how, and when, but who. The science and experience that has evolved over more than half a century of water quality management pursuant to the federal law have demonstrated what works and what doesn't. Ignoring all of that will only lead to bureaucratic confusion, chaos and worst of all, a melt-down of the CWA.

Non-point sources include cesspools and other onsite individual systems which are still significant in Hawai'i. In the terminology of the CWA, disposal on "land" or in "constructed excavations" are presently categorized as "non-point." Simply stated all matter deposited or disposed of on the land will eventually get into the waterways through the natural hydrologic cycles in a diffused unconfined way, not in the defined channeled way in conduits as the point sources are. Injection wells are clearly non-point sources. Declaring them to be point sources must logically include all others currently defined as non-point and drag them into the point source category unless they are arbitrarily or capriciously singled out to be different. It doesn't make sense at all. Whatever it is called it will always be the diffused unconfined flow in fact.

Our recommendation is to move on and seek clarification through the Supreme Court to remedy this confusion. In doing so, keep the system whole. Include the Feds. Keep working towards a brighter future together. Learn from experience and refine the course along the way.

Section 208. Waste Treatment Management. 1972 Amendments to the Federal Water Pollution Control Act (PL92-500) commonly referred to as the Clean Water Act (CWA).

When the 1972 amendments to the Federal Water Pollution Control Act (PL92-500) (CWA) was passed, it was hailed as the most comprehensive environmental legislation adopted by Congress. It went into great detail on technical and institutional factors in addressing the many complexities of the environment and defining the processes and goals and objectives in dealing with them. Complexities dealt also with questions like what is the "environment." What is "life?" It also set aside an unprecedented sum of money to support the programs and construction prescribed in the CWA. It also called for an unprecedented public outreach and participation program in decision-making process considering environmental impacts and cost-effectiveness of public expenditures in achieving the goals and objectives of the CWA. Considering the huge sums of money anticipated for implementing control measures, it made sense to enlist and direct as much human capital as practical in people and minds to problem-solving and developing answers at the local level, for the local communities, while maintaining transparency and promoting community buy-in and ownership. Consideration in all decisions is the concern for the cost-effectiveness of the control measures. We must be ever mindful that we simply do not have the luxury to spend on everything the heart desires for the environment, only on the most cost-effective way to get the job done.

President Nixon vetoed the 1972 amendments, claiming it was inflationary. Congress came back in record time and in full force to override the veto by a substantial margin. There was a tremendous public upwelling in support for the Congressional action and the newly passed CWA was on its way to implementation by popular demand.

The 1972 amendments represented first a revolution in minds of the public to do something about the problems and then demanded action from Congress and the Executive branch. The 1972 amendments showed the way. There was already action being taken around the country to implement the provisions of the act. Experience and know-how were already developing the different projects around the country, in particular the projects in Southern California, for example, Whittier Narrows Reclamation Plant, Santee Lakes Water Recycling Plant, Irving Ranch Water District, San Diego, and internationally, Israel[1], to name a few.

The relevant Section of the law is 208 for Lahaina. It defined what the point sources and non-point sources of discharges were. Together with other provisions of the statue, particularly Section 304, it is clear that the CWA was intended to be all encompassing in controlling pollution. Anything or everything impairing water quality is subject to control measures under the law. The major consideration and focus have been on emissions or discharges. The point sources have been getting the attention around the country. They were the obvious sources to the public and the obvious person or parties responsible. They were the discharges coming out of

[1] Goldshmid, J. Water Quality Aspects of Ground-Water Recharge in Israel. Journal. AWWA. March 1974.

pipes and other conduits in a defined way to be called point source discharges. There was no question where they were coming from and who was responsible. Enforcement action was direct and defined. The process and procedures were mainly technical in nature, (engineering and technological terms).

Not so with the non-point sources of discharges. They included all other discharges not defined conveniently and obviously as the sewage discharges from municipalities and urban activities. The listing on non-point sources are given in Section 208 and also in Section 304 of the CWA and includes such things as cesspools, septic tanks, and anything in "subsurface excavations" in "wells," on the "land," and such things as landfill leachates, residues from pesticides, herbicides, or other biocides, etc. Anything that gets into the waterways and impairs their quality is subject to control under the law. More often than not, the transport mechanism for non-point sources is rainfall that ends up either as surface runoff or groundwater seepage (through infiltration and percolation) into the soil mantle.

A perspective is given here on the point and non-point sources of pollution in our local situation. Point and non-point sources are put into perspective here in our local situation. Non-point sources are listed as runoff from rainfall that occur naturally as both overland flow and as seepage through groundwater flow to the ocean.

For O'ahu and Kaụa'i where data are readily on hand to us. Data are from the 1973.

1. **For O'ahu**. All point discharges = 80 MGD. Rainfall runoff = 1100 MGD
2. **For Kaua'i**. All point discharges = less than 1 MGD. Rainfall runoff = 2350 MGD.

For O'ahu, the 1100 MGDs made up of 320 MGD surface runoff and 780 MGD ground water seepage. For Kaua'i the number refers to stream flows.

Obviously, storm runoff is the much larger volume of discharge to the ocean than point sources of discharge. However, the point sources of course carry the greater mass emissions of substances of public health significance as human body waste. In terms of the marine ecology, the larger volume of water, fresh water, is significant. Non-point emissions come with runoff, on the surface and/or in the groundwater seepage. In the shoreline and nearshore waters both converge at the intersection. The analytical approach and resolution in management therefore requires a holistic approach considering the outcome as a whole. Never piecemeal. The science to it is well established and experience with such systems extends well over half a century in most cases.

The impact of the two types of discharges varies. As in the Kaua'i flows where the runoff or the non-point sources emissions are significant compared to the point sources, the quality of the receiving shoreline and ocean waters can be expected to be similarly dependent. For example, the Kaua'i Water Quality Management Plan done in 1973 found black coral growth off Nāwiliwili Harbor at 40 ft depths. That is unusual. By comparison black coral found off

Lahaina coast grew in waters greater than 100 feet. The shallower depth at Kaua'i was attributed to the prevalence of turbidity from the runoff. It is anticipated that the coastal water ecosystem for Kaua'i will be similarly affected in relation to the point discharges. The numbers are intended to give perspective or relational aspects.

Another generalization is the impact on coral growth. It is well documented that coral growth is affected by salinity, or by freshwater flows to the marine environment rather than nutrients. For example, Water Quality Program for O'ahu in 1972 found sewage effluents to be toxic to coral planulae in bioassays, but not significantly different in the treatment levels. Instead, it was found that freshwater content was the significant factor. Another consideration is what is referred to as the context and relational aspects. For example, in Kāne'ohe Bay on O'ahu, there was no coral growth around the sewage outfall that existed at that time. That was expected considering the bioassay results which said sewage was toxic to corals. Yet, coral was growing at the outfall sites right around the diffusers at Hilo Bay, Hawai'i Kai, and Wai'anae outfalls. Why not Kāne'ohe Bay? The mixing and residence time conditions were very different. Kāne'ohe Bay is an embayment with little flushing (circulation) action. The others were behaving as open coast regimes with mixing and flushing to keep the corals free of inhibiting dosages of any material and substances to allow sustained growth. Context and relational mattered. Nothing is absolute by itself.

What should the elected officials know about Section 208, by Paul DeFalco, EPA Region IX Administrator. It is best at this juncture in the testimony to review the speech by Paul DeFalco, who was then the EPA Region IX Administrator. (Attachment 1). He provided relevant insight into the federal initiatives in his own words. In addition, his personal commentaries were even more insightful as the planning effort was on its way.

(In italics for emphasis)

He said the 208 Plan being undertaken by DOH was not intended to be a plan for DOH. Instead the 208 plan must be part of everyone's plan, not only DOH's. The environment is everyone's business. The real objective of the project was not to come up with just a document called the 208 plan, but to make sure the environment became part of everybody's plan to live by, not as a one-shot deal, but as an ongoing effort. Public outreach and participation were the key. In his speech he listed coordination with many of the other planning efforts that was already being done at the state and federal levels in Hawai'i as a continuing planning process.

Paul DeFalco was the first regional administrator under the 1972 amendments to the CWA. He was in the regional lead management position under the previous Federal Water Pollution Control Administration in San Francisco, so it was a seamless transfer in title under a new federal administration. In his role he lived through several versions of the federal statues on environmental pollution control, so he was well versed on what worked and what didn't in the previous congressional and administrative initiatives.

Paul DeFalco was headquartered in San Francisco throughout much of his federal tenure so he was well versed on what was happening in the research and development results in California in environmental management and technology. In California, the University of California Berkeley, Stanford, and California Institute of Technology were leading the research in the early period of the environmental movement, even before the passage of the 1972 amendments. Actual built-in-the-ground engineered systems in water quality management started in Southern California in the early 1960s, so there is already more than a half a century of experience with the workings of the federal law. Paul DeFalco's leadership at the federal level led to a close working relationship and collaboration between the State of Hawai'i, DOH, and EPA, Region IX at the outset in the implementation of the 1972 amendments to the CWA.

Some background technical details with injection wells and other on-land applications.

Almost all movement of matter follows the natural hydro-geologic pathways from points of high energy to low energy. Water always flows downhill. That is certain. Substances or pollutants go along for the ride. However, the actual pathways are often not that simple. Different natural forces act on the substances and causes what might be called perturbations or deviations in that flow. In groundwaters with sewage effluents for example, there is another force derived from the chemical potential that also play a part in the movement in that media. "Diffusion" for example. More importantly, further reactions occur naturally with the chemical substances during the residence time in the transport media that bring about changes in the composition of the fluid and in the flow mechanics. In layman's term it is called "wastewater treatment by nature". The result is a still more complicated movement and happenings with the substances or pollutants in transit from where it was released to its final end points. To be complete and useful for analysis and evaluation, sampling and monitoring effort and modeling of results are necessary. Otherwise, reliance on experience or empirical results for specific situations have shown that residence time in transit, for example, can be a useful parameter for decisions on acceptability. That information along with knowledge and data on the beginning and the end points, with their respective energy states can be helpful in making management decisions. The actual detailed pathways of movement are nice to know but often not necessary. In the final analysis, the end points of transport must be in context and relational to the relevant ecosystem to be useful and scientifically correct for management decisions

What was intended for the Lahaina Wastewater system in the 1960s and 1970s even before the 1972 amendments to CWA?

There were already considerable debates raging around the country that even spilled over into Hawai'i's network concerned and curious people on what it took to get the waterways in the nation cleaned up. At the national level, there were environmental laws in place. There was the Water Quality Act of 1965 in place but still, waters remained polluted while the courts kept

getting busier with increased litigation. Hawai'i had its problems with the implementation of the water quality standards under the then federal initiative of the 1965 Water Quality Act. Some of the local elected officials took note of the chaos and confusion over the standards. Nothing seemed to work until the passage of the 1972 amendments. One problem of many with the standards was credibility. Standards were based on the concept of beneficial uses and setting standards of quality to protect those uses based on the desired level and then simplified in black and white terms for legal enforcement. No attention was apparently given to reality of nature or whether they were even attainable. It turned out in many cases that Nature herself was violating standards and there was no way to enforce them. There was political chaos. Elected officials and the public began to take note of this and appeared to turn away from the environmental programs of the time. It took the passage of the 1972 amendments to get the attention of the public. It was like the dawn of a new era with a lot of expectations.

All the while there was Elmer Cravalho on Maui who later served as mayor from 1969 to 1979 and was showing interest in the national affairs and the debates, the chaos, the triumphs, and evolution of the environmental programs in Hawai'i. A schoolteacher by training, he entered politics in 1954, elected to the territorial house of representatives. He rose in the ranks to become speaker of the house from 1959-1967. He represented Hawai'i as delegate to every Democratic National Convention from 1960 to 1976. By the time he became mayor he was aware of the national and local environmental issues as an elected official and was already of the mind that water reclamation was the way to go. Ocean outfalls were but a convenient way to throw away a valuable commodity, he kept saying publicly. Besides he added, Maui County could not afford the cost to build them. Reclamation and reuse were the way to go for Maui County. The back-up was injection wells.

Elmer Cravalho acquired a reputation of getting the corporations on Maui to take on the cost of development of much of the water and sewer infrastructure in Central Maui, Kīhei, Mākena, Nāpili, and Lahaina. He replaced almost all the failing and malfunctioning cesspools in Kīhei and Nāpili at no cost to the County or the homeowner. He was also instrumental in getting Amfac Corp to stop the Pioneer Mill cane wash water and bagasse discharge at the shoreline outfall at the end of Lahainaluna road in front of Lahaina town. The coastal waters off Lahaina town were perennial brown year-round for years and beaches stockpiled with bagasse that came with wave runup.

Henry Walker who was the CEO of Amfac took a personal interest in plantation matters even as CEO of the corporation. He promoted reclamation of bagasse for fuel for electric power generation for plantation use, he expanded the sugar cane fields to accommodate cane wash water irrigation use, perhaps for seed cane. He went further to begin development of the Kā'anapali resort with the thought of generating income in what may be called a symbiotic relationship with Pioneer Mill and the County of Maui to come up with a net positive corporate account sheet. County of Maui would provide sewage effluent for irrigation for landscape and golf courses for the resort as well as for the mauka sugar cane fields. The idea of reclamation

was certainly not new as he undertook a major reclamation project for power generation from sugar cane bagasse. Besides, he announced many times that the sugar plantation provided the green acres scenery all along the Lahaina mauka vista that was especially important to the Kā'anapali Resort development.

There was no doubt Henry Walker was serious to the idea of effluent reclamation. He took an active personal interest as CEO in the Water Quality Program for O'ahu (WQPO). Among many things, the scope of the project evaluated the potential for sewage effluent reclamation for sugar cane irrigation. The WQPO evaluated the hydrologic budget surrounding the irrigation and cultivation of the 10,000-acre sugar cane field in Pearl City, defined the application rate, evapotranspiration rates, irrigation return flows, fertilizer application rates, and the fate of fertilizer nitrogen in the BWS drinking water supply. Perhaps by accident or circumstance, the nitrate-nitrogen was extremely low when it could have been much higher and a concern with the drinking water standard. The saving grace turned out to be the recycling of the irrigation return flow back to the fields for more nitrogen removal. That sparked an idea in application to wastewater management.

WQPO went on to evaluate two things from that experience, a way to develop an aquifer storage and recovery system for management of sewage effluent irrigation system for upstream injection/spreading/trench application, aquifer storage and transport, and downstream pumping to intercept leakage from the aquifer to nearshore coastal water for irrigation of crops. Henry Walker already had in mind ultimately to convert the plantations for sugar and biomass for power generation thereby adding another revenue source for the already ailing sugar plantations because of dropping sugar prices in the world market. To reinforce that idea, Henry Walker was instrumental in supporting a joint venture with the City and County of Honolulu and Hawaiian Electric Company to investigate the feasibility of turning municipal solid waste into a fuel to generate firm power for urban usage. The consulting firm hired to do the work in 1974 was Sunn Low Tom and Hara, Inc. the local firm that was a member of the consortium that undertook the WQPO.

There is no doubt that had Henry Walker and the sugar company remained in business and Mayor Cravalho was still mayor for another decade, the reclamation system for the Lahaina plant would be a reality today and we would not need to be here today for this hearing.

The real lesson of this experience is the recognition and the value of the whole. Approaching the issues and problems holistically. The big picture; the whole. It turned out that Henry Walker as CEO took advantage of the positive symbiotic relationship between the Amfac corporate entities with the County of Maui: a resort, sugar company, and municipality where the whole became more than the sum of its parts. None could have made it through as far as they did.

For reclamation at Lahaina, the back-up system for the irrigation downtimes was the injection wells. In the examples cited earlier on one of the California projects, Whittier Narrows

reclamation plant, the backup was the LA Sanitation Districts central plant. For the Irvine Michelson plant the backup was the Orange county central plant. In the case of the Michelsen plant, downtimes or slow months for irrigation were the winter months, perhaps three months or more. Without being part of a whole, it never would have been feasible as a stand-alone facility. In the Israeli[2]experience mentioned, an aquifer storage and recovery system with 600 wells for both recharging (in) and pumping (out) for irrigation use primarily and the heaviest use in the three-month summer period. The rest of the time was maintaining underground storage for water that included rainfall capture in any and all forms along with sewage effluent reclamation.

All of these systems could never have succeeded as individual stand-alone systems; they became successful by being as a part of a whole that succeeded.

Experience with the Section 208 Planning in 1975 at DOH.

The major undertaking in the implementation of the 1972 Amendments to the CWA focused on the Section 208 Areawide Waste Treatment Management. The main thrust was the holistic approach already being advocated for water quality management for both point and non-point sources of pollution. The Water Quality Program for O'ahu started in 1969 and completed in 1972 developed the plan for point sources of discharge and began to address the non-point sources primarily around storm runoff and the emissions of sediments and the water quality parameter including the toxic substances and biocides such as total chlorinated hydrocarbons and heavy metal discharging into the estuaries and embayment's, Kāne'ohe Bay and Pearl Harbor. A summary is given in Attachment 2 as a news article published in the then Star Bulletin, April 17, 1975. The focus was on Kāne'ohe Bay as an illustration of the issues that were prevalent at the time concerning non-point source pollution.

The approach was holistic in both technical and institutional aspects. It was considering the Bay as a whole, the tributary areas, the water quality segments, the entire ecosystem, the stakeholder from the community, the Military, the University that operated the marine biology laboratory, and the community groups. The purpose in organizing the planning effort was not to develop a planning document, but to make the effort to ensure the environment and the goals and objectives of the federal law became part of each stakeholder entity's plan. In many cases, consensus was reached quickly for implementation of proposals.

The major concerns and water quality problems were identified, listed, evaluated, discussed and remedies implemented by agreement by the stakeholders. Fortunately, in most instances there was consensus among the stakeholders, the community, the City and County of Honolulu, the Military, and the State agencies. There were no dissenting actions on any of the conclusion and recommendations. Protecting Kāne'ohe Bay was a consensus among all groups to the extent that almost all remedial proposals were accepted and implemented without much formal action by the ad hoc 208 planning group which itself was formed with the urgings of the community groups.

[2] Ibid.

Examples of actions proposed and taken to preserve and enhance water quality by the different agencies and organizations.

1. Remove all point discharges from the bay. City and County and Marine Corps treatment plants discharges to new ocean outfall.
2. Ban new cesspools or onsite waste disposal systems that seep into the bay waters.
3. Restrict land development in the watershed and divert growth to Kapolei, the Second City.
4. City and County developed and implemented new regulation for erosion control in construction permits for all new construction.

Analysis and evaluation considered all construction and emissions into the Bay from storm runoff, groundwater seepage and, future planned construction. A hydrologic budget was developed and used as the guide. A critical finding was the hydrogeology. Because of the unique dike complexes on the windward side of O'ahu would lead to lateral seepage into the closes stream first before and flowing to the sea, all injection wells and any onsite subsurface waste disposal was prohibited. Again, land development construction was restricted in size because of the exponentially higher erosion rate from rainfall. Instead, growth was directed to the leeward side of the island in what was called the Second City on O'ahu.

The spin off from the Section 208 planning effort.

Locally with the driving force behind the environmental movement in Hawai'i by EPA/DOH was the Section 208 focus: holism, the big picture, the whole being more than the sum of its parts. What is being referred to here as the spinoff is the stimulation or perhaps the catalyst for the other and even broader environmental movement. Along with the Section 208 umbrella, there are other influencing events, actions, and philosophies that motivated the entire environmental movement. They are listed here as the gurus and kupuna that we believe set the tone and direction for the entire environmental movement in context of our own local action.

First the gurus. Barry Commoner whose laws of ecology expressed in layman's terms provided much guidance. EPA Administrator, **Douglas Costle** (Attachment 3), for his strong public stance for public outreach and participation represented an unprecedented move by Congress to be so inclusive of the outreach and participation of the public, from all levels of government, organizations, agencies, and individuals. The implication being, making it whole and focused on the local conditions. More people, more minds, the greater the likelihood of buy-in and success. *Laulima.* **Rene Dubos** (Attachment 4), Nobel laureate, advisor to the Nixon administration during the debates leading to the 1972 Amendments to CWA. Credited with the saying, "Think global. Act local." While focusing on the world, start with actions in your own back yard. Tend to your garden first. Start inside-out. **Kenneth Brown** (Attachment 5), his Mālama ethic. Again, start inside out, with aloha. Take action to care for each other; your surroundings and place; the larger environment as a whole; in unity as life. *Papa ola lōkāhi.*

Additional added outcome of the "208 effort." Report to the Ninth State Legislature. State of Hawai'i of the Commission on Organization of Government. February 1977. Then Governor George Ariyoshi appointed a commission on organization of government, with Myron "Pinky" Thompson, Chairman. On the commission among a distinguished list of participants was Kenneth Brown the advocate for the Mālama ethic. The conclusion and recommendation were to reorganize the environmental programs by bringing them together as an integral part of a new department of the environment and natural resources.

From an organization standpoint, that would have brought together in one operating executive department the relevant stakeholders for decisions and implementation in tune with the balance determined to be the optimum between the competing interests for environmental quality and economic development. Dealing with the whole in that way which was at that time defined technically as the natural environment and the constructed or built environment.

Locally the debates rested on managing growth. Preserving sensitive water bodies by limiting emissions to them to the extent even of not developing the tributaries. For some there was a definite finite limit. That frightened many in the public. Who was going to say what the limit was? Instead the process gravitated to seeking the "optimum balance", a give and take in a public forum. That idea was codified in HRS 342, but somehow or another it was repealed much later.

Perhaps the outcome that was directly a matter of the point, non-point source control came into play in this manner. A recommendation of the commission was to clearly transfer the responsibility for cesspools and private treatment works to the county. After all, the argument went, the counties have the authority to zone to allow developments to go forward. Then the counties should own up and take the responsibility for it. The report was forwarded to the legislature which did not act on it in 1978. Instead, the legislature recently acted to declare the homeowners must act by the year 2050. Apparently, rather than being "our" problem, it was declared to be "their" problem, contrary to the Section 208 philosophy being advocated back then.

The point to note here is many of the non-point discharges come from individuals, homeowners, and other private organizations, The burden from enforcement actions and accountability would then fall on individuals, not corporations, government entities, but directly our citizens. The effect will no doubt be compounded personally.

Considering that lack of action, DOH subsequently took up that issue directly under the Section 208 planning process to persuade the counties to step up and take on that burden instead as the Reorganization Commission recommended. The counties have the ways and means to deal with problem. All counties, except Maui County accepted that challenge and started planning to assume control. Planning extended to the end of 1990 and the matter ended there.

Maui County under Mayor Elmer Cravalho took control of the situation and had the developer's sewer the cesspool households in Kīhei and Lahaina area at no cost to the homeowners and the County.

The point here is that there was already a process defined under Section 208 to resolve these kinds of issues technically and institutionally by a holistic approach, or resolving issues as a whole, not piecemeal. However, time or sustainability seemed to have been a factor. Projects seemed to fall on the wayside when the champions fade away from retirement, changing jobs, etc.

Another example of getting the job done according the 208-way was sewering Lanai City in the early 1980s to get rid of cesspools and converting the system to a sewerage system operated and maintained by the County of Maui. It took federal, state, and county funds, with the collaboration of Lanai Company and ILWU, all contributing to the successful implementation of the project, on time, on budget. It was "our" problem and "we" solved it.

Conclusion and Recommendation.

Section 208 of the CWA provides for the ways and means to resolve the issues of the point and non-point sources of pollution holistically, as a whole, technically and institutionally. It is supported by more than half a century of experience from systems already constructed in the ground and operated and maintained.

Injection wells are non-point sources of discharges. It is fact. Declaring them to be otherwise doesn't make sense. It goes counter to Section 208 of the CWA. It runs counter to science. Experience has already amply demonstrated that nature and the environment works as a whole in unity, more than the sum of its parts. Moreover, nothing is absolute. It is context and relational.

Approaching environmental issues piecemeal does not work and will not work. Continuing to pursue the issue in that way will only lead to confusion, chaos and eventual melt-down of the CWA.

Our recommendation is to move on and seek clarification through the Supreme Court to remedy this confusion. In doing so, keep the system whole. Include the Feds. Keep working towards a brighter future together. Learn from experience and refine the course along the way.

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ATTACHMENT 1

Speech by Paul De Falco, Jr.
Regional Administrator, EPA, Region IX
September 20, 1977

Excerpt from 208 Plan. Proceedings of the Intergovernmental Partnership for Water Quality Seminar. State Department of Health. September 20, 1977.

SPEECH BY PAUL DE FALCO, JR.
REGIONAL ADMINISTRATOR, EPA, REGION IX

Ladies and Gentlemen: This meeting is for legislators, for people who are involved in the political process. My part, my talk today is to present "The Federal Perspective," but it is my perspective also. I believe that the best accomplishments of Section 208 can only be achieved with the support and participation of legislators. You have the wisdom; you are steeped in the knowledge of what is possible. You represent the people; you know what they want for Hawaii.

First let me say a few words about the law itself. Briefly, Section 208 is supposed to accomplish three objectives. They are (1) an initial program for maintaining environmental standards within the context of other objectives; (2) a continuous planning process, to be updated every year, that will accommodate the consideration of the State's future, also for the purpose of maintaining environmental standards within the context of other objectives; (3) the establishment of the necessary authorities and arrangements--financial, legal, organizational, etc., to implement the initial and succeeding planning.

These objectives are being accomplished in Hawaii. The technical role is being carried out by the Department of Health. You will be hearing from them later in the day. In concert with their technical role, there is a vital role for you as elected officials. That is to translate the planning into reality. Doing that will require new ordinances, laws, zoning, permits, and so forth. It will also require judging between alternatives, making choices, deciding the future of the State. It is where you are needed.

Your 208 agency is creating a Continuous Planning Process for Hawaii, to control and abate water pollution by both technical and by institutional means. This planning is required to include consideration of the effects of change. One part of the planning will identify the requirements for new wastewater treatment works throughout the State. It will consider the priorities, money requirements and the various impacts that will result from building such facilities. This kind of planning is not a mere technical exercise for technical experts in wastewater treatment. It involves many important aspects of life, both on a personal level to the citizens, and to the State. Fiscal considerations, taxation and State and and County budgets, the location of new development and housing, employment and industry growth. The ripple effects of the location of treatment facilities will end up touching many aspects of life within the State. As

legislators, your interest in this aspect of 208 planning should be considerable. Wastewater treatment works take a long time to plan for, design, and build. Development is hindered without them, or may not be possible.

Besides dealing with new treatment works, the Continuous Planning Process of Section 208 will identify and plan to control the other important sources of water pollution. These are the sources that we call non-point sources, because the pollution doesn't come out of a single, identifiable spot, such as a pipe. We are talking about the sediment and erosion from construction; the disposal of refuse and waste, which can leech into the ground to contaminate the ground water or run off into streams; agriculture practices; salt water intrusion into fresh-water supplies, and so forth. Each of these so-called non-point sources of pollution can result in major damage, and none of them are easy to control, or cheap to control, by purely technical means. Some cannot be controlled at all by strictly technical means. Again, it is where, as legislators, you have a high degree of interest, because control will be achieved by institutional and political arrangements, rather than technical.

The technical people and the 208 agency will identify these sources of pollution, and will plan for containment and abatement. And, as is true for point sources, the plan will have very profound impacts on many important aspects of life within the State. Employment, income, housing, schools and roads and recreation--you name it. These are also areas of the highest interest and concern to the people of the State, and to you. Both the point source and non-point source aspects of the 208 plan will intersect the other planning of the State. The State Plan, the General Plans of the Counties, the 701 HUD planning, Coastal Zone Management, and so forth. Planning efforts of the Department of Planning and Development, of the Department of Land and Natural Resources, and even some Federal planning.

These intersections with other planning represent, it seems to me, an opportunity and an obligation to sort it all out, to make decisions, and to carry out the solving of present problems and the providing for a planned future.

The law requires that certain elements be addressed, but it does not dictate to the State the broad set of actions and the consequences that will result from these actions. Those are your decisions, as officials elected by the people of the State. That is the way it should be.

When planning is not carried out into action, it is most often because the planners have had to operate in a vacuum. Their plans were not politically possible, or conflicted with other planning that had higher political priority. To the extent that this is a problem, I think it is one of perceived priorities. The 208 water quality management planners can only consider the technical problems and present the range of technical solutions and the impacts of those solutions--it will cost this much, it will make possible that much more development, it will conflict with the achievement of these goals, it will enhance the achievement of other goals, etc. It is the elected officials, you, who can create broad policy, who can decide between conflicting objectives, who can make trade-offs, who can create laws and ordinances, who can fund programs. These are uniquely your responsibilities. These decisions are the platforms you run on; they are your responsibilities to the people that you serve. Technical experts, no matter how well qualified, cannot be responsible to the will of the people as you can. Section 208 is not about water quality per se; it is about water quality management. Management is where the trade offs and decisions are. It is where the action is at.

I think this is where the problem of perceived priorities comes in, the priorities of elected officials. You can choose, if you wish, to not involve yourselves very much in these planning processes and plans. The plans will still be produced, just as though you were actively involved--208 will be produced, and will join the State Plan, and the 701 HUD Plan, and the CZM Plan. There will be some results. But the results will be less than if you were involved. And perhaps not as much to your liking. Sometimes change cannot be reversed. I suggest to you that change will take place in Hawaii, with or without planning, with or without your participation and support. You have an opportunity to provide your thought and your will to the planning and action process, to influence the kind and amount of change. I am not talking about the technical aspects--how many units of this pollutant or that one--the technical people can handle that. I am talking about the shape of Hawaii. How many will live here? Where? What jobs? Recreation? Etc. These are the decision nodules. You have a legitimate access to them. If it is not high in your priorities, it will become forfeit.

Another matter that you might wish to consider is the coherence and consistency of all of the State's planning. As is natural, you have a good many groups doing planning for various purposes, in the State, the Counties, various Federal agencies, private organizations. These plans no doubt will intersect. Do the various planners communicate? Is there an overall direction? In case of conflict, how is it resolved? Are the

mandates under which the various planners operate still fresh and purposeful? These evaluations could reveal better, or less frustrating methods of accomplishing planning and action. I am not suggesting that the structure of your planning organizations be changed--or, for that matter, that it not be changed. I am suggesting that you take a look and an interest in how all of the planning ties together, if it does.

With Section 208 planning as the final ingredient, you can have in this State a reasonably complete planning package. As much as it may be possible to do so, the State can plan its future. It would seem logical to use the Continuous Planning Process as the environmental portion of a coordinated planning effort. In that planning effort, all of the planning groups would depend on one another, for each other's specialized concerns and mandates, checks and balances, and they would work toward common objectives. They would create scenarios of all of the effects of a given option; the demographic effect, the housing effect, the effect on agriculture, the effect on recreational facilities, on tourism, on employment, on the environment. And the State and its people, through you, would be able to make informed choices.

I do believe that the best, most effective most important planning for the State will come as the result of a coordinated effort. And that depends on your continuing interest and activity. The alternative is less effective planning and action costing more dollars, more conflict, more frustration. As a result of not being able to agree on coordinated plans and action, possibly undesirable change.

Land is so limited in Hawaii. You have what I think is an entirely proper regard for the vitality of your agriculture. You are interested in an integrated agriculture. It is entirely possible that you will raise different crops one day, have different agricultural practices. Of course, there is a relationship to water quality, and to the management of water quality control. If there are feed lot operations, where will the runoff go? Will it end up in ground water, in streams, in the ocean? What about plowing practice? Will it expose the land to massive erosion, the water to massive sediment? What happens to irrigation return flows? Will they contaminate downstream with salts and fertilizers and pesticides?

Considering a different aspect of planning for agriculture: Can agricultural needs be coordinated with some of the clean, valuable products of wastewater treatment? The manufacture of fertilizer is dependent on energy sources, oil and natural gas. I think that the reclamation of wastewater effluent will become increasing important. And that using sludge as a soil conditioner will be beneficial, too.

When addressing the potential for agricultural pollution in the beginning, it is much easier to handle, and causes much less damage than after the farms are growing crops. Some damage can't be undone! If wastewater treatment facilities are planned in coordination with agricultural needs, both can be benefited.

Ladies and gentlemen, aside from the fact that it's in the law, in Section 208, you already know about this kind of planning. In Hawaii it makes good sense. You're already (to some extent) coordinating wastewater treatment products with agricultural needs. You're already planning your farming practices with regard for these polluting impacts. You're doing these things separately, individually. What I am suggesting is that the move of the State to integrated agriculture be coordinated with water quality management--not because it's Federally mandated--not because you're not already doing some things--but because the process of areawide water quality management provides an opportunity to consider the whole mix, technical, political, financial; it gives you a framework and a system to find out what your options are, what they will cost, what benefits you will get. With coordinated planning of this kind, enhanced by the interest and intention of people with power, acting in the public interest--you--there can be achieved fairly easily what otherwise can be very hard, very expensive, not even possible.

Coordinated planning has a great value in planning for development, too. People want to live here. It's clean and beautiful. You have to provide for many things in your planning. Roads and housing and drinking water and sewage treatment, schools, industry, parks--the list is long, and all vital and necessary. Including keeping it clean and beautiful. If it's not, perhaps the same people won't want to come. And you won't have the Hawaii that you have now. 208 can function for you in this way, too, as part of a coordinated process.

It is clear from the record from Section 208 itself, that the Congress intended the 208 agency to be responsive to State and local desires. The Governor has made the designation of the 208 agency; some of you may serve advising that agency, in addition to your legislative duties. And the Act itself, Public Law 92-500, encourages full participation, meaning all of the interested publics. This is another indication that the Congress wanted the States and their citizens to help in fashioning the law's intent to local needs. The Act is permeated with such indications. The spirit of the Act and Section 208 speaks to the need for your involvement.

Going back to what I said initially, Section 208 requires three elements. The first, an initial program for maintaining environmental standards within the context of other objectives. Second, a Continuous Planning Process, to be updated every year, that will accommodate the considerations of the State's future, and also for the purpose of maintaining environmental standards within the context of other objectives. Third, the establishment of the necessary authorities and arrangements--financial, legal, organizational, etc., to implement the initial and succeeding planning. What you may wish to add to these requirements can be very significant. You may strive for a coordinated effort for all of the State's planning. You may give to the 208 agency your interest and desires regarding its work. These involvements are your privilege to exercise. If you do exercise them, it will be an awesome responsibility--it will carry with it the shape of Hawaii's future. If you do not exercise them, by what process will Hawaii's future be decided? And who will be responsible?

I have been coming to these islands for about 10 years. They are still magnificent and beautiful. What you have here is unique and it is on a human scale.

Your tourists come for the beaches, the sun, the water. They come back, some of them, year after year. Whatever their reasons, they think of Hawaii as a special place, as I think of it.

I've seen change in these 10 years. Hawaii is still special, very much so, but not quite the same. How will it change in the future? Will the same tourists keep coming?

I hope that what is special here is preserved, protected, constructively planned, and improved. The land here is so limited, fragile, precious. To protect and improve the land . . . You don't have 5 or 6 million square miles of land here, as we do on the mainland. In Hawaii, this land is the life. Your predecessors said it a long time ago.

The Life of the Land is Perpetuated in Righteousness.

Mahalo and Aloha.

QUESTIONS AND ANSWERS---PAUL DE FALCO

QUESTION (Councilman Stephen Yamashiro): Mr. DeFalco, in one of your statements you said "We, as the legislators and public officials decide how many people will live here." I think that is the basis to all the questions with regards to pollution, as pollution is a by-product of people. How does 208 propose the control of the population when the Constitution of the United States of America is interpreted as not being able to limit the way people travel?

ANSWER (Paul DeFalco): There are many ways of controlling people--I use the word people rather than population--and much of it resides in control of the activities of people. One of the key elements to the 208 program is a rational exercise of the land-use authority that exists in local and state government laws in terms of deciding how you're going to use the land to provide for people. And, in accordance with that, you were deciding where people will or will not live and to what extent you are going to create incentives or disincentives to various activities on the part of the public. There are many other controlling mechanisms of the same sort in terms of controlling the activities of people, their choices as where they recreate, where they locate industries in Hawaii. All of these are very real controls on how to base population without getting into the very difficult discussion of population control per se.

QUESTION (Yamashiro): When we control or exercise controls in that way, we do then add a negative impact on our indigenous population by causing land prices to rise, therefore, penalizing the people that are already here while the people that are moving here are moving with knowledge of the land prices and the ability to afford them. And the people that are already here may not have that mobility.

ANSWER (DeFalco): That is one of the very real challenges. I don't know the exact answers here in Hawaii but I think there are ways of structuring your institutional arrangements and your laws so as to not penalize your indigenous population and at the same time provide the kind of controls that at least give direction to future development. It is a very difficult condition, and I don't belittle it one bit. But I do think there are possibilities here, and I think some of these possibilities have been under discussion in the legislature and there will be other opportunities to try and get a handle on this very real issue. And it's not unique to Hawaii. I know you might think so;--we all like to think

that where we are the problems are unique. Some of these problems exist elsewhere in the country. Many of the so-called sun belt areas of the country are starting to take second looks at their runaway growth programs to see how they can start tailoring them so that they don't lose the very advantage that people come for. It is a very difficult balance to strike. But I would suggest to you, sir--it's most important that the kind of restrictions that are placed in this particular case be placed on a local level by a local government responsible for local needs, rather than designed in some faraway place such as Washington, where they don't even realize sometimes that Hawaii is an island. The opportunity is here to do that.

ATTACHMENT 2

Clean Waters for Hawai'i
Non-Point Sources
Honolulu Star Bulletin
April 17, 1975

Major Problems Solved

Cleaner Waters for Hawaii

By Buck Donham
Star-Bulletin Writer

Hawaii's surrounding waters should be a lot cleaner 10 years from now if the state is successful in its efforts to comply with federal law.

Dr. James Kumagai, State Health Department deputy director for environmental health, said:

"If we can control discharges, we have controlled the major source of pollution."

HE SAID the State already has solved the problem of pollution from major point sources.

"All the dischargers, we feel, are now under some kind of control or are working toward a compliance deadline," Kumagai said.

The problem is with nonpoint source pollution — pollution from unknown or a variety of small sources. Nonpoint sources include sediment runoff from developed or agricultural land and miscellaneous trash dumped in streams.

"We are not sure whether it can be controlled because it is a lot of little stuff," Kumagai said.

UNDER A federal program, the State is to develop a work plan in the next fiscal year.

By 1981, he said, it is supposed to have identified the nonpoint sources, made trade-offs between water quality and socio-economic factors and come up with a workable program to control pollution.

The Hawaii Environmental Center now is drawing up regulatory guidelines.

But Kumagai said it's hard to translate the goal of controlling nonpoint pollution into concrete rules and regulations.

For one thing, he said, it could cost tremendous sums of money with no assurance that the pollution can be stopped.

DOES THE difficulty of controlling nonpoint source pollution mean the Islands are locked into a situation in which surrounding waters continually deteriorate because of runoff from new developments?

"Well, I hope not," Kumagai said. "We are hoping we can come up with controls for new development, especially near pristine waters on the Neighbor Islands.

"If we can come up with some concrete guidelines, it might be possible to reduce erosion by 70 or 80 per cent."

Kumagai said nonpoint source pollution is worst in "near-shore areas" and in estuaries, such as Kaneohe Bay or Keehi Lagoon, that aren't regularly flushed by wave action.

He said maintaining or improving water quality is linked closely to land use.

"We see this as a possible control mechanism," he said.

WATER QUALITY, land use, coastal zone management, air quality and carrying capacity — all these go together, he said.

"I see this thing as a very monumental effort," he said. "If we succeed, we would be ahead of everyone else in the nation."

Kumagai said cleaning up pollution in some cases might do more harm than good.

For example, he said, there is a large amount of "natural" runoff — runoff that has nothing to do with agriculture or development.

Kumagai said it might do more harm than good to stop natural runoff because the ocean organisms have adapted to it after hundreds of years.

NO MORE KANEOHE BAYS—If the State is successful in controlling nonpoint source pollution, there will be no more Kaneohe Bays, where the reef is either dead or dying from soil erosion and other sources.

ATTACHMENT 3

The Need for Public Participation
Article by Douglas M. Costle, Administrator, US EPA
April 1978

The Need For Public Participation

By Douglas M. Costle, Administrator
United States Environmental Protection Agency

Public participation is a controversial issue, but ironically the debate about it seems to go on mainly in private. Many public officials oppose it, but you're unlikely ever to hear them admit their feelings in public.

I am in the opposite corner. I emphatically support public participation, and I'm doing all I can to make sure it becomes the keystone of the Environmental Protection Agency's approach to decision-making.

I'd like to focus here on two aspects of public participation: first, what are the benefits that EPA and others can expect to realize from it? and second, what are the major obstacles to making it reality? I hope it is clear what I mean by "public participation." Let me first give an example of what I don't mean.

A few years ago a group of citizens brought suit against a major interstate highway project, asserting that the Environmental Impact Statement (EIS) was inadequate. They charged that alternatives hadn't been given enough consideration, that various environmental impacts hadn't been considered very well, and —of course—that they had been shut out of the process of drawing it up. As the trial went on, the State's chief highway engineer eventually came to the stand, and he was asked how the EIS had been prepared. In a burst of candor, he admitted that it more or less came out of his own head.

It is now nearly five years since the suit was brought, and the decision on that multi-million dollar highway project is still up in the air. This story illustrates not only what public participation isn't, but also one of the major reasons why it's a necessity when significant governmental decisions are being made.

The need to avoid costly delays is one good reason to bring the public into the decision-making process, but there are any number of others. To cite just a few, it allows an agency like EPA to draw on the creativity of outside groups and individuals. It protects us from promulgating rules that don't accomplish what they're intended to. And it leads to an improved understanding of what we're trying to do, and why we're trying to do it.

There's another irresistible reason for us to support public participation: President Carter and the Congress have ordered us to do so.

As Administrator, I'm called upon almost daily to make decisions that can have far-reaching impacts—not only on the quality of the physical environment, but also on the economy, on public health, and on the shape of the country's future development. For example, I have had to act on a proposal for dealing with the problem of synthetic organic chemicals in drinking water supplies. For those municipalities where organics are a serious problem, activated charcoal filtration systems are going to be required. These are expensive systems, but the threat to public health posed by organics is a serious matter.

That is just one major action where I'm required to judge how competing values should be weighed to protect the environment. While I certainly don't shrink from the responsibility—it goes with the job—I believe it would be arrogant and irresponsible not to let the people who will be affected by my decision help to shape it.

The business and industrial communities have sometimes been skeptical about the advantages that public participation can offer them. I think this skepticism is misplaced. Business people often have legitimate gripes about environmental programs, and a full public airing can expose these problems to a wide audience. In addition, a public decision-making process defuses the charge that business and industry influence government actions behind closed doors. Finally, a wide open process means participation by what might be called the "rank-and-file" of an industry rather than just by trade associations.

EPA's Office of Public Awareness (formerly the Office of Public Affairs) is making a special effort to stimulate public participation by developing ties with various special publics, or constituencies.

Business and industry constitute one of these groups with a distinct interest in environmental protection, since they are the target of many of our laws and regulations. Labor is another; environment affects the economy, employment, and the health conditions of the workplace and community. Women, responsible for a great share of consumer purchasing in America, have a definite interest in environmental matters, likewise public interest groups, environmental organizations, farm workers and rural dwellers, members of minorities, the urban population, and young people.

We in EPA need to be aware of these publics and how our actions affect them as well as the public in general. And we feel that these special publics should be aware of how environmental laws and programs affect them directly and how they can make their influence felt, what points of access they have to the Agency.

State and local officials have a special stake in full participation. President Carter recognized this last spring when he directed all Federal agencies to find better ways to involve such officials. In the area of environmental protection, the States and regional and municipal bodies are often asked to take a major share of the burden. Congress usually puts up some of the funds to support this work, but as I'm well aware, it's only enough to ease the pain not to make it go away. State and local officials should welcome the chance to let us know early and often how a program is going to affect them.

EPA has some special projects underway to increase the involvement of officials at other levels of government. We are working with the Southern California Association of Governments in a pilot program to keep such officials up to date about actions planned by EPA, and to make it easier for them to register their opinions. We have given funds to organizations representing State, regional, and local governments so they can set up briefings and workshops on the recent Clean Air Act Amendments.

Other groups that clearly have a lot to gain from full participation include academic leaders, consumer representatives, members of the scientific community, and those who have a particular interest in environmental health. Leaders of these groups have already made the case for full public participation quite eloquently. And I have noticed a real effort on their part to listen to the concerns of other segments of society, including those for whom protecting the environment has had a low priority. Our effort to encourage public participation could further that willingness to listen to the opposition. It could help disputants see that they are not as far apart as they thought.

Public participation enables us to receive information and to give information through three kinds of activities, all of them traditional but in need of expansion and cultivation:

First, public hearings, conferences, workshops, and other meetings.

Second, advisory and review groups—often but not always of a scientific and technical nature—to consider proposed actions, to criticize and suggest.

Third, meaningful information mechanisms to help the members of our various publics relate to our mandates. This involves making clear the scientific basis for what we do, the effects on public health, on the economy, on society. What does a program do? Why? What are the benefits? What will it cost?

There are, of course, some serious difficulties in having the public participate in EPA decisions. The most common objection is that it introduces more confusion and delay into a process whose inefficiency is already legendary. This need not happen, however. The system won't always look neat. There will be some shouting, and the rules of etiquette may sometimes fall by the wayside. But this is what public participation is all about, getting divergent opinions out into the open, where they can be integrated into a final decision.

There may be short-term delays. We built a slight new delay into the process when we decided to extend the comment period on all proposed Agency actions to 60 days. The point about such delays, and about any controversies that public participation may involve, is that we can plan for them, we can find ways to mini-

Continued to page 29

The Need for Public Participation
Continued from page 3

mize their disruptive effects. We avoid the spectacular delays that result when ill-conceived programs are put into effect without a chance for adequate public comment.

Let me give you an illustration of how a public participation system that is well-designed can work.

In setting out to write rules on hazardous waste, we decided it didn't make sense to wait until we actually put pen to paper before seeking outside viewpoints. Our first move was to hold two-day public meetings in each of EPA's ten regions to talk about what strategy we should adopt for implementing the Resource Conservation and Recovery Act as a whole. Then came a series of about 80 smaller workshops on the hazardous waste segment of it. Thereafter, as meetings of various kinds continued, the regulations were drafted and sent out to a diverse mailing list we had developed. In fact, throughout the process extensive efforts were made to keep anyone who might have an interest in the subject informed. Besides the direct contacts by mail, we also put notices in trade journals, and announcements in newspapers in areas where the meetings were being held.

Now we are close to where public participation often began in the past—the publication of draft regulations in the *Federal Register*. We went through this whole process without significant slippage in our timetable. We're a little bit behind, but that's because of internal delays.

Another serious difficulty in trying to open up the decision-making process is illustrated by this excerpt from a draft regulation on pesticides:

"The octanol/water partition coefficient can be determined simply, quickly, and inexpensively with good reproducibility, and is now regularly determined for pesticide chemicals as they enter the market. Because it is indicative of lipid solubility, it will predict semi-qualitatively the potential for bio-accumulation in the lipids of animals for the particular pesticide under consideration. It will not do the same for metabolites. . ."

The average person would be hard pressed to make sense of that. I have a little trouble with it myself. I offer it as an example of the technical complexity of many of the issues we deal with. This does not mean that lay people can't be brought into the decision-making process because the issues are beyond their comprehension. That has been the argument offered by too many public officials who do not want to involve the public. I believe it's a fraudulent one. It does mean that we have to find ways to present the choices clearly to people without a technical background.

We are already taking some steps to accomplish this. For one thing, we're trying to remind any EPA employees who might have forgotten that the English language is supposed to function as a bridge, not a wall. We're particularly concerned that our rules and guidelines be written clearly and concisely. In addition, we've awarded grants to organizations so they can sponsor educational sessions on environmental issues.

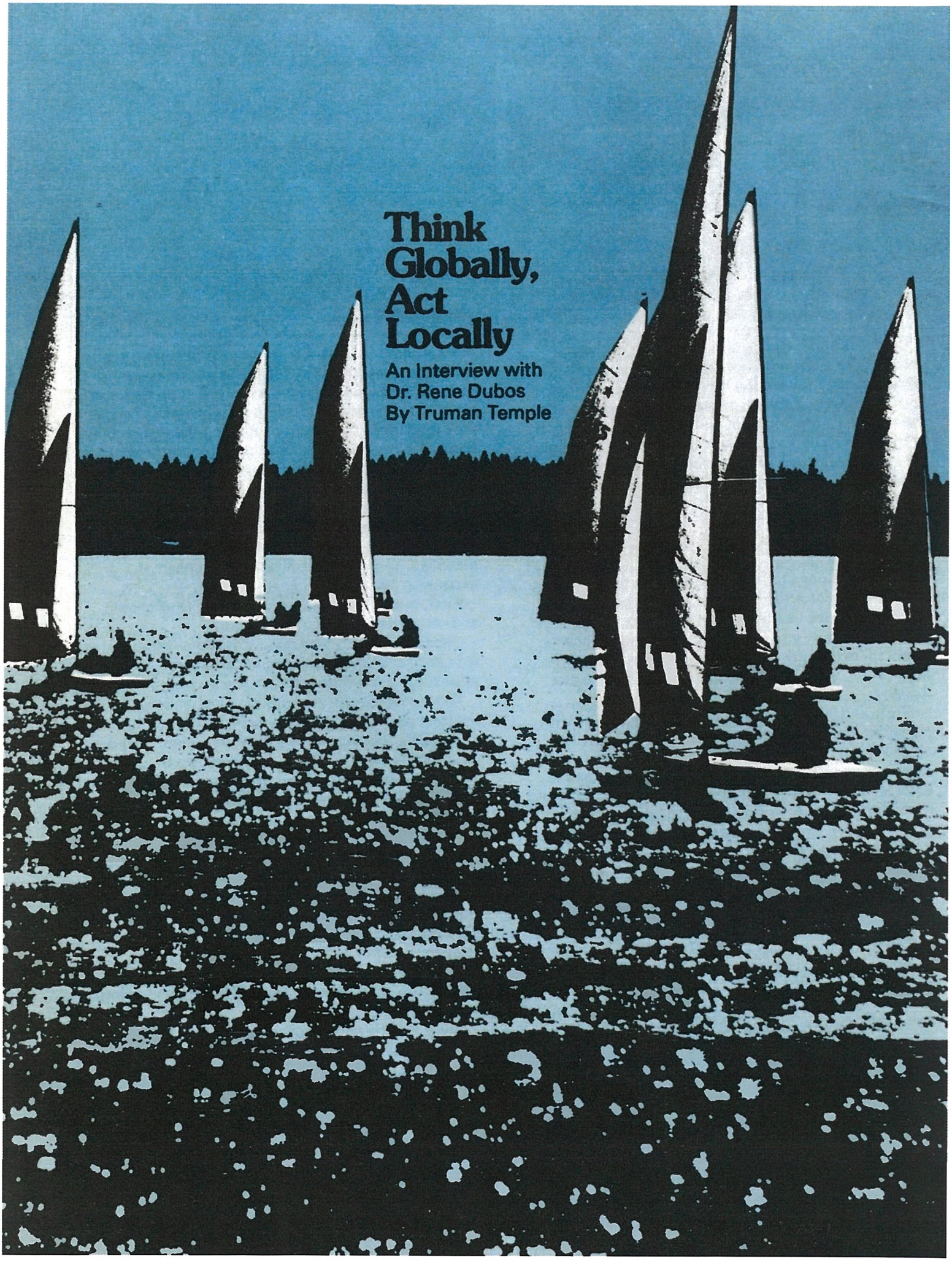
Another problem is what to do when our actions will have broad public impact but most people aren't aware of it. Should we assume at some point that there's no way to get our message through? Or should we keep trying in the hope that a meaningful proportion of the citizens we reach will then get involved?

There's an old metaphor about public involvement which says that the average citizen won't get involved until the bulldozer is outside his front door. I believe that if the process has gotten anywhere near the bulldozer stage before a citizen speaks up, it indicates a failure on the part of government, not the citizen.

EPA is getting ready to test whether I'm right. We're going to assume that when we are convinced a proposed action will have broad impact, we can persuade a large percentage of those likely to be affected that this is the case. We are betting that a significant segment of them will respond. This is not to say that we expect our meetings and hearings to draw like the Superbowl. I believe we can bring about a quantum jump in public involvement. It's too early yet to know whether my judgment is correct. But I can assure you that we are serious. I think we can devise a system that can succeed. And if we do, we will have gone a long way toward bridging the dangerous gap that has grown up between the government and its citizens. □

ATTACHMENT 4

Think Globally, Act Locally
An Interview with Dr. Rene Dubos, by Truman Temple
April 1978



Think Globally, Act Locally

An Interview with
Dr. Rene Dubos
By Truman Temple

Dr. Dubos, you have written and spoken for many years on the adverse effects of environmental problems on mankind. Historically, has man been able to improve his environment anywhere?

I have an optimistic attitude about human intervention into the environment. I was raised about 30 miles north of Paris. This is a country which from the natural point of view was *completely* covered by forest and marshes until about 4,000 years ago. At that time Neolithic man settled in it and began clearing the land. Since then it has been under heavy agriculture with a very high population density. And yet today, many people think it is one of the most enchanting kinds of European landscapes, much like English East Anglia which also was forest and marshes before the advent of man.

Human beings can intervene into nature and transform it, provided they do it with ecological wisdom. Ecological wisdom in the past was purely empirical. People did certain things without knowing why, but now we have enough knowledge that we can change the landscape without destroying it.

In this country, the Pennsylvania Dutch country is an example of that. It was created only 200 or 300 years ago by the Amish people and others who have maintained an extraordinary quality of land and have made the countryside singularly more interesting than it was before. I could say much the same about some of the New England countryside.

This is the thesis I have defended for four or five years in articles and books. In fact in one book, "The God Within," I express that very strongly but now I am going to defend it in a much more scientific way and document it a little better. So that brings me to a fairly elaborate statement that I presented at the University of Colorado in Boulder a year or so ago, which is going to be published. I call it the resilience of ecosystems. I believe that *anywhere* in the world, almost, an ecosystem that has been damaged can be brought back to a good condition if you help nature to function with the natural repair systems that exist. It is easy enough to see on the East Coast where farms have been abandoned only 50 or 60 years ago, that the forest comes back spontaneously. Forty years ago I bought an abandoned farm in the Hudson River Valley and I know what that means.

We understand that you and your wife planted many trees there.

Hundreds of trees, yes. We spend most of our week-ends reforesting and taking care of the trees but also trying to manage to keep open views, to keep the country and that farmland more interesting. Hemlocks do wonderfully well so we have planted a lot of them, and they are now magnificent. This is in Garrison, New York, in the Hudson highlands. It is a countryside where most of the farms were abandoned 100 years ago when it became much easier to go and farm in the Midwest and Far West. But when I speak of the resilience of natural ecosystems, of their ability to recover after all sorts of damage, people say, "Well you are speaking of the East Coast where we have an abundance of good water, rainfall, and where things can recover. But that is not true for the rest of the world."

Now that is what I used to believe until I began to look into it, and to discover that almost *anywhere* in the world on the surface of the Earth, ecosystems can recover. Let me give you a few examples. The Mediterranean lands and Greece in particular, 4,000 years ago were a heavily forested country. Plato in one of his most famous dialogues said that in the old days all of Greece was forested. There were beautiful streams where the temples were erected, whereas now many of those streams have dried up and those slopes are denuded, and eroded completely. And of course this is absolutely true. But then about three years ago I went through Greece with a very famous planner, Constantinos Doxiadis. He showed me that if you take any one of those islands and just prevent goats and rabbits from browsing, without your doing anything, within ten years you have good-sized trees, and all sorts of other vegetation. In other words, even under these conditions, nature comes back.

Why don't the Greeks stop using goats? There must be an economic reason.

They are beginning to stop. As prosperity comes in, they stop using them.

Goats can feed almost anywhere whereas of course, cows won't. A goat will eat anything, and of course, kills all vegetation. But, right near Athens some people I knew have taken land where their homes are and they fenced it completely. This was not only to keep goats out but also rabbits. And if you walk through that area you see the classical Mt. Hymettus denuded and as described by writers, but there is a whole section of it now which is reforesting itself. So what I am saying is that even under very difficult conditions, nature can recover. The most extraordinary example was discovered by satellite three years ago during the famous drought south of the Sahara in the Sahel country. People observing maps saw a big area more than a quarter million acres that was green in contrast with all the rest that was desert. That was traced to a ranch. This large acreage was fenced and divided into sections in which they have cattle. The cattle graze on one section a year, then move to the next section and there is no browsing by any other animals because it is fenced. And if you do that even during the drought the whole thing is green.

"If you cannot do something about that stream or park or those lovely marshlands in your town, how do you think you are going to save the globe?"

Dr. Dubos is Professor Emeritus at Rockefeller University and the author of many books and articles on environment, biology, and medicine. He has received numerous awards including the Pulitizer Prize for his book, So Human An Animal. *Truman Temple is Associate Editor of EPA*

Sailboats ply the sparkling waters of Lake Washington near Seattle.

This example of goats being used by low-income farmers brings up another point. Can the poor climb the economic ladder and cope with environmental problems at the same time?

This is one of the great debates. It is not how can the poor improve their lot, because they are made poorer by the devastation of land through the use of goats. It is a matter of how to convince them. It is not only an educational matter but it involves a program using authority. Obviously I am not competent to deal with such political and economic questions. The reason I mention that ranch in the south of the Sahara is that it points to the possibility of using part of the land in rotation so as to permit the rest to recover.

We hear attacks being made on the environmental movement, charging that it serves mainly the affluent and preserves the status quo, such as the much-publicized Storm King Mountain controversy. Do these charges have any validity?

I am interested that you should mention Storm King because our place in Garrison is only a few miles from it. Anyone, rich or poor, who lives in the area where they can look at it or go fishing in the Hudson is against using Storm King for a reservoir, because it would not only change the appearance of a most beautiful piece of scenery but also would decrease enormously the amount of fishing one could do in the river. Because if the water is being pumped when the fish are breeding, many small fish would be destroyed. It is not a nuclear power plant. They would pump up the water during the night, creating a reservoir, and then during the day the water would come down and generate electric power. But that enormous amount of pumping is fantastically destructive to fish life. So you do not have to be a wealthy fisherman to be against it. On the other hand, if you live in the village where the Storm King reservoir is being built, then you would be in favor of having it because this would bring employment while it is being built. It is a very complicated problem.

Unspoiled marshlands on Sandy Hook less than 15 miles from New York City are part of Gateway National

In your book *So Human An Animal*, you mentioned concern that urban man's senses have been dulled, that he accepts dirty air and noisy streets because he is so adaptable an animal. How do we reverse this?

I mentioned one aspect, how quiet New York City is on special occasions when they ban cars. You know they ban them now and then on Fifth Avenue, and during the weekends in Central Park they completely ban the car all year round.

And you mentioned that New Yorkers actually smile on those streets.

Yes, it is absolutely extraordinary. I had an illustration of this recently. A young woman came to see me who comes from Cleveland. I asked her, "How can you bear living in New York? Isn't it terribly painful to you?"

And she told me, "Well yes, of course." Because she was used to running with her dogs and went horseback riding. But she said, "Fortunately, I have discovered that on weekends there are no autos in Central Park and I love to go bicycling there. Everybody looks so jolly and so happy and so much more friendly than they are in Cleveland!" I was startled to hear that. Also, my wife, who is from Ohio, has also said this to me. As soon as you can place yourself somewhere in New York where you are not overpowered by the noise and traffic and neon lights, then in a way New Yorkers are much more responsive people than they are in Columbus or Cleveland.

What I really want to say is that even in the worst U.S. cities, like New York, with its noise and environmental insults, it is very possible to create a physical environment in which people are quite happy. And that brings me to complain about something.

I believe I can say without exaggeration that American cities, most of them, have the most wonderful waterfronts of any cities in the world. I have traveled over much of the world and I don't think there is *any* city that can compare with New York City, with regard to its waterfront. We have the Hudson, we have the East River, we have the Harlem River, we have the oceanfront, and there are even some lakes within New York City. But it has spoiled those waterfronts like no other city in the world. And I think that is true in practically all American cities. In large European cities like London, Paris, and Berlin, which have

Park.

rivers that do not compare, cannot begin to compare, with what there is in New York, the waterfronts are enchanting. There are places where there are fine restaurants, where people go walking, where they are the most romantic parts of the city. It seems to me that in this country with the fantastic diversity and wealth of waterfronts we have, it is a national duty to create environments that are suitable to human life, for human pleasures. And if we did that, I think we would decrease the need for people to escape from New York every week-end. If we were to manage our waterfront the way London, or Paris or Berlin have managed their miserable ones, I think instead of driving 50 miles every week-end to go somewhere, many people would enjoy the waterfront. I think from the social, economic and pollution points of view it would contribute more to make poor people able to enjoy this city than anything else we could do, and from the energy-conservation point of view too.

I have been guiding the development of a new program organized under my name—the Rene Dubos Forum—that will explore human activities as they relate to nature. I am very encouraged by the fact that the National Endowment for the Humanities under the direction of Joseph Duffey has chosen to support these efforts. His desire to relate the social utility of the humanities to improving the American environment bodes well for the future.

I am not speaking of this as a scientific problem, although it has scientific ecological components, of course. But I am speaking of using the environment, improving it as a form of giving values to humanities in American life.

There seems to be an echo, in what you are saying about waterfronts, from Voltaire's Candide: "Let us cultivate our garden."

Yes, that conveys in part what I believe. When I talk at universities to students, they always want to discuss saving the globe, and I am all in favor of that of course. But I always answer, "It's very good to think about problems in a global way, I think it is a good intellectual exercise, but the only way where you can do something is in your own locality. So think globally, but act locally. If you cannot do something about that stream or those lovely marshlands in your town, then how do you think you are going to save the globe? That's exactly "Cultivate your garden." And then after that, you can perhaps think on the larger scale about global problems.

Dr. Dubos, you turned 77 in February. Looking back, what have been the most dramatic changes regarding the welfare of the planet and its inhabitants you have seen in your lifetime?

There is no doubt that the great revolution happened in the 1960's, and was a revolution in the minds of people. Something happened then which made people aware, probably first in the Anglo-Saxon countries, that if we were to continue the way we were going, it would destroy everything. And this revolution was not only in the mind, it immediately was converted within a few years into action.

Now that movement has reached a country like France in a phenomenal way. I think in some ways there is more activity in France towards saving the environment than there is in this country. As perhaps you have seen in the last election, ten percent of the population voted the ecological ticket, it's a political ticket, so influential now that any political party in France has to talk ecologically. Obviously it was first most active in this country, and also in Great Britain, Sweden and Scandinavia.

What has most impressed me is how rapidly one can mobilize public opinion and do things in a particular place. So I will mention examples of two cities in which I had some activity. One is Seattle. As perhaps you know Lake Washington in Seattle ten years ago was said to be dead. A group of citizens began to save Lake Washington and after two or three years, they managed to have bonds floated to stop domestic as well as industrial pollution. And within seven years, without doing anything else, except to stop pollution, there was no longer any domestic sewage or industrial effluent flowing into the lake. Within seven years, Lake Washington returned to the state in which it was before the white man came in. Now that has had a fantastic impact in Seattle, because real estate values all around Lake Washington increased enormously. All sorts of pleasurable occasions became possible out on Lake Washington and the whole city of Seattle now is really transforming itself into a very pleasant city.

Now let me mention New York City. Jamaica Bay, adjacent to Kennedy Airport, for several decades had been used as a place where the city dumped its garbage. Every day, hundreds of trucks dumped garbage into the bay and there were 1,600 sewer lines feeding into it also. A few years ago a city employee of the Parks De-

"If I were Billy Graham, I would preach to people that the best way to save their souls is to save the environment of cities like New York."

> **"In San Antonio, Texas, a miserable little river, it's not even a river, it essentially was used as a sewer line, has been converted into an enchanting area. So it can be done."**

partment decided that he would, on his own, try to do something to save Jamaica Bay. He began planting trees on those garbage islands. Trees, shrubs, and so on. He was in the Parks Department. His name was Herbert Johnson. Then the city began to take an interest in it. It began to establish water treatment plants so that the sewers did not go into it. The bay began immediately to improve. Water birds came back. The oyster industry has started again. And other shellfish and fin fish, because rapidly conditions improved.

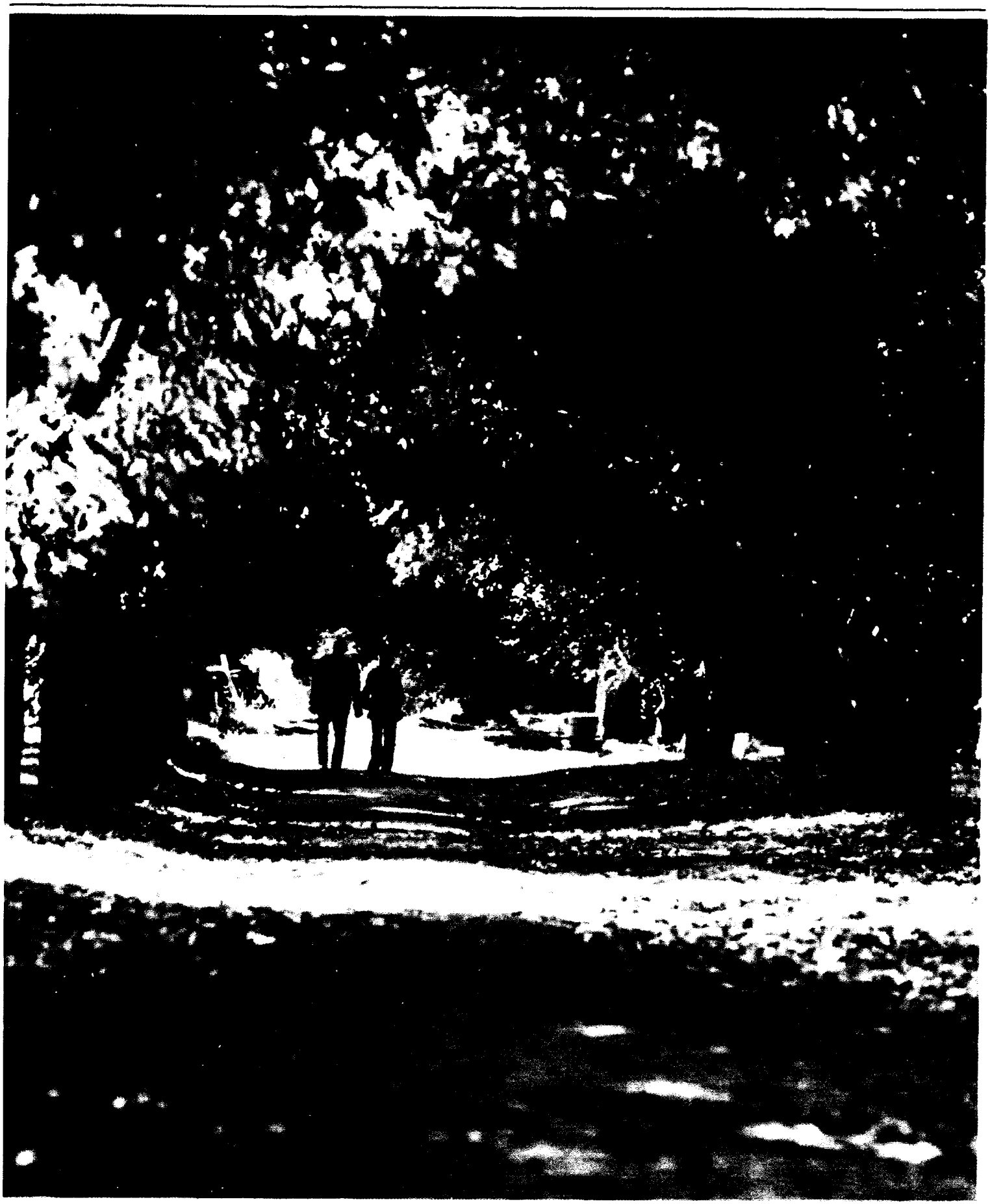
Something else happened, however. About four or five years ago, there was a plan to extend runways of JFK into Jamaica Bay because they wanted to enlarge the airport. The National Academy of Sciences planned a study of what would be the ecological consequences of extending the runways into the bay. That irritated me a great deal. I made a public statement that one did not need an ecological study which would take two or three years to know that extending the runways would damage Jamaica Bay. Well, the *Village Voice* played it up, then other environmental groups played it up, and somebody arranged a big meeting at Jamaica Bay in which several persons spoke and I was one of them. The New York Times sent people, and managed to take a photograph of me, saying that, if we do respect Jamaica Bay, allow it to evolve in an ecologically sound way, what we are going to have is a marvelous bird sanctuary, which it is now. It has the largest number of birds and diversity of birds on the East Coast, so I said we can have this and have it compatible with technological development. You could have the birds and you could have the jets on the other side.

The Times published the photograph, on the first page, with a statement. And shortly afterwards Governor Rockefeller decided that the Kennedy runways would not be extended. I am sure it was not my speech that convinced the Governor. It was just that public opinion could be aroused against it. So it is possible to sensitize public opinion provided one finds issues meaningful to people. Now this has extended into something much bigger.

You probably know that Congress established about two years ago the Gateway National Recreation Area which has the largest budget of any National Park. It includes Jamaica Bay, the Floyd Bennett airfield, Breezy Point, then Ft. Hamilton on Staten Island and Sandy Hook on the New Jersey coast. So all this is now a National Park—the first large urban park in the world. I have been involved in trying to formulate how man could take advantage of the waterfronts of New York City and create an urban national park which has a large psychological significance for the country, because so many millions of people, including me, entered this country through the Gateway. I helped former Interior Secretary Stuart Udall to write a manifesto which is being used now for the planning. The new management of Gateway has raised the potential to more than $200 million in Federal money in capital improvements there. Now I understand that idea is being picked up by San Francisco to create something similar. All this demonstrates that a place like Jamaica Bay that was just for rats only 10 or 15 years ago can be converted into the most beautiful bird sanctuary on the East Coast. So that shows if we are willing to do things, we can save our environment. Even our urban environment.

Once you get it started, usually communities will respond. That's why I'm more optimistic than many people are. I am told lots of wonderful things have happened in Minneapolis, for example. And in San Antonio, Texas, where a miserable little river, it's not even a river, it was essentially used as a sewer line, has been converted into an enchanting area. So it can be done. The real problem is how can one mobilize public opinion and how can one make poor people realize that by so doing one contributes to the quality of their lives.

An elderly couple stroll down a tree-lined road in the Cuyahoga Valley National Recreation Area.



Do we need more environmental protection laws or do we have enough now?
My feeling is that there are enough, it is a question of enforcing them. One of my other activities is to serve on the Board of the Natural Resources Defense Council, chiefly as a scientific advisor. Their lawyers give me the impression that one does not need more legislation. It does exist. It is just the question of a place to apply it, so that there is a precedent. That's why Storm King was an extraordinary situation. I was flabbergasted when it happened. When Con-Edison presented their plan to build a reservoir up there, the local judge said that you could not do something that impinged on the value of the property of somebody else. The people with property facing Storm King said that the value of their property depended in part upon the scenic beauty of the place and that the beauty would be damaged by the reservoir. It is a precedent in the law now that aesthetic quality is a part of the value of your property.

Dr. Dubos, you wrote a biography of Pasteur that was republished with new material a few years ago. Why does this figure hold such significance for you?
He helped to create the science of medical microbiology, of course. But I became so interested in the environment during the past 15 years that on rereading the documents, I revised my biography of Pasteur written 30 years ago. I realized there was in his scientific attitude an enormous ecological component, an enormous interest in the environment which nobody had perceived.

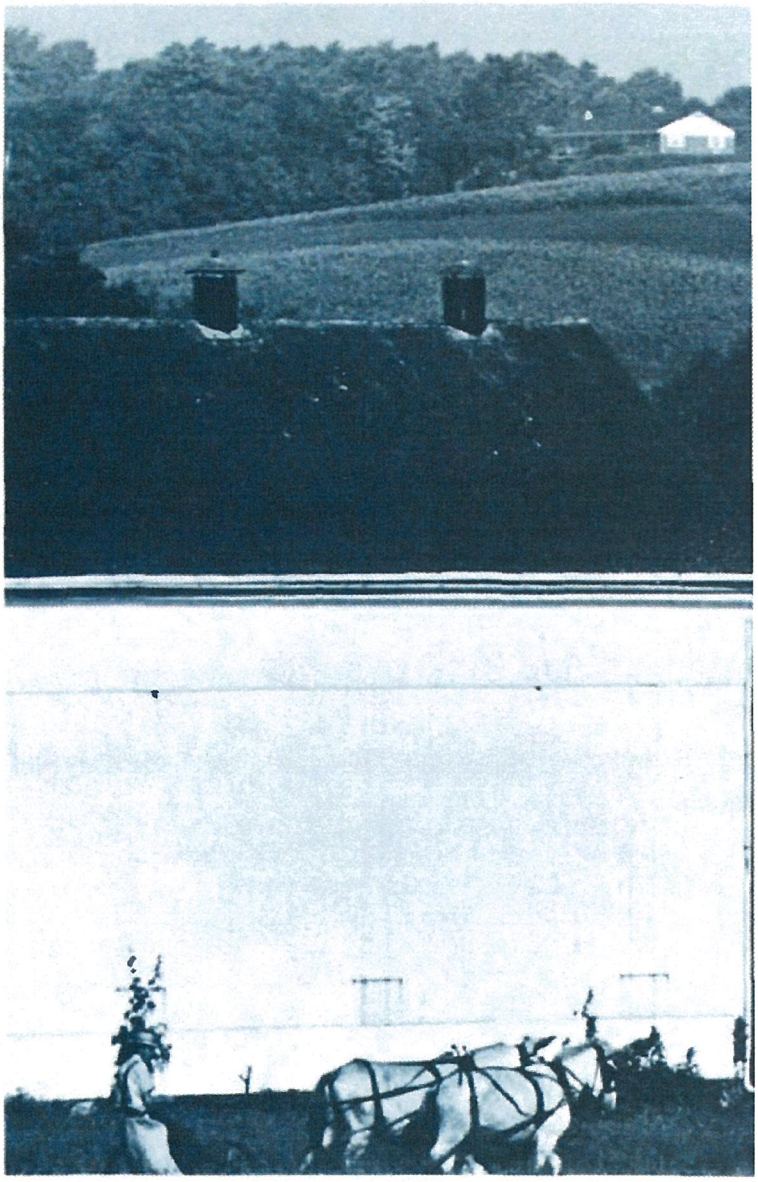
He worked with the microbes that cause disease, but he also stated that the ability of the microbes to cause disease depended on the total environment in which the person lived. You take a child who is infected with tubercle bacilli. If this child lives under miserable conditions, he will develop clinical tuberculosis and many die of it. But another child who lives in good environmental conditions will also have the infection but has a better chance to recover from it.

So Pasteur constantly emphasized that the total environment influences susceptibility and resistance to disease. And that had not been recognized. Having moved from being a pure bacteriologist myself to a person concerned with the effect of environment on people, I took all of Pasteur's writings and singled out those statements that he made, even though he couldn't do very much about it.

I think that now we are ready to enter a phase of environmental medicine where, yes, we can recognize the importance of microbes and that is very important, but we also can analyze the effect of the environment on the susceptibility of people to infection. So this is why I decided to republish my Pasteur book with that new chapter in the beginning.

By the way, I was sensitized to the problem for a very personal reason. I used to be a perfectly orthodox bacteriologist and in fact I published several successful text books.

In 1942, my first wife, who was French, developed tuberculosis. We lived at that time in Dobbs Ferry, New York, under very pleasant conditions. There was no reason that she should develop tuberculosis. So I looked into her past. I knew that she came from a part of France where Limoges china is made. I knew that her father, who was a china painter, had died about the age of 45, and by that time knowing what I knew of tuberculosis, I recognized that he had died of silico tuberculosis, which is a kind very common among people who inhale silica in the china industry. I recognized that as a young girl, 6 or 7, my first wife had a long bout of pulmonary disease which obviously was tuberculosis, but from which she recovered because she was not exposed to silica. Then she became a very healthy woman. But then the war came, with all sorts of tragedies. Even though she did not suffer physically from it, all sorts of tragedies



occurred in her French family which upset her tremendously. And what happened I am sure, even though it is impossible to prove, is that her old tuberculosis had become reactivated, and one knows that can happen.

So that made me become very much interested in the effect of the total environment on susceptibility of people to tuberculosis. And as a matter of fact I wrote a book called the *White Plague-Tuberculosis—Man—Society* in which I demonstrated that tuberculosis becomes an important disease any time a society is disorganized and where people are exposed to bad living conditions. It was a very common disease in the 19th century because of the industrial revolution and people moving from the country into the tenements of industralized cities. And then as the conditions improved, Europe became wealthy, then tuberculosis began to become much less important. And the same thing is happening now in all parts of the world which were poor and are now becoming industrialized and where tuberculosis is a very common disease.

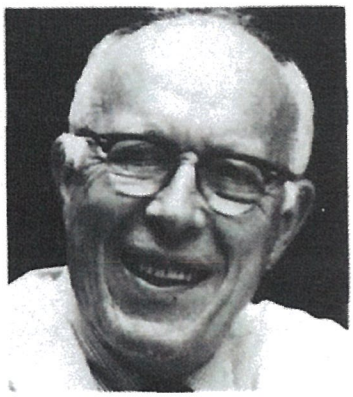
So I became involved in the effect of the environment upon tuberculosis, then more generally of the environment on infectious disease. And then finally the effect of the environment on the whole human life, and that is where I am now. That is why I put so much emphasis on

Amish families typify the people who know how to preserve and improve their environment, according to Dr. Dubos.

the fact that we can improve our environment, and that a city like New York could have lots of wonderful waterfronts and parks. If we could manage them properly, people would live better, and wouldn't have to travel 50 miles to the country every week-end in all those enormous traffic jams, and we would save energy besides. People would become more pleasant. Human relationships would be improved. I think we could transform this city and at not an enormous cost either.

I think if I were Billy Graham, I would go out and preach to people that the best way to save their souls is to save the environment of cities like New York. □

How Do You Say 'Dubos'?



People have trouble pronouncing Dubos. Some give it a French accent, and others try it in an English version.

Professor Dubos says actually both are used in France.

"In southern France, they say 'dew-boss.' But north of Paris where I came from, they say 'dew-bow,' " he explains. So you can take your pick.

At Rockefeller University, most people just call him Dr. "doo-bose."

ATTACHMENT 5

Malama "Ethic"
Remarks by Senator Kenneth F. Brown
"The Spectrum of Influences Affection Quality Growth"
July 25, 1973

Malama

Remarks by

Senator Kenneth F. Brown

Before the Seminar Titled

"The Spectrum of Influences Affecting Quality Growth"

July 25, 1973

Kenneth F. Brown

A couple of thousand years ago, these islands lay in the sea and the sun, unknown to man, and not knowing man. Three million years before, they had emerged from the sea as flaming, hostile volcanoes, connected with the rest of the world only by the mindless and infinitely slow vagaries of the winds of the air and the currents of the sea. Yet, in the three million years that had passed, nature had brought forth on these islands a rich assortment of creatures and plants spread over the land, from the mountain peaks down to the sea, and out to where the coral gave way to the cold black ocean depths. Carrying on their timeless, intricate, interwoven cycles of life, death, and birth, they had completely transformed the landscape, replacing the lava with verdure, populating the bays with sea creatures, and the air and land with birds, animals and insects. All this in a totally self-contained environment, and without that ultimate creature, man.

The clock of history was jolted into high speed, and events were jolted into a new time frame about twelve hundred years ago, however, when on the southern horizon a sailing canoe appeared. It was guided by the hand and mind of man, rather than the random currents of the sea which had once brought the first forms of life to Hawaii. That lit-

tle canoe brought profound changes.

Man, a part of nature, and totally dependent on nature, can nevertheless drastically affect nature. Polynesian man brought to Hawaii pigs, dogs, fire, taro, agriculture, aquaculture, tools, warfare, gods, and stone age civilization. He imposed his dominion over the living systems he found here, and established himself at the top of the nutrient chain, adding another layer to the complex and intricate life systems he found here.

His technology allowed him to live off the land and sea, and to multiply and prosper. His ocean-canoe linkage with the rest of the world, tenuous at best, and soon to fail completely, was not capable of importing any resources to supplement those which he had here. He was thus forced to regulate his own activities most stringently to keep them from exhausting his life support. So he developed a refined, complicated system of resource management which allowed him to survive in a completely limited resource environment. His survival as a species, since he had lost the art of ocean travel, was dependent on his ability to constrain his technology and consumption so as not to deplete his islands' resources.

He did survive, of course, and was able to prosper and increase, and at the same time maintain his resource base. until there were a quarter million of him here, with absolutely no import of resources. I'm positive that a quarter million of us could not survive here today under those same restrictions. It was truly a remarkable society, and one from which there is much for us to learn.

So, by the year 1750, the Hawaiians, as we now call them, had a stable society, living in complete dependence on a limited natural environment, with every possibility of continuing forever this balanced, yet dynamic, man-nature relationship.

But, of course, this was not to be. Western man, with a much higher technology, was the next to discover Hawaii. Large, dependable vessels shattered the isolation of the islands, and created enduring links with all the great land and population masses of the globe. The closed-system relationship between man and nature was destroyed forever. New societal rules and priorities were imported and imposed. Unlike those of the Hawaiians, these new rules placed little value on the preservation of resources; in fact, they encouraged export and exploitation. The resources of the forests and mountains could now be sent overseas in exchange for gold, and the gold could be used to purchase foreign-made articles to be consumed or enjoyed, possibly without contributing anything to the life support of the populace. This constituted a violation and depletion of a natural resource, and a rupturing of the closed-system relationship between man and nature.

In the two centuries that have elapsed since the second discovery, Hawaiian society, with its conservation imperative, has disappeared completely. A very complex and highly technological society has replaced it. Three quarters of a million people now live here, and import from overseas virtually everything we use and consume. Almost everything we need to feed, clothe and shelter ourselves must be bought outside Hawaii. Through great good fortune, we are able to purchase these imports by trading products of Hawaii's land and climate. Sugar, pineapples, and flowers, for instance, are sold offshore to buy beef, news-

print, cars, glass and steel. In these transactions, we sell the product of the land, not the land itself. Offshore visitors come here to play, and pay us for the privilege. They use only our sea and scenery. With their dollars, we buy books, radios, and rice. The landscape is enjoyed, not engulfed.

It appears that, like the Hawaiians before us, we have achieved a new balance, this time between society and multi-environments. But there is much danger in this type of balance. For our need for imports increases as our numbers increase, but the currency with which we pay for these imports is restricted by the capacity of our island resources to produce goods for export. If we exceed this capacity, and are forced to export non-renewable assets, we will be starting down a one-way road which ends in disaster. So in reality, we are still limited by our natural, island environment, and by what it can produce without depletion. The natural world of Hawaii and its productive capacity, then, is truly just as vital to us as it was to our Hawaiian predecessors. But this truth is not as obvious to us as it was to the Hawaiian, who knew that a gluttonous harvest of this year's mullet run would leave him with an empty opu next year, and that prudent taking of birds for feather capes would assure a supply for the next year, and the next and the next.

It is important for us, then, not to be bemused by the fact that we have money to buy almost anything we want from overseas. We must remember to determine where the money comes from, and remember that if it doesn't come from a product of the land, it may be one-shot money, and the car we buy might be costing us an irreplaceable piece of Hawaii.

Recognition of these conditions argues most strongly for a preservation ethic to be applied to all of our overseas transactions, as well as all of our transactions with Hawaii's natural environment. We have the power to destroy our natural world, so we have the obligation to preserve, protect and conserve it. The basis for this ethic appears so far to be rooted solely in the very powerful motivation of creature survival.

Let's think for awhile about another, perhaps more noble, motivation for adopting the conservation ethic. For a long time it has not been popular to recognize the place that nature has in our spiritual existence. When pressed, most of us will concede that the life of the spirit, the mind, or the soul, if you will, is as important as the life of the body. Let us examine for a moment, then, the effect upon our spirit of our surroundings. We will all admit that there is something different in spirit between, say, an Australian and a Frenchman. Of course, their cultures are different, but it is not unreasonable to claim that many of their differences are attributable to the differences in the places where they were born and brought up. France, with a domesticated landscape, cultivated and tended by man for millenia, and Australia, open, wild, and untamed, surely exert strong and differing influences on the spirit of their inhabitants.

Let's try another example. Consider the city dweller and the farmer. You can tell them apart immediately, from their dress, their speech, and more important, their attitude. Consider the resident of Hawaii as compared with the New Yorker. Need I enumerate the differences? Isn't it

true that, among other things, it is the surroundings in which he lives that makes the Hawaiian different? Can we not, indeed, postulate that the aloha spirit has some origin in the fact that we live in such beauty? Can not the mountains, valleys, waterfalls, forests, streams, beaches, surf and vistas of Hawaii be given a great deal of the credit for our aloha attitude? To test this out, ask yourself how life in Hawaii would be changed if all this natural beauty were removed.

The land, then, can be said to contribute to the life of the spirit. At the very least, most of us will concede that we wouldn't want to live in a Hawaii without her natural beauty. At the most, we can say that its beauty is an integral part of the life of the spirit, which makes up a very important part of our total life.

Thus we have another compelling reason for conserving, protecting, and preserving our natural environment, one which nicely compliments the first, which is to provide us food, shelter and sustenance.

We can state the two in a couple of simple sentences. First, carry on all the transactions you want with the outside world, but protect the land, the beasts, the plants, the insects and the rest, for only by exporting their produce can you pay for the purchases you make. Second, multiply, if you will, within the limits of productivity, but have infinite care where you put your houses, harbors and hotels, because you must protect your land's natural beauty and spirit of place if you are to retain and sustain your own spirit.

Let's try to put it even more succinctly. All of man's acts in Hawaii must be dominated by the spirit of "Malama". The Pukui-Elbert Hawaiian Dictionary defines "**Malama**" thus: "To take care of, care for, preserve; to keep or observe, as a taboo; to conduct, as a service; to serve, honor, as God; care, preservation, support; fidelity, loyalty; custodian, caretaker." Because he knows so many ways to destroy his natural environment, Man must now become its custodian and caretaker for his own sake. He must exercise **malama**, because if he starts selling parts of his natural environment abroad for creature comforts, he will lose it all, and be unable to survive here. If he uses up his landscapes, mountains, valley and vistas, or if he degrades his air and waters, he will destroy the beauty and hence the spirit of Hawaii, and in so doing, his own spirit. **Malama** is thus an imperative. It is applicable to our entire lives in Hawaii. It is applicable to all our transactions with each other, to all of our transactions with the overseas world, and to all of the transactions between society and nature. Each of these transactions must meet the test of **malama** at all times, without exception.

For each proposal to bring a new business to Hawaii, **malama** would make us ask,"Does it deplete or despoil any natural resource?" If it does, we must reject it, for it will be making us spend that which we cannot spend. On the other hand, does this new enterprise create a new product from renewable resources? Do the sun and the rain and the earth, for instance, combine to give us a product that can be traded offshore, or that is usable here? If the answer is yes, then the enterprise is consistent with **malama**, and is to be encouraged.

Now let's get down to quality growth and land use, and apply our principle of **malama**. We have already set our-

selves up as masters of the land. Through our technology, we are capable of doing almost anything to the landscape. And through our land use and zoning laws, society has taken from the individual the right to say how his lands are to be used. This is well and good, for it makes it easy to apply **malama**, through existing mechanisms, to our land uses.

How much agricultural land can we take out of production before we run into a deficit position in trading offshore for goods that are vital to our life-support? **Malama** makes us take a new look at agriculture, and gives it a high priority in the competition with other uses. **Malama** tells us things about where to put our houses. First, we must be very careful about putting them on productive land. Second, we must be very careful about putting them where they may disrupt our natural systems and cycles, or where they destroy a landscape feature. **Malama** tells us, in short, to classify all our lands as to their importance to our productive capacity and to our spirit of place. And then it tells us to allocate to each parcel of land a use which is in keeping with the principle of preservation.

How can we get from these broad philosophical imperatives down to specifics? How can we examine everything we do to, and with, the natural environment to see what the effects of our acts will be? We must first know much more about our lands, and second, learn how to predict more accurately the effects of our land use decisions before we make them. When we are considering the location of a proposed development, we should be able to examine in detail its effect on the lands which it will occupy, and the lands surrounding it, before we build it. We must learn, if necessary, to move a development around, by theoretical means, to test its effects in other potential locations, and eventually to find the place where **malama** is best observed.

Is all this within the realm of possibility? Yes. Consider a procedure by which all the information about each parcel of land on Oahu is gathered in one place. Things like soil characteristics, slope, drainage, vegetation, rainfall, productivity, ease of development, natural life, aesthetic and social value, and dozens of other things which make up our total knowledge of that parcel. Consider the drawing up of sets of characteristics that are crucial to **malama**, and the rating of these parcels as to their fragility or sturdyness, or any other quality you wish to identify. You are already on the way towards telling which uses are proper for which lands. Now consider a simulation process which allows us to tell, in advance, the effect of putting one thousand new dwellings on plot "A" of agricultural land or on plot "B" of conservation land, or on plot "C" of urban land. If the procedures are good, we will be able to tell whether a proposed land use decision is in the spirit of **malama**.

Incidentally, land use decisions are very often made in places where we least expect. While the highly visible land use commission and planning commission are the most obvious places we think of, legislative bodies, in their budget deliberations, make the truly overriding decisions about land use when they appropriate or withhold money for highways, sewers, parks and schools. Later decisions by formal zoning bodies usually follow and respond to these capital budget decisions. Legislative bodies should be the first to make use of these techniques of applying **malama** to

their planning decisions.

The processes which I've been talking about are not just talk. Doak Cox's Environmental Simulation Laboratory is very actively pursuing concepts like these. They are experimenting with the Kaneohe area at the present time, trying to develop techniques of running simulations to test out the effects of downstream events which will influence the development of this area. They are trying to do it in a way that will assure that their results will be of value to the decision-makers, and to those who will be affected by the decisions.

The work of the laboratory, in my opinion, is directed to one of the central problems of our state that we are here to talk about today. If Dr. Cox and his people are successful, they will have made available a tool for applying to our land allocation processes an objective means of testing them against the principle of **malama.**

We have touched on the application of **malama** to land use, and talked about one way to do so systematically and scientifically. Any ethic or principle should be applicable in all kinds of ways, to all kinds of situations. It is for this reason that I favor the idea of distilling our ideals and goals, as a people, into statements that are short and concise, which can be applied constantly to our activities. This is one way of making sure that a consistent direction is followed by our society, public and private. The work of the Temporary Commission for Statewide Environmental Planning, in my opinion, is in concert with this kind of thinking. The Commission is actually drawing up a series of written goals pertaining to society's relationship with nature, which are to serve as guides for the state in its transactions with the environment. I'm encouraged to think that they will be successful in their pioneering effort, and am looking forward to the completion of their work.

Now let's talk about **malama** and quality growth. We spoke briefly about what kind of standards had to be applied relative to proposed new enterprises in the state, and got a fix on the type of growth that was okay. Does **malama** tell us anything about how much growth we want? It certainly does, but not in the arbitrary way that many of us are talking about it today. **Malama** says business activities can grow without limit if they do not feed off the export or consumption of non-renewable resources. The only limitation is that the physical facilities needed to accommodate new activities must be located where they satisfy the conservation ethic. Activities such as banking, brokering, trans-shipping and trade are to be encouraged, because they add to our overseas buying power, and don't have an impact on our environmental resources. Activities in which we get paid for our services are to be encouraged, be they physical, (such as processing or value-adding), or be they intellectual, (such as education, invention, research, or creativity). The harvesting of renewable resources should be encouraged. Fishing from the open seas passes the test, as does aquaculture and all that it implies, such as fish farming, coral and pearls.

What kinds of economic growth are taboo under **malama**? Mining of bauxite, for instance. The harvesting of native timber without certain and infallible provision for its replacement. The export or drain of human talent should be firmly discouraged. If we start to lose our productive people, we start to lose a resource which is very

valuable in our overseas transactions. It is proper to export skills which we have developed, but it is wasteful to export the minds which have developed those skills.

What does **malama** tell us about the tourist industry? As we hinted early in this discussion, tourists bring money with them, enjoy our landscape, and leave the money behind, helping us immeasurably to preserve our non-renewable resources. **Malama** tells us to cherish the tourist, and to encourage him to come. It also tells us something about the facilities we build for him, though. They must be of a nature, and at such locations, that they don't threaten our landscape and natural life. **Malama** says we can probably substitute tourism facilities for agriculture, if absolutely necessary, but it advises us to keep both activities if possible. Therefore, if an agricultural enterprise is failing, and a tourist facility can use that land, well and good, but if a going agricultural enterprise must be displaced by tourism, **malama** says no, unless that latter payout is much greater. As an aside, **malama** tells us that a tourist tax, if it's going to be adverse to the industry, is very, very unwise. On the tax score, additionally, **malama** gives us a priority of activities which should be given preferential tax treatment because of their contribution to our balance of trade.

What about the growth of population? **Malama** has a lot to say here, as well, thus helping to establish its credentials as an ethic. It tells us that the true limitation of population is purely physical. There are two constraints. The first is the carrying capacity of our natural environment. We said we have to live off of the produce of our natural world, trading overseas for our food and shelter. There is at all times a limit to the carrying capacity, based on our technology and the physical limitations of these islands. Our population limit under this constraint tells us to stop when we are forced to sell irreplaceable parts of our island world in order to feed, clothe and house ourselves. We need to refine our economic tools and measuring devices so as to get a finer fix on our condition in this respect. Since all physical items pass in and out of here through a very limited number of ports and airports, it is very easy to monitor those flows and their values. It's conceivable that prohibition of certain exports that fail the **malama** test could be instituted. Productive carrying capacity, thus, is one limitation on population. The other is the physical carrying capacity of the land. How many dwellings and other support facilities can we build, and where can we build them in the spirit of **malama**, where they do not take productive land, and where they do not do violence to our landscape and natural systems? We've already talked about enhancing our capability for making these judgements. It's very easy for me to conceive of a study of this island which will indicate all the lands where we may accommodate population growth in the spirit of **malama**. I wish we were doing it right now, and hope that we'll be doing it very soon.

We've tested the **malama** ethic in a somewhat random way on a lot of the important problems that confront us these days, and it seems to hold up as a consistent guiding principle. It points the way toward a great many subethics which need to be developed, in the manner in which the Temporary Commission for Environmental Planning is going. It is very helpful to me in the legislature, where one

is constantly being asked to decide between two or more powerfully convincing and articulate advocates for diametrically opposing positions. I do not claim for it any depth of insight or scientific validity. It is largely intuitive, but these are the kinds of things that people understand and that move people, and I sense the need for this in these days when we are beset with so many problems, and so many conflicting answers.

GET Committee

From: Robin Swanson <Robin.Swanson.55922926@p2a.co>
Sent: Saturday, August 31, 2019 6:24 PM
To: GET Committee
Subject: RE: 9/3/19 GET meeting; GET-26: It's time to make the pono choice and withdraw the attack against th

Dear Maui County GET Committee,

Hi, my name is Robin Swanson and I live in Honolulu, Hawaii. I am submitting this testimony for the September 3, 2019 committee meeting on item GET-26 (settlement in Hawai'i Wildlife Fund, et al., v. County of Maui).

As a resident of Hawai'i, I urge you to withdraw the appeal to the Supreme Court, focus on solutions for wastewater pollution, and stop the damage to priceless ocean and reef resources. The county should invest in Maui's future by building the necessary infrastructure to reuse the Lahaina facility's treated wastewater for irrigation, which is a true "win-win" solution. In contrast, destroying the law to advance the county's "right to pollute" the ocean is a "lose-lose" for both the county and the people.

We need Maui County's elected representatives to show leadership and turn this situation around. It's time to stop the reckless attack on the law and focus on building a responsible wastewater system of the future at the Lahaina facility.

We don't want Maui to do the dirty work with the Trump administration for our nation's worst polluters by dismantling the nation's bedrock clean water law.

We need your help before Maui County goes down in history as the champion for water pollution in the United States. Please, create a lasting, positive legacy by focusing on the solutions for this pollution problem and upholding—not destroying—the legal protections of clean water for Maui, Hawai'i, and the entire nation.

Regards,
Robin Swanson
748 Isenberg Street
Honolulu, HI 96826

GET Committee

From: Jon Nishimura <jnishimura@fukunagaengineers.com>
Sent: Saturday, August 31, 2019 6:42 PM
To: GET Committee
Cc: Michael.victorino@mauicounty.us; Kelly King; Keani N. Rawlins; Tasha A. Kama; Riki Hokama; Alice L. Lee; Mike J. Molina; Tamara A. Paltin; Shane M. Sinenci; Yukilei Sugimura; Richelle Thomson (Richelle.Thomson@co.maui.hi.us); Eric Nakagawa
Subject: Re: GET-26 - Hawaii Wildlife v. County of Maui

Resending

Sent from my Verizon, Samsung Galaxy smartphone

-------- Original message --------
From: Jon Nishimura <jnishimura@fukunagaengineers.com>
Date: 8/30/19 5:06 PM (GMT-10:00)
To: get.committee@mauicounty.us
Cc: Michael.victorino@mauicounty.us, Kelly.King@mauicounty.us, Keani.Rawlins@mauicounty.us, Tasha.Kama@mauicounty.us, Riki.Hokama@mauicounty.us, Alice.Lee@mauicounty.us, Mike.Molina@mauicounty.us, Tamara.Paltin@mauicounty.us, Shane.Sinenci@mauicounty.us, Yukilei.Sugimura@mauicounty.us, "Richelle Thomson (Richelle.Thomson@co.maui.hi.us)" <Richelle.Thomson@co.maui.hi.us>, Eric Nakagawa <Eric.Nakagawa@co.maui.hi.us>
Subject: RE: GET-26 - Hawaii Wildlife v. County of Maui

To the Governance, Ethics and Transparency Committee

Please find attached written testimony from Fukunaga & Associates, Inc. for the upcoming agenda item GET-26 – Hawaii Wildlife v. County of Maui.
Please contact me if you have any questions.
Regards,

Jon Nishimura
Fukunaga & Associates, Inc.
1357 Kapiolani Blvd. Suite 1530
Honolulu, Hawaii 96814
Phone: (808) 944-1821
Fax: (808) 946-9339
website: www.fukunagaengineers.com

GET Committee

From: helenaberg.maui@everyactioncustom.com on behalf of Helena Beeg <helenaberg.maui@everyactioncustom.com>
Sent: Saturday, August 31, 2019 6:45 PM
To: GET Committee
Subject: Testimony in SUPPORT of resolution CC-19-178 re: settling the Lahaina Injection Wells lawsuit

Dear Maui County GET Committee,

My name is Helena Berg and I am a resident of Makawao. I care about this issue because I care about Maui, the environment and clean water.

I am writing in support of Maui County settling the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT).

Both the Hawai'i district court and Ninth Circuit appeals court have already ruled that the County must get a permit under the Clean Water Act to continue discharging treated wastewater into the groundwater via the Lahaina injection wells. I ask the County to withdraw its appeal and work with state and community stakeholders to modernize the treatment facility and invest in water reuse solutions.

Settling the case would end a detrimental challenge against the Clean Water Act and allow the County to avoid further penalties as long as it diligently works toward solutions. The Department of Health has already made clear that private cesspools and septic tanks would not need to get NPDES permits, so there is no risk to individual homeowners.

However, if the County continues its appeal, it threatens to gut the federal Clean Water Act. If the County wins the case at the Supreme Court, polluters across the United States would be free to contaminate water bodies as long as they release their waste from a pipe just short of the waters' edge or into the ground. The Trump Administration and industrial polluters like pipeline companies, the oil and gas industry, manufacturers, coal-burning utilities, and mining associations are all hoping that you will continue the appeal. As elected officials, I hope you will do the right thing, not for the Trump Administration and industrial polluters, but for public trust waters and present and future generations in Maui and all of Hawai'i.

Maui County has a history of being leaders in environmental protection, and you can uphold this reputation and continue this legacy by withdrawing the appeal. Please help to uphold the Clean Water Act and protect Maui's reefs, which not only provide many economic benefits, but hold cultural and environmental significance for all of Hawai'i. I ask you to support the settlement of the Lahaina Injection Wells case and withdrawal of the appeal.

Sincerely,
Helena Beeg
120 Kapuahi St Makawao, HI 96768-8007
helenaberg.maui@gmail.com

GET Committee

From: jmr0038@everyactioncustom.com on behalf of Jennifer Roberts <jmr0038@everyactioncustom.com>
Sent: Saturday, August 31, 2019 6:55 PM
To: GET Committee
Subject: Testimony in SUPPORT of resolution CC-19-178 re: settling the Lahaina Injection Wells lawsuit

Dear Maui County GET Committee,

My name is Jenny Roberts and I am a resident of Maui County. I care about this issue because I live in Napili, ten minutes from Kahekili beach, one of my favorite reefs to visit. With a heavy background in Marine Biology and a Masters in Ocean Policy, the County is in clear violation of the Clean Water Act and it is destroying our island natural marine life. The state of our coral not only effects our potential economy, but our tourism, our health and our natural barrier system from storms and sea level rise.

I am writing in support of Maui County settling the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT).

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Sincerely,
Jennifer Roberts
4955 Hanawai St Lahaina, HI 96761-8815
jmr0038@gmail.com

GET Committee

From: lorraineiliya@everyactioncustom.com on behalf of Lorraine Iliya <lorraineiliya@everyactioncustom.com>
Sent: Saturday, August 31, 2019 7:32 PM
To: GET Committee
Subject: Testimony in SUPPORT of resolution CC-19-178 re: settling the Lahaina Injection Wells lawsuit

Dear Maui County GET Committee,

My name is Lorraine Iliya and I am a resident of Haiku. I care about this issue because I care very deeply about our ocean, reefs, and marine life.

I am writing in support of Maui County settling the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT).

Both the Hawai'i district court and Ninth Circuit appeals court have already ruled that the County must get a permit under the Clean Water Act to continue discharging treated wastewater into the groundwater via the Lahaina injection wells. I ask the County to withdraw its appeal and work with state and community stakeholders to modernize the treatment facility and invest in water reuse solutions.

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Sincerely,
Lorraine Iliya
1010 Kauhikoa Rd Haiku, HI 96708-5858
lorraineiliya@gmail.com

GET Committee

From: ritaokeane@everyactioncustom.com on behalf of Rita Murata <ritaokeane@everyactioncustom.com>
Sent: Saturday, August 31, 2019 9:01 PM
To: GET Committee
Subject: Testimony in SUPPORT of resolution CC-19-178 re: settling the Lahaina Injection Wells lawsuit

Dear Maui County GET Committee,

My name is Rita Murata_____ and I am a resident of _Lahaina Maui.

I am writing in support of Maui County settling the Lahaina Injection Well case (HAWAII WILDLIFE FUND, ET AL. V. COUNTY OF MAUI, RELATING TO THE CLEAN WATER ACT).

Both the Hawai'i district court and Ninth Circuit appeals court have already ruled that the County must get a permit under the Clean Water Act to continue discharging treated wastewater into the groundwater via the Lahaina injection wells. I ask the County to withdraw its appeal and work with state and community stakeholders to modernize the treatment facility and invest in water reuse solutions.

Settling the case would end a detrimental challenge against the Clean Water Act and allow the County to avoid further penalties as long as it diligently works toward solutions. The Department of Health has already made clear that private cesspools and septic tanks would not need to get NPDES permits, so there is no risk to individual homeowners.

However, if the County continues its appeal, it threatens to gut the federal Clean Water Act. If the County wins the case at the Supreme Court, polluters across the United States would be free to contaminate water bodies as long as they release their waste from a pipe just short of the waters' edge or into the ground. The Trump Administration and industrial polluters like pipeline companies, the oil and gas industry, manufacturers, coal-burning utilities, and mining associations are all hoping that you will continue the appeal. As elected officials, I hope you will do the right thing, not for the Trump Administration and industrial polluters, but for public trust waters and present and future generations in Maui and all of Hawai'i.

Maui County has a history of being leaders in environmental protection, and you can uphold this reputation and continue this legacy by withdrawing the appeal. Please help to uphold the Clean Water Act and protect Maui's reefs, which not only provide many economic benefits, but hold cultural and environmental significance for all of Hawai'i. I ask you to support the settlement of the Lahaina Injection Wells case and withdrawal of the appeal.

Sincerely,
Rita Murata
79 Wai Kulu Pl Lahaina, HI 96761-5713
ritaokeane@gmail.com

GET Committee

From: Kallie Barnes <Kallie.Barnes.225061626@p2a.co>
Sent: Saturday, August 31, 2019 9:23 PM
To: GET Committee
Subject: RE: 9/3/19 GET meeting; GET-26: It's time to make the pono choice and withdraw the attack against th

Dear Maui County GET Committee,

Hi, my name is Kallie Barnes and I live in Volcano, Hawaii. I am submitting this testimony for the September 3, 2019 committee meeting on item GET-26 (settlement in Hawai'i Wildlife Fund, et al., v. County of Maui).

As a resident of Hawai'i, I urge you to withdraw the appeal to the Supreme Court, focus on solutions for wastewater pollution, and stop the damage to priceless ocean and reef resources. The county should invest in Maui's future by building the necessary infrastructure to reuse the Lahaina facility's treated wastewater for irrigation, which is a true "win-win" solution. In contrast, destroying the law to advance the county's "right to pollute" the ocean is a "lose-lose" for both the county and the people.

We need Maui County's elected representatives to show leadership and turn this situation around. It's time to stop the reckless attack on the law and focus on building a responsible wastewater system of the future at the Lahaina facility.

We don't want Maui to do the dirty work with the Trump administration for our nation's worst polluters by dismantling the nation's bedrock clean water law.

We need your help before Maui County goes down in history as the champion for water pollution in the United States. Please, create a lasting, positive legacy by focusing on the solutions for this pollution problem and upholding—not destroying—the legal protections of clean water for Maui, Hawai'i, and the entire nation. Enough time, money and energy has been spent avoiding the action that must be taken. Please do not continue down this path. The people will never forget.

Regards,
Kallie Barnes
PO BOX 267
Hawaii Volcanoes National Park, HI 96785