TROPICALTRUTH

HAWAIIANS SUPPORT SUSTAINABLE FISH COLLECTION

Executive Summary

Animal rights and environmental extremists are lobbying and litigating to try to ban the collection of fish for home aquariums from the waters of Hawaii. However, Hawaiians overwhelmingly reject a ban on fish collection, instead preferring regulators permit sustainable collection of fish.

POLLING: NOVEMBER 2023

Question 1: Are you aware of the debate about collection of tropical fish offshore of Hawaii for home aquariums?

	Total Pct
1. Yes	47%
2. No	53%
TOTAL	**100.00%**

Question 2: Hawaii generally practices 'sustainable use' of natural resources. This means the government regulates harvesting of natural resources so that not too much is taken and the resource has time to recover. This allows for continued harvesting over time and saves the jobs and income it provides to Hawaii residents. Do you generally agree or disagree with the idea of sustainable use?

	Total Pct
1. Agree	96%
2. Disagree	4%
TOTAL	**100.00%**

Poll of 500 Hawaiian adults conducted by CARAVAN on behalf of Tropical Truth between Nov. 16-29, 2023. Margin of error +- 4%.

Question 3: Some animal rights activists want Hawaii to completely ban the collection of fish for home aquariums. They claim this practice is harmful to the environment. However, marine scientists with the University of Hawaii and National Oceanic and Atmospheric Administration point to data showing that the fish populations have been growing for many years while collection has occurred. They conclude that fish collection is sustainable in Hawaii. Who do you think has more credibility in this debate?

	Total Pct
1. Marine scientists	72%
2. Animal rights activists	13%
3. Don't know	15%
TOTAL	**100.00%**

Question 4: Which best describes your point of view?

	Total Pct
1. Hawaii should allow sustainable collection of fish	73%
2. Hawaii should prohibit all collection of fish	17%
3. Don't know	10%
TOTAL	**100.00%**

Question 5: Do you believe regulators such as the Board of Land and Natural Resources should be managing resources based on science, or prohibiting sustainable resource usage based on the opinions of special interest groups?

	Total Pct
1. Manage resources in a science-based way	78%
2. Prohibiting resource usage because of special interest groups	7%
3. Don't know	15%
TOTAL	**100.00%**

Poll of 500 Hawaiian adults conducted by CARAVAN on behalf of Tropical Truth between Nov. 16-29, 2023. Margin of error +- 4%.

POLLING: JULY 2023

Question 1: Hawaii generally practices "sustainable use" of natural resources. This means the government adopts regulations to ensure that whatever is taken can be replenished, to allow for continued use over time. Do you agree or disagree with sustainable use?

	Total Pct
1. Agree	93.86%
2. Disagree	6.14%
TOTAL	**100.00%**

Question 2: Some activists want Hawaii to ban the collection of fish for home aquariums. They claim this practice is harmful to the environment. However, marine scientists point to data showing that the fish populations have been growing for many years while collection has occurred. Existing regulations also establish many protected areas where fish can breed and cannot be collected. Based on this information, what best describes your point of view?

	Total Pct
1. Fish collection should be allowed if it is done sustainably	79.42%
2. Fish collection should be banned	20.58%
TOTAL	**100.00%**

Online poll of 650 Hawaiians adults conducted July 25-31, 2023. Margin of error +- 4%.

POLLING: FEBRUARY 2023

Question 1: Hawaii generally practices "sustainable use" of natural resources. This means the government adopts regulations to ensure that whatever is taken can be replenished, to allow for continued use over time. Do you agree or disagree with sustainable use?

	Total Pct
1. Agree	92.57%
2. Disagree	7.43%
TOTAL	**100.00%**

Question 2: There is a debate in Hawaii over the collection of fish for home aquariums. Have you seen anything about this? Select all that apply.

	Total Pct
1. Yes, on social media like Facebook and Twitter	28.00%
2. Yes, on TV news	28.86%
3. Yes, in the newspaper	14.29%
4. No	48.29%
TOTAL	**100.00%**

Online poll of 350 Hawaiians adults conducted in February, 2023. Margin of error +- 4%.

Question 3: Some activists want Hawaii to ban the collection of fish for home aquariums. They claim this practice is harmful to the environment. However, marine scientists point to data showing that the fish populations have been growing for many years while collection has occurred. Existing regulations also establish many protected areas where fish can breed and cannot be collected. Based on this information, what best describes your point of view?

	Total Pct
1. Fish collection should be allowed if it is done sustainably	85.14%
2. Fish collection should be banned	14.86%
TOTAL	**100.00%**

Question 4: Hawaii has banned the collection of live fish for home aquariums in some areas. However, in those same areas, fishermen can still catch and kill the same species of food. Which describes your point of view?

	Total Pct
1. Both should be allowed, if practiced sustainably	69.71%
2. Live catching should be allowed, but not catching for food	5.43%
3. Catching for food should be allowed, but not catching live fish	18.86%
4. Both should be banned	6.00%
TOTAL	**100.00%**

Online poll of 350 Hawaiians adults conducted in February, 2023. Margin of error +- 4%.

Chair Chang and Board of Land and Natural Resources,

I support item F1.

We need to support jobs in Kona. We need to support science backed sustainable industries here. The Aquarium industry has been scientifically proven to be sustainable and should be allowed to reopen.

Vote yes to support F1.

Thank You,
Mark Buscheck

From: Marianne Adams
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] August 23; Agenda Item F.1
Date: Thursday, August 22, 2024 5:31:32 AM

To whom it may concern,

I am opposed to this plan to re-open West Hawai‘i to commercial aquarium collection (AQ). AS someone who grew up swimming in the reef I have noticed a difference since this first stopped. Theres more fish to experience and an experience I want to share with my kids.

As a person living next to the beautiful Puako Reef, and supporting efforts to remove all of the wastewater off of the reef to allow it to recover, the last thing we want is to have the reef's vital fish populations taken. DO NOT AGREE TO AC IN WEST HAWAII.

- BLNR should be the ultimate decision-makers on whether or not to issue AQ permits, not just the Chair of DAR staff
- NO AQ permits should be issued

Sincerely,
Marianne Adams

Ka Moku'aina 'O Hawai'i Aha Moku O Pae'Aina

State of Hawai'i Aha Moku

P. O. Box 621

Honolulu, Hawaii 96809

Testimony of the Hawaii State Aha Moku

Board of Land and Natural Resources

Friday, August 23, 2024

9:00 a.m.

DLNR Boardroom, Kalanimoku Bldg.

STRONG OPPOSITION – Agenda Item F-1

Agenda Item F-1: Request for Approval of the Application Form and Terms and Conditions for the State of Hawai'i Aquarium Fish Permit Pursuant to Hawaii Revised Statutes Section 188-31: Request for Approval of Terms and Conditions for the West Hawaii Aquarium Permit Pursuant to Hawaii Administrative Rules Section 13-60.4-7; Request to Delegate Authority to the Chair to Approve, Sign, and Issue West Hawaii Aquarium Permits and State of Hawaii Aquarium Fish Permits authorizing limited commercial aquarium collection in the West Hawaii Regional Fishery Management Area (WHRFMA) to up to seven applicants that meet certain criteria and Requirements.

Aloha Chair Chang and Members of the Board of Land and Natural Resources (BLNR),

On behalf of the generational and lineal descendants of the Pae'Aina – the Mokupuni of Moku O Keawe (Hawaii), Moku O Pi'ilani (Maui), Moku O Kanaloa (Kaho'olawe), Nana'I Kaula (Lana'i), Moloka'i Pule O'o, (Moloka'i), Moku O Kakuhihewa (O'ahu), Manokalanipo (Kaua'i) and Ka'Aina O Kawelaokala (Ni'ihau) we are strongly opposed to Agenda Item F-1 as stated above. We soundly SUPPORT the Hawaii State Aha Moku Po'o of Moku O Keawe and the traditional *lawaia* (fishermen and coastal gatherers) whose testimony, also in opposition, is detailed, meticulous and gives the mana'o of protection for the West Hawaii coastal and marine areas. It is the mandate of the Hawaii State Aha Moku to bring the voices of the native Hawaiian people who depend upon their traditional fishing and gathering practices forward, on issues that specifically adversely impact their physical and spiritual rights as they pertain to the natural and cultural ocean resources they have sustained for generations.

The submittal from the Division of Aquatic Resources (DAR), as we understand it is striving forward with their plan to re-open West Hawai'i to commercial aquarium collection on behalf of the mainland businesses that sell wildlife for aquariums. A cultural impact statement is not enough to ensure the fish population and the welfare of the environment – an ecosystem that has been carefully sustained by traditional practitioners.

The Hawaii State Constitution specifically protects Native Hawaiian gathering rights. The Hawaii State Supreme Court affirmed that in its Ka Pa'akai O Ka'Aina vs. Land Use Commission decision in 2000[1]

The Kapa'akai Analysis (Kapa'akai) is mandated through its Findings of Fact and Conclusions of Law to determine whether traditional and customary practices are impacted by the activities of the petitions of government, public and private entities. The mandate of Kapa'akai and the results **(in blue)** are as follows:

a. Identification and scope of "valued cultural, historical, or natural resources" in petition or impacted area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area;
    i. **It is clearly shown that the lineal and generational *lawaia* families who traditionally practice for subsistence in each of the forty-five ahupua'a along the West Hawaii (Kona) coast have not been given the opportunity to give their mana'o on the aquarium trade that seeks to be restored.**
b. The extent to which those resources, including traditional and customary native Hawaiian rights, will be affected or impaired by the proposed actions;
    i. **Native Hawaiians deemed fish to be a resource and incorporated this belief into their cultural and spiritual faith. Guided by generational knowledge handed down by Kupuna for decades, fishing and gathering practitioners specifically focus their understanding of the natural marine cycles including spawning and natural weather conditions. With that understanding they carefully engage in traditional fishing and cultural gathering practices. Commercial aquarium collecting will impair these practices.**
c. The feasible action, if any, to be taken to reasonably protect native Hawaiian rights if they are found to exist;
    i. **The feasible action to be taken to protect native Hawaiian fishing and gathering rights that exist in West Hawaii is to DENY DARs plan to re-open commercial aquarium collecting in West Hawaii.**

Further, DAR is also proposing to remove BLNR's oversight of the trade and the ability for the public to have a voice, by giving sole aquarium permitting authority to the Chair, who could be put in the position of signing off without the public even being notified, or given an opportunity to provide any input. We have trust and faith in the Chair who is mandated, along with the Land Board, to perpetuate and protect DLNR's Mission Statement to "Enhance, protect, conserve and manage Hawaii's unique and limited natural, cultural and historic resources held in public trust for current and future generations of the people of Hawaii nei." Giving the Chair this sole authority unfairly puts her in a position of conflict with her own people. We believe this issue needs the Land Board to balance and weigh in on decisions such as this one.

Finally, we believe that this action is dangerous to the health and sustainability of natural and cultural marine resources in the State of Hawaii. Approving this request opens the door to applications for commercial aquarium collecting on every island in the Pae'Aina.

Ka Moku'aina 'O Hawai'i Aha Moku O Pae'Aina

State of Hawai'i Aha Moku

P. O. Box 621

Honolulu, Hawaii 96809

For the reasons stated above, the Hawaii State Aha Moku **STONGLY OPPOSES** agenda item F-1 as it pertains to re-opening West Hawai'i to commercial aquarium collection on behalf of the mainland businesses that sell wildlife for aquariums; and, as it pertains to removing BLNR's oversight of this trade by giving the sole aquarium permitting authority to the Chair.

Respectfully yours,

Charles Young, Po'o
Hawaii State Aha Moku
Aha Moku Advisory Committee
Moku O Keawe (Hawaii)
Youngc042@hawaii.rr.com

Kalei Luuwai, Po'o
Hawaii State Aha Moku
Aha Moku Advisory Committee
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Manuel Kuloloio, Po'o
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Aha Moku Advisory Committee
Nana'i Kaula (Lana'i)
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Rocky Kaluhiwa, Po'o
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rockykaluhiwa1122@gmail.com

Lewellyn (Billy) Kaohelaulii
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Aha Moku Advisory Committee
Manokalanipo (Kaua'i)
terriehayes@gmail.com

Keith Robinson, Po'o
Hawaii State Aha Moku
Aha Moku Advisory Committee
Ka 'Aina O Kawelonakala (Ni'ihau)

Leimana DaMate, Luna Alaka'i/Executive Director
Hawaii State Aha Moku
808-640-1214
Leimana.k.damate@hawaii.gov

Pae'Aina: Moku O Keawe, Moku O Piilani, Moku O Kanaloa, Nana'i Kaula, Moloka'i Pule O'o, Moku O Kakuhihewa, Manokalanipo, Ka'Aina O Kawelonakala

From: Anela Akau-LaClair
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] August 23; Agenda Item F.1
Date: Wednesday, August 21, 2024 5:10:31 PM

Aloha mai,

My name is Anela Akau-LaClair. I am from Waimea and Kawaihae on Hawai‘i Island. Generations of my family have been raised on these ‘āina. I am a life-long resident of West Hawai‘i and have generational ties to this region.

Oversight of permitting for aquatic resources should remain with the BLNR with the input from the public and not be given to the Chair of DAR. Furthermore, our native reef fishes and aquatic resources should be protected as a critical part of our native reef ecosystems. My family and I have relied on our native fish as a food source for generations and I strongly believe they should not be collected as a token on someone's shelf. Allowing the Chair of DAR to have this oversight would affect not only my ‘ohana but other families across West Hawai‘i. I firmly believe that no AQ permits should be issued for West Hawai‘i or waters statewide.

Mahalo for your time and consideration,

Anela Akau-LaClair

From: Andrew Anaya
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 4:53:11 AM

I support opening the aquarium fishery and managing resources by science provided by DAR'
Kindest regards,
Andrew Anaya
Sent from my iPhone

Chair Chang and Board of Land and Natural Resources,

I support item F1.

I live part time here in Kona and have watched for over 30 years, the use conflict that exists between the user groups. The Aquarium trade has had to make concession after concession to stay in business even though they have had no impact on the resource. It is time that the other groups do something to mitigate the destruction that they are causing. When will they have to start environmental assessments and be regulated. Time to stop blaming the fishermen for their problems. Let the fishermen go back to work.

Vote yes to support F1.

Thank You,
Art Westwood

HAWAII MARINE
EDUCATION AND RESEARCH CENTER

23 August 2024

Chairperson Dawn Chang
Board of Land and Natural Resources

Aloha Chair Chang and the Board:

I am an ecologist with 31 years of professional scientific experience in academic, government and non-government organizations, and I have a well-known commitment to West Hawai'i communities. I have thus received numerous requests from concerned community members across West Hawai'i to review and testify on Item F.1 regarding commercial aquarium (AQ) collection permits. I have been reticent about providing any further testimony as a follow-up to my team's extensive previous testimony, scientific reviews, and submitted recommendations on this issue. Most importantly perhaps is the fact that the AQ permitting issue has largely evolved into one of community needs and cultural values.

I do strongly believe that community values are the paramount issue, so I encourage the Board to make the values of the entire community the backbone of decision-making.

With that said, I write this testimony based on science, focusing on two specific issues pertinent to Item F.1:

(1) Review of the report issued on April 12, 2024 by DAR regarding existing West Hawai'i fisheries data:

The work presented by DAR in their April 12 report to the Board is commendable. The Division has been placed in a tough position of seeking a way to assess long-term trends in fish populations for species that are difficult to track over time. The reason for this difficulty is the extremely variable habitats, complex species-specific life histories of fish, and strong seasonality of the West Hawai'i reef ecosystem.

The April 12 report starts with the West Hawai'i Aquarium Project (WHAP) sites and data. As my team and I previously reported to this Board, the WHAP sites are not geospatially representative of the highly variable set of habitats found along the West Hawai'i coastline. As a result, scientifically, these data can only be used to talk about 26 highly localized sites on a coastline of more than 200 km. The data should not be used for geospatial extrapolation in support of regional decision-making. The April 12 report admits to this limitation, which is also commendable.

The report then turns to the NOAA's Pacific Islands Fisheries Science Center (PIFSC) coral reef ecosystem survey data for guidance on long-term trends in specific fish populations. The NOAA PIFSC surveys are intended to assess *average* ecosystem condition over geographically large areas (e.g., all of West Hawai'i) once every 3-4 years (Gove et al. 2022). NOAA states that they surveys are not designed to collect data at the spatial and temporal scales required to support fisheries

management decisions. The April 12 DAR report alludes to this limitation in several places throughout the document.

These issues set fundamental limits on the applicability of the datasets utilized in the April 12 report, but again, DAR has been put in the position of trying to find data that can support decision-making by the Board. **However, the issue is not whether these data support or refute the sustainability of aquarium harvesting**. The question is what we can know from limited scope, long-term datasets that might be useful to decision-making? See the next section for a key answer.

(2) New critical findings on the West Hawai'i coral reef ecosystem:

In 2023, an inter-agency group, including federal, state, academic, and NGO scientists, published a 20 year history of changes in the West Hawai'i coral reef ecosystem, with a focus on coral condition and survival over time. As you know, coral is the foundational, habitat-generating lifeform that makes the reef habitable for other species, including those targeted by the aquarium industry. The report was published in the highest ranking journal in the world – *Nature* – and it has improved the knowledge of scientists and decision-makers in Hawai'i and globally. This report, entitled "Coral reefs benefit from reduced land-sea impacts under ocean warming" (Gove et al. 2023), provides a detailed account of the status of coral reefs in West Hawai'i and their response to a massive climate event.

Before continuing further, I would like to strengthen your understanding of our reef climate. We underwent our first massive marine heatwave in West Hawai'i in 2015. We then had a second major heatwave in 2019. We also know that we will have many more heatwaves in the near future. In fact, as I write this testimony, NOAA has raised the 2024 heatwave alert to "warning". We know that climate change is currently making these heatwaves occur every 5-6 years, but this will increase in frequency to every 3-4 years by about 2030, and even more frequently in the decades ahead. This is not esoteric academia – it is as factual as the widely accepted reports of the International Panel on Climate Change (IPCC), which guides the Paris Agreement and numerous national and sub-national climate change mitigation efforts. **Perhaps most importantly to Hawai'i, increasing marine heatwave frequency sets the modern condition – the new playing field – for good decision-making going forward on ocean resource management, including for our coral reefs.**

A paramount take-home message is that we **must** increase the resilience of our reefs in the face of repeated marine heatwaves. Can we?

The answer to this question rests in the Gove et al. (2023) report in *Nature*. This study found that two factors determined whether reefs of West Hawai'i held their ground during the 2015 heatwave: herbivore fish levels and coastal pollution. Specifically, about 20% of West Hawai'i reefs showed resilience to this massive marine heatwave. However, about 80% of our reefs underwent alarming declines in coral cover and reef condition after the heat. The 20% that were better able to handle the heat were the ones with the most herbivore fish and/or the cleanest water.

Unfortunately, the 80% of declining reefs were the ones we still monitor today, in 2024, as having suppressed herbivore fish densities and/or wastewater pollution. Importantly, it is this 20/80 ratio that should both alarm us and guide our thinking on how to move forward. This ratio tells us what is wrong, and yet it tells us that all is not yet lost. **We must greatly increase herbivore fish densities and clean up our coastal waters in order for our reefs to survive repeated marine heatwaves.** Notably, the Gove et al. (2023) results rely on multiple DAR datasets combined with many other data sources, but *not* on data collected by NOAA PIFSC (owing to limitations described above).

In a separate study by Foo and Asner (2021) entitled "Depth-dependent indicators of algal turf herbivory throughout the Main Hawaiian Islands", it was found that the number of herbivore fish on the reef was crucial to the ability of the reef to withstand the coral-smothering algae known as "turf" that is now prominent on Oʻahu, parts of Maui, and sadly on more than 30% of West Hawaiʻi coral reefs. Turf algae reduces coral cover, decreases habitat diversity and quality, and makes what most people see as "ugly dead reef". This study, like that of Gove et al. (2023) and many others, found that more fish "mouths on the reef" is a key factor in controlling the insidious problem of turf algal expansion, which is driven by warming oceans and polluted coastlines, but aided and abetted by too few herbivores.

Subsequent research and monitoring revealed that the West Hawaiʻi reefs that underwent severe coral decline in the 2015 marine heatwave have been unable to bounce back on their own, and/or improve following the subsequent 2019 heatwave (Asner et al. 2022). This is a principal reason why my team joined forces with DAR to launch the State's largest coral restoration program called ʻĀkoʻakoʻa, focused on the 200 km coastline of West Hawaiʻi island. We are working to restore coral reefs, yet we are facing an uphill battle in many areas due to depleted herbivore fish densities needed to battle algal cover and/or polluted waters that stimulate algal blooms. To this day, a battery of ongoing studies on West Hawaiʻi fish populations indicate declining and/or suppressed herbivore fish densities, again a crucial factor in battling coral-smothering algae that greatly impedes the settlement of young corals (Foo et al. 2021, Asner et al. 2021, Fukunaga et al. 2023). This, in turn, drives potentially insurmountable declines in reef condition. **Coral reef restoration will not work without concomitant increases in herbivore fish densities and cleaner coastal waters.**

So, I ask you to level the playing field for West Hawaiʻi coral reefs by taking an "ecosystem" perspective in all of your decisions going forward. While "ecosystem" is a western science term, it closely mirrors the traditional Hawaiian practitioner view of our relationship with coral reefs, a view that facilitates ecological resilience for the future. None of this is academic, nor is it a "fish lovers" perspective. Rather it is an expression of our clearer understanding of what has to be done to perpetuate the ecosystem for future generations.

At this point in time, the West Hawaiʻi reef ecosystem has been widely over-fished and over-collected; It is polluted in some places; It is in a highly variable state of coral health. This geography of variable stressors and subsequent coral conditions has given us a unique ability to finally

understand and to forecast what has to be done to stabilize the declines and improve the reef over time. **The answer is that we need to make ecosystem-level decisions that aggressively increase reef resilience, and that means mitigating stressors where and whenever we can.** The current aquarium collection plan to remove a million or more herbivores over five years seems misaligned with this critical need.

I have presented these studies to the Hawai‘i County Council, the Hawai‘i State Legislature, and the federal government. I believe that many leaders are starting to understand that the issues presented in my testimony determine the future of the ecosystems we depend upon and want to perpetuate. I also believe that the Board of Land and Natural Resources sits in a key position to lead the way toward the paramount goal of increasing ecological resilience in this time of climate change and increased community vulnerability.

Very respectfully,

Gregory P. Asner PhD
Miloli‘i, Hawai‘i

Director, Hawai‘i Marine Education and Research Center
Director, ASU Center for Global Discovery and Conservation Science

HAWAII MARINE
EDUCATION AND RESEARCH CENTER

References

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From: cliff benjamin
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] August 23; Agenda Item F.1
Date: Thursday, August 22, 2024 10:13:26 AM

To whom this may concern:

My name is Cliff Benjamin, I live in Makawao on Maui.

This decision should be up to the Board of Land and Natural Resources NOT the Department of Aquatic Resources. I can't believe this issue is up for discussion again! Our reefs should be protected from predatory industries and commercial interests. Our ocean is our most precious resource and these folks interested in reversing this decision give no benefits to the populous of Hawaii.

NO AQ permits should be issued. EVER again.

Thank you,
Cliff Benjamin

From: Griffin Bentley
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 7:51:54 AM

I support opening the aquarium fishery and managing resources by science provided by DAR.

Kindest Regards,
Griffin Bentley

From: Billy
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 8:38:09 AM

I support opening the aquarium fishery and managing resources by science provided by DAR

Sent from my T-Mobile 5G Device

From: Bochis MunoZ
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda item F1 support
Date: Thursday, August 22, 2024 9:28:19 AM

I support opening the aquarium fishery and managing resources by science provided by DAR'
Sent from my iPhone

From: ted bohlen
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] August 23; Agenda Item F.1
Date: Thursday, August 22, 2024 8:08:37 AM

<!--[if !vml]--><!--[endif]-->,

To: Board of Land and Natural Resources

From: Hawai'i Reef and Ocean Coalition (by Ted Bohlen)

Re: AGENDA ITEM F-1: DAR Request for Approval of the Application Form and Terms and Conditions for the West Hawaii Aquarium Permit under HRS Sec. 188-31 and HAR Sec.13-60.4.7; Request to Delegate authority to the Chair to approve, sign and issue West Hawaii Aquarium Permits and State of Hawaii Aquarium Fish Permits in the West Hawaii Regional Fishery Management Applicants That Meet Certain Criteria and Requirements.

Date: August 22, 2024

Aloha Board Members:

The Hawai'i Reef and Ocean Coalition (HIROC) is a group of scientists, educators, filmmakers and environmental advocates who have been working since 2017 to protect Hawaii's coral reefs and ocean. **The Hawai'i Reef and Ocean Coalition STRONGLY OPPOSES the proposed delegation of permitting authority from the Board to the Chair and the proposed reopening the reefs to aquarium trade collection.**

As the Board knows, aquarium fishing has been a contentious issue for many years. There is currently pending: 1. an appeal to the Hawaii Supreme Court regarding the environmental impact statement; and 2. a community petition for rulemaking opposing aquarium fishing statewide that the Board approved unanimously in December 2023. **It would be extremely unfair procedurally for the Board to approve DAR's requests while these matters are pending and would likely lead to additional litigation. The Board should remain the decision-maker on this matter of great public concern, not the Chair.**

At a time when coral reefs are threatened by warming oceans and other factors, the Board should not allow private commercial parties serving out-of-state interests to extract for their profit thousands of aquarium fish that collectively benefit our reefs. To do so would violate the public trust and Hawaii custom.

Mahalo for your service and for taking action to protect our public trust and our reefs,

Hawai‘‘i Reef and Ocean Coalition (by Ted Bohlen from Manoa, Oahu)

From: Tammy Bransford
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] August23: Agenda Item F.1
Date: Thursday, August 22, 2024 3:44:39 AM

My Name is Tammy Bransford. I live in Little River, CA. USA Even though I do not live in Hawaii, the decision on Agenda Item F.1 will affect both local people and visitors.

I choose to visit Hawaii over many other places in the world to observe reef life, especially many of the species that the DAR leadership is suggesting to allow to be taken by permit. My field of study at university was Marine Biology, specializing in Aquaculture.

From the last meeting that I watched on Zoom, it was shocking that the DAR did not have more independently collected data for what they were proposing. It seem like they depended on the information brought to them by the people who are collecting and selling tropical fish, than all the other resources in Hawaii including the U of H. staff and students. Brushing off the serious effects of climate change in the ocean and reef eco-systems is mind boggling.

I am helping out with the citizen science program developed at U of H. MEGA Lab underwater camera. The program allows the reef to be observed during day light hours, with little human interference. It is unlike anything that can be observed by diving or snorkeling - you can find out how much we don't know about the reef ecology. We need more cameras to be able to gather more data about the flora and fauna of the reef before making assumptions of what is the impact removing numbers of a species for the aquarium trade.

The aquarium trade is worse than any puppy or cat mill. The mortality rate of tropical reef fish in just the first year of captivity is appalling. There is no good side this industry.

Local people depend on these fish for food, that is quite different than for a "collection". Yes, some of the fisherman are local and vocal but they unlike the fish have other choices.

The BLNR should be the only authority to decide on this matter, not the DAR. I don't think there should be any AQ permits should be issued. I urge you to keep the Hawaii State ban on AQ permits.

Sincerely,
Tammy Bransford

From: maureen.l.brock@gmail.com
To: DLNR.BLNR.Testimony
Cc: "Dan"
Subject: [EXTERNAL] August 23; Agenda Item F.1
Date: Thursday, August 22, 2024 6:48:56 AM

Aloha,

I live on Maui and wish to testify against permitting commercial aquarium collection of reef fish in Hawaii.

My husband I count “our” damselfish (Hawaiian dascyllus) at specific coral heads along Baby Beach Lahaina multiple times per week. We are buoyed by the health of the reef, post-fire and delighted when we see new, little fry in the summer. Of course, the population declines as the fish mature, but we consider this a graduation to deeper water. Knowing that someone can be profiting off their lives by capturing and selling them is something that would break my heart. Aquarium fish merchants should farm their fish, not harvest them from our oceans!

Please adhere to the unanimous decision by the Board of Land and Natural Resources (BLNR) in December of 2023 to prohibit commercial AQ statewide.

Regards,
Maureen Brock

From: rob@browerhomes.com
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] proposed permitting to take tropical fish
Date: Wednesday, August 21, 2024 6:22:57 PM

Aloha
On behalf of the Kauai Chapter of the Surfrider Foundation we strongly oppose permitting this industry.
This is a digression back 20+ years to allow this practice again. Not only does it deplete the few remaining tropical fish on our reefs, it damages the ones that get away.
Thank you
Rob Brower
Chair Kauai Chapter Surfrider Foundation

From: Aquatic Edge
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Wednesday, August 21, 2024 4:36:37 PM

To whom it may concern,

I support opening the aquarium fishery and managing resources by science provided by DAR.

Thanks,
Marc Brown
Aquatic Edge

From: Rick Buchner
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 2:49:53 AM

I support opening the aquarium fishery and managing resources by science provided by DAR

From: Chris Buerner
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 3:22:11 PM

Honorable Chairperson Chang and Land Board Members,

I support the re-opening of the aquarium fishery in West Hawaii and managing this fishery's resources by science provided by Hawaii's Department of Aquatic Resources.

I support DNLR's: Request for Approval of the Application Form and Terms and Conditions for the State of Hawai'i Aquarium Fish Permit Pursuant to Hawaii Revised Statutes Section 188-31; Request for Approval of Terms and Conditions for the West Hawai'i Aquarium Permit Pursuant to Hawaii Administrative Rules Section 13-60.4-7; Request to Delegate Authority to the Chair to Approve, Sign, and Issue West Hawai'i Aquarium Permits and State of Hawai'i Aquarium Fish Permits authorizing limited commercial aquarium collection in the West Hawai'i Regional Fishery Management Area (WHRFMA) to Up to Seven Applicants That Meet Certain Criteria and Requirements

Since the Establishment of the West Hawaii's FRA system in 1999 under act 306, the aquarium fishery became the most highly regulated and studied near-shore fishery in the state. Act 306, which prescribes a 5 year review of the status of the fishery, has yielded very favorable results, and which had continued to trend in a positive direction. By the States' own DLNR acknowledgement, populations of the most targeted aquarium species, Yellow Tang and Kole Tang had increased significantly statewide, despite continued harvest, while it was occurring. Stable populations despite pressure on the resource is the definition of sustainability. Subsequent regulations such as the rules package which included daily bag limits for Achilles Tang, slot limits for other species, and a white-list which narrowed collectible species dramatically should yield similarly positive results for Hawaii's fish populations and diversity. The further limits of reduced fishing pressure by a smaller group of fisherman, further caps and limits on species take, a further narrowing of species variety – as detailed in the EIS produced by the fisherman in West Hawaii, and the adequacy of which was supported by former Chair Suzanne Case, should give the current board confidence that this process is sound, the science is sound, and that the fishery further restricted from sustainable levels in the past, is a responsible and well managed one.
These sensible, strategic approaches, based in science rather than emotion, are right for Hawaii's aquarium fishery. Responsible operators welcome healthy regulations that foster healthy habitat conditions, healthy fish populations, and ultimately a viable and sustainable aquarium fishery. We have regularly supported sensible regulation of this nature. We support a well managed and responsibly practiced sustainable aquarium fishery in the State of Hawaii.

Respectfully,

Chris

G. Christopher Buerner

President
QUALITY MARINE

5420 West 104th St.
Los Angeles, CA 90045
Tel: 310.645.1107
Fax: 310.846.4052
Chris.Buerner@qualitymarine.com
www.qualitymarine.com

From: Elizabeth Bush
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Item F-1 OPPOSE Issuing AQ Permits & OPPOSE Delegating Authority to Department Chair
Date: Thursday, August 22, 2024 5:31:12 AM

As a medical professional who has served the Big island for 25 years, I strongly oppose any change in protections for West Hawaii reef fish/animals.

In particular, I oppose issuance of aquarium permits and changes in BLNR leadership oversight, which will decimate our already declining reef populations and permanently alter our coral reefs in a manner that will contribute to climate change effects and lead to further loss of our unique cultural and ecological place in the world.

Profiteers have no place in one of the world's last remaining sanctuaries of aquatic freedom and beauty.

O au me ka ha`a ha`a (I am humbly yours),

Elizabeth Bush, MSN, APRN, CARN-AP
Board Certified Psychiatric Advanced Practice Nurse (NP and CNS)
Certified Addiction Registered Nurse, Advanced Practice

"When I despair, I remember that all through history the way of truth and love has always won. There have been tyrants and murderers and for a time they seem invincible but in the end, they always fall – think of it – always." ~ MK Gandhi
http://addictionsprofessional.com

From: Gary Butler
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 7:53:35 AM

I support opening the aquarium fishery and managing resources by science provided by DAR

From:	Healani Cahill
To:	DLNR.BLNR.Testimony
Subject:	[EXTERNAL] F-1: OPPOSE Terms & Conditions to Issue Permit; OPPOSE Delegating Authority to Department Chair
Date:	Wednesday, August 21, 2024 5:47:31 PM

Aloha Chair and Board of Land and Natural Resources,

I am [ ] of [ ]. [INTRODUCE YOURSELF AND ALL OF YOUR ROLES IN WEST HAWAI'I, ESPECIALLY HOA'ĀINA (tenant, caretaker) OF YOUR AHUPUA'A/DISTRICT.]

I OPPOSE issuing commercial aquarium permits in West Hawai‘i, and I OPPOSE delegating authority to the Department Chair.

Regarding Terms & Conditions to Issue West Hawai‘i AQ permits, I request you reject DAR's AQ Terms and Conditions and deny any and all permits. [PROVIDE PERSONAL KNOWLEDGE, FAMILY STORIES, PERSPECTIVES...MANA'O]

Regarding Delegating Authority to Issue AQ Permits to the Department Chair, do not delegate authority to the Department Chair. Retain the discretionary authority with the Board, which will continue to utilize their diverse island communities, specialized knowledge, and expertise to weigh in and make informed decisions together.

Thank you for this opportunity,
[FULL NAME]
[TOWN], [ZIP CODE]
[ISLAND]

Sent from my iPhone

From: caribbeanblue aquatics
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1
Date: Thursday, August 22, 2024 5:52:34 AM

We support opening the aquarium fishery and I support managing resources by science provided by DAR

Anthony Lucchini & Arya Tanuwijaya
Caribbean Blue Aquatics
Long Island, NY 11706

Testimony: Agenda Item F.1
By Bruce Carlson, Ph.D. and Richard Pyle Ph.D.
August 23, 2024

Aloha Chair Chang and Members of the Board: We are writing to reaffirm our support for the West Hawai'i Aquarium fishery and approval of Item F.1 on your agenda.

In 2020 we joined our colleagues in a letter published in West Hawai'i Today outlining why we accept the data demonstrating that this fishery is clearly sustainable. Since that time, nothing has changed to alter that conclusion.

In this era of social media, it has become easy to affect public opinion with campaigns of disinformation, hyperbole, and untested hypotheses presented as facts. The public is often confused or unwilling to critically evaluate such statements, and too often accept false evidence on face value. The West Hawai'i Aquarium fishery has been under assault by such a campaign for many years, even though the populations of key aquarium species, such as the Yellow Tang and Kole, have increased over the past twenty years. The fishery has not been without fault during its 50 years in existence, but these incidents have been the exception and do not, in our experience, represent the high ethical standards that these fishermen exercise during the collection, care and handling of live fishes.

The BLNR has a rare opportunity to turn this controversy into a teachable moment for the public. You have access to decades of data methodically collected by DLNR biologists, as well as detailed reports presented every five years to the Legislature. Compare these data, analyses and conclusions to the statements made by opponents to the fishery. They have no comparable, long-term data sets and therefore resort to using anecdotes and untested hypotheses to support their agenda. At this pivotal moment, you can act in the public interest to separate facts based on data, from arguments that are data-free and baseless.

Science can provide conclusive evidence supporting this fishery as sustainable. There is also ample evidence that aquarium fishermen act ethically in their treatment of the animals from the moment they are collected until they are shipped to their destination. Philosophical, moral, and cultural arguments are mostly beyond what science can resolve. However, we feel that the fishermen and their advocates have provided an excellent review of these topics in their EIS. Furthermore, we find it difficult to justify closing a fishery that strives to keep fishes alive and in good health, while continuing to permit some of the same species to be killed and eaten. We do not contest that killing fish for food is acceptable (provided it is done sustainably), but aquariums also have significant value, as evidenced by the number of aquatic biologists who were inspired by their home aquariums to pursue careers in science. It is hypocritical to claim killing fishes is moral but keeping them in aquariums is not.

Please take the time to study the data reports prepared by your DAR biologists based on thousands of transects that required many, many hundreds of man-hours to collect and to analyze. They did not set out to demonstrate that the fishery is sustainable but that is clearly the conclusion after 20+ years of effort. Campaigns of disinformation should be recognized and rejected. Use your authority to inform the public that data and science will be the foundation for your decisions. Permanently closing what many consider the best monitored and regulated inshore coral-reef fishery in the world, would be a precedent with significant implications for all other Hawai'i fisheries.

Thank you for the opportunity to present this testimony.

From: median_bounces_0c@icloud.com
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Item F-1 Aquarium Fish Permit
Date: Thursday, August 22, 2024 9:00:24 AM

DLNR Land Board,

Thank you for taking the time to consider my testimony authorizing the DLNR Chairperson to issue aquarium permits on the Island of Hawaii. The Land Board has been provided much information on this subject in recent past and I would ask all of you to consider the following as you make this important decision:

1. Is the issuance of seven permits, with limits, a sustainable use of this resource? All of the evidence presented to the Land Board by DLNR-DAR clearly show that, yes, it will be a sustainable use of this resource. In addition, evidence includes numerous testimony by credible scientists who specialize in this field.

2. Have the applicants followed the law and requirements set forth by the State Legislature, DLNR Land Board, and the Hawaii Courts? The answer is yes, they have followed the law and lengthy process.

3. Will a vote against issuing permits affect other businesses and recreational fishers of Hawaii? Yes, if these permits are denied it will have a negative effect in a huge way for both commercial use of our resources as well as recreational use.

This issue has already had an adverse affect upon Aquaculture, Aquariums, as well as Research. As a Board Member of Hawaii Aquaculture Association, I can share that several large-scale investments in Hawaii have raised concerns and are considering defunding their projects. This also is having an effect on the Aquaculture program at the University of Hawaii.

Both the Chairperson of DLNR and the Attorney Generals office have been briefed on the potential unintended consequences facing Hawaii that will result from a “No" vote on this issue. The State Court has clearly stated that all DLNR permits/license must follow the same rules that the Aquarium fishery must follow, and that Chapter 343 applies to all use of State Lands for commercial use.

4. Is the collection of Aquarium fish an approved use? Aquarium fish often are used for education and research, and teaches the public how to become better stewards of our resources.

Finally, while I fully understand that many on the Land Board may not like, or agree with Aquarium fish collection, your role and responsibility is to objectively make decisions on issues that you may not personally agree with. This is true for our State Legislators, State Agencies, and our Courts. Just because one does not like the certain use of our resources, as a Board Member your role is to manage based on the law and if the use is sustainable. Prohibition of aquarium fish collection is an issue that should go before the legislature and follow State regulatory processes and procedures; just as it has in the past, and has failed for good reason.

Please consider my input as you make this important decision.

Mahalo,

Randy Cates

From: Pol Asensio Cecilia
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda item F1 Support
Date: Wednesday, August 21, 2024 11:36:16 PM

I support opening the aquarium fishery and managing resources by science provided by DAR

From: Joseph C.
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support.
Date: Thursday, August 22, 2024 6:12:20 AM
Importance: High

Aloha,

I support opening the aquarium fishery and managing resources based on science provided by DAR (Division of Aquatic Resources).

Mahalo,

Joseph Chang
Quality Marine & Aquatropic
(310) 645-1107 ext. 217
(310) 670-8837 Fax
5420 W. 104th St.
Los Angeles, CA 90045
www.qualitymarine.com
www.aquatropic.com

From:	Ken Cherubini
To:	DLNR.BLNR.Testimony
Subject:	[EXTERNAL] URGENT: Hawaii Land Board please support to the proposed DAR actions
Date:	Thursday, August 22, 2024 11:59:02 AM

Please support opening the aquarium fishery and managing resources by science provided by Hawaii's scientists and experts in the Department of Land and Natural Resources Division of Aquatic Resources.

This fishery has been extensively studied and aquarium collection is environmentally responsible and sustainable.

The recent UN Convention on Trade in Endangered Species (CITES) workshop on marine ornamentals repeatedly featured discussion on the yellow tang as one of the most resilient and sustainable fish in the trade.

Putting an extremist agenda of ending aquarium keeping before the livelihoods of Hawaiians and the immense amount of science confirming the sustainability of the fishery is irresponsible and wrong.

The Hawaii fishers are just a small group of local citizens that have been forced to undergo an overwhelming process to satisfy the requirements and whims of the state. Having accomplished that, they should be issued their licenses and the limited entry fishery reopened.

From: Sharon Clawson
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] August 23 ITEM F-1
Date: Thursday, August 22, 2024 6:20:40 AM

Please do not approve the gathering of aquatic species around Puako Reef. As a property owner with family of divers and Reef conservation concerns, it is contradictory to save the Reef from pollution, and not conserve its beautiful and treasured wildlife.

Gordon and sharon Clawson
Puako Condominium owners.
Sent from my iPad

From:	Ocean Ventures AK LLC
To:	DLNR.BLNR.Testimony
Subject:	[EXTERNAL] OPPOSE Issuing AQ Permits & I OPPOSE Delegating Authority to Department Chair
Date:	Thursday, August 22, 2024 8:21:26 AM

Aloha Chair and Board of Land and Natural Resources,

My name is Jim Cocallas, of Kau district and Steward of our Aina, Naalehu in the ahupua‘a of Waiomau.

I OPPOSE issuing commercial aquarium permits in West Hawai‘i and I OPPOSE delegating authority to the Department Chair.

Regarding Terms & Conditions to Issue West Hawai‘i AQ permits,

I request you reject DAR's AQ Terms and Conditions and deny any and all permits.

I understand that the tropical fish being harvested for profit is a disgrace. A majority of these fish die after harvest.

Regarding Delegating Authority to Issue AQ Permits to the Department Chair,

Do not delegate authority to the Department Chair. Retain the discretionary authority with the Board who will continue to utilize their diverse island communities, specialize knowledge, and expertise to weigh in and make informed decisions together.

Mahalo for this opportunity,
Jim Cocallas

From:	leslee cook
To:	DLNR.BLNR.Testimony
Subject:	[EXTERNAL] F-1: OPPOSING Terms & Conditions to Issue AQ Permit; OPPOSE Delegating Authority to Department Chair
Date:	Thursday, August 22, 2024 2:07:29 PM

Aloha Chair and Board of Land and Natural Resources,

I am Leslee Cook of West Hawaii along with 50 friends are opposed to DAR's terms and conditions to issue West Hawaii's Special AQ permit and delegate the decision to the Chair! We are in strong opposition to DAR's plans to reopen our depleted reefs to the destructive aquarium trade. When was the last time you went snorkeling. I don't care what the biologists are telling you, we don't see any reef fish making any sort of a come-back. I would like to see the data in our newspapers and pictures of the multiplying colorful fish around our reefs here in West Hawaii. No tourist who has been here in the past two years will ever return just to snorkel. THERE IS NOTHING TO VIEW AS A SNORKELER.

WE OPPOSE issuing commercial aquarium permits in West Hawai‘i, and WE STRONGLY OPPOSE delegating authority to the Department Chair.
Regarding Terms & Conditions to Issue West Hawai‘i AQ permits, I request you reject DAR's AQ Terms and Conditions and deny any and all permits.

Regarding Delegating Authority to Issue AQ Permits to the Department Chair, **do not delegate authority to the Department Chair**. Retain the discretionary authority with the Board, which will continue to utilize their diverse island communities, specialized knowledge, and expertise to weigh in and make informed decisions together.

Thank you for this opportunity, ***mahalo for listening to those who put our trust in your care for the Aina,***
Leslee Cook and friends
Holualoa, 96725
Big Island

From: Matthew Court
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] I support the reopening of Aquarium fisheries
Date: Thursday, August 22, 2024 3:53:13 AM

I support the reopening of the Aqurium fisheries. It is well studied and can be properly managed and would help with the Vitality of the state of Hawaii.
Matthew Court
Sealife Aquarium Apopka President

From: SYLVIA DAHLBY
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Testimony In Support of DAR F.1 - Approval of State of Hawai'i Aquarium Fish Permit
Date: Wednesday, August 21, 2024 8:49:36 PM

Aloha Board of Land and Natural Resources,

I urge you to please pass agenda item F.1, and approve the aquarium fish permits.

The allegation that aquarium fish collectors significantly impact ocean resources is false. Every environmental and a scientific study conducted in the last decade shows that the aquarium fishery is low-impact and sustainable. In addition, the small number of local business owners that collect fish do so in a way that is harmonious with Native Hawaiian values of living in balance with nature.

I have written to several State agencies and councils on the need to foster small, locally-owned businesses in the islands and stop over-regulation of the aquarium fishing industry.

Please support small business in Hawaii and approve the aquarium fish permits.

Respectfully,

Sylvia Dahlby
Hilo, Hawaii

From: David Zink
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1
Date: Thursday, August 22, 2024 9:55:04 AM

I support opening the aquarium fishery and I support managing resources by science provided by DAR

David Zink

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From: Yohan Davidson
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 support
Date: Thursday, August 22, 2024 5:01:26 AM

I support opening the aquarium fishery and managing resources by science provided by DAR.

From: Geoffrey Davis
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Testimony - August 23, 2024; Agenda F-1
Date: Thursday, August 22, 2024 8:51:27 AM

I submit this testimony in support of the delegation of authority to Chair Chang to issue permits to the sponsors of the accepted RFEIS for commercial aquarium collection, Agenda Item F-1 on August 23, 2024:

- The policy decision that commercial aquarium collection is a legal and approved practice has been repeatedly made by the legislature. The DLNR/BLNR does not have the authority to ban all commercial aquarium collection, either by an outright ban or a de facto ban by refusing to issue any permits. The DLNR's job is to regulate within its mandate, not attempt to overrule the legislature.

- The fishers -- Hawaii residents who made a living and supported other local jobs -- have been precluded from fishing for years. They are the only fishers of any kind that have ever prepared a full Environmental Impact Statement. The Revised Final Environmental Impact Statement was accepted in July 2021. The commercial aquarium collectors are the only group to ever have an accepted EIS for fishing, but they also have the dubious distinction of being the only fishers prevented from fishing. Of all the other fisheries, NONE have prepared an EIS, let alone had one accepted. Yet, all other fisheries continue to fish. The aquarium fishery, particularly in West Hawaii, is the most studied and moist regulated fishery in the state but the only one where the fishers can't fish. Everyone else fishes, with no EIS, no cultural impact assessment, no limits, no real oversight. A double standard has been applied – the aquarium fishery is held to one standard and all other fisheries are held to another. This is unfair and a clear deprivation of due process.

- The fishers paid for the preparation of the EIS and the related legal fees. Opponents of aquarium collection vilify PIJAC, but it isn't buying or selling aquarium fish or making a profit from the collection or sale of the fish. The primary beneficiaries of the aquarium fishery are in Hawaii.

- Chair Chang has repeatedly said words to the effect that "we follow the science." The science clearly supports the reopening of the fishery. The preferred alternative in the accepted RFEIS would reduce the white list of available species from 40 to 8, would allow only 7 permits to the fishers who participated in the EIS process, and would impose total catch limits. The RFEIS also details the science, which has since been presented to the Board by DAR members in December 2023 and April 2024 and again in this submittal. If you have questions about the sustainability of the aquarium fishery, ASK THE DAR SCIENTISTS. Don't ask lay people who don't know the real science.

- The fishers are not seeking a free-for-all on aquarium collection. They are seeking 7 permits for 8 species with catch limits. DAR will, of course, continue to monitor the fishery and the health of the species involved. This is likely the most-studied fishery in the world. If problems arise in the future, they will be recognized and can be dealt with if it happens.

- Due process is required. The Board must treat all who come before it equally and fairly. So

far, the aquarium fishers have not received equal treatment – they have been treated poorly and differently. It is very easy to see, as everyone else continues to fish without environmental review, but the aquarium fishers sit idle waiting for action by the Department. In order to achieve due process, the courts require that the Board not only actually be unbiased, but avoid even the appearance of bias. To that point, Board Member Wesley "Kaiwi" Yoon both is and appears biased. He has made his bias crystal clear on the record at multiple board meetings. He has said over and over that he is against aquarium collection and will never support it. Here are his exact words, preserved for posterity on Youtube: At the May 12, 2023 meeting of the BLNR, for instance, Mr. Yoon stated "...for the record, I am against any accommodation exceptions to support aquarium collection so, when that comes to the board, you know, that's just not...I would never support something like that." https://www.youtube.com/watch?v=xrvtJ1AHqOM at 18:46. At the June 9, 2023 Board meeting, Mr. Yoon reiterated his position: "I would never support anything... life alive in a state of captivity. Culturally speaking, I would never support that, aquarium or otherwise I just...it just gives me chills to my spine..." https://www.youtube.com/live/Wij0ydB68xE, at 3:18:53. Just under two weeks ago, during the August 8, 2024 Board Meeting (during which the Monterey Bay Aquarium special activity permit application was considered), Mr. Yoon again confirmed his position: "I'm anti, anti, anti....aquarium, personal aquariums, but if it's used for research and good science, ok." https://www.youtube.com/watch?app=desktop&v=uY6BNEaWAro, at 3:28:45. If Mr. Yoon participates in Agenda Item F-1 on August 23, 2024, there will be no due process. Mr. Yoon must recuse himself or be disqualified by the Board. If any other members of the Board have the same biases, they must also recuse themselves or be disqualified from participation in this matter.

Geoff Davis
Law Office of Geoff Davis
1130 E. Green St.
Pasadena, CA 91106
818-935-5003

From: Gerardo Martin Del Campo
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda F1 Item Support
Date: Wednesday, August 21, 2024 5:27:46 PM

Hello,

I support opening the aquarium fishery and managing resources by science provided by DAR. I think using sound scientific techniques to determine sustainable catch rates for the aquarium industry is the best way to manage this resource. Thank you for your consideration.

Gerry Martin del Campo

From: Cynthia DeLillo
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] 'Agenda Item F1 Support'
Date: Thursday, August 22, 2024 3:45:30 AM

Good morning,
I support opening the aquarium fishery and managing resources by science provided by DAR'. Please reopen the fisheries.

Sincerely,
Cynthia A. Rogala

From: Thomas DiRocco
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 support
Date: Thursday, August 22, 2024 10:16:05 AM

Hello,

I support opening the aquarium fishery and managing resources by science provided by DAR.

As someone that has visited the island of Oahu over 35 times, and has donated to the Waikiki aquarium, I truly believe that we need to support allowing ornamental collection of species that are truly deemed sustainable by respected marine scientists rather than blanket banning.

I have many close friends and family that live in the 808 and we always find it disheartening when we see these same fish up as by-catch in fish markets for $5-10 rather than the $50-100+ price tag these fishermen could be earning while still allowing for the animal to live a full life in an aquarium.

Mahalo,

Thomas DiRocco

EARTHJUSTICE

August 22, 2024

Via Electronic Mail

Attn: Board of Land and Natural Resources, State of Hawai‘i
blnr.testimony@hawaii.gov

Re: Agenda Item F-1: Request for Approval of the Application Form and Terms and Conditions for the State of Hawai‘i Aquarium Fish Permit Pursuant to Hawai‘i Revised Statutes Section 188-31; Request for Approval of Terms and Conditions for the West Hawai‘i Aquarium Permit Pursuant to Hawai‘i Administrative Rules Section 13-60.4-7; Request to Delegate Authority to the Chair to Approve, Sign, and Issue West Hawai‘i Aquarium Permits and State of Hawai‘i Aquarium Fish Permits authorizing limited commercial aquarium collection in the West Hawai‘i Regional Fishery Management Area (WHRFMA) to Up to Seven Applicants That Meet Certain Criteria and Requirements.

Dear Chair Chang and Members of the Board,

Earthjustice hereby submits this testimony on agenda item F-1, which seeks to reopen West Hawai‘i to commercial aquarium collection by requesting the Board of Land and Natural Resources (”Board”) to approve terms of conditions for aquarium fish permits (“AQ permits”) and delegate authority to the Chair to approve and issue such permits. Earthjustice submits these comments to provide background and context for why pushing forward with permitting, including terms and conditions, is legally backward and premature, and explain why DAR’s item F-1 proposal should be **denied in its entirety**.

As discussed further below, the Board ***should not delegate*** its authority over AQ permitting, ***should reject*** DAR’s proposed terms and conditions, and ***should deny*** any and all AQ permits. The Board’s role as the ultimate decision-maker is crucial to ensuring that any AQ permits are issued only after rigorous public scrutiny and dialogue, and full consideration of the environmental and cultural resources at stake. The proposed terms and conditions for these permits, moreover, pose significant risks to Hawai‘i’s marine ecosystems and Native Hawaiian traditional and cultural practices, and underscore the need for the Board’s direct oversight of each AQ permit application.

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I. Background and Context Militating Against Reopening West Hawai'i to Commercial Aquarium Collection.

Hawai'i communities have long opposed the collection of wild reef fish for the commercial aquarium industry. Commercial collectors target juvenile indigenous and endemic fish species, trapping schools or individuals with fine-meshed nets before capturing the fish and bringing them rapidly to the surface for storage, packaging, and export. Evidence suggests that at least half of all wild-caught aquarium fish die within the first year of captivity. Left in the wild, these species would live much longer, in some cases (like the Yellow Tang) for more than 40 years. Due to its harmful effects on fish populations, reef ecosystems, cultural resources, and other community interests, commercial aquarium collection has been and remains the subject of ongoing litigation and administrative proceedings, as summarized below.

A. The Hawai'i Supreme Court's *Umberger* opinion requiring environmental review for commercial aquarium collection permits, and the subsequent pending *Kaupiko* appeal.

In 2012, a group of plaintiffs (including West Hawai'i community members and conservation groups now testifying in opposition to item F-1) filed suit against the Department of Land and Natural Resources ("DLNR") in *Umberger v. Department of Land and Natural Resources*, on the grounds that DAR's practice of issuing AQ permits pursuant to Hawai'i Revised Statutes ("HRS") § 188-31, without first considering environmental impacts, violated the Hawai'i Environmental Policy Act ("HEPA"), HRS chapter 343. In 2017, the Hawai'i Supreme Court held in favor of the *Umberger* plaintiffs that AQ permits are subject to HEPA's environmental review requirements and directed the circuit court to void and enjoin all AQ permits pending HEPA review.[1] The Court specifically held that HRS § 188-31 is an "optional," "permissive" and "discretionary" permitting statute.[2] In other words, HRS § 188-31 *does not require* DLNR to issue AQ permits.

In the wake of the *Umberger* decision, the Pet Industry Joint Advisory Council ("PIJAC") prepared HEPA review documents for AQ permits in West Hawai'i and O'ahu. The Board unanimously rejected PIJAC's first environmental impact statement ("EIS") for West Hawai'i in 2020 and PIJAC's EIS for O'ahu in 2021. PIJAC later prepared a revised EIS for West Hawai'i that repeated many of the same deficiencies for which the first West Hawai'i EIS was rejected. On June 25, 2021, the Board deadlocked in a 3-3 tie vote on the revised EIS, resulting in default acceptance under HRS § 343-5(e). The three DAR submittals to the Board recommending approval of the EISs in 2020 and 2021 made clear that "***the Board*** will need to make a separate

[1] *Umberger v. Dep't Land & Nat. Res.*, 140 Hawai'i 500, 527-28, 403 P.3d 277, 304-05 (2017).
[2] *Id.* at 526-27, 403 P.3d at 303-304.

determination at a later date regarding whether to issue any permits and what permit terms and conditions may be necessary to mitigate environmental impacts."[3]

Following the Board's default acceptance of the revised West Hawai'i EIS, a group of plaintiffs (including *Umberger* plaintiffs) filed the lawsuit *Kaupiko v. Board of Land and Natural Resources*, challenging the revised EIS's acceptance. The *Kaupiko* plaintiffs argued that the revised EIS failed to meet HEPA's content requirements and violated the specific requirement to "fully address" the Board's findings and reasons for rejecting the first West Hawai'i EIS.[4] In 2022, the circuit court ruled that the revised EIS was sufficient under HEPA. The *Kaupiko* plaintiffs appealed and were granted transfer of the appeal to the Hawai'i Supreme Court. The Supreme Court heard oral argument on December 5, 2023, and a decision on the validity of the revised EIS remains pending. Thus, the Supreme Court will have the final say on whether the revised EIS, as a matter of law, sufficiently informs decision-making on AQ permitting, including terms and conditions.[5] DAR's proposal to reopen West Hawai'i to commercial aquarium collection while the *Kaupiko* appeal is pending is, therefore, premature.

B. The Board's unanimous approval to initiate rulemaking to ban commercial aquarium collection.

On October 19, 2023, petitioners Kalanihale, KUPA Friends of Ho'okena Beach Park, Moana 'Ohana, Ko'olaupoko Hawaiian Civic Club, and For the Fishes submitted a formal request to ban commercial aquarium collection via administrative rule ("Petition"). The petitioners made their request pursuant in part to HRS § 190-3, which broadly authorizes the Board to adopt rules that "prohibit activities that may disturb, degrade, or alter the marine environment."

On December 8, 2023, the Board considered and unanimously approved the Petition. After testimony had closed and a motion to approve the Petition had been made and seconded, the Deputy Attorney General present at the meeting raised an alleged conflict between the

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[3] DAR's May 22, 2020 Submittal F-2 at 9, https://dlnr.hawaii.gov/wp-content/uploads/2020/05/F-2-1.pdf (last visited Aug. 21, 2024); DAR's June 25, 2021 Submittal F-3 at 11, https://dlnr.hawaii.gov/wp-content/uploads/2021/06/F-3-1.pdf (last visited Aug. 21, 2024); DAR's October 8, 2021 Submittal F-1 at 10, https://dlnr.hawaii.gov/wp-content/uploads/2021/10/F-1.pdf (last visited Aug. 21, 2024).

[4] *See* Haw. Admin. R. ("HAR") § 11-200-23(e). Section 11-200-23(e) was repromulgated with nearly identical language in 2019 as HAR § 11-200.1-28(f), however, the old HEPA rules applied to PIJAC's revised EIS. HAR § 11-200.1-32(b)(2).

[5] HEPA's stated purpose is to "ensure that environmental concerns are given appropriate consideration in decision making." HRS § 343-1.

proposed rule and HRS § 188-31. This purported legal issue was missing from DAR's submittals and, therefore, was not subject to any review or testimony by the public.

Since the Board's unanimous decision to approve the Petition, DAR staff has refused to proceed with rulemaking to ban commercial aquarium collection, even though this ban would implement the Board's legal mandates to protect marine[6] and cultural resources,[7] and align fully with the Board's broad discretion to deny commercial AQ permits under HRS § 188-31.[8] Moreover, the proposed rule would not completely preclude AQ permits because the Board could still approve recreational permits. There is no legal basis for DAR to block these community-led, Board-endorsed efforts to protect marine life and Native Hawaiian culture. DAR's proposal to now authorize commercial aquarium collection instead of banning it is backwards and absurd.

II. <u>The Board must reject DAR's Item F-1 proposal in its entirety.</u>

The Board should retain its authority over *all aspects* of AQ permitting and deny DAR's proposed terms and conditions.

A. The Board should not delegate its authority to issue AQ permits.

Final decisions on whether to issue AQ permits should remain with the Board and not be delegated to the Chair, who could then sign off on permits at any time without any notice to or input from the public. Retaining the Board's permitting authority would implement the AQ permitting statute's plain language and the Board's constitutional mandate to ensure that any decision potentially compromising public trust resources is made with the "level of openness, diligence, and foresight commensurate with the high priority these rights command under the laws of our state."[9]

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[6] *See, e.g.*, Haw. Const. art. XI, § 1 (duty to conserve and protect public trust resources); Haw. Const. art. XI, § 6 (authority to manage marine resources); HRS §§ 26-15(b) & 171-3(a) (duty to manage coastal areas and aquatic life), 187A-2 (duty to manage aquatic resources and public fishing areas), 190-1 (establishing "all marine waters of the State" as a "marine life conservation area").

[7] Haw. Const. art. XII, § 7 (duty to protect Native Hawaiian traditional and customary rights).

[8] *See Umberger*, 140 Hawai'i at 527, 403 P.3d at 304.

[9] *In re Waiāhole Ditch Combined Contested Case Hr'g* ("*Waiāhole*"), 94 Hawai'i 97, 143, 9 P.3d 409, 455 (2000).

HRS § 188-31 provides discretionary authority to issue "aquarium fish permits" to use fine meshed traps or nets to take aquatic life for aquarium purposes.[10] HRS § 188-31 explicitly defines "aquarium fish permits" as permits "issued by ***the board***."[11] The Board should retain its authority over AQ permits, in line with the statutory definition.

Moreover, the aquatic resources at stake are public trust resources protected by article XI, § 1 of the Hawai'i Constitution. Thus, the Board has "affirmative dut[ies] to take the public trust into account," "protect public trust uses whenever feasible,"[12] and "take initiative in considering, protecting, and advancing public rights in the resource *at every stage of the planning and decisionmaking process*."[13] The Board also must apply a "higher level of scrutiny" in assessing private commercial uses of trust resources, like the aquarium collection proposed here.[14] Handing the keys over to the Chair and, by extension, DAR staff on AQ permitting decisions, would deprive the Board and public of a full-board decision that considers and incorporates community input and the diverse expertise and specialized knowledge of all Board members. Without these open public proceedings, the Board would lack critical input and dialogue to apply the scrutiny and oversight that Hawai'i's public trust resources command.

DLNR has previously represented to the public and court that the Board would make the final decision on whether to issue AQ permits. For example, the DAR submittals to the Board recommending approval of the EISs in 2020 and 2021 made clear to the public that the Board would be the eventual decision maker on the permits, stating that "***[t]he Board*** will need to make a separate determination at a later date regarding whether to issue any permits and what permit terms and conditions may be necessary to mitigate environmental impacts."[15] The Board should reject these bait-and-switch tactics that would cut off the public and Board members from major decisions on public trust resources.

Earthjustice notes that DAR's proposal includes no temporal limits for such delegation, even though the permits themselves are valid only for one year. As explained above, the Board should not delegate authority to the Chair to issue *any* AQ permits, much less grant open-ended authority to issue and renew permits for the indefinite future.

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[10] HRS § 188-31(a).

[11] HRS § 188-31(d).

[12] *Waiāhole*, 94 Hawai'i at 141, 9 P.3d at 453.

[13] *Id.* at 143, 9 P.3d at 455 (emphasis added).

[14] *Surface Water Use Permit Applications*, 154 Hawai'i 309, 340, 550 P.3d 1167, 1198 (2024).

[15] DAR's May 22, 2020 Submittal F-2 at 9, https://dlnr.hawaii.gov/wp-content/uploads/2020/05/F-2-1.pdf (last visited Aug. 21, 2024); DAR's June 25, 2021 Submittal F-3 at 11, https://dlnr.hawaii.gov/wp-content/uploads/2021/06/F-3-1.pdf (last visited Aug 21, 2024); DAR's October 8, 2021 Submittal F-1 at 10, https://dlnr.hawaii.gov/wp-content/uploads/2021/10/F-1.pdf (last visited Aug. 21, 2024).

In sum, the Board should remain the ultimate decision-maker on whether to issue or deny AQ permits, and final permitting decisions should not be delegated to the Chair. The Board should deny DAR's proposal to hand out AQ permits behind closed doors.

B. The Board should reject DAR's proposed terms and conditions and deny AQ permits.

HRS § 188-31 makes clear that the Board's decision-making authority over AQ permits, including terms and conditions, is discretionary, as the Supreme Court confirmed in *Umberger*.[16] Further, the Board has broad powers and duties to deny AQ permits, including terms and conditions, to fulfill its constitutional and statutory mandates to protect marine and cultural resources.[17] The Board should reject DAR's proposed terms and conditions and deny AQ permits because: (1) DAR's proposed terms and conditions are based on a flawed EIS that fails to openly disclose and mitigate harms; and (2) DAR's analysis of Native Hawaiian traditional and customary rights fails under the framework set forth in *Ka Pa'akai O Ka 'Āina v. Land Use Comm'n*, 94 Hawai'i 31, 7 P.3d 1068 (2000).

1. <u>A fatally flawed EIS underpins DAR's proposal to reopen West Hawai'i to commercial aquarium collection.</u>

The Hawai'i Supreme Court has made clear that an "EIS is merely an informational document whose acceptance neither implies nor presumes approval of [a permit]."[18] The Court has affirmed a permit's denial where, despite a final EIS's acceptance, permit opponents offered sufficient information to rebut the EIS.[19] Recall that the revised EIS here was accepted only by default through a tie vote, meaning that three Board members affirmatively voted to reject it. The Board should similarly reject DAR's proposed AQ permitting terms and conditions because they are based upon major flaws in the revised EIS.

DAR's terms and conditions propose catch limits equivalent to the collection levels that historically caused significant damage to fish populations and coral reefs. The proposed catch quotas authorize more than 90% of what the commercial collectors proposed in the revised EIS,

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[16] *See Umberger*, 140 Hawai'i at 526-27, 403 P.3d at 303-304.

[17] *See, e.g.*, Haw. Const. art. XI, §§ 1, 6; Haw. Const. art. XII, § 7; HRS §§ 26-15(b), 171-3(a), 187A-2, 190-1.

[18] *Mauna Kea Power Co., Inc. v. Bd. of Land & Nat. Res.*, 76 Hawai'i 259, 265, 874 P.2d 1084, 1090 (1994); *see also Price v. Obayashi Haw. Corp.*, 81 Hawai'i 171, 181, 914 P.2d 1364, 1374 (1996) ("[A]n 'acceptance' of the EIS is not an 'approval' of the project.").

[19] *Mauna Kea Power Co., Inc*, 76 Hawai'i at 265, 874 P.2d at 1090.

amounting to 224,166 annually, *i.e.*, over 1.12 million fish over five years.[20] This is about equal to and even more than the annual reported catch in the early 2000s, which caused significant damage to marine resources. The harm is still observable today: fish populations in areas formerly open to collection remain noticeably less abundant than in protected areas. In rejecting the first EIS, the Board directed PIJAC to address findings in a peer-reviewed study that illustrate the trade's impacts by comparing fish populations in areas open to the trade with those in closed areas.[21] But the revised EIS ignores these instructions and instead assesses collection's impacts against depleted areas that have already been subject to decades of extraction, thus hiding the ball on cumulative impacts[22] and violating HEPA's requirement that a revised EIS "fully address" the reasons for rejecting the first one.[23]

Along these same lines, proposed catch quotas for the eight White List species continue to be based on market demand, referred to by PIJAC and DAR as "historic average annual catch" from 1998-2017, which is the level of take collectors reached before the *Umberger* decision prompting environmental review and before any catch limits were in place.[24] In rejecting the first EIS, the Board directed PIJAC to establish catch quotas based on a species-specific statistical analysis that accounts for "each fish species' life span, population size, reproductivity rates and age at first reproduction."[25] This science-based analysis appears *nowhere* in the revised EIS (violating HEPA's requirements), much less in DAR's proposal here, which champions the aquarium industry's interests while undermining the Board's sound instructions, relevant science, and DAR's kuleana to protect public resources.

Like the revised EIS, DAR's proposed terms and conditions place no limits on the number of fish that may be taken from each of the West Hawai'i Regional Fishery Management Area's ("WHRFMA's") eight aquarium collection zones ("AQ zones"), even though DAR requires aquarium collection *reporting* by AQ zone. Instead, the proposed catch quotas apply

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[20] DAR's August 23, 2024 Submittal F-1 ("F-1 Submittal") at 3, https://dlnr.hawaii.gov/wp-content/uploads/2024/08/F-1-1.pdf (last visited Aug. 20, 2024).

[21] BLNR's May 30, 2020 Findings and Reasons for Non Acceptance (West Hawai'i) at 4, https://files.hawaii.gov/dbedt/erp/EA_EIS_Library/2020-06-23-HA-Non-Acceptance-Hawaii-Island-Commecial-Aquarium-Permits.pdf (last visited Aug. 21, 2024).

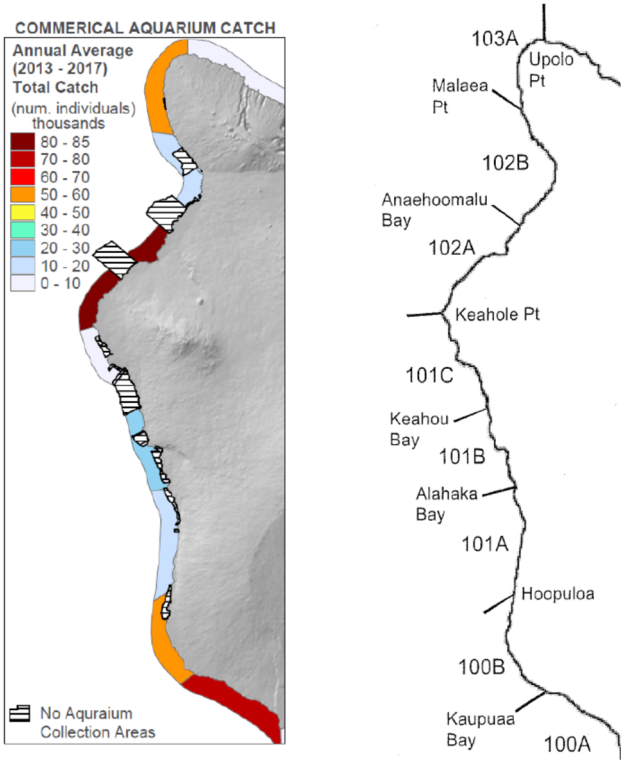
[22] HRS § 343-2; HAR § 11-200-2; *see also Kilakila 'O Haleakala v. Univ. of Haw.*, 138 Hawai'i 364, 370, 382 P.3d 176, 370 (2016) ("An environmental assessment must include . . . an evaluation of the direct, indirect, and cumulative impacts[.]").

[23] HAR § 11-200-23(e).

[24] F-1 Submittal at 16 n.75-76, https://dlnr.hawaii.gov/wp-content/uploads/2024/08/F-1-1.pdf (last visited Aug. 20, 2024); PIJAC's May 26, 2021 Revised EIS at 30, https://files.hawaii.gov/dbedt/erp/EA_EIS_Library/2021-06-08-HA-Revised-FEIS-Hawaii-Island-Commercial-Aquarium-Permits.pdf (last visited Aug, 20, 2024).

[25] BLNR's May 30, 2020 Findings and Reasons for Non Acceptance at 4.

broadly to the entire WHRFMA, which spans 147 miles of coastline from ʻUpolu Point in the north to Ka Lae, Kaʻū in the south.[26] Without any restrictions on the amount of fish a collector may take from each AQ zone, collectors would be free to concentrate their catch anywhere they please, which could severely deplete or even wipe out local subpopulations of fish in heavily targeted areas. In fact, catch reports indicate that collection has indeed been concentrated more heavily in certain AQ zones, and substantially less in others. The maps below show, on the left, the distribution of commercial aquarium catch from 2013 to 2017[27] and, on the right, the corresponding AQ zones.[28]



Moreover, nearly all species on the White List are herbivores, meaning they provide critical ecological services to the reef by eating algae off of the coral. Removing these important

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[26] HAR § 13-60.4-2(a).

[27] NOAA Pacific Islands Fisheries Science Center, "West Hawaiʻi Integrated Ecosystem Assessment Ecosystem Status Report 2019" at 35, which may be viewed at https://www.integratedecosystemassessment.noaa.gov/sites/default/files/2022-10/Gove.et_.al_.2019_West.Hawaii.Ecosystem.Status.Report%20%281%29%20%282%29.pdf (last visited August 21, 2024).

[28] This AQ zone map was formerly included in DAR's "Aquarium Fish Trip Report Booklet."

fish *en masse* from concentrated areas threatens to harm not only Hawai'i's precious coral reefs, but all the ecosystems dependent on them. This complete lack of place-based catch limits highlights the revised EIS's and DAR's failures to mitigate impacts, as HEPA requires.[29] Indeed, in rejecting PIJAC's O'ahu EIS, the Board dismissed similarly proposed broad regional catch quotas noting that, "[b]ecause the catch data are reported to DAR on a zone basis, the [EIS] should discuss alternatives of catch quotas by zone as a mitigation measure, to guard against overfishing and depleting particular areas."[30] This same reasoning must be applied to any take considered for West Hawai'i.

Earthjustice further notes that DAR's proposed terms and conditions place no limits on the number of fish per species that each of the seven potential West Hawai'i permit applicants may take. This contradicts DAR's other permitting practices (such as for special activity permits) and illegally changes the nature and scope of the action proposed in the revised EIS,[31] which included catch limits for *each permittee*.[32] Under DAR's new proposition to eliminate catch quotas for each permittee, there are zero measures in place for collectors to track their collection against overall catch quotas in real time to prevent exceedances. For example, multiple collectors could be in the water at the same time and simultaneously and collectively breach catch quotas by thousands of fish. Individual permittee catch limits are further necessary to prevent a "race to the fish" phenomenon whereby collectors would rush to catch as much as possible before the overall quotas are full.

Without candid disclosure of commercial aquarium collection's impacts, science-based catch quotas, and related mitigation measures to prevent destruction of Hawai'i's reefs, the Board lacks critical information to "ensure that environmental concerns are given appropriate consideration in decision making."[33] The Board should reject DAR's half-baked plan for reopening West Hawai'i to commercial aquarium collection.

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[29] HRS § 343-5(e); HAR § 11-200-17(m).

[30] BLNR's October 11, 2021 Findings and Reasons for Non Acceptance (O'ahu) at 6, https://files.hawaii.gov/dbedt/erp/EA_EIS_Library/2021-10-23-OA-FEIS-Non-acceptance-Oahu-Commercial-Aquarium-Permits.pdf (last visited Aug. 21, 2024).

[31] HAR § 11-200.1-30(a) ("An EIS that is accepted with respect to a particular action is usually qualified by the size [and] scope . . . of the action").

[32] PIJAC's May 26, 2021 Revised EIS at 31, https://files.hawaii.gov/dbedt/erp/EA_EIS_Library/2021-06-08-HA-Revised-FEIS-Hawaii-Island-Commercial-Aquarium-Permits.pdf (last visited Aug. 20, 2024).

[33] HRS § 343-1.

2. DAR's *Ka Pa'akai* analysis is invalid.

DAR's discussion of impacts to Native Hawaiian traditional and customary practices falls far short of the Board's duties under article XII, section 7 of the Hawai'i Constitution, which requires the State to protect the traditional and customary practices of "ahupua'a tenants." Under bedrock precedent interpreting article XII, section 7, state agencies "*may not act* without independently considering the effect of their actions on Hawaiian traditions and practices."[34] Agencies must specifically consider (1) the "identity and scope" of Native Hawaiian traditional and customary rights affected by the action; (2) the extent to which Native Hawaiian traditional and customary practices will be "affected or impaired" by the action; and (3) "feasible [agency] action" to "reasonably protect" Native Hawaiian traditional and customary rights (the "*Ka Pa'akai* framework").[35]

DAR's discussion of the *Ka Pa'akai* framework starts with a fundamental misapplication of the first *Ka Pa'akai* prong, which bleeds into and infects the rest of the analysis. *Ka Pa'akai* requires state agencies to, at the outset, "make specific findings and conclusions as to . . . the identity and scope of valued cultural, historical, or natural resources . . ., including t*he extent to which traditional and customary native Hawaiian rights are exercised*[.]"[36] There is no indication that DAR consulted ahupua'a tenants to determine the "identity and scope" of traditional and customary practices in the WHRFMA, which broadly includes 147 miles of coastline and over seventy distinct ahupua'a, and DAR makes zero "specific findings and conclusions" on these practices. DAR instead delves into a debate on whether Native Hawaiians support or oppose the aquarium collection industry,[37] which sidesteps the first prong of the *Ka Pa'akai* analysis. No one is claiming (nor could they) that aquarium collection is a Native Hawaiian tradition or practice here. The sparse collection of statements made by individuals supporting the trade and cited by DAR are, therefore, irrelevant in this context.

Under the second prong of the *Ka Pa'akai* framework, there can be no valid analysis of how cultural resources and practices are "affected or impaired" if they have not been properly identified in the first place. Flowing from DAR's misapplication of the first *Ka Pa'akai* prong, DAR next baselessly asserts that cultural impacts can only occur when there has been a

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[34] *Ka Pa'akai*, 94 Hawai'i at 46, 7 P.3d at 1083 (emphasis added).

[35] *Id.* at 47, 7 P.3d at 1084.

[36] *Id*. (emphasis added).

[37] DAR does acknowledge that the "concept of human ownership over marine life is in ***direct conflict*** with" the Hawaiian worldview regarding the relationship between kānaka and marine life; "aquarium collection ***fundamentally conflicts*** with core Native Hawaiian cultural values"; and "the concept of keeping fish in an aquarium goes against Hawaiian beliefs and values and ***offends the Hawaiian consciousness***[.]" F-1 Submittal at 10-11.

"significant impact to the populations of the proposed white list species."[38] DAR parrots statements made by an O'ahu-based industry supporter (***not*** by any hoa'āina of West Hawai'i) that commercial aquarium collection would not impact traditional practices unless "species are ***no longer available*** for [such] practices."[39] This absurd suggestion, that a species would need to be declining or extinct before there could be any impact to traditional and customary practices, is abhorrent and must be roundly rejected. Indeed, in rejecting the first West Hawai'i EIS, the Board expressly refused to accept the "flawed premise that cultural impacts would only occur if the proposed action would cause a significant decline in the population of a [species] considered to be a cultural resource."[40]

DAR goes on to acknowledge that "aquarium fishing offends core Hawaiian values," yet concludes that "issuance of these permits would not inhibit any person's right to hold these beliefs."[41] DAR's logic here is perverse and offensive, and is akin to saying that torturing cats is fine, so long as it would not prevent cat-lovers from thinking cat torture is wrong.

Finally, under the third *Ka Pa'akai* prong, DAR could not analyze "feasible [agency] actions" to ***protect*** Hawaiian cultural rights without first identifying affected practices and impacts. Thus, DAR proposes ***no protections whatsoever***, recommending instead to authorize nearly the full extent of past take levels that the industry has sought in its revised EIS,[42] and proposing no place-based catch limits. This lack of even minimal protective measures is, again, based on DAR's unfounded conclusion that traditional and customary rights are affected only if there are "significant declines" in species populations. Under DAR's limited and oppressive worldview, there are currently no Native Hawaiian traditions or customs tied to West Hawai'i reefs and aquatic life worth protecting.

DAR's attempt at a *Ka Pa'akai* analysis makes a mockery of the framework and is an affront to West Hawai'i hoa'āina. Because a valid *Ka Pa'akai* analysis is a necessary prerequisite to AQ permitting, including terms and conditions, DAR's proposal to reopen West Hawai'i commercial aquarium collection must be denied.

III. Conclusion

As climate change threatens the viability of Hawai'i's nearshore marine environment, the Board should not sacrifice hundreds of thousands of fish for an unnecessary and destructive

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[38] *Id*. at 12.

[39] *Id.* at 11.

[40] BLNR's May 30, 2020 Findings and Reasons for Non Acceptance at 4-5.

[41] F-1 Submittal at 12.

[42] DAR's nominal reductions of take limits for a few species had nothing to do with the protection of Native Hawaiian customary rights.

activity that benefits the few at the expense of the many. The Board must fulfill its legal mandates to protect Hawai'i's natural and cultural resources by denying DAR's item F.1 proposal in full. If the Board is inclined to approve any part of DAR's item F.1 proposal, a contested case hearing is required to flesh out the numerous disputed issues at stake.[43]

Mahalo for the opportunity to submit testimony on this matter of great importance to Hawai'i's reefs and people.

Respectfully submitted,

/s/ Malia Taylor-Wolfe
Kylie Wager Cruz
Mahesh Cleveland
Malia Taylor-Wolfe
EARTHJUSTICE

[43] For example, any AQ permitting, including terms and conditions, must be preceded by a valid *Ka Pa'akai* analysis and related mitigation measures; amend the White List to include only non-native species (*i.e.,* roi, ta'ape, and to'au), which would fall under DLNR's HEPA exemption list; include stronger mechanisms for catch monitoring and inspection; include catch limits for each AQ zone and each permittee; prohibit inhumane practices; and require cultural monitoring and trainings.

From: Wataknobs
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support.
Date: Thursday, August 22, 2024 12:16:48 PM

To whom this may concern,

I support the opening the aquarium fishery and managing resources by science provided by DAR. As an avid fish keeper I would like this opened.

Thank you,
Eric Watanabe

Chair Chang and Board of Land and Natural Resources,

I support item F1.

I live in Kona and I support science backed, sustainable fisheries. The Aquarium Industry is clearly not depleting the resource and should be allowed to continue using the current management policies that the DLNR have in effect. Please vote yes on this issue.

Thank You,
Mendor Esayan

From: Jeff Faiola
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] F-1 I OPPOSE Issuing AQ Permits & I OPPOSE Delegating Authority to Department Chair
Date: Thursday, August 22, 2024 6:25:51 AM

Aloha Chair and Board of Land and Natural Resources,

My name is Jeff Faiola of Kamuela. For decades my family has resided in West Hawai‘i. For too long the precious natural resources my parents have enjoyed and now my children enjoy have been under attack by exploitative intentions. Delegating authority to the Department Chair to issue AQ permits further exacerbates the environmental threats we too routinely face.

I OPPOSE issuing commercial aquarium permits in West Hawai‘i and I OPPOSE delegating authority to the Department Chair.

Regarding Terms & Conditions to Issue West Hawai‘i AQ permits, I request you reject DAR's AQ Terms and Conditions and deny any and all permits. West Hawai‘i is one of the few remaining pristine marine environments in Hawai‘i. Issuing AQ permits for Puako,specifically, and West Hawai‘i, in general, will not benefit the general community who treasure this special stretch of coastline. Our life is the ocean and AQ will have a negative impact on all the things we love the ocean for: paddling, surfing, swimming, diving, fishing, etc. AQ will benefit only a select few many of whom are not part of this community.

Regarding Delegating Authority to Issue AQ Permits to the Department Chair, do not delegate authority to the Department Chair. Retain the discretionary authority with the Board who will continue to utilize their diverse island communities, specialize knowledge, and expertise to weigh in and make informed decisions together.

Mahalo for this opportunity,
Jeff Faiola
Kamuela, Moku o Keawe

From: Zebrasoma Flavescens
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda F1 support
Date: Thursday, August 22, 2024 8:47:40 AM

Please notice the supporting testimony for Agenda Item F1

From: Breanne Fong
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] August 23, Agenda Item F-1
Date: Wednesday, August 21, 2024 11:41:41 PM

Aloha,

My name is Breanne Fong and I am from Kaimukī on the island of O'ahu and as an aspiring ally to the lāhui, I want to express how important our reef fish are to not only Hawai'i's ecosystem but also Hawaiian culture and livelihood.

The fish, the i'a, are not just an object or resource to be taken advantage of for the select few. They are kūpuna and 'aumakua, and they nourish our bodies and the 'āina. The i'a also serve as indicators of a healthy ecosystem, culture, and community in that the health of the i'a reflects the health of the 'āina and accordingly the health of the people on 'āina. Thus, the i'a do not belong trapped in tanks and there should not be any permits for commercial aquarium collection issued whatsoever.

The i'a provide people physical, spiritual, mental, and cultural nourishment, allowing for both the 'āina and people on 'āina to thrive. BLNR should be responsible for deciding whether or not these aquarium permits should be issued and NOT solely the chair of DAR.

Please consider the gravity of our relationship with the 'āina and the food 'āina provides and please reflect upon where and how we obtain our sources of food--that we ensure it is done in a pono way. It is our kuleana to take care of the 'āina we live on and to do that, we must be in right, reciprocal relation with the 'āina and not exploit it for materialistic gains.

Please, please keep our reef fishes in our reefs in Hawai'i so that the well-being of the 'āina, people, and culture be maintained and enhanced in a pono way.

Mahalo nui,
Breanne (Bree) Fong

From: Eric Francek
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 6:02:00 AM

I support opening the aquarium fishery and managing resources by science provided by DAR..

It is my understanding, after reading previous studies as well as the most up to date information, the aquarium fishery in West Hawaii is very well managed and shown over the past 20 years to be sustainable. It is my opinion that managed collection should reopen for several reasons, beyond the obvious economic and cultural impact.

I feel that aquarium fisheries in Hawaii have enabled people the world over to visit Public Aquariums, keep aquariums, to appreciate the beauty, and to develop a personal connection with these animals that they would not have exposure to as they might not ever have the means to visit the islands. Exposure to, and a developed appreciation of Hawaiian marine life, creates a personal awareness for the importance of the health of our oceans that begins locally, but can expand globally.

Secondly, I feel that with proper management can make this a prime example of what ornamental fisheries management could be. It is in this respect that we could strike a proper balance and become the model that others strive to, not just imitate, but emulate.

I respectfully urge your support in opening the aquarium fishery and managing resources by science provided by DAR and continue to create that personal connection, nurture appreciation, and motivate conservation of our oceans on a global level.

eric.francek@gmail.com
Eric Francek
Long Beach, California

From: David Fry
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] F-1 I OPPOSE Issuing AQ Permits & I OPPOSE Delegating Authority to Department Chair
Date: Wednesday, August 21, 2024 4:29:32 PM

Aloha Chair and Board of Land and Natural Resources,

My name is David Fry. I have been visiting the Big Island annually for more than 30 years where my wife and I frequently scuba dive on the West Hawai'i coast. We are drawn by the island's natural beauty, both above and below the water. We have become good friends with many local residents and business owners in the dive community. I am deeply concerned about the impact of commercial aquarium collection on our precious marine ecosystems. In my years diving in West Hawai'i, I have witnessed firsthand the significance of preserving our natural resources for future generations.

I am writing to strongly oppose the issuance of commercial aquarium permits in West Hawai'i and to oppose the delegation of authority to the Department Chair for these decisions. The reopening of our reefs to the aquarium trade, especially while the validity of the Environmental Impact Statement (EIS) remains under review by the Hawai'i Supreme Court, is premature and disregards the will of our community.

Regarding Terms & Conditions to Issue West Hawai'i AQ Permits:

I request that you reject DAR's AQ Terms and Conditions and deny any and all permits. Hawai'I's reefs are already under significant pressure from climate change and other human activities. Allowing the extraction of tens of thousands of herbivorous fish, which play a crucial role in maintaining the health of our coral reefs, is not only ecologically irresponsible but also culturally insensitive. So many native families have always revered the ocean as a source of life and sustenance, and we have seen how the depletion of marine resources can devastate both our environment and their way of life.

Regarding Delegating Authority to Issue AQ Permits to the Department Chair:

Please do not delegate this authority to the Department Chair. The Board of Land and Natural Resources has a vital role in ensuring that decisions of such magnitude are made with comprehensive input from the diverse island communities, who possess specialized knowledge and a deep connection to our environment. Allowing a single individual to make these decisions without public input undermines the transparency and accountability that are essential in managing our natural resources.

The benefits of leaving our fish on the reefs far outweigh the short-term monetary gains of a few individuals who profit from this destructive trade. Protecting our marine life is crucial for the resilience of our reefs, which are already struggling against the impacts of climate change. The aquarium trade is fundamentally at odds with the cultural and social values that define

Hawai‘i.

Hawai‘i’s vibrant marine ecosystems are not only invaluable natural resources but also critical economic drivers for the state, particularly through eco-tourism. The pristine reefs and abundant marine life draw millions of visitors each year, contributing significantly to the local economy. Activities such as snorkeling, scuba diving, and whale watching generate substantial revenue for Hawai‘i, supporting countless jobs in tourism, hospitality, and related sectors. Protecting our reefs from destructive practices like aquarium collection is essential to sustaining this vital industry. The long-term economic benefits of preserving these natural treasures far outweigh the short-term gains from commercial extraction, ensuring that Hawai‘i remains a world-renowned destination for eco-conscious travelers who seek to experience the beauty of our oceans.

Mahalo for this opportunity to provide testimony. I urge you to protect our reefs and our community by rejecting these proposals.

Sincerely,

David Fry
Ann Arbor, Michigan

Geoffrey M. Davis #10655
Law Office of Geoff Davis
1130 E. Green St.
Pasadena, CA 91106
Telephone: (818) 935-5003

Attorney for Pet Industry Joint Advisory Council and RFEIS Applicants

BOARD OF LAND AND NATURAL RESOURCES

DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE OF HAWAI'I

In re August 23, 2024 Meeting of the Board of Land and Natural Resources, Agenda Item F-1	Agenda Item F-1; August 23, 2024 MOTION TO DISQUALIFY BOARD OF LAND AND NATURAL RESOURCES MEMBER WESLEY "KAIWI" YOON FROM AGENDA ITEM F-1 ON AUGUST 23, 2024

I. INTRODUCTION

Pet Industry Joint Advisory Council ("PIJAC") respectfully submits this motion to disqualify Board of Land and Natural Resources Member Wesley "Kaiwi" Yoon from participation in, consideration of, and voting on Agenda Item F-1 at the August 23, 2024 Meeting of the Board of Land and Natural Resources. Board Member Yoon has made unequivocal statements evidencing a clear, actual bias against commercial aquarium collection - the subject of Agenda Item F-1. As a result of those statements, a reasonable person, knowing the facts, could and would question Board Member Yoon's impartiality on any issue related to aquarium collection. Mr. Yoon has, in fact, prejudged aquarium fishing, and his participation in decisions relating thereto would be a violation of due process.

Accordingly, PIJAC and the RFEIS Applicants hereby request that Board Member Yoon recuse himself or otherwise be disqualified from participation in, and voting on, Agenda Item F-1 at the August 23, 2024 BLNR meeting.

II. FACTS

The background facts are well known and extensive. In summary, despite the fact that the legislature established the legality of commercial aquarium collection many years ago, no legal commercial aquarium collection has taken place in Hawai‘i in several years, despite the approval of the fishers' Revised Final Environmental Impact Statement ("RFEIS") in 2021. The RFEIS applicants clearly qualify to engage in commercial aquarium collection. Despite many requests, neither the Department nor the Board has previously taken any concrete action to create a method for the RFEIS applicants to actually obtain HRS 188-31 permits or to fish in the WHRFMA. Now, this week, the Board will consider a proposal to delegate authority to the Chair to issue permits to the RFEIS applicants – the Hawaiian citizens who, after all, paid for a significant part of the cost of environmental review, approval, and subsequent litigation.

Board Member Yoon, however, has consistently stated his complete and total opposition to aquariums, aquarium collection and the aquarium fishery. He is neither equivocal or shy about stating his position concerning aquarium collection and aquariums generally, on the record at BLNR meetings. At the May 12, 2023 meeting of the BLNR, for instance, Mr. Yoon stated "…for the record, I am against any accommodation exceptions to support aquarium collection so, when that comes to the board, you know, that's just not…I would never support something like that." [1]

Shortly thereafter, at the June 9, 2023 Board meeting, Mr. Yoon reiterated his position: "I would never support anything… life alive in a state of captivity. Culturally speaking, I would never support that, aquarium or otherwise I just…it just gives me chills to my spine…"[2] Just under two weeks ago, during the August 8, 2024 Board Meeting (during which the Monterey Bay

[1] See, https://www.youtube.com/watch?v=xrvtJ1AHqOM, beginning at time 18:46 (last viewed August 21, 2024).
[2] See, https://www.youtube.com/live/Wij0ydB68xE, beginning at time 3:18:53 (last viewed August 21, 2024).

Aquarium special activity permit application was considered), Mr. Yoon again confirmed his position: "I'm anti, anti, anti….aquarium, personal aquariums."[3]

Although the moving parties are aware that other complaints have been made about Board Member Yoon's biases and prejudices with regard to related issues, such complaints are not, apparently public record, and the moving parties request that those prior complaints be added to the public record on this issue.

III. ARGUMENT

Due process is the hallmark requirement of government action that affects the governed. "No person shall be deprived of life, liberty or property without due process of law. . ." Hawai'i Constitution, Art. 1, §5. The Hawai'i Constitution further provides that "All fisheries in the sea waters of the State . . . shall be free to the public, subject to . . . the right of the State to regulate the same." Art. 11, §6. Thus, due process must be applied to deprive the public of access to any fishery in State waters. Here, aquarium fishers are seeking a process by which to obtain permits to allow them to resume their occupations in State waters in the WHRFMA. There can be no legitimate question that Agenda Item F-1 requires the Board to adhere to the principles of due process.

As the Hawai'i Supreme Court has long held, "[t]he fundamentals of just procedure impose a requirement of impartiality on administrative agencies which adjudicate as well as on courts." Sussel v. City & Cty. of Honolulu Civil Serv. Comm'n, 71 Haw. 101, 109, 784 P.2d 867, 871 (1989) (internal marks omitted). When a state agency's proceeding's circumstances "fairly give rise to an appearance of impropriety and reasonably cast suspicion" on an administrative decisionmaker's impartiality, the decisionmaker must be removed from the proceeding. Id. Otherwise, trust in the adjudicative process would crumble under the impression that a party "never had a chance" because the partial decisionmaker may have owed one side special favors. Id.[4]

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[3] See, https://www.youtube.com/watch?app=desktop&v=uY6BNEaWAro, beginning at time 3:28:45 (last viewed August 21, 2024).

[4] The Hawai'i Supreme Court has also cited the United States Supreme Court's rulings holding that due process and the impartiality requirement apply in administrative proceedings. See, e.g.,

The Hawai‘i Supreme Court has addressed this issue in the exact context presented here: whether a BLNR member must be disqualified or recused. In Matter of Conservation Dist. Use Application HA-3568, 143 Haw. 379, 393–94, 431 P.3d 752, 766–67 (2018), as amended (Nov. 5, 2018), as amended (Nov. 30, 2018), the Supreme Court articulated the standard for evaluating a question of disqualification:

> Due process requires disqualification where "circumstances fairly give rise to an appearance of impropriety and reasonably cast suspicion on the adjudicator's impartiality." Kilakila ‘O Haleakalā v. Bd. of Land & Nat. Res., 138 Hawai‘i 383, 425, 382 P.3d 195, 237 (2016) ("Kilakila III") (Pollack, J., dissenting) (citations omitted). The test for prejudgment in an agency context is "whether a disinterested observer may conclude that (the agency) has in some measure adjudged the facts as well as the law ... in advance of hearing the matter." Mauna Kea I, 136 Hawai‘i at 395, 363 P.3d 243 (citation omitted).

Id. at 393, 363 P.2d at 766.

The Supreme Court then held that disqualification was not required in that case, because then-Board Member Yuen's comments were made 18 years earlier and did not provide evidence that he had pre-determined the result of the issue in question (which related to telescopes on Mauna Kea). Id. at 394, 363 P.2d at 767.

In stark contrast, Board Member Yoon has *repeatedly*, *consistently* and *recently* stated his ***unequivocal and complete opposition to aquarium collection*** and the use of aquariums generally. He did so on the record and does not qualify his statements. He would "never support" aquarium collection because of his opposition to animals living in captivity, is against any accommodations to support aquarium collection and "is anti, anti, anti aquarium."

All that is required for disqualification is if a reasonable, disinterested observer may conclude that a decision-maker "has in some measure" prejudged the issue before the agency. Even the *appearance* of pre-judgment *requires* disqualification. Here, actual pre-judgment has been proven, by Board Member Yoon's own statements. Board Member Yoon has pre-judged that

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Mauna Kea Anaina Hou v. Bd. of Land & Nat. Res., 136 Haw. 376, 389–90, 363 P.3d 224, 237–38 (2015), citing Withrow v. Larkin, 421 U.S. 35, 47, 95 S.Ct. 1456, 43 L.Ed.2d 712 (1975) and In re Murchison, 349 U.S. 133, 136, 75 S.Ct. 623, 625, 99 L.Ed. 942 (1955).

aquarium collection is not worthy of his consideration, despite the legislature's decision to authorize commercial aquarium collection and numerous decisions over the years to keep that authorization in place. No reasonable observer could fail to conclude that Board Member Yoon has "in some measure" prejudged the issues before the Board in Agenda Item F-1. As a result, Mr. Yoon must recuse himself or be disqualified from hearing that matter when it comes before the Board.[5]

III. CONCLUSION

For the foregoing reasons, Board Member Yoon should recuse himself from any and all participation in Agenda Item F-1 on August 23, 2024 or, failing that, this motion should be granted disqualifying him from any participation in this matter.

Respectfully submitted,

Law Office Of Geoff Davis

Dated: August 22, 2024

By: */s/ Geoffrey M. Davis*
Geoffrey M. Davis
Attorney for Pet Industry Joint Advisory Council and EIS Applicants

[5] Moving parties note that Board Member Riley Smith has made at least one similar comment. During the June 9, 2023 Board Meeting, Mr. Riley stated "you know generally I am opposed to aquarium collecting in West Hawai'i..." See, https://www.youtube.com/live/Wij0ydB68xE, beginning at time 3:03:45 (last viewed August 21, 2024). Moving parties therefore request that appropriate measures be taken to ensure that Board Member Smith (or any other Board Member for that matter), does not hold opinions similar to Mr. Yoon's, before the hearing on Agenda Item F-1.

LAW OFFICE OF
GEOFF DAVIS
EDUCATION LAW | CIVIL LITIGATION

August 22, 2024

Sent Via Email Only

Dawn N. S. Chang
DLNR Chairperson
DLNR Main Office
Kalanimoku Building
1151 Punchbowl St.
Honolulu, HI 96813
Dawn.Chang@hawaii.gov
DLNR@hawaii.gov

Brian Neilson, Administrator
DLNR Division of Aquatic Resources
1151 Punchbowl Street, Room 330
Honolulu HI 96813-3088
Brian.J.Neilson@hawaii.gov
DLNR.aquatics@hawaii.gov

David Sakoda
Program Manager, Fisheries Management
DLNR Division of Aquatic Resources
1151 Punchbowl Street, Room 330
Honolulu, HI 96813-3088
David.Sakoda@hawaii.gov

Re: August 23, 2024 Board Meeting, Agenda Item F-1
Request for Sufficient Time to Address the Board

Dear Chair Chang, Administrator Neilson and Mr. Sakoda,

As you know, I represent the Pet Industry Joint Advisory Council ("PIJAC") and the individual applicants who sponsored the accepted RFEIS concerning aquarium collection around Hawai'i Island. As you also know, the Board expects to consider the delegation of authority to the Chair, to issue HRS 188-31 and WHRFMA collection permits to the RFEIS applicants as Agenda Item F-1 at its meeting on August 23. It is my understanding that the Board's practice and procedure is to limit speakers to 2 or 3 minutes each. The RFEIS applicants are not, however, situated like members of the general public on this agenda item. Their personal livelihoods and ability to earn an income are at stake. They have been vilified by the vocal minority that opposes aquarium collection (which group includes Board Member Yoon, about whom a motion to disqualify is being separately submitted). Like any other person so directly affected by the Board's decision, my clients deserve sufficient time to explain their position to the Board and to answer any Board questions. The interests of my clients here are no different than those of an applicant bringing a matter before the Board, and due process requires that my clients have a fair opportunity to address the issues before the board on this matter before a decision is made.

Because of the direct effect on my clients and their significant stake in the outcome of this matter, I hereby request that my clients and I be allocated a total of 40 minutes to address the Board. We would divide that time among the 7 RFEIS applicants (most or all of whom would speak at least briefly), myself, and potentially a representative of PIJAC.

I appreciate your consideration of this important matter.

Very truly yours,

Law Office of Geoff Davis

Geoffrey M. Davis

Cc: Melissa Goldman, Deputy Attorney General (via email to Melissa.D.Goldman@hawaii.gov)

From: 海綿寶寶
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Support Hawaii fishery
Date: Thursday, August 22, 2024 1:21:04 AM

"I support opening the aquarium fishery and managing resources by science provided by DAR .
I really love fish from Hawaii ~~~

From: Amrit Ghosh
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda item F1 support
Date: Wednesday, August 21, 2024 6:51:00 PM

Hi,

I support opening the aquarium fishery and managing resources by science provided by DAR.

Sustainable catch is the way to maintain ecological balance.

Thanks,
Amrit
Sent from my iPhone

From: Rachel Gillis
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] August 23; Agenda Item F.1. Opposition to aquarium fishing
Date: Thursday, August 22, 2024 6:47:55 AM

I am writing as I strongly oppose aquarium fish collection in the waters of Hawai'i.
As a resident of Hawai'i island I value the reefs vital fish population that remains & is already dwindling. I do not support aquarium collection in west Hawai'i.
Sincerely,
Rachel Gillis

From:	Jessica Glazner
To:	DLNR.BLNR.Testimony
Subject:	[EXTERNAL] I OPPOSE Issuing AQ Permits & I OPPOSE Delegating Authority to Department Chair
Date:	Thursday, August 22, 2024 12:26:04 PM

Aloha Chair and Board of Land and Natural Resources,

My name is Jessica Glazner of Hāwī, Hawai`i. I am a marine biology Ph.D. student at UH Mānoa studying coral reef resilience as well as the co-owner of a SCUBA operation out of Kawaihae called Liquid Cosmos Divers. I conduct over 300 dives per year in West Hawai`i for both scientific diving and guiding divers through my business. Since the aquarium trade was stopped 3 years ago, I have seen a huge increase in fish populations that were popular with the aquarium fishery - from my qualitative observations this is namely *Zebrasoma flavescens, Ctenochaetus hawaiiensis, Anampses chrysocepahlus,* and *Centropyge potteri.* Divers that have been coming to West Hawai`i for years often comment on the increase in fish biomass and diversity and are thrilled to see this recovery often adding additional dive days to their trip further boosting our local economy. I urge you to look at both the fish surveys demonstrating an increase in reef fish populations, as well as listen to testimony submitted by both locals and visitors who have seen the fish recovery with their own eyes. Reinstating the aquarium fishery will benefit only a few and does not greatly support our local economy. Keeping our reef fish in the ocean, where they belong, has far greater benefits for overall reef health and resilience, as well as the economic impact of tourism and people wanting to see these fish in the environment. Furthermore, by removing fishing pressure from the aquarium trade, this allows local fisherman access to greater abundance of food fish for subsistence fishing as many of the collected species are also prominent local food resources.

I OPPOSE issuing commercial aquarium permits in West Hawai‘i and I OPPOSE delegating authority to the Department Chair.

Regarding Terms & Conditions to Issue West Hawai‘i AQ permits, I request you reject DAR's AQ Terms and Conditions and deny any and all permits. The evidence demonstrates that the aquarium fishery has an overall negative effect on the reef and for local tourism.

Regarding Delegating Authority to Issue AQ Permits to the Department Chair, DO NOT delegate authority to the Department Chair. Retain the discretionary authority with the Board who will continue to utilize their diverse island communities, specialized knowledge, and expertise to weigh in and make informed decisions together. West Hawai`i's coral reefs are used by a diverse community whose voices should be well represented in all decision-making.

Mahalo for reading my testimony,
Jessica Glazner
Kealahewa, Kohala, Moku o Keawe

--

Jessica Glazner
Ph.D. Student
Donahue Lab
Hawai‘i Institute of Marine Biology
University of Hawai‘i at Mānoa

From: janice glennie
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Say "NO" to aquarium trade
Date: Thursday, August 22, 2024 9:43:04 AM

Aloha DLNR members

I and maybe thousands of people have testified and sent testimony to you over decades asking the same thing : STOP THE NEEDLESS AND HARMFUL COLLECTION OF HAWAII'S REEF FISH TO BE USED AS ORNAMENTS IN AQUARIUMS. There's nothing unclear about this demand.

DAR recommendations are, frankly, sickening to see. There are a lot of wonderful people working in that agency, yet, here we are, looking at a continuation of the trade with even looser regulations. Shame!

You're hearing from people and advocacy groups near and far demanding you stop allowing this practice. Who are the few that want to continue to make money from these creatures that are integral to the health of our increasingly damaged reefs?

Enough already. Stop this useless commercial rape of Hawaii's reefs.

Mahalo for doing your job which is to do the right thing.

Sincerely,
Janice Palma-glennie
Kailua-kona

From: cathyg@animalrightshawaii.org
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] August 23; Agenda Item F.1
Date: Thursday, August 22, 2024 12:35:32 PM

To the Board of Land and Natural Resources:
Animal Rights Hawai'i opposes DAR's proposal to grant permits for aquarium companies to raid the reefs of West Hawai'i .We agree with Ms. Umberger's statement that
"**Outrageously, DAR is proposing this even though the validity of the EIS, upon which their plan is based, is still pending before the Hawai‘i Supreme Court, and also is ahead of the community's petitioned rule making to prohibit commercial AQ statewide, which the Board of Land and Natural Resources unanimously approved in December 202**3."
The importance of healthy reefs and a healthy ocean should be of utmost importance.
Please deny this submittal.
Mahalo,

Cathy Goeggel
President
Animal Rights Hawai'i
1511 Nu'uanu Ave. Unit 173
Honolulu, HI 96817
808.721.4211
www.animalrightshawaii.org
Animal Rights Hawaii on FaceBook

From: Hector gomez
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] BLNR Hearing
Date: Thursday, August 22, 2024 7:52:33 AM

BLNR Hearing

DATE: April 26, 2024

TIME: 9:00 a.m.

PLACE: DLNR Boardroom, blnr.testimony@hawaii.gov

Please send me a link to testify via Zoom.

HECTOR GOMEZ

Testimony In Support of DAR F.1. passage.

Re: Approval of State of Hawai‘i Aquarium Fish Permit

Please pass the issuance of Aquarium Fish Permits.

1. With overwhelming science supporting the sustainability of the aquarium fishery, the approval of fishery permits could aid the state in its shift to sustainable renewable resource uses.

The aquarium fishery is the most valuable and sustainable ecologically friendly fishery in Hawaii.

2. Please give the permits to sustainable fishers. Even the DAR recommends this.

DAR West Hawaii FEIS (Environmental Review Presentation):

https://youtu.be/djjtIsvg7qs?feature=shared

State of Hawai‘I DEPARTMENT OF LAND AND NATURAL RESOURCES

Division of Aquatic Resources

Honolulu, Hawai‘i 96813 April 12, 2024

Board of Land and Natural Resources State of Hawai‘i

Informational Briefing on Existing Fisheries Data and Management

“Considerations Related to Submitted for your information and consideration is a review of existing fisheries data and management considerations related to the West Hawai‘i Commercial Aquarium Fishery prepared by the Department of Land and Natural Resources’ (Department) Division of Aquatic Resources (DAR)”.

SUMMARY OF DAR FINDINGS

“Based on DAR’s review of the available data for West Hawai‘i, DAR does not find clear evidence to suggest that limited commercial aquarium fish harvest, as proposed in the RFEIS’ preferred alternative, would adversely impact the long-term viability of target species populations. DAR also does not find clear evidence to suggest that the activity would result in any measurable declines in ecosystem health or resilience. Finally, DAR finds that existing and proposed management measures would most likely mitigate any potential negative effects of the fishery and provide sufficient safeguards against unforeseen changes in population or ecosystem status. A detailed summary of DAR’s findings is provided in section 9 of the DAR report”.

“Based on the information provided in the DAR report and Appendices, DAR plans to present a recommendation to the Board regarding the issuance of West Hawai'i aquarium permits at a future Board meeting.”

BRIAN J. NEILSON, Administrator Division of Aquatic Resources

3. Hawaii’s Aquarium Fishery has been studied more than any other fishery in the world. Both the 2,400 page Environmental Review of the West Hawaii fishery, and the 1200 Page Oahu Environmental Review of all the science and fish counts support a sustainably low fishery impact conclusion. Meta-analysis of all the science supports passage of the Oahu fishery Final Impact Statement and a return of an important fishery to the State. State fish counts and studies covering more than 20 years of data, before the lawsuit by tourists already scientifically proved Hawaii’s aquarium fishery was sustainable.

15 years of West Hawaii division of aquatic resource monitoring and the separate Tissot aquarium fish study proved “no coral impacts” for the fishery when compared to closed fishing areas! 21 of Hawaii’s leading marine scientists with decades of hands-on expertise, in a public letter, all supported the “model” aquarium fishery. Only two scientists were in opposition to the fishery in their testimony. Both are non-marine biologists from the mainland with no direct ocean expertise or publications.

Most reef fish produce 10,000 to 5 million fry per spawning, and with spawning occurring three times a day or every daily for most months out of the year, reef fish’s ability to repopulate is staggering! Fish are the most renewable resource on the planet. To not utilize highly renewable resources, lessen Hawaii’s ability to be sustainable.

One major study showed that Yellow Tangs produce 1.14 million fry per pair per year! With a low estimated 1 million yellow tangs on Oahu, up to 570 billion fish eggs yearly on Oahu only. Most do not survive the adult breeding stage. Even if only one percent survive the adult breeding stage, then that is 5 billion 700 million new fish on Oahu reefs every year that could make it to adult breeding stages! The ability to repopulate far outweighs the impact of low aquarium fishery.

The maximum 6% take of past aquarium fishery populations was sustainable! Many researchers consider a 30% take to be the sustainable limit. The Oahu environmental review only asks for less than 5% of all species to be taken by fishermen. For most species listed in the environmental review preferred option, the amount of take would be less than 1%!

Fecundity is the measurement of a fish's ability to repopulate. This information is useful in fishery management.

Please Pass the permits for Aquarium fishing.

4. The United States 206 billion-dollar-a-year pet industry could further support Hawaii with much-needed sustainable incomes at a low carbon footprint. There is an even more significant worldwide demand and potential for monetary gain. Aquaculture and aquarium fish business should be significant state goals to ensure Hawaii has more sustainable jobs and that economic boosts are greatly needed. Sustainable fisheries are the answer, not the problem. Please pass F1 and give out permits for aquarium Fishers! 5. 2020 DLNR West Hawaii Report To the Legislature:

Page 28 "Overall Yellow Tang abundance in the 30'-60' depth range over the entire West Hawai'i coast is

estimated to have increased by over 3.4 million fish from 1999/2000 to 2017/2018 (150% increase)

to a current population of about 5.7 million fish within this depth range alone."

Page 37 "Overall Kole abundance in the 30'-60' depth range over the entire West Hawai'i coast is estimated

to have increased 118% (>5.1 million fish) during this time period with a current estimated

population of almost 9.6 million fish. As with Yellow Tang, summer 2014 recruitment for Kole

in many areas was very strong. Recruitment at the Manuka survey site for example was 254%

higher than on any other previous survey at the site over the last 20 years."

Pager 17 "the marine aquarium fishery has been the most economically valuable commercial

inshore fishery in the State of Hawai'i with FY 2017”

https://files.hawaii.gov/dlnr/reports-to-the-legislature/2020/AR20-WHRFMA-Rpt-FY19.pdf

From: Korynn Grenert
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] August 23; Opposition to Agenda Item F.1
Date: Wednesday, August 21, 2024 11:19:08 PM

Good evening, BLNR.

My name is Korynn Grenert, and I was born and raised on the island of O'ahu. I am testifying in strong opposition to Item F-1 for Friday's Agenda. This is because the BLNR should be the ultimate decision-maker on whether to issue AQ permits, not solely the Chair of the DAR staff.

Issuing AQ permits impacts so many animals in the ocean, not just the fish themselves, and hurts the ability of our reefs to resist climate change. Not only that, but the economic benefits are only to a few people. Such a large and impactful decision should be made by the BLNR board members through the proper public process, not solely by the DAR Chair behind closed doors.

DAR should stick to its promise to make the BLNR board the proper decision-makers for the issuance of this permit. Thank you.

Sincerely,
Korynn Grenert
BS in Natural Resources & Environmental Management | BA in Political Science
J.D. Candidate, Class of 2026
William S. Richardson School of Law
Phone: ***(808) 675-8254***
Email: ***korynng@hawaii.edu***

From:	Eric Hakes
To:	DLNR.BLNR.Testimony
Subject:	[EXTERNAL] Agenda Item F1 Support
Date:	Wednesday, August 21, 2024 5:30:08 PM
Attachments:	image002.png image008.png image011.png image012.png

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I support opening the aquarium fishery and managing resources by science provided by DAR.
Thank you

Eric Hakes – President

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From: streetjudge34@aol.com
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Hawaii onamental fish ban
Date: Thursday, August 22, 2024 2:19:10 AM

Good morning,

My name is Steve Hamedl from Miami Beach, Florida. I am emailing you in support of releasing the ban on Hawaii tropical fish for the aquarium industry. I have been a marine fish hobbyist for my entire life as well as a Scuba diver, underwater photographer and aquarium keeper. I am in FULL support of allowing the collection of marine fish in Hawaii for the aquarium trade once again. I feel enough time has gone by to increase the numbers of ornamental fish in their natural habitat. I am in support also of designating certain areas to collect wild fish so as not to hurt the population. I agree there should be protected areas where you cannot collect fish. We have protected areas in the Florida Keys which keep our tropical fish numbers very high. For the last several years, the ban has caused the prices of ornamental fish to skyrocket to ridiculous prices. Inflation is bad enough without the added costs to our beloved hobby. Thank you for your time.
Steve Hamedl

From: PAMELA HANOR
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Aquarium Industry Reef Fishing August 23; Agenda Item F.1
Date: Thursday, August 22, 2024 9:03:55 AM

My name is Pamela Hanor I have lived in Keaau Hawaii in HPP since 2000

For many years I have come to the west side of the Big Island to enjoy peaceful snorkeling in the rich but
Increasingly compromised coral reefs.
Increasingly compromised due to damage from climate changes, unusual storms, boating incidents that have caused damage to our sensitive reef systems, in addition to too many visitors accidentally albeit unintentionally damaging sensitive fish and reef systems
And now Chair of DAR wants to by pass the DLNR to once again issue permits to allow for aquarian gathering (I would call it poaching)
even thought the Bureau of Land and Natural Resources, which represents us all, unanimously prohibited in December 2023 **statewide** commercial collecting AQ in the interest and in keeping of the public trust.
Please don't allow this to happen
Pamela Hanor
HC 3 Box 10081
Keaau, Hi.92405
808-498-5509

From: Mike Harrison
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1
Date: Thursday, August 22, 2024 8:11:34 AM

I support opening the aquarium fishery and managing resources by science provided by DAR.

Luxe Aquatics

Mike Harrison | Head of Operations
| Luxe Aquatics

| phone: 0161 635 3178
| email: mike@luxeaquatics.com
| website: Www.LuxeAquatics.com
| address: Piccadilly Business Centre, Unit C Aldow Enterprise Park, Blackett Street, Manchester, M12 6AE

Luxe Aquatics

Aloha Chair and Board of Land and Natural Resources,

I am Healani Cahill a lineal descendant of Ke'anae, Hana, Maui; Kalua'aha, Moloka'i and Waialua, O'ahu and the Executive Director of Hua 'Aina 'O Honaunau (HAOH) a non-profit organization designed to develop and implement culture-based educational experiences that increase community awareness and practice around environmental stewardship. I hold a current leased parcel of land at Honaunau Bay. I have worked with haumana throughout my career; Queen Lili'uokalani Children's Center, Kona Unit, 22 years, serving the rural communities of Kona Hema as a Community Building Facilitator. Family Crisis Shelter, Inc. / Alternatives to Violence (ATV) 8years; Taught violence prevention education in island-wide DOE Schools K-5th grades; Facilitated groups that were court-mandated individuals.
I am a hoa 'aina from the district of Kona Hema, Ahupua'a of Honaunau Kapalilua, of Moku O Keawe,

I oppose issuing commercial aquarium permits in West Hawaii, and I oppose delegating authority to the Department Chair .

Regarding Terms & Conditions to issue West Hawai'i aquarium permits, I request you reject DAR's aquarium Terms and Conditions and deny all permits.

From:	Herring, B Paul
To:	DLNR.BLNR.Testimony
Subject:	[EXTERNAL] Aug 23 meeting of Board of Land and Natural Resources. Item F1: OPPOSE
Date:	Wednesday, August 21, 2024 5:05:07 PM

Dear Chair and Board of Land and Natural Resources,

I strongly oppose issuing commercial aquarium permits in West Hawai‘i.

I believe it is morally wrong to take any animal from the wild in order to keep them as pets. In this day and age this is simply not an acceptable practice. To further commercialize this practice and allow a select few individuals to make a profit from this process is reprehensible.

I do not understand why any government agency would be supporting the harvesting of wildlife simply so that a few individuals can keep them as pets in tiny aquariums. I do not see the difference between this and catching wild birds such as Nenes or animals such as bears and keeping them in small cages.

Please do not open Hawaiian waters to commercial collection of reef fishes for the pet industry.

Mahalo

Paul Herring
Emeritus Professor
81-1021 A Kakou Place
Kealakekua
HI 96750

Chair Chang and Board of Land and Natural Resources,

I support item F1.

I support fishing in Kona including the Aquarium Industry.

Vote yes to support F1.

Thank You,
Jake Hill

Scientific Testimony Regarding the Hawai‘i Aquarium Fishery

Dr. Mark Hixon (Endowed Professor of Marine Biology, UH Mānoa School of Life Sciences)

testifying as a private citizen re: 23 August 2024 Agenda Item F.1

Aloha Chair Chang and Members of the Hawai‘i BLNR,

As a coral-reef fish ecologist of considerable experience, I have long followed the controversy regarding the aquarium fishery in Hawai‘i. It is clear that this is an extremely difficult controversy to resolve because the opposing sides are speaking from vastly different perspectives. Those in favor of the fishery point to substantial science indicating that the fishery is sustainable, whereas those opposed to the fishery question the ethics of sending our reef fishes overseas, point to damage of corals caused by some aquarium collectors, and recognize the growing need for these fish to serve as an important resilience mechanism on our increasingly threatened coral reefs. Given this dichotomy, I personally believe that decisions regarding this fishery should *not* be in the hands of a single person, but rather must involve all relevant stakeholders, as represented by the Board of Land and Natural Resources.

I emphasize that there is good science on both sides of this controversy. On one hand, there is ample evidence that the aquarium fishery for juvenile yellow tang (lau‘ipala, *Zebrasoma flavescens*), which accounts for about 90% of the catch, has clearly been sustainable since the network of FRAs was established along the coast of West Hawai‘i Island. This conclusion is less clear for rarer species. On the other hand, Hawai‘i’s reefs certainly need as many herbivores -- like yellow tang -- as possible to remove algae after increasingly severe mass coral bleaching events, which models predict will be annual events by about 2040. When coral dies for any reason, the end result is new coral settling and growing at that spot *only* if abundant and diverse herbivores keep those dead surfaces clean of thick erect algae. Importantly, there are excellent peer-reviewed scientific papers supporting both sides of the aquarium fishery controversy.

The bottom line, I believe, is that neither side of the debate can claim scientific superiority. The decision then must be based on ethics and economics, which are often diametrically opposed in Hawai‘i, at which point I have no expert testimony to offer. I wish you the guidance of aloha and mana in your deliberations.

Mahalo.

From: Travis Hodges
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Aquarium Fish Permit
Date: Thursday, August 22, 2024 9:31:49 AM

Chairperson Chang,

I am a local resident of Oahu and Dive Master and am OPPOSED to the issuance of ANY permits allowing for the taking of ANY species of fishes from our waters.

While the EIS shows an expected low impact, there is no long term study showing the impact of removing these numbers of fishes to the complex interplay between a healthy and diverse fish population and the health and diversity of the corals and other species within that ecosystem. Neither do the EIS models take into consideration environmental changes and impacts that we cannot predict over the next several years.

Local businesses rely on a healthy and diverse fish population that sustains both local and global tourism for those that want to enjoy the beauty and diversity of these species in their natural habitats.

Please DO NOT approve any level of permitting that allows for taking of our local resources and damaging our fragile ecosystems

Travis Hodges
443-759-0622
430 Keoniana Street
Honolulu, HI.

From: Jeff H
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Makaiwa Bay - Mauna Lani Offshore Moorings
Date: Thursday, August 22, 2024 9:22:59 AM

Aloha,

I have noticed that more recently, the commercial activity has increased significantly along the Kohala Coastline.

These larger corporations obviously have a lot of influence due to their deep pockets, and the local residents' voices are pushed to the side and often never heard. These types of applications seem to sneak under the radar with few in the community able to share their voices. These corporations remove or even squeeze out long standing local businesses to bully their way in, just to deepen their own pockets. Covid proved that management will rejuvenate the reefs and that our unique ecosystems can heal if given the chance. The impact of more boat traffic, permanent moorings, and overuse of our resources is bound to have an impact on the future of this coastline. I humbly ask that the board consider this during their process, and take a stand to live up to the Kuleana of the DLNR. Manage and protect our resources. This is a great place to start and to take a stand.

Mahalo,

Jeff Hughes
Puako Resident - Fisherman, lifelong user of this coastline

Aloha Chair and the Board of Land and Natural Resouraces, August 22, 2024

My name is Maki Morinoue and I am a fourth generation kama'aina from Hōlualoa village, on the West Side of Hawai'i Island.
I am representing HULI PAC, we are a group of grassroots community stewards who advocate for our Hawai'i Island communities to have leverage over offshore corporate investors and self intrests by endorsing and electing grassroots leaders that will best represent ʻāina and its people.

Thank you for this opportunity to testify on item F-1.

I OPPOSE issuing commercial aquarium permits in West Hawaiʻi, and I OPPOSE delegating authority to the Department Chair.

Regarding Delegating Authority to Issue AQ Permits to the Department Chair, do not delegate authority to the Department Chair. Retain the discretionary authority with the Board, which will continue to utilize their diverse island communities, specialized knowledge, and expertise to weigh in and make informed decisions together.

This opportunity to testify and having the Board ensure alignment, transparency and integrity to the BLNR's mission with public mana'o from different ahupua'a can better steer the future of Hawai'i and ensure best practices aligned with Native Hawaiian cultural practices, kilo and our knowledge be heard and implemented. This is why I am grateful for this opportunity to testify. The power to uphold the BLNRs mission must remain within the board and the authority should not be delegated to the department chair.

Regarding Terms & Conditions to Issue West Hawaiʻi aquarium permits, I request you reject DAR's Aquarium Terms and Conditions and ***deny any and all permits***.

Growing up here my backyard relationships was swimming and fishing the coastline predominantly in Kealakekua, Keauhou, Kahalu'u, La'a Loa, Kohanaiki, Old Airport State Park, Kaloko, Mahaiula, Makalawena Kua, Kiholo bay and Hapuna beach. Some of the fish our community grew up eating is on this list. The kole, black eyed kole, Umaumalei, ʻMā'i'i'i and the Thompson's Surgeon fish which creates a double harvest impact in two different industries. I grew up around fishermen, farmers and ranchers in Holualoa village, elevation 1,400 and our kupunas told us stories of seeing a large school of yellow tang so large it could been seen all the way from Holualoa village. They referred to the schools of yellow tang as the Kona Gold Cost. Thoes kupunas are long gone. My grandmother's era sharing 1940s and early 1960s observations before the aquarium industry degratded our reef significantly only

to expand more aggressively in the 70s into the 90s. When I snorkel, there is now a small school of 5 Yellow Tangs in most areas. Areas that are protected by our stewards and are marine preservation areas, show a larger school of yellow tang but not nearly enough to reflect the kilo of our greatgrandparents times. The data and kilo up until our greatgrandparents era should be the references that validate what a healthy ecosystem should look like. The bar nature herself sets for optimal balance and health. Not the data starting in the 1990s that DAR uses and finds adequit. That data grossly misaligns with Native Hawaiian cultural practices and lacks over 100 years of knowledge.

The aquarium trade poses a significant threat to marine ecosystems and biodiversity. Removing large numbers of fish and other species from their natural habitats can disrupt the delicate balance of these ecosystems, lead to declines in population numbers, and impact the health of our coral with the lack of healthy ***symbiotic relationships. Commercial aquarium is for visual and personal pleasures with a high death rate of our vital spcies for non subsistence harvesting.***

We must care for the smallest life forms in order to nourish the largest life forms in our ocean. The coral reef is the rainforest of our ocean. **50% of the oxygen we take in with every breath is provided by Phytoplanktons.** Phytoplanktons also feed the small fish and the largest mammals in our ocean. The collapse of our coral reef without sufficient herbivore fish that are designed specifically to take care of our coral reef by cleaning and managing our coral, symotaniously brings biodiversity onto our reef. *Herbivores fish species, IS the direct link to the current trajectory, the collapse of our ocean ecosystem and provides life to us all.*
The way we develop on land impacts our coral life (*attached in Dr. Asner's article on West Hawai'i land to sea impact), the practices we allow and don't allow in our ocean, dictates the health and survival of ALL life in the ocean and ***the natural, significant, possibility of loosing 50% of our Earth's oxygen resource.***

We are in CRISIS – many herbivore species have already been in huge decline as I mentioned from my grandparents era and, without sufficient herbivore species, our coral reefs are projected to begin dying within the next decade. Less able to navigate the changes in our climate and the developments on land. The time is now to recognize, and ***make historic decisions that align with Native Hawaiian cultural practices*** with knowledge coming in from various ahupua'a from different islands. We are reflecting same stories and observations as I have testified on this matter for many years. Commercial aquarium industry is NOT a cultural practice and creates a double harvest opportunity as a food and visual pleasure source making this an aggressivly erraticative and extractive industry and invites illegal harvesting of our herbivore species.

The Board of Land and Natural Resources has the power and authority to OPPOSE delegating authority to the Department Chair and protect decision making at the BLNR table to ensure transparency and ***reject*** DAR's Aquarium Terms and Conditions and ***deny any and all permits*** while better aligning with your mission. Today, BLNR has a choice to change our future outcome and to ***make Hawai'i a global example*** of how important our coral reefs are. BLNR in its very mission is to protect the rights of nature and the cultural practices of our indigenous people. *I hope to witness history together with you, because of each of you voting to protect our natural and cultural resources.*

Thank you for this opportunity,
Maki Morinoue
HULI PAC, Chair
Hōlualoa, 96725
Hawai'i Island

From: Michaela Ikeuchi
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] F-1: OPPOSE Terms & Conditions to Issue Permit; OPPOSE Delegating Authority to Department Chair
Date: Thursday, August 22, 2024 7:59:28 AM

Aloha Board and Chair of Natural Resources,

My name is Michaela (`Ilikeamoana) Ikeuchi, and I oppose the terms and conditions facilitating the permitting process for commercial aquarium collecting in West Hawai‘i because I strongly oppose the unethical and irresponsible land stewardship of the aquarium trade, and therefore do not believe any permits should be issued. I am here as a Native Hawaiian lineal descendant of the people of the Hōnaunau ahupua`a. My family is the Kelekolio family, and we have noticed the difference that the aquarium trade has made on our natural resources through multiple generations. We don’t need a data sheet to notice the changes, because they are so apparent and egregious that they cannot be ignored. The aquarium trade is morally inconsistent with Hawaiian culture, because never did, nor would my ancestors create an industry of depleting one of our main food sources in order to transport them to resorts, hotels, private luxury homes, and other modern relics of colonization. The aquarium trade continues to be reminiscent of sailors who caged our native ‘ō‘ō bird and sold it to other sailors as a songbird, a instrument of mild amusement, which led to the direct extinction of the ‘ō‘ō bird. My children will never hear the ‘ō‘ō bird‘s song, and I fear they will never experience the beauty of marine diversity that the aquarium trade continues to deplete.

When my grandmother was younger, growing up in the Hōnaunau and Ho`okena ahupua`a, she saw an underwater world bountifully filled with Lau‘īpala, Kole, Hīnālea, and Mā‘i‘i‘i. She tells me stories of a world currently gone. My father saw less of these fish growing up, but still substantially more than me. Even in my lifetime, I have visually seen the decline of our underwater diversity as I see aquarium trade boats coming in and out of the bay to kidnap our brothers and sisters of the kai. Now, the underwater world of Hōnaunau is bare and unrecognizable compared to what it looked like even in 2005. Myself and every other Native Hawaiian of childrearing age is directly responsible for ushering in the new generation of Native Hawaiians, and it is our responsibility to ensure our future children and grandchildren DO marine biodiversity, and be able to feed their families the same way we have for over a thousand years.

Hawaiians are not new to fighting this fight. We said ‘a‘ole 20 years ago, we are saying ‘a‘ole today, and to save you all some time, we are saying ‘a‘ole in the future, too. We are honoring our culture and our ancestors when we put the needs of the land before personal financial gain. Unless one can admit that they have a flagrant disregard for the majority feeling of the native people of this land, our opinions, and our right to manage our natural resources responsibly, then they must accept that the answer is “no.” Therefore, it would behoove them, our state’s resources, and all of our time, to respect how we feel, and direct their attention elsewhere.

Mahalo,
`Ilikeamoana Ikeuchi

The Senate
Ka ʻAha Kenekoa

STATE CAPITOL
HONOLULU, HAWAIʻI 96813

August 21, 2024

Board of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809

Re: Written Testimony – Agenda Item F1 (Division of Aquatic Resources)

Dear Members of the Board of Land and Natural Resources:

I've been receiving emails from the public voicing opposition with significant emphasis of cultural and ethical concerns. The decision making process on this matter should be retained by the Board of Land and Natural Resources, as each member serves as a representative from each island and serves as the voice for all the people.

Therefore, please accept my written testimony in **opposition** and **objection** to delegate the authority to the Chair to approve, sign and issue West Hawaii Aquarium Permits and State of Hawaii Aquarium Fish Permits authorizing limited commercial aquarium collection in the West Hawaii Regional Fishery Management Area to up to seven applicants that meet certain criteria and requirements.

Sincerely,

Lorraine R. Inouye

Senator Lorraine R. Inouye
Chair, Senate Water and Land Committee

From: Thomas Jackson
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 do NOT pass this item! Force a change so that industry must produce Hawaii endemic marine fish in captivity
Date: Thursday, August 22, 2024 6:31:02 AM

In 1983 tropical Fish hobbies magazine dreamed of a day when our marine fish were produced in farms in aquariums and not collected from reefs. Today we have attained that level of technology if you look at companies like ORA- Ocean reef aquaria, ans well ans many other businesses with breeding projects, the number of species is over 100 produced in captivity. Thus includes species wanted from Hawaii like yellow tangs.

This is the marine Fish species breeder list for 2023 compiled by Coral Magazine they come out with a new list every year and show how many more species have been added; https://www.coralmagazine.com/2023/11/01/coral-magazines-captive-bred-marine-fish-species-list-for-2023/

Many of the target species are endemic (only found in Hawaii) and or are herbivores at a time when our reefs are impacted and are secondarily impacted by colonies of algae once rare costing Hawaiian reefs.

The solution for this is simple. Our reefs need these herbivores and other inhabitants more than the people who want them for Aquaria. The number of individuals of one species that die in transport to get into the trade is staggering! Many large aquarium rely on large collections of Hawaii yellow tang to supplement their unnatural populations in large tanks worldwide.

So let's turn this negative into a positive.
Let's discuss with pijac and up and running industries (ORA Bali Aquatec etc) that are making great strides and reproducing marine fish in aqua culture systems for Aquarium.

WE'VE GOT THAT GREAT AGRICULTURE PARK IN KONA LET'S USE IT !
We have a wonderful aquaculture park in Kona that has plenty of space that can be used for this! We can offer incentives to companies that want to produce the same especially endemic(only here) species they want produced only from captive stock. PJ would argue this would put pressure on native fish for legal collection and that's true. PJ would argue this would put pressure on native fish for legal collection and that's true but reducing the amount of yellow tanks exported from this state by the tens of thousands a year would benefit the reefs more than it would benefit us a species more than them being in aquariums.

This would reduce and eliminate the pressures on natural populations.
It would give ours a better chance of recalibrating with the changes that are coming.

Again no one but no one should be selling Hawaii natural history, and certainly not at a time where we don't know what will happen to the already decimated reefs.

I am a retired federal employee (Marine biologist) who has limited experience in working with bringing these ornamental agriculture programs to NOAAs attention 15 years ago; hoping that that change would've happened then.
I'd be interested and happy to share ideas if that is something needed.

It's a hard choice do it for your kids.....

Do it for Hawaii.

Shut down the collection of endemic Hawaii fishes force a change into squaculture that will provide new industry an industry that's been growing in the past 15 years and bring it here.

Mahalo for your time and service

Take a peek:ORA
https://www.orafarm.com/products/fish/

This is the compendium of marine Fish species that are now being cultured in captivity it also has a good list of the industry partners doing this for vetting and approaching to work at the Kona Aqua culture center.
https://www.coralmagazine.com/2023/11/01/coral-magazines-captive-bred-marine-fish-species-list-for-2023/

Let's make Hawaii fish an expensive commodity not an inexpensive luxury for others to enjoy while decimating our reefs Of its functioning inhabitants.

Thomas Jackson
Hawaii island

Chair Chang and Board of Land and Natural Resources,

I support item F1.

Public sentiment has been manipulated by the false narrative that the anti Aquarium group constantly puts out. The Aquarium Industry is not depleting the resource, does not use destructive collection methods and is only collecting a resource that has a life span of months if left on the reef. When is the Anti Aquarium group going to be held accountable for their defamatory statements? Please vote yes on this issue.

Thank You,

Janelle Kiefer

Chair Chang and Board of Land and Natural Resources,

I support item F1.

In 2017, the supreme court ruled that in order to get a license or permit to work in our near shore conservation areas, you must comply with the HEPA laws. Since that time, we have only asked how to comply. For over 7 years now, we have done just that. We have completed every task that has been asked of us. Over three years ago we completed the HEPA process. Over a year and a half ago, the courts agreed that we were good to go and lifted the injunction closing our industry. It has been a very long process and despite all that we have done and all the promises that if we complied, we would get our licenses back, we are still out of work. We are not allowed to get our Commercial Marine Licenses back even though we are the only fishery who have completed the HEPA process. These are not discretionary licenses and there is no legal reason that we are being banned from fishing. The industry is backed by overwhelming scientific evidence showing that we are not depleting the resource. In fact, this fishery is the most regulated and proven sustainable fishery in Hawaii. DLNR's job is to manage the resource not ban it. The Department has no right to keep us from our jobs that the legislature has approved.

The resource is secure, all other ocean user groups are protected and all rules and laws have been met.

It is time to stop this endless circle of going over the same things time and time again. It is time to let 7 fishermen go back to work providing for their families here in Kona.

I hope that you do the right thing and vote yes on this issue.

Thank You,
Jim Lovell
Kona Aquarium fisherman since 1979

From: Maria Kaaua
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] August 23 Agenda Item F.1
Date: Thursday, August 22, 2024 3:04:31 PM

Aloha,

My name is Dr. Maria Jose and I was born and raised on the Big Island of Hawaii. I am also a veterinarian who has practiced in Kona, Hawaii for the last 25 years. I am in strong opposition to the reopening of our reefs to the aquarium trade.

Prior to the closure of our reefs, our veterinary hospital at one time assisted local aquarium trade operators in Kona by providing health certificates for their reef fish shipments. We soon found that the operators were intentionally falsifying shipment records after we had signed them. Needless to say, we terminated our services immediately thereafter.

This industry is built on taking a resource which belongs to ALL in order for a very select FEW to benefit. It is an industry that only takes …and does not give back to our community in any meaningful way. And in my experience, it is an industry that does not respect limits or rules that are set in place to protect the fish.

Please listen to the communities that will be affected rather than the individuals who will profit and do NOT reopen our reefs to this detrimental industry.

Thank you,
Maria Jose DVM
Ali'i Veterinary Hospital
808-938-0766
majos678@gmail.com

From: median_bounces_0c@icloud.com
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Aquatics F-1, Aquarium Fish Permits
Date: Thursday, August 22, 2024 9:25:56 AM

Aloha Chair and Members of the Board,

I am testifying in support of issuing Aquarium Fish Permits for limited commercial collection under state management.

As a recreational fisherman, I support sustainable use of our fisheries. I have read testimony and arguments for and against aquarium fish permits, and it is evident that this type of fishery is sustainable and will not have a negative impact upon the resource when managed through the permit system.

I fully support local fishermen collecting aquarium fish to earn an honest and livable wage to support their families and communities. It is an industry that requires the knowledge and skill that locals who grew up on the ocean are able to do safely and respectfully. Not issuing limited permits on the Big Island will only be another opportunity taken away from locals wanting to stay home in Hawaii and make a decent living.

Mahalo,

Kala Cates

From: Lehua Kamaka
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] August 23; Agenda item F.1
Date: Thursday, August 22, 2024 8:51:29 AM

Aloha Board Members,

My name is Sandy Lehua Kamaka from the once named "The Gold Coast of Kona."

I am a descendant of a genealogy line from Kona. A descendant child of Kona, a descendant child of bloodlines that once ruled and governed Kona, Hawai'i.
I am a living breathing flesh and blood of Kona.

I DO NOT SUPPORT PERIOD.

I share my testimony from my Great Great Kuku, Kamaka Kama Kaiokekoa, my Great Kuku, Jacob Palakiko Kamaka Kama, my Kuku, Palakiko Kamaka Kama, my Makuakāne, Rodney Kaukuna Kamaka, my Uncle Pe Puakailima Kamaka, and my eldest Brother Peter DeVillanueva. These Great men of the ocean, raised me along the shorelines of Kona. Either from a boat or walking along the shorelines that extends from Puako to Kealakekua, and from diving to surfing and paddling.

The Gold Coast! In the name itself. Named for the abundant yellow balls, big yellow balls, numerous yellow balls that could be seen upon the face of the shorelines of Kona.

In paddling, we went around these balls and the bubbling waters that came from these balls was vibrant. Likewise on a boat, just seeing them off the sides made you feel like you want to jump in with them. Of course when diving, I got to feel them and the moving currents they made.

The way they cleaned the reefs as it was a food source also, they kept they feels always looking beautiful and their food grew back again and again. They knew how to move and not deplete an area. Life was amazing.

Of course they were not the only fish species in abundance, all fish was abundant for me as I was born in 1968, and by 1971, fishes were swimming into my hands when place in the ocean.

Kona was resourceful. The face of the waves revealed a plethora of many different colors of fishes before the crest folded over.
Fishes jumping in abundance. Schools of fishes everywhere. Kona Inn, it was so abundant with manini, kole, paku'iku'i, and so much more.
The seawall of Kailua-Kona filled with fishermen. Poles in and out. Halalu, owama, akule, 'opelu, papi'o, also at Keauhou pier. Waiaha, Waiaka, uhu diving of course, many reef fishes too.

Kona Tiki, Kahului, golden, kole galore, to Ala Kala, paku'iku'i, lobsters, all kine. Holualoa Bay to Kamoa, various reef fishes, to silver fishes, to sharks.

Kahalu'u to Kealakekua, I'A NUNUI!!! I don't even want to say what kinds as I sharing too

much info.

Please protect these places as I have to speak for the true residents of our coral reefs.

This is my baseline of information from generation to generation. This is also my KILO of my homeland of Kona.

Aquarium gathering should be deemed an irresponsible way to make money. Taking fishes from their homelands where the are the keepers of
their place, their environment, their resources, to be place in an artificial makeshift of a home, 'A'OLE.

My Kūpuna would not tolerate this kinds of ways, nor would they not tolerate me not speaking up.for the life of the fishes, the place, and their resources.

Resources that were for us, to feed us, to know how much we should take, to throw back your first catch, to throw back the too smalls or the too bigs, the Mamas.

Please DO NOT GRANT PERMISSION.

For what my eyes behold today, is not what was of the yesteryears of our abundance of fishes nor the baselines of data, nor the name, "The Gold Coast."

Let's make solutions not depletions for the so-called money for our resources. We are rich in Aloha. Don't mistake our kindness and keep our Hā, pono!

Mahalo
Ke Aloha Nui

Sandy Lehua Kamaka

Ka Pa'akai Consulting
kapaakaiconsulting@gmail.com

Kulu, Mahoemua - 20th, August 2024

ATTN: Ms. Dawn Chang, Chairperson
Board of Land and Natural Resources
DLNR Main Office Kalanimoku Building
1151 Punchbowl St.
Honolulu, Hawai'i 96813
Submitted via Email at blnr.testimony@hawaii.gov

SUBJECT: Testimony for August 23; Agenda Items F-1

Aloha e Chair Chang a BLNR Members,

My name is Kēhau Springer, I am a kanaka 'ōiwi residing in Kea'au, Moku o Hawai'i and I **STRONGLY OPPOSE** Agenda Item F-1 which pertains to issuing commercial aquarium permits in West Hawai'i. I also **STRONGLY OPPOSE** delegating authority to the Department Chair.

Regarding the terms and conditions for issuing West Hawai'i aquarium permits, I urge you to reject DAR's proposal and deny any and all permits related to reopening our reefs to the destructive aquarium trade. Allowing the aquarium industry back on our reefs fails to protect public trust resources for kanaka 'ōiwi, particularly concerning our traditional and customary practices and subsistence lifestyle.

It is deeply concerning that the Department is moving forward with its plan to reopen West Hawai'i while the validity of the Environmental Impact Statement (EIS) is still under scrutiny. On April 29, 2019, I was interviewed by ASM Affiliates as part of the cultural impact assessment for the EIS. During this interview, I shared my experiences working alongside coastal communities in Hawai'i, specifically in West Hawai'i, and discussed the traditional and customary practices that they continue to uphold. At the time, I could not provide a recommendation due to employment constraints. However, now that I am no longer with that employer, I can clearly state that the aquarium trade would have adverse impacts on cultural practices and local fisheries. The aquarium industry fundamentally incompatible with traditional subsistence fishing practices and undermines the very fabric of our community's way of life.

The Ka Pa'akai Analysis requires that any government action in Hawai'i take into account the impacts on Native Hawaiian rights, particularly in relation to traditional and customary practices. The aquarium fish trade directly conflicts with the principles of Ka Pa'akai Analysis, as it involves the extraction of marine species that are integral to Native Hawaiian cultural practices, such as fishing, gathering and spiritual rituals. Depleting these resources through the aquarium trade undermines the ability of Native Hawaiians to exercise their traditional rights and maintain cultural connections to Kanaloa, our ocean and its resources.

In addition to following the Ka Pa'akai Analysis, the DLNR should adhere to its 1998 hierarchy of use principles by prioritizing the protection of traditional and customary Native Hawaiian practices and public trust resources over commercial exploitation. In doing so, DLNR should ban the aquarium fish trade, which is in direct conflict with the preservation of Hawai'i's ecosystems and cultural heritage.

As we think about climate resiliency and the health of our fisheries, overharvesting herbivorous fish for commercial purposes should be a major concern. Our herbivorous fish play a critical role in maintaining coral reef health by controlling algae growth. In a time when our reefs are already stressed by rising ocean temperatures, acidification, the excess removal of these key species by the aquarium industry further destabilizes these ecosystems. Allowing the aquarium trade to continue would exacerbate the challenges posed by climate change and undermine efforts to build resilience in our ocean environments.

Regarding the delegation of authority to issue aquarium permits to the Department Chair, I urge you NOT to delegate authority. Instead, retain discretionary authority with the Board, which can utilize the diverse perspectives, specialize knowledge, and expertise of island communities to make informed and balanced decisions together.

The aquarium trade not only violates traditional and cultural practices, but also legal frameworks that are in place to protect Native Hawaiian rights. I urge you to act now to prevent irreversible damage by:

1) **OPPOSE** issuing commercial aquarium permits in West Hawai'i and

2) **OPPOSE** delegating authority to the Department Chair.

The future health of our natural resources depends on the PONO decisions we make today. Mahalo for your consideration.

Na'u

na Shauna Kēhaunani Springer
Founder & Executive Director
Ka Pa'akai Consulting
Kea'au, Moku o Keawe, Hawai'i

Relevant Sources:

1. Environmental Impact of the Aquarium Trade:
   Tissot, B. N., & Hallacher, L. E. (2003). "Effects of Aquarium Collectors on Coral Reef Fishes in Kona, Hawaii." Conservation Biology, 17(6), 1757-1766.
2. Ka Pa'akai Analysis and Legal Framework:
   Ka Pa'akai O Ka 'Āina v. Land Use Commission, 94 Haw. 31, 7 P.3d 1068 (2000).
3. Climate Resiliency and Herbivorous Fish:
   Hughes, T. P., et al. (2017). "Global warming and recurrent mass bleaching of corals." Nature, 543(7645), 373-377.
4. DLNR Hierarchy of Use Principles:
   State of Hawai'i, Department of Land and Natural Resources (1998). "Hierarchy of Uses for the Conservation District."

From: Christopher Kasai
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda item F1 Support
Date: Wednesday, August 21, 2024 9:08:17 PM

Aloha,

I am submitting this testimony in support of opening the aquarium fishery and managing resources by science provided by DAR. The studies have been completed and show that collection of aquarium species will not negatively impact population numbers.

As someone who has worked in the aquarium industry for the last 6 years now, I have experienced first hand the negative impact the ban has caused to local people and businesses. Living in Hawaii is a struggle for all as the costs of living continues to rise. With taking away peoples livelihoods, I have seen local businesses close due to this ban. Locals who would dive and supply fish to these businesses have either had to collect unemployment or find jobs in fields that have not supported them in the ways that collection of aquarium fish once did. My hours, along with my coworkers, at work have been cut due to lack of profits because of the ban. We have been fortunate to have survived this long on purely retail sales, but it will not suffice forever. We have been forced to import fish for our store from the mainland, in turn sending money that could've stayed within Hawaiis economy to the States.

There are countless local people who relied on the aquarium industry and with the current ban they have all suffered. And so I ask that you move forward with raising the ban on aquarium collection and begin reimplementing the permits so we can once again collect aquarium fish with proper regulation.

Thank you for your time,

Christopher Kasai

From:	Laila Kaupu
To:	DLNR.BLNR.Testimony
Subject:	[EXTERNAL] F-1 I OPPOSE Issuing AQ Permits & I OPPOSE Delegating Authority to Department Chair
Date:	Thursday, August 22, 2024 10:25:55 AM

Chair and Board of Land and Natural Resources,

Aloha kakahiaka kākou.

I OPPOSE issuing commercial aquarium permits in West Hawai‘i and I OPPOSE delegating authority to the Department Chair.

O wai ‘au?

O wau o Laila Kaupu ko‘u inoa. No Omoka‘a a me Miloli‘i mai au.
Noho au ma Milolii-Hoopuloa. He kama‘āina wau no keia wahi.
My name is Laila Kaupu. I am from Omoka‘a and Miloli‘i.
I live in the Milolii-Hoopuloa housing lots designated for the
relocation of families that were affected by the April 18, 1926 lava flow,
engulfing the entire village of Hoopuloa.
I am a lineal descendent of these places and many more, Kapalilua, Kona Hema o Moku o Keawe.

As a born and raised lawai’a of Miloli’i, it is kūleana to mālama ‘āina, that which feeds, knowing what you are going to give back before taking. Leading me to my role today as an Outreach & Monitoring Coordinator for the marine management area of the Miloli’i CBSFA, an apprentice for the Miloli’i Konohiki Apprenticeship Program, a kāko’o for Na Kai ‘Ewalu, a Miloli’i Makai Watch volunteer, a co-manager with DAR through our Miloli’i CBSFA, a council member on the West Hawai’i Fisheries Council, and a single mother of a handsome 15 year old boy. My kūleana is to feed!

I strongly urge you to reject DAR’s AQ Terms and Conditions and not allow any and all permits to be had in West Hawai’i. The thought of allowing an annual catch limit of 300,000 Kole, and nearly the same amount for the other species, then times that by 7. If this is how it is per permit, that is way too much! They’ll be taking millions off of West Hawai’is reefs in a single year. Not only millions but generations! Just because they were not allowed to take for the past 7 years doesn’t make it enough time for the reef and fish species to bounce back and heal itself. I'm not saying give it some time and maybe later, what I'm saying is that this shouldn’t be supported by the board and all of West Hawai’i.

West Hawai’i and everyone else knows we have the most pristine and coral thriving waters in all of Hawai’i. To keep it that way, filled with fish, healthy coral, and better than it once was is your folks kūleana just as much as it is ours, where my other opposition derives from.

Do not delegate authority to the Department Chair. Retain the discretionary authority and transparency with the Board who will continue to utilize their diverse island communities, specialized knowledge, and expertise to weigh in and make informed decisions together.

Mahalo for this opportunity,
Laila Kaupu
Miloli’i, Kapalilua, Kona Hema ma Moku o Keawe

From: Kyton Keliiaa
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Wednesday, August 21, 2024 4:41:23 PM

To Whom It May Concern,

I am writing to express my firm support for local and native businesses that contribute to the sustainability and economic well-being of our communities. These businesses, rooted in tradition and local knowledge, play an essential role in preserving our culture, environment, and livelihoods. I believe it is crucial that we prioritize and protect these enterprises, which are often overshadowed by large corporate companies seeking to monopolize our natural and native resources.

While I fully support sustainable practices and appropriate regulations that ensure the health of our ecosystems, I do not support the complete ban on local fisheries. These restrictions disproportionately affect local businesses and families who have responsibly harvested these resources for generations. The blanket bans allow corporate entities, often less connected to the land and its needs, to exploit loopholes and continue their operations at the expense of the very communities they claim to help.

I advocate for a more balanced approach—one that involves protecting our natural resources while also empowering local fishers and businesses to continue their work under fair and sustainable regulations. By working together, we can ensure the long-term health of our ecosystems without sacrificing the livelihoods of those who depend on them.

I urge you to reconsider the current policies and work towards solutions that respect the rights and traditions of local fishers while maintaining the necessary oversight to protect our environment.

Thank you for your attention to this important matter.

Sincerely,
Kyton Keliiaa

Chair Chang and Board of Land and Natural Resources,

I support item F1.

The Aquarium Industry in Kona is the only ocean user group who has complied with the HEPA laws. The opposition ocean user groups have not even started the process yet. They are allowed to violate the HEPA law every day while claiming the Aquarium Industry is the cause of the destruction that they are responsible for in the areas that they alone frequent. It is time to stop blaming the fishermen and make these opponents follow the law.

Please vote yes on this issue.

Thank You,
Steve Kiefer

August 22, 2024

Re: BLNR Meeting August 23, 2024 Agenda Item F(1): Testimony in Support

Aloha Board Members,

On behalf of the Hawaii Longline Association, I offer this letter in support of the Division of Aquatic Resources' (DAR) request to the Board of Land and Natural Resources (BLNR) to approve the proposed seven West Hawaii aquarium permits and associated terms and conditions.

The Hawaii Longline Association represents the Hawaii-based longline fleet which is comprised of around 150 active vessels based out of Honolulu Harbor. To be clear, Hawaii longline vessels have no intention of fishing for aquarium collection purposes. As one of the State's largest food producers, we intend to keep supplying Hawaii seafood markets with landings from our highly monitored, comprehensively managed fleet. Approximately 80% of our landings are sold in Hawaii restaurant and retail markets, with the remainder distributed to the US mainland.

HLA supports DAR's aquarium permit request because we believe sustainable fisheries are compatible with resource protection via effective conservation and management measures. We understand that the applicants and DAR have followed the required analytical processes with the best available information indicating negligible to minimal impacts from the amount of fish proposed to be collected to populations and coastal ecosystem.

We appreciate the BLNR's careful consideration of the matter and hopeful for a decision that supports a balance between comprehensively managed fishing operations with resource protection.

Mahalo

E. K. K.

Eric K. Kingma, PhD.
Executive Director

Aloha Chair Dawn Chang,

My name is Malia Kipapa and I currently reside in the Moku of Kona on the Island of Hawaii. I live in the Ahupua'a of Kealakehe, I work in the Ahupua'a of Keauhou and Kahalu'u, and my ancestral ties connect me to Kaumalumalu, Pāhoehoe and Kukuiopae. The reach throughout North Kona and beyond towards the north and south of these boundaries has reminded me to understand best the importance of stewardship and kinship for our sacred and special places and resources. One very important and special resource that we depend on to exist not only for sustenance but to also maintain the balance in its fragile yet resilient ecosystem and to also connect us as Kanaka Maoli to the kai.

I am a land access administrator for Kamehameha schools, a leader in my community, and a head decision-maker for the ancestral 'iwi and lands of my Kipapa 'Ohana. In all my years living in Kona, the subject of Aquarium Fishing has always churned my 'opu negatively because the concept was not only foreign and new to me at the time when I first learned about it, but it just did not sit well with me. This idea of Aquarium fish collecting forced me to stay informed and active in my community to advocate for our native Hawaiian practices and to continuously voice my opinion and mana'o to advocate for "PONO".

I am here today to make the following recommendations:

1. REJECT DAR's AQ terms and conditions and deny all permits – Enough is Enough!!!!!
2. DO NOT delegate authority to the Department Chair – limiting the decision to one person disregards the wealth of knowledge and experience the other board members bring to the table. This limiting factor is individualistic vs collective.

Please make the "PONO" decisions for the po'e of our kai.

Ola ke kai no Kanaloa,

Malia Kipapa
On Behalf of Nā 'Ohana Kipapa

From: Todd Kiry
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 2:40:30 AM

I support opening the aquarium fishery and managing resources by science provided by DAR

Todd Kiry
Hammonton Financial, Inc.
446 Bella Vita Court
Hammonton, NJ 08037
P: 856-816-6525
https://urldefense.com/v3/__http://www.hammontonfinancial.com__;!!LIYSdFfckKA!29q_BJI5ZoltyfKVH40sL17fHmyZbQ2WqfmurOCgANUp6iWbUaU3Vnb4ru6e6mB-IR_QTeZbI8tthqhkVHmUWQ$

From: kimberly kitagawa
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] AGENDA ITEM F1 SUPPORT
Date: Thursday, August 22, 2024 4:53:17 AM

To whom it may concern,

I SUPPORT OPENING THE AQUARIUM FISHERY AND MANAGING RESOURCES by SCIENCE PROVIDED BY DAR!

Sincerely,
K. Kitagawa

From: Chelsaelynn Kobzi
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] OPPOSITION
Date: Thursday, August 22, 2024 8:27:12 AM

Aloha Chair and Board of Land and Natural Resources,

O Chelsae kou inoa. No Pahala mai au. Noho au ma Kahuku, Ka'ū, O Moku o Keawe.
My name is Chelsae. I was raised in Pahala. Currently live in Oceanview, Ka'u.
My family comes from Milolii. I volunteer my time with many non profits such as Na mamo O Ka'u, Malama Punalu'u, Ka Ohana O Honuapo and many more in Ka'u. I also volunteer time with my Ohana with Kalanihale organization.
Reconnecting to Aina and doing Aina work is needed now and in our future.

I OPPOSE issuing commercial aquarium permits in West Hawai‘i.
I OPPOSE delegating authority to the Department Chair.
I OPPOSE the collecting of aquarium fish for commercial purposes.

Regarding Terms & Conditions to Issue West Hawai‘i AQ permits,

I request you reject DAR's AQ Terms and Conditions and deny any and all permits. Commercial collecting of aquarium fish will disturb the balance of the ocean. We are already dealing with climate change and rising temperatures, destroying our coral reefs. This will not benefit the PEOPLE..just the ones getting money in their pockets!

Regarding Delegating Authority to Issue AQ Permits to the Department Chair,

Do not delegate authority to the Department Chair. Retain the discretionary authority with the Board who will continue to utilize their diverse island communities, specialize knowledge, and expertise to weigh in and make informed decisions together.

Mahalo for this opportunity,
Chelsaelynn Ka'u'i'onalani Apo Kobzi
Kahuku, Ka'u , Moku o Keawe

From: Kevin Kohen
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 2:29:59 AM

I support opening the aquarium fishery and managing resources by science provided by DAR.

Sincerely,

Kevin Kohen

From: Janice Kopff
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Collecting tropical fish in HI
Date: Thursday, August 22, 2024 5:13:15 AM

I support re opening the aquarium fishery and managing resources by science as provided by DAR, agendas F-1

The fish collectors have responded to every request given to them regarding their permits to collect fish in Hawaii. How many hoops do they have to jump through before they finally are not prejudiced against. They cause no harm to the ecosystem, it has been proven over and over and over that the industry is sustainable. As a former resident of Hawaii, I deplore what officials are doing to these people. Everybody else is allowed to do whatever they want, whenever they want destroying a lot of the ecosystem. Why is it that this group is selected to be harassed? Time to quit it and restore their carefully monitored licenses!
Thank you
Janice Kopff

From: kmagnet
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] F-1 agree with Terms & Conditions to Issue AQ Permits & Delegating Authority to Department Chair
Date: Thursday, August 22, 2024 7:33:30 AM

Aloha Chair and Board of Land and Natural Resources,

My name is Kristi Woodham of Kailua Kona. I was born in Kona and absolutely love diving, snorkeling and enjoying our reefs and reef fish. I have seen the impact tourism has on our fish population and coral health. I also see the lack of impact that aquarium fish collecting has been scientifically demonstrated to have. It has clearly been shown that AQ fish collecting doesn't influence the population of reef fish and the limits posed on species and amounts are more than sufficient to ensure the maintenence of the population. There is no reason to keep jobs away from people, other than a bias that seems to follow them everywhere.

I agree with issuing commercial aquarium permits in West Hawai‘i and I agree with delegating authority to the Department Chair.

Regarding Terms & Conditions to Issue West Hawai‘i AQ permits, I request you agree to DAR's AQ Terms and Conditions and allow any and all permits.

Regarding Delegating Authority to Issue AQ Permits to the Department Chair, I request you delegate authority to the Department Chair.

Mahalo for this opportunity,
Kristi Woodham

KUA‘ĀINA ULU ‘AUAMO

August 22, 2024

ATTN: **Ms. Dawn Chang, Chairperson**
Board of Land and Natural Resources (BLNR)
Submitted *via Email* at blnr.testimony@hawaii.gov

SUBJECT: **Testimony in Opposition to Agenda Item F-1, “Request for Approval of the Application Form and Terms and Conditions for the State of Hawai‘i Aquarium Fish Permit Pursuant to Hawaii Revised Statutes Section 188-31; Request for Approval of Terms and Conditions for the West Hawai‘i Aquarium Permit Pursuant to Hawaii Administrative Rules Section 13-60.4-7; Request to Delegate Authority to the Chair to Approve, Sign, and Issue West Hawai‘i Aquarium Permits and State of Hawai‘i Aquarium Fish Permits authorizing limited commercial aquarium collection in the West Hawai‘i Regional Fishery Management Area (WHRFMA) to Up to Seven Applicants That Meet Certain Criteria and Requirements”**
BLNR Meeting, August 23, 2024, 9:00 a.m.

Aloha mai e Chairperson Chang and Board Members,

With the urging of several of our West Hawai‘i network members, Kua‘āina Ulu ‘Auamo (KUA) respectfully **opposes** approval of Agenda Item F-1 regarding issuance of permits for commercial aquarium trade (AQ) collection in West Hawai‘i.

Kua‘āina Ulu ‘Auamo (KUA) means “grassroots growing through shared responsibility,” and we serve as a facilitator, consultant, trainer, liaison, and tool-builder for grassroots community stewardship networks and place-based efforts. We work to increase our communities’ resiliency, adaptation, and transformation through community-based biocultural resource management, currently supporting three major networks of: (1) almost 40 mālama ‘āina (caring for our ‘āina or “that which feeds”) community groups collectively referred to as E Alu Pū (moving forward together); (2) over 60 loko i‘a (fishpond aquaculture systems unique to Hawai‘i) and wai ‘ōpae (anchialine pool systems) sites in varying stages of restoration and development, with numerous caretakers, stakeholders, and volunteers known as the Hui Mālama Loko I‘a (“caretakers of fishponds”); and (3) the Limu Hui made up of over 50 loea (traditional experts) and practitioners in all things “limu” or locally-grown “seaweed.” **Our shared nu‘ukia (vision) is to once again experience what our kūpuna (ancestors) referred to as ‘āina momona – abundant and healthy ecological systems that sustain our communities’ resilience and well-being.**

Certain Native Hawaiian Understandings of I‘a

Native Hawaiians have familial traditions of ‘aumākua or deified family ancestors who would assume the form of animals, sometimes i‘a (sea creature) form, after passing. *See Generally*, Hawaiian Fishing Traditions by Moke Manu & Others (2006 revised). From ancient times until now, “Animals and plants [are] of the same order of being as people, not separate and inferior as in the mythologies of Christianity and European Science. A person could

befriend, speak with, and be helped by a fish, as in the story of Puniakaiʻa; or turn into a fish, as in the story of ʻAiʻai or the story of Nihooleki…" This belief extended to kapu (prohibitions) by certain ʻohana (families) on eating certain types of iʻa that might be an ʻohana ʻaumakua, showing the reciprocal relationships among humans and all living things, where "certain families protected and cared for certain species of fish or other animals and plants with which they shared ancestral connections, and in turn, these ʻaumākua protected and cared for the families." Moke, pg. xii-xiii.

Before the introduction of foreign foods, Native Hawaiians enjoyed two main classes of food: ʻai (vegetables like kalo and ʻuala), and iʻa (seafood) being the main source of protein. Moke, pg. ix. As such, lawaiʻa (fishing) was a constant, necessary occupation in old Hawaiʻi. *See also* Native Use of Fish in Hawaii by Margaret Titcomb and Mary Kawena Pukui (1972). **Ancient Hawaiian lawaiʻa stories and practices not only memorialize great lawaiʻa and their akua (gods) and ʻaumākua, but also emphasize the importance of conserving the iʻa resources.** "To conserve the supply of all resources was constantly in the Hawaiian mind…Fishing grounds were never depleted, for the fishermen knew that should all the fish be taken from a special feeding spot (koʻa) other fish would not move in to replenish the area." Titcomb and Pukui, pg. 12. Kapu prohibition practices were utilized by aliʻi (royal leaders) and konohiki (place-based resource managers) as a form of iʻa conservation to prevent overfishing, with strict rules and punishments including death. For instance, a common and well-respected practice was no fishing during spawning seasons for certain iʻa.

Importance of the Eight Species Proposed for AQ Collection

The AQ collectors seek to take nearly 250,000 individuals per year of eight important iʻa species. Of these eight species, **two are Endemic, and the other six are Indigenous. Seven proposed iʻa are known food sources and culturally significant (including medicinally and for religious ceremony)**, except for the Endemic Potter's Angelfish that is only "unknown" as to whether it was culturally recognized or traditionally used as a food. Furthermore, **six of these species are herbivores** and significantly important to the health of Hawaiʻi's declining reef and coral systems. Species on the Proposed Revised White List are:

- Lāʻīpala (yellow tang): food & cultural; herbivore; Indigenous
- Ukole (black surgeonfish): type of kole, food & cultural; herbivore; Indigenous
- Umaumalei (orangespine unicornfish): food & cultural; herbivore; Indigenous
- Kole (Goldring surgeonfish): food & cultural; herbivore; Endemic
- Hīnālea ʻIʻiwi (Bird Wrasse): food & cultural; carnivore, Indigenous
- Potter's Angelfish: herbivore; Endemic
- Thompson's Surgeonfish: planktivore; type of kala; food & cultural; Indigenous
- Māʻiʻiʻi (Brown Surgeonfish): herbivore; food & cultural; Indigenous

As the Revised Final Environmental Impact Statement (RFEIS, 2021) for this AQ trade admits, "While seven of the eight species on the proposed Revised White List have a known cultural use for food, medicinal, religious or ceremonial purposes, it is assumed a negative cultural impact could occur if populations of any of the eight species were impacted." Pg. ii. Although the RFEIS attempts to justify the take of these iʻa as "not anticipated to substantially decline" the

populations, it further admits that, "given that some native Hawaiians believe any collection for aquarium purposes is contrary to cultural practices, the Preferred Alternative may impact cultural practices, but the extent of the impact is unknown." Pgs. ii-iii.

To overlook the significance of these i'a to Native Hawaiian cultural understandings and traditional practices is to ignore our state's obligation to affirmatively protect traditional and customary rights. *See Generally,* Hawai'i State Constitution, Art. XII, Sec. 7.

Approval of this Submittal Now is Unnecessary and Premature Given the Pending Litigation on the Validity of the RFEIS

Several of KUA's E Alu Pū members are based in West Hawai'i and have long opposed AQ collection in their region. Some of them are involved in the pending Kaupiko case before the Hawai'i Supreme Court, and oppose the present permit considerations before you. Their long term opposition to AQ collection is based on their Native Hawaiian cultural philosophies, values, and traditions of lawai'a pono and place-based fishery management. In 1998, the West Hawai'i Regional Fishery Management Area (WHRFMA) was created along with the West Hawai'i Fishery Council (WHFC), largely in response to the AQ trade decimation of their areas. WHRFMA and WHFC were built upon the strong community efforts to make fishery governance more local and pertinent to the communities most dependent on the fishery. **Prematurely approving these AQ collection permits, as well as a possible delegation of authority on such a hotly contested issue to the Board Chair, would go around the long term concerns and opposition of the people most reliant and knowledgeable of their places.**

The litigious history of the AQ trade shows the strong West Hawai'i pushback to this commercial industry that nearly eradicated entire fish species before the communities started taking formal action. Even the Board's June 25, 2021 split decision, and later the RFEIS only deemed accepted based on a technicality, all point to major shortcomings in the justifications for continuing this trade in West Hawai'i. Although DAR claims "no legal impediment," **the Board would take an unnecessary risk in approving this submittal in the wake of such strong community pushback and unresolved litigation as to the validity of the RFEIS.** *See* article on Kaupiko et al. v. Dept. of Land & Nat. Res., et al. Especially with these permits being permissive, discretionary, and entirely optional, **rushing for approval does not align with DLNR's mission** to "Enhance, protect, conserve and manage Hawai'i's unique and limited natural, cultural and historic resources held in public trust for current and future generations of the people of Hawaii nei…"

Blatant Contradictions, Inconsistencies, and Lack of "Best Available" Scientific Basis in the Revised Final Environmental Impact Statement (RFEIS)

With Native Hawaiian understandings of i'a being our 'ohana, our beloved kūpuna (ancestors) and 'aumākua, sharing reciprocal mālama (caring) relationships, it is no wonder that the AQ trade in Hawai'i has been contentious likely since foreigners began it in the late 1940s. We remind the Board that **Native Hawaiians and these ancestral i'a have been in Hawai'i for *much longer* than the 1940s.** For the RFEIS to profess that because commercial AQ fishing "has been a part of the socioeconomic, cultural, physical, and biological resources," of Hawai'i

since the late 1940s, this foreign practice somehow qualifies as a "baseline condition of the affected environment" is *worrisome* to say the least. *See* RFEIS, pg. 32-33. With formal, documented, reports of Hawai'i fisheries spanning at least since the 1900s (i.e. "The Commercial Fishery of the Hawaiian Islands in 1903," Cobb, 1905), why base the "affected environment" at the start of the very commercial trade at issue? There are kūpuna still alive that can share more relevant data and first-hand experiences of the "affected environment" prior to the start of the AQ trade in Hawai'i. Oddly enough, in various other parts of the RFEIS, AQ fishing is *correctly* described as "not considered in line with local or Native Hawaiian cultural values or beliefs," for example:

> "**Local fishing for food species in Hawai'i is generally considered a vital social and cultural process, and many local residents in Hawai'i hold a negative view of the aquarium fishery, which is not considered a cultural right that needs to be protected** (Rossiter and Levine 2013). Rossiter and Levine (2013) state that **this is likely because aquarium fish are not fished for consumption, and the catch does not provide wider benefits to the local community in terms of food or cultural compensation, as well as because the economic benefits are realized only by a very small and often non-indigenous subset of the local population."** RFEIS, pg. 107.

Approving this submittal would prioritize a select commercial minority, ignore the blatant contradictions and inconsistencies in the RFEIS, and disregard the numerous Native Hawaiian and local stakeholders who freely give their time and energy to purely express their cultural values and understandings.

Similarly, **KUA urges BLNR to uphold and follow their own "Hierarchy of Use" Policy #1 (1998)**, which has been officially referenced by DLNR staff in public submittals as recently as November 2018 (pg. 1), as well as verbally during recent BLNR public meetings by board members. The policy states that **when considering commercial activity proposals or management actions on state owned lands and waters, DLNR must prioritize (1) the Natural or Cultural Resource, with highest priority going to conservation of the resource, (2) the General Public, and lastly (3) Commercial Activities should be considered only if their impacts do not impinge on the resource or use by the general public.** Following this established policy, clearly the conservation of these Endemic and Indigenous, culturally important food fish should be priority, and next the cries of the general public community members for various reasons to not approve this submittal. The third priority for Commercial Activities should not even be considered given the impacts to the Resources and General Public.

> **Proposed "Individual Catch Quotas and Total Potential Catch" Do Not Appear Based on any "Best Available" Science, and Quite Obviously Seem Based Solely on the Previously Unsustainable 2017-2018 Catch Data**

Yet another inconsistency in the RFEIS is its claim that the "Preferred Alternative Individual Catch Quotas and Total Potential Catch" per year are based on actual "data." A quick comparison of the "2017-2018 Catch" in Table 4-6 with the proposed catch quotas shows that

the proposed catch numbers essentially mirror what these same AQ collectors were catching in 2017-2018 before the Umberger decision declared all AQ permits illegal and void. *See* RFEIS, compare Table 3-2 (pg. 31) with Table 4-6 (pgs 89-90). The numbers are slightly lower, but eerily look similar to what the AQ collectors were taking from 2017-2018. The assumption here is that the RFEIS is basing the allowable take for these commercial AQ collectors on what they were collecting before any of the litigation paused such illegal and unsustainable behavior. Indeed, all proposed catch numbers mirror the 2017-2018 catch, except for the Thompson's Surgeonfish, for which the AQ collectors want to take *significantly more* – from 148 (2017-2018) to 2,016 (proposed). They also proposed taking nearly double of the Endemic Potter's Angelfish and Bird Wrasse than they did in 2017. So for three of the eight species, they actually want to take *more* than they did back in 2017. These numbers show that, **regardless of all the community pushback, litigation, and revised environmental report, these collectors still intend to catch just about the same as they were before, if not more.**

Comparison of Table 3-2 with Proposed "Revised White List," for proposed catch limits, with Table 4-6, "2017-2018 Catch"
See RFEIS, compare Table 3-2 (pg. 31) with Table 4-6 (pgs 89-90).

Species	Total Proposed Catch (Table 3-2)	2017-2018 Catch Data (Table 4-6)
Yellow Tang	200,000	264,870
Black Surgeonfish	3,152	3,878
Orangespine Unicornfish	5,872	6,078
Kole	30,000	30,901
Bird Wrasse	344	265
Potter's Angelfish	4,376	2,245
Thompson's Surgeonfish	2,016	148
Brown Surgeonfish	800	957

A related issue is that **although populations of these i'a may be increasing in recent years (and particularly since 2017), this is most likely attributed to the initial ban on AQ fishing in the first place**. Yet the RFEIS uses the increased populations to the AQ collectors' advantage, as if the problem of AQ fishing had nothing to do with the decline. Furthermore, where is the placed-based data for any of these species that DAR is committed to protecting? Place-based data for acknowledged "hot zones" could significantly alter potential data forecasts for fish populations, as well as better inform any allowable take. More inconsistencies & contradictions that we urge the Board to consider for this extremely flawed request and RFEIS.

KUA‘ĀINA ULU ‘AUAMO

Any Potential Economic Benefits to the State and People of Hawai‘i are Minimal Compared to the Numerous Other Issues and Administrative Costs

It is very concerning to see that each of these commercial AQ fishers would pay only $100/year to obtain these permits to catch nearly 250,000 of our Endemic and Indigenous i‘a. We assume that the costs to administer this permitting program far exceed the only $700/year that would be collected if these seven permits are issued. Even with forecasts of sales claiming up to over $2 million for these seven AQ trade operators (Table 5-3, pg. 103), as the RFEIS admits, they do not know/care to collect data on how much of this money actually “stays” in Hawai‘i – “As stated in DAR (2019a): “**Although specific export data do not exist for the aquarium fishery, it is clear that most of the aquarium catch is shipped out of the state to dealers on the mainland United States, Europe, and Asia** (Dierking 2002)” RFEIS, pg. 37.

Agenda Item F-1 is unnecessary and premature, and based on a severely flawed, contradictory, and deceiving Revised Final Environmental Impact Statement. All of the species potentially impacted are Endemic or Indigenous, most are herbivores, food sources, and culturally significant to traditional Native Hawaiian values and practices. Approval of Item F-1 would essentially subsidize an extractive economic practice and industry that primarily benefits only a small subset of Hawai‘i-based business owners, and largely benefits interests and profits outside of Hawai‘i. Furthermore, Item F-1 threatens to subvert the positive intentions of recent BLNR/DLNR policies and promises to prioritize local and Native Hawaiian place-based knowledge, governance, abundance, and resilience. *Let us not go backwards, but forward, together.* Please **deny** Agenda Item F-1. Mahalo nui loa for considering our comments.

“E kuahui like i ka hana.”

Let everybody pitch in and work together.

‘O ke aloha ‘āina nō no nā kau ā kau, mau ā mau,

Kevin K.J. Chang
Executive Director

Olan Leimomi Fisher
Kua‘āina Advocate

From: Todd Lauder
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 8:41:49 AM

I oppose banning the aquarium fishery, and I support managing resources by science as provided by DAR.

With a sustainable approach these beautiful aquatic animals can be admired by all in their own homes. It can bring peace and tranquility to individuals that might be dealing with mental illnesses and addictions.

Sincerely,
Todd Lauder

From:	Mundo Blue
To:	DLNR.BLNR.Testimony
Subject:	[EXTERNAL] Testimony In Support of DAR F.1. passage.
Date:	Thursday, August 22, 2024 9:26:02 AM

BLNR Hearing
DATE: April 26, 2024
TIME: 9:00 a.m.
PLACE: DLNR Boardroom,
blnr.testimony@hawaii.gov
Please send me a link to testify via Zoom.
From William Lavandoski
Testimony In Support of DAR F.1. passage.

Re: Approval of State of Hawai'i Aquarium Fish Permit

Please pass the issuance of Aquarium Fish Permits.

1. With overwhelming science supporting the sustainability of the aquarium fishery, the approval of fishery permits could aid the state in its shift to sustainable renewable resource uses.
The aquarium fishery is the most valuable and sustainable ecologically friendly fishery in Hawaii.

2. Please give the permits to sustainable fishers. Even the DAR recommends this.

DAR West Hawaii FEIS (Environmental Review Presentation):

https://youtu.be/djjtlsvg7qs?feature=shared

State of Hawai'I DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Aquatic Resources
Honolulu, Hawai'i 96813 April 12, 2024
Board of Land and Natural Resources State of Hawai'i

Informational Briefing on Existing Fisheries Data and Management

"Considerations Related to Submitted for your information and consideration is a review of existing fisheries data and management considerations related to the West Hawai'i Commercial Aquarium Fishery prepared by the Department of Land and Natural Resources' (Department) Division of Aquatic Resources (DAR)".

SUMMARY OF DAR FINDINGS

“Based on DAR’s review of the available data for West Hawai‘i, DAR does not find clear evidence to suggest that limited commercial aquarium fish harvest, as proposed in the RFEIS’ preferred alternative, would adversely impact the long-term viability of target species populations. DAR also does not find clear evidence to suggest that the activity would result in any measurable declines in ecosystem health or resilience. Finally, DAR finds that existing and proposed management measures would most likely mitigate any potential negative effects of the fishery and provide sufficient safeguards against unforeseen changes in population or ecosystem status. A detailed summary of DAR’s findings is provided in section 9 of the DAR report”.

“Based on the information provided in the DAR report and Appendices, DAR plans to present a recommendation to the Board regarding the issuance of West Hawai'i aquarium permits at a future Board meeting.”

BRIAN J. NEILSON, Administrator Division of Aquatic Resources

3. Hawaii’s Aquarium Fishery has been studied more than any other fishery in the world. Both the 2,400 page Environmental Review of the West Hawaii fishery, and the 1200 Page Oahu Environmental Review of all the science and fish counts support a sustainably low fishery impact conclusion. Meta-analysis of all the science supports passage of the Oahu fishery Final Impact Statement and a return of an important fishery to the State. State fish counts and studies covering more than 20 years of data, before the lawsuit by tourists already scientifically proved Hawaii’s aquarium fishery was sustainable.
15 years of West Hawaii division of aquatic resource monitoring and the separate Tissot aquarium fish study proved “no coral impacts” for the fishery when compared to closed fishing areas! 21 of Hawaii’s leading marine scientists with decades of hands-on expertise, in a public letter, all supported the “model” aquarium fishery. Only two scientists were in opposition to the fishery in their testimony. Both are non-marine biologists from the mainland with no direct ocean expertise or publications.
Most reef fish produce 10,000 to 5 million fry per spawning, and with spawning occurring three times a day or every daily for most months out of the year, reef fish’s ability to repopulate is staggering! Fish are the most renewable resource on the planet. To not utilize highly renewable resources, lessen Hawaii’s ability to be sustainable.
One major study showed that Yellow Tangs produce 1.14 million fry per pair per year! With a low estimated 1 million yellow tangs on Oahu, up to 570 billion fish eggs yearly on Oahu only. Most do not survive the adult breeding stage. Even if only one percent survive the adult breeding stage, then that is 5 billion 700 million new fish on Oahu reefs every year that could make it to adult breeding stages! The ability to repopulate far outweighs the impact of low aquarium fishery.
The maximum 6% take of past aquarium fishery populations was sustainable! Many researchers consider a 30% take to be the sustainable limit. The Oahu environmental review only asks for less than 5% of all species to be taken by fishermen. For most species listed in

the environmental review preferred option, the amount of take would be less than 1%! Fecundity is the measurement of a fish's ability to repopulate. This information is useful in fishery management.
Please Pass the permits for Aquarium fishing.
4. The United States 206 billion-dollar-a-year pet industry could further support Hawaii with much-needed sustainable incomes at a low carbon footprint. There is an even more significant worldwide demand and potential for monetary gain. Aquaculture and aquarium fish business should be significant state goals to ensure Hawaii has more sustainable jobs and that economic boosts are greatly needed. Sustainable fisheries are the answer, not the problem. Please pass F1 and give out permits for aquarium Fishers!
5. 2020 DLNR West Hawaii Report To the Legislature:

Page 28 "Overall Yellow Tang abundance in the 30'-60' depth range over the entire West Hawai'i coast is
estimated to have increased by over 3.4 million fish from 1999/2000 to 2017/2018 (150% increase)
to a current population of about 5.7 million fish within this depth range alone."

Page 37 "Overall Kole abundance in the 30'-60' depth range over the entire West Hawai'i coast is estimated
to have increased 118% (>5.1 million fish) during this time period with a current estimated population of almost 9.6 million fish. As with Yellow Tang, summer 2014 recruitment for Kole in many areas was very strong. Recruitment at the Manuka survey site for example was 254% higher than on any other previous survey at the site over the last 20 years."

Pager 17 "the marine aquarium fishery has been the most economically valuable commercial inshore fishery in the State of Hawai'i with FY 2017"

https://files.hawaii.gov/dlnr/reports-to-the-legislature/2020/AR20-WHRFMA-Rpt-FY19.pdf
Please pass F1 and give out permits to fishers.

From: Sandra Leon
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 1:51:29 PM

I support opening the aquarium fishery and managing resources by science provided by DAR'

Thank you for considering my opinion.

Sandra Leon

From: Hanna Lilley
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] August 23; Agenda Item F.1
Date: Wednesday, August 21, 2024 5:58:41 PM

Aloha,

My name is Hanna Lilley, I live in Makawao, Maui and am Regional Manager for Surfrider Foundation. I do not support the movement for the Department of Aquatic Resources to issue permits for commercial aquarium collection in West Hawai`i. It is imperative that the voices of the community be valued and integrated in policies regarding the management of our natural resources. In a time when our reef systems already face many pressures including climate change that threaten these vital ecosystems, we must support protective measures that safeguard reef fishes.

BLNR should be the ultimate-decision makers on whether or not to issue aquarium collection permits, not the Chair of DAR.

Mahalo for your consideration,

Hanna Lilley

--
Hanna Lilley | Maui Fire Response Coordinator
Surfrider Foundation
Pronouns: she/her/hers (what's this?)
808. 633. 1304 hlilley@surfrider.org

Polanui Hiu
Community Managed Makai Area

August 22, 2024

Subject: Item F-1, Opposition to issuing AQ permits & Delegating authority to Dept Chair

Testimony in Strong Opposition to Reopening the Aquarium Trade in West Hawai‘i

Aloha esteemed members of the Board of Land and Natural Resources,

I am vehemently oppose the request for approval of the Application Form and Terms and Conditions for the State of Hawai‘i Aquarium Fish Permit and the Terms and Conditions for the West Hawai‘i Aquarium Permit. This proposal, seeking to authorize limited commercial aquarium collection in the West Hawai‘i Regional Fishery Management Area to up to seven applicants, is deeply concerning and goes against the principles of conservation and sustainability that we hold dear.

The Division of Aquatic Resources' move to delegate authority to the Chair to approve, sign, and issue West Hawai‘i Aquarium Permits and State of Hawai‘i Aquarium Fish Permits without proper oversight and public input is alarming. This attempt to bypass transparency and accountability is a betrayal of the trust placed in DAR to protect our marine resources.

Furthermore, the timing of this proposal is highly inappropriate, considering the pending validity of the Environmental Impact Statement and the community's petitioned rule making to prohibit commercial aquarium collection statewide. It is unacceptable to move forward with this plan before these critical issues have been resolved.

The potential reopening of the aquarium trade in West Hawai‘i poses a significant threat to our fragile marine ecosystems and the well-being of our reef fish. The negative impacts of commercial aquarium collection on our reefs, including overfishing, habitat destruction, and disruption of marine ecosystems, cannot be ignored.

I urge the Board to listen to the voices of the community and to prioritize the long-term health and sustainability of our marine resources. Please reject this proposal and uphold the unanimous decision made in December 2023 to prohibit commercial aquarium collection statewide.

393B Front Street, Lahaina, HI 96761
www.polanuihiu.com

Polanui Hiu
Community Managed Makai Area

Mahalo nui for your attention to this critical issue and for your commitment to protecting our precious marine ecosystems. Let us stand together in defense of our reefs and marine life for the benefit of current and future generations.

Mahalo nui loa.

Edwin “Ekolu” Lindsey
Co-founder Polanui Hiu

From: John J. Link
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 support
Date: Thursday, August 22, 2024 4:34:28 AM

I support opening the aquarium fishery and managing resources by science provided by DAR.

Thanks,
John Link

From: Steven Lombardi
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 support
Date: Wednesday, August 21, 2024 4:43:04 PM

I support opening the aquarium fishery and managing resources by science provided by DAR.

- Steven

Chair Chang and Board of Land and Natural Resources,

I support item F1.

I support science backed sustainable fisheries here in Kona.

Please vote yes on this issue.

Thank You,
Staci Lovell

From: Roberto Macias
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 6:06:47 AM

Dear BLNR

I support opening the aquarium fishery and managing resources by science providing by DAR.

Thank you and sincerely
Robert Macias

Sent from my iPhone

From: william mae-huihui
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] BLNR agenda item F-1 (8/23/24)
Date: Thursday, August 22, 2024 9:04:56 AM

State of Hawai‘i
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Aquatic Resources
Honolulu, Hawai‘i 96813

Board of Land and Natural Resources
State of Hawai‘i
Honolulu, Hawai‘i

August 23, 2024
Agenda item F-1

F. DIVISION OF AQUATIC RESOURCES

1. Request for Approval of the Application Form and Terms and Conditions for the State of Hawai‘i Aquarium Fish Permit Pursuant to Hawaii Revised Statutes Section 188-31; Request for Approval of Terms and Conditions for the West Hawai‘i Aquarium Permit Pursuant to Hawaii Administrative Rules Section 13-60.4-7; Request to Delegate Authority to the Chair to Approve, Sign, and Issue West Hawai‘i Aquarium Permits and State of Hawai‘i Aquarium Fish Permits authorizing limited commercial aquarium collection in the West Hawai‘i Regional Fishery Management Area (WHRFMA) to Up to Seven Applicants That Meet Certain Criteria and Requirements.

Aloha Chairwoman and Board of Land and Natural Resources,

My name is William K. Ma’e-Huihui a lawai’a practitioner of Moku o Keawe and resident of Miloli’i fishing village. I do not support agenda item F-1.The practice of Aquarium fish collection is a hot topic for many reasons and the common tread is it does not follow traditional cultural practices. I shall elaborate as best I can to see from my lens.

The pressures of harvest would be from two sides, harvest of keiki (baby) fish by AQ fishers and the harvest of the makua (adult) from subsistence and commercial fishers leaves little to no wiggle room for a species to have a sustainable population balance. Yes there is now more abundance in our oceans off of West Hawai`i Island due to the reprieve of these years of rest

It has been years since aquatic diving has been on hold and the uptick in

abundance has been noticeable. To have subsistence fishers gathering and making a living off of the mature adults whom can spawn, and replace what is taken that is lawai'a pono and subsistence fishing.

Aquatic diving for baby reef fish takes out a whole generation of potential spawners and breeders to the area affecting the ecosystem's cycle. To remove the keiki you remove the cleaners of that area and create a highly susceptible grounds for other fish to move in and impact that area in a detrimental way. The removal of one generation can affect multiple generations in ways unseen and understudied.

Mahalo for your time and patience have a blessed day.

William Ma'e-Huihui
Lawai'a practitioner

Māhealani Pai, Pai ʻOhana
PO Box 251, Kailua Kona, HI 96745

August 22, 2024

eMail: blnr.testimony@hawaii.gov
Department of Land and Natural Resources
PO Box 261, Honolulu, Hawaiʻi
96809

RE: F-1 I OPPOSE Issuing AQ Permits & OPPOSE Delegating Authority to Department Chair

Aloha and Greetings Chair and Board of Land and Natural Resources,

My name is Wm. D. Māhealani Pai. I have a lineal affiliation to nā ahupuaʻa of Makaʻula, Haleohiu, Hāmanamana, Kalaoa, ʻOʻoma, Kohaneiki, Kaloko, Honokōhaunui, Honokōhauiki, Kealakehe, Keahuʻolu, Lanihau, Holualoa, Kahaluʻu, Keauhou, Hokukano, Keālia, and Kauhakō.

Like my ancestors, I am a Hawaiian cultural practitioner, and subsistence fisherman. I was born in Kona and live Kalaoa ma uka. I am employed by Kamehameha Schools as a Cultural Resource Manager responsible for the stewardship of nā wahi kūpuna. My tūtū ma looked after the fishponds of Honokōhauiki, Honokōhaunui and Kaloko. They were divers and ʻōpelu fisherman and harvested the ʻopaeʻula from the surrounding waiopae ponds for bait to catch ʻōpelu.

I respectively request you to reject DARʻs AQ Terms and Conditions and deny any and all permits. On several occasions, while diving, my ʻohana and I have witnessed commercial aquarium collection activity in front of the ʻĀiʻōpio fishtrap located in the ahupuaʻa of Honokohauiki. It made us angry, and we confronted these folks and argued with them that these practices that they are engaged in is a foreign practice.

Regarding Delegating Authority to Issue AQ Permits to the Department Chair,
I wish to not delegate authority to the Department Chair. I wish to retain the discretionary authority with the Board who will continue to utilize their diverse island communities, specialize knowledge and expertise to weigh in and make informed decisions together.

As a lineal descendant to nā ahupuaʻa above, I do not consent to foreign practices of commercial aquarium collection activity in these waters to become normalized. These foreign practices did not exist during my tūtū ma time and it is my hope that it does not exist.

Mahalo for this opportunity,

<signed>

Wm. D. Māhealani Pai

Moku o Kona, Moku o Keawe

From: Moani Mahuna
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] August 23; Agenda Item F. 1
Date: Thursday, August 22, 2024 8:57:42 AM

Aloha my name is Moani Mahuna; a native Hawaiian from Waimea, Hawaii island. I am a fisherman, and waterman of the South Kohala coast and I do not support AQ permits being issued. I'm in the ocean almost every day and from the numbers of fish I see, allowing AQ collection permits would only HURT the population of our fish and harm the health of our reefs.

BLNR should be the overseers and ultimate decision makers on whether or not to issue AQ permits not just the chair of DAR staff.

No AQ permits should be issued.

Mahalo

From: malcolm rutter
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Wednesday, August 21, 2024 8:45:06 PM

I support opening the aquarium fishery and managing resources by science provided by DAR

I live in northern england. I have kept marine fishes since 1970.

My marine fishes live a LONG and healthy life. Years. in fact. The nonsense I have read about how they die in captivity within weeks is incorrect with the advancements made in the marine fish hobby.

eg. I have two Dascyllus from the Line Islands which have lived in my lounge aquarium for 13 years.

I cannot view Hawaiian fishes or source them because of the ban.

I have seen achilles tangs in plastic buckets dead.caught by fishermen in the U.S. why can some fishes be sourced responsibly for the aquarium trade.

I also read how Dascyllus albisella damsels are used for cycling tanks. This is nonsense. I have kept fish for 55 years and have never known anyone to do this.

stop the scaremongering and allow sensible amounts of fishes to be allowed for DEDICATED aquarists.

Malcolm Rutter

From: Adam Mangino
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 6:46:51 AM

Hello.

I support opening the aquarium fishery and managing resources by science provided by DAR.

Adam Mangino

Article

Coral reefs benefit from reduced land–sea impacts under ocean warming

https://doi.org/10.1038/s41586-023-06394-w

Received: 21 July 2022

Accepted: 30 June 2023

Open access

Check for updates

Jamison M. Gove[1,17]✉, Gareth J. Williams[2,17]✉, Joey Lecky[3], Eric Brown[4], Eric Conklin[5], Chelsie Counsell[6], Gerald Davis[3], Mary K. Donovan[7,8], Kim Falinski[5], Lindsey Kramer[9], Kelly Kozar[10], Ning Li[11], Jeffrey A. Maynard[12], Amanda McCutcheon[10], Sheila A. McKenna[10], Brian J. Neilson[13], Aryan Safaie[14], Christopher Teague[13], Robert Whittier[15] & Gregory P. Asner[7,16]

Coral reef ecosystems are being fundamentally restructured by local human impacts and climate-driven marine heatwaves that trigger mass coral bleaching and mortality[1]. Reducing local impacts can increase reef resistance to and recovery from bleaching[2]. However, resource managers lack clear advice on targeted actions that best support coral reefs under climate change[3] and sector-based governance means most land- and sea-based management efforts remain siloed[4]. Here we combine surveys of reef change with a unique 20-year time series of land–sea human impacts that encompassed an unprecedented marine heatwave in Hawai'i. Reefs with increased herbivorous fish populations and reduced land-based impacts, such as wastewater pollution and urban runoff, had positive coral cover trajectories predisturbance. These reefs also experienced a modest reduction in coral mortality following severe heat stress compared to reefs with reduced fish populations and enhanced land-based impacts. Scenario modelling indicated that simultaneously reducing land–sea human impacts results in a three- to sixfold greater probability of a reef having high reef-builder cover four years postdisturbance than if either occurred in isolation. International efforts to protect 30% of Earth's land and ocean ecosystems by 2030 are underway[5]. Our results reveal that integrated land–sea management could help achieve coastal ocean conservation goals and provide coral reefs with the best opportunity to persist in our changing climate.

Coastal areas contain some of the most biologically diverse and productive marine ecosystems on Earth[6]. But with four times the population density living within 20 km of the ocean compared to the rest of the world[7], direct human impacts on local scales are fundamentally restructuring these important marine communities[8]. Coastal areas are also affected by stronger and more frequent disturbances fuelled by human-induced climate change[9]. These human stressors are especially acute on tropical coral reefs where up to 90% of the local population live along the shoreline[10]. Land-based stressors, such as wastewater pollution, combine with sea-based stressors, such as overfishing, to disrupt natural ecological feedbacks on reefs[11]. Corals are further stressed by prolonged periods of anomalously warm ocean temperatures, known as marine heatwaves[12], that can cause mass coral bleaching[13] and mortality and fundamentally transform reef assemblages[14,15].

Reducing human impacts on local scales to maintain ecosystem integrity has been the guiding model of coral reef conservation for decades[3]. Its importance was established in the indigenous stewardship of island ecosystems, which used a decentralized and integrated resource management strategy that extended from the mountains to the sea[16,17]. By contrast, contemporary centralized governance means most terrestrial and ocean management efforts remain siloed[4,17,18]. As a result, whereas local resource managers have aspired to an integrated land–sea approach[19], evidence of its efficacy above either approach in isolation remains wanting and difficult to test. Detecting conservation benefits in highly dynamic ecosystems is challenging[20], but recent studies have identified salient connections between local conditions and coral reef resistance to and recovery potential following mass bleaching[2,11,21–23]. Managers therefore require unambiguous targets for the combination of land–sea human impacts they should mitigate to support coral reef persistence under climate change. Hampering these efforts are a lack of spatially resolved data on local drivers of coral reef ecosystems over time. Researchers are often forced to use proxies

[1]Pacific Islands Fisheries Science Center, National Oceanic and Atmospheric Administration (NOAA), Honolulu, HI, USA. [2]School of Ocean Sciences, Bangor University, Menai Bridge, Anglesey, UK. [3]Pacific Islands Regional Office, National Oceanic and Atmospheric Administration, Honolulu, HI, USA. [4]National Park of American Samoa, Pago Pago, American Samoa, USA. [5]The Nature Conservancy, Honolulu, HI, USA. [6]Cooperative Institute for Marine and Atmospheric Research, Honolulu, HI, USA. [7]Center for Global Discovery and Conservation Science, Arizona State University, Hilo, HI, USA. [8]School of Geographical Sciences and Urban Planning, Arizona State University, Tempe, AZ, USA. [9]Hawai'i Wildlife Fund, Kealakekua, HI, USA. [10]National Park Service, Pacific Island Network Inventory and Monitoring, Hawai'i National Park, HI, USA. [11]Department of Ocean and Resources Engineering, University of Hawai'i at Mānoa, Honolulu, HI, USA. [12]SymbioSeas, Carolina Beach, NC, USA. [13]Hawai'i Division of Aquatic Resources, Honolulu, HI, USA. [14]Graduate School of Oceanography, University of Rhode Island, Narragansett, RI, USA. [15]Hawai'i Department of Health, Honolulu, HI, USA. [16]School of Ocean Futures, Arizona State University, Hilo, HI, USA. [17]These authors contributed equally: Jamison M. Gove, Gareth J. Williams. ✉e-mail: jamison.gove@noaa.gov; g.j.williams@bangor.ac.uk

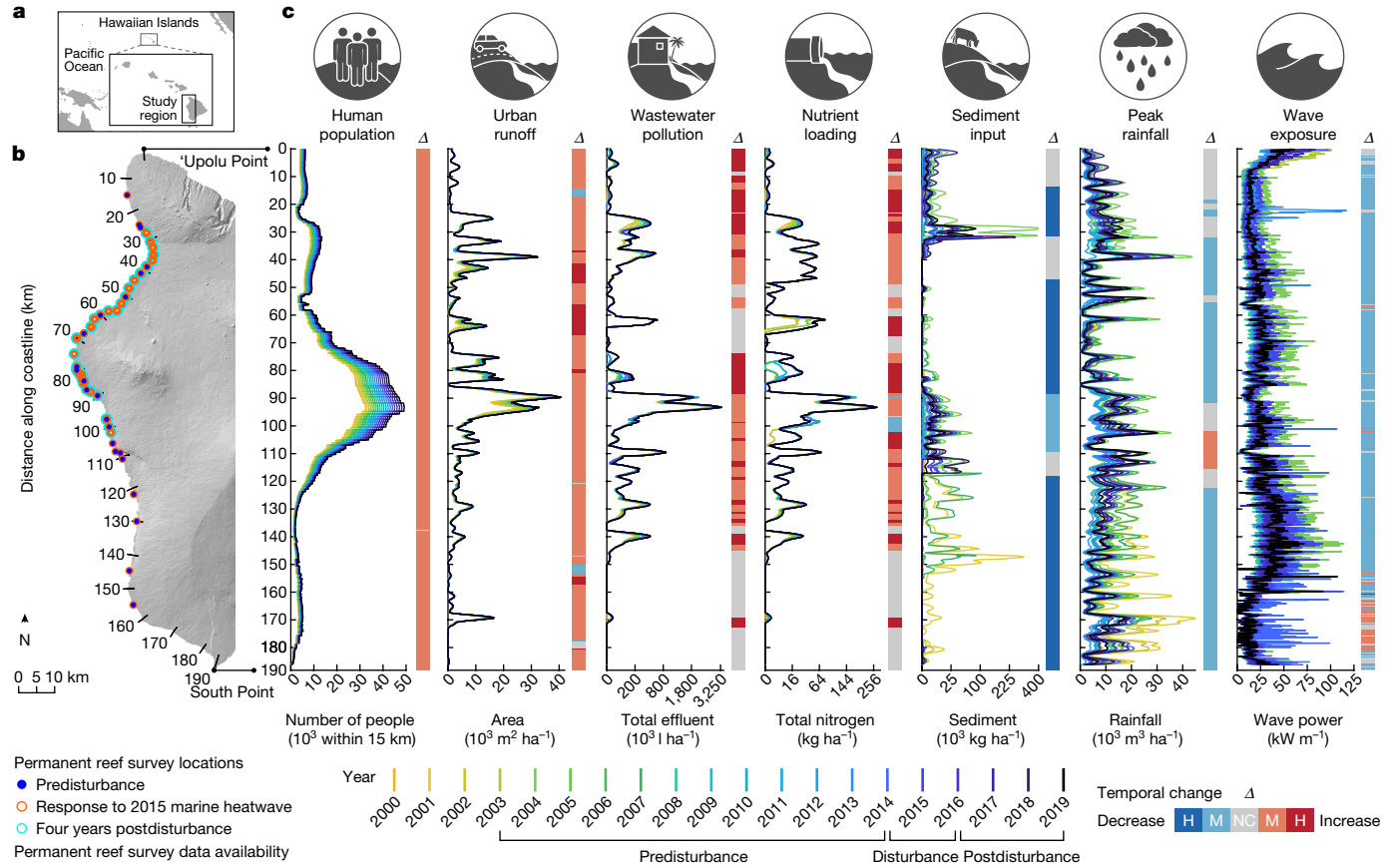


Fig. 1 | Select local land–sea human impacts and environmental factors on coral reefs in our study region in Hawai'i. a, Geographic location of the Hawaiian Islands. **b**, Study region with reef surveys shown for the following: reef trajectories predisturbance (n = 23; Fig. 2), coral response to the 2015 marine heatwave (n = 80; Fig. 3) and coral reefs four years postdisturbance (n = 55; Fig. 4). **c**, Spatial distribution in annual, high-resolution (100 m) data on local human impacts and environmental factors from 2000 to 2019 (coloured lines). The y axis represents distance along the coastline in kilometres from north to south along the study region in **b**. Vertical bar represents the change over time (Δ) for each 100 m section along the coast. A change over time is high (H, $\Delta \geq 50\%$), moderate (M, $0 > \Delta < 50\%$) or there is no change (NC, grey), with blue hues indicating decreases and red hues indicating increases. Change is based on the mean difference between the first 5 years (2000–2004) and the most recent 5 years (2015–2019) in the time series. This accounted for year-to-year variability in the episodic nature of factors such as wave exposure, rainfall and sediment input. A subset of factors is shown in **c** owing to space constraints. Additional factors (not shown) include annual rainfall, phytoplankton biomass, ocean temperature (mean and variability), heat stress, irradiance, fishing gear restrictions, depth and metrics of fish biomass. The distribution, change over time and variability of all factors are shown in Supplementary Fig. 1. See Extended Data Table 1 and Supplementary Information for detailed information on local land–sea human impacts and environmental factors.

such as population density[24,25] and reef accessibility[26], or composite indices such as 'water quality'[11] that can be affected by anything from deforestation[27] to aquaculture[28]. Such proxies do not identify the policy levers local resource managers can pull and are less likely to result in management actions or successful conservation outcomes.

Here we present a unique 20-year time series of land–sea human impacts and environmental factors known to affect coral reef ecosystem processes across our study region in the Hawaiian Islands (Fig. 1a). Human factors include urban runoff, wastewater pollution, nutrient loading, sediment input and local restrictions on types of fishing gear. Environmental factors include peak and annual rainfall, wave exposure, variability in ocean temperatures and heat stress, irradiance and phytoplankton biomass. We also incorporate multiple fish biomass metrics that represent the critical role reef fish play in maintaining coral reef ecosystem function[29–31] (see Extended Data Table 1 for a full list of factors). We combined this dataset with recurring, permanently marked and site-specific underwater survey data on coral reef benthic communities (Fig. 1b). Our study reefs spanned large spatiotemporal gradients in land–sea human impacts and environmental factors (Fig. 1c) that are comparable to coral reef ecosystems globally (Extended Data Fig. 1), and which experienced the most severe marine heatwave on record in the Hawaiian Islands (Extended Data Fig. 2). We quantified drivers of coral reef benthic change at the scale of individual reefs over 12 years before disturbance (2003–2014), during and immediately following the marine heatwave (2014–2016) and four years postdisturbance (2016–2019). Our findings show that simultaneously mitigating local human impacts on both land and sea supports positive coral cover trajectories in the absence of periodic acute disturbance, reduces coral loss during a marine heatwave and promotes coral reef persistence following severe heat stress.

Reef trajectories predisturbance

Coral cover among reefs surveyed in 2003 was 36.9 ± 2.3% (mean ± s.e.; n = 23) and changed by less than 3% in the subsequent years leading up to the 2015 marine heatwave (Fig. 2a). However, coral cover trajectories on individual reefs varied considerably over this time period: 44% of reefs showed a positive trajectory (that is, increased coral cover), 35% of reefs showed a negative trajectory (that is, decreased coral cover) and the remaining reefs showed no change (Fig. 2b). To the best of our knowledge, no acute disturbance occurred that can explain these divergent trajectories. Yet, we did find distinct differences in local conditions between positive and negative trajectory reefs in the years before and

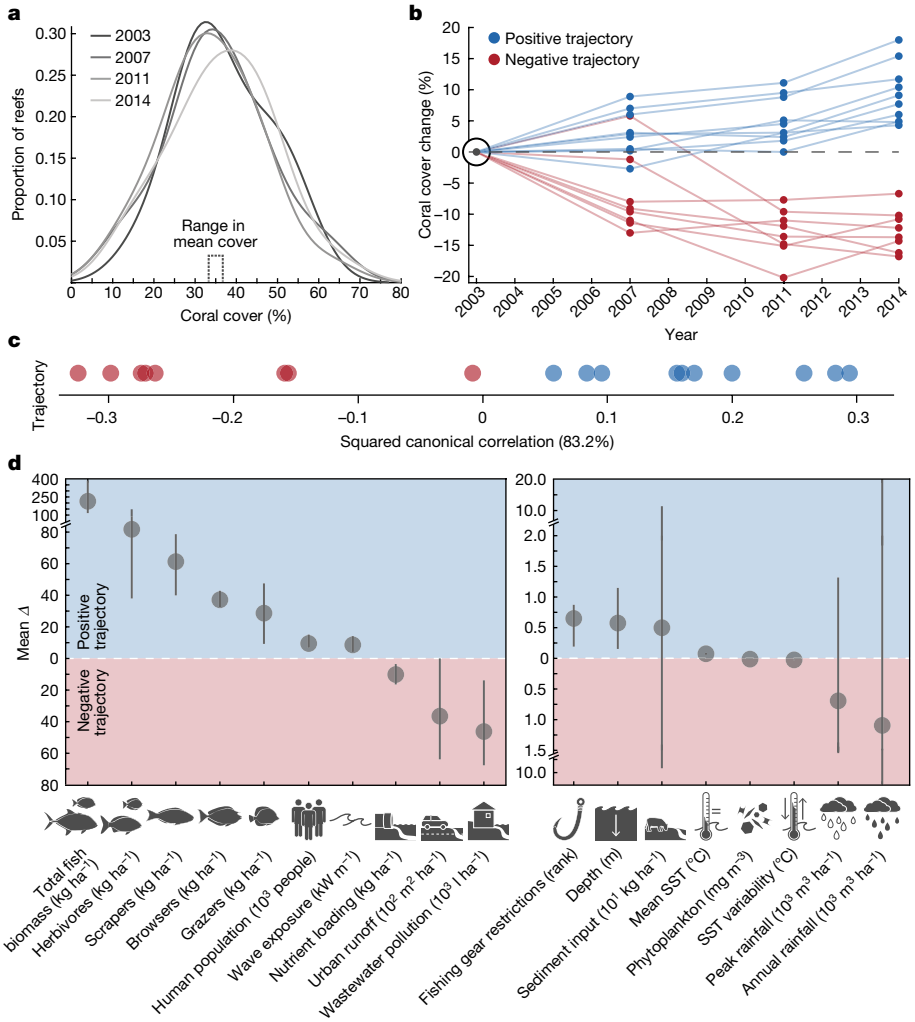


Fig. 2 | Reef trajectories predisturbance and associated local land–sea human impacts and environmental factors. a, Coral cover distributions among surveyed reefs between 2003 and 2014 ($n = 23$). **b**, Coral cover trajectories of individual reefs. A reef was considered on a positive trajectory (blue; $n = 10$) or negative trajectory (red; $n = 8$) if coral cover between 2003 and 2014 changed by more than 3%. This cut-off was based on mean coral cover range among all 23 reefs for the 12-year predisturbance period (range 2.8%; min 34.1%; max 36.9%). Reefs with no coral cover change (within ±3%) are not shown. **c**, Difference in local conditions between positive versus negative trajectory reefs (PERMANOVA, pseudo-$F_{1,17} = 3.38$, $P = 0.001$) visualized along a single multivariate axis (capturing the multidimensional and correlated nature of the data, Supplementary Fig. 2) using a canonical analysis of principal coordinates (n = same as in **b**). Allocation success equalled 90 and 87.5% for positive and negative trajectory reefs, respectively (more than 50% indicates an increasingly more distinct set of conditions than expected by chance alone). **d**, Mean difference (dots) in drop-one jackknife values with upper and lower bars representing the respective maximum and minimum differences in local human impacts and environmental factors between positive and negative trajectory reefs (n = same as in **b**). Blue and red shaded regions indicate factors that were greater on reefs that had positive and negative trajectories, respectively. Zero line represents equal values. See Extended Data Fig. 3 for the percentage difference in local conditions between positive and negative trajectory reefs. We included all local human impacts and environmental factors in **d** to provide a general comparison of local conditions between reefs with divergent trajectories. See Fig. 1b for reef locations and Supplementary Fig. 3 for predictor variable distributions. See Methods, Extended Data Table 1 and Supplementary Information for detailed information on local land–sea human impacts and environmental factors.

inclusive of this time frame (Fig. 2c). For example, the average biomass of all fishes, all herbivorous fishes and groups of herbivorous fishes that fill important ecological roles such as scrapers, grazers and browsers[30] were 24–113% (29–214 kg ha^{-1}) greater on reefs with positive trajectories compared to those with negative trajectories (Fig. 2d and Extended Data Fig. 3). These patterns probably reflect positive feedbacks, whereby increasing coral cover promotes habitat suitability for reef fishes, with herbivorous fishes then facilitating coral growth by reducing competitive exclusion by fleshy algae[32]. By contrast, wastewater pollution, nutrient loading and urban runoff were 46–80% greater on reefs with negative trajectories compared to those with positive trajectories. Despite these land-based human stressors being comparatively higher on reefs with negative trajectories, reefs with positive trajectories had 63% greater human population density (the number of people within a 15 km radius). This finding supports the notion that human population density is a poor indicator of human-driven land–sea impacts at local scales[33]. We observed minimal differences between positive and negative trajectory reefs relative to fishing gear restrictions, depth, sediment input, ocean temperatures, phytoplankton biomass and rainfall. Wave exposure was slightly higher (8.6 kW m^{-1}) on reefs with positive trajectories, but the difference is minor because the entire study region is generally protected from large wave events[34].

Coral response to the marine heatwave

In 2015, the Hawaiian Islands experienced the strongest marine heatwave on record over the past 120 years (Extended Data Fig. 2). Ocean temperatures across our study region were 2.2 °C above normal and

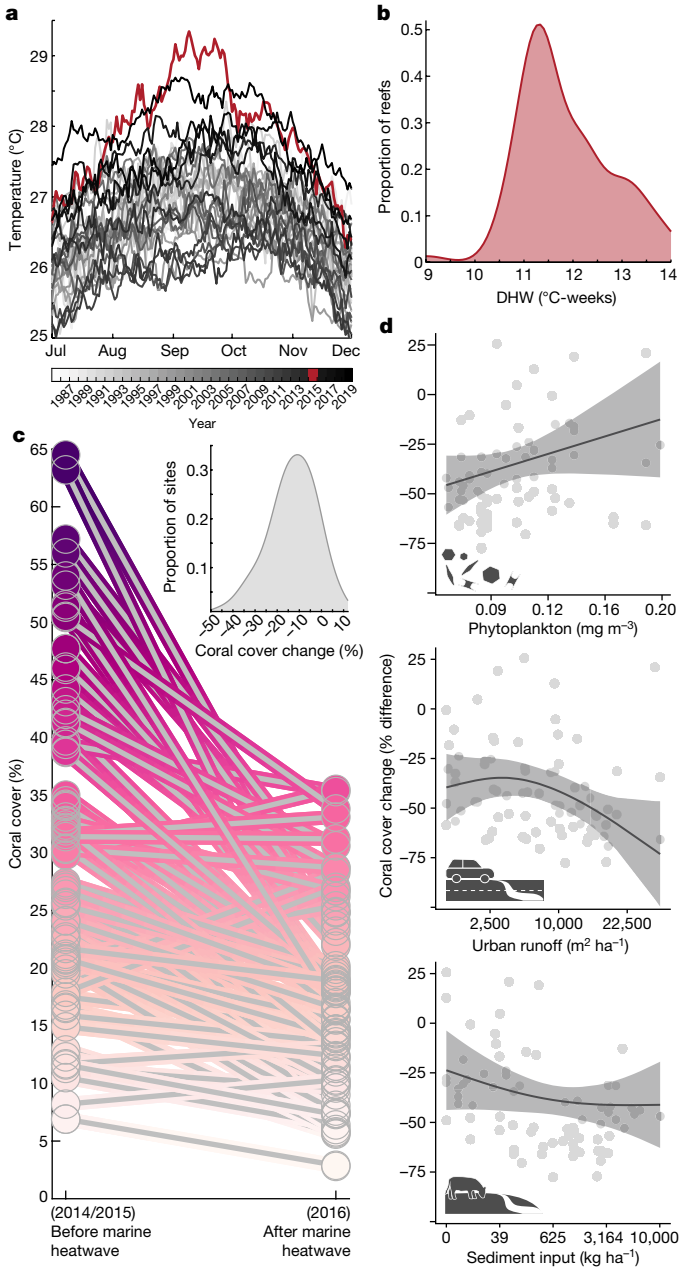


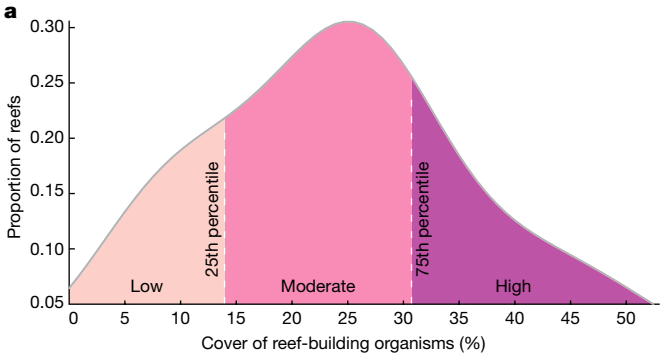
Fig. 3 | Local land–sea human impacts and environmental factors that modified coral response to the 2015 marine heatwave. a, Historical (1986–2019) SSTs during the seasonal peak (July–December) averaged across the study region; 2015 marine heatwave shown in red. **b**, Maximum DHW exposure in 2015, a common heat stress metric, among surveyed reefs. All reefs exceeded the eight DHW threshold expected to produce severe and widespread coral bleaching and mortality. **c**, Coral cover before (2014–2015) and one year following (2016) the marine heatwave among surveyed reefs ($n = 80$, Fig. 1b). The inset represents the distribution of absolute coral cover change. **d**, The GAMM results ($R^2 = 0.79$) showing key factors explaining coral response to the marine heatwave. Change accounts for starting condition, defined as: percentage difference = $((A_{a,i} - A_{b,i})/A_{b,i}) \times 100$, where A_b and A_a are the mean coral cover values at each reef in 2014 or 2015, and 2016, respectively (Methods and Supplementary Fig. 4). Positive and negative relationships reduce or increase coral loss, respectively. Shaded regions represent 80% confidence intervals. Factors with the strongest model averaged slopes are shown. Total fish biomass and scraper biomass were also important factors in our models but had weak slopes (representing less than 5% change; Extended Data Fig. 4). Relative importance of factors among all models (that is, sum of AICc model weights across all models containing each factor) were: sediment input (0.99), scraper biomass (0.99), total fish biomass (0.90), urban runoff (0.60), phytoplankton biomass (0.38), wastewater pollution (0.28), peak rainfall (0.20), nutrient loading (0.19), grazer biomass (0.16), DHW (0.08), wave power (0.07), depth (0.06) and fishing gear restrictions (0.05). See Extended Data Table 1 for full list of factors included in the analysis, including those removed that were highly correlated ($r > 0.7$, see Methods and Supplementary Fig. 5). See Supplementary Fig. 6 for predictor variable distributions.

peaked at 29.4 °C (Fig. 3a). Degree heating weeks (DHWs), a widely used heat stress metric for coral reefs, averaged 12 DHWs among surveyed reefs (Fig. 3b), far exceeding the eight DHW threshold expected to cause severe and widespread coral bleaching and mortality[35]. Reef surveys performed one year following the marine heatwave showed that nearly one-quarter of reefs (19 out of 80) lost more than 20% coral cover whereas the hardest-hit reef lost 49% (Fig. 3c). But not all reefs experienced such catastrophic change. Coral cover remained unchanged or increased on 18% (14 out of 80) of reefs surveyed. This divergent ecological response was unexpected given that all reefs were exposed to similarly extreme levels of heat stress (Fig. 3b).

Interactions between heat stress and local conditions such as a high abundance of competitive macroalgae can exacerbate coral bleaching and mortality[22]. However, we lack a detailed understanding of the land- and sea-based factors that mediate coral response to marine heatwaves. Using a generalized additive mixed-modelling framework, we identified the land–sea factors that best explained variations in coral cover change (accounting for starting cover) among reefs one year after the 2015 marine heatwave in Hawai'i (Fig. 3d and Extended Data Table 2).

Coral bleaching involves the breakdown of the mutualistic relationship between the coral animal and its algal endosymbionts[36]. A prolonged breakdown in this relationship often results in coral starvation and death, as much of the energetic demands of corals are met by the photosynthetic activity of its endosymbionts[36]. We found that reefs with the highest levels of water column phytoplankton biomass (that is, chlorophyll-*a*) during the marine heatwave showed reduced coral mortality (Fig. 3d). Productivity increases nearshore to tropical islands such as Hawai'i[37] and is further concentrated by small-scale ocean processes that attract dense aggregations of plankton[38]. The increase in nutritional subsidies to the coral animal may have helped to reduce coral starvation during the heatwave or provided higher energetic reserves that promoted their recovery[39]. In other regions (for example, Great Barrier Reef), high levels of chlorophyll-*a* are an indicator of poor water quality that drives negative outcomes for corals[40]. Here, chlorophyll-*a* was uncorrelated to land-based human impacts (Supplementary Fig. 6) and probably reflective of natural gradients in energetic subsidies that facilitated coral survival. Working towards locally relevant management strategies requires understanding how human impacts superimpose on natural biophysical drivers, such as phytoplankton biomass[24], to influence reef ecosystem response to acute disturbance.

Coastal runoff can deliver a broad spectrum of land-based contaminants that degrade nearshore water quality, with cascading effects on coral health[41]. We found that reefs exposed to the lowest levels of urban runoff, and to a lesser extent sediment input, experienced a modest reduction in coral mortality from the marine heatwave (Fig. 3d). Urban runoff often contains heavy metals and petrochemicals that cause coral tissue death[42] and sediment input can impede the photosynthetic capacity of corals and reduce growth by burying coral colonies[41]. Together, these stressors can undermine the natural defence abilities of corals and increase the likelihood of mortality from heat stress[40]. Although turbid waters may shade corals from excessive sunlight that can exacerbate coral bleaching, high levels of heat stress can override any protective benefits decreased light may provide[43]. Existing but underused local and national policies such as the Clean Water Act in the United States provide actionable pathways for marine management



b

Resource management scenario		Probability Low	Moderate	High
Initial condition	★	0.83	0.17	0.02
Sea-based only	A	0.30	0.70	0.14
Land-based only	B	0.17	0.83	0.26
Integrated land–sea	C	0.02	0.98	0.80

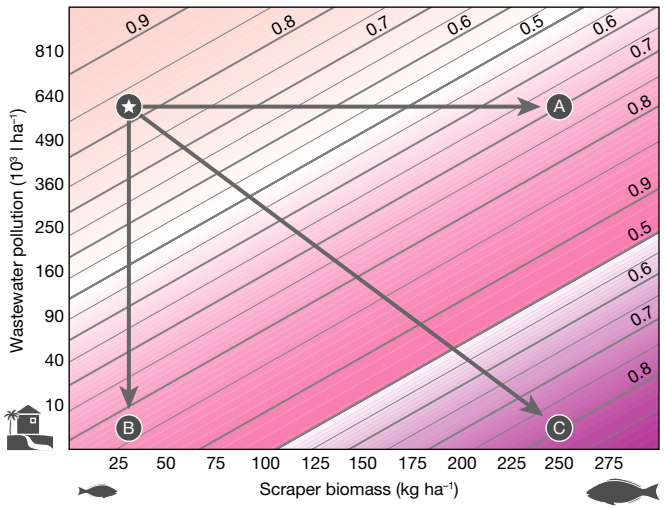


Fig. 4 | Local management scenarios that support coral reef persistence four years postdisturbance. a, Percentage cover of reef-building organisms (hard coral + crustose coralline algae) among reefs surveyed ($n = 55$) in 2019, four years following the marine heatwave. Colours represent low (≤25th percentile), moderate (>25th and <75th percentile) or high (≥75th percentile) cover. **b**, Probability of low, moderate or high cover of reef-builders shown in relation to variations in scraper biomass and wastewater pollution. Example scenarios show that simultaneously decreasing wastewater pollution and increasing scraper biomass results in a far greater probability of high reef-builder cover (scenario 'C') than achieving either management scenario in isolation (scenarios 'A' and 'B'). The upper (250 kg ha^{-1}) and lower (30 kg ha^{-1}) management scenarios for scraper biomass represented the 92nd and 36th percentiles, respectively. We specifically chose 250 kg ha^{-1} as it approximates the long-term mean (2003–2019; $n = 17$) scraper biomass in Kealakekua Bay, a marine protected area in our study region where no fishing has been allowed since 1969 (Supplementary Fig. 11). Similarly, the upper (600,000 l ha^{-1}) and lower (2,500 l h^{-1}) management scenarios chosen for wastewater pollution represented the 95th and 36th percentiles of the 2019 distribution, respectively (Supplementary Fig. 12). Probability values and lines were derived from the top model from ordinal logistic regression modelling (Extended Data Table 3, Methods and Supplementary Information). Colours for low, moderate and high in **b** are the same as those in **a**. See Extended Data Table 1 for full list of local land–sea human impacts and environmental factors included in the analysis, including those removed that were highly correlated ($r > 0.7$, Methods and Supplementary Fig. 8). See Supplementary Fig. 9 for predictor variable distributions.

interventions of land-based stressors[44]. Management strategies that leverage such policies to help mitigate coastal runoff, particularly in urban areas, may support increased coral survival during severe marine heatwaves.

We also found that total fish biomass and scraper biomass were important factors in our models (Extended Data Table 2). Healthy fish populations provide numerous reef-scale ecosystem functions[29], including some species releasing beneficial nutrient subsidies that increase coral thermal tolerance[45]. Scrapers remove fast-growing algal turfs that could otherwise outcompete and overgrow stress-compromised corals[30]. By comparison to phytoplankton biomass and coastal runoff, the slopes of the relationships between total fish biomass and scraper biomass with heat-driven coral loss were weak (Extended Data Fig. 4). Intense marine heatwaves can cause severe coral mortality even on highly protected, uninhabited reefs with intact fish populations[46], suggesting that extreme heat stress may simply overwhelm the functional roles of reef fish over short time scales. However, abundant fish populations, in particular herbivores, can support coral reef recovery potential following disturbance[2]. Understanding whether this positive relationship holds across gradients in land-based impacts is key for supporting targeted fisheries management in coastal marine ecosystems.

Coral reefs four years postdisturbance

The dominant reef-builders in tropical coral reef ecosystems are hard corals and crustose coralline algae[25]. Crustose coralline algae are encrusting calcifying algae that fuse the reef framework together and promote coral growth by serving as a successional prerequisite for coral recruitment and suppressing competitive fleshy algae[25]. Given that coral cover can take a decade or more to recover to prebleaching levels[47], assessing the total cover of reef-building organisms (hard coral + crustose coralline algae) is more indicative of coral reef recovery potential following disturbance. Our surveys four years following the 2015 marine heatwave found that reef-builder cover ranged from 3.4 to 51.9% (mean of 24.3% ± 1.7 s.e.; $n = 55$; Fig. 4a). Critically, there were different reefs with high (more than or equal to the 75th percentile) and low (less than or equal to the 25th percentile) reef-builder cover before and after the marine heatwave. Nearly two-thirds of reefs with high reef-builder cover in 2019 did not support such levels of cover before the marine heatwave. Similarly, we observed a more than 40% change in the location of reefs with low reef-builder cover between 2015 and 2019. This reshuffling of reefs in terms of relative reef-builder cover suggested differential coral reef persistence in the years following severe heat stress.

We used an ordinal logistic regression framework to identify the local land–sea human impacts and environmental factors that best supported coral reef persistence in the years following the 2015 marine heatwave. Decreased wastewater pollution and increased scraper biomass were the most important and significant ($P < 0.05$) in predicting whether a reef had relatively higher reef-builder cover four years postdisturbance (Extended Data Table 3). Pollution from human waste affects coastal marine ecosystems globally[48] and is especially harmful to corals from untreated sources, such as septic tanks and cesspools, which are both common in Hawai'i[49]. Consequently, high concentrations of toxins and pathogens leach into coastal waters that increase coral disease, reduce coral growth and reproduction, and increase coral susceptibility to bleaching[42]. These negative impacts on coral persistence are therefore much reduced in areas of decreased wastewater pollution. Scrapers reveal bare substrate as they feed and facilitate the settlement, growth and survival of crustose coralline algae and corals following acute disturbance[30]. Beyond these top-down effects on benthic condition, bottom-up effects of improved habitat quality could be contributing to the positive relationship we observed between scraper biomass and higher reef-builder cover. Parrotfish are the dominant scrapers in Hawai'i, and typically have home ranges of

less than 1 km (ref. 50). Furthermore, our scraper biomass estimates were derived from multiple observations across several time points following the marine heatwave, rather than a single snapshot estimate. Such strong site-based fidelity, combined with our recurring surveys, suggests that resident scrapers played a key role in promoting higher reef-builder cover rather than the association driven purely by an influx of individuals seeking more favourable habitat postdisturbance.

Sea-based management efforts are often disconnected from those occurring on land[17,18]. We generated management scenarios of how varying scraper biomass (sea-based management) and wastewater pollution (land-based management) influenced the probability of being in a low, moderate (more than the 25th and less than the 75th percentile) or high reef-builder cover category. Our findings indicate that an integrated management approach can result in a positive synergistic outcome for coral reefs (Fig. 4b). For example, four years following the marine heatwave, a reef across our study region with low scraper biomass (for example, 30 kg ha^{-1}) and relatively high wastewater pollution (for example, 600,000 l ha^{-1}) is most likely to have low reef-builder cover (83% probability) (Fig. 4b, 'initial condition'). Where scraper biomass is higher (for example, 250 kg ha^{-1}) but wastewater pollution remains high, there is a 70% probability of moderate reef-builder cover (scenario A). Conversely, where wastewater pollution is lower (for example, 2,500 l ha^{-1}), but scraper biomass remains low, there is an 83% probability of moderate reef-builder cover (scenario B). However, if both land and sea management scenarios occur, there is an 80% probability of high reef-builder cover (scenario C). Combining land and sea management resulted in a three- to sixfold increase in the probability of high reef-builder cover four years following severe heat stress than if land or sea were managed in isolation.

Conclusion

Here we show that simultaneously mitigating local land- and sea-based human impacts promotes coral reef persistence before, during and in the years following a historically unprecedented marine heatwave in Hawai'i. Our unique spatially and temporally resolved data highlighted the specific impacts that best correlated with coral reef persistence in each of these temporal periods. For example, the biomass of all reef-fish groups was associated with positive reef trajectories over the 12 years leading up to the marine heatwave. By contrast, scraper biomass was the only fish group associated with positive outcomes for reefs four years following severe heat stress. This suggests that reef fish play essential functional roles at different points in time and that particular feeding and behaviours are probably critical for reef persistence following acute distrubance[30]. Similarly, land-based impacts consistently emerged as driving negative coral reef outcomes, but the combination of stressors changed depending on the observational time window in question. Highly resolved data on the local human impacts that drive reef ecosystem trajectories over time are unlikely to be available in most regions. However, our overarching finding that integrated land–sea management benefits coral reefs under ocean warming, is applicable to populated reefs globally.

The local human impacts we identify here represent the direct or proximate drivers of reef condition in our study. These in turn are dictated by an array of distal socioeconomic and cultural factors such as human migration and urbanization, finance, trade and tourism that indirectly affect how people interact with coral reefs[1,51]. Distal human drivers also underpin climate change that is driving severe marine heatwaves that trigger mass coral bleaching at global scales. Increases in future ocean temperatures and the frequency and severity of coral bleaching events[52] could simply overwhelm the positive effects of local management actions on coral reefs. However, there is substantial variation in the projected rates of ocean warming within and among countries under reduced emissions scenarios[52]. Actions that support coral reef persistence locally alongside global reductions in greenhouse gas emissions may buy reefs more time to adapt and persist into the future. Contemporary governance must therefore shift towards an integrated approach to align management strategies with reef ecosystem processes and the coincident multiscale human drivers that affect them[1].

An ambitious effort is underway to protect 30% of Earth's land and sea areas by 2030 as part of the recently adopted Kunming-Montreal Global Biodiversity Framework[5]. The motivation behind the '30 by 30' is to support ecological resilience, conserve biodiversity and preserve ecosystem services that underpin human well-being[53]. The 30 by 30 has broad participation and is being incorporated into conservation efforts by nations globally. However, our results reveal that sea-based management alone is insufficient to mitigate the full spectrum of local human effects on coastal ecosystems such as coral reefs. These efforts must therefore explicitly couple the respective 30% land–sea targets to realize coastal ocean conservation goals. But in most coastal geographies, 30% protection is impractical and unethical given the high proportion of people that live near and depend on these ecosystems[54]. Instead, mitigating land-based impacts such as wastewater pollution must occur together with fisheries governance for successful conservation outcomes, akin to long-standing indigenous stewardship practices of island ecosystems[16]. Only by adopting coupled land–sea policy measures, alongside global emissions reductions, will coral reef ecosystems and the human communities they support have the best opportunity for persistence in our changing climate.

Online content

Any methods, additional references, Nature Portfolio reporting summaries, source data, extended data, supplementary information, acknowledgements, peer review information; details of author contributions and competing interests; and statements of data and code availability are available at https://doi.org/10.1038/s41586-023-06394-w.

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Methods

Study site

Hawai'i Island (19.55° N, 155.66° W) is the southeastern most island of the Hawaiian Archipelago, located in the northern central Pacific (Fig. 1). The western section has roughly 200 km of coastline predominantly oriented north to south. The coastline contains the longest contiguous reef ecosystem in the main Hawaiian Islands[55] and large gradients in human population, local land–sea impacts and environmental factors that are comparable to reef ecosystems globally (Extended Data Fig. 1). The region represents an ideal study location for resolving the land–sea human impacts driving reef ecosystem change and coral trajectories following acute climate-driven disturbance.

Reef surveys

Full details related to sampling design, site selection and survey frequency for benthic and reef-fish data collection across our study region are in the Supplementary Information. In brief, underwater visual surveys of benthic assemblages were collated from three monitoring programmes for the following years (number of reefs surveyed are in parentheses): 2003 (23), 2007 (23), 2011 (23), 2014 (40), 2015 (40), 2016 (80), 2017 (80), 2018 (15) and 2019 (55). All benthic surveys used permanently marked pins to ensure the same area of reef was surveyed over time. High-resolution photographs were collected by using photoquadrats at 1 m intervals along 25 m belt-transects ($n = 26$ photographs per transect). Between 30 and 50 random points were overlaid on each photograph and the benthic component under each point was identified to the lowest possible taxonomic level. Percentage cover of the major functional groups at each reef were used in this analysis, namely hard coral and crustose coralline algae. Surveys of reef-fish assemblages were performed along the same permanently marked 25 m transects concurrently with benthic surveys. However, reef-fish surveys were performed more frequently (one to six times per year from 2003 to 2019) than benthic surveys, depending on the reef location and monitoring programme performing the surveys. In all surveys, fishes were identified to species, sized and enumerated. To account for differences among programmes in how researchers surveyed reef fish, counts were calibrated using species and method specific adjustments[56].

Local land–sea human impacts and environmental factors

Fish biomass. The biomass of fishes at a given reef was measured as total fish biomass, herbivore fish biomass and the biomass of browsers, grazers and scrapers[56]. Total fish biomass is an indicator of the overall state of the fish assemblage[57] and is reduced in areas that have increased fishing pressure[58,59]. In Hawai'i, non-commercial nearshore fisheries dominate, with people fishing for recreational, subsistence and cultural purposes[60,61]. However, the dominant harvesting modes and magnitude of fishing activities are largely unknown at spatial or temporal scales relevant to this study[62]. As such, we include total fish biomass in part to represent fishing effort on reefs but recognize its shortcomings in capturing reef- and species-specific differences in fishing pressure across our study region. We also include herbivores and subdivisions by feeding guilds that represent important indicators of resilience on coral reefs[30,63,64]. Browsers are defined as herbivores that feed on macroalgae and associated epiphytic material, and are important for reducing the cover of larger, more established macroalgae. Grazers are herbivores that feed largely on small algal turfs, helping to prevent their succession into larger macroalgae, and scrapers are herbivores that closely crop the substrate and open up new space to promote the settlement, growth and survival of crustose coralline algae and corals[30].

We followed established methods for calculating fish biomass[56]. The biomass of individual fishes was estimated using the allometric length–weight conversion: $W = a\mathrm{TL}^b$, where parameters a and b are species-specific constants, TL is total length (cm) and W is weight (g). Length–weight fitting parameters were obtained from a comprehensive assessment of Hawai'i specific parameters[56] and FishBase[65]. Fish species were excluded from fish biomass calculations according to life history characteristics that are not well captured with visual surveys, including cryptic benthic species, nocturnal species, pelagic schooling species and manta rays.

Human population. We quantified human population density using NASA Gridded Population of the World v.4 (ref. 66). The dataset is available at 1 km resolution at 5-year intervals. Linear interpolation was used to fill in the missing years and produce annual time steps of human population within 15 km of each 100 m grid cell across our study region (Supplementary Fig. 12).

Wastewater pollution. We calculated wastewater effluent (l ha^{-1} yr^{-1}) and nitrogen input (kg ha^{-1} yr^{-1}) from onsite sewage disposal systems (for example, cesspools and septic tanks) and injection wells (collectively OSDS) in coastal waters at 100 m resolution. Only OSDS located within a modelled one-year groundwater travel time of the coast were included in the analysis and nutrients from OSDS were assumed to flow to the nearest point on the shoreline. Wastewater effluent and nutrient input were estimated on the basis of ref. 67 and discharge rates and nutrient loading according to ref. 68. A Gaussian decay function was used to estimate dispersal offshore, approaching zero at 2 km (Supplementary Figs. 13–15). This same dispersal function was also used for nutrient input, urban runoff, sediment input and rainfall, which are each described below.

Nutrient input. We calculated nutrient input (kg ha^{-1} yr^{-1}) at 100 m resolution as the combination of total nitrogen from OSDS (Wastewater pollution section above) and golf courses. The total golf course area per watershed was derived from NOAA Coastal Change Analysis Program (CCAP) land-use and land-cover data and Landsat cloud-free composite images created with Google Earth Engine. The golf course area was multiplied by an annual nitrogen application rate of 585 kg ha^{-1} (refs. 69,70) and then by a leaching rate of 32%[71–73] to estimate nitrogen that either runs off or reaches the groundwater. We also imposed a reduction in nitrogen that reached the ocean on the basis of distance inland and used subwatershed catchment data[74] to estimate nutrient transport from golf courses to the coastline (Supplementary Figs. 16–18).

Urban runoff. We quantified the total area of impervious surfaces (that is, paved roads, parking lots, sidewalks and roofs) within 10 km of the coastline at 100 m resolution for each year from 2000 to 2017 (Supplementary Figs. 19 and 20). Data were extracted from NOAA CCAP land-use land-cover data from 1992, 2001, 2005 and 2010. We also digitized 2017 impervious surface cover from a single cloud-free Landsat 8 image (courtesy of the United States Geological Survey, USGS) (15 m resolution pan-sharpened). Years in between data availability were filled in by linear interpolation.

Rainfall. We quantified annual rainfall (m^3 ha^{-1}) and peak rainfall (maximum 3-day rainfall total, m^3 ha^{-1}) at 100 m resolution. Daily rainfall data were generated following refs. 75,76. Rainfall from each rain station was used to derive interpolated surfaces at annual time steps using Empirical Bayesian Kriging in ArcGIS. Subwatershed catchment data[74] were clipped to 0–10 km from the coast and used to calculate rainfall per drainage area (Supplementary Figs. 21 and 22).

Sediment input. The Integrated Valuation of Ecosystem Services and Tradeoffs sediment delivery model was used to derive long-term annual average sediment input (kg ha^{-1}) reaching the coast[77–80] at 100 m resolution. We then modulated the long-term annual average sediment over time by watershed on the basis of discharge calculated from peak rainfall data (Rainfall section above). Discharge by watershed was

calculated following ref. 81. Sediment load was assumed to scale with discharge according to a approximate ratings curve following ref. 82 (Supplementary Figs. 23 and 24).

Fishing gear restrictions. We created a categorical value for local fishing gear restrictions using regulation information and marine managed area boundary designations updated from ref. 80. All regulations were evaluated for prohibition of gear categories in relation to fishing for reef finfish species over time: line fishing, lay nets, spear fishing and aquarium collection. Ranked fishing gear categories are as follows: (1) full no-take, (2) no lay net, spear or aquarium, (3) no lay net or aquarium, (4) no lay net, (5) no aquarium and (6) open to all gear types (Supplementary Table 1 and Supplementary Fig. 25).

Sea surface temperature and heat stress. The mean and variability (that is, standard deviation) in summertime sea surface temperature (SST) was calculated over a 90-day window centred on the maximum value of a 7-day moving window average for each SST pixel (Supplementary Fig. 26). Mean regional temperature (Fig. 3a) was calculated by taking the 7-day running mean of daily values and then averaging across all coastal pixels within our study region. Heat stress on reefs during the 2015 marine heatwave was assessed using DHW[35], a widely used metric by coral reef scientists across the world. All data were NOAA's Coral Reef Watch v.3.1, available daily at 5 km resolution[35].

Phytoplankton biomass and irradiance. We used satellite derived chlorophyll-*a* (mg m^{-3}; a proxy for phytoplankton biomass) and irradiance (E m^{-2} d^{-1}) from two sources. The long-term mean (2002–2013) in 8-day, 4 km data were obtained from ref. 80 and shown in Fig. 2d and Extended Data Fig. 3. All subsequent analysis used the visible-infrared imaging/radiometer suite, which has high spatial (750 m) and temporal (daily) resolution data starting in 2014 (provided by NOAA's Coral Reef Watch). All data were quality controlled and masked to account for cloud cover (Supplementary Information) and optically shallow waters following ref. 83 (Supplementary Fig. 27).

Wave exposure. Wave power (kW m^{-1}) combines wave height and period and provides a more representative metric of wave exposure than wave height alone[84]. A series of nested grids (from global to 50 m) using WAVEWATCH III[85] and Simulating Waves Nearshore[86] were used to quantify wave transformation over the reef environment at 50 m, at hourly intervals across our study region from ref. 87 and updated for this study. Annual data were then generated for each 50 m grid cell by taking the mean of the top 97.5% in daily maximum wave power (Supplementary Fig. 28).

Depth. Depth of the reef floor (m) was measured using diver depth gauges during the in-water reef surveys.

Statistical analyses

Coral reef trajectories predisturbance. We quantified the change in coral cover at 23 reefs from 2003 to 2014. A reef was considered to have a positive trajectory or negative trajectory if coral cover from the 2003 survey to the 2014 survey increased or decreased by greater than 3%, respectively (Fig. 2b). This cut-off was based on the range in mean coral cover among all 23 reefs across the 12-year period (range 2.8%; minimum 34.1%; maximum of 36.9%). We then quantified local human impacts and environmental factors at each reef as follows: fish biomass metrics were from the mean of all annual surveys for each year from 2003 to 2014; human population, wastewater pollution, nutrient loading, urban runoff, annual rainfall, peak rainfall, SST mean and SST variability from the mean of all data from 2000 to 2014. Phytoplankton biomass and irradiance were from the maximum monthly climatology from 2002 to 2013. Sediment and wave exposure came from the mean of the top five events from each year spanning 2000–2014. Fishing gear restrictions were from marine managed area designation at the onset of reef surveys and the depth came from in-water diver-assessed values.

The difference in local human impacts and environmental factors between positive and negative trajectory reefs were then calculated as the difference in the mean drop-one jackknife values for each impact or factor[88]. Upper and lower bars in Fig. 2d represent the respective maximum and minimum differences in drop-one jackknife values between positive and negative trajectory reefs. Before calculating the drop-one jackknife values, we identified and removed outliers that fell outside a threshold of ±2 standard deviations of the median. We formally tested for a difference in the local conditions of positive versus negative trajectory reefs using a multivariate permutational analysis of variance (PERMANOVA)[89] based on a Euclidean distance similarity matrix, type III (partial) sums-of-squares and unrestricted permutations of the normalized data. We visualized the results in Fig. 2c using a constrained analysis of principal coordinates[90] and calculated the cross-validation allocation success (a measure of group distinctness) from the leave-one-out procedure of the constrained analysis of principal coordinates analysis.

Coral response to the 2015 marine heatwave. Our goal was to assess the local land–sea human impacts and environmental factors that best explained changes in coral cover as a consequence of the 2015 marine heatwave. Any potential to observe change, however, could be influenced by variations in starting condition. Reefs with higher initial cover (such as those on positive coral cover trajectories predisturbance, Fig. 2b) had greater scope for loss and vice versa[91] (Extended Data Fig. 5). To account for this and ensure comparability across reefs (Supplementary Fig. 4) we calculated coral cover change following ref. 92 as:

$$\%\text{difference}\Delta = [(A_{a,i} - A_{b,i})/A_{b,i}] \times 100$$

where A_b and A_a are the mean coral cover values at each reef in 2014 or 2015, and 2016, respectively.

We then calculated the following predictors based on current literature and our hypotheses of the principal factors that drive changes in coral cover owing to severe heat stress (Extended Data Table 1). Fish biomass metrics included the mean of fish data that were coupled with benthic surveys: 2014 (n = 40) or 2015 (n = 40) and 2016 (n = 80); human population, wastewater pollution, nutrient loading, urban runoff, annual rainfall, peak rainfall and wave exposure were taken from the mean of all data from 2012 to 2016, sediment was measured from the mean of the top three events from 2006 to 2016; SST mean and SST variability were taken from the mean from 2000 to 2014; DHW was the maximum value for 2015; phytoplankton biomass and irradiance was the mean from June to November 2015, representing the time inclusive of the marine heatwave; fishing gear restrictions was the marine managed area designation before the marine heatwave (2014 or 2015, depending on the reef surveyed) and depth came from in-water diver-assessed values.

We then tested for correlations between coral loss and our suite of predictor variables using a generalized additive mixed-effects modelling (GAMM) framework[24] with the gamm4 (ref. 93) package for R (www.r-project.org) v.4.0.2. Before model fitting, we identified the presence of outliers in our predictor variables as any point that fell outside a threshold of ±2 standard deviations of the median. We then applied an additional step to retain any point above this threshold that was within 25% of the maximum predictor value below the threshold. This ensured that no data points were unnecessarily discarded from our formal model-fitting process because of applying an arbitrary threshold cut-off for data inclusion. The following predictors were square-root transformed to down-weight the influence of values at the extreme ends of their distributions: all fish biomass metrics, wastewater

pollution, urban runoff, nutrient loading, phytoplankton biomass and peak rainfall. A fourth-root transformation was applied to sediment.

To reduce model overfitting, Pearson's correlation coefficients were calculated among all predictors (Supplementary Fig. 5), removing one of each pair of highly correlated ($r > 0.7$) predictors. To further strive for model parsimony, we a priori excluded human population density from the model-fitting process as it was a poor indicator of human-driven land-to-sea impacts on local scales (Figs. 1c and 2d and Extended Data Fig. 3). We also excluded browser biomass as they represented less than 10% on average of total herbivore biomass across all reefs before, during and postdisturbance. This resulted in the following predictors included in the models (correlated predictors in parentheses were removed): total fish biomass, biomass of scrapers, biomass of grazers (total herbivore biomass), DHW (SST mean and variability), wastewater pollution, nutrient input, urban runoff, sediment input and peak rainfall (annual rainfall correlated with both), wave power, phytoplankton biomass (irradiance), fishing gear restrictions and depth. The decision of which correlated predictors to retain was based on a hypothesis-driven approach, in part whether the given predictor had the potential to directly (for example, sediment input) rather than indirectly (for example, annual rainfall driving sediment input) affect heat-driven coral loss.

We incorporated a random spatial factor to account for the possible influence of a change in an underlying variable along the coastline not quantified in this study. This was done by breaking the coastline up into discrete 10 km sections running north to south. Section size was determined using hierarchical clustering based on pairwise Euclidean distances between reefs and identifying an inflection point in the intragroup variance[24] (Supplementary Fig. 7). We fitted GAMMs for all possible candidate models (unique combinations of the predictor variables) using the UGamm wrapper function, in combination with the dredge function in the MuMIn package[94]. Nonlinear smoothness in the models was determined using penalized cubic regression splines, with the number of knots (limited to four to reduce overfitting) spread evenly throughout each covariate. All possible candidate models were computed (unique combinations of the predictor variables) but limiting the total number of predictors in any given candidate model to five to reduce overfitting. We used Akaike's information criterion with a bias correction for small sample sizes[95] (AICc) for model comparison and all models within ΔAICc ≤ 2 of the top model (ΔAICc = 0) are presented in Extended Data Table 2. To visualize the effect of predictor terms on coral cover change, we averaged the coefficients from the top models (that is, ΔAICc ≤ 2) to generate a predicted dataset and set all other predictor terms to their median value. Finally, we calculated a measure of predictor variable relative importance within each candidate model by calculating the sum of AICc model weights for each predictor (that is, the sum of model weights across all models containing each predictor; Fig. 3).

Coral reefs four years postdisturbance. Our goal was to assess the local land–sea human impacts and environmental factors that best explained variations in the cover of reef-building organisms four years following the marine heatwave. The cover of reef-building organisms for reefs surveyed in 2019 ($n = 55$) were parsed into three categories on the basis of the following percentiles: low, less than or equal to the 25th; moderate, more than 25th and less than 75th; and high, more than or equal to the 75th. We then performed ordinal logistic regression[96] to determine the probability of a given reef having high, moderate or low cover of reef-building organisms on the basis of the prevailing local human impacts and environmental factors (that is, predictor variables; Extended Data Table 1). Logit models are multivariate extensions of generalized linear regression models that provide parameter estimates by means of maximum likelihood estimation (MLE) to model the relative log odds of observing a reef-builder cover category or less versus observing the remaining higher categories:

$$\ln\left(\frac{P(y_i \leq j)}{P(y_i > j)}\right) = C_j + B_1 z_{i1} + \cdots + B_k z_{ik}$$

Here, i indexes each of N observations, with categories y_i, and the left-hand side of the equation is the logit of the probability of a reef-builder category of j or lower, for $j = 1$ (high) or 2 (moderate). Reefs with low reef-builder cover contributed to the regression through calculation of the log odds. Each C_j is an MLE-computed model intercept, and each B_k is the MLE coefficient corresponding to the standardized independent variable z_{ik}, for $k = 1$ through n, where n is the variable number of predictors used in a given candidate model, hence the ellipsis (...). A fundamental component of this model is the assumption of proportional odds, or parallel regression, which indicates that B_k values are independent of the logit level j. The validity of this parallel regression assumption was ascertained using Brant's Wald test[97], as well as a likelihood ratio test ($\alpha = 0.05$).

We then calculated the following predictors based on current literature and our hypotheses of the principal factors that drive changes in reef-builder cover across space and time following a major thermal disturbance: fish biomass metrics, wastewater pollution, nutrient loading, urban runoff, annual rainfall, peak rainfall, wave exposure, phytoplankton biomass and irradiance: the mean of all data from 2016 to 2019; sediment was measured as the mean of top three events over the 2006–2019 time period; SST mean and SST variability: mean of all data from 2000 to 2018. Note that 2019 was excluded in SST mean and SST variability owing to the marine heatwave that affected Hawai'i[21], but occurred after our 2019 fish and benthic surveys; fishing gear restrictions involved the marine managed area designation in 2016 and depth was assessed by in-water diver-assessed values.

We used the same process as in the GAMM analysis to remove outliers in our predictor variables (above). We then square-root transformed the following predictors to down-weight the influence of values at the extreme ends of their distributions: total fish biomass, wastewater pollution, sediment input and nutrient loading. Pearson's correlation coefficients were calculated among all predictors (Supplementary Fig. 8), removing highly correlated ($r > 0.7$) predictors. For the reasons outlined in our GAMM analysis and for continuity, we a priori excluded human population density and the biomass of browsers from the model-fitting process. This resulted in the following predictors included in the models (correlated predictors in parentheses were removed): total fish biomass, biomass of scrapers, biomass of grazers (total herbivore biomass), wastewater pollution, nutrient input, sediment input, urban runoff (phytoplankton biomass), wave exposure, fishing gear restrictions and depth. The decision of which correlated predictors to retain followed the same logic as our GAMM analysis. The mean and variability in SST were excluded given the negligible range of values among reefs (0.1 and 0.025 °C, respectively). All possible candidate models were computed while limiting the total number of predictors in any given candidate model to four (to reduce overfitting and to account for the lower response variable replication compared to our GAMM analysis). Models were computed using the multinomial logistic regression function mnrfit in MATLAB. We again used AICc for model comparison and all models within ΔAICc ≤ 2 of the top model (ΔAICc = 0) are presented in Extended Data Table 3. McFadden's pseudo-R^2 was computed for the highest ranked models and ranged from 0.21 to 0.22. Unlike traditional R^2 values, McFadden's pseudo-R^2 of more than 0.2 represents an excellent fit[98]. Models within ΔAICc ≤ 2 of model 1 in Extended Data Table 3 demonstrated comparable levels of goodness of fit and parsimony[99,100]. Many of the parameter coefficients within these models were sensitive to the underlying variability in the data and their estimates did not differ significantly from zero ($P < 0.05$). The top model contained parameters with covariate estimates significantly different from zero, namely scraper biomass and wastewater pollution. Using model 1, we examined changes in the probability of a

given reef having high (more than or equal to the 75th percentile), moderate (more than the 25th and less than the 75th percentile) or low (less than or equal to the 25th percentile) reef-builder cover (Fig. 4a) on the basis of variations in these two land–sea predictors (Fig. 4b). Probability curves for high, moderate and low were calculated on the basis of changing scraper biomass and wastewater pollution and holding all other predictors at their mean.

Resource management scenarios. The resource management scenarios presented in Fig. 4b were selected on the basis of the following rationale. We chose 250 kg ha^{-1} as the management target for scraper biomass as this value approximates the long-term mean (2003–2019; $n = 17$) biomass of scrapers within Kealakekua Bay, a marine protected area where no fishing has been allowed since 1969 (Supplementary Fig. 10). Kealakekua Bay is also exposed to numerous land-based stressors, including high levels of wastewater pollution (258,000 l h^{-1} in 2019). As such, our value of 250 kg ha^{-1} represents an estimate of scraper biomass on a reef with strong fisheries protection but with land-based stressors present. In addition, we compared our upper (250 kg ha^{-1}) and lower (30 kg ha^{-1}) scraper biomass values to the distribution of scraper biomass among all reefs ($n = 80$) in 2019, the most recent time point in which all reefs were surveyed within the same year (Supplementary Fig. 10). The upper and lower limits represent the 92nd and 36th percentiles, respectively. For wastewater pollution, we used our 2019, 100 m grid cell values that fell along the 10 m isobath (same as Fig. 1c) but constrained the latitudinal extent to be consistent with the northern- and southern-most locations of the 2019 reef surveys. This approach provided far greater replication and a more representative assessment of wastewater pollution along the coastline for which to assess our management scenarios. The upper (600,000 l ha^{-1}) and lower (2,500 l h^{-1}) values chosen for wastewater pollution represented the 95th and 36th percentiles of the 2019 distribution, respectively (Supplementary Fig. 11).

Reporting summary

Further information on research design is available in the Nature Portfolio Reporting Summary linked to this article.

Data availability

All data that support the findings of this study are available at https://github.com/jamisongove/Coral-Reef-Persistence. Reef fish length–weight parameters were obtained from FishBase (https://fishbase.org) and ref. 56, human population data from NASA Gridded Population of the World v.4 (https://sedac.ciesin.columbia.edu/data/set/gpw-v4-population-count-rev11), land-use and land-cover data from the NOAA Coastal Change Analysis Program (https://www.coast.noaa.gov/htdata/raster1/landcover/bulkdownload/), soils data from USDA Gridded Soil Survey Geographic Database (gSSURGO; https://www.nrcs.usda.gov/resources/data-and-reports/gridded-soil-survey-geographic-gssurgo-database), subwatershed catchment data from USGS Stream Stats (https://water.usgs.gov/GIS/metadata/usgswrd/XML/ds680_archydrohucs.xml)[74], watershed and digital elevation model data from USGS National Hydrography Dataset (https://www.usgs.gov/national-hydrography/national-hydrography-dataset), rainfall data from refs. 75,76, Landsat 8 satellite image from USGS (https://earthexplorer.usgs.gov/), Landsat 7 and 8 cloud-free composites derived using Google Earth Engine (https://earthengine.google.com/), individual wastewater systems for Hawai'i from refs. 101,102, marine managed area designation from ref. 80 and downloadable from the State of Hawai'i (https://planning.hawaii.gov/gis), fishing regulations from the State of Hawai'i (https://dlnr.hawaii.gov/dar/fishing/fishing-regulations/), SST and DHW data from NOAA Coral Reef Watch (https://coralreefwatch.noaa.gov/product/5km), ocean colour (chlorophyll-*a* and irradiance) data from NOAA Coral Reef Watch (https://coralreefwatch.noaa.gov/product/oc/index.php) and ref. 80. See Methods and Supplementary Information for more detailed information on the data used to support the findings of this study.

Code availability

Statistical analyses were performed using the software packages R (www.r-project.org) v.4.0.2 (using libraries gamm4, MuMIn, foreach, doMC, ggplot2, gmt, tidyverse, zoo and lubridate)[103], MATLAB (www.mathworks.com) using v.2021a (using Statistics and Machine Learning toolbox), ArcGIS Desktop (www.esri.com) v.10.6 with Advanced licensing and extensions Spatial Analyst and Geostatistical Analyst, Integrated Valuation of Ecosystem Services and Tradeoffs Sediment Delivery Ratio model (https://naturalcapitalproject.stanford.edu/software/invest) and the PERMANOVA+ (ref. 89) add-on for Primer v.7 (ref. 104). Code is available for download at https://github.com/jamisongove/Coral-Reef-Persistence.

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Additional information

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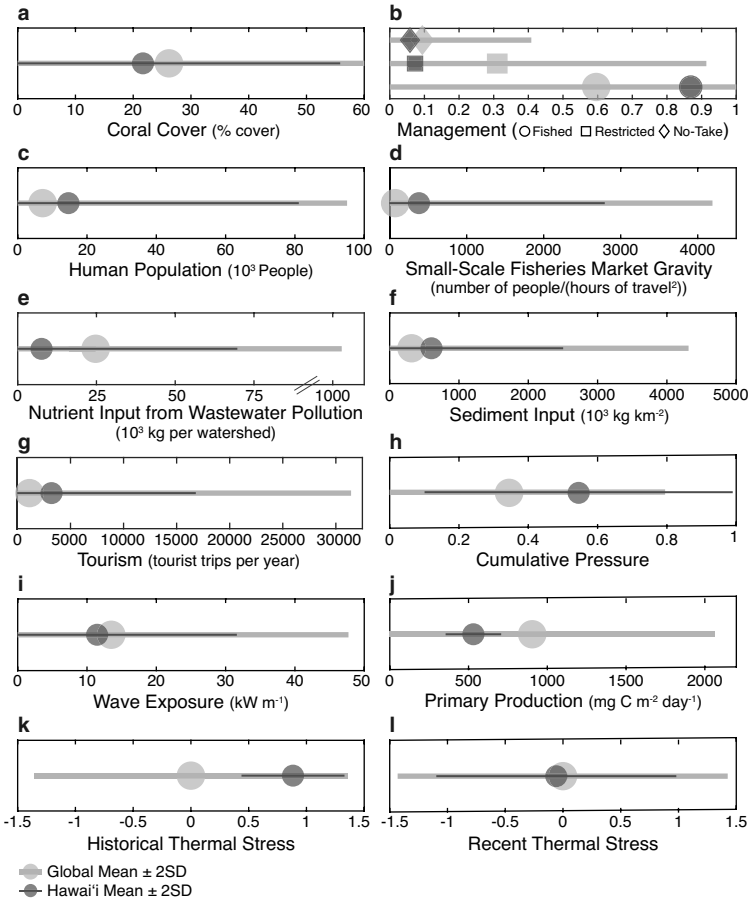
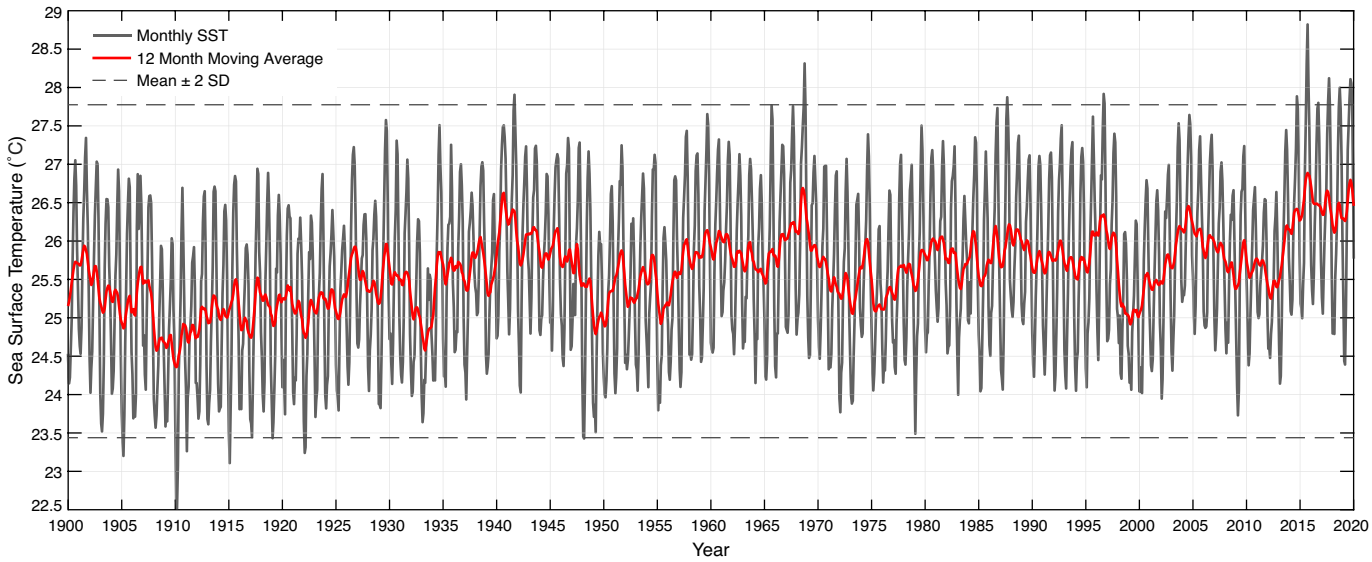
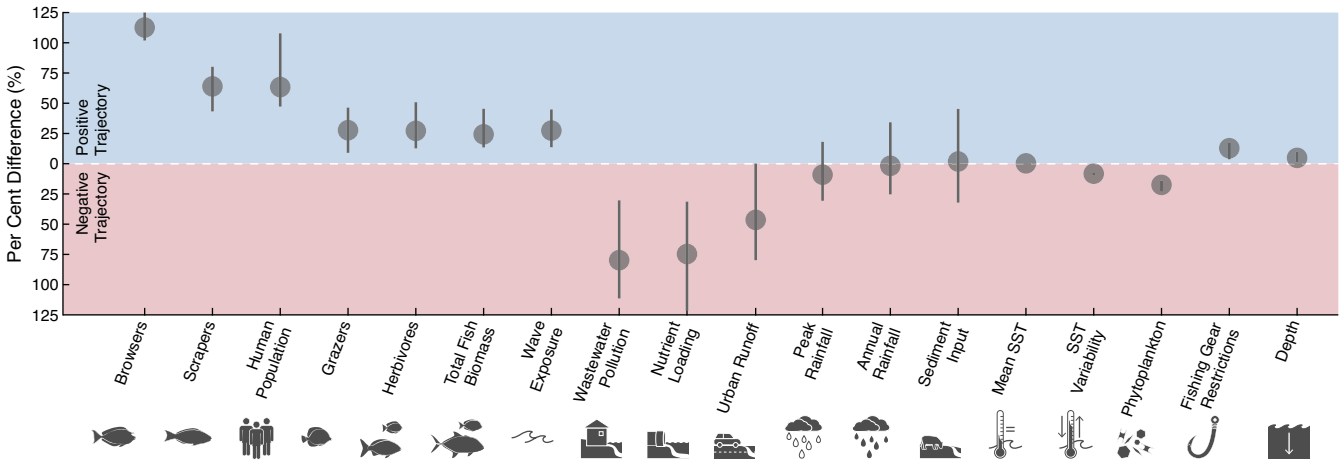


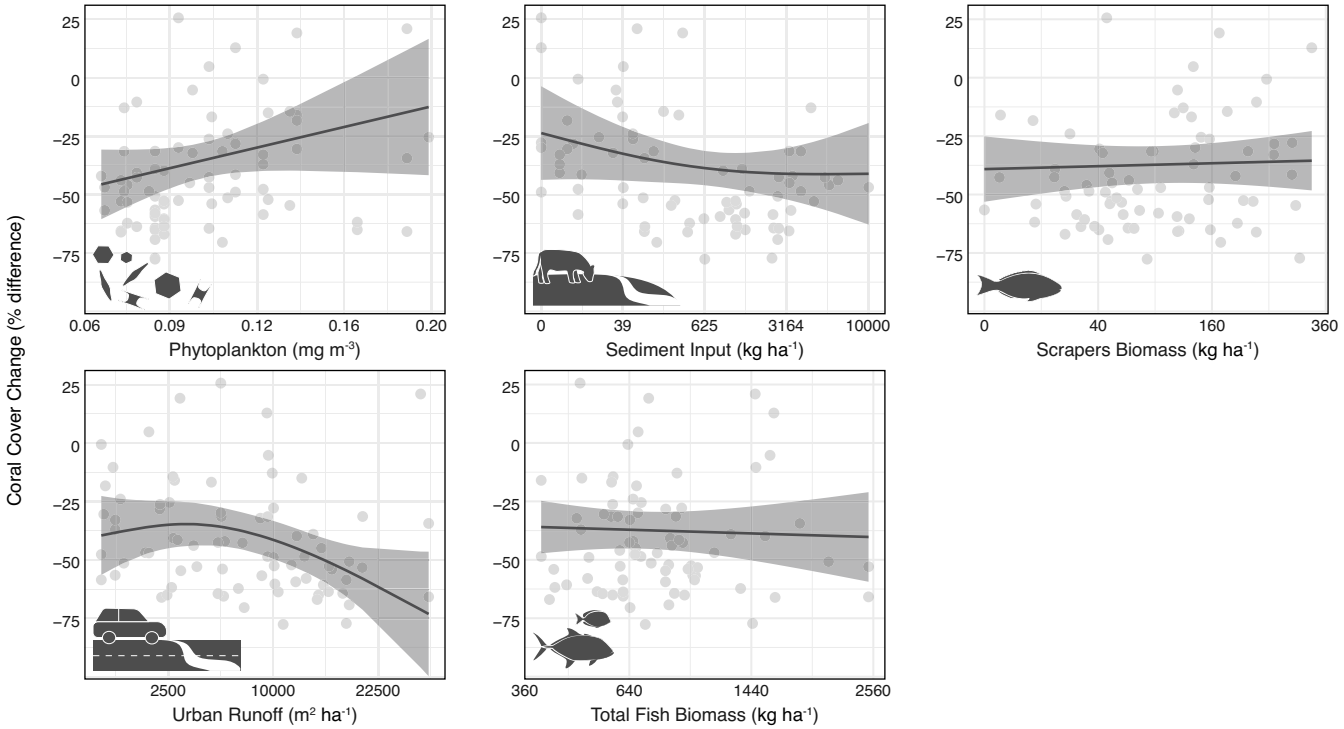
Extended Data Fig. 1 | Comparison of human, environmental, and climate factors for reefs in Hawai'i with coral reef ecosystems globally. Dots represent global (light grey) and Hawai'i (dark grey) mean values. Error bars represent the mean ± 2 standard deviation (SD). Factors presented are: **a**, Coral cover (per cent hard coral; global n = 2,584; Hawai'i n = 137); **b**, Proportional reef area by country that is open (fished), gear restricted (restricted), or fully restricted (no-take) to fishing (sample number same as in **a**); **c**, Human population within 5 km in 2018 (global n = 54,596; Hawai'i n = 199); **d**, Small-scale fisheries market gravity (number of people/(hours of travel)^2 represents human use and fishing pressure related to the size and accessibility of coral reefs to nearby human settlements and markets[59] (*n* = same as in **c**); **e**, Annual input of nitrogen (10^3 kg) per watershed from wastewater pollution on coral reefs (global n = 38,033; Hawai'i n = 324); **f**, Sediment input (10^3 kg km^{-2}) to coral reefs (*n* = same as in **c**); **g**, Annual number of tourist visits driven by coral reefs combining on-reef (e.g., recreational diving and snorkelling) and reef-adjacent (e.g., provision of calm waters, sand beaches, views, and seafood) aspects (sample number same as in **c**); **h**, Cumulative pressure score from stressors to coral reefs per 5 km reef containing pixel (unitless); **i**, Mean wave energy, or wave power (kW m^{-1}), from 1979–2009 (*n* = same as in **a**); **j**, Mean primary productivity (mg C m^{-2} day^{-1}) between 2003–2013 (*n* = same as in **a**); **k-l**, Unitless metric of **(k)** historical (1985–2017) and **(l)** recent (2014–2017) thermal stress on coral reefs, whereby positive values represent more desirable (i.e., less thermal stress) over the respective time frames[105] (*n* = same as in **c**). The mean for reefs in Hawai'i falls within 2 SD of the global mean for all factors. Data are from the following sources: **a,b,i,j** from[106] **e** from[48]; **c,d,f,g,h,k**, from[107]. Factors presented here were obtained from global datasets and will differ from those presented within our present study owing to the methodological differences as well as differences in their spatiotemporal extent and resolution.



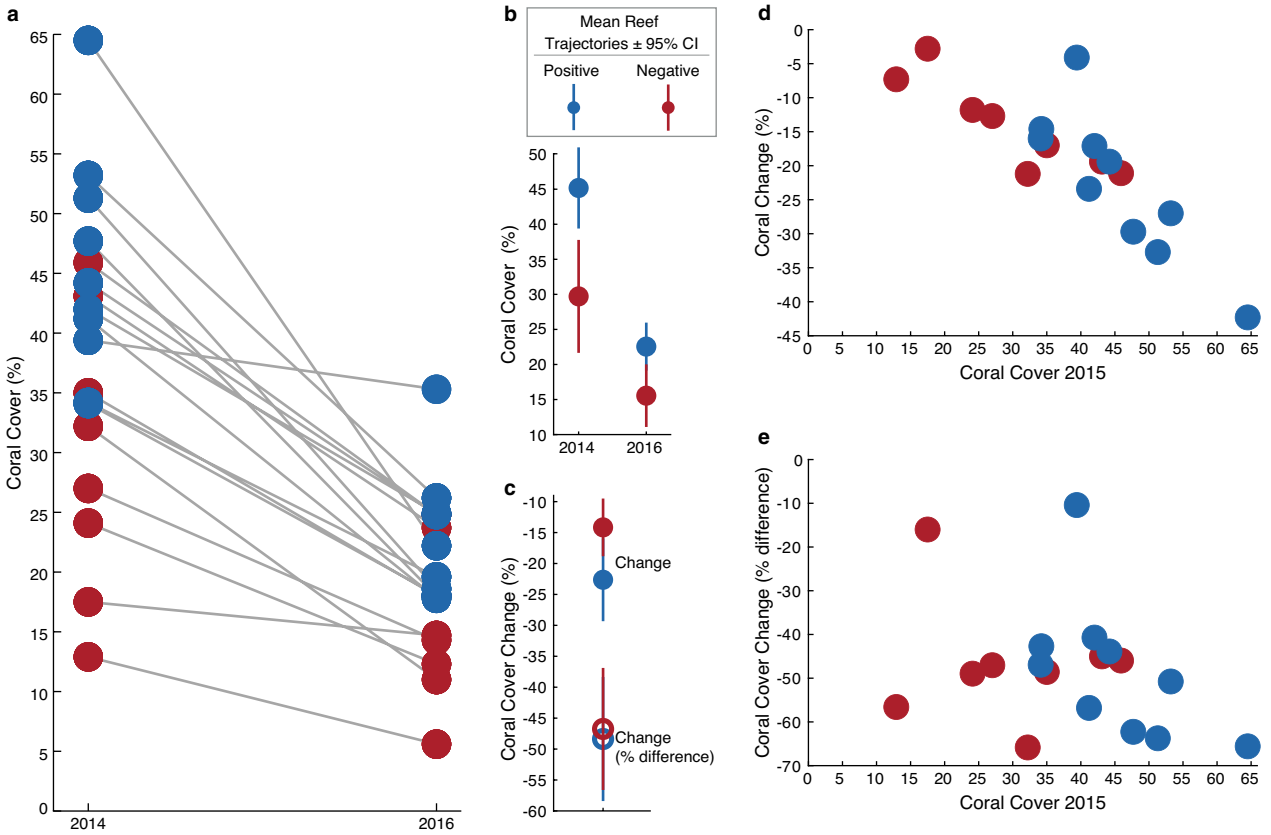
Extended Data Fig. 2 | Long-term ocean temperature record for Hawai'i. Monthly sea surface temperature (SST) for the main Hawaiian Islands from 1900–2020. Dashed lines represent ± 2 standard deviations (SD) above and below the long-term mean. Red line is the 12-month moving average. The 2015 marine heatwave is represented by the highest SST values over the 120-year time series. Data are from NOAA's Extended Reconstructed SST v5 (https://www.ncei.noaa.gov/products/land-based-station/noaa-global-temp) and values shown are the 90th percentile of monthly SST from within the vicinity of the main Hawaiian Islands (18.5 to 22.5°N; −160.5 to −154.5°W).



Extended Data Fig. 3 | Per cent difference in mean drop-one jackknife values of local human impacts and environmental factors between positive and negative trajectory reefs. The per cent difference ((V1−V2)/[(V1+V2)/2]; dots) was quantified by taking the ratio of the mean in drop-one jackknife values between positive (n = 10) and negative (n = 8) trajectory reefs (*sensu*)[88]. Upper and lower bars represent the respective maximum and minimum per cent differences. Blue and red shaded regions indicate factors that were greater on reefs that had positive and negative trajectories, respectively. Zero line represents equal values. Outliers that fell outside a threshold of ±2 standard deviations of the median were removed prior to analysis. See Fig. 1b for reef locations and Fig. 2d for mean absolute differences in factor values. See Methods, Extended Data Table 1, and Supplementary Information for detailed information on local land-sea human impacts and environmental factors.



Extended Data Fig. 4 | Generalized Additive Mixed Model (GAMM) results (R^2 = 0.79) showing key local land-sea human impacts and environmental factors that modified coral response to the 2015 marine heatwave. Positive and negative relationships reduce or increase coral loss, respectively. Because changes in coral cover following disturbance can be affected by variations in starting condition (reefs with higher initial cover have greater scope for loss, and vice versa)[91] we modelled relative coral cover change following ref. 92 to ensure comparability across reefs (see Methods). Median values with shaded region representing the 80% confidence interval. The relative importance of factors among all models (i.e., sum of AICc model weights across all models containing each factor) was as follows: sediment input (0.99), scraper biomass (0.99), total fish biomass (0.90), urban runoff (0.60), phytoplankton biomass (0.38), wastewater pollution (0.28), peak rainfall (0.20), nutrient loading (0.19), grazer biomass (0.16), DHW (0.08), wave power (0.07), depth (0.06), and fishing gear restrictions (0.05). See Extended Data Table 1 for full list of local land-sea human impacts and environmental factors included in the analysis, including those removed that were highly correlated (Fig. S5). See Fig. S6 for predictor variable distributions.



Extended Data Fig. 5 | Coral cover change following the 2015 marine heatwave on positive versus negative coral cover trajectory reefs. a, Coral cover on positive (blue; $n = 10$) and negative (red; $n = 8$) trajectory reefs surveyed (see Fig. 2b in main manuscript) prior to (2014) and 1-year following (2016) the marine heatwave. **b**, Positive trajectory reefs have a higher mean coral cover both prior to, and to a lesser extent, following the marine heatwave compared to negative trajectory reefs. **c**, Positive trajectory reefs experience increased absolute coral cover loss following the marine heatwave (underlying relationship shown in panel **d**), but this difference is largely absent once starting coral cover condition is accounted for (underlying relationship shown in panel **e**).

Extended Data Table 1 | Local land-sea human impacts and environmental factors considered for our analyses

Impact or Factor	Metric	Units	Spatial Resolution	Temporal Resolution	Temporal Range	Data Source	Justification
Fish Biomass	Total Biomass, Herbivores, Grazers, Browsers, Scrapers	kg ha^{-1}	25 m	1–6 surveys, per site, per year	2003–2019	See Supplemental Information	Abundant reef fish populations support reef-scale ecosystem functions such as predation and nutrient release[29]. Herbivorous fishes support ecosystem resilience and mitigate the negative effects fleshy algae have on coral survival[108].
Human Population	Population Density	people/15 km	1 km	Annual	2000–2019	NASA GPWv4	Human population density is a widely used proxy for local human impacts[25,109,110].
Wastewater Pollution	Total Effluent	L ha^{-1}	100 m	Annual	2000–2019	Modified from ref[67]	High concentrations of toxins (e.g., endocrine disruptors, pathogenic bacteria and viruses, pharmaceuticals, and heavy metals) are found in wastewater pollution[111]. These toxins can drive a higher incidence of coral disease, reduced coral growth and reproduction, increased cover of fleshy algae, and increased coral bleaching and subsequent mortality[42].
Nutrient Input	Total Nitrogen	kg ha^{-1}	100 m	Annual	2000–2019	See Supplemental Information	Human-derived nutrient input can promote rapid algal growth, outcompeting corals and disrupting ecosystem function[57].
Urban Runoff	Impervious Surfaces	m^2 ha^{-1}	100 m	Annual	2000–2019	See Supplemental Information	Runoff can deliver a broad spectrum of land-based contaminants (e.g., heavy metals and household chemicals) that degrades nearshore water quality, with cascading effects on coral health[41], including the natural defence abilities of corals and increase the likelihood of mortality from heat stress[40].
Sediment Input	Sediment	kg ha^{-1}	100 m	Annual	2000–2019	See Supplemental Information	Sediment input can impede the photosynthetic capacity of corals and reduce growth by burying coral colonies[41].
Rainfall	Annual & Peak Rainfall	m^3 ha^{-1}	100 m	Annual	2000–2019	Modified from refs[75,76]	Large pulses of freshwater from storm events can cause localised die-off of nearshore corals, fish, and other reef-associated organisms[112]. Rain events can also mobilise high levels of nutrients, sediment, and land-based debris that impact nearshore water quality and coral reef health[113].
Wave Exposure	Wave Power	kW m^{-1}	50 m	Hourly	2000–2019	See Supplemental Information	Gradients in wave exposure and associated flow produce varying levels of disturbance that can play a major role in determining coral reef community patterns[84,114,115].
Phytoplankton Biomass	Chlorophyll-*a*	mg m^{-3}	750 m & 4 km	Daily & 8-day	2002–2014	NOAA's Coral Reef Watch), and ref[80]	Chlorophyll-a is a widely used indicator for changes in phytoplankton production[116] that propagates through the food-web[117]. Corals can supplement nutritional requirements through heterotrophic feeding on zooplankton[39]. High levels of chlorophyll-*a* are also indicative of poor water quality that can have negative outcomes for corals[40].
Sea-surface Temperature (SST)	Summertime Mean & Standard Deviation	°C	5 km	Daily	2000–2019	NOAA's Coral Reef Watch	The mean and variability in summertime ocean temperature is a widely used metric for coral reef resilience[57].
Heat Stress	Degree Heating Week	°C-weeks	5 km	Daily	2000–2018	NOAA's Coral Reef Watch	Degree heating week is the accumulation of heat stress above the coral bleaching threshold over a 12-week period as is the dominant metric in coral reef research to quantify heat stress on corals (e.g.,[22]).
Irradiance	Photosynthetically Active Radiation	Einstein m^{-2} d^{-1}	750 m	Daily	2015–2019	NOAA's Coral Reef Watch	Excessive irradiance can cause light stress that exacerbates coral bleaching[118,119].
Fishing Gear Restrictions	Gear Rank	Categorical	NA	NA	2000–2019	See Supplemental Information	We use fishing gear restrictions as a metric to represent spatial fisheries management[120].
Depth	Depth	Metres	NA	NA	2003–2019	Reef Surveys	Deeper reefs are often less impacted by heat stress compared to those located in shallower depths[2,21].

See *'Local land-sea human impacts and environmental factors'* section in Supplemental Information for detailed information on calculating each impact or factor, including data collection methods, data sources and ancillary data sets, and specific tools or software utilized[108–120].

Extended Data Table 2 | Summary of generalized additive mixed effects models (GAMM) relating coral response to the 2015 marine heatwave with local land-sea human impacts and environmental factors

Significant Land-Sea and Environmental Factors	Log Likelihood	AICc	ΔAICc	Adjusted R^2
Model 1. Phytoplankton Biomass, Urban Runoff, Sediment Input, Scraper Biomass, Total Fish Biomass	-302.98	638.34	0	0.79
Model 2. Urban Runoff, Sediment Input, Peak Rainfall, Scraper Biomass, Total Fish Biomass	-303.93	640.25	1.91	0.78

The top two candidate models are shown. AICc, Akaike's information criterion corrected for small sample size; ΔAICc, change in AICc across the candidate models (ΔAICc ≤ 2 of the top model are shown); Adjusted R^2, proportion of variation in the response variable explained by the candidate model.

Extended Data Table 3 | Summary of ordinal logistic regression (OLR) models relating the per cent cover of reef-builders (hard coral + crustose coralline algae) four years following the 2015 marine heatwave to local land-sea human impacts and environmental factors

		Model Output				AICc	ΔAICc	McFadden's pseudo-R^2
Model 1	Predictors	**Scraper Biomass**	**Wastewater Pollution**	Sediment Input	Peak Rainfall	103.28	0	0.22
	Coefficients	0.689	-0.867	0.159	0.547			
	p value	0.031	0.019	0.647	0.130			
Model 2	Predictors	**Scraper Biomass**	Wastewater Pollution	Urban Runoff	Sediment Input	104.72	1.44	0.21
	Coefficients	0.705	-0.567	-0.348	0.330			
	p value	0.025	0.115	0.282	0.303			
Model 3	Predictors	Depth	Scraper Biomass	**Wastewater Pollution**	**Peak Rainfall**	104.73	1.45	0.21
	Coefficients	-0.508	0.540	-0.802	0.728			
	p value	0.109	0.088	0.022	0.038			
Model 4	Predictors	**Scraper Biomass**	**Urban Runoff**	Sediment Input	Peak Rainfall	105.19	1.91	0.21
	Coefficients	0.673	-0.655	-0.076	0.493			
	p value	0.033	0.039	0.813	0.162			

AICc, Akaike's information criterion corrected for small sample size; ΔAICc, change in AICc across the candidate models (ΔAICc ≤ 2 of the top model are shown); McFadden's pseudo-R^2, proportion of variation explained by candidate model (0.2–0.4 represent an excellent fit)[98]. Significant predictors at $p < 0.05$ are in bold.

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☐	☒ The exact sample size (*n*) for each experimental group/condition, given as a discrete number and unit of measurement
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☐	☒ Estimates of effect sizes (e.g. Cohen's *d*, Pearson's *r*), indicating how they were calculated

Our web collection on statistics for biologists contains articles on many of the points above.

Software and code

Policy information about availability of computer code

Data collection	All data and code that support the findings of this study are available at https://github.com/jamisongove/Coral-Reef-Persistence.
Data analysis	Statistical analyses were performed using the software packages R (www.r-project.org) version 4.0.2 (using libraries gamm4, MuMIn, foreach, doMC, ggplot2, gmt, tidyverse, zoo, lubridate) (ref. 1), Matlab (www.matthworks.com) using v2021a (using Statistics and Machine Learning toolbox), ArcGIS Desktop (www.esri.com) v10.6 with Advanced licensing and extensions Spatial Analyst and Geostatistical Analyst, InVEST Sediment Delivery Ratio model (https://naturalcapitalproject.stanford.edu/software/invest), and the PERMANOVA+ (ref. 2) add-on for Primer version 7 (ref. 3). 1 Team, R. C. in R Roundation for Statistical Computing (2021). 2 Anderson, M., Gorley, R. N. & Clarke, R. K. Permanova+ for primer: Guide to software and statistical methods (2008). 3 Clarke, K. & Gorley, R. Getting started with PRIMER v7. PRIMER-E: Plymouth, Plymouth Marine Laboratory (2015).

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- A description of any restrictions on data availability
- For clinical datasets or third party data, please ensure that the statement adheres to our policy

All data that support the findings of this study are available at https://github.com/jamisongove/Coral-Reef-Persistence. Reef fish length-weight parameters were obtained from FishBase (https://fishbase.org) and ref. 1, human population data from NASA Gridded Population of the World v4 (https://sedac.ciesin.columbia.edu/data/set/gpw-v4-population-count-rev11), land use and land cover data from the NOAA Coastal Change Analysis Program (https://www.coast.noaa.gov/htdata/raster1/landcover/bulkdownload/), soils data from USDA Gridded Soil Survey Geographic Database (gSSURGO; https://www.nrcs.usda.gov/resources/data-and-reports/gridded-soil-survey-geographic-gssurgo-database), sub-watershed catchment data from USGS Stream Stats (https://water.usgs.gov/GIS/metadata/usgswrd/XML/ds680_archydrohucs.xml) (ref. 2), watershed and digital elevation model data from USGS National Hydrography Dataset (https://www.usgs.gov/national-hydrography/national-hydrography-dataset), rainfall data from refs. 3,4, Landsat 8 satellite image from USGS (https://earthexplorer.usgs.gov/), Landsat 7 and 8 cloud-free composites derived using Google Earth Engine (https://earthengine.google.com/), individual wastewater systems for Hawai'i from refs. 5,6, marine managed area designation from ref. 80 and downloadable from the State of Hawai'i (https://planning.hawaii.gov/gis), fishing regulations from the State of Hawai'i (https://dlnr.hawaii.gov/dar/fishing/fishing-regulations/), sea surface temperature and degree heating week data from NOAA Coral Reef Watch (https://coralreefwatch.noaa.gov/product/5km), ocean color (chlorophyll-a and irradiance) data from NOAA Coral Reef Watch (https://coralreefwatch.noaa.gov/product/oc/index.php) and ref. 7. See Methods and Supplemental Information for more detailed information on the data used to support the findings of this study.

1 Donovan, M. K. et al. Combining fish and benthic communities into multiple regimes reveals complex reef dynamics. Sci. Rep. 8, 16943 (2018).
2 Rea, A. & Skinner, K. D. Geospatial datasets for watershed delineation and characterization used in the Hawai'i StreamStats web application. US Geol. Surv. Data Ser. 680, 12 (2012).
3 Longman, R. J., Newman, A. J., Giambelluca, T. W. & Lucas, M. Characterizing the Uncertainty and Assessing the Value of Gap-Filled Daily Rainfall Data in Hawaii. J. Appl. Met. Clim. 59, 1261-1276 (2020).
4 Longman, R. J. et al. Compilation of climate data from heterogeneous networks across the Hawaiian Islands. Scientific Data 5, 180012 (2018).
5 DOH. Individual Wastewater System Database. Hawaii Dept. of Health (2017).
6 DOH. Underground Injection Control Permit application files. Hawaii Dept. of Health (2017).
7 Wedding, L. M. et al. Advancing the integration of spatial data to map human and natural drivers on coral reefs. PLoS ONE 13 (2018).

Human research participants

Policy information about studies involving human research participants and Sex and Gender in Research.

Reporting on sex and gender	NOT APPLICABLE
Population characteristics	NOT APPLICABLE
Recruitment	NOT APPLICABLE
Ethics oversight	NOT APPLICABLE

Note that full information on the approval of the study protocol must also be provided in the manuscript.

Field-specific reporting

Please select the one below that is the best fit for your research. If you are not sure, read the appropriate sections before making your selection.

☐ Life sciences ☐ Behavioural & social sciences ☒ Ecological, evolutionary & environmental sciences

For a reference copy of the document with all sections, see nature.com/documents/nr-reporting-summary-flat.pdf

Ecological, evolutionary & environmental sciences study design

All studies must disclose on these points even when the disclosure is negative.

Study description	The study tested the hypothesis that mitigating local human impacts facilitates coral reef persistence in the face of climate change-induced disturbance, specifically mass coral bleaching. Our goal was to move beyond commonly used proxies of local human impacts and generate spatially resolved data on specific land-sea human activities to identify actionable outcomes. This further allowed us to quantify the effects mitigating either land- or sea-based human impacts in isolation or simultaneously had on the ability of key reef-building organisms to recover post-disturbance. We achieved this by combining recurring in-water SCUBA surveys of coral reef benthic and fish communities with a 20-year time series of land-sea human impacts and other environmental factors thought to drive

coral reef ecosystem processes. Our study included reefs across a broad range of ecological states, large spatiotemporal gradients in land-sea human impacts and environmental factors, and which experienced the most severe marine heatwave on record in the Hawaiian Islands.

Research sample

We quantified changes in the per cent cover of major reef-building benthic groups (hard coral, crustose coralline algae) and related these to concurrent changes in numerous land-sea human impacts, including urban runoff, wastewater pollution, nutrient loading, sediment input, and local restrictions on fishing gear types. Environmental factors included peak and annual rainfall, wave exposure, variability in ocean temperatures and heat stress, irradiance, and phytoplankton biomass. We also incorporated multiple fish biomass metrics that represent the critical role reef fish play in maintaining coral reef ecosystem dynamics. All human impacts and environmental factors were chosen based on prior evidence in the literature that they represent key drivers of reef ecosystem processes and were quantified using a variety of modelled and satellite-derived data sources.

Sampling strategy

Underwater visual surveys of shallow-water benthic and reef-fish assemblages were collated from the following three coral reef ecosystem monitoring agencies to maximise spatial and temporal replication across the study region: State of Hawai'i Division of Aquatic Resources, National Park Service, and The Nature Conservancy. Each program conducted surveys using similar data collection methods (see below) in shallow-water (<30 m) depths over hard-bottom substrate.

Data collection

All coral reef surveys used a traditional 25 m belt-transect method. Benthic surveys used permanently marked pins to ensure the same area of reef was surveyed over time. High resolution photographs were collected via photoquadrats at 1 m intervals along 25 m belt-transects (N = 26 photographs per transect). Thirty to fifty random points were overlaid on each photograph and the benthic component under each point was identified to the lowest possible taxonomic level. Per cent cover of the major functional groups were used in this analysis, namely hard coral, crustose coralline algae, macroalgae, and turf algae. All data were averaged among each transect and then among all transects for each site (1 – 4 transects per site, per year, depending on the monitoring program). Surveys of reef-fish assemblages were performed along the same permanently marked 25 m transects concurrently with benthic surveys. In all surveys, fishes were identified to species, sized, and enumerated. To account for differences among programs in how researchers surveyed reef fish, counts were calibrated using species and method specific adjustments previously developed for the region.

Timing and spatial scale

Underwater visual surveys of benthic assemblages were collated from three monitoring programs for the following years (number of reefs surveyed are in parentheses): 2003 (23), 2007 (23), 2011 (23), 2014 (40), 2015 (40), 2016 (80), 2017 (80), 2018 (15), 2019 (55). All benthic surveys used permanently marked pins to ensure the same area of reef was surveyed over time. High resolution photographs were collected via photoquadrats at 1 m intervals along 25 m belt-transects (N = 26 photographs per transect). Thirty to fifty random points were overlaid on each photograph and the benthic component under each point was identified to the lowest possible taxonomic level. Per cent cover of the major functional groups at each reef were used in this analysis, namely hard coral and crustose coralline algae. Surveys of reef-fish assemblages were performed along the same permanently marked 25 m transects concurrently with benthic surveys. However, reef fish surveys were performed more frequently (1 – 6 times per year from 2003 – 2019) than benthic surveys, depending on the reef location and monitoring program performing the surveys. In all surveys, fishes were identified to species, sized, and enumerated. To account for differences among programs in how researchers surveyed reef fish, counts were calibrated using species and method specific adjustments. The survey region spanned roughly 200 km of coastline on the island of Hawai'i.

Data exclusions

Fish species were excluded from fish biomass calculations according to life history characteristics that are not well captured with visual surveys, including cryptic benthic species, nocturnal species, pelagic schooling species, and manta rays. We also accounted for extreme observations of schooling species, which were defined by calculating the upper 99.9% of all individual observations, resulting in 26 observations out of over 0.5 million, comprised of 11 species. The distribution of individual counts in the entire database for those 11 species was then used to identify observations that fell above the 99.0% quantile of counts for each species individually. These observations were adjusted to the 99.0% quantile for analysis.

Other data exclusions include outliers in predictor variables (the local human impacts and environmental factors). Within the section "Coral reef trajectories pre-disturbance", prior to calculating per cent difference, we identified and removed outliers that fell outside a threshold of ± 2 standard deviations of the median. Within the section "Coral response to the 2015 Marine Heatwave", prior to model fitting, we identified the presence of outliers in our predictor variables as any point that fell outside a threshold of ± 2 standard deviations of the median. We then applied an additional step to retain any point above this threshold that was within 25% of the maximum predictor value below the threshold. This ensured that no data points were unnecessarily discarded from our formal model-fitting process because of applying an arbitrary threshold cutoff for data inclusion. We used the exact same process to identify and remove outliers within the section "Coral reefs four years post-disturbance" prior to formal model fitting.

Reproducibility

A description of the methodologies used is provided in the Methods and expanded on substantially for several of the human impact and environmental factors in the Supplementary Information. The data and full code necessary to reproduce the findings are available at https://github.com/jamisongove/Coral-Reef-Persistence

Randomization

Survey sites were either randomly or haphazardly chosen by the various monitoring agencies involved in data collection. Sites were separated by a minimum distance (250 m) and transects within sites were also separated by a minimum distance (5 - 10 m). To minimise observer bias of fish counts, sizing calibration dives were conducted using fish models of known size at the beginning of each field season. Observer crossover training was done using two observers side by side when possible. Benthic cover estimates were quantified by randomly assigning 20 points to each image using post-hoc image analysis programs (Photogrid or Coral Point Count with Excel Extensions) and identifying the benthic group to the lowest taxonomic rank under each point.

Blinding

All in situ benthic and reef fish surveys were conducted prior to this research question being conceived. The divers carried out the surveys for the most part without prior knowledge of the local human impacts and environmental factors for their respective survey locations – we later quantified these for each reef location and time of survey, thus blinding in this respect was achieved. In some cases, divers were aware of any local fishing restrictions in effect, but this was unavoidable as many of them specifically survey inside and outside of these zones

Did the study involve field work? ☒ Yes ☐ No

Field work, collection and transport

Field conditions	Because of the nature of collecting underwater benthic information, field conditions must be relatively calm (i.e., low wind and wave activity) with relatively good underwater visibility (i.e., > 5 m).
Location	Our study site was Hawai'i Island (19.55°N, 155.66°W), USA, which is the southeastern most island of the Hawaiian Archipelago, located in the northern central Pacific. The western section has roughly 200 km of coastline that is predominately oriented north to south. The coastline contains the longest contiguous reef ecosystem in the main Hawaiian Islands and large gradients in human population, local land-sea impacts, and environmental factors. The region represents an ideal study location for resolving the interacting land-sea human impacts driving reef ecosystem change and coral trajectories following acute climate-driven disturbance. All reefs included in this study were in shallow-water (depth < 30 m).
Access & import/export	All survey data were collected with the knowledge and consent of the State of Hawai'i, which has legal jurisdiction of all waters from 0 – 3 nm of the shoreline. The director of the State of Hawai'i's Division of Aquatic Resources, which is the managing agency of State waters, contributed survey data and both a collaborator and coauthor on this manuscript.
Disturbance	All surveys were performed by professional scientific divers that aim to minimise contact and disturbance of the reef. No coral reef benthic or fish species were removed from their habitat as part of this effort

Reporting for specific materials, systems and methods

We require information from authors about some types of materials, experimental systems and methods used in many studies. Here, indicate whether each material, system or method listed is relevant to your study. If you are not sure if a list item applies to your research, read the appropriate section before selecting a response.

Materials & experimental systems

n/a	Involved in the study
☒	☐ Antibodies
☒	☐ Eukaryotic cell lines
☒	☐ Palaeontology and archaeology
☒	☐ Animals and other organisms
☒	☐ Clinical data
☒	☐ Dual use research of concern

Methods

n/a	Involved in the study
☒	☐ ChIP-seq
☒	☐ Flow cytometry
☒	☐ MRI-based neuroimaging

From: Kaipo McKeague
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Item F-1 OPPOSE Issuing AQ Permits & OPPOSE Delegating Authority to Department Chair
Date: Wednesday, August 21, 2024 9:14:19 PM

Aloha,

My name is Ka'ipo McKeague, a cultural practitioner and native Hawaiian with deep ties to West Hawai‘i. I strongly oppose the issuance of aquarium permits and believe the Board, not the Chair, should retain authority over these decisions.

Our reefs are vital to the health of our oceans and our cultural identity. The aquarium trade threatens these precious resources, benefiting only a few at the expense of many. As Hawaiians, we have a responsibility to protect our natural heritage. Please listen to the voices of the kanaka maoli and allow us to lead in the stewardship of our home.

Mahalo for your consideration.

Ka'ipo McKeague

Sent from my iPhone

From: Miraculous Media
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 5:24:13 AM

I support opening the aquarium fishery and managing resources by science provided by DAR.

From: Daniel Mitts
To: Maureen Brock
Cc: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Re: August 23; Agenda Item F.1
Date: Thursday, August 22, 2024 6:59:02 AM

As stated by my wife Maureen, we believe that collecting reef fish should be halted and the legislators should follow the decision of BNLR.
Daniel Mitts

On Thu, Aug 22, 2024, 9:48 AM <maureen.l.brock@gmail.com> wrote:

> Aloha,
>
> I live on Maui and wish to testify against permitting commercial aquarium collection of reef fish in Hawaii.
>
> My husband I count “our” damselfish (Hawaiian dascyllus) at specific coral heads along Baby Beach Lahaina multiple times per week. We are buoyed by the health of the reef, post-fire and delighted when we see new, little fry in the summer. Of course, the population declines as the fish mature, but we consider this a graduation to deeper water. Knowing that someone can be profiting off their lives by capturing and selling them is something that would break my heart. Aquarium fish merchants should farm their fish, not harvest them from our oceans!
>
> Please adhere to the unanimous decision by the Board of Land and Natural Resources (BLNR) in December of 2023 to prohibit commercial AQ statewide.
>
> Regards,
>
> Maureen Brock

From: Nina Monasevitch
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] August 23; Agenda Item F.1
Date: Wednesday, August 21, 2024 5:14:18 PM

TO MEMBERS OF BLNR:

I strongly oppose the plan to reopen Hawaiian reef ecosystem to the destructive aquarium trade.

Clearly individuals in the Department of Aquatic Resources are acting out of pure self-interest. Humanity is living through what is called a mass extinction event. What part of extinction is confusing?

Our oceans are in serious peril. I have witnessed first-hand the decimation of marine life and ocean ecosystems in the past 46 years of living, diving and open ocean swimming in Kauai's near and off shore waters and most of the other main Hawaiian Islands. I have witnessed huge declines in fish and coral, terrible water quality and reef conditions getting worse by the month. All science is documenting that over extraction is one of the top causes of degradation to reefs, and ocean health. It is time to wake up from the spell of greed and protect our ocean home--the ocean is literally our life support system!

DAR has made multiple public statements that the Board, not the Chair, will determine whether to issue any AQ permits. Breaking that promise now is the ultimate betrayal of public trust.

The benefits of leaving our fish on the reefs FAR OUTWEIGH the monetary gains of a handful of people who take them off the reef for sale to the AQ pet trade outside Hawaii.

Scientists say we must increase fish abundance if our reefs are to have a fighting chance against climate change impacts. Sacrificing tens to hundreds of thousands of important herbivores to an unnecessary and destructive activity contradicts best available science and common sense.

The AQ trade fundamentally conflicts with local, cultural, and broad social values of our Hawaii home.

The extraction of ocean wildlife for aquariums is inhumane, unsustainable and not pono! To help Hawaii's coral reefs recover from multiple stressors, we need to protect and maintain a healthy population of the herbivorous fish that are essential to reef ecosystems.

Malama Pono.

Sincerely,
Nina Monasevitch

Lihue, HI

Aloha Chair and the Board of Land and Natural Resouraces, August 22, 2024

My name is Maki Morinoue and I am a fourth generation kama'aina from Hōlualoa village, on the West Side of Hawai'i Island.
I am representing HULI PAC, we are a group of grassroots community stewards who advocate for our Hawai'i Island communities to have leverage over offshore corporate investors and self intrests by endorsing and electing grassroots leaders that will best represent ʻāina and its people.

Thank you for this opportunity to testify on item F-1.

I OPPOSE issuing commercial aquarium permits in West Hawaiʻi, and I OPPOSE delegating authority to the Department Chair.

Regarding Delegating Authority to Issue AQ Permits to the Department Chair, do not delegate authority to the Department Chair. Retain the discretionary authority with the Board, which will continue to utilize their diverse island communities, specialized knowledge, and expertise to weigh in and make informed decisions together.

This opportunity to testify and having the Board ensure alignment, transparency and integrity to the BLNR's mission with public mana'o from different ahupua'a can better steer the future of Hawai'i and ensure best practices aligned with Native Hawaiian cultural practices, kilo and our knowledge be heard and implemented. This is why I am grateful for this opportunity to testify. The power to uphold the BLNRs mission must remain within the board and the authority should not be delegated to the department chair.

Regarding Terms & Conditions to Issue West Hawaiʻi aquarium permits, I request you reject DAR's Aquarium Terms and Conditions and ***deny any and all permits***.

Growing up here my backyard relationships was swimming and fishing the coastline predominantly in Kealakekua, Keauhou, Kahalu'u, La'a Loa, Kohanaiki, Old Airport State Park, Kaloko, Mahaiula, Makalawena Kua, Kiholo bay and Hapuna beach. Some of the fish our community grew up eating is on this list. The kole, black eyed kole, Umaumalei, ʻMā'i'i'i and the Thompson's Surgeon fish which creates a double harvest impact in two different industries. I grew up around fishermen, farmers and ranchers in Holualoa village, elevation 1,400 and our kupunas told us stories of seeing a large school of yellow tang so large it could been seen all the way from Holualoa village. They referred to the schools of yellow tang as the Kona Gold Cost. Thoes kupunas are long gone. My grandmother's era sharing 1940s and early 1960s observations before the aquarium industry degratded our reef significantly only

to expand more aggressively in the 70s into the 90s. When I snorkel, there is now a small school of 5 Yellow Tangs in most areas. Areas that are protected by our stewards and are marine preservation areas, show a larger school of yellow tang but not nearly enough to reflect the kilo of our greatgrandparents times. The data and kilo up until our greatgrandparents era should be the references that validate what a healthy ecosystem should look like. The bar nature herself sets for optimal balance and health. Not the data starting in the 1990s that DAR uses and finds adequit. That data grossly misaligns with Native Hawaiian cultural practices and lacks over 100 years of knowledge.

The aquarium trade poses a significant threat to marine ecosystems and biodiversity. Removing large numbers of fish and other species from their natural habitats can disrupt the delicate balance of these ecosystems, lead to declines in population numbers, and impact the health of our coral with the lack of healthy ***symbiotic relationships. Commercial aquarium is for visual and personal pleasures with a high death rate of our vital spcies for non subsistence harvesting.***

We must care for the smallest life forms in order to nourish the largest life forms in our ocean. The coral reef is the rainforest of our ocean. **50% of the oxygen we take in with every breath is provided by Phytoplanktons.** Phytoplanktons also feed the small fish and the largest mammals in our ocean. The collapse of our coral reef without sufficient herbivore fish that are designed specifically to take care of our coral reef by cleaning and managing our coral, symotaniously brings biodiversity onto our reef. *Herbivores fish species, IS the direct link to the current trajectory, the collapse of our ocean ecosystem and provides life to us all.*
The way we develop on land impacts our coral life (*attached in Dr. Asner's article on West Hawai'i land to sea impact), the practices we allow and don't allow in our ocean, dictates the health and survival of ALL life in the ocean and ***the natural, significant, possibility of loosing 50% of our Earth's oxygen resource.***

We are in CRISIS – many herbivore species have already been in huge decline as I mentioned from my grandparents era and, without sufficient herbivore species, our coral reefs are projected to begin dying within the next decade. Less able to navigate the changes in our climate and the developments on land. The time is now to recognize, and ***make historic decisions that align with Native Hawaiian cultural practices*** with knowledge coming in from various ahupua'a from different islands. We are reflecting same stories and observations as I have testified on this matter for many years. Commercial aquarium industry is NOT a cultural practice and creates a double harvest opportunity as a food and visual pleasure source making this an aggressivly erraticative and extractive industry and invites illegal harvesting of our herbivore species.

The Board of Land and Natural Resources has the power and authority to OPPOSE delegating authority to the Department Chair and protect decision making at the BLNR table to ensure transparency and ***reject*** DAR's Aquarium Terms and Conditions and ***deny any and all permits*** while better aligning with your mission. Today, BLNR has a choice to change our future outcome and to ***make Hawai'i a global example*** of how important our coral reefs are. BLNR in its very mission is to protect the rights of nature and the cultural practices of our indigenous people. *I hope to witness history together with you, because of each of you voting to protect our natural and cultural resources.*

Thank you for this opportunity,
Maki Morinoue
HULI PAC, Chair
Hōlualoa, 96725
Hawai'i Island

From: Danielle Morris
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Testimony for August 23; Agenda Item F.1
Date: Wednesday, August 21, 2024 9:14:42 PM

Testimony for August 23 Agenda Item F.1
My name is Danielle Morris. I am from Lahaina, Maui. I was born and raised in Lahaina and have called Lahaina home for 38 years. I lost my home in the fire. Since I was a child I have enjoyed snorkeling in West Maui and other parts of the island as well as neighboring islands. I have personally noticed the drastic decline in the tropical fish population over the years. Snorkeling in Napili and Kapalua used to be like swimming in an aquarium. Diverse populations of colorful fish were plentiful. Now when you want to see fish you have to go to the Maui Ocean Center and see them in tanks. For years tourists have complained to me about uneventful snorkel trips on Maui. Claiming to have seen pretty much nothing they ask me if there are perhaps better locations for snorkeling that they didn't know about. Sadly they were in the correct snorkeling locations it's the population of fish that has declined. I think it's absolutely ridiculous to allow the collection of reef fish to be sold in a commercial aquarium market for profit. We need to keep the fish in our local oceans. Not only for a healthy ecosystem but also for locals and tourists to be able to see when snorkeling. If we don't protect our resources this will just become another island resource that is sold away for profit. Please do not allow this. Please do what is pono. Do not move forward in allowing commercial aquarium collection. No AQ permits should be issued. BLNR should have the decision making power on this issue not the DAR. Thank you for your time.
Sincerely,
Danielle Morris

From: Cheryl Motoyama
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 support
Date: Wednesday, August 21, 2024 7:36:14 PM

I support opening the aquarium fishery and managing resources by science provided by DAR.
Sent from my iPhone

From: Bochelly munoz
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 9:26:07 AM

I support opening the aquarium fishery and managing resources by science provided by DAR’

Bochelly Munoz
Sent from my iPhone

Ke Welina Aloha iā Chair Chang a me Board Members,

I am Uʻilani Naipo, a lineal descendant of both Miloliʻi - Kapalilua and Kohala Loko, the near boundaries of the West Hawaiʻi Regional Fishery Management Area (WHRFMA).

> As lineal descendant and hoaʻāina of the thirteen ahupuaʻa ʻo Kīpahoehoe, Alikā, Pāpā, Hoʻōpūloa, Anapuka, Miloliʻi, Omokaʻa, Kalihi, Honomalino, Okoe, Kapuʻa, Kalaunamauna, and Manukā, ʻāina kumu wai in the ʻokana (district) of Kapalilua.
>
> At the North, in the district of Kohala Loko, my kūpuna served upon and their wailua rests within the ahupuaʻa of Honopueo, Kapaʻau, ʻĀinakea, Makapala, and Niuliʻi. Today, my pilina to Kohala as a waʻa and ʻāina crew member with Nā Kālai Waʻa Moku o Keawe, I serve as a hoaʻāina at Hāwī ʻāina maʻū, Māhukona (drydock for our waʻa, Makaliʻi), and Kawaihae (mooring).

He kauwā wale nō wau a he hoaʻāina o Kohala a me Kona Hema.

My kūpuna were staunch servants when it came to our waters (fresh, brackish, and ocean) and natural resources of our land and ocean because they had to. It meant survival. For many of us in South Kona, its not too different today – we were raised that way, our values innate in our traditional practices. Our struggles to hold onto these values are synonymous with the effort it takes to deter foreign practices that leave us indelibly depleted of our natural resources and depleted of our culture.

My role for my community of Kapalilua is that of advocacy for our traditional and customary practices, promoting place-based governance of our natural resources as these reflect our traditional practices to mālama and aloha ʻāina. I continue to makaʻala and engaged in matters pertaining to West Hawaiʻi and my community. The impact aquarium collection has had on my community began long before our efforts to secure Miloliʻi CBSFA designation in 2005, and the promulgation of rules in 2022, however it was a motivating factor.

The Exploiting Hawaiian Reef Fish article reveals an abridged history of how West Hawaiʻi Regional Fishery Management Area (WHRFMA) was created – for the privatized commercial extraction and exploiting practice of Hawaiʻiʻs public trust assets. Allowing commercialization — by placing a monetary value on our fish and enabling this fishery, allows the erasure of our cultural practices to mālama and aloha ʻāina.

DLNR's mission is to protect and preserve cultural and natural resources. This mission is compromised for considering this practice, just as it compromises our values and lifestyle to have it happening in our waters.

Chair, you've said "our [DLNR's] mission is not to look for economic opportunities, that's DBEDT." Our reef fish can no longer be commodified into a privatized industry, much less for a handful of collectors. Collectors that have been belligerent in BLNR meetings during December 2023 and April 2024 feel very strongly that they have a right to Hawai'i's public trust resources. They do, however not for their extractive, unfairly privatized and exploitative commercial practice. EIS consultation with traditional practitioners and fishermen strongly voiced that if permits were allowed, (the traditional practice of) give back should be done. Since back then, thru the six years of injunction being in place, I'm not aware of any sincere give-back. A sincere give-back would be received by collectors as a condition of terms, not in the spirit of reciprocity in how we live by. When we place these in the form on conditions on an activity that otherwise would be prohibited, we are forcing them into actions that does not have any sincerity. The Draft EIS has been long been available with these sentiments made clear in the documented interviews and still there has not be any actions to act upon good faith. The Board's decision shall not be sympathetic to collectors who purchased a lottery ticket (in the form of an EIS) in hopes to get a key to our icebox! We, the tenants of our ahupua'a do not agree to this.

Poaching continued during the period that an injunction was placed on AQ. No remorse to unethical, egregious behavior and violations, collectors continue to demand their access to our precious cultural and natural resources with such arrogance. This is Hawai'i Nei, the only home we have, the resting place of our kūpuna and the ea of our ancestral lands and seas, and our lāhui. Our culture is unlike any – we simply can not promote the erosion of our culture, values, and disciplines so that in just one or two generations, Hawai'i will only be reading about and not practicing these disciplines of mālamā and aloha 'āina.

Those of us who stand in strong opposition to AQ stand separately from AQ collectors for more than the opinion of the practice itself as it is not a Hawaiian cultural practice. Many of us <u>are</u> the stewards of our nearshore waters and do so because it is our kuleana.

> June 2023, BLNR member Barnes queried EcoHarvest (three times) if they would consider to restock our reefs as part of their their aquaculture work, and in reciprocity for their SAP request to harvest reef fish. Ultimately for their investment into the Pet Industry Trade, an adamant no was announced because

they were not going to make a money. That demonstrates arrogance towards commodifying our culture assets that even member Barnes tried to appease the permit applicant.

White List AQ has a long history of having a very liberal and privileged access to our reef fish. Supported since 1953 in legislation, "these ornamental fishes have little or no value as food fish" and "the specie of fish for aquarium purposes is not edible". Both erroneous statements revealed in contradictory to the whitelist of 40 species that included reef fish we eat and today the proposed whitelist of 8 species still includes food fish!

As for the pāku'iku'i, collectors took the young, subsistence and commercial fishers harvested the adults for sustenance. The competing pressure on the species resulting in a dramatic decline, and we now have a two year moratorium on pāku'iku'i take. DAR has and will say that they cannot see concrete evidence that the depletion of pāku'iku'i was due to AQ collection, but as will not say that it was not due to AQ collection or how much it contributed to the depletion. The inability to answer that question does not dismiss AQ of its role in the depletion. We can not have a repeat of this incident for any other food fish on the white list.

Collectors received special privileges in the prolonged survival of this extractive and exploitative activity – poaching of excessive take, take from restricted areas, illegal gear use, and this fishery lacks a trusted accountability system. **So, at what cost** will DLNR serve this fishery and maintain this privatized commercial practice for one or a few AQ collectors. What is the budget line item that the Department requires to support this fishery and where does it exist in its current budget? The Application Form and Terms & Conditions fall short of addressing the prior issues that plagued West Hawai'i in its attempt to serve up this fishery.

<u>Terms & Conditions</u>

It is my understanding that the Board may be required to issue a permit and DAR is to advise on Terms and Conditions to manage the fishery. It is a heartfelt struggle to consider that a legal barrier prevents the Board to follow-through on the its discretionary authority to unanimous approve our petition (back in December) to end commercial aquarium take. It is also a struggle to carefully consider how to best make recommendations on Terms and Conditions on short notice and before DAR does proper and comprehensive Ka Pa'akai Analysis.

DAR should be required to conduct a proper comprehensive Ka Paʻakai Analysis. When properly done, it would identify (perceived and real) issues that could be mitigated by Terms & Conditions for both the Department and permittees.

The Ka Paʻakai Analysis significantly draws from the EIS, which are summaries of the interviews conducted in 2018. Six years is significant time that has lapse, that an update should be required and moreso, DAR still has its duty and obligation to conduct its own outreach to tenants of West Hawaiʻi ahupuaʻa. Similarly, a trusted accountability system (chain of custody) should be scoped.

These preliminary terms and conditions recommended to address the unacceptable conditions that occurred while aquarium collection was permitted, poaching that occurred during the injunction and now. It also addresses the lack of a trusted accountability system or chain of custody.

- Aquarium species white list shall not have any food fish or endemic species. Allow non-native invasive species - roi, taʻape, toʻau.
- In addition to the recommended white list species, excluding food fish and endemic species, no Total Allowable Catch of any White List Species shall exceed 1,825, derived from take of no more than 5 per permit, per day (unless further restrictive). These take allowances are still generous over those in SAPs for education and research take. Special circumstances for particular species should also be considered to derive TAC such as the Thompsonʻs Surgeonfish. This proposal TAC also aligns with the Board Hierarchy of Use Principles.
- No aquarium activities (collection and verification of chain of custody) are to be conducted in the hours after sunset and before sunrise.
- Detailed chain of custody be signed/confirmed by the Department and Cultural Monitor(s)
- Cultural Monitors History repeats itself In the most contentious events impacting our environment – Mauna Kea, Lahaina recovery, and Red Hill. Most immediate actions taken are (1) put in place a working group such as West Hawaii Fishery Council, and (2) have cultural monitors oversee the activity during the recovery efforts and ongoing. Have we learned a lesson yet?
- Cultural Training – Approved permittees shall complete Known Indigenous Perspectives & Alignment (KIPA) training and certification conducted by Edith Kanakaʻole Foundation.
- DLNR to conduct AQ facilities / holding tank inspections before issuing any permit.

- Legislation - DLNR to secure budget for managing this fishery to include these Terms & Conditions before issuing any permit.

And still, how does DLNR manage any significant take from any one concentrated area of the WHRFMA or an area that is already depleted?

Application Form

The **Application Form should not be approved** at this time as it is premature to having a comprehensive Ka Paʻakai Analysis conducted.

Preliminary recommendations for the Application Form are:

- Include form fields for Commercial Marine License, Marine Vessel License(s), and AQ Facilities Location/License
- All violations should be identified for both DAR and DOBOR, and over the past 10 years. Violations are so severe that if legislation does not support recovery of fines, violators must be denied re-entry.
- No aquarium permit use activities conducted during the hours after sunset and before sunrise.
- Permits are non-transferable or additionally allowed to replace a permit that is revoked.

Statue & Administrative Rules

HRS §133-81 Section 1.2.1 (a), "may issue an aquarium permit". The Board is being advised they are not allow to fully exercise their discretionary authority to deny aquarium permits.

In (b), "satisfy the department that they possess facilities to and can maintain fish and other aquatic life alive", yet DLNR does not inspect such facilities.

In (d) (2), "Aquarium fish permit" means a permit issued by the board identifies the Boards authority.

HAR §13-60.4-2-b,c 10-5 4-2 (last updated March 2023) requires an be update to reflect 13-60.10-5 area of Miloliʻi Community-Based Subsistence Fishing Area, as well added to the Table of Reference Coordinates to Marine Reserve and Fish Replenishment Area Boundaries.

Delegate Authority to the Department Chair to issue Aquarium Fish Permit

HRS §133-81 Section (d)(2) defines Aquarium fish permit with discretionary authority of the Board to approve (or deny) issuance of a permit.

> "Aquarium fish permit" means a permit **issued by the board** for the use of fine mesh nets and traps to take salt water fish, freshwater nongame fish, or other aquatic life for aquarium purposes. [L 1953, c 124, §§1, 2, 3; RL 1955, §21-64; am L 1961, c 30, §§1, 2 and c 132, §2; HRS §188-31; am L 1979, c 154, §1; gen ch 1985; am L 1992, c 96, §2]

Delegating authority:

- **Removes sound discretion** of the Board to act as a body reflecting island community perspectives and its special knowledge to weigh in on each permit application. The Board has recently made informed decisions on SAPs and permits similar to this agenda item that were complexed. That same rigor of discussions are needed to vet each permit application.
- **Removes public privilege** to weigh in, with the subset of the public being the hoaʻāina (tenant and/or caretaker) of areas being directly impacted from the take of marine life.
- **Removes transparency** to evaluating each permit application. Special Activity Permits (SAPs) that are requested for activity that otherwise would be prohibited, are given terms & conditions, and evaluated for its research and educational merits against impact to cultural and natural resources. SAPs are evaluated far more stringent and transparent that what is being proposed for this highly contentious activity.

Please oppose the delegation of authority and retaining it with the Board.

No mākou ka luhi,

Uʻilani Naipo

From: bryce nakashima
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda item f1 support
Date: Wednesday, August 21, 2024 9:30:56 PM

I support opening the aquarium fishery and managing resources by science provided by the DAR

V/R

Bryce Nakashima

From:	Keith Neal
To:	DLNR.BLNR.Testimony
Subject:	[EXTERNAL] Item F-1 OPPOSE Issuing AQ Permits & OPPOSE Delegating Authority to Department Chair
Date:	Thursday, August 22, 2024 8:26:48 AM

Aloha,

I strongly oppose issuing aquarium collection permits, and oppose delegating authority to issue the take permits to the
department chair.

I am a certified diver since the 1970's and a frequent snorkeler. I have observed a decline in the number and variety of reef fishes. Furthermore, many of the Kona side reefs are showing stress with algae growth and damaged or dead corals.

Under these reef conditions it is reckless and poor stewardship to allow aquarium collection permits at this time.

Keith Neal

Waimea HI

August 22, 2024

Board of Land and Natural Resources
DLNR Boardroom, Kalanimoku Building
1151 Punchbowl Street
Honolulu, HI 96813

Subject: August 23, 2024, BLNR Meeting
Agenda Item F.1.
Letter of OPPOSITION

Dear Members of the Board of Land and Natural Resources,

I am a retired environmental planner currently living in Kapa‘au in North Kohala where my mother & her *‘ohana* lived. I spent many summers diving & fishing in the area & know its marine life well. As an undergraduate student at the University of Hawai‘i at Manoa, I was responsible for training Marine Option Program (MOP) students at both the Manoa & Hilo campuses in the identification of Hawaiian reef fishes & how to conduct biological surveys to assess the abundance of fishes, corals, & algae. While with MOP, I also helped lead several community fish identification sessions for the Division of Aquatic Resources. In my professional life, I reviewed many permit applications that included environmental assessments & was also on teams that were responsible for reviewing environmental impact statements (EIS).

I OPPOSE the resumption of issuance of aquarium fish collection permits (AQ) in West Hawai‘i. Our reef ecosystems have been under pressure by a number of conditions that have diminished the health of the ecosystem over the years. The resumption of the removal of juvenile reef fish species will be another condition that will cause further disruption. (Most fish collected for the aquarium trade are juveniles due to the size of most home aquaria.)

The removal of juvenile fish will also potentially impact the ability of Native Hawaiians to practice their traditional & customary rights. (HAR Sec. 13-60.4-1(b)) Removal of the juveniles will lead to fewer adults that could be used in traditional practices & also impact the rate of replenishment of the affected species.

In addition, I find the Division of Aquatic Resources' effort to reinstate the issuance of the AQs at this time quite problematic. If the validity of the EIS that their action is based upon is still under review by the Hawai‘i State Supreme Court, no action should be taken. The review by the State Supreme Court is the appeal of their previous action, if it is still pending that means no decision should be made on the action requested until the review is completed. Approving the DAR's request to reinstate AQ permits at this time sends the message that appeals by citizens are meaningless.

I OPPOSE the request to delegate the authority to the Chair to approve, sign, and issue the AQ permits; this would occur without benefit of a pubic meeting such as you are holding on this issue. This action would significantly decrease the ability of the community to be involved.

HAR Sec. 13-60.4(a)(8) states one of the purposes of the chapter is to, “Facilitate the substantive involvement of the community in resource management decisions for the West Hawai‘i regional fishery management area through dialogue with community residents and resource users.”

In closing, I request that you thoughtfully consider DENYING the request by the DAR to resume the issuance of permits for aquarium fish collecting and that the BLNR retain the oversight of the issuance of any permits should there be an appropriate time for that to occur.

With much Aloha,

/s/ D. Kinuko Noborikawa
P. O. Box 8

Board of Land and Natural Resources
Regarding Agenda Item F. 1

REQUEST FOR APPROVAL OF THE APPLICATION FORM AND TERMS AND CONDITIONS FOR THE STATE OF HAWAIʻI AQUARIUM FISH PERMIT PURSUANT TO HAWAIʻI REVISED STATUTES SECTION 188-31; HAWAIʻI ADMINISTRATIVE RULES SECTION 13-60.4-7; REQUEST TO DELEGATE AUTHORITY TO THE CHAIR TO APPROVE, SIGN, AND ISSUE WEST HAWAIʻI AQUARIUM PERMITS AND STATE OF HAWAIʻI AQUARIUM FISH PERMITS AUTHORIZING LIMITED COMMERCIAL AQUARIUM COLLECTION IN WEST HAWAIʻI REGIONAL FISHERY MANAGEMENT AREA TO UP TO SEVEN (7) APPLICANT THAT MEET CERTAIN CRITERIA AND REQUIREMENTS.

August 23, 2024 9:00 a.m. DLNR Boardroom

The Office of Hawaiian Affairs (OHA) will recommend that the Board of Trustees oppose the approval of seven applicants seeking permits for aquarium collection in West Hawaiʻi. Previously, OHA strongly urged the Department of Land and Natural Resources – Division of Aquatic Resources to initiate rulemaking and hold public hearings on the proposal to end the aquarium pet trade in Hawaiʻi.

In response, OHA received a letter from BLNR Chair Chang, which provided background on HRS §188-31 and HAR 13-60.4. The letter indicated that the decision not to proceed with the proposal was influenced by relevant court decisions. It also noted that while the Department retains the authority to issue aquarium fish permits under certain conditions, no permits for commercial purposes have been issued due to ongoing legal actions. OHA further recommends that the BLNR retain its discretionary authority and not delegate decision-making to the Department Chair, emphasizing that each board member brings valuable insights and expertise from their diverse island communities.

Article XII, §7 of the State of Hawaiʻi's Constitution protects Native Hawaiian rights to subsistence, cultural, and religious practices, thus prioritizing these rights over aquarium pet trade activities. OHA highlights that the aquarium trade has historically removed more herbivores than the combined total of subsistence, recreational, and food fishing, a practice that is unsustainable, especially in the face of increasing climate challenges affecting our nearshore reefs and ecosystems. The BLNR has a kuleana (duty) to uphold the State's Constitution and ensure sustainable stewardship and management of our marine resources.

Therefore, OHA strongly recommends that the West Hawaiʻi Regional Fishery Management Area (WHRFMA) and each application be thoroughly vetted through the Ka Paʻakai Analysis Framework. This is in line with OHA's mission to improve the conditions and wellbeing of Native Hawaiians and OHA's Strategic Plan "Mana i Mauli Ola" (Strength to Wellbeing), of three foundations: ʻohana (family), moʻomeheu (culture), and ʻāina (land and

water). OHA recognizes these foundations have the power to affect the wellbeing of Native Hawaiians.

OHA values meaningful engagement and consultation and supports the continued protection of our vital resources. Mahalo for the opportunity to provide input on this crucial issue.

Board of Land and Natural Resources
Regarding Agenda Item F. 1

REQUEST FOR APPROVAL OF THE APPLICATION FORM AND TERMS AND CONDITIONS FOR THE STATE OF HAWAIʻI AQUARIUM FISH PERMIT PURSUANT TO HAWAIʻI REVISED STATUTES SECTION 188-31; HAWAIʻI ADMINISTRATIVE RULES SECTION 13-60.4-7; REQUEST TO DELEGATE AUTHORITY TO THE CHAIR TO APPROVE, SIGN, AND ISSUE WEST HAWAIʻI AQUARIUM PERMITS AND STATE OF HAWAIʻI AQUARIUM FISH PERMITS AUTHORIZING LIMITED COMMERCIAL AQUARIUM COLLECTION IN WEST HAWAIʻI REGIONAL FISHERY MANAGEMENT AREA TO UP TO SEVEN (7) APPLICANT THAT MEET CERTAIN CRITERIA AND REQUIREMENTS.

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water). OHA recognizes these foundations have the power to affect the wellbeing of Native Hawaiians.

OHA values meaningful engagement and consultation and supports the continued protection of our vital resources. Mahalo for the opportunity to provide input on this crucial issue.

From: Susan Olson
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Item F-1 OPPOSE issuing AQ Permits & OPPOSE Delegating Authority to Department Chair
Date: Wednesday, August 21, 2024 4:27:39 PM

I have been a resident of Kailua-Kona for 14 years. I am a full-time volunteer for many cultural and environmental projects to help restore Hawaiian culture and natural resources which have been sadly lost or denigrated by greedy, profit-seeking businesses.

As a snorkeler and "citizen scientist", I participate in fish counts and coral observations. One of my favorite locations is Ka'upulehu Marine Sanctuary which has greatly benefited from no-take rules, increasing the numbers of fish and healthier coral reefs. Kahalu'u has also benefited from careful monitoring and enforcement of rules, resulting in increased numbers and species of fish and coral where previously fish and coral have been harmed by huge numbers of careless people and rule-breakers.

The most important fish on our reefs are HERBIVORES which have been taken in huge numbers by AQ collectors. Taking of these fish should be permanently banned. Scientists agree that we must increase herbivores if our reefs are to survive and become healthy again, especially to combat reef damage from climate change and warming ocean temperatures.

It is critically important to maintain healthy coral reefs to preserve this valuable natural resource which also provides a sustainable source of food for our Hawaiian families. Priority must be given to Hawaiian food fishers, not to AQ collectors. Local people and the Hawaiin culture should come first!

1**) Terms & Conditions to Issue West Hawaii AQ permits: Please REJECT DAR's AQ terms and conditions and DENY any and all permits.**

2) Delegating Authority to issue AQ Permits to the Department Chair: Please do NOT delegate authority to the Department Chair, rather retain the discretionary authority of the Board who has specialized knowledge, expertise and is fully transparent.

In conclusion, the DAR needs to focus on the needs of Hawaiian people and maintaining healthy coral reefs and fish populations, NOT ON PROVIDING PROFITS FOR AQUARIUM COLLECTORS.

Thank you for your consideration.

Susan Olson
75-6081 Alii Dr. #F102
Kailua-Kona, HI. 96740

From: Carrie Ostroski
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] F-1 I Oppose Issuing AQ Permits & I Oppose Delegating Authority to Department Chair
Date: Thursday, August 22, 2024 7:06:22 AM

Aloha Chair Chang and the Board of Land and Natural Resources,

As a resident, ocean caretaker, and the Executive Director of the Dorrance Family Foundation overseeing our Marine Conservation Initiative, I have a deep personal connection to our natural resources. I am deeply concerned about the decline of our coral reefs and fish populations, and I witness the unwavering dedication of our cultural practitioners and local fishing communities to our aina.

I strongly oppose issuing commercial aquarium permits in West Hawai‘i and delegating authority to the Department Chair, choking out input and transparency. Science and also common sense tell us without a doubt that reef fish and herbivores are critical to our coral reefs, economy, and the health of our water and people. I request that you not delegate authority to the Department Chair, maintain board processes, and deny any AQ permits.

It is contradictory to claim a commitment to marine efforts and community well-being while considering issuing West Hawai‘i AQ permits. The Aquarium Industry, driven solely by profit, is a dark force that threatens our coral and coastlines. They can manipulate science and persist in their efforts, but the damage caused by overfishing critical habitat remains unchanged. The battle to save our reefs is ongoing, and it is disheartening to see them at risk.

The work of DAR and their April report is noteworthy. I acknowledge their efforts and challenges in tracking and monitoring critical fish species and populations with NOAA and other resources. The report is limited, however, and DAR states this in the document. In short, we must increase and protect herbivore fish populations and improve land mitigation and conditions (less wastewater and sediment) for our coral reefs to survive and thrive. Warm water heat events have pummelled our West Hawai‘i coral reefs. Coral can be resilient to the warm water alone, but not to the added pressures of fewer herbivores and poor land management. What would Hawai‘i be without our critical fish and coral? I ask you to please think about the entire ecosystem and the consequences of your decisions and avoid providing a benefit for the few with implications for the many.

Mahalo, I appreciate the opportunity to submit my testimony and share my concerns.

Carrie Ostroski

From: Personal
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] 'Agenda Item F1 Support'
Date: Thursday, August 22, 2024 4:31:34 AM

I support opening the aquarium fishery and managing resources by science provided by DAR.

Stan Owens

From:	Chadd Paishon
To:	DLNR.BLNR.Testimony
Subject:	[EXTERNAL] Subject: F-1 I OPPOSE Issuing AQ Permits & I OPPOSE Delegating Authority to Department Chair
Date:	Thursday, August 22, 2024 3:11:03 PM

Aloha Chair and Board of Land and Natural Resources,

My name is Chadd `Onohi Paishon of Pu`ukapu, Waimea. I am the Executive Director & Senior Captain of Na Kalai Wa`a Moku o Keawe, the builders and caretakers of the voyaging canoe, Makali`i located in Kawaihae, HI. I am also 1 of five men to be recognized and given the rank of Pwo, Master Navigator, by our teacher Pius Mau Piailug, the first navigator for the voyaging canoe, Hokule`a. Na Kalai Wa`a is also responsible for Stewarding the 642 acres of Mahukona purchased by HILT, which were removed from development and placed into conservation.

I OPPOSE issuing commercial aquarium permits in West Hawai‘i and I OPPOSE delegating authority to the Department Chair.

Regarding Terms & Conditions to Issue West Hawai‘i AQ permits,

I request you reject DAR's AQ Terms and Conditions and deny any and all permits.
Any request and or permitting should be done within and in consultation with the Communities that are being affected, namely the Stewarding families of these areas. These Stewards are still in existence and need to be recognized, utilized, and consulted. These cultural konohiki practices need to be recognized, reinstated, and supported by the State.

Regarding Delegating Authority to Issue AQ Permits to the Department Chair,

Do not delegate authority to the Department Chair. Retain the discretionary authority with the Board which will continue to utilize their diverse island communities, specialized knowledge, and expertise to weigh in and make informed decisions together.

Mahalo for this opportunity,
CHadd `Onohi Paishon
Pu`ukapu, Waimea, Kohala waho
Moku o Keawe

From:	Avalon Paradea
To:	DLNR.BLNR.Testimony
Subject:	[EXTERNAL] F-1: OPPOSE Terms & Conditions to Issue Permit; OPPOSE Delegating Authority to Department Chair
Date:	Thursday, August 22, 2024 12:03:57 PM

Aloha Chair and Board of Land and Natural Resources,

I am Avalon Paradea of Waikōloa Village. I recently obtained my master's in environmental science at UH Hilo and have been a caring resident and hoa‘āina of West Hawai‘i my entire life.

I OPPOSE issuing commercial aquarium permits in West Hawai‘i, and I OPPOSE delegating authority to the Department Chair.

Regarding Terms & Conditions to Issue West Hawai‘i AQ permits, I request you reject DAR's AQ Terms and Conditions and deny any and all permits.

Regarding Delegating Authority to Issue AQ Permits to the Department Chair, do not delegate authority to the Department Chair. Retain the discretionary authority with the Board, which will continue to utilize their diverse island communities, specialized knowledge, and expertise to weigh in and make informed decisions together.

Thank you for this opportunity
Avalon Paradea
Waikōloa, 96738
Hawai‘i Island

From: Natalie Parra
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] August 23; Agenda Item F.1
Date: Thursday, August 22, 2024 6:16:28 AM

Dear Chairperson and Members of the Board of Land and Natural Resources,

I am writing to express my strong opposition to the Division of Aquatic Resources (DAR)'s proposal to re-open West Hawai'i's reefs to commercial aquarium collection (AQ) and to remove BLNR oversight from the AQ permitting process.

First, it is alarming that DAR is moving forward with this proposal despite the fact that the Environmental Impact Statement (EIS), upon which their plan is based, is still pending review by the Hawai'i Supreme Court. Reopening these reefs without resolution of such a critical legal matter undermines the integrity of our environmental protections.

Equally concerning is DAR's effort to remove BLNR oversight. This proposal not only silences the voices of those who have consistently opposed the AQ trade but also shields future AQ collectors from scrutiny, allowing them to operate without transparency.

I urge you to reject DAR's proposal and oppose the reopening of West Hawai'i to commercial aquarium collection.

Thank you for your consideration.

Natalie Parra
Co-Founder at Keiko Conservation

--

Natalie Parra
Keiko Conservation

310-924-4604

nataliekparra@gmail.com

From:	GEORGE PATTERSON
To:	LANIHAU-rsmith; DLNR.BLNR.Testimony
Subject:	[EXTERNAL] AGENDA ITEM : F1. I OPPOSE THE BOARD ISSUING AQ PERMITS. I OPPOSE DELEGATING AUTHORITY TO THE DEPARTMENT CHAIR.
Date:	Thursday, August 22, 2024 6:40:50 AM

AGENDA ITEM : F1.
I OPPOSE THE BOARD ISSUING AQ PERMITS.
I OPPOSE DELEGATING AUTHORITY TO THE DEPARTMENT CHAIR.
I am a resident in North Kohala on Big Island, own property and am a frequent swimmer and scuba diver. Over the years I have seen the fish populations dramatically decrease. Friends that I invite to visit Hawaii remark that the fish are disappearing from Hawaii. What once was a significant reason for visitors to choose Hawaii is no longer. The economic impact of the lack of fish is staggering. We need to focus on restoring our reefs, not to sell the fish to aquarium collectors. The minor amount of money collected from selling the fish does not make sense. The corals are dying from algae overgrowth and high water temperatures. Our reefs are in trouble. The basic responsibility is for DLNR to protect the resource. I oppose the AQ trade. Hawaii's government should oppose the aquarium trade too. Vote to protect our reefs. Do not plunder the fish.
I OPPOSE DELEGATING AUTHORITY TO THE DEPARTMENT CHAIR.
The entire Board has responsibility for decision making. Keep the process transparent. Do not delegate authority to the Chair.
George Patterson

Mahalo from Kapa'au, HI

Stop the Hawaiian Fishing Ban

The State of Hawaii is currently trying to ban the aquarium fishery which is the most managed near shore fishery in the State.

Science provides up to date fish counts and does not support a total ban. This is an environmental movement against fishing, and against management.

It is the only fishery to complete the Chapter 343 HEPA process. It is heavily managed with species restriction, gear restriction, bag limits, slot limits, area restriction and limitations to entry.

We, the undersigned, call to the State of Hawaii not to ban any form of fishing within State waters.

We support fishery management, backed by scientific data, to ensure the fish and reefs will be around for generations to come.

#	First name	Last name	Email	Registered Voter?
1	Aaron	Johnson	apjohnson73@gmail.com	Yes
2	Aaron	Dragseth	aarondragseth@yahoo.com	
3	Aaron	Metcalfe	mad_metas@live.co.uk	
4	Aaron	Klein	aaklein@gmail.com	
5	Aaron	Hykes	neoonu@gmail.com	
6	Aaron	Boals	thenautilustropicalfish@yahoo.com	
7	Aaron	Corbett	aaron_sonomed@hotmail.com	
8	Adam	Colwell	joe2kewl@yahoo.com	
9	Adam	Salamon	acs34@drexel.edu	
10	Adam	Salamon	acs34@drexel.edu	
11	Adam	Perez	akamup7@yahoo.com	
12	adam	dulski	adam.dulski@gmail.com	yes
13	adam	skott	rx7fast4me@yahoo.com	
14	Adam	Snodgrass	makaha666@gmail.com	
15	Adrian	Duran	perlorarm@aol.com	Y
16	Adriene	Gould	tebstan@yahoo.com	yes
17	Aeryn	Mehlhoff	last.flowers13@gmail.com	
18	aida	schellhorn	ricanshortee@yahoo.com	
19	Aisea	Tuikolovatu	bestchoiceinconstruction@msn.com	Yes
20	Alan	Adamzak	adamzak5@aol.com	
21	Alan	Chin	dark_wish@cox.net	Yes
22	Alan	Luff	alan@akusaemail.com	
23	Alan	Rhode	pamtri@verizon.net	yes
24	Alan	Elton	alelton@optonline.net	Yes
25	Alayna	Colstrom	alayna.colstrom@gmail.com	Yes
26	albert	husser	petplanetusa@yahoo.com	yes
27	Albert	Vidal	albert_vidal@yahoo.com	
28	Aldo	Moran	a2zcorals@gmail.com	yes
29	Alec	Ake	alecake09@yahoo.com	
30	alex	plew	aplew@sbcglobal.net	yes
31	Alex	Cross	across895@hotmail.com	
32	Alex	Lorberg	alexlbk@netzero.net	
33	Alex	Garza	aggarza@live.com	
34	Alex	Czerwinski	czerw_alex@yahoo.com	Yes
35	Alex	Ostling	hirez80@hotmail.com	
36	Alex	King	kingkids05@gci.net	
37	Alex	Morency	jammersk595@yahoo.com	
38	Alex	Castillo	alex@amazingaquarium.com	
39	Alex	Arlett-Johnson	alexaj05@aol.com	
40	Alex	Parnell	pqrnelloboe@hotmail.com	
41	Alex	McKeeman	amckeeman@knights.ucf.edu	4074057679
42	Alex B.	Hatt	spllbnd2@msn.com	Yes
43	ALEXANDER	DIFFLEY	alex.diffley@sapphirefuel.com	

#	First name	Last name	Email	Registered Voter?
44	Alexander	Herrera	k2master@bellsouth.net	Yes
45	ali	moghimi	atp737@yahoo.com	
46	Alisa	Zeis	alisa.zeis@sterlingbreezehoa.com	yes
47	Allan	Lown	adlown@hotmail.com	
48	Allan	Elegino	fahkingkul@hotmail.com	
49	Allan	Koch	shop@komakmfg.com	
50	Allen	Patton	patka@olypen.com	consertive republican
51	Allison	Bailey	sissyof3boys@yahoo.com	yes
52	alois	wolloner	fish@aqua.net.nz	
53	ALTA	WOODEN	heartslsslady@gmail.com	YES
54	alyssa	acosta	bratella9@aol.com	yes
55	Amanda	Kiviniemi	amanda1573@gmail.com	
56	Amber	Kelly	ank2114@yahoo.com	Yes
57	Amber	Moran	ambermoran2@gmail.com	yes
58	Amir	Hassan Ismaiel matouk	amir@kwgillo.com	
59	Ammon	Covino	idahoaquarium@gmail.com	yes
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837	JAMES	WOODARD	jamesla44@hotmail.com	Yes
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839	James	Lemoine II	jlemoine2@gmail.com	Yes
840	James	Tibbetts	yelwbeard@charter.net	
841	James	Galecio	leegalecio@gmail.com	Yes
842	James	Beckham	beckhajb@yahoo.com	
843	james	okeefe	eefe727@aol.com	
844	James	Wente	slimj78@hotmail.com	Yes
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847	James	Frost	jim.frost@medicalcenterclinic.com	Yes
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849	James	Laarhoven	laarhoven@msn.com	Yes
850	James	Abatematteo	jabatematteo@verizon.net	yes
851	James	Miller	millerbike@cox.net	yes
852	james	kennedy	coral.connection@yahoo.com	yes
853	James	Davie	finnyas@frontiernet.net	yes
854	James	Stelter	oldasdirtiam@aol.com	yes
855	James	Cole	webmaster@tampabayreefclub.org	Yes
856	James	Francis	jdf34@yahoo.com	
857	James	Huntsman	james37128@gmail.com	Yes
858	Jamie	Estep	jestep@gmail.com	
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866	Janice	Welch	janhw@att.net	yes
867	Janice	Vega Latker	jlatker1@verizon.net	Yes
868	Janna	Mozdzer	jwmozdzer@mchsi.com	yes
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870	Jared	Butler	jsbcaddis@gmail.com	
871	Jared	Shull	jrdshull@gmail.com	
872	jared	quick	trollin123@yahoo.com	yes
873	Jared	Mowbray	jaredmowbray@gmail.com	
874	Jared	Singh	jjjsingh2003@yahoo.com	
875	Jarred	Domingo	jarreddom@yahoo.com	
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878	Jason	Horton	poseidonsden@email.com	yes
879	JASON	GOUVEIA	civicrider32@yahoo.com	YES
880	jason	gonzalez	limps24@yahoo.com	
881	Jason	Creager	jason@creager.com	Yes
882	Jason	Tellez	jason@baaweepgranna.com	
883	Jason	Forbes	forbes111@yahoo.com	
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885	Jason	Ormsby	jasonmtsu@yahoo.com	
886	Jason	Schuler	jason@giantsnacks.com	
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888	Jason	Mercer	jman_y2k@yahoo.com	Yes
889	Jason	Keane	jason.keane@me.com	
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891	jason	fox	foxjason80@gmail.com	yes
892	Jason	Verrelli	jverrelli@mac.com	yes
893	Jason	Kreamalmeyer	j_kreamalmeyer@hotmail.com	
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919	Jeff	knight	jeff@reefchief.us	
920	Jeff	Voet	jcvoet@gmail.com	yes
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952	jeremy	schreffler	schreffsreef@yahoo.com	yes
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956	Jerry	Harkey	tonyharkey@yahoo.com	Yes
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960	Jerry	Chen	jerry@ezmarines.com	
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1037	John	Stone	jstone1543@hotmail.com	Yes
1038	john	farrell	john@fishartinc.com	yes
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1043	john	doudos	vp.reef@gmail.com	
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1960	Shaun	Donahue	shaundon84@hotmail.com	yes
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1962	Shawn	Myers	shawn552@verizon.net	yes
1963	Shawn	Meeks	reefquest@yahoo.com	YES
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August 21, 2024

MEETING OF THE BOARD OF LAND
AND NATURAL RESOURCES
Agenda Item F-1

August 23, 2024, 9:00 a.m.

DLNR Boardroom, Kalanimoku Building
1151 Punchbowl St., Room 132

Re: TESTIMONY IN STRONG OPPOSITION OF THE REQUEST FOR APPROVAL OF THE APPLICATION FORM AND TERMS AND CONDITIONS FOR THE STATE OF HAWAIʻI AQUARIUM FISH PERMIT PURSUANT TO HAWAII REVISED STATUTES SECTION 188-31; REQUEST FOR APPROVAL OF TERMS AND CONDITIONS FOR THE WEST HAWAIʻI AQUARIUM PERMIT PURSUANT TO HAWAII ADMINISTRATIVE RULES SECTION 13-60.4-7; REQUEST TO DELEGATE AUTHORITY TO THE CHAIR TO APPROVE, SIGN, AND ISSUE WEST HAWAIʻI AQUARIUM PERMITS AND STATE OF HAWAIʻI AQUARIUM FISH PERMITS AUTHORIZING LIMITED COMMERCIAL AQUARIUM COLLECTION IN THE WEST HAWAIʻI REGIONAL FISHERY MANAGEMENT AREA TO UP TO SEVEN APPLICANTS THAT MEET CERTAIN CRITERIA AND REQUIREMENTS.

Aloha e Chair Chang and Members of the Board of Land and Natural Resources,

Please accept these comments submitted by the Center for Biological Diversity (Center) in **STRONG OPPOSITION of Agenda item F-1.** The Center is a non-profit 501(c)(3) membership corporation dedicated to the protection of native, threated, and endangered species and the habitats they depend on to survive. Through science, policy, and environmental law, the Center is actively involved in the protection of Hawaiian wildlife and wild spaces. The Center has more than 88,000 members throughout the United States, including Hawaiʻi, with a direct interest in ensuring the protection of Hawaiian aquatic species and the habitat they depend upon to survive.

The Center **strongly opposes the proposed agenda item F-1**, which seeks approval for the application form and terms and conditions for aquarium fish permits, as well as the delegation of permitting authority to the Chair of the BLNR. Our opposition is based on several critical issues outlined below:

P.O. Box 710, Tucson, AZ 85702-0710 tel (520) 623.5252 fax (520) 623.9797 BiologicalDiversity.org

1. **Undermining Public Trust and Oversight**
   The Division of Aquatic Resources (DAR) is advancing a plan to reopen West Hawai‘i to commercial aquarium collection, primarily to benefit mainland businesses involved in the aquarium trade. This proposal is being put forth despite the ongoing review of the Environmental Impact Statement (EIS) by the Hawai‘i Supreme Court, which questions the validity of the plan. Additionally, DAR is attempting to sidestep the community's petitioned rulemaking to prohibit commercial aquarium collection statewide, a rulemaking process that the Board unanimously approved in December 2023. In a further troubling move, DAR proposes to transfer the permitting authority solely to the Chair, effectively eliminating the Board's oversight and public input. This is a profound betrayal of the public trust, as DAR has previously assured that the Board would be responsible for permit decisions. Allowing the Chair to unilaterally approve permits without public notification or input undermines the principles of transparency and accountability.
2. **Environmental and Scientific Concerns**
   The aquarium trade's detrimental impact on our marine ecosystems cannot be overstated. Scientists emphasize that increasing fish abundance is crucial for reef resilience in the face of climate change. The removal of tens to hundreds of thousands of vital herbivores for commercial aquarium collection not only disrupts ecological balance but also contradicts established scientific recommendations. The potential for long-term environmental damage far outweighs any temporary financial benefits realized by a few individuals engaged in the aquarium trade.
3. **Cultural and Social Implications**
   The aquarium trade is fundamentally at odds with the cultural values and social priorities of Hawai‘i. Our reefs are not merely economic assets but are integral to our cultural identity and community well-being. Prioritizing profit for a for-profit industry over the preservation of our marine environment and respecting local cultural values is unacceptable. The proposal to reopen commercial aquarium collection disregards the voices of community members who have long opposed this activity and seeks to shield potential collectors from public scrutiny.
4. **Economic and Public Impact**
   Reopening our reefs to commercial aquarium collection imposes significant risks to both the environment and public interests. The aquarium trade benefits only a small segment of the for-profit industry while placing the entire nearshore ecosystem at risk. Additionally, the state budget could face increased costs related to monitoring and managing the impacts of this destructive trade. The economic advantages of maintaining healthy, vibrant reefs far exceed the gains of a few individuals involved in the aquarium trade.

The proposed agenda item F-1 represents a regressive and detrimental step for Hawai‘i’s marine environment, cultural integrity, and public trust. It disregards scientific evidence, legal processes, and community values in favor of advancing a commercial interest that undermines the health of our reefs and the well-being of our communities. We urge the Board of Land and Natural Resources to reject this proposal and uphold commitments to transparency, ecological preservation, and cultural respect.

Mahalo for this opportunity to provide testimony in **strong opposition of Agenda Item F-1.**

/s/ Maxx Phillips
Maxx Phillips, Esq.
Hawai‘i and Pacific Islands Director, Staff Attorney
Center for Biological Diversity
1188 Bishop Street, Suite 2001
Honolulu, Hawai‘i 96813
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From: Alain Pierre-Louis
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 7:52:08 AM

Good morning,

To whom it may concern

I support opening the aquarium fishery and managing resources by science provided by DAR'

Sincerely,
Alain Pierre-Louis

From: La"a Poepoe
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] aug 23 agenda item F1
Date: Thursday, August 22, 2024 8:23:33 AM

La‘a Poepoe, Konohiki fishery manager in east Molokai, submitting testimony in opposition to the proposed amendments to the permitting process involving the commercial aquarium industry‘s take from a shared public source. The aforementioned activity is an outright perversion of the tenets of our established native traditions and customs, which includes no provisions for the act of taking native specimens out of their natural habitat for the purpose of display. Ka pa‘akai analysis testing for impacts in this case likely fails to establish safeguards from the indirect consequences of mistakes that impact the various components of a self-balancing system which leans on the presence of every organism to counterbalance void and excess. My recommendation is to uphold the instrument in which the board maintains authority over issuance of permits, to include a hearing to provide for valuable community input on matters concerning public resources, with this testimony as my example. Thank you.

From: Jeff Preble
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 9:14:36 AM

As an educator who cares deeply about the environment, I see marine aquariums as a very useful tool for learning about reef animals. I strongly support reopening limited and controlled aquarium fishing based on science.

Thank you,
Jeff Preble

From: A Dau Qua
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 support
Date: Wednesday, August 21, 2024 6:50:23 PM

To whom who may concern,

I support opening the aquarium fishery and managing resources by science provided by DAR.

I think this careful science and data driven compromised approach to reopen the fishery is the correct path.

Thank you!

From: Jamie Roche
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 8:45:12 AM

Good Afternoon,
I support opening the aquarium fishery and managing resources by science provided by DAR. The hobby as a whole is such a positive outlet for so many people and enables the ethical conservation of our natural resources. Additionally, it provides a positive way for the public to see nature first hand and gain a deeper appreciation of its beauty.

Please reopen the fishery. Please save our aquariums.

Jamie Roche

Chair Chang and Board of Land and Natural Resources,

Two people in support item F1.

Fishing has been a way of life here in Konafor many generations. This industry has proven itself sustainable for over 50 years. It is time to stop this circus act and let the fishermen go back to work providing for their families here in Kona.

Please vote yes on this issue.

Thank You,
Mr. and Mrs. Roger Duquette

From: malcolm rutter
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Wednesday, August 21, 2024 8:35:37 PM

I support opening the aquarium fishery and managing resources by science provided by DAR

Chair Chang and Board of Land and Natural Resources,

I support item F1.

I live on the Big Island and I support sustainable fisheries. Do not close the ocean to fishermen. Please vote yes on this issue.

Thank You,
Alan Ryan

From:	Jancis Salerno
To:	DLNR.BLNR.Testimony
Subject:	[EXTERNAL] F-1: OPPOSE Terms & Conditions to Issue Permit; OPPOSE Delegating Authority to Department Chair
Date:	Thursday, August 22, 2024 2:35:54 PM

Aloha Chair and Board of Land and Natural Resources,

I am Jan Salerno, IDC Staff Instructor PADI 180369. Board of Directors Whale RN- the humpback disentanglement volunteer team for 6 years.
I've been on and in the water for 19 years year working professionally scuba diving and more recently snorkeling / guiding people through the reefs of west hawaii from Kiholo to Honanau.
I've been well vocal against the aquarium trade - not a popular stance for the entire time here. It takes 20 to 30 years to completely remediate a coral reef and have a burgeoning reef fish population- knowledge gain while working in Fiji 2004.
Our reefs are in different states of demise and recovery. Its a rare sight to see a very healthy reef here.The reef fish clean the algaes that collect freeing the corals to respirate. We need a long moratorium so they can completely recover then and only then can we discuss a mapping and sustainable fish collecting. I feel these licenses should only be held by native hawaiians. We truly are a generation away from this licensing.

I OPPOSE issuing commercial aquarium permits in West Hawai‘i, and I OPPOSE delegating authority to the Department Chair.

Regarding Terms & Conditions to Issue West Hawai‘i AQ permits, I request you reject DAR's AQ Terms and Conditions and deny any and all extensions.

Regarding Delegating Authority to Issue AQ Permits to the Department Chair, do not delegate authority to the Department Chair. Retain the discretionary authority with the Board, which will continue to utilize their diverse island communities, specialized knowledge, and expertise to weigh in and make informed decisions together.

Thank you for this opportunity,
jancis salerno
Kailua Kona
96740 HI

Sent from my iPhone

From: Jake Sandefur
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda item F1 support
Date: Thursday, August 22, 2024 4:42:50 AM

I support opening the aquarium fishery and managing resources by science provided by DAR

-Jake Sandefur

Chair Chang and Board of Land and Natural Resources,

I support item F1. The facts and the science clearly show that this is a sustainable fishery. DLNR is charged with managing the resource, which is clearly being done well. It is not the job of DLNR to choose one user group over another.

Please vote yes on this issue.

Thank You,
Sandy Woods

SIERRA CLUB
HAWAIʻI ISLAND GROUP

Augusts 22, 2024

Board of Land and Natural Resources
P O Box 621
Honolulu, HI 96809

Re: Agenda Item F.1.

Aloha Madame Chair and members of the Board of Land and Natural Resources,

The eight hundred members of the Hawai'i Island Group of the Sierra Club of Hawai'i (HIG) would like to say again to the Board of Land and Natural Resources (Board) "mahalo nui loa" for last December's granting of Kalanihale's, KUPA Friends of Hoʻokena Beach Park's, Moana 'Ohana's, Koʻolaupoko Hawaiian Civic Club's, and For the Fishes' Petition for Rulemaking to Prohibit the Take of Marine Life for Commercial Aquarium Purposes (With Exemptions).

HIG would like to also provide the following comments on the agenda item F.1.

"F. DIVISION OF AQUATIC RESOURCES
1. Request for Approval of the Application Form and Terms and Conditions for the State of Hawaiʻi Aquarium Fish Permit Pursuant to Hawaii Revised Statutes Section 188-31; Request for Approval of Terms and Conditions for the West Hawaiʻi Aquarium Permit Pursuant to Hawaii Administrative Rules Section 13-60.4-7; Request to Delegate Authority to the Chair to Approve, Sign, and Issue West Hawaiʻi Aquarium Permits and State of Hawaiʻi Aquarium Fish Permits authorizing limited commercial aquarium collection in the West Hawaiʻi Regional Fishery Management Area (WHRFMA) to Up to Seven Applicants That Meet Certain Criteria and Requirements**.** "Non-Action Item: Informational Briefing on Existing Fisheries Data and Management Considerations Related to the West Hawai'i Commercial Aquarium Fishery"

Scientists are now warning that, given the lack of urgency and action to achieve a carbon neutral global socio-economic system, the Earth's tropical coral reefs will likely be rendered completely lifeless in just 20 years. They are sick.

The Hippocratic Oath to which all physicians commit, states in part, "Into whatsoever houses I enter, I will enter to help the sick, and I will abstain from all intentional wrong-doing and harm,…"

The Department of Aquatic Resources is asking this Board to authorize the preparation of terms and conditions for permits to enter the home of coral reef life and cause further harm to already stress and degraded inhabitants. HIG believes this action would lead to an unconstitutional result.

Further, delegating the Board's kuleana and authority to issue permits to enter coral reefs for an activity that will lead to additional harm violates the intended purpose of the Board. It would alter what is currently a transparent discretionary approval in which the public has an opportunity to comment to a non-transparent ministerial approval.

The Hawai'i Supreme Court created legal precedent to guide the Board of Land and Natural Resources (Board) when it ruled that the Precautionary Principle is a duty under the Public Trust Doctrine. It further clarified that the Precautionary Principle is an inherent attribute of the Public Trust Doctrine and, therefore, the Public Trust Doctrine is a preventative doctrine, not a remedial one. In endorsing the precautionary principle, the Hawai`i Supreme Court rejected the requirement of scientific certainty before acting to protect public trust purposes, noting that to do so will often allow for only reactive, not preventive regulation. Where scientific evidence is not conclusive regarding the management of public trust resources, it is prudent to adopt 'precautionary principles' in protecting the resource.

Documentation submitted by the DAR to the Board in April used the terms "does not find clear evidence to suggest" and "would most likely mitigate" in its Summary of Finding, explicitly stating there is no scientific certainty in its decision-making process. The word "mitigate", in and of itself, means to lessen the severity or impact of a problem, without necessarily solving the root cause. It implies a more temporary or partial solution, rather than a complete fix.

The only scenario in which there is a consensus of scientific certainty is in disallowing commercial aquarium fish harvesting. This is the only option that will result in an already endangered resource not being further harmed. Therefore, the Precautionary Principle empowers this Board to support a ban on the issuance of commercial aquarium fish harvesting permits.

The Purpose section of the DAR's submission for F.2 in April 2024 states: "While DAR recognizes that there are also ethical and cultural values that the Board must consider in any future aquarium permitting decision, a comprehensive discussion of those factors is beyond the scope of this briefing."

The F.2. submission should have expanded the scope of the briefing by referencing Article XII, Section 7 of the Hawai'i constitution, which states: "The State reaffirms and shall protect all

rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by ahupua‘a tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights."

The F.2. submission should have also referred the Board to the Cultural Impact Assessment of the Revised Final Environmental Impact Statement (RFEIS), which was only accepted through statutory default rules because the Board had a 3-3 split vote.

The Hawai'i Supreme Court has ruled that traditional and customary Hawaiian rights are a part of the public trust. As previously stated in this testimony, the Court along with the state legislature have taken the position that the precautionary principle should be applied when there are current or potential threats of serious damage to cultural resources, which include traditional and customary Hawaiian rights and practices.

The state Supreme Court has also ruled a permit applicant bears the burden of proof that their proposed activity does not result in harm or loss to the public trust. Where uncertainty exists, the State's duty to perform as a public trustee requires a presumption in favor of public resource protection. There is no scenario in which a commercial aquarium fish collection permit application can be presumed to be in favor of public trust resource protection when the resource is already in danger of destruction from climate change.

The "Background" section of the April 2024 submission from DAR for agenda item F.3. stated, in part, "During the meeting, the Board received guidance from the Department of the Attorney General that the Board could not adopt a rule completely banning commercial aquarium harvest due to a statute, Hawaii Revised Statutes (HRS) §188-31, which authorizes the Board to issue aquarium permits."

The following is the text of HRS 188-31, "§188-31 Permits to take aquatic life for aquarium purposes. (a) Except as prohibited by law, the department, upon receipt of a written application, may issue an aquarium fish permit, not longer than one year in duration, to use fine meshed traps, or fine meshed nets other than throw nets, for the taking of marine or freshwater nongame fish and other aquatic life for aquarium purposes." [*emphasis added*]

HIG believes that the language in the statute, "may issue an aquarium fish permit", refers to a state Supreme Court ruling that clarified the difference between "may" versus "shall". This clarification was sought because the County of Hawai'i was wrongly interpreting "shall" in the Kona Community Development Plan as "may". The Court found that "may" allows for discretionary interpretations and decisions by administrative agencies and that "shall" does not. HRS §188-31 explicitly provides the DLNR with the option of "may", that is, not issuing aquarium fish permits. It allows the DLNR to create rules that do not allow for the issuance of aquarium fish permits.

In fact, DLNR supports HIG's position in its press release dated January 30, 2023 announcing the First Circuit Ruling lifting the injunction, which reads in part, "During the hearing lead counsel for the State, Deputy Attorney General Melissa Goldman, reminded the parties and the public that aquarium fishing in West Hawai‘i is *not* allowed simply because the injunction

regarding the issuance or renewal of aquarium fish permits to commercial collectors pursuant to Hawaii Revised Statutes § 188-31 is lifted as to West Hawai'i. D.A.G. Goldman stated "Today's decision does not itself authorize any aquarium fishing. That question may now be taken up by the DLNR, which is the agency charged with managing the State's aquatic resources."

The question was taken up and answered by the Board at its December 8, 2023 meeting when the Board granted the Petition for Rulemaking to Prohibit the Take of Marine Life for Commercial Aquarium Purposes (With Exemptions), a decision for which HIG is very grateful and strongly supports.

In summary, the HIG respectfully requests that the Board will deny the DAR requests contained within agenda item F.1 in furtherance of the Precautionary Principle, Public Trust Doctrine, state Constitution, scientific evidence, the rights, traditions, and practices of kanaka maoli, as well as overwhelming public support.

HIG also requests the Board will instruct the DAR to proceed with rule-making effectively banning commercial aquarium fish harvesting.

Mahalo for the opportunity to testify,

Sierra Club of Hawai'i, Hawai'i Island Group

From: Eric Schwaneman
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 6:51:29 AM

Hello,
I support opening the aquarium fishery and managing resources by science provided by DAR.

thank you ,
Eric Schwaneman Jr.

From: Joe B.
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F2 and F3
Date: Thursday, August 22, 2024 8:16:13 AM

I oppose banning the aquarium fishery,
and I support managing resources by science as provided by DAR.

Signed:

The Reef ShaQ

From: Matt Sims
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 6:15:38 AM

I support opening the aquarium fishery and managing resources by science provided by DAR

From: Darrel Smith
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 10:00:49 AM

Aloha,

I support opening the aquarium fishery and managing aquarium resources via sound, science based, management practices.

Darrel R Smith
Maui Reef Encounters

From: James Sturz
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] In Strong Opposition to Reopening the Aquarium Collection Trade; August 23, Agenda Item F.1
Date: Wednesday, August 21, 2024 4:40:57 PM

Dear Board of Land and Natural Resources,

I am a Hawai'i Island resident, journalist, and author, with a focus on the ocean. My articles specifically about the ocean run in The New York Times and The New York Times Magazine, The Wall Street Journal, The Boston Globe, The Atlantic, Outside, National Geographic Adventure, Men's Journal, Scuba Diving, Sport Diver, and many others. Additionally, I'm author of the novel, "Underjungle," set entirely underwater, which I researched in West Hawai'i. I've presented it at multiple locations across the state and around the country.

It is with great disappointment that I read that the Division of Aquatic Resources is seeking to reopen West Hawai'i to commercial aquarium collection. This is a peculiar industry because its function is simply to take live creatures, remove them from the habitat they enhance and protect, and sell them for the personal gain of the few and the detriment of many.

West Hawai'i needs its herbivore fish to keep its reefs healthy, so that our coasts can resist climate change-influenced flooding. West Hawai'i additionally needs its colorful fish so that divers and snorkelers will travel here and contribute tourist dollars. Already, Hawai'i's reefs are less abundant than they should be, and Hawai'i's corals have suffered greatly from coral bleaching. We need to protect our coral, our coasts, our economy, and also our fish as much as we can.

I urge you to reject the DAR's attempt to reopen commercial aquarium collection. It serves no benefit to the island, while simultaneously introducing significant risks—simply so that a few individuals can enrich themselves, while also ending lives.

Respectfully,
James Sturz
Kapa'au, HI

From: WAYNE SUGIYAMA
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda item F1 Aquarium fish permits
Date: Thursday, August 22, 2024 7:51:11 AM

Dear Land Board Members,

I hope that finally you can approve the terms and conditions of licensing of aquarium fishermen, after 7 long years of legal entanglements and stalling by environmental groups. All the data and science has been presented along with satisfying the requirements of the E.I.S.

Thank you very much.

Best regards,
Wayne Sugiyama
Wayne's Ocean World, Inc.

From: starrysummers@pm.me
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] F-1 I OPPOSE Issuing AQ Permits & I OPPOSE Delegating Authority to Department Chair
Date: Thursday, August 22, 2024 9:47:34 AM
Attachments: image

Aloha Chair and Board of Land and Natural Resources,

My name is Starry Summers of Hawi, North Kohala. Introduce yourself and all of your roles in West Hawai‘i, especially hoa‘āina (tenant, caretaker) of your ahupua‘a/district.

I OPPOSE issuing commercial aquarium permits in West Hawai‘i and I OPPOSE delegating authority to the Department Chair.

Regarding Terms & Conditions to Issue West Hawai‘i AQ permits, I request you reject DAR's AQ Terms and Conditions and deny any and all permits. I am an open water swimmer usually swimming out of Mahukona and along the coast for miles. I free-dive. I was a snorkel Guide at Kohala Divers off their boat which goes as far south as Puako almost up as far north as Lapakahi. The fish and aquatic life is precious and not as abundant as it once was. It is worse every year. It is so grievous to think you would allow the raping of the waters for economic gain. This is a matter of sacred life.

Regarding Delegating Authority to Issue AQ Permits to the Department Chair, do not delegate authority to the Department Chair. Retain the discretionary authority with the Board who will continue to utilize their diverse island communities, specialize knowledge, and expertise to weigh in and make informed decisions together.

Mahalo for this opportunity,
Starry Summers

Starry Summers, EYRT500
314-378-5942

www.starrysummers.com

Starry Summers

Somatic Healing & Yoga Coach

314-378-5942
starrysummers@pm.me
www.starrysummers.com

From: Zacahary Tokumoto
To: DLNR.BLNR.Testimony
Cc: KHIshii@gmail.com
Subject: [EXTERNAL] Agenda item F1 support
Date: Wednesday, August 21, 2024 8:09:03 PM

I support opening the aquarium fishery and managing resources by science provided by DAR!

Sent from Yahoo Mail for iPhone

From: Lauren Truesdale
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 11:04:56 AM

To Whom It May Concern,

I support opening the aquarium fishery and managing resources by science provided by DAR.

I support Hawaiian livestock such as Yellow Tangs, Kole Tangs, Bird Wrasse, and Potter's Angelfish (among others) becoming more available to the passionate and dedicated enthusiasts of the reef aquarium hobby. Reading through the submittal provided by the Division of Aquatic Resources, I believe this can be done safely and sustainably through their careful science- and data-driven approach.

Mahalo,

Lauren Truesdale

From: Chris Turk
To: DLNR.BLNR.Testimony
Cc: Doug King; adams@seadwellingcreatures.com
Subject: [EXTERNAL] Agenda Item F1 Support
Date: Thursday, August 22, 2024 9:32:26 AM

To Whom it May Concern,
I am writing to you today to express my support for opening the aquarium fishery and managing resources by science provided by DAR. The marine tropical fish collectors in Hawaii are famous worldwide for being the most protective of the coral reef environment and using the most sustainable collecting techniques. They are the shining example globally of how this profession should be conducted.

Sincerely,

Christopher Turk,
Founder of OCEAN NUTRTION Aquarium Foods

From: James Twiford
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 support
Date: Thursday, August 22, 2024 6:14:56 AM

I support opening the aquarium fishery and managing resources by science provided by DAR
James M Twiford

James M Twiford

From:	Laila Kaupu
To:	DLNR.BLNR.Testimony
Subject:	[EXTERNAL] F-1 I OPPOSE Issuing AQ Permits & I OPPOSE Delegating Authority to Department Chair
Date:	Thursday, August 22, 2024 10:39:52 AM

Aloha Chair and Board of Land and Natural Resources,

My name is Lopaka Ueda, I'm born and raised on Kahuku, O'ahu but now live in Wailuku, Maui for work. I grew up a fisherman of the east side of O'ahu where the waters are rough, and catching fish is a challenge, but not impossible. I've been to Kona a few times and really fell in love with the clarity of the water, and the volume of life within it.

I OPPOSE issuing commercial aquarium permits in West Hawai‘i and I OPPOSE delegating authority to the Department Chair.

Please reject DAR's AQ Terms and Conditions, and not allow any and all permits in West Hawai'i.

Regarding Delegating Authority to Issue AQ Permits to the Department Chair,

Do not delegate authority to the Department Chair. Retain the discretionary authority with the Board who will continue to utilize their diverse island communities, specialize knowledge, and expertise to weigh in and make informed decisions together.

Mahalo for this opportunity,
Lopaka Ueda
[Ahupua‘a or District], Moku o Keawe

Ke Welina Aloha iā Chair Chang a me Board Members,

I am Uʻilani Naipo, a lineal descendant of both Miloliʻi - Kapalilua and Kohala Loko, the near boundaries of the West Hawaiʻi Regional Fishery Management Area (WHRFMA).

> As lineal descendant and hoaʻāina of the thirteen ahupuaʻa ʻo Kīpahoehoe, Alikā, Pāpā, Hoʻōpūloa, Anapuka, Miloliʻi, Omokaʻa, Kalihi, Honomalino, Okoe, Kapuʻa, Kalaunamauna, and Manukā, ʻāina kumu wai in the ʻokana (district) of Kapalilua.
>
> At the North, in the district of Kohala Loko, my kūpuna served upon and their wailua rests within the ahupuaʻa of Honopueo, Kapaʻau, ʻĀinakea, Makapala, and Niuliʻi. Today, my pilina to Kohala as a waʻa and ʻāina crew member with Nā Kālai Waʻa Moku o Keawe, I serve as a hoaʻāina at Hāwī ʻāina maʻū, Māhukona (drydock for our waʻa, Makaliʻi), and Kawaihae (mooring).

He kauwā wale nō wau a he hoaʻāina o Kohala a me Kona Hema.

My kūpuna were staunch servants when it came to our waters (fresh, brackish, and ocean) and natural resources of our land and ocean because they had to. It meant survival. For many of us in South Kona, its not too different today – we were raised that way, our values innate in our traditional practices. Our struggles to hold onto these values are synonymous with the effort it takes to deter foreign practices that leave us indelibly depleted of our natural resources and depleted of our culture.

My role for my community of Kapalilua is that of advocacy for our traditional and customary practices, promoting place-based governance of our natural resources as these reflect our traditional practices to mālama and aloha ʻāina. I continue to makaʻala and engaged in matters pertaining to West Hawaiʻi and my community. The impact aquarium collection has had on my community began long before our efforts to secure Miloliʻi CBSFA designation in 2005, and the promulgation of rules in 2022, however it was a motivating factor.

The Exploiting Hawaiian Reef Fish article reveals an abridged history of how West Hawaiʻi Regional Fishery Management Area (WHRFMA) was created – for the privatized commercial extraction and exploiting practice of Hawaiʻiʻs public trust assets. Allowing commercialization — by placing a monetary value on our fish and enabling this fishery, allows the erasure of our cultural practices to mālama and aloha ʻāina.

DLNR's mission is to protect and preserve cultural and natural resources. This mission is compromised for considering this practice, just as it compromises our values and lifestyle to have it happening in our waters.

Chair, you've said "our [DLNR's] mission is not to look for economic opportunities, that's DBEDT." Our reef fish can no longer be commodified into a privatized industry, much less for a handful of collectors. Collectors that have been belligerent in BLNR meetings during December 2023 and April 2024 feel very strongly that they have a right to Hawai'i's public trust resources. They do, however not for their extractive, unfairly privatized and exploitative commercial practice. EIS consultation with traditional practitioners and fishermen strongly voiced that if permits were allowed, (the traditional practice of) give back should be done. Since back then, thru the six years of injunction being in place, I'm not aware of any sincere give-back. A sincere give-back would be received by collectors as a condition of terms, not in the spirit of reciprocity in how we live by. When we place these in the form on conditions on an activity that otherwise would be prohibited, we are forcing them into actions that does not have any sincerity. The Draft EIS has been long been available with these sentiments made clear in the documented interviews and still there has not be any actions to act upon good faith. The Board's decision shall not be sympathetic to collectors who purchased a lottery ticket (in the form of an EIS) in hopes to get a key to our icebox! We, the tenants of our ahupua'a do not agree to this.

Poaching continued during the period that an injunction was placed on AQ. No remorse to unethical, egregious behavior and violations, collectors continue to demand their access to our precious cultural and natural resources with such arrogance. This is Hawai'i Nei, the only home we have, the resting place of our kūpuna and the ea of our ancestral lands and seas, and our lāhui. Our culture is unlike any – we simply can not promote the erosion of our culture, values, and disciplines so that in just one or two generations, Hawai'i will only be reading about and not practicing these disciplines of mālamā and aloha 'āina.

Those of us who stand in strong opposition to AQ stand separately from AQ collectors for more than the opinion of the practice itself as it is not a Hawaiian cultural practice. Many of us <u>are</u> the stewards of our nearshore waters and do so because it is our kuleana.

> June 2023, BLNR member Barnes queried EcoHarvest (three times) if they would consider to restock our reefs as part of their their aquaculture work, and in reciprocity for their SAP request to harvest reef fish. Ultimately for their investment into the Pet Industry Trade, an adamant no was announced because

they were not going to make a money. That demonstrates arrogance towards commodifying our culture assets that even member Barnes tried to appease the permit applicant.

White List AQ has a long history of having a very liberal and privileged access to our reef fish. Supported since 1953 in legislation, "these ornamental fishes have little or no value as food fish" and "the specie of fish for aquarium purposes is not edible". Both erroneous statements revealed in contradictory to the whitelist of 40 species that included reef fish we eat and today the proposed whitelist of 8 species still includes food fish!

As for the pāku'iku'i, collectors took the young, subsistence and commercial fishers harvested the adults for sustenance. The competing pressure on the species resulting in a dramatic decline, and we now have a two year moratorium on pāku'iku'i take. DAR has and will say that they cannot see concrete evidence that the depletion of pāku'iku'i was due to AQ collection, but as will not say that it was not due to AQ collection or how much it contributed to the depletion. The inability to answer that question does not dismiss AQ of its role in the depletion. We can not have a repeat of this incident for any other food fish on the white list.

Collectors received special privileges in the prolonged survival of this extractive and exploitative activity – poaching of excessive take, take from restricted areas, illegal gear use, and this fishery lacks a trusted accountability system. **So, at what cost** will DLNR serve this fishery and maintain this privatized commercial practice for one or a few AQ collectors. What is the budget line item that the Department requires to support this fishery and where does it exist in its current budget? The Application Form and Terms & Conditions fall short of addressing the prior issues that plagued West Hawai'i in its attempt to serve up this fishery.

<u>Terms & Conditions</u>

It is my understanding that the Board may be required to issue a permit and DAR is to advise on Terms and Conditions to manage the fishery. It is a heartfelt struggle to consider that a legal barrier prevents the Board to follow-through on the its discretionary authority to unanimous approve our petition (back in December) to end commercial aquarium take. It is also a struggle to carefully consider how to best make recommendations on Terms and Conditions on short notice and before DAR does proper and comprehensive Ka Pa'akai Analysis.

DAR should be required to conduct a proper comprehensive Ka Paʻakai Analysis. When properly done, it would identify (perceived and real) issues that could be mitigated by Terms & Conditions for both the Department and permittees.

The Ka Paʻakai Analysis significantly draws from the EIS, which are summaries of the interviews conducted in 2018. Six years is significant time that has lapse, that an update should be required and moreso, DAR still has its duty and obligation to conduct its own outreach to tenants of West Hawaiʻi ahupuaʻa. Similarly, a trusted accountability system (chain of custody) should be scoped.

These preliminary terms and conditions recommended to address the unacceptable conditions that occurred while aquarium collection was permitted, poaching that occurred during the injunction and now. It also addresses the lack of a trusted accountability system or chain of custody.

- Aquarium species white list shall not have any food fish or endemic species. Allow non-native invasive species - roi, taʻape, toʻau.
- In addition to the recommended white list species, excluding food fish and endemic species, no Total Allowable Catch of any White List Species shall exceed 1,825, derived from take of no more than 5 per permit, per day (unless further restrictive). These take allowances are still generous over those in SAPs for education and research take. Special circumstances for particular species should also be considered to derive TAC such as the Thompsonʻs Surgeonfish. This proposal TAC also aligns with the Board Hierarchy of Use Principles.
- No aquarium activities (collection and verification of chain of custody) are to be conducted in the hours after sunset and before sunrise.
- Detailed chain of custody be signed/confirmed by the Department and Cultural Monitor(s)
- Cultural Monitors History repeats itself In the most contentious events impacting our environment – Mauna Kea, Lahaina recovery, and Red Hill. Most immediate actions taken are (1) put in place a working group such as West Hawaii Fishery Council, and (2) have cultural monitors oversee the activity during the recovery efforts and ongoing. Have we learned a lesson yet?
- Cultural Training – Approved permittees shall complete Known Indigenous Perspectives & Alignment (KIPA) training and certification conducted by Edith Kanakaʻole Foundation.
- DLNR to conduct AQ facilities / holding tank inspections before issuing any permit.

- Legislation - DLNR to secure budget for managing this fishery to include these Terms & Conditions before issuing any permit.

And still, how does DLNR manage any significant take from any one concentrated area of the WHRFMA or an area that is already depleted?

Application Form

The **Application Form should not be approved** at this time as it is premature to having a comprehensive Ka Paʻakai Analysis conducted.

Preliminary recommendations for the Application Form are:

- Include form fields for Commercial Marine License, Marine Vessel License(s), and AQ Facilities Location/License
- All violations should be identified for both DAR and DOBOR, and over the past 10 years. Violations are so severe that if legislation does not support recovery of fines, violators must be denied re-entry.
- No aquarium permit use activities conducted during the hours after sunset and before sunrise.
- Permits are non-transferable or additionally allowed to replace a permit that is revoked.

Statue & Administrative Rules

HRS §133-81 Section 1.2.1 (a), "may issue an aquarium permit". The Board is being advised they are not allow to fully exercise their discretionary authority to deny aquarium permits.

In (b), "satisfy the department that they possess facilities to and can maintain fish and other aquatic life alive", yet DLNR does not inspect such facilities.

In (d) (2), "Aquarium fish permit" means a permit issued by the board identifies the Boards authority.

HAR §13-60.4-2-b,c 10-5 4-2 (last updated March 2023) requires an be update to reflect 13-60.10-5 area of Miloliʻi Community-Based Subsistence Fishing Area, as well added to the Table of Reference Coordinates to Marine Reserve and Fish Replenishment Area Boundaries.

Delegate Authority to the Department Chair to issue Aquarium Fish Permit

HRS §133-81 Section (d)(2) defines Aquarium fish permit with discretionary authority of the Board to approve (or deny) issuance of a permit.

> "Aquarium fish permit" means a permit **issued by the board** for the use of fine mesh nets and traps to take salt water fish, freshwater nongame fish, or other aquatic life for aquarium purposes. [L 1953, c 124, §§1, 2, 3; RL 1955, §21-64; am L 1961, c 30, §§1, 2 and c 132, §2; HRS §188-31; am L 1979, c 154, §1; gen ch 1985; am L 1992, c 96, §2]

Delegating authority:

- **Removes sound discretion** of the Board to act as a body reflecting island community perspectives and its special knowledge to weigh in on each permit application. The Board has recently made informed decisions on SAPs and permits similar to this agenda item that were complexed. That same rigor of discussions are needed to vet each permit application.
- **Removes public privilege** to weigh in, with the subset of the public being the hoaʻāina (tenant and/or caretaker) of areas being directly impacted from the take of marine life.
- **Removes transparency** to evaluating each permit application. Special Activity Permits (SAPs) that are requested for activity that otherwise would be prohibited, are given terms & conditions, and evaluated for its research and educational merits against impact to cultural and natural resources. SAPs are evaluated far more stringent and transparent that what is being proposed for this highly contentious activity.

Please oppose the delegation of authority and retaining it with the Board.

No mākou ka luhi,

Uʻilani Naipo

Exploiting Hawaiian Reef Fish

By **Guest Author** – June 3, 2024

Lauʻīpala (yellow tang) is one of the species of Hawaiian reef fish highly coveted by aquarium fish collectors who will pay up to $250 for a single fish. Over the past four decades, millions of fish have been taken from West Hawaiʻi waters by the aquarium pet trade industry and, according to environmental law firm Earthjustice, fewer than 1% survive beyond one year. - Photo: Kaikea Nakachi

The Extractive Aquarium Pet Trade Industry Threatens West Hawaiʻi Fisheries

By Uʻilani Naipo

Auē, aloha nō e nā iʻa Hawaiʻi.

Aloha is not good enough for the world; the world wants even more of Hawaiʻi.

Hawaiʻi continues to be exploited and sold off piece by piece: our ʻāina, our culture, our identity. And the Department of Land and Natural Resources (DLNR) is determined to, once again, support the exploitation of Hawaiʻi's reef fish.

Displaced from their function and vital role in Hawaiʻi's marine ecosystem, our reef fish have been – and could once more be – extracted from our reefs and sent off to become personal museum pieces all over the world.

A *Honolulu Civil Beat* article (June 1, 2020) notes that, "Between 1976 and 2018, more than 8.6 million fish were taken from West Hawaiʻi waters for use in aquariums around the world."

Hawaiʻi's cultural and natural marine resources were repurposed and retitled "Hawaiian Tropical Fish" for the international pet trade industry. West Hawaiʻi has been directly and heavily impacted by the taking of millions of fish and the abrupt disturbance to the social norms of places like the traditional fishing villages of South Kona.

"Once the Department of Land and Natural Resources got involved [in this issue], the negotiated solution was to create the 'West Hawaiʻi Regional Fishery Management Area' with 'Fish Replenishment Areas,' giving a carveout (at the time) of more than 50% of West Hawaiʻi nearshore reefs for aquarium trade collectors," said Charles Young, a cultural practitioner and hoaʻāina (tenant/steward) from Keāiia.

Today, Hawaiian kole (tang) are sold for $180 to saltwater aquarium enthusiasts, thus the pet trade industry competes with subsistence and commercial fishers who provide sustenance for themselves and others.

The same competing harvest pressures – aquarium collectors take the young fish, while fishers harvest mature adults for sustenance – give species little chance to reproduce and replenish their stock. This contributed to the severe depletion of pāku'iku'i (Achilles tang) in West Hawaiʻi waters, resulting in the current two-year moratorium on pāku'iku'i harvest.

Meanwhile, highly coveted lauʻīpala (yellow tang) sell for as much as $250. The proposed total allowable catch of lauʻīpala alone (200,000 fish), has a market value of $33-$50 million.

Ināhea lākou i oli komo ai?

If the Division on Aquatic Resources (DAR) can confidently say the proposed allowable take for the aquarium pet trade is sustainable then they, and the permit applicants, must inform and answer to those directly impacted.

Yet hoaʻāina of West Hawaiʻi marine managed areas have not been informed of the revised environment impact statement, DAR's proposed recommendation, or the aquarium collection permit applications. Nevertheless, DAR plans to bring permit applications before the Board of Land and Natural Resources (BLNR), requesting approval to once again issue aquarium collection permits.

An injunction against issuing commercial aquarium collection permits was in place for more than six years. Now that it has been lifted, DAR and the permit applicants have an obligation to conduct community outreach to the communities that make up the West Hawaiʻi Regional Fishery Management Area.

The cultural, ecological and subsistence value these marine resources have to Native Hawaiians – and the four decades of contentious, unethical extraction of fish from West Hawaiʻi waters – demands a sincere outreach effort to the communities being directly impacted to hear their manaʻo on these activities.

"DLNR has authority over public trust lands which also includes its oceans. Using this authority the DLNR leases thousands of acres of public trust land and issues hundreds of permits for all manner of ocean activities from commercial fishing to tour boating," Young said.

DLNR's stated mission is to "Enhance, protect, conserve and manage Hawaiʻi's unique and limited natural, cultural and historic resources held in public trust for current and future generations of the people of Hawaiʻi Nei, and its visitors, in partnership with others from the public and private sectors."

Inherent in DLNR's mission is its duty to mālama. "This duty must also bind all to whom access and/or use of the Public Land Trust through the DLNR's leases and permits," Young added.

At issue is whether issuing permits for aquarium fish collecting meets that duty.

"This industry serves markets outside of Hawaiʻi where huge profits are being made from Hawaiʻi's precious natural resources with no reciprocation to the many residents, in particular Native Hawaiians, who are being denied access to the millions of fish taken from their waters," Young pointed out.

"Although aquarium fish collecting has been permitted for many years – during which time the industry has realized untold profits – I believe that DLNR erred when it granted the very first permit. Hawaiʻi's lands and oceans are to be shared and accessed fairly by all its beneficiaries. Aquarium trade permits allow a few individuals to profit by granting them limited and exclusive access. South Kona communities agree that aquarium fish collecting is unacceptable."

Pēia ka nohona Hawaiʻi? Minamina wale kā hoʻi.

As noted, Hawaiʻi does not benefit from the billion-dollar international pet trade industry, yet at the expense of our taxpayers and natural environment, DLNR is proposing the most highly managed – and doubtless the most costly – privatized fishery in Hawaiʻi.

DLNR's support of this extractive fishing industry exceeds its fiduciary duties to protect fisheries for the subsistence and commercial fishers who feed the people of Hawaiʻi, and calls into serious question the motives of DLNR leadership in supporting this industry – given its stated mission to preserve Hawaiʻi's cultural and natural resources.

Extracting reef fish for the exploitative pet trade industry is not consistent with Native Hawaiian subsistence, cultural, or religious practices. Permitting others, without the consent of the greater Native Hawaiian communities and hoaʻāina of West Hawaiʻi, is disrespectful and hewa (wrong).

Article XII Section 7 of Hawaiʻi Revised Statues reads: "The State reaffirms and shall protect all rights customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by ahupuaʻa tenants who are descendants of Native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights."

Therefore, the state has an obligation to protect the resources that Native Hawaiian customary and traditional practices depend upon. And DLNR's mission is to preserve and protect Hawaiʻi's cultural and natural resources.

In December 2023, BLNR approved a petition by hoaʻāina to enter into rulemaking regarding commercial aquarium collection – specifically to prohibit taking marine life for commercial aquarium purposes. As of press time, the petitioners are still awaiting DAR's rulemaking.

Commercial aquarium collection unfairly commercializes public trust resources and exploits Hawaiian cultural and natural resources at the expense of our cultural values and our inherent subsistence rights.

Issuing aquarium collection permit(s) privatizes the extraction of our reef fish to benefit a few aquarium collectors and a small handful of local players, providing no economic benefit to Hawaiʻi.

Uʻilani Naipo is a lineal descendant to the ancestral lands and seas of Miloliʻi Fishing Village, Kapalilua. As a hoaʻāina of Kapalilua, she is a strong advocate of place-based traditional and customary natural resource governance and management. She serves as administrator for the Miloliʻi Community-Based Subsistence Fishing Area.

TAGS: mana kapa culture war oli tour boat marine life produce Hawaiian Native Hawaiian December public Hawaiʻi STEM awa ahu fishing Honolulu USA lua state fish ocean ulu exercise ʻāina art island water sand community Community Outreach traditional land

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OHA Discusses Maunaʻala Stewardship with Other Stakeholders

To: Members of the Board of Land and Natural Resources

From: William Walsh Ph.D., Aquatic Biologist, Hawai′i Division of Aquatic Resources, Retired.

Date: August 19, 2024

Subject: F. DIVISION OF AQUATIC RESOURCES 1. Request for Approval of the Application Form and Terms and Conditions for the State of Hawai‘i Aquarium Fish Permit Pursuant to Hawaii Revised Statutes Section 188-31; Request for Approval of Terms and Conditions for the West Hawai‘i Aquarium Permit Pursuant to Hawaii Administrative Rules Section 13-60.4-7; Request to Delegate Authority to the Chair to Approve, Sign, and Issue West Hawai‘i Aquarium Permits and State of Hawai‘i Aquarium Fish Permits authorizing limited commercial aquarium collection in the West Hawai‘i Regional Fishery Management Area (WHRFMA) to Up to Seven Applicants That Meet Certain Criteria and Requirements.

Aloha Chair Chang and Members of the Board: I am writing to offer strong support for approval of Item F-1, specifically as it relates to the West Hawai′i Regional Fishery Management Area (WHRFMA). My support is based on over 25 years of research that I was involved with the issue of aquarium fish collecting in West Hawai′i.

In 1998, The West Hawai′i Regional Fishery Management Area (WHRFMA), which spans the entire coastline of West Hawai′i, was created by Legislative Act 306 (1998) largely in response to long-standing and widespread conflict surrounding commercial aquarium collecting.

To accomplish the mandates of Act 306, a community advisory group, the West Hawai′i Fishery Council (WHFC) was convened by the Division of Aquatic Resources (DAR) in 1998. The first accomplishment of the WHFC was the designation of a network of nine Fish Replenishment Areas (FRAs), in which aquarium collecting was prohibited. The FRAs, along with other existing aquarium protected areas, comprised 35% of the coastline.

In order to estimate the effectiveness of the FRAs to replenish and maintain aquarium fish stocks, a consortium of researchers established the West Hawai′i Aquarium Project (WHAP) in early 1999. WHAP established 23 study sites in early 1999 located at 9 FRA sites, 8 open sites (aquarium fish collection areas) and 6 reference (i.e.’control sites’ with no aquarium collecting) to collect baseline data both prior to and after the closure of the FRAs.

A Report on the Findings and Recommendations of Effectiveness of the West Hawai′i Regional Fishery Management Area (WHRFMA) is presented to the Hawai′i State Legislature every 5 years. The reports can be found on the DAR website: Division of Aquatic Resources | Reports (hawaii.gov).

Following is a summary of aquarium related findings from the Report to the 30th Legislature, 2020 Regular Session (November 2019).

- The Hawai′i marine aquarium fishery has been the most economically valuable commercial inshore fishery in the State with Fiscal Year 2017 average reported landings greater than $2.2 million.

- In West Hawai′i, the aquarium fishery has undergone substantial and sustained expansion over the years. Total catch and market value increased by 29% and 143% respectively since FY 2000. Approximately 26% of both the total number of aquarium fish caught in the State and value of the catch was from West Hawai′i in FY 2017.

- Concerns over continued expansion of the West Hawai′i aquarium fishery and over-harvesting in the open areas prompted DAR in 2013 to establish a 'White List' of 40 species which can be taken by aquarium fishers. All other species of fish and invertebrates have been off-limits to aquarium collectors in West Hawai′i since that time.

- Of the 40 collected aquarium species taken prior to the closure of the fishery, Yellow Tang comprise 82% and Kole 9% of the total catch (FY 2017).

- DAR has been monitoring West Hawai′i reefs and populations of reef fishes for over 20 years. Over this period, 82 survey divers have conducted over 8,700 underwater transects at more than two dozen sites along the coast.

- The FRA network has successfully driven an increase in the population of Yellow Tang. In the 20 years after the closure, the population of Yellow Tang has increased 165% in the FRAs, 74% in existing Marine Protected Areas (MPAs) and 101% in the Open Areas.

- Overall Yellow Tang abundance in the 30'-60' depth range over the entire West Hawai′i coast has increased by over 3.4 million fish (150%) from 1999/2000 to 2017/2018 to an estimated population of 5.7 million fish.

- A 2009 study of adult Yellow Tang in their shallow water habitats (10'-20' depths) found no significant differences in the abundance of adult Yellow Tang in open vs. closed areas.

- Yellow Tang populations at two of three long-term monitoring sites in South Kohala (Puakō) and South Kona (Ke′ei) have recovered to levels found over three decades ago, prior to the expansion of commercial aquarium collecting in West Hawai′i.

- Comparative surveys utilizing DAR and NOAA data subsequent to FRA establishment, indicate Yellow Tang are substantially more abundant in West Hawai′i over most size ranges than in any of the other islands in the Main Hawaiian Islands and the Northwestern Hawaiian Islands.

- The FRAs have also been very successful in increasing Kole populations. In the 20 years after FRA closures, Kole populations have increased 85% in the FRAs, 120% in the MPAs and 97% in the Open Areas.

- Overall Kole abundance in the 30'-60' depth range over the entire West Hawai′i coast increased by almost 5.2 million fish (118%) since FRA establishment on 31 December 1999, with a current estimated population of about 9.6 million fish.

- As with Yellow Tang, DAR and NOAA data indicate Kole are substantially more abundant in West Hawai′i over most size ranges than in any of the other islands in the Main Hawaiian Islands or the Northwestern Hawaiian Islands.

- Six of seven of the top 3-10 collected species had long-term population increases in one or more of the management areas since FRA establishment (1999/2000). The notable exception was Achilles Tang (*Acanthurus achilles*) which declined in all areas, significantly so in Open Areas and FRAs.

- Achilles Tang is the fourth most collected species in the West Hawai′i aquarium fishery although relative to Yellow Tang and Kole, the numbers collected are low, representing only 1.7% of the total FY 2017 catch.

- Commercial aquarium landings of Achilles Tang have been declining in West Hawai′i over the past two decades. This has occurred in association with a 192% increase in the ex-vessel value of the fish since 2008, suggestive of declining availability (i.e. abundance).

- DAR Shallow Water Resource Fish (SWRF) surveys indicate a significant (90%) decrease in Achilles Tang biomass in their primary adult habitat since 2008 when the surveys were first conducted. Achilles Tang were observed on 73% of transects in 2008 but only on 38% in 2018.

- Given the overall evidence for a marked decline in the population of Achilles Tang in West Hawai′i, a reduction in the aquarium bag limit or a moratorium on aquarium collecting for this species, in conjunction with a conservative bag limit for other fishers should be considered and implemented.

- For most of the species on the White List, collecting impact, in terms of the estimated percentage of the Open Area population being removed annually by aquarium collectors, is relatively low with nine species having single digit percent catch and 21 species having catch values of <1% of the total estimated population in the Open Areas (30'-60' depth range).

- Benthic monitoring at West Hawai′i sites indicates that commercial aquarium collecting is not having a measurable negative impact on percent coral cover or change in coral cover over time.

- In West Hawai′i, the aquarium fishery took 1.8X the number of total reef fishes taken by recreational and other commercial fishers combined. However, if Yellow Tang, which is primarily harvested at small sizes and not targeted by other fishers, is excluded, the recreational and commercial fisheries took 3X the total number of reef fishes caught by aquarium collectors.

- The effectiveness of the West Hawai′i FRAs for aquarium fish suggests it would be prudent to establish MPAs for other resource species throughout Hawai′i as a precautionary measure against overfishing and for restoration of marine resources. Currently, less than 1% of nearshore areas in the Main Hawaiian Islands are fully protected by MPAs.

In conclusion, I strongly support the 7 aquarium permit limit for West Hawai′i based on the substantial research done by DAR and affiliated researchers.

Additional support for the issuance of West Hawai'i aquarium permits was provided in a June 25, 2020 West Hawai'i Today newspaper opinion article authored by 21 highly experienced Hawai'i marine science researchers (including me) with a direct and intimate understanding of this issue.

The scientists conclude that "The monitoring data show that the regulations put in place have been very effective in managing aquarium collecting in West Hawai'i. The West Hawai'i Regional Fishery Management Area is among the best studied and most effective fishery management efforts to date, and scientific data clearly show that management is working with population increases of the primary targets."

Chair Chang and Board of Land and Natural Resources,

I support the fisheries

Jennifer Mc

Chair Chang and Board of Land and Natural Resources,

Chair Chang and Board of Land and Natural Resources,

I support science based management

-JoN D.

Chair Chang and Board of Land and Natural Resources,

I support the aquarium fishery.

Francisco Moreno

Chair Chang and Board of Land and Natural Resources,

~~Shah~~ Please reopen the hawaiin fishery
-Shahaly

Chair Chang and Board of Land and Natural Resources,

Please reopen the fishery.

Edward Bilezekchian

Chair Chang and Board of Land and Natural Resources,

Please open the fishery trade/- Isaac Barriga
Brings jobs back to those who Isaac Barriga
lost them and help with more
research.

Isaac Barriga

Chair Chang and Board of Land and Natural Resources,

I will love to see the Hawaii Fishery Open. Yellow Tangs should be availble to anyone who cave's about the Fishery. It will help people from Hawaii. Please Re-Open Fishery, Thank You.

Nick Ortega

Chair Chang and Board of Land and Natural Resources,

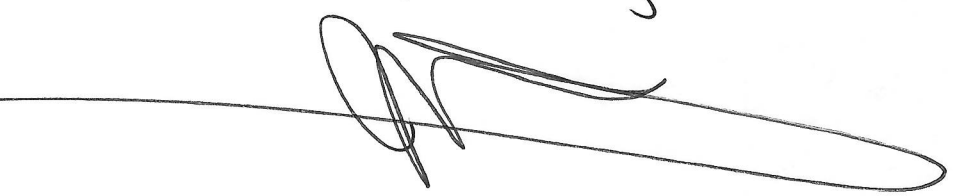
PLEASE REOPEN THE FESHERY
WE SUPPORT THE SCIENCE BASED
MANAGEMENT FOR OUR HOBBY.

SIMON ASSECIN.

Chair Chang and Board of Land and Natural Resources,

I whole heartedly belicue in the environmental benefits of the mangement of fish. I have researched and read papers and believe the land permits should be granted inorder to reestablish the population in their cure.

John Worthington



Chair Chang and Board of Land and Natural Resources,

Please reopen the fishery/aquarium in Hawaii. It's sustainable. It's ethical. It's needed by hardworking families.

Daniel Bannister

Daniel Bannister

Chair Chang and Board of Land and Natural Resources,

I support sustainable fisheries Please open it up!!

Armando G.

Chair Chang and Board of Land and Natural Resources,

I support sustainable fishery management

Open the fishery Please Please Please

x

Chair Chang and Board of Land and Natural Resources,

I support the well regulated Fishing Industry in Hawaii. Its a sustainable Fishery and it should be reopened.

David Dotwin

Chair Chang and Board of Land and Natural Resources,

I support the Hawaiian Aquarium Fishery.

G. Kennedy

Chair Chang and Board of Land and Natural Resources,

I support the Hawaiian Fishery and would like the ban to be lifted so we can enjoy the hobby I Love. The ban has caused prices to sky rocket.

Chad Wa

Chair Chang and Board of Land and Natural Resources,

I Support science-based fisheries. Please reopen aquarium fisheries.

X Jonathan Lee

Jonathan Lee

8/5/23

Chair Chang and Board of Land and Natural Resources,

I support sustainable reefing and fish keeping. I believe in the work that the West Hawaii Aquarium Fishery is doing.

Ben Burgett

Chair Chang and Board of Land and Natural Resources,

I SUPPORT SCIENCE BASED RESEARCH RESOURCE MANAGEMENT.

PLEASE OPEN UP THE AQUARIUM FISHERY IN WEST HAWAII

DAVID SALINAS

DAVID SALINAS

Chair Chang and Board of Land and Natural Resources,

I support WH aquarium fishery

Chair Chang and Board of Land and Natural Resources,

I SUPPORT SUSTAINABLE FISHERIES. PLEASE REOPEN AQUARIUM FISHERIES.

CHARLES SCHMIDT

Chair Chang and Board of Land and Natural Resources,

The aquarium Estuary would be Amazing to have Reopend Please.

Immanuell Vita

Chair Chang and Board of Land and Natural Resources,

I support Science Based Fishery management.

Please reopen aquarium Fishery.

Li-L

Chair Chang and Board of Land and Natural Resources,

I Support the Aquarium/coral Industry

Kyle An 8/5/23

Kyle An

Chair Chang and Board of Land and Natural Resources,

I Support Science based fishery management
Please open the aquarium fishery - Jimmy Clark

Chair Chang and Board of Land and Natural Resources,

I support AQUARIUM fishery

Bradford Smith

Chair Chang and Board of Land and Natural Resources,

I support Reopening disfishery

Michael Miniak

Chair Chang and Board of Land and Natural Resources,

I support reopening this fishery

Darcy Pinon

Chair Chang and Board of Land and Natural Resources,

~~Allen Estrada~~

I support reopening this fishery

Abraham Estrada

Chair Chang and Board of Land and Natural Resources,

Reopen the fishery

Christina Torres

Chair Chang and Board of Land and Natural Resources,

I am a hobbiest and enjoy taking care of and learning about Hawaiian species. I support th Aquarium fishery.

Chair Chang and Board of Land and Natural Resources,

I support the fishery

Chair Chang and Board of Land and Natural Resources,

reopen the fishery

Nathan

Chair Chang and Board of Land and Natural Resources,

I support the fishery

Marissa Breeding

Chair Chang and Board of Land and Natural Resources,

Reopen the fisheries - I support West Hawaii Aquarium Fishery. Keep the FISHERIES OPEN!!!

Lynn Hogsett

Chair Chang and Board of Land and Natural Resources,

I support the Hawaii fisheries opening

Al Enriquez

Chair Chang and Board of Land and Natural Resources,

I support Horn Fish reopening

Chair Chang and Board of Land and Natural Resources,

I support the hawaii aquarium fishery

Chair Chang and Board of Land and Natural Resources,

I support reopening the aquarium fishery!

-Megan Garcia

Chair Chang and Board of Land and Natural Resources,

I Suppor Hawaiian Fishery

Saul Sanche

Chair Chang and Board of Land and Natural Resources,

I support re-opening the squaren fishery.

Dan Loveless

Chair Chang and Board of Land and Natural Resources,

I support the hawaiian fishery!

- David Augustine!

Chair Chang and Board of Land and Natural Resources,

I Support Re Opening Hawaii Raymond Grillo Reef Creation's

Chair Chang and Board of Land and Natural Resources,

Yasmin & Sal, We support the Hawaiian Fishery.

Chair Chang and Board of Land and Natural Resources,

Please reopen for
AQ [illegible]

Chair Chang and Board of Land and Natural Resources,

I support the Hawaiian Ornamental Fishery

Michael Simonsen

Chair Chang and Board of Land and Natural Resources,

I support the Fishery

Chair Chang and Board of Land and Natural Resources,

I support science based fisheries, Coral export also to preserve genetic samples. Reopen!

John P. Puntich

Chair Chang and Board of Land and Natural Resources,

I support science based and well manged fisheries. Through proper monitoring and collaboration, an environmetally sound balance can be achieved. Both nature and economy can work together to support a long-term and sustainable practice. ~~We~~ Hawaii has an opportunity to be a global leader in ~~an ecological~~ a science based fishery practice. Through collaboration, black market practice can be eliminated and I am in support of a fishery management practice that benefits the environment and the economy.

Sincerely,

Dustlyre Beavers

Chair Chang and Board of Land and Natural Resources,

I SUPPORT REOPENING THE HAWAII AQUARIUM FISHER

BEN ROS

BENJAMINROS@GMAIL.COM

Chair Chang and Board of Land and Natural Resources,

I SUPPORT RE OPENING THE HAWAII AQUARIUM FISHERY

MARK ODRONZEA
HOUSEOFTROY45@GMAIL.

Chair Chang and Board of Land and Natural Resources,

Michael Fuentes — I support Aq

Chair Chang and Board of Land and Natural Resources,

I support reopening the Fishery

Ruth Hernandez

Ruth H

Chair Chang and Board of Land and Natural Resources,

I support the West Hawaii Aquarium Fishery!

Chair Chang and Board of Land and Natural Resources,

I SUPPORT THE WEST HAWAII AQUARIUM FISHERY

Chair Chang and Board of Land and Natural Resources,

I support the West Hawaii Aquarium Fishery

Chair Chang and Board of Land and Natural Resources,

I support the west Hawaii Aquarium Fishery.

Amarela Aguilar

Chair Chang and Board of Land and Natural Resources,

I support west Hawaiʻi aquarium fishery

Rob [signature]

Chair Chang and Board of Land and Natural Resources,

Reopen the fishery in Nawiliwili Harbor

Chair Chang and Board of Land and Natural Resources,

RE-OPEN THE FISHERY!

Chair Chang and Board of Land and Natural Resources,

Reopening the Hawaii fisheries is extremely important! Listen to the science. The Hawaii fisheries are and have been very sustainable.

Sincerely,

Luke Smith

Chair Chang and Board of Land and Natural Resources,

Dear Mean People,

Please bring back my favorite fish the yellow Tang. I vow to clean up the beach quarterly if you allow permitting, we hope to see these fish back this year. Thank you for your works in assistance.

Patrick Lai

Chair Chang and Board of Land and Natural Resources,

SCIENCE SPEAKS FOR ITSELF

RE OPEN THE FISHERY!

Chair Chang and Board of Land and Natural Resources,

Support the reopening of fisheries.

Regen the fisheries in Hawaii!

Jake Sandefur

Chair Chang and Board of Land and Natural Resources,

Hello,

I absolutely support the West Hawaii aquarium fishery, because they employ a proven, science-based solution for saving the fish + reef.

Richard Sands

Chair Chang and Board of Land and Natural Resources,

Manage listen to the Sicence and reopen! Tony Chen

Chair Chang and Board of Land and Natural Resources,

I support the science.

Selena Ferrara

Chair Chang and Board of Land and Natural Resources,

reopen the fishery.

Corals Depot

Chair Chang and Board of Land and Natural Resources,

Re open - Melissa Esposito

Chair Chang and Board of Land and Natural Resources,

I support reopening Steve Dow

Chair Chang and Board of Land and Natural Resources,

Re-open the fishery

– Hugo Delgado

Chair Chang and Board of Land and Natural Resources,

Reopen the fishery Carlos Gonzalez

Chair Chang and Board of Land and Natural Resources,

I support this case

Chair Chang and Board of Land and Natural Resources,

Reopen the fishery!
-Pedro L.

Chair Chang and Board of Land and Natural Resources,

I AGREE TO OPEN FISHERY

Chair Chang and Board of Land and Natural Resources,

Reopen the Fishery Piers

Chair Chang and Board of Land and Natural Resources,

reOpen the fishery -Daniel Estrada

Chair Chang and Board of Land and Natural Resources,

I SUPPORT THE HAWAIIAN FISHERY
GIL MARA

Chair Chang and Board of Land and Natural Resources,

Please Re-open the Fishery

Chair Chang and Board of Land and Natural Resources,

Louis Barsow — I support AQ Fishing

Chair Chang and Board of Land and Natural Resources,

Jamie Oh Lee

I support the Hawaii Fisheries.

Chair Chang and Board of Land and Natural Resources,

Listen to the Science and support our hobby!

Chair Chang and Board of Land and Natural Resources,

I support science based fisheries. Having these fish and others in my tank has been hugely educational for me and many others.

Chair Chang and Board of Land and Natural Resources,

Good Afternoon,

Please Re open Hawaii using this Sustainable fishery - Very Important.

thank you

Chair Chang and Board of Land and Natural Resources,

Please help the fisherys.
We miss the fish.
and familys depend on the
fish!

Chair Chang and Board of Land and Natural Resources,

Reopen the fishery w/science - Jason Tuscano

Chair Chang and Board of Land and Natural Resources,

I support re-opening WHAF Shawn Haycock

Chair Chang and Board of Land and Natural Resources,

Eric Rogers

I Support Reopening the West Hawaii aquarium fishery.

Chair Chang and Board of Land and Natural Resources,

I Support the Fishery
for ALRES

Chair Chang and Board of Land and Natural Resources,

Listen to the fishery!!!

[signature]

+ Alyssa Alcantara :)

Chair Chang and Board of Land and Natural Resources,

I support the Hawaiian

fishery

Chair Chang and Board of Land and Natural Resources,

I support this fishery

Chair Chang and Board of Land and Natural Resources,

I support the Hawaiian fishery.
Sherry L Bulsa
I support the Hawaii fishery
Elaine J Suggins

Chair Chang and Board of Land and Natural Resources,

REOPEN FISHERY ASAP! DARYL

Chair Chang and Board of Land and Natural Resources,

Listen to science reopen fishery —

Chair Chang and Board of Land and Natural Resources,

reopen fishery

Chair Chang and Board of Land and Natural Resources,

CRAIS Lightner

I support re opening Fisheries

Chair Chang and Board of Land and Natural Resources,

I support the fishery

Ethan Orazo

Chair Chang and Board of Land and Natural Resources,

I support sustainable fish

I support sustainable fish

Chair Chang and Board of Land and Natural Resources,

REOPEN THE FISHERY PLEASE EMMANUEL S.

Chair Chang and Board of Land and Natural Resources,

reopen the fish please

-Zane

Chair Chang and Board of Land and Natural Resources,

I support the fishery initiative, let's have it back again.

Thank you Alfredo Ayalde

Chair Chang and Board of Land and Natural Resources,

I SUPPORT THE SCIENCE.
PLEASE REOPEN THE FISHERY

Chair Chang and Board of Land and Natural Resources,

Reopen the fishery

Kai Samreth

Chair Chang and Board of Land and Natural Resources,

Fishies r cool! Kelly Gacos

Chair Cheng and Board of Land and Natural Resources

Chair Chang and Board of Land and Natural Resources,

Re open the FISHERY

OMAR MEDINA

Chair Chang and Board of Land and Natural Resources,

as a marine enjusiest and PADI certified. Diver I would love to have ~~these~~ fisit scientically sustainable way.

-Will Shaler

Chair Chang and Board of Land and Natural Resources,

Rigel Pacheco

Reopen fishery

Chair Chang and Board of Land and Natural Resources,

Please reopen the sustainable Hawaii fisheries! These fisheries have been very well controlled and monitors, they should of never been shut down.

-Melissa Mendez

Chair Chang and Board of Land and Natural Resources,

I support the fishery! Andrew Anaya

Chair Chang and Board of Land and Natural Resources,

Reopen the Aquarium Fishery now!

Michael Littleton

It's a Must.

Chair Chang and Board of Land and Natural Resources,

Re opening the hawaii fishery can be done sustainably and provide good jobs and opportunity to hawaii and the rest of the USA. David Distefano

Chair Chang and Board of Land and Natural Resources,

Reopen for science & research!

Mary Singelman
Grand Terrace, CA

Chair Chang and Board of Land and Natural Resources,

Manage the fishery by science

Montana Juan

Chair Chang and Board of Land and Natural Resources,

Please Reopen west Hawaii aquarium fishery - Phil Pleler

Chair Chang and Board of Land and Natural Resources,

I support scientific reviews of fish conservation in Hawaii. Charles W. Mitsio

Chair Chang and Board of Land and Natural Resources,

Reopen the fisheries in Hawaii.

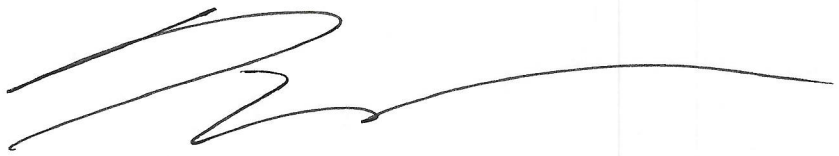
Chair Chang and Board of Land and Natural Resources,

Want the rest back given.

Robert Modesto

Chair Chang and Board of Land and Natural Resources,

Hawaiian Ornamental Fisheries are sustainable and needed to maintain the health and balance of the reef system. Draws back the science



Tracy Scott Ceasario
ZoneSFG4@gmail.com

Chair Chang and Board of Land and Natural Resources,

I support the sustainable Hawaiian fisheries, I would like to see yellow tang available in a sustainable way.

thank you,

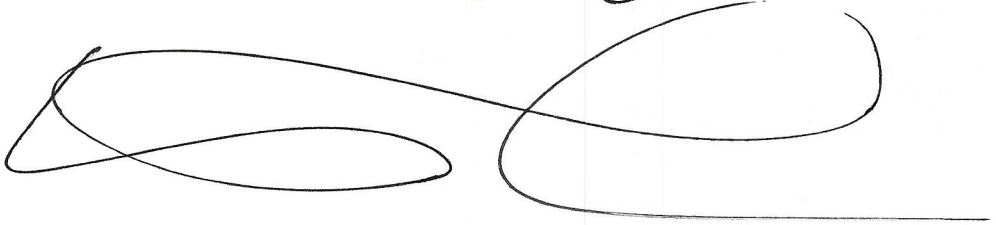
Kamran Adlparvar

(949) 374-4699

Chair Chang and Board of Land and Natural Resources,

Reopen the sustainable West Hawaii fisheries!!!!

-Jim Sandefur



Chair Chang and Board of Land and Natural Resources,

WE WOULD LOVE TO HAVE MORE FISH IN OUR HOBBY AS IT IS VERY SUSTAINABLE AS I HAVE KEPT MY YELLOW TANGS FOR 12 YEARS.

RICHARD MCGOWAN

TR

Chair Chang and Board of Land and Natural Resources,

I believe in the science and environmental reports! Please reopen the fisheries in West Hawai'i.

Sincerely,

Hollie Sandefur

Chair Chang and Board of Land and Natural Resources,

I, Nick Cattlivre, believe in science! Please re-open the sustainable fisheries in hawaii. -Nicalt.

-Nicholas Cattlivre
8/6/23

Chair Chang and Board of Land and Natural Resources,

I highly believe in the science and research that is completed by the sustainable fisheries in Hawaii. Please re-open these establishments.

- April Triplett

April Triplett

Chair Chang and Board of Land and Natural Resources,

I support Science based Research

& The substainable fishery in Hawaii

-Samuel Bales

Samuel Bales

Please listen to the science and open back the Hawaii Hatchery.

- Nathan Chan

Chair Chang and Board of Land and Natural Resources,

Please bring sustainable Hawaiian fisheries back!

Ryan Li

Chair Chang and Board of Land and Natural Resources,

I support the sustainable fisheries in Hawaii!

Reopen!!

From

Debbie DeLillo

Debbie

Chair Chang and Board of Land and Natural Resources,

Reopen the fishery, listen to the science

Andi Sarkissian

Chair Chang and Board of Land and Natural Resources,

Reopen this fishery & listen to the science!

Chair Chang and Board of Land and Natural Resources,

Manage the fishery with science

Sophia Lum

Chair Chang and Board of Land and Natural Resources,

Reopen fishery base on science

Tony Lee

Chair Chang and Board of Land and Natural Resources,

I support sustainable fisheries!

- Srimal Weerahannadd[illegible]

Chair Chang and Board of Land and Natural Resources,

I support sustainable fisheries- Reefsensei. !

Chair Chang and Board of Land and Natural Resources,


I want the fish back

Omar Banks

Chair Chang and Board of Land and Natural Resources,

Please bring back the fish we used to have.
My name is Hylton Stewart. HS

Chair Chang and Board of Land and Natural Resources,

I support science based fisheries

John Halbasch

Chair Chang and Board of Land and Natural Resources,

I support science based fishery.

Robert Ross

Chair Chang and Board of Land and Natural Resources,

[redacted] Reopen the fishery

[redacted]

Chair Chang and Board of Land and Natural Resources,

Daniel Mudd Reopen the fish hatery!!!

Chair Chang and Board of Land and Natural Resources,

Substanibly culleting Ornamentals is fantastic for the aquarium trade, helps provid funds for Breeding Projects and take account of fisheries stock.

Alex Winslow

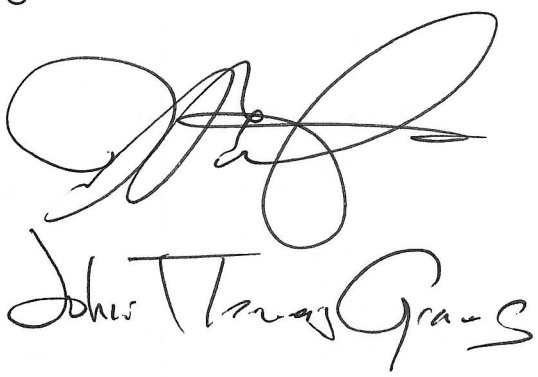
Chair Chang and Board of Land and Natural Resources,

I support the fish reopening

Lynne

Chair Chang and Board of Land and Natural Resources,

I fully support science based
Harvesting of Hawaii Living -



Chair Chang and Board of Land and Natural Resources,

I support Science based fishery harvesting.

Elliot Achdam

Chair Chang and Board of Land and Natural Resources,

I fully support science based harvesting if done sustainably.

mason McElroy

Chair Chang and Board of Land and Natural Resources,

I support science based fisheries

Kirsten Jons

Chair Chang and Board of Land and Natural Resources,

I support sustainable fisheries - Cole Eisenhower

Chair Chang and Board of Land and Natural Resources,

I support reopening of fishery

Akulsandz 12+20Syears.

Chair Chang and Board of Land and Natural Resources,

I support re-opening the west Hawaii aquarium fishery! Bring back wild yellow tangs Please!!

- Andrew Reid

Chair Chang and Board of Land and Natural Resources,

I support re-opening the West Hawaii Aquarium Fishery!

-Briana Conry

Chair Chang and Board of Land and Natural Resources,

Please re-open the fisher
Christopher Gamboa

Chair Chang and Board of Land and Natural Resources,

hey, I support the reopening of the fishery

-Alex

Chair Chang and Board of Land and Natural Resources,

I support the Fishery

Steven Dick

SDICK1974@GMAIL.com

Chair Chang and Board of Land and Natural Resources,

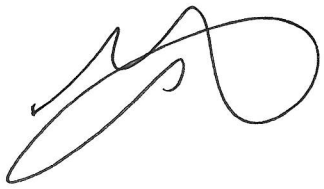
I support T Reef. Thank you.

Chair Chang and Board of Land and Natural Resources,

REOPEN THIS FISHERY CARLOS BRISENO

Chair Chang and Board of Land and Natural Resources,

I fully support sustainable fishing



Chair Chang and Board of Land and Natural Resources,

Please reopen the fisheries. I support sustainable fishing.

David DaPonte

Chair Chang and Board of Land and Natural Resources,

I support science and sustainability! Reopen the Hawaii fisheries and licenses!

Sincerely,
Cynthia DeLillo

Chair Chang and Board of Land and Natural Resources,

I support science based management. Please re-open the fisheries.

Tyrone Enriquez

Chair Chang and Board of Land and Natural Resources,

I Support Science based fishery

Hector Serrano

Chair Chang and Board of Land and Natural Resources,

I SUPPORT THE SCIENCE BASED FISHERY

Keith Cox

KEITH COX

Chair Chang and Board of Land and Natural Resources,

Please help Re open the Fishery.
We have all heard talks from Respect
Scientist such as Bekt Talbot who have
stated will Not impact the Environment

Chris Schmitt

Chair Chang and Board of Land and Natural Resources,

Michael Ehrlich - I SUPPORT THE FISHERY

Chair Chang and Board of Land and Natural Resources,

I support responsible fisheries and the West Aquarium Fishery. Keep all fisheries open for business and use "Science" only for policy decisions!

Chair Chang and Board of Land and Natural Resources,

I support Science backed fisheries focused on sustainable practices and ideals in growing and preserving natural environment.

-David Manoroga

Chair Chang and Board of Land and Natural Resources,

Manage fishery by science + indigenous knowledge
-Emily Lucas

Chair Chang and Board of Land and Natural Resources,

I want the wild Yellow Tangs back, which have been sustainably collected from Hawai'i!

From,

Megan Eibarra

Megan Eibarra

Chair Chang and Board of Land and Natural Resources,

Listen to the science and reopen the AQ fishery.

Joe Tran

Chair Chang and Board of Land and Natural Resources,

I support the science; I support the fisheries

– [signature]

Chair Chang and Board of Land and Natural Resources,

Re Open the fishery -

Saltwater Aquarium . Com

Chair Chang and Board of Land and Natural Resources,

Jason Glowacki,

Reopen the Fishery & Listen to the science!

Chair Chang and Board of Land and Natural Resources,

Joshua Valuvi - Listen to the science

Chair Chang and Board of Land and Natural Resources,

Listen to the science and reopen the fishery.

-Matthew Cantu

Chair Chang and Board of Land and Natural Resources,

Safe, sustainable opening of the fishery is possible. Listen to the studies. - Kyle McAfee

Chair Chang and Board of Land and Natural Resources,

Listen to the science

Re-open AQ Fishery!!!

- Rozlie DeDios

Chair Chang and Board of Land and Natural Resources,

Listen to the science and reopen the fishery. - Matt Huisenga

Chair Chang and Board of Land and Natural Resources,

Listen to the Science, reopen the fishery

-T. Dimalpalan

Chair Chang and Board of Land and Natural Resources,

Please re-open the very obviously sustainable fishery

- Nicholas Juarez

Chair Chang and Board of Land and Natural Resources,

Please listen to the science and re-open the fishery.

Alex Castillo

Chair Chang and Board of Land and Natural Resources,

Hello, please support reopening the Hawaii fisheries. Legislation should be in place to support local wildlife and businesses.

Sincerely,

Trevor Bellefeaille

Chair Chang and Board of Land and Natural Resources,

reopen the fishery

Luis Medina.

Chair Chang and Board of Land and Natural Resources,

I support the fishery. - Susie Kuy

I support the fishery - Juan Hurtado

Chair Chang and Board of Land and Natural Resources,

Stuart Millar

I Support the reopening of the Hawaiin aquarium fishery for all fish.

Chair Chang and Board of Land and Natural Resources,

I support the science. Please Reopen the Fishery.

Shawn Rodrigues

Chair Chang and Board of Land and Natural Resources,

I support the Seine and fishing

Rick Sanchez
Rick Sanchez

Chair Chang and Board of Land and Natural Resources,

We need this vital Resources to
Be here for generations to come
Let's All support those that do.

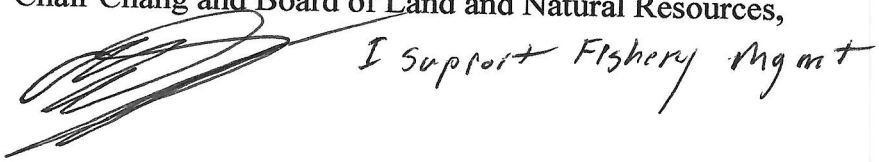
Woody

Chair Chang and Board of Land and Natural Resources,

Eric Franklin has, not only resided on the islands, but frequents them to appreciate their natural beauty. My appreciation began by encountering these animals on the mainland. The reopening of the Hawaii fisheries, sustainably and regulated, will give generations to come the ability to see these animals, in person, without travelling to the Hawaiian Islands. This exposure to animals is how we insure stewardship.

Best regards

Chair Chang and Board of Land and Natural Resources,



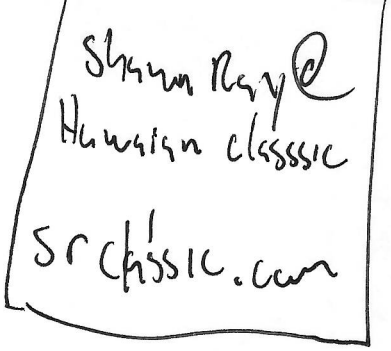
Chair Chang and Board of Land and Natural Resources,

Reopen the Hawaii Ocean Fishery! Please!

Chair Chang and Board of Land and Natural Resources,

I support the marine collection industry

Chair Chang and Board of Land and Natural Resources,



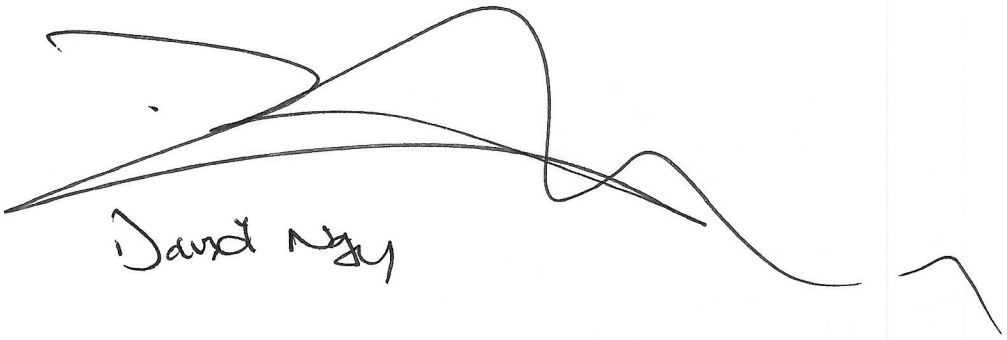
Chair Chang and Board of Land and Natural Resources,

I SUPPORT THE SCIENCE AND FACTS

-IRVING CHANG

Chair Chang and Board of Land and Natural Resources,

Please reopen for our aquarium industry



David Ng

Chair Chang and Board of Land and Natural Resources,

I Support the Save the Hawaiian Fishery

Andy Han

Chair Chang and Board of Land and Natural Resources,

Please open the fishery

for Seiuce.

Corbett W. Wright

Chair Chang and Board of Land and Natural Resources,

I support science based Fishery management.

Wendy Bauer

Chair Chang and Board of Land and Natural Resources,

I support the fishery and the science behind it.

Stephen Wong

Chair Chang and Board of Land and Natural Resources,

I support! Reopen it! - Alan Ruiz

Chair Chang and Board of Land and Natural Resources,

I support the fishery and want to see it back open.

John Barnett

Chair Chang and Board of Land and Natural Resources,

Please support fishery!

Ishai Thatcher

Chair Chang and Board of Land and Natural Resources,

I support science-based management Jose Olivo

Chair Chang and Board of Land and Natural Resources,

I support the science x Eiqi Sauer

Chair Chang and Board of Land and Natural Resources,

I support the aquarium fishery.

x

Adam Sauer

Chair Chang and Board of Land and Natural Resources,

I support the science behind reopening the Hawaiian Fishery.

DAVID MENKER David K. Menker

08/16/23

Chair Chang and Board of Land and Natural Resources,

I support reopening the AQ. I believe the science supports the sustainability of responsible fishing for the aquarium trade.

David Patronella

DAVID PATRONELLA
drdp5@yahoo.com

Chair Chang and Board of Land and Natural Resources

I support the fishery
Mike Alcaraz

Chair Chang and Board of Land and Natural Resources,

I support responsible reef collecting.

Nick DeKunghe

Chair Chang and Board of Land and Natural Resources,

I support the science

Shane Phillips

Chair Chang and Board of Land and Natural Resources,

I support the Science. (West Hawaii Aquarium Fishers).

Chair Chang and Board of Land and Natural Resources,

I Support the Industry Javier Gamboa

Chair Chang and Board of Land and Natural Resources,

I support the science + fishery. Leave Washington 2

Chair Chang and Board of Land and Natural Resources,

I support the science based fisheries allowed to collect live animals & fish in Hawaii. Protected areas of non fishing are important while it should be allowed sanctioned collection areas for fisheries. A Balance between collection & protection is reasonable and fair while science based monitoring of these areas is employed. Please allow monitored collection in Hawaii again, thank you,

David G. Gnaglianone.

Chair Chang and Board of Land and Natural Resources,

REOPEN THE FISHERY PLEASE CLARIAN CONTRERAS

Chair Chang and Board of Land and Natural Resources,

Listen to the science

Chair Chang and Board of Land and Natural Resources,

Nathan Remington save the fish

Chair Chang and Board of Land and Natural Resources,

In order to know more about our sea and what we live around we must have science to learn it

Chair Chang and Board of Land and Natural Resources,

Support the Science - STEVEN CONRAD

Chair Chang and Board of Land and Natural Resources,

I support the reopening of the fishery

-Jojo Garcia

Chair Chang and Board of Land and Natural Resources,

I support the science and the studies.

Please reopen the fisheries.

Nick Kaneao

Chair Chang and Board of Land and Natural Resources,

Randall Van Natta randallvannatta@yahoo.com

I support the fishery &

Chair Chang and Board of Land and Natural Resources,

To whom this may concern,

It would be greatly appreciated if the fishery would be open again From all the fact being stated and backed with evidence it looks to me like the fish population are back and thriving.

Daniel Cervantes

8/6/23

Chair Chang and Board of Land and Natural Resources,

I believe we should be focoring on science as a basis for making environmental decisions

Jose Rubio

Chair Chang and Board of Land and Natural Resources,

I support the Hawaii aquarium Fishery. Please Reopen importing/Exporting.

A. Ocampo

Adrian Ocampo

Chair Chang and Board of Land and Natural Resources,

I Support the Science! Sticks Corals - Cheryl Taylor

Cheryl Taylor

Chair Chang and Board of Land and Natural Resources,

I Support Opening the aquarium fishery

Chair Chang and Board of Land and Natural Resources,

I support Aquarium Fishery

Chair Chang and Board of Land and Natural Resources,

I support the Hawaii Aquarium fishery - Jerry Clements

Chair Chang and Board of Land and Natural Resources,

Re Open the West Hawaii Aquarium Fishery, Pls. [illegible]

Chair Chang and Board of Land and Natural Resources,

I support reopening the Aquacium Fishery

Andrew Schoeman

Chair Chang and Board of Land and Natural Resources,

I support the Hawaiian Aquarium Fishery.

Chair Chang and Board of Land and Natural Resources,

I support reopening the Hawai'i aquarium fishery

Chair Chang and Board of Land and Natural Resources,

I support science based fisheries, Coral export also to preserve genetic samples. Reopen!

John P. Puntich

Chair Chang and Board of Land and Natural Resources,

I support science based and well manged fisheries. Through proper monitoring and collaboration, an environmetally sound balance can be achieved. Both nature and economy can work together to support a long-term and sustainable practice. ~~We~~ Hawaii has an opportunity to be a global leader in ~~an ecological~~ a science based fishery practice. Through collaboration, black market practice can be eliminated and I am in support of a fishery management practice that benefits the environment and the economy.

Sincerely,

Dustlyre Beavers

Chair Chang and Board of Land and Natural Resources,

I SUPPORT REOPENING THE HAWAII AQUARIUM FISHER

BEN ROS

BENJAMINROS@GMAIL.COM

Chair Chang and Board of Land and Natural Resources,

I SUPPORT RE OPENING THE HAWAII AQUARIUM FISHERY

MARK ODRONZEA
HOUSEOFTROY45@GMAIL.

Chair Chang and Board of Land and Natural Resources,

Michael Fuentes — I support Aq

Chair Chang and Board of Land and Natural Resources,

I support reopening the Fishery

Ruth Hernandez

Ruth H

Chair Chang and Board of Land and Natural Resources,

I support the West Hawaii Aquarium Fishery!

Chair Chang and Board of Land and Natural Resources,

I SUPPORT THE WEST HAWAII AQUARIUM FISHERY

Chair Chang and Board of Land and Natural Resources,

I support the West Hawaii Aquarium Fishery

Chair Chang and Board of Land and Natural Resources,

I support the west Hawaii Aquarium Fishery.

Amarela Aguilar

Chair Chang and Board of Land and Natural Resources,

I support West Hawaii aquarium fishery

Rob [signature]

Chair Chang and Board of Land and Natural Resources,

Reopen the fishery in Nawiliwili Harbor

Chair Chang and Board of Land and Natural Resources,

RE-OPEN THE FISHERY!

Chair Chang and Board of Land and Natural Resources,

Reopening the Hawaii fisheries is extremely important! Listen to the science. The Hawaii fisheries are and have been very sustainable.

Sincerely,

Luke Smith

Chair Chang and Board of Land and Natural Resources,

Dear Mean People,

Please bring back my favorite fish the yellow Tang. I vow to clean up the beach quarterly if you allow permitting, we hope to see these fish back this year. Thank you for your works in assistance.

Patrick Lai

Chair Chang and Board of Land and Natural Resources,

SCIENCE SPEAKS FOR ITSELF

RE OPEN THE FISHERY!

Chair Chang and Board of Land and Natural Resources,

Support the reopening of fisheries.

Regen the fisheries in Hawaii!

Jake Sandefur

Chair Chang and Board of Land and Natural Resources,

Hello,

I absolutely support the West Hawaii aquarium fishery, because they employ a proven, science-based solution for saving the fish + reef.

Richard Sands

From: Diane Ware
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda item F-1 Oppose
Date: Thursday, August 22, 2024 11:08:49 AM

Dear Chair Chang and Board Members,

I am a long time resident of the Big Island, Moku o Ka'u, and learned to swim and snorkel on 'Oahu in 1956. I have experienced and noted the decline in reef fishes over the years since the AQ trade took off. I treasure the Hawaiian ecosystems, culture and history. I agree that the fishes are ohana not, as some mainland hobbyists and businesses refer to them, as "inventory".

Continuing the collection and trade of our reef fishes is a perpetuation of colonial Discoverer's Doctrine of extraction of resources for profit in this case for off island businesses at the expense of indigenous native Hawaiian culture. I have supported not just listening to Hawaiian voices as touted in the EIS process for commercial AQ collection, but actually stopping the take, take, take and creating the community management zones which has begun on West Hawai'i (Miloli'i and Ka'upulehu).

Reparations as is being discussed in California needs to be considered here in every 'aina, wai and kai decision as well as Article XII in the Constitution.

I urge you to stop the steal and start giving back the natural abundance Hawaiian ancestors managed in a pono way. Only take what you can eat, and don't waste the resources. I urge you to act in the best interest of the Public Trust Doctrine for all Hawai'i residents who have demonstrated they want to end the practice of extraction.

For these reasons I oppose F-1 which would delegate the power of AQ permitting to the chair of DAR/DLNR rather than the full board (BLNR).

We cannot allow the process of lawmaking to go back to the old ways that centered power in the hands of a few, for the benefit of monied special interests; the people must rise and demand true representational democracy that ensures all voices are heard and counted, and the laws that are enacted to serve the People of Hawai'i and future generations.

I urge you, the board which voted unanimously on 12/8/24 to begin rule making involving the local communities, to require DAR to take such action rather than delay and disrupt that action.

Mahalo for this opportunity to make comment and support Hawaiians and their traditional practices that proved sustainable for many generations.

Diane Ware
808-967-8642
P. O. Box 698
99-7815 Kapoha

Volcano HI 96785

From: Frederick R Warshauer
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] August 23; Agenda Item F.1
Date: Thursday, August 22, 2024 8:30:33 AM

Aloha Chair and Members of the Board of Land and Natural Resources,

My name is Rick Warshauer, from Volcano on the Big Island. I write to implore you NOT to delegate authority and oversight over the collection and sale of reef wildlife for the pet aquarium trade to the DLNR Chair, but to retain direct involvement and decision making.

I also ask you to direct the DAR to enact a rule to prohibit permanently the collection and sale of reef wildlife for the pet aquarium trade. Please do it today—no more studies, no more mitigation measures, no more ignoring this addressable and major issue that is among others that threaten the health and abundance of our declining reef life. You cannot act to reduce ocean water warming, you cannot act to eliminate pollutants to reefs that are regulated by other agencies, you cannot act to readily eliminate harmful invasive reef species, but you can, as many here request, act to end the mining of our reefs and near shore water of its wildlife for the pet aquarium trade. Please begin the process today.

I have been swimming and fishing the reefs of these islands for nearly seventy years, enjoying the beauty, bounty and diversity of its nature. I fish, dive and paddle with respect and appreciation, like most residents. Not all have been respectful over the years, as greed and wantonness are no strangers to our species, and those behaviors should be controlled. When I was a kid, those who dynamited and cloroxed the reef to take a few fish to sell were reported by the public to the game wardens after it became illegal, and it ended these adverse impacts and benefitted all. You are today in a position to do the same for the reef portion of our natural resources. Please ban the commercial take of reef life for the pet trade.

Since the mid to late 1970's I have watched the diversity and quality of reef life diminish sharply due to the growing impacts of the aquarium collecting trade. This exploitation expanded to leave O'ahu's reefs a shadow of what they once were; then it spread to the once-bountiful resources of the neighbor islands, with similar consequences. The various species of angel fish, butterfly fish and tangs that I used to enjoy seeing are gone from view and are at risk of regional extirpation. Temporary closures and prohibited take zones have demonstrated the rapid positive effects of excluding the aquarium trade, but these require careful monitoring by overworked staff to reduce continued take by the brazen scofflaws.

A full prohibition and public reporting is what is required. The public is engaged and

widespread on Hawaii reefs, and DOCARE should be able to act directly from the public-provided reports and videos, saving time for other DOCARE duties. Currently there is no authorized commercial collecting, only outlaw activities, indicating thatany commercial reef life collecting and sales to be illegal. To allow any exceptions would necessitate far more tome for investigations, complicating enforcement.

You are the administrative stewards of our islands' natural resources. Please give your staff the directive and administrative tools to do the job. I want to see the angel fish again before I die.

From: L Watanabe
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 support.
Date: Wednesday, August 21, 2024 8:10:20 PM

To BLNR,

I support the opening of an aquarium fishery and managing resources by science provided by DAR.

Thank you,
Lindsey Watanabe

From:	Dana Wenzel
To:	DLNR.BLNR.Testimony
Subject:	[EXTERNAL] F-1 OPPOSE Terms & Conditions to Issue AQ Permits & OPPOSE Delegating Authority to Department Chair
Date:	Wednesday, August 21, 2024 9:14:05 PM

Aloha,

My name is Dana Wenzel of Kailua Kona. For both of my jobs, it is my duty to educate the public about the coral reefs and marine life here in Kailua Kona.

I OPPOSE issuing commercial aquarium permits in West Hawai‘i and I OPPOSE delegating authority to the Department Chair.

Regarding Terms & Conditions to Issue West Hawai‘i AQ permits, I request you reject DAR's AQ Terms and Conditions and deny any and all permits. As we already know coral reefs are in jeopardy around the world. If we allow or reef fish to be taken, it endangers them even more. Having worked in the aquarium department at Petco, I can attest to the difficulty of caring for and keeping these wild animals alive. Most people who purchase them really do not have a clear understanding of what is needed to keep these wild beings alive. Not to mention how many are lost during transportation. It will be a.money maker for the ones selling the fish because when the fish die shortly after they are in their new "home", another will have to be purchased. All for the sake of our human amusement.

Regarding Delegating Authority to Issue AQ Permits to the Department Chair, do not delegate authority to the Department Chair. Retain the discretionary authority with the Board who will continue to utilize their diverse island communities, specialize knowledge, and expertise to weigh in and make informed decisions together.

Mahalo for this opportunity,
Dana Wenzel

Aloha
Dana Wenzel
303-229-8775
Ocean Orators Photography

MISSION STATEMENT OF THE WEST HAWAII FISHERY COUNCIL
To effectively manage fishery activities to ensure sustainability; enhance nearshore resources; develop and implement management plans for minimizing resource depletion and conflicts of use; per legislative mandate to the Department of Land and Natural Resources to provide for substantive involvement of the community in resource management decisions; and encourage scientific research and monitoring of the nearshore resources and environment from Upolu Point to Ka Lae.

19 August, 2024

Chairperson and Members of the Board of Land and Natural Resources
1151 Punchbowl St. Room 132
Honolulu, Hawai'i 96813

Subject: WHFC opposition of Item F1 relating to aquarium fisheries

Aloha Chair Chang and Members of the Hawaii State Board of Land and Natural Resources.

The following testimony is submitted on behalf of the West Hawaii Fisheries Council (WHFC) in opposition to BLNR Agenda Item F1 and in general opposition to the issuance of Aquarium Fish Collection permits within the West Hawaii Regional Fishery Management Area (WHRFMA) in perpetuity. The WHFC specifically recommends that the BLNR: 1) deny the request to approve the Application Form and Terms and Conditions for the State of Hawai'i Aquarium Fish Permit Pursuant to Hawaii Revised Statutes Section 188-31, 2) deny the request to approve the Terms and Conditions for the West Hawai'i Aquarium Permit Pursuant to Hawaii Administrative Rules Section 13-60.4-7, 3) deny the request to delegate authority to the Chair to approve, sign, and issue permits allowing for aquarium collection in the WHRFMA, as this removes the decision from the context of a public BLNR meeting and thus undermines the intended collaborative approach to management of the WHRFMA by excluding communities from the opportunity to provide input on permits.

The **West Hawai'i Fishery Management Area was** established by the **Hawaii State Legislature** in **1998** under **Act 306**. The Act provided for "substantive" community input in management decisions, which was particularly noteworthy and has been described as "revolutionary". To accomplish the goals and tasks of the legislation, the WHFC was formed collaboratively by the West Hawai'i community and the DLNR to serve as an advisory body and primary source for formulating and recommending West Hawai'i management actions to DLNR. Its mission statement is *"To provide for substantive involvement of the community in resource management decisions; encourage scientific research and monitoring of the nearshore resources and environment from Upolu Point to Ka Lae; to work toward and advise about the resolution of conflicts of use and the enhancement of nearshore resources; and to assist in the development and implementation of management plans for minimizing resource depletion; per legislative mandate to the Department of Land and Natural Resources."*

The WHFC is currently comprised of 14 Council members who meet monthly and represent different ocean constituencies from Kohala to South Kona. The WHFC receives no funding from the Department of Land and Natural Resources (DLNR), and representatives from the Division of Aquatics (DAR), Division of Boating and Ocean Recreation (DOBOR) and Division of Conservation and Resource Enforcement (DOCARE) serve as an ex-officio members to attend meetings and share information. In its report to the 2020 Legislature the Department of Land and Natural Resources Division of Aquatic Resources stated that "Based on two decades of experience, the West Hawaii Fishery Council (WHFC) has been a model system for the resolution of issues surrounding reef

fisheries resources". Act 306 passed in 1998 as a direct result of community intervention after decades of government decision and rulemaking based on an error in judgment regarding Aquarium Fish Collecting in Hawaii.

The quote below is taken directly from **The Journal of the House of Representatives of the 27^{tho} Legislature Territory of Hawaii Regular Session 1953**.

SCRep. 586 Agriculture on H.B. No. 504
The purpose of this bill is to permit the use of fine mesh nets and traps for the taking of aquarium fish in the sea. Under the provisions of this bill the Board of Commissioners of Agriculture and Forestry may issue to qualified applicant's aquarium fish permits which will allow such applicants to fish for and capture small marine fishes by the use of fine mesh nets or traps. Such marine fishes must be maintained and sold alive and cannot be sold or used as food. Your Committee has been informed that a profitable industry for the sale of marine aquarium fish could be established in Hawaii if provisions were made whereby such fish could be taken in a legal manner. Some of these ornamental fishes have little or no value as food fish but will sell as much as $25.00 a specimen on the mainland market. This bill is designed to permit the establishment of such an aquarium fishing industry and provides safeguards so that the abuse of the privilege of using fine mesh nets can be prevented.
Your Committee recommends passage
of this bill.
Signed by all members of the Committee

The WHFC believes that neither the general public nor the DLNR would agree with the Legislative opinion of 1953 particularly given the current state of West Hawaii's nearshore resources. There is general agreement that Hawaii's reefs are under threat from many different factors including climate change, run off, tourism and fishing pressures. DLNR Communities are advocating for more community based resource management plans. The communities of Haena, Miloli'i and Kipahulu have been designated as Community Based Subsistence Areas. Other communities are in queue to submit their plans. DLNR has introduced the Holomua initiative to achieve a higher level of marine resource management across the State. In its proposal to recommend awarding Aquarium Fish Collecting permits, DAR asserts that AQ collection in West Hawaii is sustainable. In making its decision on whether to accept the proposal the Board of Land and Natural Resources (BLNR) must consider all arguments for and against the proposal. **In making its decision the WHFC urges the BLNR to move forward, beyond trying to find a balance between the health and future of our natural resources and commercial profits on the grounds that:**

- Aquarium Fish Collecting is not centric to West Hawaii's needs and does not meet the needs of the West Hawaii's fishing communities and/or those who depend on reef fish for subsistence. The practice at its core conflicts with community norms and only serves to prolong user conflicts.
- Aquarium Fish Collecting supplies out of State markets. The WHFC strongly urges the DLNR to consider when permitting the extraction of trust resources whether that is the type of enterprise which should be given special status and/or priority over and above that of the community.

Rejecting the proposal would be precedent setting. In arriving at its recommendation to oppose the proposal, the WHFC may also be setting precedent for being at odds with its own record of having supported a compromise in 1998 that allowed for the continuance of AQ collecting in exchange for the establishment of Fish Replenishment Areas (FRA). This change in position is further explained below.

When the WHFC was established in 1998 the DLNR had not as yet recognized its responsibilities under Article 12, Section 7 of the Hawaii State Constitution regarding native Hawaiian gathering rights. The Hawaii State Supreme Court in its ruling of 2000 in the Ka Paʻakai O Ka ʻĀina vs Land Use Commission case ruled that all State agencies shall consider native Hawaiian gathering rights in decision making. Indeed traditional food fish are still included for AQ collection (Kole, Maʻiʻi, and Umaumalei). The communities who first stepped forward in 1994 to protest AQ collection in their communities were all Hawaiian communities. Other organizations played important roles as well and representatives of the Hawaiian communities continue to serve as WHFC members, one generation to the next. Although ACT 306 did not define “substantive” community input as coming from Hawaiian communities the WHFC continues to accept “substantive” input from them. The WHFC urges the DLNR to more fully meet its obligation for conducting a Ka Paʻa Kai analysis; the current analysis relies on only two general community meetings conducted during an EIS and does not involve comprehensive engagement specifically with Native Hawaiian communities across West Hawai’i. In addition, other stakeholder groups represented on the council, including the dive tour industry and some local commercial fishers are opposed to the issuance of aquarium permits on the grounds that the use of fish as ornamentals is less important than their value as food fish or as wild species appreciated and valued by tourists and locals alike in West Hawai’i.

In summary, the WHFC urges the Board of Land and Natural Resources to be forward facing in their decision making on this and all matters regarding the West Hawaii Regional Fishery Management Area.
The WHFC joins with the DLNR in meeting their goals for the WHRFMA and the communities they serve. To proceed with approving the terms without a thorough Ka Pa’a Kai analysis and without collaborative engagement on development of the terms with the communities affected violates the collaborative spirit of WHRFMA management and does not adequately account for the diverse West Hawai’i communities’ concern that aquarium collection does not contribute to the public interest of our region. Mahalo for this opportunity to provide testimony opposing DARʻs proposal to approve terms for issuing Aquarium Fish Collecting permits across Hawai’i and within the West Hawaii Regional Fishery Management Area.

Sincerely,

Christopher Funada Nathan Tsao

Chris Funada & Nathan Tsao
Chairpersons, on behalf of the West Hawai’i Fishery Council

Signature: Christopher Funada
Christopher Funada (Aug 21, 2024 12:01 HST)
Email: funada@hawaii.edu

Signature:
Nathan Tsao (Aug 21, 2024 19:51 HST)
Email: kona.oysters@gmail.com

From: adam white
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1 support
Date: Thursday, August 22, 2024 6:08:04 AM

I support opening the aquarium fishery and managing resources by science provided by DAR.

From: Mariko Whitenack
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] August 23; Agenda Item F.1
Date: Wednesday, August 21, 2024 10:14:11 PM

Aloha mai kākou!

My name is Mariko Whitenack and I am a resident of Kalihi, Kona on Oʻahu. Although I have only lived on Oʻahu for one year, I have been humbled to have the privilege to participate in the restoration of loko iʻa through the cultural practice of uhau humu pōhaku. Guided by my kumu, through these experiences I have come to understand iʻa as ancestors to the people of this place. Reef fish belong in their homes on the reef; they fulfill important roles and relationships with all the other beings who dwell there, keeping our coastal ecosystems healthy. For these reasons, I urge you NOT to issue any AQ permits. Furthermore, I strongly believe the power to decide whether or not to issue AQ permits should remain with BLNR, not simply the Chair of DAR staff. Mahalo nui for this opportunity to submit testimony.

Me ke aloha,
Mariko Whitenack

Hui Aloha Kīholo
Our mission is to protect, perpetuate and enhance the cultural and natural landscape of the Kīholo Bay area through collaborative management and active community stewardship.

Chairperson and Members
Board of Land and Natural Resources
1151 Punchbowl St. Room 132
Honolulu, Hawai‘i 96813

23 August 2024

Subject: Opposition to agenda item F-1 to advance permits for commercial aquarium collection in west Hawai‘i.

Aloha Chairperson Chang and Members:

Hui Aloha Kīholo respectfully opposes agenda item F-1 to approve the application form and terms and conditions for the state of Hawai‘i aquarium fish permit; approve terms and conditions for a west Hawai‘i permit; delegate authority to the Chair to approve, sign, and issue west Hawai‘i aquarium permits, and issue state of Hawai‘i aquarium fish permits to applicants for collection within the West Hawai‘i Regional Fishery Management Area (WHRFMA).

We oppose opening this commercial fishery in west Hawai‘i before it is permitted elsewhere in Hawai‘i, and do not understand the intent of this geographic precedent given the contentious history of commercial aquarium collection and the unresolved conflicts that linger in many of our communities in this region.

As to the merits of the proposal, we contend that the proposed terms and conditions are inadequate without additional requirements prohibiting any benthic habitat damage from fishing methods or fishing gear, prohibiting nighttime fishing, prohibiting holding fish at sea overnight, removing endemic species[1] from the “white list,” increasing fines for non-compliance, ensuring benthic habitat monitoring, establishing a permit fee structure sufficient to fund the additional enforcement and data analysis necessary for sound fishery management, requiring consultation with and consent from fishers and practitioners with lineal ties to harvest areas prior to engaging in fishing activities, determining an adaptive species abundance trigger to close the fishery when coral habitat or fish population level impacts occur, and geographically prohibiting the harvest of species with genealogical, spiritual, or ceremonial ties to lineal families in opposition to the proposed action as identified by the Cultural Impact Assessment (CIA) and additional consultation. After provisions that are respectful of public trust resources and responsible fishing practices are in place, we look forward to participating in consultation prior to any fishing in the waters of Pu‘uanahulu and Pu‘wa‘awa‘a ahupua‘a and are happy to make connections to other engaged communities in these storied lands of west Hawai‘i.

On behalf of the people of place, based on a preponderance of traditional ecological evidence of coral habitat and cultural harm caused by commercial aquarium collecting here, we believe there is ample evidence to inform our opposition to the proposed actions.

Since our formation in 2007, Hui Aloha Kīholo has diligently partnered with State Parks to steward the public lands and waters of Kīholo Bay. Through our curatorship agreement, we manage camping, maintain facilities, and lead education and conservation actions within the Kīholo State Park Wilderness Reserve which extends from Waikoloa to Ka‘ūpūlehu. We work hard to ensure a

[1] Lau‘ipala, *Zebrasoma flavescens*; Potter’s angelfish, *Centropyge potteri;* Yellow-eye kole, *Ctenochaetus strigosus*

safe place for our community to camp, recreate, and engage in cultural practice. Fishing is in Kīholo's DNA, and we partner with the Department of Land and Natural Resources (DLNR) through the Makai Watch program to ensure our community is engaged and knowledgeable about fishing rules and best practices. When we fish for the table and to give to ʻohana, we follow lawaiʻa pono (responsible fishing) practices based on the traditions and knowledge of Kīholo lawaiʻa. Our staff talk story with fishing community members every day – we listen, we share, and we learn. We value fishing observations as important data to inform our actions. We also value institutional science. With support from partners, we have led creel surveys, invasive fish removal events, habitat enhancement efforts, and monitoring important food fish populations. We continue to support water quality, coral health, intertidal species, and fish research.

Our organization is deeply rooted in the traditions of Puʻuwaʻawaʻa ahupuaʻa and guided by the invaluable knowledge passed down through generations through the families with ancestral ties to the Kīholo. In academic circles, tacit and explicit knowledge from 50+ years ago is akin to "Traditional Ecological Knowledge," or TEK. More recent observational ecological knowledge constitutes EK and we refer to both evidentiary datasets as ʻike.

The profound connection to the land and sea confers a continuous responsibility to mālama lands and waters.

As stewards of this long history of careful observation, we respectfully ask two questions and share our perspective based on ʻike.

1. **How was the multi-generational observational data of coastal community members, or ʻike, incorporated into ecological and cultural risk determination?**

The Revised Final Environmental Impact Statement (RFEIS) states that risk evaluation must consider ecosystem impacts and mitigation. From the submittal to BLNR page 5:

> "2) Do the data examined suggest that the proposed take will result in impacts to the ecosystem that would result in *measurable declines in ecosystem health* or the ability *of the ecosystem to sustain itself?*
>
> 3) Do current management measures mitigate potential negative effects of the fishery or provide safeguards against unforeseen changes?*"* (*emphasis added*)

We contend that the data examined to date are inadequate to determine ecosystem impacts at Kīholo, and that better data are readily available. ʻIke from kūpuna, lawaiʻa, kamaʻāina, and experienced divers held in west Hawaiʻi communities is vital to fill in aquarium fishing data gaps. Our community has observed *declines in ecosystem health* through coral reef habitat damage by commercial divers engaged in aquarium fishing.

Our observations begin with habitat and fish and extend to fishing. In the Kīholo Bay area, the species proposed for permitted collection are generally collected from live coral habitat at depths of 5-30m. At Kīholo, as in much of west Hawaiʻi, prime coral habitat is dominated by fragile fields of finger coral (*Porites compressa*). Potter's angelfish (*Centropyge potteri*) reside in finger coral or other complex coral forms, and by virtue of their size, can be targeted at any life stage. Four of the species proposed for collection - lauʻipala (*Zebrasoma flavescens,* or Yellow Tang), yellow-eye and black/king kole (*Ctenochaetus strigosus* and *hawaiiensis*), and umaumalei (*Naso literatus*

or orange-spine unicornfish) recruit preferentially to finger coral reefs and mature in the shelter of these complex habitats before moving into other areas. All four are primarily targeted in their initial life phase in finger coral - they grow too large for the primary market before they aggregate in other marine habitats. They hide and do not easily emerge when disturbed. These behaviors are vital to understand when evaluating ecological harm in fragile coral reef habitats.

Kūpuna TEK informs us that, beginning in the 1960's, chemicals were used to flush target species from complex reef habitat for commercial sale in the consumptive and aquarium markets. Some toxicants, such as bleach, damaged habitat. Others, such as rotenone, targeted reef fish and invertebrates, leaving habitat intact. Either way, fish mortality was elevated from current methods.

Around fifty years ago, some financially motivated collectors adopted tools such as crowbars to break, dismantle, and ultimately destroy living coral reefs, creating rubble fields in their haste to force fish from coral shelter. Every single fisher using these methods left lasting impacts. At Kīholo, the once vibrant reef at Nawaikulua has yet to recover from these destructive fishing practices. This reef is in an area with zero development, relatively little other fishing, clean water, and good currents. Yet anyone can go diving there today and see firsthand the impact of destructive aquarium fishing.

In addition to intentional damage, our community has observed disrespect such as as pulverized swaths of coral from collector's anchors and chains for over 40 years. Community members also observe illegal fishing at night and poaching inside the Kīholo Fishery Management Area. Bad actors aside, even relatively conscientious collectors cannot help but damage coral when deploying barricade nets and driving fish into them or when "tickling" shy species like Potter's Angelfish in fragile finger coral habitat. Broken finger coral acts like a hammer, moved by surge to impact intact colonies and cause them to break at the base. Once the base is broken, the coral "fingers" fall off, roll around, and die, creating rubble.

Once a finger coral reef turns to rubble, most of the desirable fish depart and the physical motion of the coral rubble reduces the ability of new corals to recruit, become established, and grow. It is a chain reaction that impacts *ecosystem health* and *the ability of the reef ecosystem to sustain itself.*

These destructive practices occurred out of sight of most and beyond the scope of scientific surveys, but our community sees the impact firsthand and can show others who do not. To those who would dismiss this experiential data to rely only on the institutional studies referenced in the proposal, we contend *TEK is the best available data for the Kīholo Bay area* because:

- No studies have been designed and conducted to test coral habitat damage associated with aquarium fishing
- The West Hawai'i Aquarium Project (WHAP), designed for fish, is unable to detect any fishing-related coral damage that occurs outside of the straight line between well marked pins with floats on the reef
- No WHAP site was established or surveyed at Kīholo Bay
- The post-bleaching surveys occurred during and after a hot water and coral mortality event resulting from a coastwide stressor of unprecedented severity 15 years after the WHRFMA was established

- 40+ years of live coral decline in multiple areas of west Hawai‘i, including at least one WHAP control site at Puakō, has been well documented and attributed to multiple factors including land use, climate change, and recreational damage.

This is not intended to criticize the important work of institutional scientists in monitoring the corals and fishes of west Hawai‘i, only to emphasize what these scientists already know about the imperfect utility of data for purposes other than that for which it was collected.

At Kīholo, we are fortunate to have such rich TEK to help fill in gaps beyond the scope of studies and research questions. In summary, until well designed and enforceable rules can prevent coral habitat damage, the risk of ecosystem impact that harms lawai‘a pono practice is too great for a resumption of the aquarium fishery at Kīholo.

2. How was the information in the DFEIS Cultural Impact Assessment (CIA) interpreted to adapt the proposed action so that it constitutes no significant impact on native Hawaiian practice?

Although most contributed statements were not reprinted in their entirety, the CIA document is a records ample ‘ike related to the aquarium fishery. As the CIA states, *the significance of cultural properties should be determined by the community that values them* – in this case the commercial fishers, teachers, former enforcement officers, aquaculturists, divers, and cultural practitioners with deep ties to place. From page 111-115, many of the place-based ‘ike holders of west Hawai‘i consulted for the report shared that commercial aquarium fishing is:

- Inconsistent with the reciprocal nature of sustainable Hawaiian fishing methods – “There’s no tending process only lawe i‘a” (taking fish).”
- Accountable for growing fish for commercial harvest - “…the aquarium industry should consider raising their own fish to supply its industry.”
- Responsible for an additional enforcement workload – “With the aquarium industry potentially adding to the workload, he recommended that aquarium industry should help to supplement DOCARE’s efforts so they can be productive in enforcing rules and regulations.”
- Responsible for benefitting public trust resources from which they derive financial gains – “She questioned what the aquarium fish industry’s contribution to the public trust, that includes the aquatic resources of Hawai‘i is.”
- Inconsistent with traditional fishing rights – “She strongly opposed the proposed issuance of commercial aquarium collection permits because this action is not aligned with the current efforts to restore physical and cultural aspects of the fisheries in West Hawai‘i.”
- Inconsistent with cultural relationship of fish as sustenance – “…aquarium collection is disrespectful to the fish and that when we capture fish without having the intent to consume them, then we lose the function of the fish.”
- Deserving of stronger penalties for violations – “She hopes that DLNR considers having more rigid fines and serious repercussions to those who violate the law.”
- Inappropriate for species unique to Hawai‘i – “…there should be no collection of fish for the aquarium industry outside of Hawai‘i, especially for any endemic fish…”

- Beneficial for local educational purposes – "…[DLNR] should allow established institutions in Hawai'i, those that show a perpetual responsibility for fish and food sustainability, the opportunity to responsible collect fish under a Special Activity Permit."
- Unaware of the kinship bonds shared by families who care for fish – "She stressed that familial bonds to our oceans must be considered as an important cultural tradition."
- Wasteful – "…there is so much death with aquarium collection and spoke of instances when bags of dead fish were found in Kona."
- Unnecessary – "'…why should people take our fish just for pleasure?' He emphasized that we should be encouraging people to come to the ocean and view our marine life first hand."
- Disrespectful – "Many stated that the practice of catching fish without intending to consume it goes against traditional belief and that this act is not *pono* (proper, morally fitting, beneficial)."

While other perspectives on the broad definition on Hawaiian Traditional and Customary Rights were shared, the input from the lineal descendants of the communities that will be directly impacted by the proposed action must be prioritized. This line the CIA summarizes a position consistent with the sharing of west Hawai'i community members, "They expressed that all fish are part of the public trust and that removing fish to supply a "lucrative" industry undermines traditional practices and beliefs associated with the ocean."

Some specific concerns raised and not addressed by this action include:

- Requiring higher penalties for violations,
- Providing more resources for enforcement
- Punishing wasteful behavior,
- A giveback to public trust resources and communities with kinship connections to species proposed,
- Acknowledgement of the kinship connection between some families in west Hawai'i and some species on the list approved for harvest.
- Preferential protection of endemic wild species, found only in Hawaiian waters
- Exclusion of prime sustenance fish species
- Exclusion of fish associated with significant life events and ceremonies

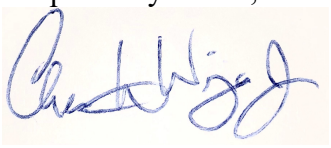
To the extent impacts are known as in the many examples included in this letter, the current management measures **do not** *mitigate potential negative impacts of the fishery or provide safeguards against unforeseen changes*.

Instead of regarding the feedback of the holders of TEK in Kīholo and west Hawai'i as a freely offered opportunity for further consultation and additional management measures, this proposal seeks to proceed without proper mitigation for the harm it will inflict on the Kīholo community and our neighbors in west Hawai'i. This includes ecological, cultural, and social harm. The social harm is not speculative – it is based on years of frustration, confrontation, and conflict around this fishery in our region. This conflict is strengthened through a growing acknowledgement that 'ike and cultural practice specific to ahupua'a must be considered along with institutional science in making decisions that affect public trust resources.

We urge the Department of Land and Natural Resources (DLNR) to reconsider this proposal and request meaningful consultation with Hui Aloha Kīholo and the Kīholo community prior to permitting new extractive commercial activity in the waters between Waikoloa and Kalaemanō. A more respectful and inclusive process will not only honor Hawai‘i’s cultural heritage, it will strengthen the long-term health and vitality of our oceans and coastal communities.

Thank you for considering the lessons learned through our experience. We look forward to working together to find a solution that respects Kīholo traditions and honors the public trust.

Respectfully Yours,



Chad Wiggins
Executive Director

From:	Alayna Wiley
To:	DLNR.BLNR.Testimony
Subject:	[EXTERNAL] Oppose Commercial Aquarium Permits and Delegating Authority to the Department Chair
Date:	Wednesday, August 21, 2024 5:49:37 PM

I OPPOSE issuing commercial aquarium permits in West Hawai‘i and I OPPOSE delegating authority to the Department Chair.

Alayna Wiley
96740

Sent from my iPhone

From: william mae-huihui
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Testimony item F-1 (08/23/24)
Date: Thursday, August 22, 2024 9:17:03 AM

State of Hawai‘i
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Aquatic Resources
Honolulu, Hawai‘i 96813

Board of Land and Natural Resources
State of Hawai‘i
Honolulu, Hawai‘i

August 23, 2024
Agenda item F-1

Aloha Chairwoman and Board of Land and Natural Resources,

My name is William Ma’e-Huihui and I am speaking as a representative of Miloli’i Makai Watch. We do **Not** support item F-1.

As a community rich in diversity and culture the understanding of managing and maintaining our ocean resources is priority and having known AQ divers we do our best to be vigilant in our Community Based Subsistence Fishing Area. Although our waters are safe we also want our ohana to have abundant waters as well.

We do no support item F-1

Mahalo for your time and patience have a blessed day.

William Ma’e-Huihui
Miloli’i Makai Watch Coordinador

From: Paul Williams
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda item F1 support
Date: Thursday, August 22, 2024 3:06:13 PM

I strongly support reopening the aquarium fishery as supported by our own scientific community, It will contribute to the diversity of our economy here in Hawaii. Paul S. Williams

From: Rich Wilson
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Please NO aquarium collecting in West Hawaii
Date: Thursday, August 22, 2024 6:28:19 AM

Hello,

I am writing to voice my opposition to the prospect of again opening up West Hawaii to aquarium collecting. I am a resident up near Kawaihae and it concerns me deeply that we may open up again to a trade that in the past has shown disregard for Hawaii's reefs.

A few key points to consider:

As the state knows well, our reefs are in serious trouble in West Hawaii. DAR has itself documented significant declines in fish abundance over the last twenty years. I think of the study that came out about the Puako Reef around 2010. It was bad news. And things have only gotten worse in recent years, particularly since the bleaching event of 2015.

At the same time, we know from science that increasing fish abundance will not only benefit reef health but also ensure that our reefs continue to be a source of food for the local population.

We live on a rapidly warming planet, and coral reefs, including here in West Hawaii, may disappear in our lifetime. It makes no sense to open up this trade again given the declining state of these precious ocean resources.

I kindly request that the Board reject a re-opening of the aquarium trade in Hawaii. Furthermore, I believe the Board, and not DAR, should make the major decisions on the aquarium trade. Please say no.

Thank you for considering this request.

Richard Wilson

From: Robert Wintner
To: DLNR.BLNR.Testimony
Cc: Sylvia Luke; Jim Simon
Subject: [EXTERNAL] F.1 Division of Aquatic Resources, 8/23/2024
Date: Thursday, August 22, 2024 8:44:34 AM

BLNR rule breaking

F.1 Division of Aquatic Resources

DAR is a department, not a division. DAR is not a rule maker or rule breaker. DLNR Executive Director is BLNR chair, and both positions have a history of undermining Hawaii Supreme Court ruling and Hawaii people's will, that aquarium collecting not continue. DAR/DLNR also have conflict of interest history and scofflaw efforts to support aquarium collecting in Hawaii.

Hawaii reef habitat and wildlife are not political pawns. DAR cannot rule via Ms. Chang, that exotic dancers dressed as mermaids will pole dance in public schools for the betterment of all.

That would be illegal and immoral, even with party favors and lap dances. Illegality is not allowed in any Hawaii division or department, even when citing an irrelevant statute. Legality and morality still hold in Hawaii, theoretically.

BLNR members are presumed innocent until proven guilty. Who would serve on a Board that sanctions commercial extraction of reef wildlife and damaging reef habitat? People of Hawaii would not, nor will they stand for another DAR tour de force.

In 2014, former Rep Josh Green (Kona) introduced a bill to end the aquarium trade. Five reef advocates drafted that

bill and got copies in Green's office. Nobody noticed that the bill had been hammered to irrelevance on light buoys, channel rights of way etc.

Kona DAR head Bill Walsh got Green to trash the language and then tagged it "The Frankenstein Bill."

I called Rep Green in that sad hour. "Josh. What the fut?"

Rep Green replied, "That's it. You want it or not?"

That ended Rep Green's reef advocacy. Any man can follow his heart or ambition, but no man can allow illegal reef wildlife extraction and reef habitat damage in Hawaii.

At least he shouldn't be able to.

Robert Wintner,
Snorkel Bob's Hawaii

Chair Chang and Board of Land and Natural Resources,

I support item F1.

Everyone says we have to listen to the science but, when it contradicts our opinion, we say that it does not matter. The science clearly shows that this industry is sustainable that is what we should be listening to.

Please vote yes on this issue.

Thank You,
Kristi Woodham,
Kailua Kona

Chair Chang and Board of Land and Natural Resources,

I support item F1.

The aquarium industry is the most regulated fishery in Hawaii. Extensive studies over the last 20+ years, clearly show that the industry is not causing any depletion of the resource. The fish counts are higher now then they were in 2000.

Please vote yes on this issue.

Thank You,
Mike Woods

Introduction

In 1996, Congress amended the Safe Drinking Water Act. It added a provision requiring that all community water systems deliver to their customers a brief annual water quality report. In September 2015, the State Department of Health determined that the Moloaa water system, operated by the Moloaa Water Company, was a public water system. The purpose of this report is to advance consumers' understanding of drinking water and heighten awareness of the need to protect precious water resources. We are committed to providing you with information because informed customers are our best allies. The Moloaa Water Company (MWC) water system is owned by Jeffery Lindner and operated by Makai Water Services LLC.

Last year, MWC tested your water for microbial contaminants, volatiles, anions, lead and copper. We didn't detect any contaminants. This report is a snapshot of the quality of the water that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and State of Hawaii Department of Health (DOH) standards.

Where does my water come from?

The source of MWC's water is groundwater from Moloaa Well No. 1 (State Well No. 1020-02) owned by the State Department of Land and Natural Resources located in the foothills mauka of Kuhio Highway. Rain falls in the mountains above Moloaa and filters through the ground before entering the well. The water from the well is disinfected with chlorine and pumped into the distribution system to the surrounding areas. The water system serves approximately 64 persons through three service connections.

What kinds of contaminants are a concern to drinking water?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses or bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts or metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring.

Information about Lead and Copper

If present, elevated levels of lead and copper can cause serious health problems, especially for pregnant women and young children. Lead and copper in drinking water is primarily from materials and components associated with service lines and home plumbing. MWC is responsible for providing high quality drinking water and uses lead-free materials in the construction of its water system. However, MWC cannot control the variety of materials used in plumbing components for home construction. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for thirty seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the EPA's Safe Drinking Water Hotline at 1-800-426-4791, or online at http://www.epa.gov/safewater/lead. In the water quality section of this report there is a summary table of lead and copper data and information. Lead and copper were below concentrations requiring action for every sample in 2021.

In order to be sure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Terms & Abbreviations Used Below:

Maximum Contaminant Level Goal:	(MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
Maximum Contaminant Level:	(MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
Action Level:	(AL) is the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
ppm or mg/L:	parts per million or milligrams per liter (corresponds to one penny in $10,000)
ppb or ug/L:	parts per billion or micrograms per liter (corresponds to one penny in $10,000,000)
pCi/l:	picoCuries per liter (a measure of radiation)

ND:	Not Detected
TT:	Treatment Technique
NA:	Not available or Not applicable

Moloaa Water Quality

In order to ensure that tap water provided by public and private water systems is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants which may be present in the water. Federal and State laws require testing of your water for many different types of contaminants, including those for which there are no drinking water standards (unregulated contaminants). In our effort to supply our customers with the safest possible product, MWC's water is disinfected and monitored daily. There have been no system violations nor any individual sampling deficiencies found in MWC's Coliform/Bacteriological monitoring programs.

The tables below list the contaminants that we are required to test for. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The state DOH requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. MWC recently collected water samples for analysis for the listed contaminants, no contaminants were detected.

Microbiological			
Total Coliform Bacteria	E.Coli Bacteria		
Radiological			
Gross Alpha	Gross Beta	Radium 228	Uranium

Inorganics			
Antimony	Cadmium	Fluoride	Nitrite (as Nitrogen)
Arsenic	Chromium	Lead	Selenium
Asbestos	Copper	Mercury	Sodium
Barium	Cyanide	Nitrate (as Nitrogen)	Sulfate
Beryllium		Nitrate-Nitrite	Thallium
Volatile Organics			
Benzene	1,1-Dichloroethylene	Styrene	1,2,3 Trichloropropane (TCP)
Carbon Tetrachloride	cis-1,2-Dichloroethylene	Tetrachloroethylene (PCE)	Toluene
Chlorobenzene	trans-1,2-Dichloroethylene	1,2,4-Trichlorobenzene	Vinyl Chloride
o-Dichlorobenzene	1,2-Dichloropropane (DCP)	1,1,1- Trichloroethane	m-Xylene
p-Dichlorobenzene	Dichloromethane	1,1,2-Trichloroethane	o-Xylene
1,2-Dichloroethane	Ethylbenzene	Trichloroethylene	p-Xylene
			x-Xylenes
Synthetic Organics			
2,4,5-TP	Arochlor 1254	Dibromochloropropane (DBCP)	Hexachlorobenzene
2,3,7,8-TCDD (Dioxin)	Arochlor 1260	Dieldrin	Hexachlorocyclopentadiene
2,4-D	Atrazine	Dinoseb	Lindane
Alachlor	Benzo(a)pyrene	Diquat	Methoxychlor
Aldrin	BHC-Gamma-Lindane	Endothall	Metolachlor
Arochlor 1016	Butachlor	Endrin	Metribuzin
Arochlor 1221	Carbofuran	Ethylene Dibromide (EDB)	Oxamyl (Vydate)
Arochlor 1232	Chlordane	Glyphosate	Pentachlorophenol
Arochlor 1242	Dalapon	Heptachlor	Picloram
Arochlor 1248	Di(2-ethylhexyl) adipate	Heptachlor Epoxide	Propachlor
	Di(2-ethylhexyl)phthalate		Simazine
			Toxaphene

Disinfection By-Products
Haloacetic Acids (Dibromoacetic acid, Dichloroacetic acid, Monobromoacetic acid, Monochloroacetic acid and Trichloroacetic Acid)
Total Trihalomethanes (Bromodichloromethance, Bromoform, Chloroform, and Dibromochloromethane)

UNREGULATED CONTAMINANTS	Butachlor	3-Hydroxycarbofuran	Metribuzin
Aldicarb	Carbaryl	Methiocarb	Nickel
Aldicarb sulfone	Dicamba	Methomyl	Propachlor
Aldicarb sulfoxide	Dieldrin	Metolachlor	Propoxur
Aldrin			Sulfate

Table 1. Lead and Copper Summary Table (2021)							
Contaminant	**AL**	**MCLG**	**Your Water***	**Range**	**# of Samples Exceeding AL**	**Violation**	**Typical Source**
Lead (ppb)	15	0	NO<2.5	ND-ND	0	NO	Corrosion of household plumbing and erosion of natural deposits
Copper (ppm)	1.3	1.3	NO <25	ND-0.05	0	NO	
*: It is the 90th Percentile Value. Tests were conducted in 2021							

Table 2. Inorganic Contaminants Summary Table (2020)

Contaminants	MCL	MCLG	Your Water	Range	Sample Date	Violation	Typical Source
Chromium (ppb)	100	100	2.17	NA	2020	No	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

Table 3. Microbiological Contaminants Summary Table (2023)

Microbiological Contaminants	Unit of measure	Your water	system wide range	MCL	MCLG	Typical source	Did the Compliance Meet?
E. Coli	N/A	1 positive	ND-1	0	0	Animal or human fecal waste	Yes

Although E. coli has been detected, they are not in violation of the E. coli MCL since the repeat samples were both TC negative and E. Coli negative.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other; potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely- compromised immune systems.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Drinking water, <u>including bottled water</u>, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that your water poses a health risk. More information about contaminants and potential health affects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

<u>Information on Violations of National Primary Drinking Water Rule (NPDWR)</u>

EPA's brochure, "Water on Tap", a consumer's guide to the nation's drinking water, provides answers to frequently asked questions and also stresses the need for all of us to be responsible for water quality and protecting the resource from potential contamination. The U.S. Environmental Protection Agency and the Hawaii State DOH encourages consumers to become involved citizens and participate in maintaining high quality drinking water. For more information on how to become more involved with water protection, call EPA's hotline at (800) 426-4791.

<u>Sanitary Survey for MWS</u>

Sanitary surveys are onsite review of the water source, facilities, equipment, operation and maintenance of a public water system for the purpose of evaluating the adequacy of such source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water. Sanitary surveys are conducted by the State DOH every three or five years. During a sanitary survey the State DOH identifies significant deficiencies that a water system must correct. On September 7, 2021, a sanitary survey inspection was conducted on the Moloaa water system. The following significant deficiencies were identified:

1- The cap at the wellhead is very rusted, to the point that it is difficult to determine if there are openings. Clean up rust. Reseal and repaint, as needed.

2- Install reduced pressure backflow protection at the new dairy fill station site near the tank. Note: fill hose should not be submerged into any tanker truck while filling.
3- DOH was unable to thoroughly inspect the tank at the time of the survey. Provide photos of the roof, and anywhere there are connections to the tank (overflow lines, influent line, and sensors) to ensure there are no openings. Provide photo verification of appearance and clarity of water inside the tank;
4- The old backflow preventer between the Moloaa Water System and the Moloaa Irrigation Cooperative Water System was not removed in 2021. It is scheduled to be removed in 2024.
5- Opening at end of the pipe should be capped.

Correction of Items1 and 5 was made and needs to be verified by DOH. Items 2 to 4 are schedule to be corrected in 2024. We will inform our customers the 2024's CCR until the state determines all of significant deficiencies are corrected.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly. You can do this by posting this notice in a public place or distributing copies as you choose.

If you have questions about your water system or water quality, please contact Jeffery Lindner, MWC Manager, at (808)822-0033.

MĀLAMA PŪPŪKEA-WAIMEA
PROTECTING OUR OCEAN'S RESOURCE

Mālama Pūpūkea-Waimea
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Federal Nonprofit Organization
501(c)(3) FEIN 27-0855937
www.pupukeawaimea.org

August 21, 2024

To: *Hawai'i Department of Land & Natural Resources Board of Land and Natural Resources*
1151 Punchbowl Street, Boardroom
Honolulu, Hawai'i 96813
Submitted via Email: BLNR.testimony@hawaii.gov

Re: **OPPOSE** *Agenda Item F-1: Request for Approval of the Application Form and Terms and Conditions for the State of Hawai'i Aquarium Fish Permit; Request for Approval of Terms and Conditions for the West Hawai'i Aquarium Permit; Request to Delegate Authority to the Chair to Approve, Sign, and Issue West Hawai'i Aquarium Permits and State of Hawai'i Aquarium Fish Permits authorizing limited commercial aquarium collection in the West Hawai'i Regional Fisher Management Area (WHRFMA) to Up to Seven Applicants That Meet Certain Criteria and Requirements*

Aloha Chair Chang and the Board of Land and Natural Resources,

Mālama Pūpūkea-Waimea (MPW) is the grassroots, community non-profit that actively works to care for, educate about, and protect our fragile, near-shore marine ecosystems. Our mission is "working to replenish and sustain the natural and cultural resources of the Pūpūkea and Waimea ahupua'a for present and future generations through active community stewardship, education, and partnerships."

Although the proposed action would not directly affect the Pūpūkea Marine Life Conservation District because collection is prohibited within the MLCD, MPW is concerned about the overall welfare and sustainability of Hawai'i's nearshore marine ecosystems and the future of coral reef ecosystems throughout the archipelago. With an increase in global warming and major coral bleaching events creating extreme stress on coral reef ecosystems across the world, it is counter-productive to allow the for-profit aquarium trade to take hundreds of thousands of valuable reef fish off of Hawai'i's fragile reefs to sell for entertainment.

DLNR has kuleana to manage marine resources for the benefit of the public trust. There is no cultural, sustenance, or ecological "need" to collect fish for display in private aquarium tanks. While there may be a justification to collect these species for educational purposes, for scientific research, or captive propagation - uses that MPW could support, if done sustainably and with proper analysis and regulation - that is not the core purpose of the proposed action, which is to re-open commercial licenses for collecting targeted fish for captive display in private tanks.

For these reasons, MPW **opposes** Agenda Item F-1and hopes that the Board will collectively, as representatives of all of our islands, chose the health of our reefs over the allowance of commercial aquarium take.

Mahalo for the opportunity to provide testimony,

Jenny Yagodich

Jenny Yagodich
Director of Educational Programs &
Makai Watch Coordinator

From: DENNIS YAMAGUCHI
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1
Date: Wednesday, August 21, 2024 10:46:58 PM

I support the approval of the application form and terms and conditions for the State of Hawai‘i Aquarium Fish Permit pursuant to Hawaii Revised Statutes Section 188-31;

I support approval of terms and conditions for the West Hawai‘i Aquarium Permit pursuant to Hawaii Administrative Rules Section 13- 60.4-7;

I support the request to delegate authority to the Chair to approve, sign, and issue West Hawai‘i Aquarium Permits and State of Hawai‘i Aquarium Fish Permits authorizing limited commercial aquarium collection in the West Hawai‘i Regional Fishery Management Area (WHRFMA) to up to seven applicants that meet certain criteria and requirement.

DENNIS YAMAGUCHI

From: Zink, David
To: DLNR.BLNR.Testimony
Subject: [EXTERNAL] Agenda Item F1
Date: Thursday, August 22, 2024 9:54:04 AM

I support opening the aquarium fishery and I support managing resources by science provided by DAR

Thanks,

David Zink | Enterprise System Administrator | GROWMARK, Inc. |
Ph: 309-557-6273 | dzink@growmark.com | <°)))))><