

Fuel Tank Advisory Committee

May 13, 2022

Chats from Zoom and Testimony Emails

The last comment in this list is from Patty Oishi at 11:18. All other chat questions after that will need to be reviewed in real time.

### **Healani Sonoda-Pale**

~~Why isn't this meeting in person? Will the panelist be at the Capitol? Are they afraid to face the public?~~

Are you aware that there are a lot of houseless that live along Halawa stream? Have you notified them? What precautions have you taken to protect the stream ecosystem health?

What exactly is being released in Halawa stream?

Where did the plume go?

Why doesn't this timeline start in 2014?

Can the water be cut off to the Navy until such time as they shut down red hill and pay the costs that residents are paying? They are the owners and creators of this situation

If we don't pay our water bill our water gets turned off

### **Gina Hara**

Pls clarify high fluoride levels caused shut down in addition to high fuel levels

I think the public has the right to see each other's questions to the panel. This is part of the problem with this system for the past 8 years that you do not take public discussion as equal in the process, or ask to meet and discuss (not one way testimony).

You must address why 400ppb is being used as the TPH-d vs. the 100ppb as been argued by Board of Water because you can smell fuel at 160ppb. This needs to be investigated.

It "appears to be declining" because it is spreading out further into the aquifer?

Shouldn't the Clean Water Act apply here (at least for Kilo Pier)?

This SGH independent firm is it accepted and acknowledged by DOH?

Please ask Phoenix Grange about the 400ppb TPH-d standard vs. 100ppb TPH-d

The cost of December emergency housing was maybe \$250 million. What is the cost now - what do they know?

The cost of December emergency housing was maybe \$250 million. What is the cost now - what do they know?

What happens if there is an accident for the rest of South Shore (Moanalua to Hawaii Kai) - the Navy did not pay for civilians on Navy water lines.

### **Zoe Dym**

Are we currently in stage 5?

### **Kalani Copp**

Will the groundwater contamination maps be available for public use/download?

Is the decline in contaminant concentration due to pumping the shaft, or migration of contaminants?  
Will the maps be available for public use/download?  
Wouldn't it be more ethical for the Navy to outsource their water testing to an unbiased organization?

### **Lana Brodziak**

Given the patterned flow and the adjoining land use, are there plans to utilize additional existing monitoring wells (on private property) so the question mark areas can be sampled to understand movement towards the public water supply well(s)?

### **Aurora Kagawa-Viviani**

Can you please describe what the early Navy drinking water test results of "non-detect" mean when there was clearly TPH in the aquifer? (What were their "detection limits" or were they interpreting ND as below EAL?)

How can you determine whether the plume is "contracting" vs transport?

What was the volume of fuel released on Nov 20? How quickly was it released? What were its characteristics? Over 5 months later we should know this by now and it is crucial for modeling.

How is the \*contaminant fate and transport model\* going? This is different than the groundwater flow model.

What studies are being conducted to assess health impacts from the acute and likely chronic exposures of affected residents?

What are the limits of detection for those analyzers?

What does "detection" mean in terms of ppb? What methods are being used for TPH? There are known problems with standard methods of extraction being incomplete.

### **Bronson Azama**

Will maps that were shown be available on the DOH website for the broader public?

### **Meredith Wilson**

Have the EALS been raised? If so why?

Why was there a health advisory issued for medical provider stating that they should treat symptoms and not test for toxicity? There are safety data sheets for every chemical. There are osha safety sheets for every chemical. If they have the capability to assess toxicity in human beings why can't you?

why has it taken this long to see this?? When will the public see this??

how are the plumes stable if you don't know where they are

what about the recent reports where independent testing of homes is resulting in positives for jp-5 and other homes reporting a sheen on their water? there have also been an uptick in illnesses again similar to those in November.

Please be more specific on the detail of "substantial" testing of homes prior to allowing residents to move back in. i.e... every home test, etc...

Was every home tested prior to residents moving back into homes?

When will you test 100% of homes air quality and water

What other phenomenon do you think it could be then?? Why are symptoms resurging on your water system users? Wouldn't you want to assess that?

**Marti Townsend**

May the public please have a link to the DOH's presentations?

This is so heartbreaking... shocking!! where is the urgency to clean this up?!

I keep hearing "aware of" at that time. So now are you aware or was someone else? When did this get discovered? Why is it now just being told?

I echo Gina's question about why the plume appears to be declining -- is it because the contamination has been collected or because it is diluting into the aquifer?

More monitoring wells need to be installed. What is happening under the prison?

How much TPH-d is being collected by the GAC system?

Let's get real. How successful were the clean up plans for the water supplies contaminated in other communities? How is ABQ? Camp LeJune? Has the military ever successfully cleaned up water they have contaminated?

Please give the public a written timeline of the Navy's proposal for "going forward." Because right now it feels like we are going in circles.

A couple of calls a day?! Can we have independent follow up on those calls. I do not trust the Navy

**Laurel Brier**

Kauai's westside is the one other place in Hawaii that these same 1940ties fuel tanks exist. It seems likely they are also leaking. What is their current status? When were they last inspected? is there a plan to decommission these tanks as well?

**Lisa Keeney**

How many and which of the chemicals leaked are forever chemicals?

Redacted how? Why? Do you mean redacted like when the water was said to be safe for people to bathe their babies in and it wasn't or ???

When do we get UNTREDACTED reports regarding our consumption of poisoned water??

1,600 samples out of 93,000. People in affected areas?

Removing soil with forever contaminants? Where will the pile of forever toxins be put?

**Anna Chua**

Please share what actions the agencies are taking to remediate this mess.

Why aren't the community members and experts part of the committee?

SGH is not even an independent contractor. How can we even trust that assessment?

**Susan Gorman-Chang**

Gabriella, was the flushing done in Kapilina Homes, where the water was just flushed out into lawns and thus went directly into the soil and/or ocean, a violation of the federal Clean Water Act? No filtering was done here. Please discuss why it was or was not a violation under the Clean Water Act.

Where on this timeline does it show where Navy leadership said there was no problem with the water?

Where on this timeline is where the Navy contested the first DOH order?

When will the public get to see this report you just mentioned?

1,000 water samples out of how many homes in the affected areas?

Who chooses what/where those 6,000 homes to be tested are?

So you can remove ALL contamination from the water?

Will the public get the May 31 full plan?

I assume each phase has a date and timeline. Can you share those with us now?

When can the public see this report?

Will the U of H samples be turned over to the Navy or will it go directly to the public?

Navy is there anything else you can do to make us feel more disposable as human beings? I think you have covered everything. You have impacted our physical health, mental health, long term health, and our financial stability. Navy your message is that we are disposable human beings. Do you care?

### **Kyle Kajihoro**

How can the public participate in the development of the action plan?

Where is the affected community representation? This composition goes against the principles of environmental justice.

When will you release the full investigation reports?

### **Colonel Ann Wright**

When does the public get to see the report?

could you spell RISTA???? subcontractor?

Who is the "REGULATOR"?????

### **Stacey Breshears**

Has the Navy even reached out to Queen Emma Land Company who owns much of Halawa?

### **Sherry Pollack**

What are the consequences of the Navy not following the EO timeline/deadlines? What are the penalties for missing each deadline? Steep fines need to be imposed.

Beyond telling people their water has already been tested, what else has the Navy been doing to investigate why there are sheens in their tap water and new/resumed reported health issues with families who have been forced to move back into base housing?

### **Larissa**

WHY are we STILL getting sick? WHY is there STILL a sheen on our water?

### **Patty Oishi**

CAPT Meyer: When did your assignment to cover Red Hill begin? When does your Hawaii PCS terminate?

**From:** [Mara Davis](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] defuel redhill written testimony  
**Date:** Wednesday, May 11, 2022 8:20:56 AM

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hi,

Redhill keeps leaking fuel into our drinking water. Navy needs to follow deadlines to defuel and there needs to be evidence redhill is defueling.

-mara davis

**From:** Dyson\_Chee  
**To:** Perry, Thu  
**Subject:** [EXTERNAL] Fuel Tank Advisory Committee Written Testimony  
**Date:** Wednesday, May 11, 2022 2:08:32 PM

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Aloha Thu Perry,

My name is Dyson Chee, I am a resident of Ala Moana, and I am submitting written testimony to the Fuel Tank Advisory Committee.

I strongly support the removal of the Red Hill fuel tanks, and I encourage the Department of Health (DOH) to use all mechanisms, including full and strict enforcement of the emergency order, to get the 100 plus million gallons of fuel out of Red Hill.

Even though the Navy waived its right to contest the new Emergency Order, I do not trust them to protect our water and take accountability. The Navy is not forthcoming, has lied, and has even refused to answer questions from the community. The Navy must release all documents and reports regarding the contamination, aquifer remediation, water testing, and the timeline to defuel and shut down the facility.

As the protectors of the public trust, I urge DOH workers and the DOH to prioritize and operate in the interests of the community. DOH must ensure that community experts and affected communities are part of the conversation and decision-making on timeline, remediation, and accountability of the Red Hill fuel tanks.

I am extraordinarily grateful for you and your coworkers at DOH, alongside with other individuals and entities who have also taken meaningful action to protect the safety and welfare of the people of Hawai'i. I am optimistic that everyone's hard work and effort will pay off with the removal of the Red Hill fuel tanks and the protection of our fresh water.

Mahalo for taking the time to read my testimony.

Sincerely,  
Dyson Chee

## Perry, Thu

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**From:** redahi <redahi@hawaii.rr.com>  
**Sent:** Wednesday, May 11, 2022 4:17 PM  
**To:** Perry, Thu  
**Subject:** [EXTERNAL] Red Hill

1. Department of Health workers are protectors of the public trust.
  0. DOH must prioritize and work in the interests of the community – and to do that, they must ensure that community experts and affected communities are part of the conversation and decision-making on timeline, remediation, and accountability.
    1. Use all mechanisms, including full and strict enforcement of the emergency order, to get the 100 plus million gallons of fuel out of Red Hill.
2. Even though the Navy waived its right to contest the new Emergency Order, we do not trust them to protect our water and take accountability.
  0. Even though the Navy waived its right to contest the new Emergency Order, we do not trust them to protect our water and take accountability.
    1. The Navy is not forthcoming, has lied, and straight-up refused to answer questions from the community.
    2. The Navy must release all documents and reports regarding the contamination, aquifer remediation, water testing, and the timeline to defuel and shut down the facility.

Thanks for listening,  
B. A. McClintock

**From:** [Jennifer Valentine](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] red hill  
**Date:** Thursday, May 12, 2022 10:58:46 AM

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Department of Health workers are protectors of the public trust.

DOH must prioritize and work in the interests of the community – and to do that, they must ensure that community experts and affected communities are part of the conversation and decision-making on timeline, remediation, and accountability.

Use all mechanisms, including full and strict enforcement of the emergency order, to get the 100 plus million gallons of fuel out of Red Hill.

Even though the Navy waived its right to contest the new Emergency Order, we do not trust them to protect our water and take accountability.

Even though the Navy waived its right to contest the new Emergency Order, we do not trust them to protect our water and take accountability.

The Navy is not forthcoming, has lied, and straight-up refused to answer questions from the community.

The Navy must release all documents and reports regarding the contamination, aquifer remediation, water testing, and the timeline to defuel and shut down the facility.

**From:** [Davie-ann Thomas](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] Aloha. My testimony for Red hill May 13  
**Date:** Thursday, May 12, 2022 3:01:56 PM

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Aloha

Tomorrow, Friday, on May 13, 2022, I will attend in person and speak at the state capitol that I signed up for. I am unsure if you still need my speech. The below is timed less than 2 minutes. I will be present to speak.  
Mahalo ā nui. Davie-ann Momilani Thomas.

"Aloha Mai kākou

My name is Davie-ann Momilani Thomas

I am born and raised from O'ahu. We are a Navy retired family of 4. For 6 years we live at Pearl City peninsula Navy housing. Yes, our health has been impacted and still at risk. As a dedicated Hawaii voter since 1994, I feel that much of this catastrophe could have been prevented by our Hawaii politicians. May I suggest to each one of you, to uphold stiff boundaries upon the responsible parties because for 79 years their trust has been broken. Mahalo piha"

Sincerely,  
Davie-ann Momilani Thomas

[Sent from Yahoo Mail on Android](#)

**From:** [Tadia Rice](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] Fuel Tank Advisory Committee & Red Hill situation  
**Date:** Thursday, May 12, 2022 6:17:42 PM

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Aloha Thu Perry,

We must ensure we take great care in protecting our aquifers, keeping them safe for current and future generations. But fuel from the Navy's Red Hill facility has made its way into Oahu's drinking water, poisoning thousands of people. The Navy's response continues to be lacking in urgency to defuel the tanks and remove the threat of another spill.

Department of Health workers are protectors of the public trust. DOH must prioritize and work in the interests of the community – and to do that, they must ensure that community experts and affected communities are part of the conversation and decision-making on timeline, remediation, and accountability. I urge you to use all mechanisms, including full and strict enforcement of the emergency order, to get the 100 plus million gallons of fuel out of Red Hill.

Even though the Navy waived its right to contest the new Emergency Order, we do not trust them to protect our water and take accountability. The Navy is not forthcoming, has lied, and straight-up refused to answer questions from the community. The Navy must release all documents and reports regarding the contamination, aquifer remediation, water testing, and the timeline to defuel and shut down the facility.

TADIA RICE

(she, her, hers) [Here's why](#)

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Hosting WOManocity with Curiosity on WOMan Radio

Saturdays 9:00 PM SAST

***Ua ola loko i ke Aloha ~ Love gives life within***

**`Ōlelo No`eau - Hawaiian Words of Wisdom**

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**From:** [Emily Randen](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] Navy Water Crisis written testimony  
**Date:** Thursday, May 12, 2022 10:09:08 PM

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My name is Emily Randen. I am a Navy spouse living in the Radford Terrace community (Zone F2) The water in my house and many others in my neighborhood still has a sheen. I have filters on every fixture I could fit one to. They work, as only the faucets without filters have the oily sheen. I've spent over \$300 out of my own pocket on those filters. The Navy and Ohana housing should provide every home with a total home filter in the garage if they really cared about these homes and the families who live in them. I requested my home be re-flushed, but my appointment was cancelled because the Navy and housing couldn't coordinate to both be here at the same time. Many similar appointments in my neighborhood were canceled/rescheduled for the same reason. I have incredibly painful rash/sores because I impulsively used my tub facet to quickly rinse off instead of using my shower head which has a filter. I feel trapped. I feel like maybe my life will be shortened because of this crisis. My community is exhausted.

I do wish to thank the military personnel who have been to my house testing and flushing. They have all been so kind and empathetic. They're all living through this nightmare too. It is frustrating however that these teams say things like, "your tests should be back within 72 hours," and then we never get results. The Navy continually says it's their goal to restore faith. At the top levels, I haven't actually seen a single action that does that in the past six months.

Thank you for your time

Emily Randen

**From:** [Chai Blair-Stahn](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] Remove the Fuel Tanks at Kapūkakī and Protect Our Aquifer  
**Date:** Thursday, May 12, 2022 11:38:15 PM

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Aloha Mr. Perry,

I am writing to express my support for the removal/relocation of the US's navy underground fuels tanks stored at Kapūkakī.

As a resident on O'ahu, it is disconcerting to know that our island's freshwater supply is in a state of continual threat to due additional leaks in the very old fuel tanks.

The Navy has argued that these tanks are essential for their operations. How will the navy operate anything if there is no water supply to sustain their workforce? Who is there to "protect" if our freshwater has been so contaminated that it forces people off the island?

If the military is truly concerned about the safety of island residents, then the only practical solution is to ensure the substance that guarantees life to all living things (i.e., freshwater) is kept safe.

In any case, it is the responsibility of the government to protect our precious resources and to act in the best interests of the population. Please act with urgency and remove the fuel tanks at once.

Thank you for your time,  
Chai Blair-Stahn

## Perry, Thu

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**From:** Sarah Weber <webersn@hawaii.edu>  
**Sent:** Friday, May 13, 2022 8:05 AM  
**To:** Perry, Thu  
**Subject:** [EXTERNAL] testimony and questions  
**Attachments:** Sustained\_Ylem\_Corporation\_Report.docx

Aloha my name is Seren Weber

I intend to be there for the in person zoom, but I would like to submit questions and testimony here as well. Thank you.

I am the founder of Sustained Ylem Corporation a biocultural remediation to energy products corp.

I think it is well known that the tanks are unreasonably old and in disrepair. The priority is to remove the fuel immediately. I have a few questions I would like to ask and then you can respond thank you.

I would like to know if you have a location that you are able to safely move the fuel to immediately within the state or on the mainland?

Is there a reason, at zone I1 nearest the tanks, has no report for total carbons in ppb or either 1 or 2 methyl naphthalene?

Are there, or have there ever been rocket fuels stored in the tanks or other compounds?

Have perchlorates ever been tested?

Are you wasting the aquifer water resource by dumping it into the halawa stream? Do you have knowledge of the stream and aquifer recharge relationship?

How often do you intend to change the treatment material? Why are you not including phase 2 of the installation and operation of the treatment as phase 1? How confident are you the treatment will be sufficient in phase 1 and do you intend to dump into the Halawa stream if it is not 100% efficient? (For GAC and zeolite)

p.s. As a founder of sustained ylem corporation, I have attached a full report/testimony/proposal on remediation for the Red Hills Facility. Please feel free to reach out with questions or concerns.

Hope all is well,

Seren Weber

360.460.6036

<https://amphibian-beige-tkgx.squarespace.com/>

## Defining Land and Water – Kuleana (Responsibilities) – for a State of Emergency in Hawai‘i

It is necessary to begin to identify and uncover law and policy relating to biocultural customs of native Hawaiians and their resources that have been infringed upon as well as to define biocultural remediation approaches that provide real-life solutions for a world facing extreme pollution, wars, and social disparity familiar to an occupied Hawai‘i. There is a considerable amount of depth to this material and what is represented here is a part of a larger topic regarding pollution and illegal occupation of a foreign nation by the United States of America. Addressing chemical and hazardous waste in Hawai‘i can set precedence in biocultural remediation, and affirmative action for native Hawaiian communities through bioenergy production, resource, and pollution management. Critical resource pollution, energy wars, and climate crisis threaten every part of the planet. Sustainable energy and resource management for social justice is vital and action is required following the Naval Red Hill Fuel Storage Facilities environmental disaster that threatens the island of Oahu’s primary aquifer. It is important to recognize that land access has been lost to native Hawaiian communities, that established land & water in trust for native Hawaiians have been neglected & poisoned, and that something needs to be done.

State laws, duties, and citizen rights that have been neglected and connecting them to water as a biocultural resource must be recognized. Solutions in emergency large-scale bioremediation and affirmative action can alleviate concerns regarding poorly supported or implemented land, water,

& contamination management in Hawai‘i; additionally, Hawai‘i must begin to mitigate for climate crisis in the protection of its critical resources.

Promoting land and water in trust for access, security, and safety rights of native Hawai‘ians can involve results-driven manufacture of bioculturally sensitive remediation as alternative energy with biomass/fuels and other products.

To resolve the Red Hill facilities environmental pollution catastrophe involves the following principles: 1) recognizing stakeholders, legislation, regulation, and policy that upholds the environmental and affirmative action required to overcome the Red Hill fuel leak catastrophe, and other contaminated sites. 2) Increase the level of public access and relationship to biocultural traditions regarding land and water in Hawaii. 3) Process contaminated waste from sites for full or best possible scenario remediation. 4) Properly dispose of hazardous waste through biofuels and energy production, or other product production including leached metal species such as rare earth elements, (REE’s).

There are a wide range of challenges surrounding the Red Hill pollution event and present circumstance in Hawaii. Significantly, dangerous amounts of fuel that have leaked into Oahu’s aquifer. Land & water public access and level of involvement in biocultural traditions in Hawai‘i have suffered. Number of contaminated waste sites continues to grow. Legislation, regulation, and policy that uphold environmental and affirmative action need enforcement. Remediation is perceived as uneconomical and much-needed bioenergy is seen as inefficient.

Foremost, Hawai‘i has been a military and anthropogenic dumping ground for too long; the foundation of which is built on an illegal occupation and statehood. The present, occupying government of Hawai‘i “is illegal because it violates a series of *jus cogens* norms – the

prohibition of the acquisition of territory by force; the obligation to respect the right of peoples to self-determination (Hughes 2020, 1087-1103)”, where the free pursuit of economic, social, and cultural development (Hannum 2022) has been oppressed through a century of dispossession and impoverishment (Barnard 2006-2007); “and the duty to refrain from imposing regimes of alien subjugation, domination, and exploitation (Hughes 2020, 1087-1103).” Second, “President Bill Clinton signs legislation apologizing for the U.S. role in the 1893 overthrow of the Hawaiian monarchy (US National Library of Medicine 2022).” The Apology Resolution legitimizes the illegal occupation since the 1893 overthrow. “Third, it is necessary to declare that the occupation has become illegal to move beyond this humanitarian/managerial paradigm and reconcile the resulting tension between the requirements of state responsibility (international law) and the preference for negotiations (politics) (Hughes 2020, 1087-1103).” “In case of the rules of jus cogens, these rules are binding regardless of the consent of the parties concerned and regardless of the states' own individual opinion to be bound since these rules are too fundamental for states to escape responsibility (Hossain 2005)”, even surpassing treaties through the U.N. if in violation. In fact, the aforementioned violations have occurred, and statehood is considered void in Hawai‘i.

In principal sovereignty of native Hawaiian people resides in the people and its duly constituted government; that the people possess the right of self-governance and therefore may choose independence or self-government in free association with any nation(s); that the people have the right to adopt, amend, change or revoke any constitution or governmental plan at any time; and that free association should be formed as a revocable compact, terminable unilaterally by either party. This precedence is required prior to draft of future legislation, where former statehood legislation may be reapproved and adopted.

Specific solutions surrounding the Red Hill pollution catastrophe presented include biocultural remediation considering knowledge-intensive cultural and agricultural practices modeling biofuel feedstocks for integrated biomass systems that support environmental resource management in energy production. This provides an opportunity to set precedents for management of military-related contamination sites and others across Hawai'i and the Pacific. Brief examples of military contamination are continuous, previously exploded, and unexploded ordnance, fuel & hazardous material spills, and nuclear explosives & waste, etc..

Ongoing quality evaluation, integrated risk management strategies, and ensured reliability are crucial to best remediation practices. To set precedents across the Pacific in the recognition, relevant policies aimed at helping in the management of anthropogenic and military presence-related contamination sites must be acknowledged. Further descriptions to integrated risk management strategies are further discussed throughout this article but include strategy, assessment, response, communication & reporting, technology, and most importantly, “monitoring for identification and implementation of processes that methodically track governance objectives, risk ownership/accountability, compliance with policies and decisions that are set through the governance process, risks to those objectives and the effectiveness of risk mitigation and controls (Gartner IRM 2022).”

Advanced methods for contamination processing, disposal, recapture, or reuse including biofuels, bioenergy, and other products can be defined while introducing appropriate biocultural remediation techniques. Affirmative action through the promotion of land and water in trust for access, security, and safety rights of native Hawaiians and natural resources, as well as data sovereignty are also considered. Setting up biocultural remediation farms may be developed

through existing laws that protect land and water rights, land access, traditional customs, and industry of native Hawaiians.

Agricultural production of remediation, restoration & conservation energy crops can be coupled with biocultural customs of native Hawaiians for resource management and protections.

Establishing partnerships will build accountability and trust in systems to leverage necessary change. Pollutants such as military presence & waste, e-waste, and ocean plastics are also significantly affecting the Hawaiian Islands. Approximately 80,000 tons of plastic is sitting in the Pacific, additionally coating coastlines, beaches, toxifying the food chain, and killing wildlife species rapidly. In Hawai'i and across the Pacific, military-related pollutants are too incredible to count including nuclear sites. As technological advances aid in the development of mankind around the globe there are 50 million metric tons of metal-containing e-waste produced annually. The aforementioned pollutants are potential recycled materials, energy, and fuels resources. Waste and pollution, when managed properly, also provide climate crisis mitigation.

Prevailing missions in resolution of the present circumstance, damage, and continued endangerment of the island of Oahu's freshwater aquifer include evaluation of chemical and hazardous waste in Hawai'i, instilling bioenergy production and remediation with biocultural approaches and techniques. Social and cultural demographic interviews with native Hawaiians using biocultural activity and psychological wellbeing measurements should be taken, discerning relationships to traditional customary practices and resources, and ability for self-determination in Hawai'i to elucidate where improvements can be made.

Cultural significance indices for a variety of species in Hawai'i and relating them to biocultural activities of native Hawaiians will aid in rehabilitation of resources as well. Recognizing

biocultural significance of a land division, such as ahupua'a, restoration, and conservation management zones, that are affected by pollution sources, degradation, and erosion, can be quantified by the use of cultural significance indices, CSI's, as modified from "the value of a rose" by (Turner 1988), indicate quality of use, intensity of use, and exclusivity of use, and are intended to identify the qualitative and quantitative awareness of a species or resource, its cultural uses, and identity.

The kukui tree (*aleurites mollocanus*, candlenut), the state tree of Hawai'i, a well-known and beloved species to Hawaiians, models as an excellent biofuels and remediation tool. Many additional values for CSI's may include such values for economy, health, knowledge transmission, and ecosystem services such as habitat. The highly significant and protected sea bird Manu-o-Kū, white Tern utilizes the kukui tree as a primary nesting host throughout the urban environments of Honolulu. CSI, modeled for a variety of species as well as land and water uses may be utilized to enable protections of Native Hawaiian resource rights. Knowledge of kukui will shed light on the cultural importance of the species to native Hawaiians and inform key stakeholders such as Hawaiian residents, researchers, and policymakers when considering the use of kukui for remediation, reforestation, and as a potential source of biofuel and energy.

Kukui is the Kino Lau, or form, of the Hawaiian pig god of agriculture and fertility, Kamapua'a, family of Lono, seen in the leaf of the kukui as snout and ears. Now, Hawaii's state tree, Kukui (*Aleurites moluccanus*) was brought by the earliest Polynesian settlers as a canoe plant and was used for a variety of uses including fuel or charcoal production in the Hawaiian Islands. Sacred groves, established in underutilized zones within both upland and coastal areas show kukui was historically cultivated in agroforestry systems across the islands. Kukui has considerable cultural and industrial significance. The kukui nut represents a component in the solution of present

challenges in sustainable, economic, and environmental biomass/fuel production, showing promise as a sustainable feedstock due to its high oil content, unique characteristics, and ecosystem services provided by the species when used as a biocultural remediation tool. Kukui is a seed-bearing drupe, although kukui is classified as a nut tree species, it is anatomically closer to a peach. In Hawaii, kukui was used for building materials, dyes, jewelry, medicine, food, fishing, varnish, fuel, and light. As a fast growing and highly productive tree, kukui provided protection and nutrients such as nitrogen, phosphoric acid, and potash for understory crops, improved soil health, and sequestered carbon. (Lincoln 2021) Additionally, as a member of the *Euphorbiaceae* family, a prominent hyper accumulator, remediation, and phyto-mining efforts should be investigated.

Kukui has a wide range of tolerable environmental parameters, tolerating depleted soils and may be planted in urban environments. Unique characteristics of traditionally used fuels and biomass can support modern industrial production, while addressing sustainability from a foundational knowledge drawn from intensive cultural and agricultural practices. Sustainable biocultural restoration of indigenous crops in Hawaii includes restoring traditional landscapes, protection and stewarding of land and community, restoring biocultural heritage, promoting resilience & abundance, and to revitalize knowledge base. To further scientific research and understanding of kukui's biocultural significance an interview was conducted to learn processing methods for the kukui nut. Three processing methods of kukui through the Department of Land and Natural Resources, (DLNR) Kahana Cultural Living Park of the Kahana ahupua'a, were provided. This represents a strong biocultural significance of the species, also providing valuable knowledge for the mechanical processing of kukui informing of a rancidity test, heating times and methods, as well as cooling and cracking methods. Additionally, when utilizing kukui as a remediation tool, a

reciprocal resource relationship is developed with water and land nutrient deposits.

Considerations of past and current distributions of kukui can help to inform management tradeoffs, such as those encompassed in biocultural and ecosystem services.

Military presence on Oahu not only threatens the island's primary aquifer and source of clean drinking water but has also had an incredible impact in consistent pollution and degradation of Hawaiian resources. Additionally, in Hawaii, most towns and cities are under-prepared for rapid growth in the case of increased tourist activities or industry where infrastructure lacks in access roads, directed traffic, parking, wastewater and septic problems in local environments, and where climate crisis threatens flooding, landslides, the spread of contamination and pollution, among many other issues. Specifically, a restricted, contaminated, or otherwise devastated aquifer also significantly hinders, if not eliminates, continued sustainable development on Oahu.

To safely and appropriately remediate all contamination and chemical properties requires in-depth mapping, and identification of properties and plume locations and spread. Details of rates of discharge together with likely constituents, concentration, acidity, and suspended solids in aqueous chemical waste need to be identified and given directives for remediation and management of contamination sites for human safety and health, environmental sustainability, and economical sustainability.

Biocultural remediation site design approaches include site characteristics and pollutant analysis, industry, and waste-stream contracts for alternative energy production and products. This approach provides carbon sequestration, aquifer protection, nearshore protection, reduced pollution (heavy metals, hydrocarbons, chemical waste, etc.), enhancement of biodiversity, reforestation, salinity management, erosion reduction, water treatment, watershed management,

and ecosystem remediation. Phyco- /phyto-remediation with prevalent heavy metal pollutants has potential to amplify the success of bioremediation and resource acquisition in toxified resources. Highest priority contaminants are determined by risk assessment, LD50, prevalence/concentration in the environment, environmental cost, and ecosystem impact. In a given medium contaminants can be specifically targeted by biomass production for resource, remediation, restoration, and conservation purposes.

Plant smelting and biofuels can be integrated and optimized with remediation sites using pollution targeting species. For land and water resource pollution management, primary remediation infrastructure, treatment processing, recapture and energy facilities should be designated at National Priority Listed Sites, Brownfields, and degraded lands where-else applicable to serve long-term pollution mitigation strategies. A full analysis of the pollutants present, including heavy metals, will dictate the type of remediation and recapture processes used. At a 1980 jet fuel leak site in Pearl City arsenic, lead, benzene, toluene, barium, selenium, silver, and petroleum hydrocarbon contamination was sampled from soils (Environment Hawaii 2022). Oil and fuel spills account for a wide range of highly toxic chemicals and metals, C9–C16 hydrocarbons are present in jet fuels and contain things more commonly heard of when thinking about chemicals we don't want to expose ourselves to such as n-paraffins, isoparaffins, naphthenes, and aromatics. According to the CDC Jet fuels are known to cause harmful effects on humans' respiratory tract, gastrointestinal tract, and nervous system when ingested. Studies from the CDC also indicated neurological dysfunction from jet fuel exposure.

Additional military related fuel contamination sites on Oahu include but are not limited to, an abandoned approximately 9 million gallon fuel tank near Pearl Harbor that was intentionally drained into the ground and collapsed, the sunken USS Arizona Ship in Pearl Harbor with

continuous contamination leaks, the discharge disposal area or oil waste sludge pit at the Red Hill Facilities with discharge into Halawa Stream, a 315,000 gallon fuel spill at Ewa junction, an abandoned sewage treatment plant in Pearl City Peninsula, four fuel storage tanks and a former drumming plant near Wheeler, and eight abandoned storage tanks in four different residential areas of what is now Mililani Town, as well as four additional sites in the area (Environment Hawaii 2022). Manana ahupua'a Naval ship boneyard is another primary land division ecosystem in need of remediation.

Through climate crisis mitigation, current and past Hawaiian laws, established living parks may serve as functionally managed ahupua'a resource governance and security. Living parks are recognized in 1977 Hawai'i State Legislature, Senate Resolution 264, where a "living park" is defined as "The purpose of a 'living park' in Hawaii is to nurture and foster native Hawaiian culture and spread knowledge of its values and ways, and that in such a living park, the individuals living there shall participate in the purposes of the park by helping in the education of the public and by incorporating into the structure of their daily lives such values and ways."

To understand the breadth of water as a resource in Hawai'i and the significance to its appropriate management it is important to understand the it's relationship to the Red Hills toxification of Oahu's primary aquifer, climate change with predicted droughts, and increasing island populations & tourism. For a perspective on the island of Oahu water as a resource the future 2030 annual water usage is predicted to be 206mgd or over 74 billion gallons annually (Group 70 Intl. BWS 2009). To visualize one year's worth of water usage on Oahu, it would represent around 230,000 acres or 60% of the island covered in 1 cubic foot of water, or ~2.5 times the amount of Mount Kilauea's eruption, or ~270,000 filled empire state buildings. This is

an enormous amount of water that needs secure protections from further degradation and extreme pollution.

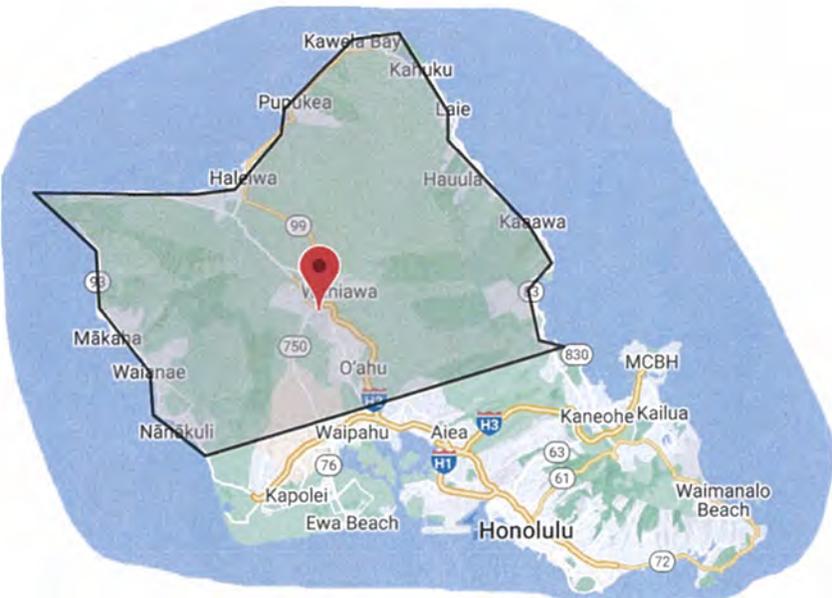


Figure 1. Island of Oahu with ~60% or ~ 230,000 Acres Covered in the Projected, 2030, Annual Water Usage of over 74 Billion Gallons of Water.

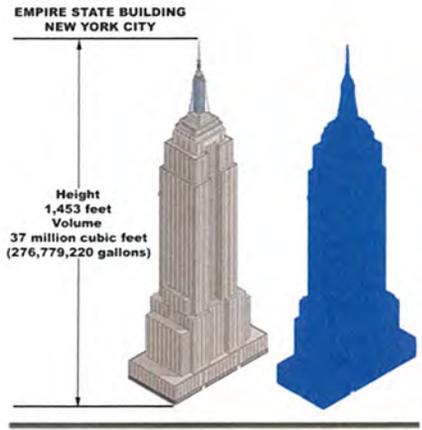


Figure 2. One of 270,000 Representative Empire State Building Filled with Water for Oahu's 2030 Water Usage



Figure 3. Left Image a.) Shows Mt Kilauea Eruptive Lava flow. Right Image b.) Shows Mt Kilauea Estimated Erupted Volume of 30 Billion Gallons of Lava.

Pertaining to the appropriate management of water resources at the Red Hill Facilities, contaminated wells, concerning the damaged aquifer, water may be designated as R-3 water. Designation as R-3 water is non-potable, with no requirement for disinfection, and can be used with careful consideration and implementation of appropriate infrastructure. Polluted water from contaminated wells at the Red Hill Facilities, instead of being poorly treated and dumped into the Halawa stream, as currently defined in the January 2022 Red Hill Shaft Recovery and Monitoring Plan with minimal filtration and an oil boom placed at the end, may be processed and remediated through designation as R3 water in biocultural remediation practices involving alternative energy production. Currently, the tanks have not been defueled even after multiple emergency orders. This inherently shows the lack of ability and inaction of the government of Hawaii, the Navy, and other legally responsible government organizations or stakeholders. “On May 6, 2022, the Hawai‘i Department of Health (DOH) issued an additional Emergency Order, Docket No. 22-UST-EA-01, regarding the defueling and closure of the 20 underground storage tanks, surge tanks, and associated piping at the Red Hill Bulk Fuel Storage Facility (Hawaii State

Dept. of Health 2022).” “The Navy must provide DOH with its independent contractor’s assessment on facility operations by May 15 and a plan and implementation schedule to defuel by June 30, and a plan for closure of the facility by November 1 (Hawaii State Dept. of Health 2022)”. The university of Hawai‘i is intended to conduct monitoring surveys for the stream and affected area according to the recovery and monitoring plan. Engineering reports and submittals for water treatment facilities as reuse projects are required through the Hawai‘i State Department of Health Waste-water Branch.

Utilizing refurbished tanks in place as water storage allows for remediation crop agriculture up to 250 million gallons. Additionally, aquaculture with a variety of species including algae, fish, or mussel larvae for biofuels production can be done. Use of the existing tanks may be possible where least surrounding contaminated is present and where most easily repaired with least corrosion or leaks. Tanks may be rebuilt with composites and 3-D printing as water storage tanks for agricultural remediation purposes. The tanks contain enough steel to manufacture 12,000 ‘classic cars’, five freeway miles of concrete, and 12.5 million gallons of capacity. There are 20 tanks 100 ft diameter, 250 ft depth, below a volcanic mountain ridge in solid rock, consisting of 2.5-4ft thick reinforced concrete and ¼” to ½” thick steel plate. Repurposed tanks for advanced filtration to remove contaminants may include high flow velocity water suction pumps that utilizes venturi effect with higher flow velocities in the suction channel by use of a closed pit. Tools to analyze tanks include phased array flaw detectors. Total focusing method portable digital phased array flaw detectors provide consistent nondestructive test flaw detection for weld inspection & corrosion mapping of tanks & pipelines. 3D scanners also can be used for portable nondestructive testing pipeline inspection. Non-Destructive Testing (NDT) pipeline inspection in the oil and gas sector is essential for pipelines and storage tanks to remain completely safe during

transportation and storage. Non-destructive weld testing is integral to assuring stringent industry standards. Material composites, such as TuFF composites, can be stamped like sheet metal- where previous composites are hand-laid for the refurbishing of tank walls.

Other water resource management includes elucidating biocultural significance indices of stream(surface), ground, and aquifer, water indicating quality of use, intensity of use, and exclusivity of use, and are intended to identify the qualitative and quantitative awareness, its cultural uses, and identity of water to native Hawaiians. There are 37 counts of “Wahi Pana” or legendary, celebrated, or noteworthy sites with high cultural significance within the Moanalua aquifer, twenty-one of which are lo‘i kalo that would heavily rely on freshwater sources if allowed to function as intended.

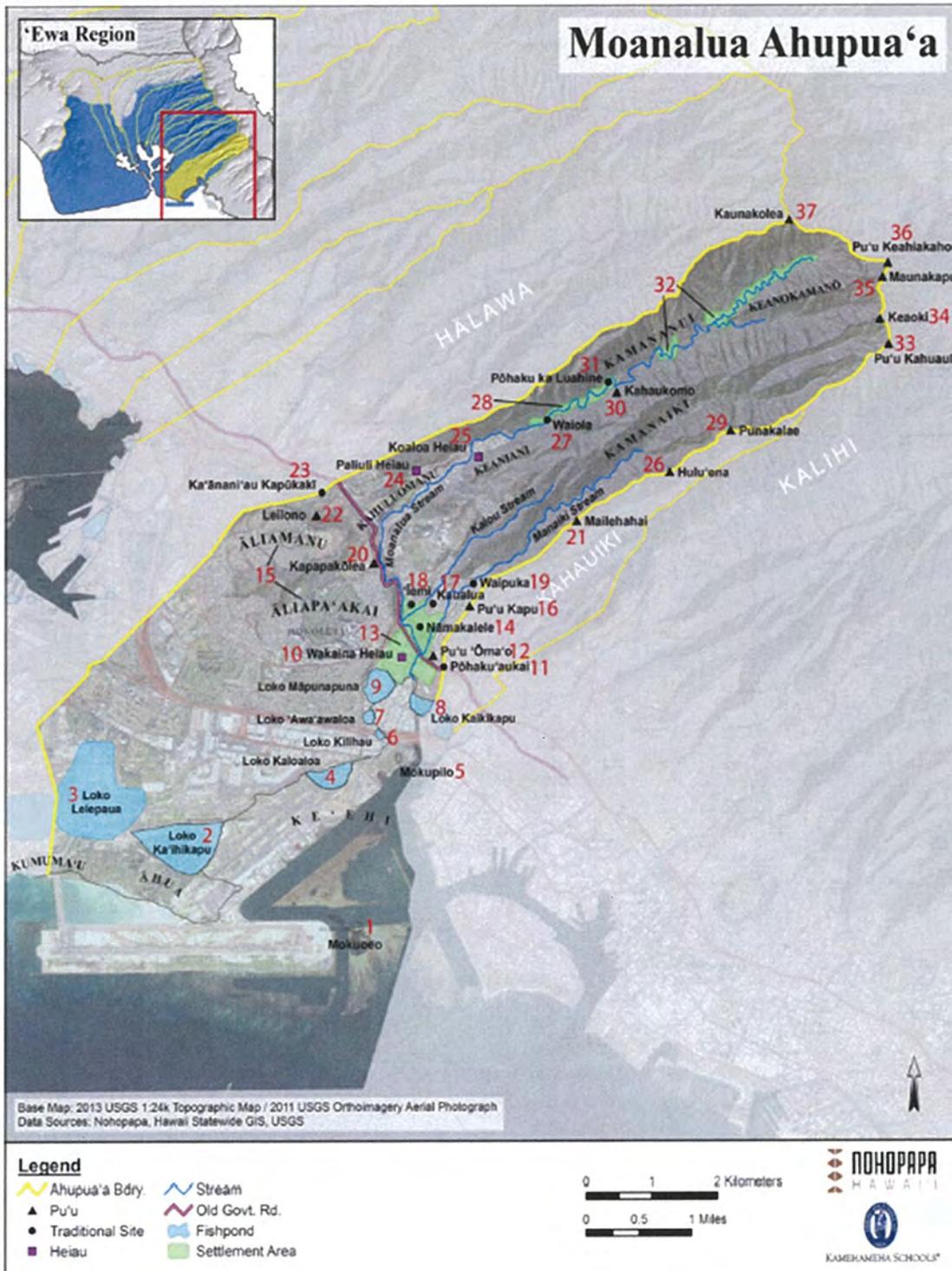


Figure 4. Moanalua Aquifer GIS map with significant Hawaiian cultural and natural resources

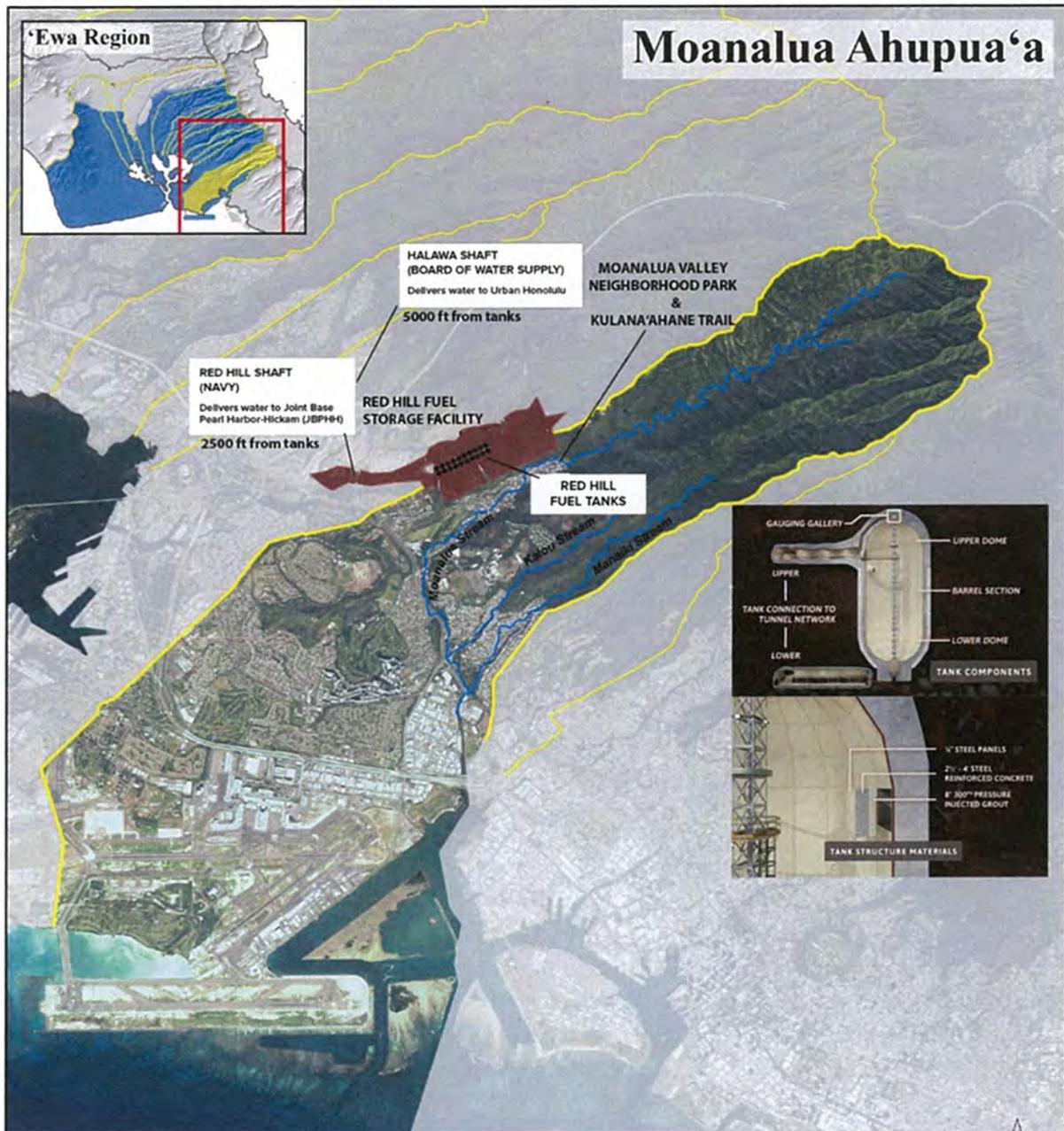


Figure 5. Maonalua Ahupua'a with Red Hill Facilities and tank structure

In whole the government of Hawaii has been slow to respond to the island of Oahu's recurrent catastrophic Red Hill fuel tank leaks into the water system, threatening the aquifer and heavily impacting the Moanalua ahupua'a land division. In Hawaii and across the Pacific, little has been done in facilitating measures to be put in place for various remediation projects.

Re-establishing stream health, known agroforestry and related lo‘i kalo systems with culturally significant species such as kukui can produce bio-oil and biomass that can be used as a fuel and as a fertilizer in traditional Hawaiian Taro farming pā composting enclosures referred to as pākukui. Kukui can produce over 3000 pounds of crude bio-oil/acre or nearly 400 gallons of biodiesel from the nut oil alone with basic technologies(Shaah 2021). Understanding the historical use, potential, and unique characteristics of a resource such as kukui can contribute to meeting sustainability challenges in Hawaii. Additionally, soil erosion reduction rates have been reduced by pairing kukui with cacao plants under sustainable forestry management in Indonesia and other places around the world (Jumiyati et al. 2017, 198). This is important to Hawaii’s overcrowded, increasingly eroded, highly invasive, and diseased ecosystem, as well as to the increasingly eroded shorelines where upland deforestation heavily contributes to lowland displacement and erosion through surface and ground water intrusions.

Potential collaborators in resolving the extreme pollution of the ahupua’a involve many groups. At a minimum, stakeholders include the Hawaii state legislature who may oversee official government conduct and remove public officers from position where necessary, the Department of Defense and the United States Navy, Department Of Health, Board of Water Supply, City and County of Honolulu, Department of Land and Natural Resources, Department of Forestry and Wildlife, and their Na ala hele trails program, native Hawaiian communities, military communities, local Hawaii residents, tourists, natural resource users, and recreationists.

To elucidate upon the integrated risk management, (IRM) approach, from the Gartner definition, strategy, assessment, response, communication & reporting, monitoring, and technology are briefly defined below. This is in response to the slow and inactive Red Hill Task Force and Fuel

Tank Advisory Committee that has been inappropriately unresponsive to the state of emergency regarding the fuel leaks at Red Hill for approximately 8 years.

- Strategy: Enablement and implementation of a framework, including performance improvement through effective governance and risk ownership
- Assessment: Identification, evaluation, and prioritization of risks
- Response: Identification and implementation of mechanisms to mitigate risk
- Communication and reporting: Provision of the best or most appropriate means to track and inform stakeholders of an enterprise's risk response
- Monitoring: Identification and implementation of processes that methodically track governance objectives, risk ownership/accountability, compliance with policies and decisions that are set through the governance process, risks to those objectives and the effectiveness of risk mitigation and controls
- Technology: Design and implementation of solution architecture

To understand the full scope of risk, organizations require a comprehensive view across all units of operation at Red Hill Facilities and risk & compliance functions, as well as key stakeholders, purveyors, and outsourced entities involved, participating at, or within the Red Hill Facilities. Developing this understanding requires risk and security leaders to address all IRM attributes. The stakeholders can operate under an integrated risk management approach, for native Hawaiian land, water, and traditional and customary rights, as well as ecosystem and resource monitoring to track governance objectives.

To address all problems facing Hawaii, knowing important background information regarding pollution and resource management as well as current management obligations through law and stakeholder cooperation may help resolve the complex problems. The native Hawaiian and Pacific island populations of Hawai'i have decreased with 127,930 people from 2010 to 2020 moving to the mainland (Omaye 2021). Additionally, migration includes internally displaced persons. People usually migrate for reasons involving resources, safety, and security. War, famine, and occupation also instigate migrations. They may have to migrate through several locations or may never find all the elements essential to a healthy long-lived life. It is not very easy for internally displaced migrants to leave an island body. Internally displaced individuals or migrants may consider safety amongst the greatest importance, food availability, as well as the ability to find a home or work. Considerably the Red Hill Fuels catastrophe has affected military personnel and local residents. This is on top of an illegal occupation as defined by jus cogens, the Presidential Resolution, the overthrow and protested annexation of Hawaii.

To further understand the implications surrounding the Red Hill Facilities catastrophe and illegal occupation of Hawai'i, it is important to recognize that internal displacement leads to forced migrations. Many individuals within military reservations and surrounding area have been forced to leave the contaminated sites where their water has been affected both permanently and temporarily. Where people have returned there are ample reports of continued and severe effects on the health and wellbeing of these individuals, their family members including children, as well as their pets where people have reported the death of some animals (Malji 2022). The Naval water system serves some 93,000 people (McCullough 2022). Additionally, there is the Halawa Correctional Facility at Red Hill, the Red Hill Elementary School and 29 other schools, as well as the Kaiser Moanalua Medical Center, and Tripler Army Medical Center in the area using the

water system. As of January 24<sup>th</sup> 2022 Zone I1 contaminant detection has been reported for a variety of contaminants. Highly significantly the 1-methylnaphthalene, 2-methylnaphthalene, and total organic carbons have not been reported and are described as n/a, whereas in other distant zones that have also been tested these contaminants are listed in ppb, except for zone D1 which has also reported n/a for 1-methylnaphthalene or 2-methylnaphthalene (Interagency Drinking Water System Team 2022) , additionally and significantly perchlorates have not been tested in any of the zones. Perchlorates are important to investigate as there are at least 11 prototyped and, or operational rocket fueled jets in the United States military at present with numerous rocket fueled jets in past production, additionally rocket fuel may be used as jet fuel but not vice versa. It is vitally important that it is known if rocket fuel has ever been or is stored at the Red Hill Facilities as perchlorate pollution from rocket fuels is critically more dangerous and toxic than hydrocarbon pollutants.

To fulfill pollution, waste, and resource management strategies with remediation bioenergy crops additional facilities are required. Anaerobic digestion for agricultural biomass, waste-water sludge, and other biowaste for the region should be included, as well as flocculation and tube settlers. Waste-water sludge treatment to fuels and products can be implemented for parts of Oahu that are suffering from improper sewage management entering the nearshore environments. With the current bioenergy facilities, H-Power utilizing incineration is rapidly gathering resistance to implementation due to inefficiencies. Advanced technologies include adaptations to boiler and steam turbine systems to recapture lost heat with the anaerobic digestion, dual fluidized beds, advanced technology plasma gasification, and carbon loop technologies, providing additional available power to a new power plant. Utilizing multiple advanced technologies increases the available intake of waste as well as products. The Oahu H-power

energy incineration plant can produce up to 90 MW of energy based on 3000 tons/day of Municipal solid waste. Whereas plasma gasification can be, at minimum, 30% more efficient in energy production. Additional products may be created using Fischer-Tropsch catalysts with both dual fluidized bed and plasma gasification to produce a wide variety of gasses or chemicals such as hydrogen, ethanol, methanol, mixed alcohols, olefins, liquid petroleum gas, kerosene, waxes, ammonia and synthetic natural gas. Location of a new power plant nearby the Honolulu International airport is intentional. With the anaerobic digester, dual fluidized bed, Fischer Tropsch plasma gasification many products may be created as well as a variety of inputs may be utilized. This includes products of recycled metals, bioleaching including rare earth metals, and a variety of fertilizers including biochar and ash soil amendments, figures 6 and 7. Inputs include polluted site agriculture, demolition waste, e-waste, ocean plastics, reforestation, restoration, and conservation biomass, pretreated wastewater sludge, and non-polluted agricultural wastes. Advanced gasification technologies allow for more advanced fuels to be produced. Including hydrogen and fuel cells, which is the most advanced direction for modern fuels and energy becoming more appealing than battery technology with the outright heaviness of batteries disabling efficient flight, high waste of resources already in short supply, energy inefficiencies, and waste management challenges. The dependence on foreign supplies for fossil fuels and battery technology also poses challenges to a sustainable Hawai'i. Pictured below are potential product generation from proposed remediation efforts figure 6 and 7.



Figure 6 Remediation Product Generation

Anaerobic digester, AnDFB, Fischer Tropsch and plasma gasification products	Inputs
Methane Ethanol co-production (Ethylene, acetic acid, formaldehyde, dimethyl ether, methyl acetate, polyolefins, petrol)	Co2 + flue gas algae, Sewage sludge, Wastewater, Polluted algae, etc. biomass, Polluted site biomass, all materials
Syngas (iron reduction synthetic natural gas)	Methane plus catalysts, all biomass and waste materials
Fischer Tropsch (naphtha, petrol, diesel, wax)	All materials
Hydrogen (ammonia, chemicals, fuel cells)	All materials
Power generation (integrated gasification combined cycle, steam and power)	Syngas, all materials

Figure 7, Advanced Remediation Product Generation

To fully realize a sustainable and healthy Hawaii with appropriate resource management existing laws and rights are critical to recognize. Kuleana, defined as responsibility, is required for protection of resource rights of native Hawaiians. Existing laws, regulations, legislation, duties, laws, bills, acts, obligations, and duties surrounding emergency pollution, native Hawaiian public trust rights to land and water resource protections, climate crisis, traditional and customary practice rights, resource management obligations, as well as targets within the energy sector are defined below. Notably, there are an unidentifiable, and considerable, amount of bills, amendments, and other requests to the Hawaii state government that have been denied, ignored, tabled or as they say left out to ‘die’ regarding native Hawaiians access to healthy water and land, as well as desired protections to traditional and customary rights. This lack of acknowledgement and action is a direct violation of civil rights and should be investigated as a crime against the Native Hawaiian community. There have also been 15 legislative sessions directly regarding the Red Hill Fuel Storage Facility that still has no appropriate response.

It is not well understood what the actual number of native Hawaiian land and water users is and could be, and how far away users need to travel because of the lack of adequate access to healthy land and water. Improving native Hawaiians' access to land would directly respond to many issues including erosion, neighborhood conflicts, land and water loss of access, poor management, and ecological and personal health. Pressures from tourism also increase the island's pollution drastically with challenges in remediation approaches and has put a tremendous stress on native Hawaiian populations and their ability to practice traditional customs. There is high public use and a draw for tourist activity on Hawaiian lands with no significant economic return to the native Hawaiian community. Socioeconomic and well-being metrics to help elucidate where Native Hawaiian land and water rights are being infringed upon most can be identified then cross-referenced for remediation/restoration/conservation potential. Hawai'i's land and coastlines have a high volume of erosion along with poor management strategies for overall soil health which has impacted the current state of the lands. Maximizing the number native Hawaiians is a priority because it keeps those in the community satisfied who care most about their public lands. To satisfy the concerns of stakeholders, like the DLNR, includes taking actions such as educating the public through various means and teaching them about their responsibilities as shared land users. Where it is most desperately needed, land and waterway reconstruction and restoration should be implemented to prevent further soil loss in severely degraded areas. Degradation reduction and access retained projects may include land access facilities such as deed-restricted living parks for agricultural biofuel/remediation/reforestation/cultural purposes (food crop) housing, land access roads, and may be implemented by various government stakeholders.

Without question the following laws collectively require direct response and action to the Red Hill Catastrophe, military occupation, pollution, and degradation of Hawai‘i.

The Hawai‘i Supreme Court in re Waiāhole Ditch Combined Contested Case (“Waiāhole”), 94 Hawai‘i 97, 154–55, 9 P.3d 409, 446–67 (2000) adopted the precautionary principle as a corollary to the Public Trust mandate that “where [scientific] uncertainty exists, a trustee’s duty to protect the resource mitigates in favor of choosing presumptions that also protect the resource.” (“Waiāhole”), 94 Hawai‘i 97, Id. at 154, 9 P.3d at 466. (2000)

The state water code of 1987 declares all water as a public trust mandating “protection of traditional and customary rights, the protection and procreation of fish and wildlife, the maintenance and proper ecological balance and scenic beauty, and the preservation and enhancement of waters for municipal uses (Auth; State Water Code ‘Ch. 174C) (Imp: HRS Chapter 174C).” The state water code also notes the regulation of Hawaii’s water resources for “Reasonable and Beneficial Use (Auth; State Water Code ‘Ch. 174C) (Imp: HRS Chapter 174C)”, whereas dumping of poorly filtered water into the Halawa Stream does not fall within this regulation. The Waiāhole Ditch case mandates to protect the resource and mitigates in favor of protection of the resource, the duty of the department of health to protect the citizens of Hawai‘i, a myriad of cultural and traditional rights to use and access of healthy land and water resources. (“Waiāhole”), 94 Hawai‘i 97, 154–55, 9 P.3d 409, 446–67 (2000) Additionally, the state code prohibits discharge of any substance into the water unless it is treated to render it harmless to water quality (Auth; State Water Code ‘Ch. 174C) (Imp: HRS Chapter 174C).” Where all waters of the State are subject to regulation under the provisions of chapter 174C unless specifically exempted.

Within HRS 174C-2 policy declaration includes that: a) It is recognized that the waters of the State are held for the benefit of the citizens of the State. It is declared that the people of the State are beneficiaries and have a right to have the waters protected for their use; b) There is a need for a program of comprehensive water resources planning to address the problems of supply and conservation of water. The Hawaii water plan, with such future amendments, supplements, and additions as may be necessary, is accepted as the guide for developing and implementing this policy; c) The state water code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for purposes such as domestic uses, aquaculture uses, irrigation and other agricultural uses, power development, and commercial and industrial uses. However, adequate provision shall be made for the protection of traditional and customary Hawaiian rights, the protection and procreation of fish and wildlife, the maintenance of proper ecological balance and scenic beauty, and the preservation and enhancement of waters of the State for municipal uses, public recreation, public water supply, agriculture, and navigation. Such objectives are declared to be in the public interest; d) The state water code shall be liberally interpreted to protect and improve the quality of waters of the State and to provide that no substance be discharged into such waters without first receiving the necessary treatment or other corrective action. The people of Hawaii have a substantial interest in the prevention, abatement, and control of both new and existing water pollution and in the maintenance of high standards of water quality; e) The state water code shall be liberally interpreted and applied in a manner which conforms with intentions and plans of the counties in terms of land use planning.

The general powers and duties of administration under the state water code are carried out by the commission on water resource management and are but not limited to: 1) carry out topographic surveys, research, and investigations into all aspects of water use and water quality; 2) Shall

designate water management areas for regulation under this chapter where the commission, after the research and investigations mentioned in paragraph 1, shall consult with the appropriate county council and county water agency, and after public hearing and published notice, finds that the water resources of the areas are being threatened by existing or proposed withdrawals of water; 3) Shall establish an instream use protection program designed to protect, enhance, and reestablish, where practicable, beneficial instream uses of water in the State; 4) May contract and cooperate with the various agencies of the federal government and with state and local administrative and governmental agencies or private persons; 5) May enter, after obtaining the consent of the property owner, at all reasonable times upon any property other than dwelling places for the purposes of conducting investigations and studies or enforcing any of the provisions of this code, being liable, however, for actual damage done. If consent cannot be obtained, reasonable notice shall be given prior to entry; 6) Shall cooperate with federal agencies, other state agencies, county or other local governmental organizations, and all other public and private agencies created for the purpose of utilizing and conserving the waters of the State, and assist these organizations and agencies in coordinating the use of their facilities and participate in the exchange of ideas, knowledge, and data with these organizations and agencies. For this purpose the commission shall maintain an advisory staff of experts; 7) May appoint and remove agents, including hearings officers and consultants, necessary to carry out the purposes of this chapter, who may be engaged by the commission without regard to the requirements of chapter 76 and section 78-1; 8) May acquire, lease, and dispose of such real and personal property as may be necessary in the performance of its functions, including the acquisition of real property for the purpose of conserving and protecting water and water related resources as provided in section 174C-14; 9) Shall identify, by continuing study, those areas of the State

where salt water intrusion is a threat to freshwater resources and report its findings to the appropriate county mayor and council and the public; 10) Shall provide coordination, cooperation, or approval necessary to the effectuation of any plan or project of the federal government in connection with or concerning the waters of the State. The commission shall approve or disapprove any federal plans or projects on behalf of the State. No other agency or department of the State shall assume the duties delegated to the commission under this paragraph; except that the department of health shall continue to exercise the powers vested in it with respect to water quality, and except that the department of business, economic development, and tourism shall continue to carry out its duties and responsibilities under chapter 205A; 11) Shall plan and coordinate programs for the development, conservation, protection, control, and regulation of water resources, based upon the best available information, and in cooperation with federal agencies, other state agencies, county or other local governmental organizations, and other public and private agencies created for the utilization and conservation of water; and 12) Shall determine appurtenant water rights, including quantification of the amount of water entitled to by that right, which determination shall be valid for purposes of this chapter.

Appurtenant water rights are designated as a public trust in the state of Hawaii in accordance with the State water code. Additionally, there is an established water resource management fund that may be used for “monitoring programs and activities concerning water resource quality, protection, and management (HRS 174C-5.5)”, as well as other purposes. Regarding dispute resolution regarding statewide water resource protections the commission hones the final decision on any matter as well as for, water permits, or constitutionally protected water interests, or where there is insufficient water to meet competing needs for water, whether or not the area involved has been designated as a water management area (HRS 174C-10).

Significantly under HRS 174C-14 regarding acquisition of real property (a) The legislature declares it to be necessary for the public health and welfare that water and water related resources be conserved and protected. The acquisition of real property for this objective shall constitute a public purpose for which public funds may be expended; b) The commission may acquire real property and easements by purchase, gift, devise, lease, eminent domain, or otherwise for flood control, water management, or water and water-related resource conservation; c) Land, water areas, and related resources which may be acquired for this purpose include, but are not limited to, streams and other watercourses, parks and recreation areas, beaches, submerged lands, and other open areas, as well as necessary access sites and rights-of-way.

Additionally, under HRS 174C-15 Penalties and common law remedies; a) The commission may enforce its rules and orders adopted pursuant to this chapter by suit for injunction or for damages or both; b) Any person who violates any provision of this chapter, or any rule adopted pursuant to this chapter, may be subject to a fine imposed by the commission. Such fine shall not exceed \$5,000. For a continuing offense, each day during which the offense is committed is a separate violation; c) No provision of this chapter shall bar the right of any injured person to seek other legal or equitable relief against a violator of this chapter; d) Except as otherwise provided by law, the commission or its authorized representative by proper delegation may set, charge, and collect administrative fines or bring legal action to recover administrative fees and costs as documented by receipts or affidavit, including attorneys' fees and costs; or bring legal action to recover administrative fines, fees, and costs, including attorneys' fees and costs, or payment for damages resulting from a violation of this chapter or any rule adopted pursuant to this chapter.

The Red Hill Facilities has had at least 73 recurrent leaks (Jedra 2022) beginning since a major 1948 leak of 48,000 gallons following an earthquake shortly after installation of the tanks (Schank 2022). Since then, the United States Navy and responsible parties for inaction potentially including the Department of Health and Hawaii State Legislature are responsible for \$135,050,000 in ongoing fines at minimum. Under 174C-15.5 With the mutual consent of both the commission and the department, the commission may use the civil natural resource violations system of the department of land and natural resources; provided that the commission shall act whenever the board is authorized to act, to process violations of chapter 174C or any rules adopted thereunder (HRS 174C-15.5).

Additionally relevant are, HRS 174C-31 Hawaii water plan, 174C-32 Coordination, 174C-44 Groundwater criteria for designation, 174C-45 Surface water criteria for designation, 174C-47 Modifying and rescinding designated areas, 174C-49 Conditions for a permit, 174C-58 Revocation of permits, 174C-62 Declaration of water shortage, 174C-68 Water quality plan, 174C-41 Designation of water management area. (a) When it can be reasonably determined, after conducting scientific investigations and research, that the water resources in an area may be threatened by existing or proposed withdrawals or diversions of water, the commission shall designate the area for the purpose of establishing administrative control over the withdrawals and diversions of ground and surface waters in the area to ensure reasonable-beneficial use of the water resources in the public interest, and 174C-101 Native Hawaiian water rights. (a) Provisions of this chapter shall not be construed to amend or modify rights or entitlements to water as provided for by the Hawaiian Homes Commission Act, 1920, as amended, and by chapters 167 and 168, relating to the Molokai irrigation system. Decisions of the commission on water resource management relating to the planning for, regulation, management, and

conservation of water resources in the State shall, to the extent applicable and consistent with other legal requirements and authority, incorporate and protect adequate reserves of water for current and foreseeable development and use of Hawaiian homelands as set forth in section 221 of the Hawaiian Homes Commission Act; b) No provision of this chapter shall diminish or extinguish trust revenues derived from existing water licenses unless compensation is made; c) Traditional and customary rights of ahupua'a tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778 shall not be abridged or denied by this chapter. Such traditional and customary rights shall include, but not be limited to, the cultivation or propagation of taro on one's own kuleana and the gathering of hihiwai, opae, o'opu, limu, thatch, ti leaf, aho cord, and medicinal plants for subsistence, cultural, and religious purposes; d) The appurtenant water rights of kuleana and taro lands, along with those traditional and customary rights assured in this section, shall not be diminished or extinguished by a failure to apply for or to receive a permit under this chapter (HRS 174C-101).

Relevant case notes under HRS 174C include "Although the Hawaii administrative rules denominate aquifer-specific reservations of water to the department of Hawaiian home lands, such a limitation for purposes of water resource management does not divest the department of its right to protect its reservation interests from interfering water uses in adjacent aquifers 103 H. 401, 83 P.3d 664 (HRS174C-101 Case Notes)." "Where commission on water resource management refused to permit cross examination of water use applicant's oceanography expert regarding the limu population along the shoreline, in effect precluding the commission from effectively balancing the applicant's proposed private commercial use of water against an enumerated public trust purpose, the commission failed adequately to discharge its public trust duty to protect native Hawaiians' traditional and customary gathering rights, as guaranteed by the

Hawaiian Homes Commission Act, §220, article XII, §7 of the Hawaii constitution, and this section 103 H. 401, 83 P.3d 664. (HRS174C-101 Case Notes).”

HRS Chapter 199D -1] Civil natural resource violations system authorization including authority of emergency rules surrounding natural resources allows that: a) There is established, within the department of land and natural resources, a civil natural resource violations system, whose purpose shall be to process violations of departmental regulations for which administrative penalties have been authorized by law or rules adopted thereunder; b) The department shall adopt, amend, and repeal rules, subject to chapter 91, for the purposes of this chapter; c) The rules may include, but are not limited to, the following: 1) Notice of natural resource infraction; (HRS 199D-1) as well as, -1] Civil natural resource violations system authorization; a) There is established, within the department of land and natural resources, a civil natural resource violations system, whose purpose shall be to process violations of departmental regulations for which administrative penalties have been authorized by law or rules adopted thereunder; b) The department shall adopt, amend, and repeal rules, subject to chapter 91, for the purposes of this chapter. c) The rules may include, but are not limited to, the following: 1) Notice of natural resource infraction. Further emergency rules and authority are defined under the county of Hawaii government.

Commission on water resource management's conclusion that "no evidence was presented" to suggest that the rights of native Hawaiians would be adversely affected by permit applicant's proposed use erroneously shifted the burden of proof to complainants; thus, commission failed to adhere to the proper burden of proof standard to maintain the protection of native Hawaiians' traditional and customary gathering rights in discharging its public trust obligations (HRS 174D 116 H. 481, 174 P.3d 320).

Historically, the kingdom of Hawaii 1840 constitution includes trust concepts for land held in trust, defining "trust relationship between Ali'i (chiefs) and maka'ainana (people who lived on the land)" (University of Hawai'i School of Law Library). The 1978 constitution established Hawaiian protections of customary rights and practices through an environmental and cultural lens. Hawaii administrative rules outline water protections and use under four chapters 13-167 through 13-171. Appurtenant rights to protected, trust purpose resource under the Surface Water Use Permit Applications, Integration of Appurtenant Rights and Amendments to the Interim Instream Flow Standards, Nā Wai 'Ehā Surface Water Management Areas of Waihe'e, Waiehu, 'Īao, & Waikapū Streams, Maui Case No. CCH-MA15-01 where in light of all public trust purposes, including higher-priority traditional and customary Native Hawaiian rights to cultivate kalo ("T&C rights") and appurtenant rights, as well as instream uses that the Commission must continue to protect and promote these rights to the extent feasible (STATE OF HAWAII 2016). Present constitution of the State of Hawaii under Act 334, Session Laws of Hawaii 1949, adopted November 7, 1950, Article 7-7, Article 6-1 and Article 6-7 respectively declare the state and its political subdivisions must "conserve and protect Hawai'i natural beauty and all natural resources, promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the state; all public natural resources are held in trust by the state for the benefit of the people", and "the state has an obligation to protect, control and regulate the use of Hawaii's water resources for the benefit of its people. (Hawaii State 1950)"

Chapters 128D and 128E on activities of the Department of Health Environmental Health Administration Office of Hazard evaluation and emergency response and use of the environmental response revolving fund allow for action to be taken regarding the Red Hill Fuel

Facilities environmental catastrophe, additionally where the Hawaii State Response Program (HSRP) and the Hazard Evaluation and Emergency Response (HEER) Office operating sections may address 1) Emergency preparedness and Response (EP&R), 2) Hazard Evaluation (HE), and 3) Site Discovery, Assessment and Remediation (SDAR). The HSRP must provide oversight, assessment cleanup during chemical emergencies and high and medium priority contaminated sites across the Hawaiian Islands. (Dept. of Health State of Hawaii 2019) It should be duly noted these aforementioned parties have not fulfilled their obligations for decades over continuous leaks at the Red Hill Facilities and other contamination sites.

Under legislative section 2014 SCR 73 requests the director of health to convene a task force to study the effects of the January 2014 fuel tank leaks at Red Hill Fuel Storage Facilities. As prior mention notes this task force has been slow and unresponsive in their duties to address the recurrent Red Hill Facilities fuel leaks. There have been only about twelve task force meetings since 2014 that have proven incompetence in dealing with the threats to the water resource and aquifer at the Red Hill Facilities where recurrent spills since formation of the task force now amount to, at minimum 55,318 gallons of fuel (McCullough 2022). The Navy has repeatedly had to correct inaccurate estimates of fuel leaks over time (McCullough 2022) where the likely innacurate total surpasses 155,000 gallons.

The military occupation and pollution of Red Hill is an extreme danger to the quality of life in Hawai'i and has verifiably infringed upon dozens of rights through negligent pollution, inaction, and intentional oppression of Hawai'ians and the health of their resources. The de-fueling and thorough clean-up of the entire Red Hill Facilities under emergency action orders provided in regulatory obligations and law should be enacted immediately.

Codified under HRS Chapter 226 the Hawaii State Planning Act of 1978 is set to “improve the planning process in this state, to increase the effectiveness of government and private actions, to improve coordination among different agencies and levels of government, to provide for wise use of Hawaii’s resources and to guide the future development of the state” (HRS 226-1). Additionally, “the purpose of this chapter is to set forth the Hawaii state plan that shall serve as a guide for the future long-range development of the State; identify the goals, objectives, policies, and priorities for the State; provide a basis for determining priorities and allocating limited resources, such as public funds, services, human resources, land, energy, water, and other resources; improve coordination of federal, state, and county plans, policies, programs, projects, and regulatory activities; and to establish a system for plan formulation and program coordination to provide for an integration of all major state, and county activities” (HRS 226-1).

Relevant duties under HRS 226-53 include but are not limited to: 1) Conduct strategic planning by identifying and analyzing significant issues, problems, and opportunities confronting the State, and formulating strategies and alternative courses of action in response to identified problems and opportunities; and 2) Prepare a report identifying emerging issues for use in the revision of parts I and III, including the updating of state functional plans. The report may include a scan of conditions and trends in population, the economy, and the environment, linking the findings of the state scanning project with policy and program activities where the office may contract with public and private agencies and persons for special research and planning assistance.

Under HRS 226-101, and HRS 226-102, respectively, relevant purpose and direction for state planning are: 1) to establish overall priority guidelines to address areas of statewide concern; and

2) strive to improve the quality of life for Hawaii's present and future population through the pursuit of desirable courses of action in seven major areas of statewide concern which merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice, quality education, principles of sustainability, and climate change adaptation.

Energy produced must be renewable as a utility within Hawaii by 2045 and was targeted for 30% renewable by 2020 (HB623 HD2 SD2 CD1, 2015). Many species may be chosen as targeted remediation species energy and product crops, such as native mussels, fish, fungi, microbes, and algae for removal of pollutants, fuels and energy production and additional products such as fertilizers, soil amendments, and recaptured & bioleached metals and REE's.

The Intergovernmental Panel on Climate Change (IPCC) recently suggested that to have a better-than-even chance of avoiding more than a 2 °C temperature rise, the carbon budget between 2011 and 2050 is around 870–1,240 Gt CO<sub>2</sub> (McGlade & Ekins 2015). Additionally, there is likely to be a loss of 20% of Hawaii's forests due to plant disease. Many of the uncertainties facing Hawaii are globally ubiquitous regarding containment of temperature rise and implementation of renewables and should incorporate carbon sequestration such as with, BECCS, bioenergy with carbon capture and storage. Climate crisis mitigation includes biocultural living parks, invasive species removal, reforestation, ocean plastics, and e-waste sequestration to fuels. Climate crisis mitigation also includes affirmative action where poor populations feel the pressures from climate crisis first and foremost. Additionally, extreme droughts, warming seas with increases in El nino periods, intense storms, risk to drinking water supplies in shortages, increased wildfires, and degraded agriculture & tourism through ecosystem losses are all determined threats according to the State of Hawaii Climate Change Portal.

In the Hawaii 2050 Sustainability Plan, allowing for judicious use of natural resources, priority actions include to create a sustainability ethic, preserve, and perpetuate Kanaka Maoli and island cultural views, to reduce reliance on fossil fuels, increase recycling, & waste reduction strategies as well as maintain responsible & respectful use of resource allowing for replenishment and preservation for future generations. The sustainability plan may instill mediation mechanisms to mitigate and resolve conflicts over use of conservation lands or natural resources, determine feasibility of product development for commercially viable natural resources and is set to assist in initial steps necessary for such determination including the development and implementation of informative and educational programs directed toward specific areas and users of lands and natural resources (Kondo 2018). Goals of the plan include management of natural resources for high quality, integrity of resource, diversity, and function of ecosystems with the objective of developing and applying protective, preventive, and restorative strategies and tactics in order to attain management goals within and across the system (Kondo 2018). Enforcement and protections within the plan includes but is not limited to communication with judiciary and other governmental branches to underscore the importance of natural resource protection and enforcement challenges and ensuring that the air, land, and water transportation systems respect environmental, natural, cultural, and historic resources; with additional expectations to support the programs of State and Federal natural resource agencies, as well as support ongoing lines of communication and coordination with these agencies and the improvement of the technical basis for natural resources management (Kondo 2018).

The 2017 State of Hawaii Emergency Operations Plan, Basic Plan was prepared for the Hawaii Emergency Management Agency and was approved on May 9, 2017. The plan, which is often referred to as the “Basic Plan,” establishes a shared framework for the effective coordination of

response and initial recovery operations during large-scale or complex emergencies and disasters that require the support of the state. This plan defines roles and responsibilities for state emergency management functions, establishes the conditions under which state resources are mobilized and describes the organizational concepts and structures used to coordinate actions of state entities and other levels of government.

Under HRS 226-1 planning for the state's economy shall be directed towards, but not limited to, the following objectives: 1) Growth and development of diversified agriculture throughout the State; 2) An agriculture industry that continues to constitute a dynamic and essential component of Hawaii's strategic, economic, and social well-being. To achieve objectives, policy within HRS 226-1 includes but is not limited to: 1) encouraging agriculture by making the best use of natural resources; 2) the promotion and assistance in establishment of sound financial programs for diversified agriculture with support of displaced agricultural workers; 3) Perpetuate, promote, and increase use of traditional Hawaiian farming systems, such as the use of loko i'a, māla, and irrigated lo'i, and growth of traditional Hawaiian crops, such as kalo, 'uala, and 'ulu; 4) Increase and develop small-scale farms.

Under HRS 226-24 relevant objectives and policies include but are not limited to: 1) Provide effective services and activities that protect individuals from criminal acts and unfair practices and that alleviate the consequences of criminal acts in order to foster a safe and secure environment; 2) Uphold and protect the national and state constitutional rights of every individual; 3) Assure access to, and availability of, legal assistance, consumer protection, and other public services which strive to attain social justice; and 4) Ensure equal opportunities for individual participation in society.

Under HRS 226-103 relevant objectives and policies include but are not limited to: a); 1) Maintain and improve water conservation programs to reduce the overall water consumption rate; 2) Encourage the improvement of irrigation technology and promote the use of non-potable water for agricultural and landscaping purposes; 3) Increase the support for research and development of economically feasible alternative water sources; 4) Explore alternative funding sources and approaches to support future water development programs and water system improvements; 5) Encourage the development and expansion of agricultural and aquacultural activities which offer long-term economic growth potential and employment opportunities; 6) Continue the development of agricultural parks and other programs to assist small independent farmers in securing agricultural lands and loans; 7) Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands; 8) Assist in providing adequate, reasonably priced water for agricultural activities; 9) Encourage public and private investment to increase water supply and to improve transmission, storage, and irrigation facilities in support of diversified agriculture and aquaculture; 10) Provide retraining programs and other support services to assist entry of displaced workers into alternative employment; 11) Allocate educational resources to career areas where high employment is expected and where growth of new industries is desired; 12) Encourage the expansion of technological research to assist industry development and support the development and commercialization of technological advancements; 13) Seek a variety of means to increase the availability of investment capital for new and expanding enterprises; 14) Encourage investments which reflect long-term commitments to the State that (i) Reflect long-term commitments to the State; (ii) Rely on economic linkages within the local economy; (iii) Diversify the economy; (iv) Reinvest

in the local economy; (v) Are sensitive to community needs and priorities; and (vi) Demonstrate a commitment to provide management opportunities to Hawaii residents; and encourage (i) Present or former residents acting as entrepreneurs or principals; (ii) Resources unique to Hawaii that are required for innovative activity; and (iii) Complementary or supportive industries or government programs or projects; and 15) Expand vocational training in diversified agriculture, aquaculture, information industry, and other areas where growth is desired and feasible; Provide public incentives and encourage private initiative to develop and attract industries which promise long-term growth potentials and which have the following characteristics: (A) An industry that can take advantage of Hawaii's unique location and available physical and human resources; (B) A clean industry that would have minimal adverse effects on Hawaii's environment; (C) An industry that is willing to hire and train Hawaii's people to meet the industry's labor needs at all levels of employment; (D) An industry that would provide reasonable income and steady employment. Additionally, HRS 226-103 priority guidelines for energy use and development are: 1) Encourage the development, demonstration, and commercialization of renewable energy sources.

Under HRS 226-25 relevant objectives and policies include but are not limited to: 1) Foster increased knowledge and understanding of Hawaii's ethnic and cultural heritages and the history of Hawaii; 2) Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawaii's people and which are sensitive and responsive to family and community needs; 3) Encourage increased awareness of the effects of proposed public and private actions on the integrity and quality of cultural and community lifestyles in Hawaii; and 4) Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawaii's people and visitors.

Under HRS 226-26 relevant objectives and policies include but are not limited to: 1) Assurance of public safety and adequate protection of life and property for all people; 2) Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances; and 3) Promotion of a sense of community responsibility for the welfare and safety of Hawaii's people. (b) To achieve the public safety objectives, it shall be the policy of this State to: 1) Ensure that public safety programs are effective and responsive to community needs. (c) To further achieve public safety objectives related to criminal justice, it shall be the policy of this State to: 1) Provide a range of correctional resources which may include facilities and alternatives to traditional incarceration in order to address the varied security needs of the community and successfully reintegrate offenders into the community. (d) To further achieve public safety objectives related to emergency management, it shall be the policy of this State to; 1) Ensure that responsible organizations are in a proper state of readiness to respond to major war-related, natural, or technological disasters and civil disturbances at all times; and 2) Enhance the coordination between emergency management programs throughout the State.

Under 226-108 priority guidelines and principles to promote sustainability are set to include: 1) Encouraging balanced economic, social, community, and environmental priorities; 2) Encouraging planning that respects and promotes living within the natural resources and limits of the State; 3) Promoting a diversified and dynamic economy; 4) Encouraging respect for the host culture; 5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations; 6) Considering the principles of the ahupua'a

system; and 7) Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawaii.

Relating to trees, where agroforestry may be promoted through invasive species removal and planting of trees for public improvements Under HRS 135 Chapter 107 as defined: a) The department shall require that for all projects undertaken on public land, three new trees shall be planted whenever an existing tree is cut down. Additionally, under chapter 135 Emergency use of real property is defined as where emergency means the imminent or actual occurrence of an event, which has the likelihood of causing extensive injury, death, property damage, or impedes the safe and necessary movement of persons or vehicles over public highways, including but not limited to the spillage of hazardous material on a public highway or public place.

Under HRS 226-106 priority guidelines for the provision of affordable housing are to: 1) Seek to use marginal or nonessential agricultural land, urban land, and public land to meet housing needs of extremely low-, very low-, lower-, moderate-, and above moderate-income households; 2) Encourage the use of alternative construction and development methods as a means of reducing production costs; 3) Improve information and analysis relative to land availability and suitability for housing; 4) Create incentives for development which would increase home ownership and rental opportunities for Hawaii's extremely low-, very low-, lower-, and moderate-income households and residents with special needs; 5) Encourage continued support for government or private housing programs that provide low interest mortgages to Hawaii's people for the purchase of initial owner-occupied housing; 6) Encourage public and private sector cooperation in the development of rental housing alternatives; 7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations.

Under HRS 226-104 relevant objectives and policies include but are not limited to: 1) Encourage planning and resource management to insure that population growth rates throughout the State are consistent with available and planned resource capacities and reflect the needs and desires of Hawaii's people; 2) Manage a growth rate for Hawaii's economy that will parallel future employment needs for Hawaii's people; 3) Ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the State; 4) Encourage major state and federal investments and services to promote economic development and private investment to the neighbor islands, as appropriate; 5) Explore the possibility of making available urban land, low-interest loans, and housing subsidies to encourage the provision of housing to support selective economic and population growth on the neighbor islands; 6) Seek federal funds and other funding sources outside the State for research, program development, and training to provide future employment opportunities on the neighbor islands; 7) Support the development of high technology parks on the neighbor islands; 8) Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles; 9) Make available marginal or nonessential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district; 10) Pursue rehabilitation of appropriate urban areas; 10) Direct future urban development away from critical environmental areas or impose mitigating measures so that negative impacts on the environment would be minimized; 11) Identify critical environmental areas in Hawaii to include but not be limited to the following: watershed and recharge areas; wildlife habitats (on land and in the ocean); areas with endangered species of plants and wildlife;

natural streams and water bodies; scenic and recreational shoreline resources; open space and natural areas; historic and cultural sites; areas particularly sensitive to reduction in water and air quality; and scenic resources; 12) Identify all areas where priority should be given to preserving rural character and lifestyle; 13) Utilize Hawaii's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations; and 14) Protect and enhance Hawaii's shoreline, open spaces, and scenic resources.

Under 226-27 relevant objectives and policies include but are not limited to: 1) Efficient, effective, and responsive government services at all levels in the State; 2) Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response; 3) Stimulate the responsibility in citizens to productively participate in government for a better Hawaii; 4) Assure that government attitudes, actions, and services are sensitive to community needs and concerns.

Under HRS 226-105 Priority guidelines in the area of crime and criminal justice; 1) Support law enforcement activities and other criminal justice efforts that are directed to provide a safer environment; 2) Target state and local resources on efforts to reduce the incidence of violent crime and on programs relating to the apprehension and prosecution of repeat offenders; 3) Support community and neighborhood program initiatives that enable residents to assist law enforcement agencies in preventing criminal activities; 4) Reduce overcrowding or substandard conditions in correctional facilities through a comprehensive approach among all criminal justice agencies which may include sentencing law revisions and use of alternative sanctions other than

incarceration for persons who pose no danger to their community; 6) Increase public and private efforts to assist witnesses and victims of crimes and to minimize the costs of victimization.

Under HRS 226-11 Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives: 1) Prudent use of Hawaii's land-based, shoreline, and marine resources. 2) Effective protection of Hawaii's unique and fragile environmental resources. To achieve the land-based, shoreline, and marine resources objectives, the policy is, but not limited to: 1) Exercise an overall conservation ethic in the use of Hawaii's natural resources; 2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems; 3) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage; 4) Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions; 5) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawaii; 6) Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion; 7) Pursue compatible relationships among activities, facilities, and natural resources; 8) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.

Additional objectives and policies for the physical environments regarding scenic, natural beauty, and historic resources are defined under HRS 226-12. Relevant objectives in policy include but are not limited to 1) Promote the preservation and restoration of significant natural and historic resources. 2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities. 3) Protect those special areas, structures, and elements that are an integral and

functional part of Hawaii's ethnic and cultural heritage. 4) Encourage the design of developments and activities that complement the natural beauty of the islands.

Under 226-13 objectives in policy include but are not limited to: 1) Maintenance and pursuit of improved quality in Hawaii's land, air, and water resources; 2) Promote the proper management of Hawaii's land and water resources; 3) Promote effective measures to achieve desired quality in Hawaii's surface, ground, and coastal waters; 4) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters; 5) Encourage design and construction practices that enhance the physical qualities of Hawaii's communities; 6) Encourage urban developments in close proximity to existing services and facilities; 7) Foster recognition of the importance and value of the land, air, and water resources to Hawaii's people, their cultures and visitors.

Under HRS 226-10 relevant objective policies include but are not limited to: 1) Facilitate investment and employment growth in economic activities that have the potential to expand and diversify Hawaii's economy, including but not limited to diversified agriculture, aquaculture, renewable energy development, creative media, health care, and science and technology-based sectors; 2) Facilitate investment in innovative activity that may pose risks or be less labor-intensive than other traditional business activity, but if successful, will generate revenue in Hawaii through the export of services or products or substitution of imported services or products; 3) Encourage entrepreneurship in innovative activity by academic researchers and instructors who may not have the background, skill, or initial inclination to commercially exploit their discoveries or achievements; 4) Recognize that innovative activity is not exclusively dependent upon individuals with advanced formal education, but that many self-taught, motivated individuals are able, willing, sufficiently knowledgeable, and equipped with the

attitude necessary to undertake innovative activity; 5) Increase the opportunities for investors in innovative activity and talent engaged in innovative activity to personally meet and interact at cultural, art, entertainment, culinary, athletic, or visitor-oriented events without a business focus; 6) Expand Hawaii's capacity to attract and service international programs and activities that generate employment for Hawaii's people; 7) Accelerate research and development of new energy-related industries based on wind, solar, ocean, underground resources, and solid waste; 8) Develop, promote, and support research and educational and training programs that will enhance Hawaii's ability to attract and develop economic activities of benefit to Hawaii; 9) Encourage the development and implementation of joint federal and state initiatives to attract federal programs and projects that will support Hawaii's social, economic, physical, and environmental objectives; and 10) Foster the research and development of non-fossil fuel and energy efficient modes of transportation.

Under HRS 226-16 Objective and policies for facility systems regarding water include but are not limited to (a) Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities; b) To achieve the facility systems water objective, it shall be the policy of this State to: 1) Coordinate development of land use activities with existing and potential water supply. 2) Support research and development of alternative methods to meet future water requirements well in advance of anticipated needs; 3) Reclaim and encourage the productive use of runoff water and wastewater discharges. 4) Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use. 5) Support water supply services to areas experiencing critical water problems; and 6) Promote water conservation programs and

practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs.

Under 226-14 objective and policies for facility systems--in general. (a) Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, sustainable development, climate change adaptation, sea level rise adaptation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives. Including but not limited to 1) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities; and 3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.

Under HRS 226-109 climate change adaptation priority guidelines include but not limited to are: to prepare the State to address the impacts of climate change, including impacts to the areas of agriculture; conservation lands; coastal and nearshore marine areas; natural and cultural resources; education; energy; higher education; health; historic preservation; water resources; the built environment, such as housing, recreation, transportation; and the economy shall: 1) Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies; 2) Invest in continued monitoring and research of Hawaii's climate and the impacts of climate change on the State; 3) Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change; 4) Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change; 5) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate

change impacts to the natural and built environments; 6) Promote sector resilience in areas such as water, roads, airports, and public health, by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options; 7) Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities; 8) Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans; and 9) Encourage planning and management of the natural and built environments that effectively integrate climate change policy.

Under 226-18 relevant objectives and policy includes but are not limited to: 1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people; 2) Increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawaii's dependence on imported fuels for electrical generation and ground transportation; 3) Greater diversification of energy generation in the face of threats to Hawaii's energy supplies and systems; 4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; and (b) To further achieve the energy objectives, it shall be the policy of this State to: 1) Support research and development as well as promote the use of renewable energy sources; 4) Promote all cost-effective conservation of power and fuel supplies through measures, including but not limited to: a) Adoption of energy-efficient practices and technologies.

Additionally HRS 226-14 policy includes but is not limited to 1) Ensure, to the extent that new supply-side resources are needed, that the development or expansion of energy systems uses the least-cost energy supply option and maximizes efficient technologies; 2) Support research,

development, demonstration, and use of energy efficiency, load management, and other demand-side management programs, practices, and technologies; 3) Promote alternate fuels and transportation energy efficiency; 4) Support actions that reduce, avoid, or sequester greenhouse gasses in utility, transportation, and industrial sector applications; and 5) Support actions that reduce, avoid, or sequester Hawaii's greenhouse gas emissions through agriculture and forestry initiatives.

Under 226-19 relevant objectives and policy include but is not limited to: 1) Facilitate the use of available vacant, developable, and underutilized urban lands for housing. 2) Foster a variety of lifestyles traditional to Hawaii through the design and maintenance of neighborhoods that reflect the culture and values of the community. 3) Promote appropriate improvement, rehabilitation, and maintenance of existing rental and for sale housing units and residential areas.

Under 226-20 relevant objectives and policy include but is not limited to: 1) Fulfillment of basic individual health needs of the general public; 2) Maintenance of sanitary and environmentally healthful conditions in Hawaii's communities; 3) Elimination of health disparities by identifying and addressing social determinants of health; 4) Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions; 5) Improve the State's capabilities in preventing contamination by pesticides and other potentially hazardous substances through increased coordination, education, monitoring, and enforcement; and 6) Prioritize programs, services, interventions, and activities that address identified social determinants of health to improve native Hawaiian health and well-being consistent with the United States Congress' declaration of policy as codified in title 42 United States Code section 11702, and to reduce health disparities of disproportionately affected demographics, including native Hawaiians, other

Pacific Islanders, and Filipinos. Additional measures under health planning and resources development exist under HRS chapter 323D.

Under HRS 226-23 relevant objectives and policy include but is not limited to: 1) Foster and preserve Hawaii's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities; 2) Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently; 3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance; 4) Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved; and 5) Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs.

Act 5, Session Laws of Hawaii 1987, section 5, and section 1 of Act 238, Session Laws of Hawaii 1988, states in part: "The department of land and natural resources is authorized to subdivide and provide for the creation of a residential subdivision in Kahana valley for persons who receive long term leases under the provisions of this act". To assist in the relocation of valley residents and construction of new dwellings on the designated house lots, Act 238, Session Laws of Hawaii 1988, section 2, authorized the housing finance and development corporation to offer mortgage financing up to \$50,000 per lessee where this sum should be increased relative to inflation at minimum.

In Hawaii revised statutes 115-1 under findings and purpose "the legislature finds that miles of shorelines, waters, and inland recreational areas under the jurisdiction of the State are

inaccessible to the public due to the absence of public rights-of way; that the absence of public rights-of-way is a contributing factor to mounting acts of hostility against private shoreline properties and properties bordering inland recreational areas; that the population of the islands is increasing while the presently accessible beach, shoreline, and inland recreational areas remain fixed; and that the absence of public access to Hawaii's shorelines and inland recreational areas constitutes an infringement upon the fundamental right of free movement in public space and access to and use of coastal and inland recreational areas (Auth: HRS 115-1 L 1974, c 244, §1; am L 1977, c 164, §3).” “The purpose of this chapter is to guarantee the right of public access to the sea, shorelines, and inland recreational areas, and transit along the shorelines, and to provide for the acquisition of land for the purchase and maintenance of public rights-of-way and public transit corridors (Auth: HRS 115-1 L 1974, c 244, §1; am L 1977, c 164, §3). HRS 115 also describes penalty to obstruction of public property where a) A person commits the offense of obstructing access to public property if the person, by action or by having installed a physical impediment, intentionally prevents a member of the public from traversing: (1) A public right-of-way; (2) A transit area; (3) A public transit corridor; or (4) A beach transit corridor.

Watershed health can also be further studied elucidating the degree of impact seen from erosion, runoff, invasive species, stream IIFS's, safety, educational information available, observed etiquette(garbage/pollution), number of conflicts, non-governmental and governmental associations, and accessibility. If the trail health and watershed function is determined at risk, then access, restrictions, restoration, or conservation may be necessary as elucidated in the HRS under Classification of program trails (HRS '198D-6). This is also outlined in the HRS under the Classification of program trails: (a) Each program trail and access or portion thereof shall be classified as Urban, Rural, Wildland, Sensitive, or other similar classification. (b) The

classification shall reflect: (1) The function of the trail; (2) The type of trail; (3) The actual or desired use intensity; (4) The desired condition of the environmental or historical setting; (5) The recreational setting; (6) The quality and nature of the expected experience, including the expected sights, sounds, and levels of interaction with other individuals; (7) The degree of physical modification to the environment; (8) The accessibility of the trail; (9) The mode of transportation for which the trail is intended; (10) The type of ancillary and complementary facilities; and (11) Other similar factors as the board may consider from time to time. [Eff. ]

(Auth: HRS '198D-6) (Imp: HRS '198D-6). HRS Chapter 198D also allows for regulating commercial activity and organizational engagement and could be implemented by executing a framework for commercial, non-profit, and community groups to integrate with management goals within living parks. According to the statutes, "Commercial activity means an activity on a program trail or access for commercial purposes, including, but not limited to, conducting tours, hikes, bicycle rides, equestrian rides, off-road vehicle rides and providing guide services.

Commercial activity includes activities whose base of operations are outside the boundaries of the program trail or access, but that rent equipment or livestock for use on a program trail, or access, or provide transportation to or from program trails and accesses. "Compensation" includes, but is not limited to, monetary fees, barter, or services in-kind (HRS 198-D."

City ordinance can be applied to enact residential neighborhood permitted parking by the C&C and Department of Transportation Services, who are responsible under HRS 115-7 to maintain access, and requires them to fulfill the criteria set forth in Hawaii Code R. Ordinance 19-1, which includes public input. The City / County Department of Transportation services may also be a limiting factor if they are not able to fulfill Hawaii Code R. Ordinance 19-1 as noted by HRS 115-7 in agreement with the DLNR. The development and maintenance of the rights-of-

way and public transit corridors shall be the responsibility of the county. [L 1974, c 244, §7]  
[Eff. ] (Auth: HRS '115-7) (Imp: HRS '115-7)

Fundamental objectives to improve present circumstances include maximizing the number of Native Hawaiians on desired lands, maximizing reduction in soil loss to mitigate erosion, minimizing the total cost of maintenance and restoration, and maximizing the native plant cover surrounding the land. Taking direct action towards a sovereign Hawaii through review of other Pacific Island nation trust negotiations, where Hawaii would gain full sovereignty without forced military occupation and remediation of resources is crucial for a sustainable future in Hawaii.

The potential of a sustainable and sovereign Hawaii provides increased access and availability to healthy resources for all users that will inherently promote native Hawaiian rights and vice versa.

Taking action in biocultural remediation/restoration/conservation with energy production and recaptured material products that are currently not being done anywhere provides innovation to industry in Hawai'i. Increased bioremediation products and tools become available to the public, industry, and military, and sets precedents for other nations around the world to follow suit.

Taking a biocultural remediation to energy products approach replaces irrelevant, inactive, and poorly implemented remediation projects and proposals.

Drivers toward biocultural remediation and sovereignty in Hawaii include the catastrophic pollution threats to Hawaii's critical land, water resources, and necessary affirmative action; the need for additional products and biocultural sensitivity of biofuel production, alternative energy production, and materials production, as well as the present inactivity in pollution remediation and poor waste stream management in Hawaii.

The goal is to return the land and water in an occupied Hawaii and provide industry with natural resource management to native Hawaiians. Establishing as much resource for native Hawaiians using public trust rights to water, land, and the right to practice traditional customs in the form of cultural living parks with residence in affected ahupua'a's, coupled with alternative energy, tourism, and other industry where applicable is required for a sustainable Oahu.

#### Citations

Barnard, D. (2006-2007), Law, Narrative, and the Continuing Colonialist Oppression of Native Hawaiians., 16 *Temp. Pol. & Civ. Rts. L. Rev* 1

Dept. of Health State of Hawaii (2019), *REPORT TO THE THIRTIETH LEGISLATURE STATE OF HAWAII 2019 PURSUANT TO CHAPTERS 128D AND 128E, HAWAII REVISED STATUTES, REQUIRING THE DEPARTMENT OF HEALTH TO REPORT ENVIRONMENTAL RESPONSE LAW AND HAWAII EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW ACT FINANCIAL AND ENVIRONMENTAL SITE INFORMATION FY 2018, ENVIRONMENTAL RESPONSE AND PLANNING COMMUNITY KNOWLEDGE REPORT TO THE THIRTIETH LEGISLATURE, STATE OF HAWAII 2019.*

Environment, H. (2022), *Oil Contamination is Pervasive -*, *Environment-hawaii.org*, viewed 12 May, 2022, <<https://www.environment-hawaii.org/?p=3933>>.

Gartner IRM (2022), *Definition of Integrated Risk Management (IRM) - Gartner Information Technology Glossary*, *Gartner*, viewed 10 May, 2022, <<https://www.gartner.com/en/information-technology/glossary/integrated-risk-management-irm>>.

Group 70 Intl. (2009), *Ko'olau Loa Watershed Management Plan - Oahu Water Management Plan*, *Boardofwatersupply.com*, viewed 10 May, 2022, <<https://www.boardofwatersupply.com/bws/media/files/koolau-loa-wmp-prefinal-plan-rev2-2009-07-27.pdf>>.

Hannum, H. (2022), *Legal Aspects of Self-Determination*, *The Princeton Encyclopedia of Self-Determination*, viewed 10 May, 2022, <<https://pesd.princeton.edu/node/511#:~:text=Article%20i%20All%20peoples,economic%20social%20and%20cultural%20development.>>.

Hawaii Emergency Management Agency (2017), *STATE OF HAWAII EMERGENCY OPERATIONS PLAN - BASIC PLAN* -, State of Hawaii.

*Hawaii Revised Statutes* No. 135 chapter 107, Hawai'i State Legislature

*Hawaii Revised Statutes* No. 226, Hawai'i State Legislature, [https://www.capitol.hawaii.gov/hrscurrent/Vol04\\_Ch0201-0257/HRS0226/HRS\\_0226-.htm](https://www.capitol.hawaii.gov/hrscurrent/Vol04_Ch0201-0257/HRS0226/HRS_0226-.htm)

*Hawaii Revised Statutes* Act 238, Section 2, Session Laws of Hawaii, Hawai'i State Legislature

*Hawaii Revised Statutes* Act 238, Section 5, Session Laws of Hawaii, Hawai'i State Legislature

*Hawaii Revised Statutes* No. 174C, Hawaii State Water Code, Hawai'i State Legislature

Hawaii State Climate Change Portal. (2022), *Less & Heavy Rain*, *Climate.hawaii.gov*, viewed 12 May, 2022, <<https://climate.hawaii.gov/hi-facts/rain/>>.

Hawaii State Dept. of Health (2022), *Red Hill Water Information*, *Health.hawaii.gov*, viewed 12 May, 2022, <<https://health.hawaii.gov/about/red-hill-water-information/>>.

Hawaii State, House Bill 623 HD2 SD2 CD1 (2015) Hawaii State Legislature

Hossain, K. (2022), The Concept of Jus Cogens and the Obligation Under the U.N. Charter, *Santa Clara Journal of International Law*, 3, (1), p. 78.

Hughes, D. (2020), Of Tactics, Illegal Occupation and the Boundaries of Legal Capability: A Reply to Ardi Imseis, *European Journal of International Law*, 31, (3), pp. 1087-1103.

Interagency Drinking Water System Team (2022), *Drinking Water Distribution System Recovery Plan: Stage 2 Sampling Results for Zone II*, *JBPHH water systems information*, viewed 12 May, 2022, <<https://www.cpf.navy.mil/Portals/52/Downloads/JBPHH-Water-Updates/2022-01-24-flushing-zone-i1-idwst-stage-2-data-release.pdf>>.

Jedra, C. (2022), *How The Red Hill Fuel System Has Threatened Oahu's Drinking Water For Decades*, *Honolulu Civil Beat*, viewed 12 May, 2021, <<https://www.civilbeat.org/2021/12/how-the-red-hill-fuel-system-has-threatened-oahus-drinking-water-for-decades/>>.

Jumiyati, S., Rajindra, R., Tenriawaru, A., Hadid, A. and Darwis, D. (2017), Sustainable Land Management and Added Value Enhancement of Agricultural Superior Commodities, *International Journal of Agriculture System*, 5, (2), p. 198.

Kondo, L. (2018), *Hawai'i 2050 Sustainability Plan*, State of Hawaii Office of the Auditor, Ten Year Measurement Update.

Lincoln N, Zhang Q, Chen Q. State of the State Tree: Historical and Modern Ecology of Kukui (Candlenut, *Aleurites Moluccanus*) in Hawai'i. *Pacific science* 2021;74(4).

McGlade C, Ekins P. The geographical distribution of fossil fuels unused when limiting global warming to 2 °C. *Nature*. 2015 Jan 8;517(7533):187-90. doi: 10.1038/nature14016. PMID: 25567285.

Malji, A., Allen, M. and Martinez Machain, C. (2022), *The Navy's fuel leak in Hawai'i outraged local activists. That's happened around the globe. Military bases' environmental harms disproportionately hurt ethnic minorities — and they have pushed back*, *The Washington Post - Democracy Dies in Darkness*, viewed 11 May, 2022, <<https://www.washingtonpost.com/politics/2022/01/13/red-hill-fuel-water-contamination-activism/>>.

Omaye, J. (2021), *More Native Hawaiians and Pacific Islanders are living on the mainland and finding ways to keep their culture alive*, *Honolulu Star-Advertiser*, viewed 11 May, 2022, <<https://www.staradvertiser.com/2021/09/05/hawaii-news/more-native-hawaiians-and-pacific-islanders-are-living-on-the-mainland-and-finding-ways-to-keep-their-culture-alive/>>.

Senate Concurrent Resolution SCR No. 73, H.D. 1, The Senate Twenty-Seventh Legislature, 2014, State of Hawaii, [https://www.capitol.hawaii.gov/session2014/bills/SCR73\\_HD1\\_.pdf](https://www.capitol.hawaii.gov/session2014/bills/SCR73_HD1_.pdf)

*Senate Resolution No. 264*, S.D. 1, Regular Session of 1977, Hawai'i State Legislature, <https://www.capitol.hawaii.gov>

Shaah MA, Allafi F, Hossain MS, Alsaedi A, Ismail N, Ab Kadir MO, et al. Candlenut oil: review on oil properties and future liquid biofuel prospects. *INTERNATIONAL JOURNAL OF ENERGY RESEARCH* 2021;45(12):17057-79.

STATE OF HAWAI'I, C. (2016), *Case No. CCH-MA15-01 Surface Water Use Permit Applications, Integration of Appurtenant Rights and Amendments to the Interim Instream Flow*

*Standards, Nä Wai 'Ehä Surface Water Management Areas of Waihe'e, Waiehu, 'Āao, & Waikapū Streams, Maui..*

State of Hawaii. (1950), *State Constitution*, *Lrb.hawaii.gov*, viewed 12 May, 2022, <<https://lrb.hawaii.gov/constitution>>.

US National Library of Medicine (2022), *President Clinton apologizes for 1893 overthrow of Hawaiian monarchy - Timeline - Native Voices*, *Nlm.nih.gov*, viewed 10 May, 2022, <<https://www.nlm.nih.gov/nativevoices/timeline/578.html#:~:text=of%20Hawaiian%20monarchy-1993%3A%20President%20Clinton%20apologizes%20for%201893%20overthrow%20of%20Hawaiian%20monarchy,overthrow%20of%20the%20Hawaiian%20monarchy.>>>.

University of Hawaii School of Law Library (2022), *How Jon Van Dyke Analyzed the Hawaiian Constitutions of 1840-1893 · Exploring the Scholarship of Jon Van Dyke Exhibit · The Archival Collections at the University of Hawai'i School of Law Library*, *Archives.law.hawaii.edu*, viewed 12 May, 2022, <<http://archives.law.hawaii.edu/exhibits/show/jvd-scholarship/hawaiian-constitutional-histor>>.

Waiāhole”, 94 Hawai'i 97, 9 P.3d 409 (2000), Supreme Court of the State of Hawaii. No. 21309, <https://cite.case.law/haw/94/97/>

**From:** [ann Wright](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] Written testimony for the May 13, 2022 Fuel Tank Advisory Committee hearing  
**Date:** Friday, May 13, 2022 12:58:14 AM  
**Attachments:** [Testimony for Fuel Tank Advisory Committee May 13, 2022.pages](#)

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Aloha Thu Perry,

Please find attached my written testimony for today's May 13 Fuel Tank Advisory Committee hearing.

I will also like to provide oral testimony and will put my name in the zoom chat as requested.

Mahalo,

Colonel Ann Wright

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Ann Wright  
Dissent: Voices of Conscience  
[www.voicesofconscience.com](http://www.voicesofconscience.com)

May 13, 2022

Fuel Tank Advisory Committee Meeting May 13, 2022

Hawaii Department of Health

Honolulu, HI

Written testimony via

Thu Perry at [thu.perry@doh.hawaii.gov](mailto:thu.perry@doh.hawaii.gov)

Testimony By Colonel Ann Wright

Thank you for the opportunity to provide testimony at the May 13, 2022 meeting of the Department of Health's Fuel Tank Advisory Committee meeting.

I have lived on O'ahu for almost 20 years. I served 29 years in the US Army/Army Reserves and retired as a Colonel. I was also a US diplomat for 16 years and served in US Embassies in Nicaragua, Grenada, Somalia, Uzbekistan, Kyrgyzstan, Sierra Leone, Micronesia, Afghanistan and Mongolia. I resigned from the US government in 2003 in opposition to the US war on Iraq.

I am very concerned about the amount of time the Department of Defense may take to drain the Red Hill jet fuel tanks and close the Red Hill storage facility.

It is Taking DOD Nine Years to Replace Underground Jet Fuel Tanks in Washington State! We Can't Wait that long to Close Down Red Hill

According to [local news media in Kitsap, Washington](#), it's expected to take approximately [nine years to complete the six above-ground tanks project](#)

shutting down and closing 33 underground Navy fuel tanks at the US military Manchester Fuel Depot in Manchester, Washington and will cost the Department of Defense around \$200 million.



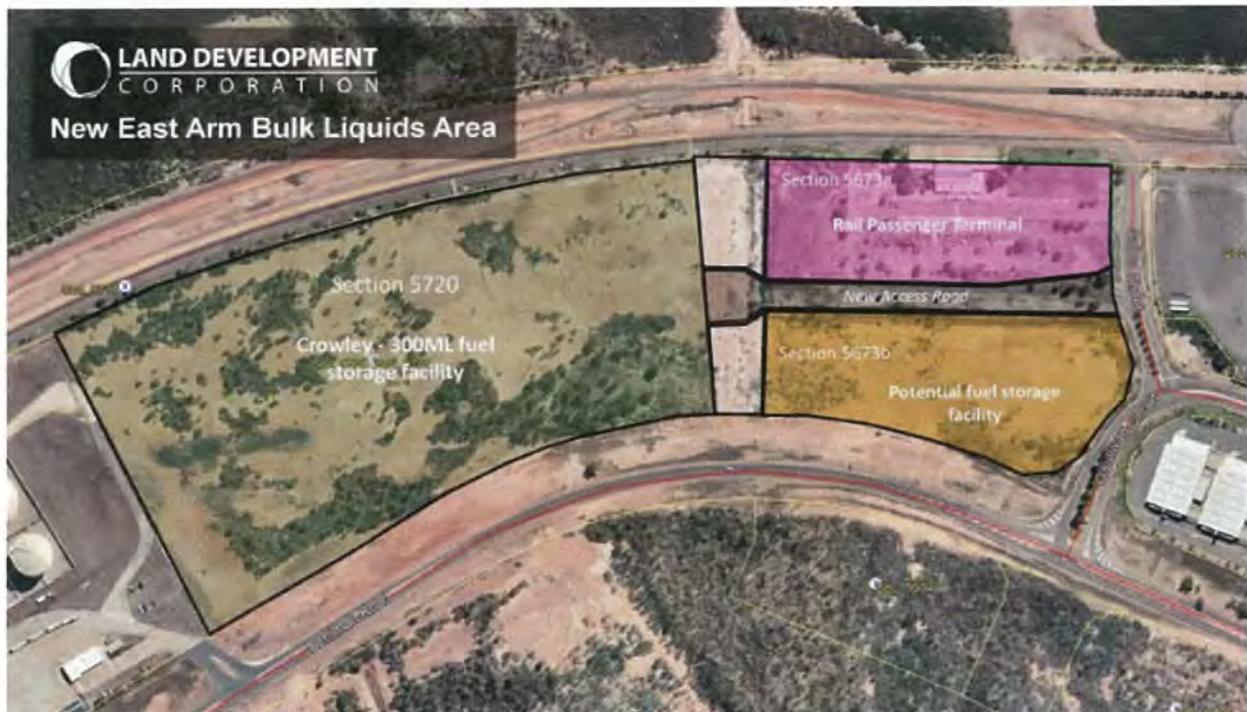
The fuel tank upgrade project at Manchester will consist of closing and removing the original underground fuel storage tanks and constructing six new above-ground tanks over three phases (shown in this illustration). (U.S. Navy illustration)

It took the Department of Defense (DOD) 3 years to begin work on shutting down the tanks after the decision was made. The decision to close and remove the original 33 underground fuel storage tanks and construct six new above-ground tanks was made in 2018 but work did not begin to close down the facility until July 2021.

Each of the six new, above ground tanks will be able to contain 5.2 million gallons of JP-5 carrier jet fuel or F-76 marine diesel fuel in 64-foot-tall, 140-foot-wide tanks constructed of welded steel columns with supported fixed cone roofs. Approximately 75 million gallons are stored at Manchester Fuel Depot now.

**At that rate, it would take eighteen+ years to defuel and close Red Hill, assuming it holds 180 million gallons of fuel.**

Now DOD is faced with a logistics quandary of where to put the fuel it drains from the tanks. But the self-made tardiness of DOD's decision to finally shut down the Red Hill storage tanks must not be allowed to continue to jeopardize the drinking water of Honolulu.



Site plan for US military jet fuel tanks in Darwin, Australia

DOD had made some major decisions on alternative sites for its fuel supply prior to the November 2021 Red Hill fuel leak and those decisions involved Australia.

In September 2021, Australia, UK, and the United States signed the well-publicized security pact, called "AUKUS" which allowed sharing of advanced defense technologies and providing Australian military contractors with the information on how to build nuclear-powered submarines, much to the displeasure of France that had a contract to sell diesel submarines to Australia.

Also in September 2021, the same time the AUKUS pact was signed, the US government awarded a contract for construction of a \$270 million dollar project for an aviation fuel storage facility that will store 60 million gallons of jet fuel in 11 above ground storage tanks to support American military operations in the Pacific. [Construction of the tank farm facility began in January 2022](#) and is scheduled for completion in two years.

On Guam, with a [population of 153,000 and a military population of 21,700 including families](#), military fuel is shipped into the large storage facilities at Guam Naval Base.

The repair of [12 fuel tanks with a storage capacity of 38](#) million gallons has recently been finished at Andersen Air Base on Guam.

Secretary of Defense Austin's March 7, 2022 [press statement](#) revealed that DOD is going to expand its dispersal fueling at sea capability to accommodate the removal of Red Hill from the Pacific fuel network.

Austin said, "After close consultation with senior civilian and military leaders, I have decided to de-fuel and permanently close the Red Hill bulk fuel storage facility in Hawaii. Centrally located bulk fuel storage of this magnitude likely made sense in 1943, when Red Hill was built. And Red Hill has served our armed forces well for many decades. But it makes a lot less sense now.

The distributed and dynamic nature of our force posture in the Indo-Pacific, the sophisticated threats we face, and the technology available to us demand an equally advanced and resilient fueling capability. To a large degree, we already avail ourselves of dispersed fueling at sea and ashore, permanent and rotational. We will now expand and accelerate that strategic distribution."

However, during the Trump Administration, US Maritime Administrator Rear Admiral Mark Buzby [warned Congress repeatedly](#) that the US Merchant Marine did not have enough tankers or qualified merchant mariners to fight even a limited war.

[U.S. Merchant Marine experts say the decision](#) to close Red Hill doesn't take into account the age and status of the U.S. Military Sealift Command tanker fleet, the ships responsible for at-sea refueling of both ships and

aircraft. Shipbuilding experts find it very unlikely that Austin will be able to find the funding or the shipyards need to build a fleet of merchant tankers with "equally advanced and resilient fueling capability.

In response, Congress passed an emergency measure in 2021 called the U.S. Tanker Security Program. In this bill, the United States pays both private companies like Maersk a stipend to reflag their tankers "American."

"The tanker security measure was an emergency stop-gap measure," said one MARAD official the [online news blog gCaptain](#) interviewed. "It barely meets the most basic needs of our military and in no way can replace the capabilities at Red Hill. The Secretary of Defense is either completely misinformed or delusional if he thinks otherwise."

**Poor planning by the Department of Defense is no reason to continue to jeopardize the drinking water of the citizens of O'ahu. Red Hill jet fuel storage tanks must be shut down quickly ....and not in nine years!**

Thank you for the opportunity to express my views.

Colonel Ann Wright  
2333 Kapiolani Blvd  
Honolulu, HI 96826

**From:** [Nanea Lo](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] Shutdown Red Hill Fuel Tanks NOW.  
**Date:** Friday, May 13, 2022 11:11:44 AM

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Hello,

I'm writing to demand the shutdown of the Red Hill Fuel Tanks immediately! I'm a lifelong resident of O'ahu and a lineal descendant of these lands. I currently reside in Mō'ili'ili. Here are my points below on why this should happen:

- Department of Health workers are protectors of the public trust.
- DOH must prioritize and work in the interests of the community – and to do that, they must ensure that community experts and affected communities are part of the conversation and decision-making on timeline, remediation, and accountability.
- Use all mechanisms, including full and strict enforcement of the emergency order, to get the 100 plus million gallons of fuel out of Red Hill.
- Even though the Navy waived its right to contest the new Emergency Order, we do not trust them to protect our water and take accountability.
- Even though the Navy waived its right to contest the new Emergency Order, we do not trust them to protect our water and take accountability.
- The Navy is not forthcoming, has lied, and straight-up refused to answer questions from the community.
- The Navy must release all documents and reports regarding the contamination, aquifer remediation, water testing, and the timeline to defuel and shut down the facility.

Me ke aloha 'āina,

--

Nanea Lo  
Phone: (808)454-3504  
Email: [naneaclo@gmail.com](mailto:naneaclo@gmail.com)  
[www.nanealo.com](http://www.nanealo.com)

Some people say that Hawai'i will be a better place when Hawaiians no longer stand in the way of progress. But even these people must know that at this point, this will no longer be Hawai'i.- Jonathan Kay Kamakawiwo'ole Osorio. The Value of Hawai'i

**From:** [Ray Tsuchiyama](#)  
**To:** [Perry, Thu](#)  
**Cc:** [Keith Mattson](#); [Keith Mattson](#)  
**Subject:** [EXTERNAL] Notes on Mainland Navy Fuel Tank Sites and Mitigation -- a Personal Summary  
**Date:** Friday, May 13, 2022 12:38:43 PM  
**Attachments:** [Comparisons,Jet Fuel Storage,Tsuchiyama.pdf](#)

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Ms. Thu Perry  
Public Participation Coordinator  
c/o Fuel Tank Advisory Committee  
Department of Health  
State of Hawaii

Dear Ms. Perry:

I live in Hawaii-Kai. I am currently in management consulting and real estate, and was formerly with tech firms like Analog Devices, AOL and Google, plus universities (M.I.T. and UH Maui College). I was also Deputy Director at the FEMA-funded National Disaster Preparedness Training Center and consultant to the Hawaii Dept. of Education; I am on the UH Computer Science Department Advisory Board and a former Maui County Commissioner. My Phone is (808) 679-9886.

Attached is a summary of events and mitigation for two Navy fuel tank sites (Point Loma, California and Manchester, Washington State). Please note that I give no warranties or representations for the data/materials - I am a private individual and researched the question "What happened (historically) at the two Navy fuel tank sites and what were the mitigation engineering designs and construction techniques that ultimately resolved the two fuel tank sites' leak issues?" Please feel free to review with your Fuel Tank Advisory Committee -- but please be aware of my caveat!

I ended the drafting/researching the Summary before the U.S. Dept. of Defense announced that the Red Hill fuel tanks will be de-fueled and relocated -- so the assumption behind the Summary was that the issue was still in discussions between the State of Hawaii (and various other parties) and the U.S. Navy/Dept. of Defense. Please note that both Mainland projects were contingent on the fuel tanks still remaining full -- and then the fuel was removed into the "new" tanks.

I cc'd Keith Mattson as I know of him and he was listed as a Facilitator to the Committee. In full disclosure, Dr. Peter Adler in my consulting firm

has consulted on the Red Hill issue to the EPA and State of Hawaii. I have nothing to do with the Red Hill fuel storage tank issue, except as a private citizen I see the Next Step to at least review the mitigation programming, engineering design and construction technology of two similar Mainland sites for guidance and ideas to plan to resolve the Red Hill issue. I hope that my Summary would be of some value to you and the Committee.

Best wishes,

RKT

P.S. Ms. Perry -- by coincidence, I am a WWU alum myself (you may have studied at Huxley with my friend Prof. Patrick Buckley).

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Ray K. Tsuchiyama  
Honolulu, Hawaii USA  
USA Cell: +1 - 808-679-9886

**Date: February 23, 2022**

## **Notes on History of U.S. Navy Jet Fuel Underground Storage Tank Removal/ Transfer to Above-Ground Storage Tank Projects**

(DISCLAIMER: Based on Information in Media/Web/No Representation of Material Facts. Conduct Own Due Diligence, especially Engineering/Technical Issues.)

**Author: Ray Tsuchiyama**  
**ray.tsuchiyama@gmail.com**

**Summary:** The on-going U.S. Navy Red Hill (Honolulu, Hawaii) underground fuel tank leak issue should be compared/contrasted to Navy actions at two West Coast Navy fuel tank sites. The Navy “process” that led to the removal of the underground tanks and transfer of the fuel to above-ground storage tanks had origins in 1990s ground soil fuel leaks (Point Loma) and 2012 fuel line leaks (EPA fines U.S. Navy – Manchester Fuel Depot). See “Chronology” below.

During the past two decades, there has been extensive engineering/geotechnical improvements in above-ground fuel leak containment “membrane” (“liners”) and other innovations regarding fuel leak mitigation, especially in a tropical “heat” climate. Hawaii’s government and elected leaders should focus on “Fuel Storage Removal Project Management and project engineering innovations and realistic third-party construction costs” – See Appendix A.

One major difference from the current Red Hill crisis is that the Manchester fuel storage project did NOT remove the fuel from underground tanks until the new aboveground storage tank were constructed (i.e., Manchester’s three-“phase” project management timetable) – a “No Go” for Hawaii’s State government agencies

(BWS, DOH) and elected officials (Governor, Lt. Governor, various U.S., State and City & County), plus community groups (Sierra Club).

See May 2020 Civil Beat article that refers to both Mainland sites: <https://www.civilbeat.org/2020/05/the-navy-replaced-its-leaky-fuel-tanks-in-california-why-not-oahu/>

and to the Navy's reasons why the fuel storage tanks are vital to strategic interests: <https://www.civilbeat.org/2021/12/the-stakes-are-high-why-the-navy-doesnt-want-to-defuel-the-red-hill-tanks/>  
"Key" experts for both Manchester and Point Loma Navy fuel storage construction projects should be interviewed regarding engineering, environmental and geotechnical issues for the de-fueling and removal of the Red Hill Underground Fuel Tanks, and list "Best Practices" for above-ground fuel storage tank design and construction – now for Red Hill planning. Both Mainland sites required a minimum of 8 – 9 years for total planning/construction process time, including soil removal and environmental mitigation, and a \$200M total budget (per project).

The Navy allowed publication of the March 2018 Engineering Magazine Article that Gives In-Depth Background on Point Loma Design/Planning/Construction (2008 – 2016) -- the "Template" for the 2021 – 2030 Manchester Fuel Storage Removal and Above-Ground Storage Tank Construction Project. See Excerpts Below in Appendix B.

Possible Key Government Figures/Technical Experts (Manchester + Point Loma):

- House Representative Derek Kilmer (House District 6) – Kitsap County area, Washington State.
- House Representative Scott Peters (House District 52) – San Diego, California.
- Glenn Schmitt, P.E. (Civilian/Not U.S. Navy), Regional Fuel Manager/Deputy Director (Navy Manchester Fuel Depot), Fleet Logistics Center Puget Sound, Naval Supply Systems Command
- Robert Kulash, P.E., M. SAME, Project Manager, Burns & McDonnell (PM for Manchester and Point Loma)
- Nova Engineering (Point Loma fuel storage tank construction)

## On Three Navy Fuel Storage Tank Sites – Compare/Contrast

U.S. Navy Fuel Tank Location	Date Constructed	Area of Potential Contamination	Number of Tanks	Tank Capacity	Budget/Relocation	Schedule/Time Required
Manchester, Kitsap County, Washington State <i>(See Photo Below)</i>	1942	Puget Sound (Fisheries, Shellfish), Pacific Ocean	29 Underground Tanks Total (20 Tanks: JP-5 Aviation; 9 Tanks: F-76 Marine Diesel)	~30 million gallons?	\$200 Million -- Above-Ground Tanks	Three Phases/9 Years/Began July 2021 – End 2030? (Fuel Transferred in Phases – No Immediate Total De-Fueling)
Point Loma, San Diego, California <i>(See Photos Below)</i>	1920s – 1957	Local Neighborhood, Potential Pacific Ocean Pollution	30 underground 15 above-ground (54 storage rivet-design tanks of various types, some de-commissioned in past years.)	~42 million gallons?	\$194 million -- 8 new Above-Ground Tanks, (5.25-million gallons of fuel)	Began 2005 Completed 2013 (8 Years). Contaminated soil removal program.

Red Hill, Oahu, Hawaii	1942	Above Halawa Fresh Water Aquifers ~450,000 Drinking Water Population	20 (18 tanks with fuel; 2 with no fuel) Half JP-5? Half F-76?	12.5 million Gallons per Tank ~200 million gallons	Navy Estimates: \$2 – 3 Billion?/ 10 Years?  BWS, DOH, State Government Officials call for Immediate Transfer of all Fuel from Tanks to New Above-Ground Storage Tanks.
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## Chronology: Point Loma (California) and Manchester (Washington State) Navy Fuel Sites

Date	Headline	Web Site	Quotes/Comments
April 1995	FACT SHEET NO.3 Naval Training Center (San Diego)	<a href="https://www.navfac.navy.mil/niris/SOUTHWEST/SAN_DIEGO_NTC/N00247_000178.PDF">https://www.navfac.navy.mil/niris/SOUTHWEST/SAN_DIEGO_NTC/N00247_000178.PDF</a>	San Diego Naval Training Center closing – Navy underground fuel storage tank contamination and mitigation efforts near Point Loma tanks – first detected in mid-1990s.
August 2006	“Fuel Leak Escapes Bounds of Naval Base” (Point Loma)	<a href="https://www.latimes.com/archives/la-xpm-2006-aug-04-me-sbriefs4.2-story.html">https://www.latimes.com/archives/la-xpm-2006-aug-04-me-sbriefs4.2-story.html</a>	“Fuel that leaked from tanks at Point Loma Naval Base has seeped into the ground beyond the facility’s boundary.”
April 2007	Navy Newsletter on Storage Fuel Leaks (Point Loma)	<a href="http://pcpb.net/navy0704.pdf">http://pcpb.net/navy0704.pdf</a>	“In 1995, groundwater monitoring wells were installed at Naval Base Point Loma (NBPL) to monitor groundwater between the DFSP Point Loma Fuel Depot and San Diego Bay. In 2000, free product (fuel) was found in one of the wells – leading to years of engineering and mitigation efforts in a wide area with community outreach with local City Council – and by 2007 a Navy review of underground storage tanks at Point Loma.”

<p>September 2007</p>	<p>“Navy Gets Approval to Replace Old Fuel Tanks at Point Loma” (San Diego)</p>	<p><a href="https://www.kpbs.org/news/2007/09/07/navy-gets-approval-to-replace-old-fuel-tanks-at">https://www.kpbs.org/news/2007/09/07/navy-gets-approval-to-replace-old-fuel-tanks-at</a></p>	<p>“A plan to replace old fuel storage tanks at the Point Loma Naval Base was approved by a state agency today. <u>The project includes permanently removing underground tanks that have been leaking fuel.</u>” The California Coastal Commission approved the Navy’s five-year plan to replace 54-year-old storage tanks with larger above-ground tanks. The <u>underground tanks from the 1930s have leaked fuel into the ground.</u>”</p>
<p>January 2012</p>	<p>“Naval Base Kitsap Fails to Properly Monitor Fuel Tanks near Puget Sound for Leaks”</p>	<p><a href="https://www.natlawreview.com/article/naval-base-kitsap-fails-to-properly-monitor-fuel-tanks-near-puget-sound-leaks">https://www.natlawreview.com/article/naval-base-kitsap-fails-to-properly-monitor-fuel-tanks-near-puget-sound-leaks</a></p>	<p>Naval Base Kitsap Bangor failed to properly monitor pipes and underground fuel storage tanks for leaks on its property in Silverdale, Washington in violation of federal laws that protect groundwater, according to a settlement with the U.S. Environmental Protection Agency. The Navy will pay nearly \$161,000 in fines.</p>
<p>February 2015</p>	<p>“Manchester fuel depot won’t be privatized”</p>	<p><a href="https://bremolympicplus.wordpress.com/2015/02/18/manchester-fuel-depot-wont-be-privatized/">https://bremolympicplus.wordpress.com/2015/02/18/manchester-fuel-depot-wont-be-privatized/</a></p>	

<p>Summer 2015</p>	<p>“Fuel for the Pacific Fleet”</p>	<p><a href="https://www.burnsmcd.com/insights/news/publications/benchmark/2015-no-1/fuel-for-the-pacific-fleet">https://www.burnsmcd.com/insights/news/publications/benchmark/2015-no-1/fuel-for-the-pacific-fleet</a></p>	<p>By 2004, the Navy had determined the 54 obsolete storage tanks at the Point Loma Naval Supply Systems Command Fleet Logistics Center (NAVSUP FLC) San Diego had exceeded their service lives, and some of the soils beneath them required petroleum contaminants remediation. "That's when Burns &amp; McDonnell was brought aboard to provide full design and construction support services for a \$193 million program to rebuild and modernize the Point Loma fuel facility," says Robert Kulash, project manager. Prepared for Kitsap County, Jefferson County, and City of Bremerton Prepared by: • MAKERS architecture and urban design, LLP • White &amp; Smith, LLC • TranspoGroup • Community Attributes September 2015 FINAL. This study was prepared under contract with Kitsap County, Washington, with financial support from the Office of Economic Adjustment, Department of Defense.</p>
<p>September 2015</p>	<p>“Joint Land Use Study – Kitsap Naval Air Station” (Including Manchester Fuel Depot)</p>	<p><a href="https://oldcc.gov/sites/default/files/mis-studies/Naval%20Base%20Kitsap.pdf">https://oldcc.gov/sites/default/files/mis-studies/Naval%20Base%20Kitsap.pdf</a></p>	<p>This project replaced fuel storage tanks for the Navy at Defense Fuel Supply Point (DFSP) Pt. Loma in San Diego to include the following: <b>Construction of eight 125,000-barrel multi-product fuel storage tanks (aboveground steel fuel storage tanks),</b> fuel distribution piping, pumphouse,</p>
<p>Summer 2016</p>	<p>Nova Group (Eng Firm): “Replace Fuel Storage Facilities; Naval Base Point Loma, California”</p>	<p><a href="https://novagr.com/project/replace-fuel-storage-facilities/">https://novagr.com/project/replace-fuel-storage-facilities/</a></p>	<p>This project replaced fuel storage tanks for the Navy at Defense Fuel Supply Point (DFSP) Pt. Loma in San Diego to include the following: <b>Construction of eight 125,000-barrel multi-product fuel storage tanks (aboveground steel fuel storage tanks),</b> fuel distribution piping, pumphouse,</p>

<p>fuel oil reclamation (FOR) facilities (including 10,000-barrel and 25,000-barrel aboveground storage tanks), and a lube oil storage and dispensing system.</p> <p><u>Demolished or closed 30 above-ground or underground storage tanks, totaling greater than one million barrels of storage capacity, as well as 20 other FOR and lube oil tanks of varying sizes.</u></p> <p><u>Extensive remediation of fuel contaminated soil, automated fuel handling, tank gauging equipment, and physical security equipment funded by other appropriations.</u></p>			
<p>“In 2008, an eight-year military construction project was approved to replace the aging Point Loma Navy fuel storage facility that had been intermittently constructed between 1917 and 1954. Located at Defense Fuel Support Point (DFSP) Point Loma, San Diego, this was the largest construction project ever within the Defense Logistics Agency Energy at \$174 million.</p> <p>Eight 125,000-barrel aboveground fuel storage tanks were constructed to replace the existing 1-million-barrel capacity of jet and diesel fuel storage. <b>A</b></p>	<p><a href="https://geosyntheticsmagazine.com/2016/08/01/state-of-the-art-fuel-storage-facility-at-point-loma/#">https://geosyntheticsmagazine.com/2016/08/01/state-of-the-art-fuel-storage-facility-at-point-loma/#</a></p>	<p>“State-of-the-art Fuel Storage Facility at Point Loma” (San Diego) California</p>	<p>August 2016</p>

<p><u>fuel-resistant reinforced polyurethane geomembrane liner was used under each tank and a fuel-resistant reinforced ethylene interpolymer alloy (EIA) geomembrane was used in the dike areas for secondary containment.</u></p>		
<p>“The depot currently stores 1.8 million barrels of fuel. That’s more than 75 million gallons, or roughly 1,200 gas stations worth of fuel. The Navy hopes to replace all of its 29 underground concrete fuel storage tanks, nine of which hold diesel fuel marine and 20 of which hold carrier jet fuel, which date back to when the installation began service in the early 1940s. <u>The tanks will come with new safety monitoring technology for incidents such as leaks and fire management.</u> The tanks will be installed in phases, and the Navy will begin to close and phase out the old underground tanks as the new ones become functional. “</p>	<p><a href="https://www.kitsapsun.com/story/news/local/2017/12/05/manchester-fuel-depot-plans-replace-wwii-era-underground-storage-tanks/915357001/">https://www.kitsapsun.com/story/news/local/2017/12/05/manchester-fuel-depot-plans-replace-wwii-era-underground-storage-tanks/915357001/</a></p>	<p><b>“Navy Announces Plans to Replace World War II-Era Underground Storage Tanks” (Manchester, Washington State)</b></p>

<p><b>April 2018</b></p>	<p><b>“Manchester Fuel Depot, other agencies prepare for worst-case spill scenario”</b></p>	<p><a href="https://www.kitsapsun.com/story/news/local/2018/04/30/manchester-fuel-depot-navy-agencies-prepare-worst-case-spill-scenario-puget-sound/556238002/">https://www.kitsapsun.com/story/news/local/2018/04/30/manchester-fuel-depot-navy-agencies-prepare-worst-case-spill-scenario-puget-sound/556238002/</a></p>	<p>The Navy's scenario this year involved the accidental release of 750,000 gallons of JP-5, a type of carrier jet fuel, into Puget Sound from one of Manchester's underground storage tanks after a valve in one of the tank's pipelines down to the water failed.</p>
<p><b>May 2018</b></p>	<p><b>“Navy prepares for ‘worst-case’ fuel spill scenario in Puget Sound”</b></p>	<p><a href="https://www.king5.com/article/news/local/navy-prepares-for-worst-case-fuel-spill-scenario-in-puget-sound/281-547625549">https://www.king5.com/article/news/local/navy-prepares-for-worst-case-fuel-spill-scenario-in-puget-sound/281-547625549</a></p>	<p><i>How would federal, state, and local agencies respond to an accidental spill of 1 million gallons of fuel into Puget Sound?</i></p>
<p><b>June 2018</b></p>	<p><b>“Manchester residents want road fixes ahead of World War II-era fuel tank upgrades”</b></p>	<p><a href="https://www.kitsapsun.com/story/news/local/2018/06/28/manchester-fuel-depot-residents-storage-tank-road-construction/743256002/">https://www.kitsapsun.com/story/news/local/2018/06/28/manchester-fuel-depot-residents-storage-tank-road-construction/743256002/</a></p>	
<p><b>July 2018</b></p>	<p><b>“Burns &amp; McDonnell Awarded \$40 Million Contract</b></p>	<p><a href="https://www.burnsmcd.com/insights/news/in-the-news/2018/07/contract-fuel-tank-improvements-naval-base-kitsap">https://www.burnsmcd.com/insights/news/in-the-news/2018/07/contract-fuel-tank-improvements-naval-base-kitsap</a></p>	<p>The scope for the program includes the design of six new, above-ground storage tanks that will be environmentally</p>

<p>compliant. The tanks will replace 40 existing underground tanks, from the World War II era, that store 75 million gallons of fuel. This is the second largest federal fueling project in the U.S. The largest federal fueling project was also designed by Burns &amp; McDonnell at Point Loma NAVSUP FLC San Diego, where <u>eight new storage tanks occupy a smaller site than the tanks they replaced, while maintaining a storage capacity of 1 million barrels.</u></p>		<p>for Fuel Tank Improvements at Naval Base Kitsap” (Manchester)</p>
<p>November 2018</p>	<p><a href="https://www.kitsapsun.com/story/new-local/navy/2018/11/13/navy-base-washington-kitsap-manchester-wwii-fuel-tank-project/1980478002/">https://www.kitsapsun.com/story/new-local/navy/2018/11/13/navy-base-washington-kitsap-manchester-wwii-fuel-tank-project/1980478002/</a></p>	<p>“Proposal to replace WWII-era fuel storage tanks at Naval Base Kitsap-Manchester approved”</p>
<p>March-April 2019</p>	<p><a href="https://sameneews.org/fueling-upgrades-bring-efficiencies-for-the-pacific-fleet/">https://sameneews.org/fueling-upgrades-bring-efficiencies-for-the-pacific-fleet/</a></p>	<p>The Military Engineer Magazine Article – “Fueling Upgrades</p>

**Bring Efficiencies  
for the Pacific  
Fleet”**

**By Glenn Schmitt,  
P.E., and Robert  
Kulash, P.E.,  
M.SAME**

total fuel capacity of approximately 79-million-gal. The redesign/ rebuild project calls for three phases in which existing tanks and related equipment will be progressively decommissioned and dismantled as new steel, above-ground tanks are completed. A pair of new, larger-capacity tanks will be completed in each phase, with each phase scheduled to take approximately two years from start to completion. As each phase is completed and commissioned, the JP-5 and F-76 fuel contained in existing tanks will be transferred into the new tanks. The new tanks will have the capacity to hold 5-million-gal of fuel, for a combined fuel storage capacity totaling more than 30-million-gal upon estimated project completion in 2026.

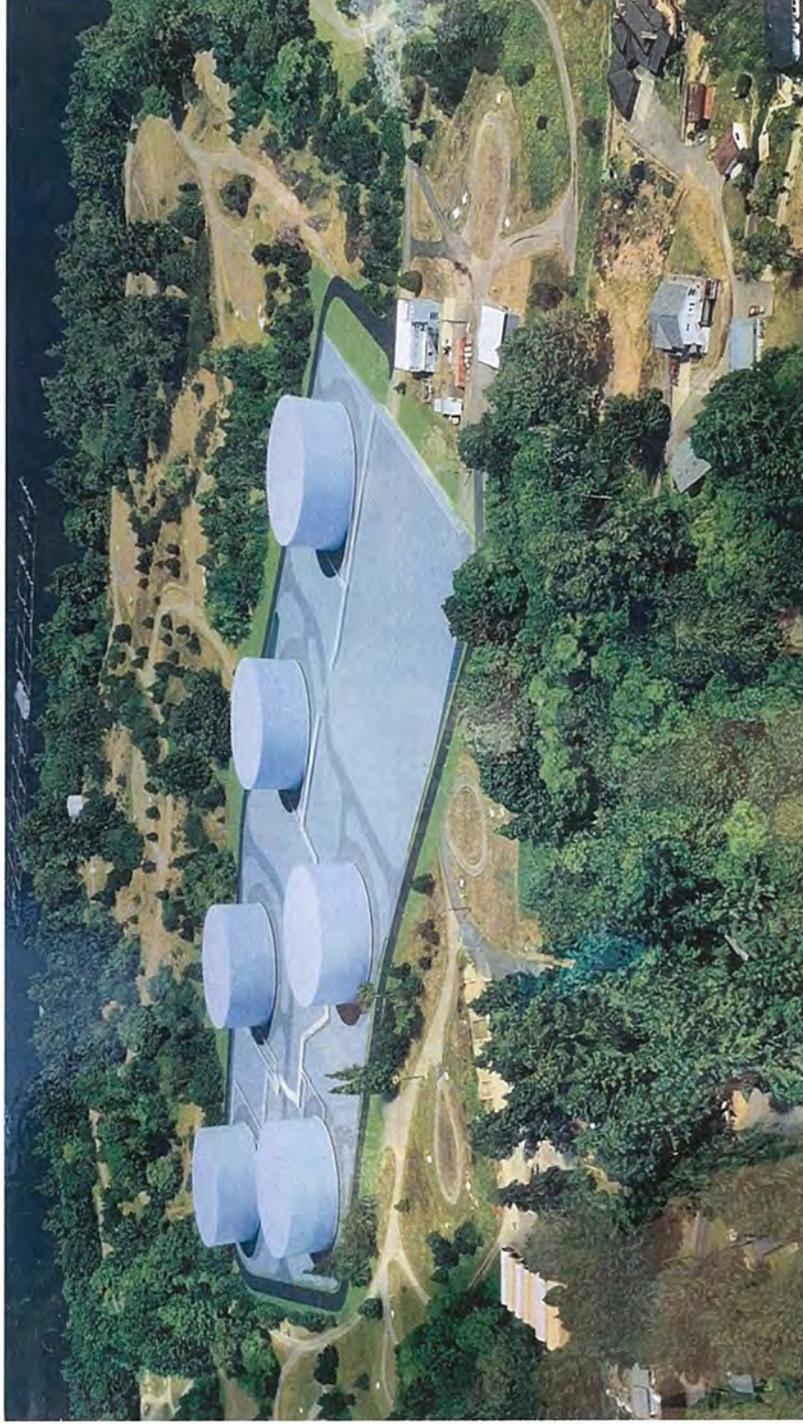
<p><b>July 2019</b></p>	<p><b>“ ‘An egregious violation’: Washington State sues Navy for dumping toxic paint into Puget Sound”</b></p>	<p><a href="https://crosscut.com/2019/07/egregious-violation-wa-sues-navy-dumping-toxic-paint-puget-sound">https://crosscut.com/2019/07/egregious-violation-wa-sues-navy-dumping-toxic-paint-puget-sound</a></p> <p><i>The copper-based paint repels barnacles — but it could add up to a larger environmental cost.</i></p>	<p>The study found that one of the six locations where the USN ship Independence had been moored had a copper reading four times the amount recorded before the scraping. Two locations had approximately twice as much copper after the scraping. Two locations recorded slightly elevated concentrations. And one had almost half of the initial concentration afterward.</p>
<p><b>March 2020</b></p>	<p><b>“Mussels fetched from Kitsap waters give insight into contamination”</b></p>	<p><a href="https://www.kitsapsun.com/story/news/2020/03/04/mussels-fetched-kitsap-waters-give-insight-into-contamination/4925353002/">https://www.kitsapsun.com/story/news/2020/03/04/mussels-fetched-kitsap-waters-give-insight-into-contamination/4925353002/</a></p>	
<p><b>March 2020</b></p>	<p><b>Final Google Earth 2016 Fourth Five-Year Review for Sites 302, 303, and 304 and Tank 50 Fleet Logistics Center Puget Sound Manchester Fuel</b></p>	<p><a href="https://www.google.com/search?q=Final+Google+Earth+2016+Fourth+Five-Year+Review+for+Sites+302%2C+303%2C+and+304+and+Tank+50+Fleet+Logistics+Center+Puget+Sound+Manchester+Fuel+Depot+Manchester&amp;rlz=1C1CHBF_enUS904US904&amp;oq=Final+Google+Earth+2016+Fourth+Five-Year+Review+for+Sites+302%2C+303%2C+and+304+and+Tank+50+Fleet+Logistics+Center+Puget+Sound+Manchester+Fuel+Depot+Manchester&amp;aqs=crome..69i57.138270j1&amp;sourceid=chrome&amp;ie=UTF-8">https://www.google.com/search?q=Final+Google+Earth+2016+Fourth+Five-Year+Review+for+Sites+302%2C+303%2C+and+304+and+Tank+50+Fleet+Logistics+Center+Puget+Sound+Manchester+Fuel+Depot+Manchester&amp;rlz=1C1CHBF_enUS904US904&amp;oq=Final+Google+Earth+2016+Fourth+Five-Year+Review+for+Sites+302%2C+303%2C+and+304+and+Tank+50+Fleet+Logistics+Center+Puget+Sound+Manchester+Fuel+Depot+Manchester&amp;aqs=crome..69i57.138270j1&amp;sourceid=chrome&amp;ie=UTF-8</a></p>	<p>Washington Department of the Navy Naval Facilities Engineering Command Northwest</p>

	<b>Depot</b>	
June 2021	"On the U.S. Navy Manchester Fuel Depot"	<a href="https://www.kitsapsun.com/story/news/2021/06/09/pentagons-largest-gas-station-manchester-fuel-depot-endure-test/7621838002/">https://www.kitsapsun.com/story/news/2021/06/09/pentagons-largest-gas-station-manchester-fuel-depot-endure-test/7621838002/</a>
July 2021	"The Manchester Fuel Storage Move Begins: On the Ground-Breaking for the New Phased Navy Fuel Storage Tank Facility"	<a href="https://www.kitsapdailynews.com/news/long-awaited-modernization-project-at-manchester-fuel-depot-finally-started/">https://www.kitsapdailynews.com/news/long-awaited-modernization-project-at-manchester-fuel-depot-finally-started/</a>
May 5, 2022	"Nine Years to Replace Underground Jet Fuel Tanks" "It's Taking Nine Years to Replace Underground Jet Fuel Tanks in Washington State—Red Hill Can't Wait That Long"	<a href="https://www.laprogressive.com/progressive-issues/replace-jet-fuel-tanks">https://www.laprogressive.com/progressive-issues/replace-jet-fuel-tanks</a>

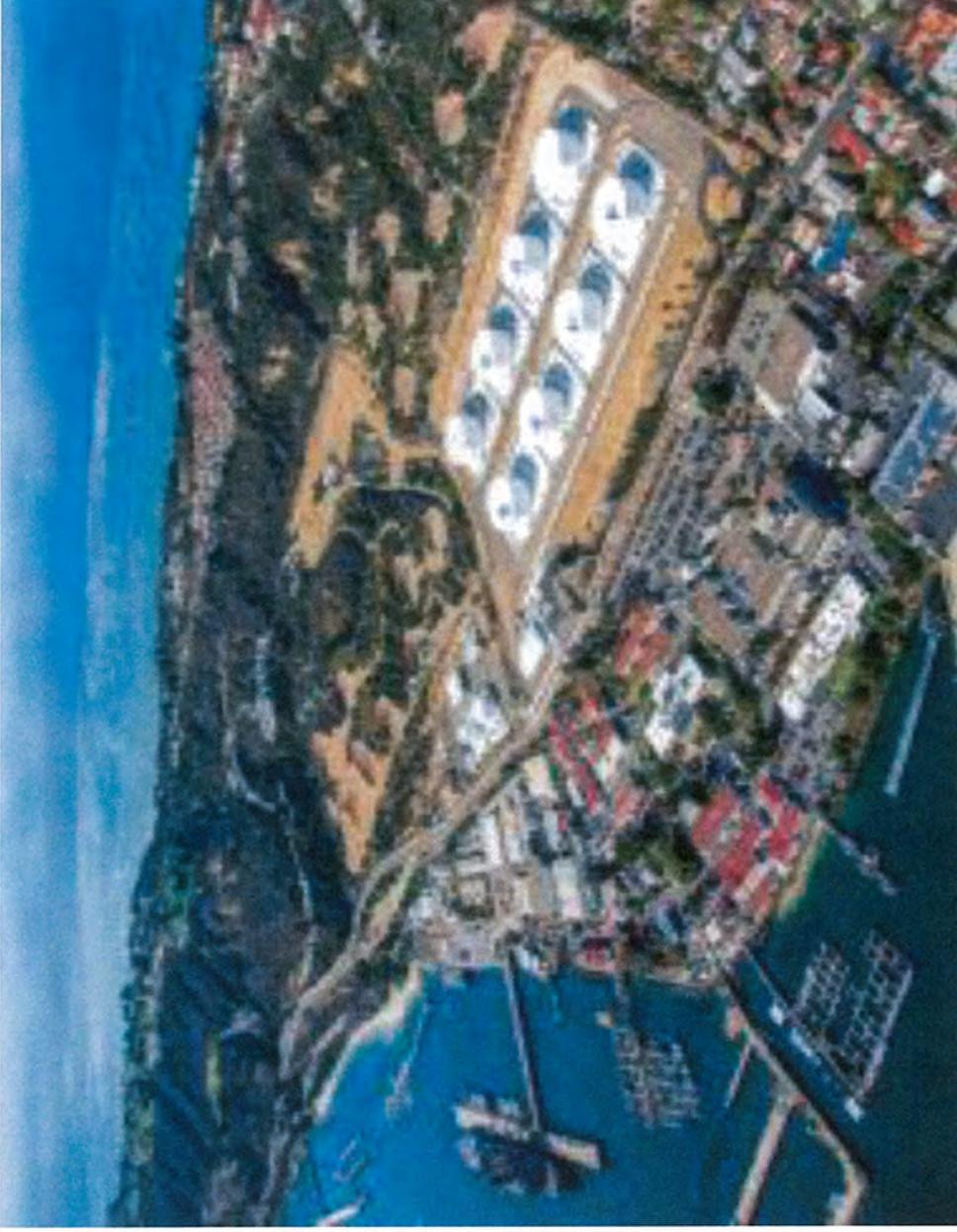
According to the Navy, the fuel tank upgrade project will consist of closing and removing the original underground fuel storage tanks and constructing six new above-ground tanks over three phases. Each of the six tanks will be able to contain an estimated 5.245 million gallons of JP-5 carrier jet fuel or F-76 marine diesel fuel in 64-foot-tall, 140-foot-wide tanks constructed of welded steel columns with supported fixed cone roofs. It is expected to take approximately nine years to complete the project, estimated to cost the Department of Defense nearly 200 million.

Comparison between Red Hill and Manchester fuel storage mitigation processes.

**Appendix A – Graphics/Photos of Aboveground Fuel Tank Construction  
(Proposed Manchester and Completed Point Loma)**

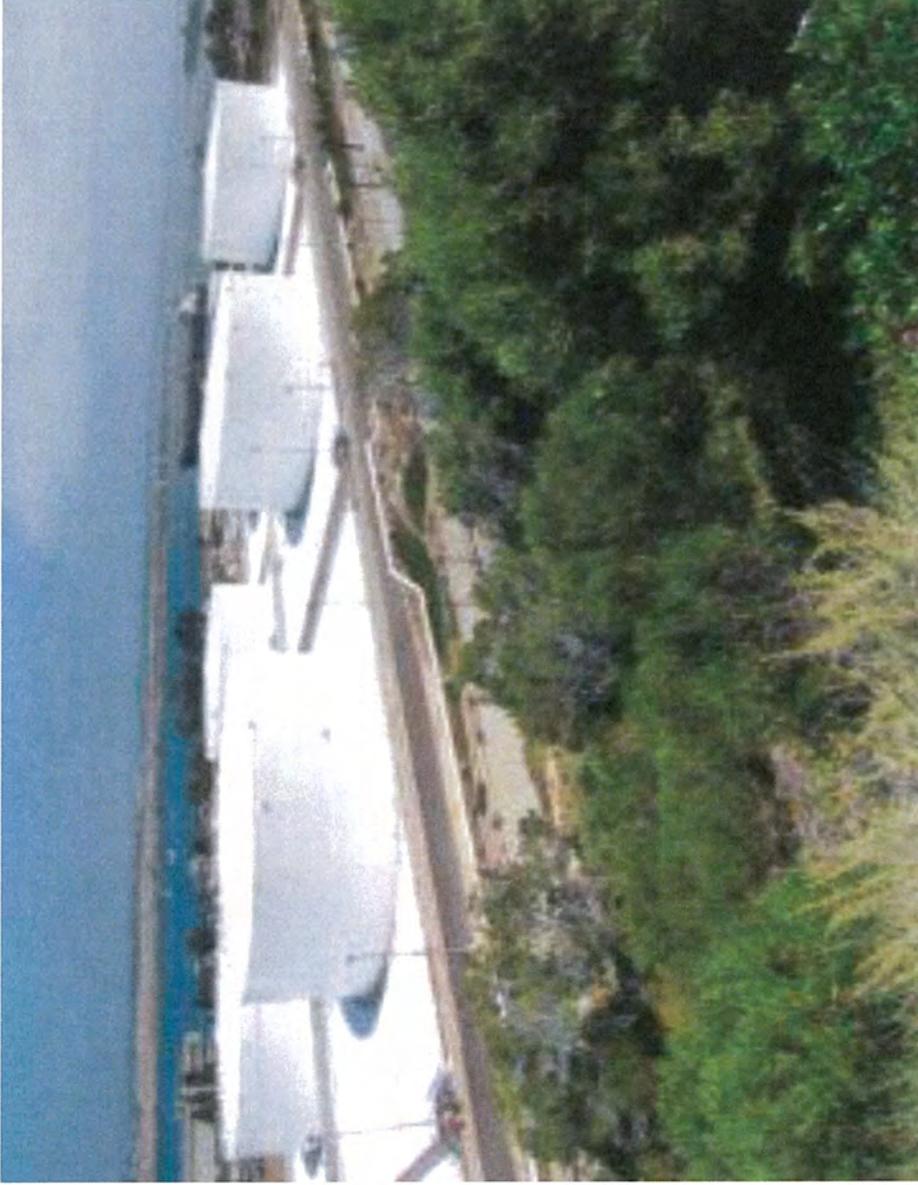


**“The fuel tank upgrade project at Manchester will consist of closing and removing the original underground fuel storage tanks and constructing six new above-ground tanks over three phases (shown in this illustration). (U.S. Navy illustration)”**



**“PHOTO 1 The Point Loma Navy fuel storage facility was upgraded with eight new 125,000-barrel aboveground tanks.”**

Based on Information in Media/Web/No Representation of Material Facts. Do Own Due Diligence, especially in Engineering/Technical Issues.

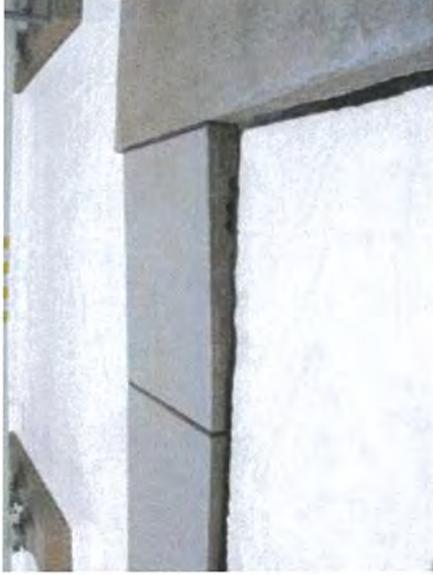


**“PHOTO 2 Using white storage tanks and white liners helps to reduce the heat island effect at the Point Loma facility.”**

Based on Information in Media/Web/No Representation of Material Facts. Do Own Due Diligence, especially in Engineering/Technical Issues.



**“PHOTO 3 Use of a white geomembrane liner system provides effective secondary containment in the dike areas.” (Point Loma)**



**“PHOTO 4 Geotextiles placed under concrete sidewalks to protect the liner.” (Point Loma)**



**“PHOTO 5 The secondary containment area around storage tanks includes vertical concrete dike walls and geomembrane liner.” (Point Loma)**



**“PHOTO 6 Because of potential damage to the liner, traditional steel reinforcing bars and steel from stakes could not be used during construction of concrete sidewalk in the diked containment area.” (Point Loma)**

**“The (Point Loma) project received a final LEED Silver certification in June 2014. The thermal profile created by the white geomembrane proved to be an important contributing factor. In addition to contributing to LEED chievement, the white geomembrane liner also provided the following benefits:**

- **cost-effective secondary containment system.**
- **ease of maintenance, inspection, and repair.**
- **improved working environment in summer months due to reduced heat gain.**
- **proven long-term performance.**
- **rapid installation.**
- **reduced thermal contraction and expansion.”**

## **Appendix B Article on Engineering Innovations (Storage Tanks)**

**The Military Engineer Magazine Article -- Fueling Upgrades Bring Efficiencies for the Pacific Fleet By Glenn Schmitt, P.E., and Robert Kulash, P.E.**

**Background on Navy Fuel Storage Innovative Engineering and Construction Renovations at Point**

**Loma :**

- **“ . . . With its completion in 2013, the newly reconstituted Point Loma Fueling Facility now serves as the model for the effort underway at the Naval Base Kitsap-Manchester Fuel Depot. When the Point Loma project began, most of the existing above-ground and underground tanks had been in service for more than 70 years and were posing safety and environmental hazards.**

- Numerous environmental site assessments and computer models estimated that over the years of operation, possibly more than 1-million-gal of fuel had leaked from tanks, pipes and other equipment and likely was floating on top of the water table.”
- Each 64-ft vertical, cylindrical storage tank will be surrounded by a secondary containment dike for spill containment. The tanks will be field-erected in strict compliance with API STD 650 standards for Welded Steel Tanks for Oil Storage. The new tanks will be compliant with military standards while incorporating additional means to remove fuel to a nearly “drain dry” condition.
- A military presence at Point Loma dates to 1908, when the base was established as a coaling station for steam-powered vessels. From the 1920s through the 1930s, several riveted-steel, above-ground storage tanks were built. In 1940, cut and cover underground storage tanks were built. Following the 1941 Japanese attack on Pearl Harbor, those tanks were surrounded with reinforced concrete walls for protection. In the decades after the war, another round of underground tanks was added, with the last tank completed in 1957.
- The primary objective of the Point Loma renovation was to remove or close the 54 old tanks and replace that capacity with eight new above-ground tanks, each with a capacity to hold 5.25-million-gal of fuel. These tanks are outfitted with new equipment and systems that will greatly reduce the possibility of future accidental fuel releases.

**From:** [pete doktor](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] public testimony 5-13-22  
**Date:** Friday, May 13, 2022 4:25:45 PM  
**Attachments:** [UST testimony 5-13-22 red hill.docx](#)

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Aloha Thu Perry,

Please include my written testimony for submission to the underground storage tank committee. Two minutes was hardly enough time.

Māhala for your service.

Gratefully,

Pete Doktor

## Fuel Tank Advisory Committee Testimony

Aloha Committee Members,

Two minutes is hardly enough to scratch the surface of unanswered questions, so I will narrow my concerns from the perspective of a military veteran who grew up in a seasoned military family raised with values such as “semper fi” and “esprit de corps,” and as an Army medic was instilled with codes of conduct respecting international conventions - there were standards and rules to follow.

So how is it the Navy has continued to operate without respect to standards of integrity and law for so long? How is the Navy still at the negotiating table when it has completely discredited itself with its track record of deception and incompetence?

Why is the DoD fighting FOIA requests? Why was Capt Hornyak reassigned not praised after noting deficiencies? Why have whistleblowers been compelled to reveal what the Navy has been withholding? Why has the Navy’s entire system of safeguards and protection failed to do so? What did the 2021 Commander’s Investigation Report say and what specifically was insufficient about the report that it could not be shared with the public and needed supplemental investigation? Such questions point to answers of systemic, not departmental, incompetence and/or corruption. At minimum, the Navy has not been forthcoming and its conduct unbecoming.

I have also served the public as a teacher. Why is it if I had engaged in such recklessness within the DOE, I would have been fired and/or criminalized, but had I been complicit as a soldier I would have received systematic passes? Any entity that fails to acknowledge something so basic as water as a matter of security has discredited itself as a keeper of security, and instead is itself a source of regional instability.

My `ohana has lived in fear since the 2014 leaks of potential developmental harm to our then infant daughter, only to have those fears confirmed after years of foot-dragging . What is at issue here is that the DoD *is* the biggest public health and safety threat to our community — not N. Korea or other actors, but the systematic enabling of the poisoning of a resource that makes life possible here. The linchpin of military justification - “national security” is revealed to be empty rhetoric when it itself is guilty of undermining local democracy and governance, and threatening the lives and livelihoods of the very people it claims to defend. It is more than the lives of people in O`ahu who are at grave risk, but the foundation of a Constitution that explicitly states “civilian rule of armed forces” as a bedrock of a democratic society.

When a nation deems its concerns over standing armies as superior to its citizens, it has delegitimized itself as a keeper of liberty and security, and demands independent entities provide oversight where governmental agencies has failed to do so.

While military veteran opinions vary, I speak among those that are deeply disappointed and angered by the military’s ability to threaten its own people, let alone communities domestically and abroad with impunity. I speak on behalf of hundreds of US military veterans across multiple generations who have expressed our demand for accountability in the passage of a “Shut Down Red Hill” resolution at the 2020 national convention of military association Veterans for Peace.

The systemic status quo is completely unacceptable: there is no system of checks and balance here, and the consequences are being borne on its people with the military poisoning several hundreds of

water systems locally and internationally. If the military is to exist to defend its people, then the entire system needs to stop moving goal posts like deadlines, and begin implementing the draining and decommissioning of this imminent threat. The fact it has been officially recognized that the tanks are inevitably leaking as we speak revealing the systemic failure to prioritize the urgency of this crisis where the attention should be on Navy compliance to remove its imminent threats to the public and focus on restoration as central to the concept of security. We refuse to be considered collateral damage by so-called friendly fire.

Pete Doktor  
Moanalua

Veterans for Peace, O`ahu Ch. 113  
Hawai`i Peace & Justice/OWP  
Wai Ola Alliance

**From:** [Lynne Kobayashi](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] FTAC meeting questions and comments  
**Date:** Saturday, May 14, 2022 12:00:21 PM

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Department of Health

Via Thu Perry

RE: FTAC meeting 05/13/2022, questions and comments

I have a question for the Department of Health. Your first emergency order of 12/6/21 was a ray of sunshine, filling Oahu residents with hope that something was finally going to happen after 7 years of inaction. Now you have rescinded that first order to issue another “emergency” order, with weaker language and extended deadlines. Can you share with the public the reason for this sliding scale of deadlines and requirements? It would be helpful if the Department really did step up to your promises of transparency to share why it is having difficulty in setting meaningful deadlines, with consequences, for the Navy. Why are the timelines, when they exist, so slippery? I vaguely understand that the real world might operate this way, but it would be helpful if you could share some of the process with us.

Hearings Officer David Day called the Red Hill situation a “ticking time bomb.” Where is your sense of urgency?

I understand your frustration. The Navy skates by on lies, and manages to evade offering any information at these meetings. Attorney David Henkin has said that the military has no immunity from State power. Can someone with the State stand up to the Navy and stop wasting time? If there is no accountability on either the Navy’s part or on yours, we stand to lose big time. Oahu will lose its irreplaceable clean water, the Navy will (deservedly) be disgraced, and your department will lose all credibility. Please practice transparency. Listening to your director saying, believe me when I say your health and safety are very important to us—well, I just don’t anymore. Please help us.

One last question: did you ever receive the May 13<sup>th</sup> report from the Navy re: the independent contractor assessment? Will you tell us if you did or didn’t?

Lynne Kobayashi

[Mika.oleary2@gmail.com](mailto:Mika.oleary2@gmail.com)

(808)389-2993

**From:** [Nicole Victoria Arios](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] FUEL TANK ADVISORY COMMITTEE: Written Testimony  
**Date:** Monday, May 16, 2022 8:01:22 AM  
**Attachments:** [Written Testimony Red Hill Fuel Tank.pdf](#)

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Dear Perry Thu,

Per the [FTAC Agenda 5.13.2022](#), I have until May 31, 2022 to submit my written testimony. My written testimony is attached below.

Please let me know if there is anything else you need.

Mahalo nui loa,  
**Nicole Victoria Arios**  
Pre-PA Student, Class of 2024  
The College of Natural Sciences  
University Hawai'i at Mānoa  
Email: [narios@hawaii.edu](mailto:narios@hawaii.edu)

David Y. Ige, Governor of Hawaii  
Elizabeth A. Char M.D., Director of Health  
State of Hawaii: Department of Health  
Fuel Tank Advisory Committee

Nicole Victoria Arios, Vice-President of RIO: One Health Pacific

Friday, May 13, 2022  
9:00 A.M. to 12:00 P.M.

### Support for Defueling of Red Hill Tanks

One Health Pacific is a student-run registered independent organization at the University of Hawaii at Mānoa. At One Health Pacific, we believe that all life is connected and recognize our collective responsibility to protect the health of plants, animals, and the environment if we want to live healthy lives. We strongly support the defueling of the Red Hill petroleum tanks, which would ensure community safety and de-threaten the island's major aquifer from irreversible damage.

People should not have to worry about their access to clean, safe, water. Since the tank's establishment in 1943, the crumbling infrastructure has been leaking oil for years. In its most recent leak on April 1, 2022, some 93,000 residents were lied to and told that the water was safe to use despite ongoing reports of health symptoms and chemical burns. The military owns hundreds of thousands of acres of Hawaiian land; they are responsible for the safety of civilians. The longer the tanks remain, the more likely that our islands head towards toxic catastrophe.

Even though meetings are held and the public voices their concerns, the lack of action and zero public disclosure speaks volumes for the committee's opinion in prioritizing the health of Hawaii. The Navy and regulators are not listening, nor, telling the truth to threatened and affected communities. The Navy and regulators are not acting in the interest of public safety, but in inaction, that's going to cause the next leak. Access to clean water - a basic human right - is at risk, and the Navy and regulators move with little to no sense of urgency to protect the greater public.

To live healthy lives, responsibility must be taken to protect the future health of plants, animals, and the environment; to live healthy lives, Red Hill must be defueled. We need to act for the health of generations to come and the island we all call home. We urge the Department of Health and the Fuel Tank Advisory committee to de-fuel the Red Hill oil tanks.

Mahalo nui loa for this opportunity to testify.

**From:** [Janice Glennie](#)  
**To:** [DLNR.CW.DLNRCWRM](#)  
**Cc:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] Item D-1 Navy fuel storage facility at Red Hill  
**Date:** Monday, May 16, 2022 12:03:19 PM

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Aloha Chair Case and Members of the Water Commission,

The navy's history of contamination to our aquifer has severely damaged our most precious public trust resource — and the public's trust in government, particularly the military.

As you consider potential modifications to the Navy's Water Use Permit Applications, please make sure the the Navy's use of our island's water is strictly controlled and that those restrictions are based on protection of that most precious resource and the people who depend upon it for their existence and quality of life. Anything less than full transparency and disclosure will not be acceptable or accepted. The Red Hill Bulk Fuel Storage Facility must be completely defueled and decommissioned so that the water crisis the Navy caused is pau, once and for all.

Mahalo for using your integrity to make these critical decisions.

Sincerely,  
Janice Palma-glennie  
Kailua-kona

**From:** [Dylan Ramos](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] Written testimony for Fuel Tank Advisory Committee  
**Date:** Monday, May 16, 2022 1:31:08 PM

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Aloha,

There is little I can say that hasn't already been said, so I will simply restate for emphasis what the Sierra Club of Hawai'i has made clear on behalf of us dependent on O'ahu's water:

1. We do not trust the Navy to protect our water and take accountability as it has and continues to fail all its employees and all of O'ahu;
2. The Department of Health must exercise its authority to enforce the [updated Emergency Order](#), protect the public trust, and ensure that affected communities and independent community experts are at the forefront of decision-making on timeline, remediation, and accountability.

Mahalo,  
Dylan Ramos  
96816

**From:** [Tlaloc Tokuda](#)  
**To:** [Perry, Thu](#); [DLNR.CW.DLNRCWRM](#)  
**Subject:** [EXTERNAL] Kick the Navy off of Red Hill and install the DOH!  
**Date:** Monday, May 16, 2022 4:08:44 PM

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The Navy lies and procrastinates, Kick them off the hill! To date, over **half a billion gallons of water** have been pumped from our aquifer and dumped into Hālawā stream, just to try to keep the Red Hill contamination plume from migrating and contaminating other drinking water wells; millions upon millions of gallons of water have likewise been used to repeatedly “flush” the Navy’s drinking water system for nearly 100,000 people - [many of whom are still reporting acute illness and sheens in their tapwater](#); and we may never know how many additional millions of gallons of our once-pure groundwater have been rendered undrinkable by the contamination itself. Meanwhile, we all face potential water shortages and conservation mandates for the months and years ahead, thanks to the Navy’s failure to prevent this foreseeable disaster, and to complete the [groundwater and contaminant fate and transport models](#) it promised to create seven years ago.

DOH should be looking after our water resources not incompetent Navy personal! As the overseer of our most precious resource, tasked with ensuring that our public trust water is appropriately used and protected from waste, the Water Commission must act to place conditions on the Navy’s water use permits, to prohibit any and all nonessential uses of water, and to motivate Navy and military leaders to treat the ongoing threat of catastrophic contamination of our water supply with the urgency it requires.

Dear Chair Case and Members of the Water Commission,

The Navy’s contamination of our groundwater aquifer has already led to the waste of hundreds of millions of gallons of our most precious public trust resource. Just in its effort to keep its contamination plume from migrating, the Navy will have pumped and dumped into Hālawā stream over a billion gallons of water in a few months’ time. And as our island anticipates potential water shortages in the months and years ahead, and as the continued presence of over one hundred million gallons of fuel in Kapūkaki threatens to render additional billions of gallons of pure, fresh water undrinkable, it is incumbent upon you to uphold your constitutional and moral obligations, and prohibit any nonessential uses of water by the Navy unless and until the threat to our water supply is removed, and our water crisis is fully resolved.

Accordingly, as you consider potential modifications to the Navy's Water Use Permit Applications, please ensure that the Navy's use of our island's water is conditioned on a full and quantified accounting of its water uses; a prohibition on any uses not essential for health and safety, including uses associated with landscaping, car washes, swimming pools and golf courses, and any other nonessential uses; regular water use reporting requirements; the establishment of a hotline and investigative procedure for water waste complaints and other enforcement mechanisms; and full transparency and disclosure of any and all reports and other information regarding the safety of our water – unless and until the Red Hill Bulk Fuel Storage Facility is completely defueled and decommissioned, our groundwater aquifer is remediated, and the water crisis the Navy has placed us in is over.

I am a member of the Sierra Club (Hawaii) and agree with a lot of what they stand for and their policies. So though these are not my original words they are what i feel!

Mahalo for your consideration,  
Tlaloc Tokuda  
Kailua Kona HI 96740

PS From the early 60, to the 70s and 80s i lived around the UH

**From:** [Stanford Masui](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] RED HILL FUEL TANK ADVISORY COMMITTEE  
**Date:** Monday, May 16, 2022 4:33:37 PM

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Please consider this my written testimony:

1. We do not trust the Navy to protect our water and take accountability as it has and continues to fail all its employees and all of O'ahu;
2. The Department of Health must exercise its authority to enforce the [updated Emergency Order](#), protect the public trust, and ensure that affected communities and independent community experts are at the forefront of decision-making on timeline, remediation, and accountability. Thank you for allowing testimony

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*PLEASE NOTE NEW ADDRESS AND PHONE.*

*FAX AND EMAIL ARE THE SAME*

**STANFORD H. MASUI**

P.O.B. 3406

Honolulu, HI 96801 Ph. (808) 779-7710 FAX: 521-7620

**LAW OFFICES OF STANFORD H. MASUI**

**From:** [S Yee](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] Red Hill Testimony  
**Date:** Thursday, May 19, 2022 8:57:21 AM

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To: Fuel Tank Advisory Committee  
From: S Yee

Testimony: Red Hill is part of a larger systemic issue. There is no true concern and urgency amongst regulators and the Navy – their actions don't reflect their words and the urgency of this ongoing catastrophe. These ineffective meetings are the cause of the leak and your inaction is going to cause the next leak. And it's going to hurt all of us, including all your communities. This Committee needs to commit to a change of the system and format. These formal meetings are not adequate. We demand that Navy officials have an in-person meeting with the public, i.e., the community they have been threatening. Ensure that there is no conflict of interest, i.e., ensure that true independent experts from the community are the ones doing the investigations and help to lead the decision-making. DOH is not capable of doing independent investigative work and is merely reacting to what the Navy proposes. Over the past eight years, there has been zero public discourse. Navy and regulators are not listening to the truth, and not telling the truth. The Navy must release all documents and reports regarding the contamination, aquifer remediation, water testing, and the timeline to defuel and shut down the facility.

**From:** [Rebekah Garrison](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] Garrison\_written testimony for public record\_May 13  
**Date:** Thursday, May 19, 2022 10:41:57 AM  
**Attachments:** [FTAC testimony Garrison May 13, 2022.pdf](#)

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Good morning Thu Perry,

I hope this email finds you well. It was great to finally meet you in-person :) I appreciate all that you do as the Public Participation Coordinator of the Underground Storage Tank Section. I know it is no easy task, especially with so many emotions.

Thank you very much to you and the Department of Health for the opportunity to provide oral testimony at the May 13th Fuel Tank Advisory Committee meeting. Attached please find the written version to be included in the public record.

Thank you for considering this request.

Warmly,  
Rebekah Garrison

**FTAC Meeting: May 13, 2022**

**To: The Fuel Tank Advisory Committee  
From: Dr. Rebekah Garrison  
Hawai'i Peace and Justice**

Good morning all and thank you for the opportunity to provide oral testimony.

My name is Rebekah Garrison and I am a member of the O'ahu Water Protectors, the Shut Down Red Hill Coalition, and like all of you, I am a water drinker.

Today I am here to ask Rear Admiral Tim Kott from one white settler to another: why are you still here? I'll tell you, sir, why I am still here. I am here to stand in solidarity with the Kanaka 'Oiwī community. I am here because I have the ability to respond. In this responsibility, I see your whiteness, your foreignness, your undeniable haoleness as something I wish not to follow or mimic. Shame on you, Tim Kott, for being part of the problem and not part of the solution. Today I stand with Kanaka 'Oiwī.

Today I am here to ask Captain Gordie Meyer from one white settler to another: why are you still here? I'll tell you, sir, why I am still here. I am here to show my support for the affected families, the employees your federal agency poisoned, lied about poisoning, and continue to put in harm's way. Like many of the families, babies, and pets you poisoned, I too, come from a military family. And like the majority of these poisoned families, I will never again trust you, Gordie Meyer, or the military again. Today I stand with affected families.

No, I do not stand with you and your white performance. I stand with Kapūkaki. I stand with affected families. I stand for global demilitarization. And, perhaps most importantly, I stand for the transformation of white settler values because these values hurt us all.

Thank you for the opportunity to provide public testimony.

Sincerely,

Rebekah Garrison  
Hawai'i Peace and Justice

## Perry, Thu

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**From:** John Witeck <jjw008@gmail.com>  
**Sent:** Monday, May 23, 2022 9:21 AM  
**To:** Perry, Thu  
**Subject:** [EXTERNAL] Red Hill

Please continue to press the Navy to shut down and remove its Red Hill fuel pipeline and tanks as soon as possible, and definitely by the end of 2022! This is not an impossible task for the Navy and US government! Mahalo!  
John and Lucy Witeck

**From:** [Tlaloc Tokuda](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] We the People don't want any more Navy LIES or their fuel depot!!!  
**Date:** Monday, May 23, 2022 9:41:19 AM

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The below words may not be my own...BUT they are mine - i am a long time follower of what the military has done to these island from backing of the coup (1893), to marshal law, to the theft of land (the military owns or controls over 200,000 acres in Hawaii) etc.

Navy foot-dragging and their years-long failure to do what they promised to under the Administrative Order on Consent has now led to a water crisis that may take years to recover from - and O'ahu residents must still live in daily fear of the over 100 million gallons of fuel that remain just 100 feet above our groundwater aquifer. To make matters worse, Navy leaders offered no specific answers or concrete commitments during the last biannual FTAC meeting, and seemingly had no idea about the new health issues and "sheens" reported by families that are on the Navy's supposedly "safe" water system. Moreover, Navy representatives later revealed to the State Water Commission that they have been violating their Water Use Permit for their Waiawa well, overdrawing one million gallons of water each day for superfluous uses like "irrigation" - after having also dumped half a billion gallons of supposedly treated water (and counting) into Hālawā stream. We had no reason to blindly trust the Navy's assurances before, and we certainly don't now. Each and every member of the Committee must do all that you can to prevent any further contamination - including the potentially catastrophic loss of our island's principle source of drinking water - and hold the Navy accountable to the public and to our children and future generations.

Accordingly, please do NOT complacently accept Navy leadership's verbal assurances at face value, as many of you have for the past several years. The stakes are far, far too high. As regulators, elected officials, and community leaders, you must exercise any and all formal and informal powers you may have to bring the Navy to account, including by demanding or requiring Navy leaders to: - Stop the gaslighting of families reporting health effects and water quality issues, determine why Navy water testing is showing visibly contaminated water as "non-detect," and take all necessary action to protect the health and safety of those on the Navy's water lines; - Ensure that there are multiple teams working around the clock to complete all corrective actions necessary to defuel the Red Hill Facility by no later than September 2022; - Surrender all reports and documents that describe the integrity of the Red Hill Facility and the safety of our water, including investigative reports, assessments, and e-mails; and - Host monthly, accessible meetings with the community whose water continues to remain at risk - i.e., the residents of O'ahu - to field any and all questions concerning the status of the Red Hill Facility and the work being done to eliminate the threat it poses to our way of life.

Be on the right side of history, do your job and kick the Navy out of Red Hill. Mahalo for your consideration,  
Tlaloc Tokuda,  
Kailua Kona HI 96740

**From:** Jennifer Valentine  
**To:** Perry, Thu  
**Subject:** [EXTERNAL] red hill  
**Date:** Monday, May 23, 2022 11:04:15 AM

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please do not complacently accept the Navy's meaningless verbal assurances and do all you can to motivate the Navy to treat this crisis with the urgency it demands.

ty - JV

**From:** [Boisvert-Jorgensen](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] Testimony for Fuel Tank Advisory Committee  
**Date:** Tuesday, May 24, 2022 10:46:06 AM  
**Attachments:** [Fuel Tank Advisory Committee Testimony 2022-05-24 Boisvert.pdf](#)

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Aloha Thu Perry,

Attached please find my testimony for the Fuel Tank Advisory Committee. Would you kindly confirm receipt?

Thanks in advance and all best,  
Denise Boisvert  
Waikiki

May 24, 2022

Dear Fuel Tank Advisory Committee:

**Question: What happens to tenants who trash their apartment?**

**Answer: They get FINED and EVICTED!**

The Navy has not only abused the generous hospitality that they have been given for decades, but it is now a known and documented fact that they have blatantly and consistently LIED ABOUT and COVERED UP what their aging, rusting, and disintegrating jet fuel tanks and pipelines have done to O'ahu's primary sole-source aquifer.

If that doesn't call for steep fines and - at the very least - the eviction of all the jet fuel stored in the tanks, what on Earth would???

The tanks have served their purpose, and OVERSTAYED their welcome. Give these bad tenants their walking papers with no good references!

Impatiently yours,  
Denise Boisvert  
Waikiki

**From:** [Waikiki - Hawaii Condo](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] FTAC testimony  
**Date:** Tuesday, May 24, 2022 11:33:58 AM  
**Attachments:** [Fuel Tank Advisory Committee Testimony 2022-05-24 Jorgensen.pdf](#)

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Dear Thu Perry,  
Attached is testimony for the Fuel Tank Advisory Committee.  
Please confirm receipt of this email.  
Mahalo,  
Kim Jorgensen  
Waikiki

Attn: Fuel Tank Advisory Committee  
From: Kim Jorgensen  
Date: May 24, 2022  
RE: Future Flavor of the Month - *YEAR - DECADE - CENTURY?*

Baskins-Robbins has never had Jet Fuel as a flavor choice.

Neither has Spam, Coca-Cola, or Doritos.

I've never seen Jet Fuel Mochi or Jet Fuel Popcorn, and jet fuel has never been an option at my favorite shave ice shop.

***Now why is that?***

If the Navy's jet fuel tanks and pipelines are not emptied urgently, it is inevitable that a majority of Oahu residents and tourists will not be able to escape the flavor of jet fuel in their tap water - - for decades, if not longer.

Based on the actions and inactions of the U.S. Navy, it is very obvious that jet fuel-flavored tap water is not a top priority or concern - - if it were, they would be emptying the Red Hill tanks and transferring the fuel as quickly and as much as possible to other locations right now.

The Navy cannot be allowed to procrastinate any longer; the tanks must be emptied urgently.

**From:** [Charlene Holani](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] Use your power for the betterment of our children and livelihood  
**Date:** Wednesday, May 25, 2022 12:48:47 PM

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Now more than ever we need you to use your collective and individual positions authorities to keep the pressure on the Navy and not let up until the Red Hill Facility is defueled and decommissioned once and for all.

PLEASE FOR OUR FUTURE WE NEED DRINKABLE WATER.

Mahalo,  
Charlene Holani

Sent from my iPhone

**From:** [Wayne Tanaka](#)  
**To:** [Perry, Thu](#)  
**Subject:** [EXTERNAL] Sierra Club Testimony to the Fuel Tank Advisory Committee  
**Date:** Tuesday, May 31, 2022 4:27:25 PM  
**Attachments:** [FTAC Testimony May 2022.pdf](#)

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Aloha e Thu,  
Please find attached the Sierra Club of Hawai'i's written testimony to the Fuel Tank Advisory Committee.  
Mahalo,  
Wayne

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Wayne Chung Tanaka, Director (he/him/'oia)



[sierraclubhawaii.org](http://sierraclubhawaii.org) | 808-538-6616

**The Sierra Club of Hawai'i only exists because of the support of people like you! Make a [donation today](#) and 100% of your contributions will go to the Hawai'i Chapter. Mahalo nui!**



# SIERRA CLUB OF HAWAI'I

To: Fuel Tank Advisory Committee  
c/o Thu Perry  
VIA E-MAIL: [thu.perry@doh.hawaii.gov](mailto:thu.perry@doh.hawaii.gov)

Date: May 31, 2022

Re: Testimony and Recommendations to the Fuel Tank Advisory Committee

Dear Members of the Fuel Tank Advisory Committee,

On behalf of the Sierra Club of Hawai'i (Sierra Club), we offer the following comments regarding the most recent Fuel Tank Advisory Committee (FTAC) meeting and the information revealed both during the meeting and after it had transpired.

## **1. The conduct of the meeting was highly problematic.**

As a preliminary note, we express deep disappointment in the choices made by the facilitator to deny FTAC members critical information from public testifiers regarding information that was omitted or not known by Navy representatives, as well as regarding the overall credibility of Navy officials' assurances.

**First, the arbitrary two minute time limit established by the facilitator was most notably enforced as affected families, Native Hawaiians, and members of the larger community sought to share information regarding the gravity of their suffering, the substance and magnitude of the public's concerns, and the continued lack of transparency and ongoing disconnect between Navy officials' representations and observed or factual information.** FTAC members collectively and individually may be uniquely positioned to make recommendations and take actions that can ensure the safety of our groundwater and the viability of life as we know it on O'ahu; accordingly, the facilitator's decision to deprive them of such information will only frustrate their ability to make informed decisions that are essential to the FTAC's overall goals to ensure our safety and the security of both present and future generations.

The various alternative choices that the facilitator could have made also belied his claim that this time limit was intended to allow others to testify. For example, the facilitator could have allowed any testifiers with time constraints to volunteer to speak first, rather than randomly choosing between testifiers in the capitol auditorium and on the Zoom platform. This would have accommodated the need for some individuals to testify and leave, while also ensuring that FTAC members had the opportunity to fully hear from the public they are tasked with protecting. Notably, none of those present in the capitol auditorium indicated any desire to cut off other

testifiers and all expressed a keen interest in the thoughts, concerns, and experiences being shared by others in the room and logged into Zoom.

Second, the facilitator's decision to arbitrarily reprimand certain testifiers and testimonies for a perceived lack of "civility" was equally if not more disappointing. Many testifiers had taken time out of their day to share the months of suffering they and their families experienced and continued to experience (unbeknownst to Navy representatives) from water contamination; to highlight the years' worth of misrepresentations, omissions, and objectively false information provided by Navy officials; and to express their bona fide, deep fears regarding the imminent peril that the Navy's facility poses to our island's future. **While filled with emotion, none of those eliciting the facilitator's reprimands interfered with the conduct of the meeting or could have in any way been construed as personal attacks, much less threats; audience members in the Capitol auditorium and in subsequent discussions felt that the facilitator's admonitions for "civility" when contrasted with the suffering, threats, and misrepresentations of Navy representatives were laughable at best and shameful at worst.**

We urge the FTAC and the facilitator to carefully reflect on whether and how calls for "civility" can be highly inappropiate – particularly when used by a non-kama'āina man of clear privilege, to chill the speech of mothers of poisoned children, military veterans of color, and Native Hawaiians with ancestral connections to and generational aspirations for the island that is being contaminated.

We hope and expect that these aforementioned concerns will be addressed prior to the next twice-a-year FTAC meeting so that similar disappointments do not re-occur.

- 2. Navy water testing is clearly inadequate and safe alternatives must be provided to those on the Navy's drinking water system until a workable water quality testing solution is found.**

As highlighted in the testimony of the Sierra Club and those living on the Navy's water system, the water testing protocols used to sample, store, ship, and test visibly contaminated water is clearly deficient. **Clearly, a finding of "non-detect" for water that is visibly contaminated is not evidence of a lack of contamination, but evidence of failure(s) in the Navy's testing protocols to verify and identify an obvious contamination issue.** However, rather than provide information on what they are or could be doing to identify the shortcomings in their testing protocols – even after being directly asked – Navy representatives at the FTAC meeting pointed only to the fact that the Navy has been using "DOH-approved" labs.

Moreover, Navy representatives' ignorance of reports from those experiencing ongoing contamination and health issues indicates that those staffing Navy contamination call centers do not have clear communication protocols and/or that Navy leadership is not prioritizing the cataloging and investigation of complaints about water quality from a system that is far from being considered conclusively safe.

As a matter of accountability, transparency, and basic human decency, Navy officials should be providing safe living and drinking alternatives – including, at a bare minimum, access to bulk

potable water – for those families and children whose acute and long-term mental, physical, and emotional health may only continue to be exacerbated by a water system that is evidently, at least partially, compromised by fuel or other contamination.

**We hope and expect that the FTAC members, in your individual, institutional, and collective capacities, take all actions within your control to ensure that the concerns of those directly affected by the current contamination crisis are heard and meaningfully addressed, and that the safety of these individuals and families is appropriately prioritized with full precautionary measures including but not limited to alternative water and living arrangements.** This includes conditions on any discretionary approvals within your agency or legislative committees that may be needed by Navy or the Department of Defense.

### **3. A years-long timeline for defueling is unacceptable.**

The Navy has finally turned over, albeit in highly redacted form, its contractor's assessment of the integrity of the Red Hill Facility and the corrective actions necessary to safely remove the over 100 million gallons of fuel that remain precariously stored one hundred feet above our primary drinking water supply. Alarming, the assessment has revealed what many in the community have been concerned about for years – that our water source has been under imminent threat of potentially catastrophic contamination, from a decrepit facility with failing infrastructure including but not limited to spalling concrete, corroded pipes, leaky valves, and vulnerabilities to fire. Of even more dire concern is the speculation that this facility – which has been heralded until last year by Navy officials as an engineering marvel and highly protective of the environment – may require up to two years' worth of corrective actions before it can safely do what it was designed to do, i.e. defuel its tanks.

An engineering report is no longer necessary to understand that at any given time, an electrical fire, earthquake, human error, or an age-related failure in infrastructure – or a combination of the above – could spell a disaster of existential proportions for O'ahu and our current and future generations. **Two years is far, far too long to live in fear of catastrophe.** Fortunately, there may be many ways to truncate this timeline and reduce the risk of this existential threat being realized. This includes directing Navy officials to use all official channels to expedite procurement processes and to redirect all available resources, including the hiring or formation of multiple teams, to carry out all necessary corrective actions as simultaneously as possible.

**Again, we hope and expect that the FTAC members, in your individual, institutional, and collective capacities, take all actions within your control to ensure that the Navy and the Department of Defense have no higher priority in Hawai'i than the expeditious repair and defueling of the Red Hill Facility, including through the implementation of multiple teams of engineers and experts and the installation of alternative defueling infrastructure to bypass existing facility infrastructure too archaic and/or decrepit for timely repair.** This includes conditions on any discretionary approvals within your agency or legislative committees that may be needed by the Department of Defense.

### **4. Public meetings are essential for trust and accountability.**

Finally, recent events have laid bare the insufficiency of false assurances filtered through Navy liaisons and public relations officials through institutions like neighborhood boards or the FTAC itself, in keeping our water safe and ensuring the public has the information regarding our safety that we all have the right to know. In order to provide the true transparency and venue for accountability necessary to address and resolve the crisis we are in – commensurate with the magnitude of the existential stakes at play – it is imperative that top Navy leaders personally attend to regular community meetings, to field questions and concerns from those whose water and whose future continues to be threatened by the Navy’s Red Hill Facility.

**Again, we hope and expect that the FTAC members, in your individual, institutional, and collective capacities, join in our demands and take all actions within your control to ensure that Navy leaders personally and physically attend monthly community meetings, open to all residents of O’ahu, to hear our concerns and answer our questions directly. This includes conditions on any discretionary approvals within your agency or legislative committees that may be needed by the Navy or the Department of Defense.**

Thank you very much for your consideration of these concerns and recommendations.

Sincerely,



Kau'i Pratt-Aquino, President  
Sierra Club of Hawai'i



Wayne Chung Tanaka, Director  
Sierra Club of Hawai'i

Attachment: Sierra Club Testimony to the Fuel Tank Advisory Committee, November 20, 2021.



# SIERRA CLUB OF HAWAI'I

To: Fuel Tank Advisory Committee  
c/o Thu Perry  
VIA E-MAIL: [thu.perry@doh.hawaii.gov](mailto:thu.perry@doh.hawaii.gov)

Date: November 20, 2021

Re: Testimony and Recommendations to the Fuel Tank Advisory Committee

Dear Members of the Fuel Tank Advisory Committee,

The Sierra Club of Hawai'i (Sierra Club) remains adamantly opposed to the continued use of the 80-year-old Red Hill Bulk Fuel Storage Facility (Red Hill Facility) for fuel storage purposes. The Sierra Club urges the Fuel Tank Advisory Committee (FTAC) to recognize its responsibility to uphold the public trust and to apply the Precautionary Principle in its findings and recommendations, and to urge the legislature and all decisionmakers to take all steps necessary to immediately shut down the Red Hill Facility as an unacceptable, existential threat to the groundwater resources of Southern O'ahu.<sup>1</sup>

Since time immemorial, the South O'ahu Basal Aquifer has served as a foundation of life on O'ahu. From feeding the streams, springs, and estuaries that allowed for abundant ecosystems and thriving Native Hawaiian settlements, to providing the water supply necessary for the modern development and continued maintenance of homes and businesses from Hālawā to Maunāluā, this aquifer has served and continues to serve as one of the most important and precious resources of the island. Today, our Hawai'i State Constitution and the State Water Code recognize this aquifer as a public trust resource, and all state and county entities have trust obligations to support its conservation and utilization for the benefit of present and future generations.<sup>2</sup>

Most notably, as a public trust resource, the South O'ahu Basal Aquifer is entitled to protection under the Precautionary Principle, which holds that “where there are present or potential threats of serious damage, lack of full scientific certainty should not be a basis for postponing effective measures to prevent environmental degradation. . . . In addition, where uncertainty exists, a trustee's duty to protect the resource mitigates in favor of choosing presumptions that also

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<sup>1</sup> *Kaua'i Springs v. Planning Comm'n of the County of Kaua'i*, 133 Hawai'i 141 (2014) (“As the public trust arises out of a constitutional mandate, the duty and authority of the state and its subdivisions . . . is independent of statutory duties and authorities created by the legislature”); *In Re Water Use Permit Applications*, 94 Hawai'i 97 (2000) (affirming the application of the Precautionary Principle in the administration of the public trust in water).

<sup>2</sup> HAW. CONST. ART. XI §§ 1, 7.

protect the resource.<sup>3</sup> In this case, **significant and substantial uncertainty** exists regarding whether catastrophic harm to the aquifer can be avoided, and the magnitude of both this uncertainty as well as the irreparable harm that may befall the aquifer demands immediate action to prevent such harm.

For example:

- Destructive testing of “coupons” from Tank 14 and other evidence demonstrate that the Navy is unable to adequately assess much less prevent corrosion in the fuel tank walls, and that moisture between the concrete “jacket” and the tanks may be actively corroding both the tanks’ steel liner as well as the steel rebar embedded in the concrete;<sup>4</sup>
- The method used to manually and indirectly inspect these massive fuel tanks for vulnerabilities in their steel liner is inherently unreliable, and laboratory testing indicates it may be inaccurate 50% of the time;<sup>5</sup>
- Nonetheless, inspections have detected nearly two dozen through-wall holes below the tanks’ 212’ fill line;<sup>6</sup>
- The Navy has been unable to keep up with its own planned inspection schedule, resulting in eight tanks – which are each currently holding millions of gallons of fuel – to have not been inspected in over 20 years; three of these tanks have not been inspected for 38 years or more;<sup>7</sup>
- The Navy’s semiannual tank tightness testing cannot detect leaks of up to 0.36 - 0.5 gallons per hour, which would allow for 1,577-2,200 gallons of fuel to be leaked every six months;<sup>8</sup>
- The Navy’s semiannual tank tightness testing cannot detect near through-wall holes or assess the potential for future leaks;
- The Navy’s alarm system does not sound until approximately 2,400 gallons of fuel have been lost during non-fuel movement periods (and significantly more when fuel is being moved);<sup>9</sup>
- Uninspected or undetected slow leaks or areas needing repair may contribute to much larger or catastrophic releases of fuel when combined with other events such as human error or acts of god (earthquakes, fire, etc.);

<sup>3</sup> *In Re Water Use Permit Applications*, *supra* note 1 (emphasis added).

<sup>4</sup> EPA and Hawai‘i State Dept. Of Health, Letter to Navy Capt. Marc Delao, dated March 16, 2020, *available at* <https://www.epa.gov/sites/default/files/2020-03/documents/joint-response-red-hill-corrosion-metal-fatigue-practices-destructive-testing-results-signed-2020-03-16.pdf>.

<sup>5</sup> Honolulu Board of Water Supply, Board of Water Supply’s Post Hearing Memorandum, Proposed Findings of Fact, Conclusions of Law, and Recommended Decision, 26 -27 (July 13, 2021), *available at* <https://static1.squarespace.com/static/5e28fa5870afe4486a9e6a2d/t/60efb4cf4063550b157920ef/1626322130860/BWS+Post-Hearing+Memorandum%2C+Proposed+FOF%2C+COL+%26+RD.pdf>

<sup>6</sup> ABS Consulting, Quantitative Risk and Vulnerability Analysis Phase 1 (Internal Events without Fire and Flooding) 5-128 (2018), *available at* [https://www.epa.gov/sites/default/files/2019-06/documents/red\\_hill\\_risk\\_assessment\\_report\\_redacted-2018-11-12.pdf](https://www.epa.gov/sites/default/files/2019-06/documents/red_hill_risk_assessment_report_redacted-2018-11-12.pdf).

<sup>7</sup> Sierra Club of Hawai‘i, Sierra Club’s Proposed Findings of Fact and Conclusions of Law & Order, 7 (July 13, 2021) *available at* <https://static1.squarespace.com/static/5e28fa5870afe4486a9e6a2d/t/60efb3f0b3de5a36b123a37a/1626321909343/Proposed+FOF+COL+Sierra+Club.pdf>.

<sup>8</sup> Honolulu Board of Water Supply, *supra* note 5, at 43.

<sup>9</sup> Sierra Club of Hawai‘i, *supra* note 7, at 8.

- The Navy’s “system of systems” regulating the fuel tanks is riddled with vulnerabilities to human error as demonstrated in the 2014 and 2021 fuel spill events;<sup>10</sup>
- The Navy’s “system of systems” cannot prevent earthquakes,<sup>11</sup> human malice, or Murphy’s law;
- The Navy has failed to implement its promised safety protocols and requirements as evidenced by the \$325,000 Notice of Violation arising from a routine inspection in Fall 2020;<sup>12</sup>
- The release of over 7,000 gallons of fuel into Pu’uloa and the Navy’s failure or inability to confirm the existence of the active leak(s) leading to this release for over six months brings into question whether key safety systems actually work;<sup>13</sup>
- If a single tank is found to have a leak requiring drainage, depending on the type of fuel it contains, there may be no place for the drained fuel to be stored;<sup>14</sup>
- Substantial contrasts between groundwater flow models and measured groundwater elevations demonstrate that it is not currently possible to predict “groundwater flow, contaminant transport, plume capture, and other risk-based considerations”;<sup>15</sup>
- The amount of fuel historically released (180,000 gallons) has been definitively shown to have reached the groundwater aquifer, and the 2014 spill of just 27,000 gallons is also likely to have reached groundwater; in a catastrophic event, a release of just a fraction of the fuel from just one of the fuel tanks (each holding up to 12.5 million gallons) would dwarf these amounts;<sup>16</sup> and
- In the event of a catastrophic release, spilled fuel cannot be recaptured, and the groundwater aquifer cannot be remediated.<sup>17</sup>

The substantial uncertainty highlighted by the above is only further exacerbated by recent whistleblower allegations indicating that in a legal proceeding, “inaccurate testimony had been submitted, and important information had been wrongfully withheld by the Navy,” including with respect to “corrosion and leak detection issues, historical data, and the full extent of the Red

<sup>10</sup> Sophie Cocke, *Navy says Red Hill fuel spill due to human error, not aging tanks*, HONOLULU STAR-ADVERTISER, October 26, 2021, available at <https://www.staradvertiser.com/2021/10/26/breaking-news/navy-says-red-hill-fuel-spill-due-to-human-error-not-aging-tanks/>.

<sup>11</sup> Sierra Club of Hawai’i, *supra* note 7, at 10.

<sup>12</sup> Christina Jedra, *State Fines Navy \$325,000 for Environmental Violations at Red Hill Fuel Facility*, HONOLULU CIVIL BEAT, October 27, 2021, available at <https://www.civilbeat.org/2021/10/state-fines-navy-325000-for-environmental-violations-at-red-hill-fuel-facility/>.

<sup>13</sup> Christina Jedra, *Amid ‘Political Concerns,’ Navy Kept Quiet About Red Hill Fuel Leak Into Pearl Harbor*, HONOLULU CIVIL BEAT, October 8, 2021, available at <https://www.civilbeat.org/2021/10/amid-political-concerns-navy-kept-quiet-about-red-hill-pipeline-leaking-into-pearl-harbor/>.

<sup>14</sup> ABS Consulting, *supra* note 6, at 4-2.

<sup>15</sup> Hawai’i State Department of Health Environmental Health Administration, Environmental Health Administration’s Proposed Findings of Fact and Conclusions of Law, 9 (July 13, 2021) available at [https://static1.squarespace.com/static/5e28fa5870afe4486a9e6a2d/t/60efb2de4980ba6b3b6b6560/1626321633864/EHA\\_s+FOFand+COL\\_s+COS.pdf](https://static1.squarespace.com/static/5e28fa5870afe4486a9e6a2d/t/60efb2de4980ba6b3b6b6560/1626321633864/EHA_s+FOFand+COL_s+COS.pdf).

<sup>16</sup> *Id.* at 12; Sierra Club of Hawai’i, *supra* note 7, at 6.

<sup>17</sup> TEC Inc., Red Hill Bulk Fuel Storage Facility Final Groundwater Protection Plan ES-3 (2008), available at <https://health.hawaii.gov/shwb/files/2014/08/2008-Final-Groundwater-Protection-Plan.pdf>.

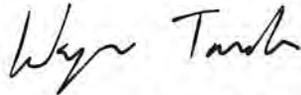
Hill Facility,” and that “historical records of corrosion issues, including holes in tanks, [] are being hidden from the regulators.”<sup>18</sup>

The South O‘ahu Basal Aquifer is a critical public trust resource that has supported life on this island since time immemorial, and is constitutionally entitled to protection under Precautionary Principle as affirmed by the Hawai‘i Supreme Court. With the magnitude of uncertainty regarding the Navy’s ability to guarantee against a catastrophic release of fuel, and given the irreparable, catastrophic harm to the aquifer that would result, the Precautionary Principle demands immediate regulatory action to prevent such harm.

**The Sierra Club accordingly urges the FTAC to uphold the law as required under the Public Trust Doctrine and the Precautionary Principle, by 1) including in its report to the legislature a finding that the Red Hill Facility poses an unacceptable risk of danger to our public trust groundwater, and a recommendation that the Red Hill Facility should be immediately decommissioned, and 2) taking all other actions under its and its members’ respective jurisdictions necessary to shut down and decommission the Red Hill Facility.**

Mahalo nui for your consideration of this testimony.

Sincerely,



Wayne Chung Tanaka, Director  
Sierra Club of Hawai‘i

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<sup>18</sup> Sophie Cocke, *Hawaii health officials say whistleblower alleges Navy withheld information about Red Hill from regulators*, HONOLULU STAR-ADVERTISER, November 9, 2021, available at <https://www.staradvertiser.com/2021/11/09/breaking-news/hawaii-health-officials-say-whistleblower-alleges-navy-withheld-information-about-red-hill-from-regulators/>.

**From:** [Melodie Aduja](#)  
**To:** [Perry, Thu](#)  
**Cc:** [Alan Burdick](#); [Melodie Aduja](#)  
**Subject:** [EXTERNAL] Fwd: FUEL TANK ADVISORY COMMITTEE PUBLIC COMMENTS  
**Date:** Tuesday, May 31, 2022 4:45:07 PM  
**Attachments:** [Fuel Tank Advisory Committee^J I^J May 31^J 2022.pdf](#)

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Aloha Ms. Perry and the Members of the Fuel Tank Advisory Committee:

Attached, kindly please find the comments of the Environmental Caucus of the Democratic Party of Hawaii to the Fuel Tank Advisory Committee. Please include our comments in the record.

Mahalo nui loa,  
Melodie Aduja and  
Alan Burdick  
Co-chairs, Environmental Caucus  
Democratic Party of Hawaii



## Environmental Caucus of The Democratic Party of Hawai'i

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*via email:* [thu.perry@doh.hawaii.gov](mailto:thu.perry@doh.hawaii.gov)

May 31, 2022

Members of the Fuel Tank Advisory Committee  
Underground Storage Tank (UST) Section  
Department of Health  
1250 Punchbowl Street  
Honolulu, Hawaii 96813

Ms. Thu Perry  
Public Participation Coordinator  
Solid & Hazardous Waste Branch  
Department of Health  
919 Ala Moana Boulevard, #212  
Honolulu, Hawaii 96814

### **Re: Red Hill Bulk Fuel Storage Facility Tank Upgrade Alternatives**

Aloha, Members of the Fuel Tank Advisory Committee and Ms. Perry:

Thank you for this opportunity for the Environmental Caucus of the Democratic Party of Hawai'i (DPH) to provide comments relating to the mandate of the Fuel Tank Advisory Committee (FTAC) under Hawai'i Revised Statutes (HRS) §342L-62(a). Under consideration are: (1) the short- and long-term effects of leaks of the fuel tanks, including effects relating to the health of residents, safe drinking water, and the environment; (2) response strategies to mitigate the effects of leaks from fuel tanks; (3) methods to improve communication between the United States Navy, Air Force, and Army; the State; any local board of water supply; and the public in the event of leaks from any fuel tank; (4) groundwater test results in the areas surrounding the fuel tank facilities, with a particular emphasis on the groundwater near the Red Hill Bulk Fuel Storage Facility; (5) the implications of shutting down any fuel tank facility; and (6) updates on progress toward meeting goals of agreement between the State, the affected county, and the federal government.

The Democratic Party of Hawai'i (DPH) has an enrolled membership of over 130,000 active and associate members in the State of Hawai'i. The Environmental Caucus of the Democratic Party of Hawai'i is a semi-autonomous organization within the Party that advocates and advances the Platform and Resolutions adopted by the Party's members at the Democratic Party's State Conventions and County Democratic Conventions.

We emphasize the massive size and dangerous nature of the Red Hill USTs. They were built during World War II, 80 years ago. There are 20 tanks, 18 in operation (each 100 feet in diameter, and 250 feet in height, each tank capable of holding 12.5 million gallons of fuel), capable of holding 250 million gallons of fuel in total when all 20 tanks are utilized. These tanks sit merely one hundred feet above the primary drinking-water Moanalua-Waimalu aquifer in the City and County of Honolulu. The fuel tanks are composed of rusting, thinning steel, crumbling in many places, encased in porous concrete, that are highly



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susceptible to spontaneous leakage due to years of corrosion, lack of routine inspections and general overall sporadic maintenance. We also emphasize that evidence accumulates that the Facility's blueprints are inaccurate and incomplete, and that Navy personnel, who usually rotate in and out on two-year cycles, simply DO NOT know the hidden complexities of the many pipelines and tunnels, and other details of the system. Institutional knowledge is very poor. This is a key factor underlying many "operator errors" that are blamed for spills and leaks. The same could be said for the 2.5 miles of pipelines that gravity pulls the fuel from the Red Hill Fuel Tank Facility to the Harbor pier at Pearl Harbor. These pipelines are aged and lack regular periodic inspections and general maintenance. Oftentimes, fuel is erroneously mixed in water pipes and water is erroneously mixed in fuel pipes as not all pipelines are known, as we have seen in the fuel and water spill that caused the contamination to the water pipes lead to military homes and some non-military homes poisoning drinking water to 93,000 military residents on the Red Hill well in November 2021.

Generally, the concern focused on the Red Hill Fuel Tank Facility has usually centered around the tanks themselves. However, as recently as a year ago, on May 6, 2021, a release of "1,618 gallons" of jet fuel from a distribution pipeline occurred with the Navy claiming that only 38 gallons of the released fuel was lost. While the Navy's containment system "properly monitored, detected and collected the fuel release as designed," this still adds an additional factor, often overlooked by the public and environmental groups, that not only must we be concerned with the eroding tanks but we must also be more concerned with the gravity-fed pipeline and other accessory structures that pose additional risks of releases. The Red Hill tanks are connected to three gravity-fed pipelines that run 2.5 miles inside a tunnel to fueling piers at Pearl Harbor, all of which pose points of releases throughout the 2.5 mile distance.

In addition, from March 2020 to May 2021, approximately 7,100 gallons of fuel were recovered from the water and soil of Pearl Harbor which likely included a mixture of new and older sources. In January 2020, a Navy pipeline failed two leak detection tests, yet the Navy officials failed to report these failures to the DOH for another three months. This is just one discovered plume. Navy records show that there are numerous plumes of leaking fuel in Pearl Harbor. It is astonishing to learn that this "newly" reported plume is just the tip of the iceberg and yet the Navy continues to act in a manner that lacks good faith as transparency of the Navy's records to the stakeholders and the community necessitated a lawsuit in order to obtain full disclosure of these fuel leaks. (And we are never sure that "full disclosure" has truly been "full.")

As we have recently seen, the Red Hill tanks cannot be operated in a manner that is protective of our groundwater.

It should be very clear from the record, the 2014 release of 27,000 gallons of fuel from Tank 5 was by no means the only release. A release from Tank 6 was reported by the Navy in 2002. Tanks 15 and 16 also had fuel releases after 1988, according to a Navy report in 2014. The Navy TRIM report in 2016 indicates that Tank 5, Tank 10, Tank 17, Tank 19, and Tank 20 underwent inspections after 1988 that identified through-wall corrosion and possible leaks below the detection limit. The groundwater data from 2005 to the present show petroleum chemical contaminants in groundwater samples. Petroleum staining was found in cores taken before 2014 beneath Tanks 19 and 20. (See AMEC Report, 2002.) Further, the Navy's Red Hill Facility Groundwater Protection Plan (GWPP) report documents leaks from various tanks from 1940s through to the 1980s (Navy report, 2008.)



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These leaks cannot be “cleaned up.” The water will simply be rendered undrinkable for anyone – civilians and military. Alarmingly, the Navy itself affirmed that there is a 27.6% chance of the tanks leaking up to 30,000 gallons of fuel every single year. Many studies have detected petroleum contamination in the groundwater beneath the tanks. Since their construction in the 1940s, it is believed that the tanks have leaked more than 178,434 gallons of fuel. This latest November 2021 spill of 19,000 gallons and the Navy’s recovery of 100 gallons after three months of skimming the wells by Navy divers prove that the 80-year-old Red Hill fuel tanks and pipelines pose a serious threat to drinking water for hundreds of thousands of residents, visitors, and businesses, and there are no viable safeguards now that the Aquifer is contaminated.

The Democratic Party of Hawai'i recently adopted the following Resolution at its Biennial State Convention on May 27-28, 2022:

**2022-11 Demanding that the Red Hill Fuel Tanks and Pipeline Infrastructure be  
Expediently Decommissioned and New Monitoring and Exploratory Wells be  
Immediately Developed**

*Whereas, The risks posed by the 180 million gallons of fuel stored at the U.S. Department of the Navy’s Red Hill Underground Fuel Storage Facility concern 20 tanks and the pipelines that transport the fuel stored at Kapukaki to the fueling piers in Pearl Harbor, each built in the 1940s and suffering from corrosion and other wear and tear that increases the risk of fuel spills; and*

*Whereas, A 2015-2016 assessment of the 2.5-mile pipeline system, published in September 2016 but only newly disclosed, found that the pipelines needed 350 repairs, including 230 categorized as needing to be fixed immediately, 181 of which are still unresolved as of April 2022; and*

*Whereas, The State of Hawai'i Department of Health seeks to require the Navy to defuel its tanks per the Emergency Order dated December 6, 2021, after jet fuel releases earlier that year contaminated the Navy’s Red Hill well for 93,000 military families and residents at the Joint Base Pearl Harbor-Hickam and surrounding neighborhoods, where they complained of fuel odors from their taps, and suffered skin rashes, burns, and painful gastrointestinal symptoms; and*

*Whereas, The extensive corrosion within the Navy’s pipelines and tanks, and the inconsistent tank inspection process that has failed to inspect certain tanks for over 20 and in some cases over 40 years, has resulted in dozens of fuel releases totaling in excess of 175,000 gallons over the life of the facility, posing serious, even existential threats to humans and the environment; and*



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*Whereas, Making up for the closure of the Honolulu Board of Water Supply's Halawa Shaft and Halawa and 'Aiea Wells requires a very lengthy permitting and development process of 2 to 5 years, including drilling and testing exploratory wells to define and confirm efficient use of the groundwater aquifer resource before commencing the full build-out and installation; and*

*Whereas, The Secretary of Defense ordered on March 7, 2022 the permanent closure of the Red Hill Fuel Tank Storage Facility, and issued a memo stating that "By no later than May 31, 2022, the Secretary of the Navy and Director of the Defense Logistics Agency will provide me with a plan of action with milestones to defuel the facility;" now therefore, be it*

*Resolved, That the Democratic Party of Hawai'i instructs Members of the Hawai'i Congressional Delegation and State Legislature to demand and ensure that the Navy safely, diligently, and expeditiously defuels, dismantles, and decommissions the Red Hill Facility and its 2.5-mile pipeline system, decontaminates the soil and groundwater, and, to the extent possible, decontaminates affected portions of the Southern O'ahu Basal Aquifer in compliance with the Clean Water Act, all on a specific schedule to be provided to the State of Hawai'i as soon as possible; and be it further*

*Resolved, That the Democratic Party of Hawai'i urges the State Legislature, Mayor of Honolulu, and Members of the Honolulu City Council to ensure that all properly completed applications for State approval for drilling new exploratory and development wells for the Honolulu Board of Water Supply to replace unusable water supply wells be processed expeditiously to help compensate for the loss of the BWS Halawa Shaft and other wells due to aquifer contamination by the Navy at the Red Hill Shaft; and be it*

*Ordered, That copies of this resolution be transmitted to the President of the United States, Secretary of Defense, Commander of the Indo-Pacific Command, Director of the Defense Logistics Agency, Administrator of the Environmental Protection Agency, Members of the Hawai'i Congressional Delegation, Governor and Lieutenant Governor of the State of Hawai'i, Members of the Hawai'i State Legislature, Mayor of the City & County of Honolulu and Members of the Honolulu City Council, and Director of the Hawai'i Department of Health.*

[End of Quote]



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To be in compliance with the Governor's second Emergency Order, dated May 6, 2022, to defuel and permanently decommission the Red Hill Fuel Tank Facility, the Navy must provide its independent contractor's assessment on facility operations by May 15, a plan and implementation schedule to defuel by June 30, and a plan for closure of the facility by Nov. 1.

On May 13, 2022, the independent third-party, Simpson Gumpertz & Heger, Inc.'s assessment determined, among other things, the following findings:

- Major extensive and critical structural repairs are needed for the piping and distribution system including the three pipelines that run through an underground tunnel and lead to fueling piers at Pearl Harbor and Hickam Airfield to enable safe defueling and minimize risk of another spill.
- The necessary repairs will be extensive, involving the entire distribution system. The repairs include deteriorating and aging pipelines, and corrosion and faulty valves. The report details more than 200 repairs that would be needed to safely operate the facility, including about three dozen that are critical before defueling. The most significant repair involves the lower access tunnel adjacent to the Red Hill tanks where surge analyses are necessary along the pipelines; dresser couplings used to connect the pipes need to be protected; corroded piping needs to be repaired; and damaged coating and pipe supports need to be fixed, among a long list of other repairs including heavily corroded structural columns and pipes, concrete cracking and spalling, leakage through the concrete tunnel walls and floor and valves known to leak. There is also a need for lead abatement.
- The Navy needs to develop written additional procedures for normal and emergency operations for its personnel to reduce the risk of a release and fire. There are fire risks as cabinets holding flammable materials are not anchored to the floor, and a control room in the pump house is not blast-resistant. In addition, in the event of an earthquake, the emergency generator may lose functionality.
- Operating personnel must receive additional training to prevent spills, safely operate, and respond to emergencies.
- An estimate of the time needed to complete these actions is still forthcoming. However, the Navy reiterated earlier estimates that the process of defueling the Red Hill tanks will take about a year or two once repairs are complete.

In conclusion, given that (1) O'ahu's sole-source groundwater aquifer provides critical drinking water supplies that simply cannot be replaced; (2) an enormous amount of fuel (currently 187 million gallons of fuel; however, the Tank Farm has a total fuel capacity of 250 million gallons) is stored merely 100 feet above the major drinking-water aquifer that lies in saturated volcanic rock; (3) petroleum chemicals have repeatedly been released and detected in groundwater and rocks underneath the tanks; and (4) the 200+ extensive and critical repairs to the three pipelines from Red Hill to the Pearl Harbor and Hickam



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fueling stations necessary to safely drain the 187 million gallons of jet fuel, marine diesel, and other petroleum constituents, it is incumbent that the Fuel Tank Advisory Committee advocate to relocate the fuel to state-of-the-art above-ground tanks in an area where such fuel storage will not pose a “clear and present danger” or cause an “imminent and substantial endangerment (ISE)” to human health and the environment from UST and gravity-fed pipeline releases above our major drinking water aquifer.

Mahalo for this opportunity to provide public comments on this very critical matter.

*Melodie Aduja*

Melodie Aduja

Co-Chair, Environmental Caucus of the Democratic Party of Hawai'i

Email: [legislativepriorities@gmail.com](mailto:legislativepriorities@gmail.com)

*Alan B. Burdick*

Alan B. Burdick

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Email: [burdick808@gmail.com](mailto:burdick808@gmail.com)



## *Restore the Commons*

Tuesday, May 31, 2022

Red Hill Fuel Tank Advisory Committee  
c/o Hawaii Department of Health  
1250 Punchbowl Street Honolulu, Hawaii 96813

Ms. Thu Perry  
Public Participation Coordinator  
Solid & Hazardous Waste Branch  
Department of Health  
919 Ala Moana Boulevard, #212  
Honolulu, Hawaii 96814

Comments on Final Assessment  
Red Hill Underground Fuel Storage  
Simpson, Gumpertz, & Hegel

Me ke Aloha Members of the Red Hill Fuel Tank Advisory Committee:  
Mahalo for your continued oversight of this ongoing crisis.

I continue to support the Department of Health in its duty to regulate water quality under Hawaii's delegation of federal authority. This delegation is entirely appropriate, given the unique character of small island resources and our unique island history and sensibilities. This duty has come to entail executive orders addressing mismanagement of natural resources and the contamination of public drinking water supplies unique to O'ahu.

In the present instance, the Navy is required to defuel and to decommission the Red Hill Bulk Fuel Storage Facility. It is understandable that this might not be accomplished overnight, but there is no real excuse for the defueling not to proceed immediately. The Navy has had no problem persisting in the use of the facility despite ongoing problems with leaks, spills, breaks, etc..

Enough has been too much. The inexcusable permanent contamination of an important drinking water source recently exposed O'ahu residents to frightening health impacts, initially and irresponsibly gainsaid by the Navy, resulting in significant hospitalizations. There has been the additional trauma of evacuations of whole communities and the closure of schools and businesses, with disruptions to family and community life during the Christmas holidays.

Further delay by "reasonable" infrastructure assessments and repairs is not reasonable nor justified by the Navy's track record. Further delay simply invites more failures of a corroded system well beyond the limits of its 1940s technologies and beyond anyone's ability to adequately manage. The "time bomb" is still ticking. Defuel now. Do not rebuild the facility in order to decommission it. Do not pass "Go", do not collect more taxpayer dollars in a wasted effort.

The only additional plan the Department of Health and the united people of O'ahu and Hawai'i should be entertaining beyond the defueling schedule is the analysis, drafting, and execution of a de-contamination plan for the affected aquifers.

There should be no need to revisit the sobering history of military performance with respect to precious and fragile resources that have supported large, robustly healthy populations here for a thousand years. Hawaii is a freshwater oasis in the middle of largest salt water desert on the planet. Ground water resources in Hawaii are irreplaceable and have been carefully and successfully protected by responsible local authorities, excepting incidents by private firms and the U.S. military. Past private and military breaches of due diligence have already resulted in excessive costs to residents in water and land treatment and in replacement ground water source development.

The impact of losing this important water source is magnified by the ripple effect on other major drinking water sources. The Honolulu Board of Water Supply has closed important sources providing a major portion of everyday water supplies in an abundance of caution to avoid much broader health impairments. The drinking water sources of O'ahu are finite and of excellent quality, and the development of replacement sources is neither guaranteed, practical, nor cheap. The Department of Health is correct in requiring reliable local authority oversight over the future of facilities that impose hazards to irreplaceable ground water resources. Until the real priorities are addressed – decontamination of ground water and the return of essential drinking water facilities to full functioning, this job is not over. It cannot wait. Those are the only priorities, not rebuilding the aging facility with all its warts and prolonging the “ticking time bomb”.

There remains a related issue not covered in this order. The Navy has not been timely in relaying test results of water quality, up to and including assertions that the water from Red Hill Shaft (Well No. 2254-01) is drinkable; this possibility is highly in doubt. Despite requests, the Department of Health has not created a user-friendly site for the public to see immediate results of water quality testing, either for this well or for the neighborhood water system flushing effort. Unfortunately, the latter question arises yet again as pockets of residual contamination persist, according to reports from residents. The general public has no easily inspectable reporting that nearshore waters have been protected from contamination. Reporting is notoriously late and buried deep in the pages of the Department's encompassing website. The Navy should be relieved of testing and reporting in favor of the Department of Health, which needs to update its reporting system to provide simple and timely access to full results.

Your acceptance of public comment on this matter is truly appreciated.

/s/ Charley Ice, retired senior Hydrologist, Ground Water Regulation Branch, Commission on Water Resource Management (25 years)