From:	S.A. Marek
To:	DLNR.BLNR.Testimony; CAPITOL2023-seninouye; CAPITOL2023-senrichards; CAPITOL2023-reptarnas
Subject:	[EXTERNAL] Testimony re: AQ collection of Hawaii's reef fish
Date:	Thursday, December 7, 2023 5:59:40 PM

Aloha
It's a colossal waste of my time to continue to write in on this issue. Do what is right. Or not.
Sherry A. Marek
Big Island resident

"Our priority should be to understand the fragile wonders of life on Earth and do our best to ensure that we do not damage the ecosystem even further."
-Matthew Cobb, zoologist, from the essay "Alone in the Universe: The Improbability of Alien Civilisations"

6 December 2023

Re: 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).

Submitted by: Dr. Gail Grabowsky
Dean, School of Natural Sciences & Mathematics
Executive Director, United Nations CIFAL Honolulu Training Center
Chaminade University

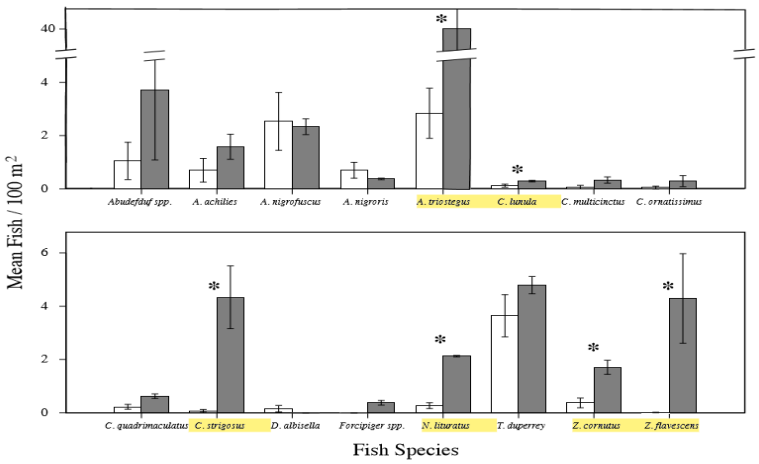
Aloha Chair Chang and Land Board Members,

I am testifying in strong support of the Petition to Prohibit the Take of Marine Life for Commercial Aquarium Purposes – with exemptions. As a scientist and educator of marine and environmental science, I have researched, read about and taught of the critical importance of healthy fish populatons and biodiversity for decades. This is *especially* true, as evidenced by a huge body of research, when it comes to herbivorous fish. In addition, since I often teach and speak through the lens of our ecological ethics, our relationship to nature and how that guides our treatment of it, I can explain why there is also a persuasive moral argument that can be made for the need to stop aquarium fish collection. I will elaborate a bit on both to make my case.

The scientific case against aquarium fish collection…
As you know, Coral reefs all over the world are extremely important resources to the people who live near them. They are crucial to the protection of coastlines, as providers of food, and, of course, seats of biodiversity and beauty. The economic and cultural value of Hawaii's *intact* reefs have been analyzed and celebrated. Most of the reef fish species collected for aquaria are herbivores. Algae left unchecked smothers coral. There is a long and growing understanding of how the loss of reef fish, especially herbivores, impacts reef health and in so doing diminishes these tangible benefits that a healthy reef provides (Hay 1981, 1985, Lewis & Wainwright 1985, Lewis 1986, Hixon 1996, McCook 1996, Hughs et al. 1999, Aronson and Precht 2000).

The ecological ethic case against aquarium fish collection…
While we would definitely make the ethical case that food fishing is critical to Hawaii's people and therefore must be managed for sustainable use, this is certainly not the case for the collection of fish for commercial sale for aquaria. They are strictly a want, and not a need. The cost of that want to the health of the reef and future generations is much greater than the small economic benefit to a few that is in fact *replaceable*. Many of the most collected aquarium species have now been successfully aquacultured. This includes includes five "world record" species that have recently been aquacultured for the first time here in Hawaii. When you realize that we are able to aquaculture aquarium fish and provide sustainable jobs and *eliminate* the cost to the reef and our well-being, the absurdity of continuing this practice becomes clear!

I have conducted research, shared at the Hawaii Conservation Conference, in which I and my students counted aquarium-collected fish species at 19 locations around Oahu including Hanauma Bay, which has been protected since 1967. We compared the numbers of fish at six sites deemed to have the same benthic profiles as Hanauma Bay (based on NOAA NCCOS National Center for Coastal Monitoring and Assessment Maps). Our findings, shown below, document that *the abundance of the five most collected aquarium fish species were diminished by 90% outside of Hanauma Bay*.



The species highlighted in yellow above are those showing statistically significant less fish in areas open to collection (white) than in Hanauma Bay (grey bars). The table below shows how they are the most collected fish according to Oahu's collection reports:

Collection Intensity and abundance on Oahu			Number of ornamentals reported collected from Oahu (1976-9, 1987-90, 2000-10)							
Species Name	**Common Name**	**Status "Collected" or "Non-Collected"**	**Waikiki Area 400 TOTALS**	**Pupukea Area 405 TOTALS**	**Makaha Area 403 TOTALS**	**Nanakuli Area 412 TOTALS**	**K-Bay Area 407 TOTALS**	**GRAND TOTALS**	**Collection Intensity RANK**	**Significant difference b/t open and Hanauma Bay?**
Acanthurus achilles	Achilles Tang	C	490	0	0	512	0	**1002**		NS
Chaetodon lunula	Raccoon Butterflyfish	C, NC	601	38	0	0	2263	**2902**		YES
Chaetodon multicinctus	Pebbled Butterflyfish	C	1152	0	2831	3160	28	**7171**		NS
Chaetodon quadrimaculatus	Four Spot Butterflyfish	C	226	5	3784	2174	401	**6590**		NS
Chaetondon ornatissimus	Ornate Butterflyfish	C	0	0	0	0	0	**0**		NS
Ctenochaetus strigosus	Goldring Surgeon	C	5228	556	7937	20220	2962	**36903**	**2**	YES
Dascyllus albisella	Domino damsel	C	327	14	210	406	809	**1766**		NS
Forcipiger spp.	Longnose Butterflyfish	C	3399	65	14207	9851	237	**27759**	**4**	NS (absent everywhere)
Naso lituratus	Orange Spine Unicornfish	C	5602	32	14608	10609	1027	**31878**	**3**	YES
Zanclus cornutus	Moorish Idol	C	4181	33	2558	1775	8175	**16722**	**5**	YES
Zebrasoma flavescens	Yellow Tang	C	14281	29	31559	26805	20021	**92695**	**1**	YES
Abudefduf abdominalis	Sergeant Major	NC	0	0	0	0	0	**0**		NS
Acanthurus nigrofuscus	Lavender Surgeon/Tang	NC	123	0	0	0	0	**123**		NS
Acanthurus nigroris	Blue Lined Surgeon	NC	0	0	0	0	0	**0**		NS
Acanthurus triostegus	Convict Tang	NC	0	0	0	0	986	**986**		YES***
Thalasoma duppery	Saddle Wrasse	C,NC	345	45	540	1855	0	**2785**		NS
									*** Also foodfish	

The fish highlighted in blue on the right are those that showed statistically significant differences in the graph above. *Based on the State of Hawaii's voluntary collection records, four of the species exhibiting significant declines at unprotected sites were also the most-collected ornamentals from Oahu*. Because three of these – *Z. flavescens, Z. cornutus,* and *C. lunula* – are not taken as food fish, it is likely that their decreased abundances at unprotected sites are due to the aquarium fishery. Such results are consistent with earlier investigations from other Hawaiian Islands that demonstrated collection impacts on aquarium fish abundances. For example, Williams and Walsh (2007) found that at Honaunau on the Big Island of Hawaii: "of the 20 most collected aquarium species, 18 declined in abundance ($p<0.001$) with the species facing the heaviest fishing pressure typically showing the greatest declines." My data, like these other larger studies, demonstrate the huge impact aquarium fish collection has on Hawaii's fish. *Can our reefs and our futures afford this unnecessary, replaceable practice!? Him*

December 8, 2023

Aloha Chair Chang and Members of the Board of Land and Natural Resources

We are Kaimi Kaupiko & Wilfred Kaupiko.

Both lineal decedent's of Milolii one of Hawaii's last fishing villages. Our kuleana as caretakers of this special place is to preserve the unique lifestyle and traditions for our future generations. My father has worked with the county, state and federal governments for over 3 decades to fight for our culture and practices of our fishing community. I have helped him since I was a young child. I am the current executive director of our nonprofit Kalanihale, who oversee sees the 18.6 mines of coastline front Milolii under the CBSFA. We have been on the forefront for many years to fight to make critical decisions that impact our coast line.

We are in CRISIS – many herbivore species are in huge decline, and, without them, our coral reefs are projected to begin dying within the next decade. I am answering the call for action and need your help.

For many years we have witness the destruction the pet industry has had on the western coast of Hawaii island. Living in Milolii we work hard to enact a lifelong tradition of sustainable fishing. We have seen many of our Ohana be used to collect and destroy the reefs off of Milolii. They use very harmful methods to extract fishes and many never survive the abusive process. Many of the collectors have come in Milolii and have illegally collected in no take zones, our complaints have gone on def ears. We continue to ask why? The answer there is not enough enforcement and Miolii to far for them to travel. We don't see good management of the industry and have worked tirelessly for over two decades to do what we can to keep the fishes on the reef. Milolii remains one of the last reminders to Hawaii of our kuleana to Malama what we have left. If we don't speak up and voice our concerns, we will see the continuation of what has been happening for decades the out of control take of these fishes for enjoyment of others. My Kupuna have fought, many are not here today. We stand in that space to be the voice and to carry that message. My father Wilfred Kaupiko has put his life mission to keep our fish on the reef. He continues to fish to this day. Our Ohana, our organization and community is asking the board to help us. We know that we can make a difference and see a return of the 'aina momona that our Kupuna over 100 years ago saw in waters. We also support

Herbivore species perform a critical function on our coral reefs that we, as humans, cannot be a substitute for. We need all reef species in abundance for more than just food, we need them in vast numbers to increase coral resilience to climate change impacts. The very survival of the ecosystem is dependent upon this.

Coral reefs are protective barriers to our nearshore and a crucial host in an ecosystem that generates photosynthesis, producing up to 70% of all oxygen. That is every other breath we take, no matter where we live. Culturally, we know how significant ko'a (coral) are – its foundation in the order of life of our marine ecosystems.

I am asking you to continue to uphold the Department of Land and Natural Resources policy code, Hierarchy of Uses Principle – preserving and protecting the cultural and natural resources as your highest priority. I urge the Board to approve the petition and direct the Division of Aquatic Resources to begin rulemaking to ban aquarium collection PERMANENTLY in Hawai'i.

Aquarium collection is not a cultural practice. What started over 5 decades ago has decimated populations of herbivores and weakened our critically important coral reefs.

Do not allow this exploitation and degradation of our cultural and natural resources to continue further. On December 8th, 2023, collectively you will be able to answer to the call for action – to preserve and protect our marine ecosystem and cultural landscape, making Hawai'i a global example of what culturally grounded and regenerative leadership looks like. Approve the petition before you to prohibit aquarium collection.

Mahalo,

Kaimi Kaupiko
Wilfred Kaupiko
Hawaii Island, Milolii Village
808-937-1310

November 3, 2023

MEETING OF THE BOARD OF LAND
AND NATURAL RESOURCES
Agenda Item F-3

November 9, 2023, 9:15 a.m.

DLNR Boardroom, Kalanimoku Building
1151 Punchbowl St., Room 132

Re: TESTIMONY IN STRONG SUPPORT OF THE PETITION FOR RULEMAKING TO PROHIBIT THE TAKE OF MARINE LIFE FOR COMMERCIAL AQUARIUM PURPOSES (WITH EXEMPTIONS).

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 support of Agenda item F-3,** which would begin the rulemaking process to prohibit the take of marine life for commercial aquarium purposes.

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 endangered forest bird protection issues throughout Hawai‘i. The Center has more than 88,000 members throughout the United States, including Hawai‘i, with a direct interest in ensuring the conservation of our struggling marine species and the healthy habitat they need to survive.

The Center has long advocated for the cessation of commercial aquarium collection in Hawai‘i, as it is an issue of paramount significance to the preservation of our singular marine ecosystems. This initiative, led by native Hawaiian and marine protection groups, seeks the establishment of a regulatory framework designed to prohibit the collection of reef wildlife for the aquarium pet trade. If granted, the Department of Land and Natural Resources - Division of Aquatic Resources (DAR) would be entrusted with the mandate

to initiate rulemaking procedures and conduct public hearings to address this matter comprehensively.

The commercial aquarium collection practice in Hawai‘i has persisted over the years, resulting in the annual extraction of hundreds of thousands of coral reef fishes and aquatic wildlife from their natural ocean habitat. These species, including hermit crabs and various invertebrates, are primarily harvested for non-food purposes, namely as decorative items and sources of entertainment within the aquarium trade. Unfortunately, this activity has had a profound and adverse impact on the ecological and cultural significance of Hawai‘i's near shore reefs and their respective wildlife inhabitants.

Scientific data supports the detrimental influence of this trade, notably in the decline of herbivores, which are indispensable for coral reef health. The historical data from West Hawai‘i underscores that the aquarium trade has consistently surpassed the combined take of herbivores by subsistence, recreational, and commercial food fishers. Proposed environmental impact assessments further substantiate the urgency of a permanent ban on the commercial aquarium trade.

The necessity of terminating the commercial aquarium trade is underscored by compelling data points. First, it is evident in the collapse of yellow tang populations in South-West O‘ahu over three decades ago and the continued island-wide depletion of species targeted by the trade, surpassing 90%. Second, an alarming 80% decline in yellow tangs was observed in West Hawai‘i reefs as recently as 2016, representing the last full year of commercial aquarium trade collection before a temporary court-imposed cessation. Third, documented incidents of commercial aquarium trade collectors intentionally damaging coral, at times employing crowbars, in their pursuit of reef-hiding species such as Potter's angelfish illustrate the disregard for ecological integrity. Fourth, the widespread acknowledgment of illegal poaching within the commercial aquarium trade, with no fewer than seven commercial aquarium trade collectors facing charges for poaching over 1,000 fish, highlights the disregard for legal and ethical standards. Fifth, the inherent conflict between the AQ trade and local culture and native Hawaiian values, notably the practice of "pono" fishing, which emphasizes taking only what is necessary, reflects a cultural misalignment. Sixth, rigorous cost-benefit analyses reveal that Hawai‘i residents derive no discernible benefits from the commercial aquarium trade while bearing the substantial costs, highlighting an unjust economic burden. Lastly, a consistent pattern of the commercial aquarium trade’s disregarding crucial facts and opposing public commentary within their manifestly flawed and biased Environmental Impact Statements raises concerns about transparency and accountability within the industry.

Furthermore, it is imperative to emphasize the legal and constitutional obligations that underscore the urgency of enacting permanent protections. Article XI, Section 1 of the Hawai‘i Constitution mandates the conservation and protection of "natural beauty and all natural resources...held in trust by the State for the benefit of the people." Additionally, Section 6 enforces the establishment of mariculture operations under legislative guidelines, ensuring the protection of the public's use and enjoyment of the reefs.

Therefore, the Center urges the Board to recognize the compelling scientific, ecological, cultural, and legal rationales that advocate for the immediate cessation of commercial aquarium collection in Hawai‘i. The stakes are high, and our marine ecosystems, culture, and economy are inextricably linked to the prudent stewardship of these resources.

It is our collective kuleana to protect our invaluable natural and cultural heritage for current and future generations. Your decisive action in approving this petition and directing DAR to undertake the requisite rulemaking is the most effective means to ensure the lasting welfare of Hawai‘i's near shore reefs and their irreplaceable inhabitants.

Mahalo for this opportunity to provide testimony in **strong support of Agenda Item F-3.**

/s/ Maxx Phillips
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