

**From:** [Rebecca Stoner](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Agenda item F5 Herbavore proposal.  
**Date:** Wednesday, December 6, 2023 8:30:47 PM

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I, Rebecca Akaka, oppose all rules in the herbivore proposal, with the exception of the Kona crab female take.

Mahalo,

Rebecca Akaka

**From:** [Keoni Akaka-reis](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Agenda item F5 Herbavore proposal.  
**Date:** Wednesday, December 6, 2023 10:31:44 PM

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Aloha,

I, keoni Akaka-Reis, oppose all rules in the herbivore proposal with the exception of the Kona crab female take.  
Mahalo.

Aloha,  
Keoni Akaka-Reis

**From:** [Kaulanarose Hoewaa](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Agenda item F5 Herbavore proposal.  
**Date:** Wednesday, December 6, 2023 9:02:22 PM

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I, Kaulanarose Hoewa'a, oppose all rules in the herbavore proposal with the exception of the Kona crab female take.  
Mahalo.

**From:** [jodean\\_akaka](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Agenda item F5 Herbavore proposal.  
**Date:** Wednesday, December 6, 2023 8:53:08 PM

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I JoDean Akaka oppose all rules in the herbavore proposal with the exception of the Kona crab female take. Mahalo.



**From:** [Jason Akaka](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Agenda item F5 Herbavore proposal  
**Date:** Wednesday, December 6, 2023 8:38:21 PM

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I, Nalu Akaka, oppose all rules in the herbavore proposal with the exception of the Kona crab female take. Mahalo.

**From:** [Hiilei Akaka](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Agenda item F5 Herbavore proposal  
**Date:** Wednesday, December 6, 2023 8:37:10 PM

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I, Hi'ilei Akaka, oppose all rules in the herbavore proposal with the exception of the Kona crab female take.  
Mahalo.

Sent from my iPhone

**From:** [Layson Hoewaa](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Agenda item F5 herbivore proposal  
**Date:** Wednesday, December 6, 2023 8:38:41 PM

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I, Layson Hoewa'a , oppose all rules in the herbivore proposal with the exception of the Kona crab female take.  
Mahalo.

Sent from my iPhone

**From:** [Darcie Asakura](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Aquarium Fishing  
**Date:** Wednesday, December 6, 2023 9:34:23 PM

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Attention Chair Chang

Please Oppose aquarium fishing ban bill.

Support sustainable fisheries.

Darcie A  
Kealakekua, HI

**From:** [Kokua Sun Care](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Cc:** [Robin](#)  
**Subject:** [EXTERNAL] BLNR hearing Dec 8 - testimony  
**Date:** Wednesday, December 6, 2023 7:02:57 PM

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Dawn Chang, Chair  
Hawai'i Board of Land and Natural Resources

Aloha Chair Chang and Land Board Members,

We are a local reef safe sunscreen company, Kōkua Sun Care. To align with the progress in banning toxic sunscreens to protect our reefs in Hawaii, we are strongly in favor of replenishing our severely depleted populations of coral reef herbivores. By eating seaweeds, these fishes keep reef surfaces clean so corals can flourish. Herbivores are the natural lawnmowers of the sea that can save our reefs from poor water quality, pollution, and coral bleaching, yet they must be abundant to do so. The science is clear that herbivores are depleted near human population centers because of fishing.

Importantly, herbivores are about far more than fishing and feeding people. They are the natural resilience mechanism needed for our reefs to recover and thrive. As saviors of our reefs, they are far more valuable to all the people of Hawai'i alive than as food. Healthy coral reefs protect our coasts from erosion, provide fisheries for many species (not just herbivores), and are valuable sources of recreation, tourism, and spiritual connection. Our reefs are seriously threatened by poor water quality and increasingly severe coral bleaching. Without abundant and diverse herbivores, many of our reefs are now covered in seaweeds, which quickly smother corals unless they are removed by these natural lawnmowers.

The science is clear that the present version of the Division of Aquatic Resources (DAR) proposed herbivore fishing rules is not enough to restore the critical ecological services of two important fishes: uhu (parrotfishes), which are the heavy lifters, cleaning the reef by scraping and excavating dead surfaces, and kala (unicornfish), which are the largest browsers of fleshy seaweeds on our reefs. In particular, at the very least, please:

(1) **Reduce the total allowable commercial catch of uhu and kala:** The DAR proposed limits are “~75% of the 5-yr. average reported sales (2017-2021).” This and prior average catches have reduced both fishes to very low levels such that they are considered depleted by the National Marine Fisheries Service. Please reduce the total allowable catch to no more than 50% of the recent reported sales.

(2) **Reinstate the commercial daily bag limits for uhu and kala:** Daily catch limits dilute fishing intensity at any given time and place, thereby spreading the removal of fish over the course of the year so that regional stocks can better absorb exploitation.

(3) **Reinstate the blue uhu (large male parrotfish) protections:** The depletion of blue uhu has caused problems in two ways. First, the harem-like uhu mating system is disrupted, thereby reducing reproduction. Second, these largest herbivores are critical for keeping dead reef surfaces clean so new coral can grow, plus each individual fish poops hundreds of pounds of sand each year.

This issue is not about environmentalists vs. fishers; it is about the long-term perspective of those who care about the future of our valuable coral reefs vs. the short-term perspective of those who would continue to allow the depletion of our reef saviors.

Mahalo,  
Tatyana Cerullo  
Kōkua Sun Care

Sent from my iPhone

**From:** [Hannah Springer](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Board of Land and Natural Resources - December 7, 2023 Board Meeting - Agenda Item F-5  
**Date:** Thursday, December 7, 2023 12:12:11 AM

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December 6, 2023

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

Re: Testimony for F-5 Request for Final Approval to Amend and Compile Chapter 13-95, Hawaii Administrative Rules, "Rules Regulating the Taking and Selling of Certain Marine Resources."

Me ka ha'aha'a,

I am Hannah Kihalani Springer, kama'āina of Ka'ūpūlehu, North Kona, Hawai'i Island. I have participated in fisheries management in West Hawai'i with the Reef Fish Working Group, the West Hawai'i Fisheries Council, and the Ka'ūpūlehu Marine Life Advisory Committee (KMLAC).

I write in **support of the intent** of the Proposed Amendments, as a step towards improved management and protection of the marine reef and near shore ecosystems.

I appreciate that the Board of Land and Natural Resources (BLNR), the Department and its Divisions, have the mandate to, "Enhance, protect, conserve, and enhance ... resources held in **public trust** for current and future generations ... ."

The DLNR and its divisions are drastically **underfunded**, to conduct the work of that **trust mandate**. So, I appreciate the recent increase to the capacity of DOCARE. The KMLAC relies on DOCARE not only for enforcement, but also to review and comment on our plans and processes as they are prepared.

We also rely on the best science available in further inform and substantiate our **traditional and customary practice of mālama 'āina**. There is significant testimony on this Agenda Item from respected scientists whose work we rely on to do our best work. If their recommendations are overridden, the justification for this should be provided.

As a participant in the Ka Pa'akai O Ka 'Āina intervention before the State Land Use Commission, I appreciate that the work of the BLNR, the Department and its Divisions should be grounded in law and science and be, as clarified by the 2023 decision in the Flores-Case 'Ohana vs. University of Hawai'i decision, informed by the **Ka Pa'akai Analysis**.

The Ka Pa'akai Analysis is a step in the right direction, however, the analysis presented: does not give examples of the cultural characteristics and values exemplified by the species highlighted, such as, but not limited to uhu, kala, and manini; does not differentiate between subsistence and recreational fishing; nor how the failure to offer meaningful commercial regulations will affect Native Hawaiian fishers' continued practices as herbivore populations continue to decline after extravagant commercial take.

This analysis seems to rely on information gathered at public meetings. In the future, conducting the **fieldwork** in support of the analysis prior to the public meeting/ hearing process would engage the various geographic and user communities earlier in the process, perhaps engendering better understanding of and confidence in the rule making process.

The DLNR Hierarchy of Use Policy (1998) which directs the DLNR to protect the resources first, allow public use second, and allow commercial use third, and **only if** it does not conflict or interfere with public use and resource protection, is encouraging. If the Department has amended or abandoned this hierarchy, the public should be informed of this change.

While the DLNR and its Department and Divisions must be mindful of public opinion and is fully aware of how those numbers parse out, **the only numbers that should influence your decision making are the numbers that reflect, first, the health of the marine ecosystems and second, the fisheries which they support, as required by your mandate.**

'O au nō me ka 'oia'i'o,  
Hannah Kihalani Springer



**From:** [Carolyn Greseth](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] F5 Herbavore proposal  
**Date:** Wednesday, December 6, 2023 9:28:51 PM

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I, Carolyn Greseth opposes all of the rules in the herbivore proposal with the clear exception of the Kona crab female take.

Thank you,

Carolyn Greseth

**From:** [Godfrey Akaka](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Fwd: Herbavore proposal agenda item F5 BLNR hearing Dec 7-8  
**Date:** Friday, December 8, 2023 5:51:18 AM  
**Attachments:** [F-5.pdf](#)

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Godfrey Akaka Jr.

----- Forwarded message -----

**From:** **Godfrey Akaka** <[88akaka@gmail.com](mailto:88akaka@gmail.com)>  
**Date:** Wed, Dec 6, 2023, 8:56 PM  
**Subject:** Herbavore proposal agenda item F5 BLNR hearing Dec 7-8  
**To:** <[sens@capitol.hawaii.gov](mailto:sens@capitol.hawaii.gov)>, <[reps@capitol.hawaii.gov](mailto:reps@capitol.hawaii.gov)>

Aloha . This is the primary reason we NHGRA and those families on our petition are opposing the herbavore proposal.

1. All of the fish in this entire proposal is sustainable. There is zero evidence of unsustainability of these species of fish. The answer to this question has never been addressed by DAR with real scientific evidence.
2. Scientific data shows fish populations moved nearshore during 2 week covid lockdown. This proved that fish move in the presence or lack of presence of human activity. Not necessarily because of fishing. Especially subsistence fishing.
3. Maui has had a 2 uhu per person per day rule for 9 years with no significant changes. There is currently no plan to mitigate or increase biomass such as artificial reef to remedy Maui's issue.
4. There has been no economic impact study on families showing the effects of both non-commercial and commercial fishing. The economic impacts coming off of covid and entering into depression state of inflation will have negative consequences.
5. Creating additional bag limits will infringe on Native Hawaiian Gathering Rights article 12 section 7. Customary practice for subsistence fisher families have never had bag limits. The reason for this is because of the time and energy it takes to gather these resources are always limited to the purpose and amount of families being fed. In some cases gathering for luaus or other times for kupuna and other family members who are unable to fish.
6. To remedy the abuse of substance fishing, DAR can

simply audit and enforce fish markets to be sure they are only purchasing fish from commercial licensed fishermen.

7. Creating more unnecessary fishing restrictions on subsistence fishermen is severing the people from their culture. Each generation is less interested in gathering their own food from the ocean and connecting with the land and sea. Our identity is being lost. There are those who support these unnecessary restrictions who have already become disconnected.

8. The theory scientists have implied to remedy reef bleaching by preventing people from catching herbivore fish will increase herbivore populations to increase reef growth carries little weight. Their theory fails to identify that the reef and corals continue to grow on a massive scale every day. Also their theory fails to identify other increase in herbivore predators such as seals, sharks, uluas, etc.

9. Suicide rates have increased dramatically nation wide including Hawaii. Many of us have been personally touched by this pandemic. The constant attack on our Native Hawaiian Gathering Rights increases the impact on the disconnection of our identity and our connection to our ocean and its resources.

10.1. Article 12 Section 7 in relation to Native Hawaiian Gathering Rights holds the State of Hawaii responsible to the beneficiaries for its management and discharge of duties to protect resources and gathering rights. The question to if the proposed resources is sustainable and if subsistence fishing is the cause of unsustainability has clearly been unanswered with any clear scientific data. Therefore, the state by making these proposed rules with the exception of the Kona crab is violating and neglecting its responsibility to protect Native Hawaiian Gathering Rights and its resources as a public trust and for its beneficiaries.

Should BLNR pass this proposal with the exception of the proposed Kona crab female take, we the NHGRA with its beneficiaries will seek legal action and compensation for damages.

In conclusion, we the NHGRA oppose everything on the herbivore proposal with the exception of the female Kona crab take. Please see attached petition data collection by NHGRA.

Mahalo.

Godfrey Akaka Jr.

**From:** [Tristan Kiyon](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] I agree with proposed rules regarding the nearshore fishery  
**Date:** Wednesday, December 6, 2023 10:03:05 PM

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Aloha,

I'm a small-time nearshore commercial fisherman (diver) from Big Island. I strongly agree with all of the proposed rules, both recreational/subsistence and commercial. Look at the success you had with the Kona crab, congratulations and thank you for that. I imagine it can be challenging to serve both Hawai'i waters and the people at the same time.

The reef is a limited resource. There are only so many miles of coastline. If people were allowed by the law to take as many fish as they please of any size, using any method, whenever they wanted, for any reason, there would be no more fish and no more reef. It's not because of conscientious fishermen that rules need to be set forth. There are also plenty of other fish to catch besides manini, kole, uhu and kala. Look at the reef and see what species are most abundant. Those are the schools that can handle a little pressure. Fishing does not just entail catching the fish. We need to take care of the fish first. If there were no fish, then there would be no fishermen. I understand that all the proposed rules set forth are backed by data and thoughtful consideration. As a side note, nearshore fishing is not my sole occupation, and in my opinion probably shouldn't be anyone's. Maybe we can allow our fishing practice to grow beyond something that serves only our own needs.

Mahalo and best regards,

Tristan Kiyon

**From:** [Elisa Johnston](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] I support herbivore fishing limits  
**Date:** Wednesday, December 6, 2023 4:15:38 PM

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Dear Aloha BLNR,

I am writing in support of limits on fishing of herbivores.

I have been snorkeling in Hawai'i for nearly 50 years. Our near-shore reefs are a tragedy: laden with runoff, buried under algae.

Herbivores, such as uhu, kala, chubs, and others are our best protection against further reef degradation by algae overgrowth.

Living reefs protect our shores from wave action and help support our tourism industry. They are also a source of joy to those of us who make an effort to see them.

Please take action to protect our reefs by limiting the taking of herbivore fish.

Mahalo,  
Elisa W. Johnston  
1429B Nehoa St.  
HON,HI 96822

**From:** [Kelly Collins](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Cc:** [Jeff Masterson Home](#)  
**Subject:** [EXTERNAL] New Herbivore Fishing Rules  
**Date:** Wednesday, December 6, 2023 4:27:17 PM

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Aloha -

I am writing to implore you to please approve and effectively implement stronger protective laws for the rapidly disappearing and critically important coral reef maintenance fish such as parrotfish (uhu) and surgeonfish (kala). The selfishness and shortsightedness of overfishing these herbivore species has led to their populations dropping to less than 5% of their estimated un-fished and ecologically healthy populations. As a direct result, the algae created by urban runoff is not getting cleaned from the reefs and the already stressed coral is dying. Shameful. Is this malama ke kai? No.

Law enforcement tools such as increasing DLNR officer numbers and coastal presence, the use of drones to monitor areas, and most importantly, increasing fines and penalties and posting these on signs at all coastal areas should be used. Australia can be looked at for effective marine protection fines. For example, the fine for harassing a sea turtle there is about \$30,000 American dollars.

I applaud the recent media campaign that educates people about overfishing these critical species. That campaign should continue indefinitely and be brought into schools as well.

Mahalo nui for your consideration of this extremely urgent issue.

Kelly Collins

**From:** [Shlakaka](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Opposition to the herbavore proposal with exception to Kona Crab female take  
**Date:** Wednesday, December 6, 2023 8:43:53 PM

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I, Sheryl Akaka, oppose all rules in the herbavore proposal with the exception of the Kona crab female take. Mahalo.

[Sent from the all new AOL app for iOS](#)

**From:** [Justin Edwards](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Please protect herbivore fish  
**Date:** Friday, December 8, 2023 11:00:19 AM

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The reef fish all need as much protection as you can manage to make sure the reefs are healthy for everyone.

Supporting conservation benefits everyone because it allows the stocks of fish to increase allowing for better fishing in the future.

Justin Edwards  
Logicwins@gmail.com



**From:** [Liz Train](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Please save our reefs!  
**Date:** Wednesday, December 6, 2023 3:44:25 PM

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Aloha,

I am writing to urge the board of land and natural resources to set limits on fishing of herbivore species in Hawaii. I have been a snorkeler for over 50 years and have been dismayed at the change in the number of fish I see as I snorkel at various locations. Blue parrotfish have become particularly rare. They and other herbivores are responsible for cleaning the coral and maintaining a healthy reef system. I believe they should not be caught commercially at all but at the very least you must set strict limits on the catch numbers. I do not believe the reef will be capable of surviving without these important species of fish.

Aloha,

Elizabeth Train

**From:** [Sanford Murata](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Cc:** [Sanford Murata](#)  
**Subject:** [EXTERNAL] Protect Our Coral Reefs - Maintain Strict Herbivore Fishing Rules  
**Date:** Wednesday, December 6, 2023 2:27:05 PM

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Protecting our coral reefs and nurturing their health is critical to the well being of our natural environment and ocean ecology.  
Please maintain strict herbivore fishing rules.  
Sanford Murata  
[sanfordmurata@gmail.com](mailto:sanfordmurata@gmail.com)

**From:** [doug.sousa](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Reef fish  
**Date:** Wednesday, December 6, 2023 2:28:53 PM

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Please Stop taking reef fish!

**From:** [Cindy Hunter](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Support for herbivore protection  
**Date:** Wednesday, December 6, 2023 11:01:54 PM

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December 6, 2023

Dear Chair Chang and Board:

I offer testimony as a private citizen and marine biologist who has conducted research on Hawai'i's coral reefs for over 40 years. The science shows clearly in Hawai'i, as it does globally, that large numbers of herbivores are essential to maintaining reef health. Herbivores in the Main Hawaiian Islands have been allowed to be egregiously over-harvested but that needs to stop, or our reefs will continue to decline to unproductive underwater ruins.

Please take immediate action to restore two of the top herbivores on Hawai'i's reefs through the following:

Reducing the total allowable commercial catch of uhu and kala to a maximum of 50% of recent sales, assess the sustainability of these levels within one year, and adjust if needed.

Reinstating the daily commercial bag limits for uhu and kala.

Reinstating protections for large male uhu that are essential for maintaining the reproductive vigor of the population.

Many thanks for your hard work,  
Cynthia Hunter, Ph. D.

**From:** [Uhu Conservancy](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Testimony for Proposed Herbivore Fishing Rules  
**Date:** Wednesday, December 6, 2023 8:44:02 PM

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Dawn Chang, Chair  
Hawai'i Board of Land and Natural Resources

Aloha Chair Chang and Land Board Members,

The Uhu Conservancy is submitting testimony to strongly support replenishing our severely depleted populations of coral reef herbivores. By eating seaweeds, these fishes keep reef surfaces clean so corals can flourish. Herbivores are the natural lawnmowers of the sea that can save our reefs from poor water quality, pollution, and coral bleaching, yet they must be abundant to do so. The science is clear that herbivores are depleted near human population centers because of fishing.

Importantly, herbivores are about far more than fishing and feeding people. They are the natural resilience mechanism needed for our reefs to recover and thrive. As saviors of our reefs, they are far more valuable to all the people of Hawai'i alive than as food. Healthy coral reefs protect our coasts from erosion, provide fisheries for many species (not just herbivores), and are valuable sources of recreation, tourism, and spiritual connection. Our reefs are seriously threatened by poor water quality and increasingly severe coral bleaching. Without abundant and diverse herbivores, many of our reefs are now covered in seaweeds, which quickly smother corals unless they are removed by these natural lawnmowers.

The science is clear that the present version of the Division of Aquatic Resources (DAR) proposed herbivore fishing rules is not enough to restore the critical ecological services of two important fishes: uhu (parrotfishes), which are the heavy lifters, cleaning the reef by scraping and excavating dead surfaces, and kala (unicornfish), which are the largest browsers of fleshy seaweeds on our reefs. In particular, at the very least, please:

(1) Reduce the total allowable commercial catch of uhu and kala: The DAR proposed limits are “~75% of the 5-yr. average reported sales (2017-2021).” This and prior average catches have reduced both fishes to very low levels such that they are considered depleted by the National Marine Fisheries Service. Please reduce the total allowable catch to no more than 50% of the recent reported sales.

(2) Reinstate the commercial daily bag limits for uhu and kala: Daily catch limits dilute fishing intensity at any given time and place, thereby spreading the removal of fish over the course of the year so that regional stocks can better absorb exploitation.

(3) Reinstate the blue uhu (large male parrotfish) protections: The depletion of blue uhu has caused problems in two ways. First, the harem-like uhu mating system is disrupted, thereby reducing reproduction. Second, these largest herbivores are critical for keeping dead reef surfaces clean so new coral can grow, plus each individual fish poops hundreds of pounds of sand each year.

The Uhu Conservancy's mission is to conserve coral reef herbivores by spreading awareness through art and science literacy. In support of this mission, the Uhu Conservancy testifies in

favor of the proposed rule changes and strongly supports even stronger management actions to foster healthy herbivore populations.

Regards,  
The Uhu Conservancy

**From:** [Eric Dilley](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Testimony for Proposed Herbivore Fishing Rules  
**Date:** Wednesday, December 6, 2023 8:28:22 PM

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Dawn Chang, Chair  
Hawai'i Board of Land and Natural Resources

Aloha Chair Chang and Land Board Members,

I am submitting testimony to strongly support replenishing our severely depleted populations of coral reef herbivores. By eating seaweeds, these fishes keep reef surfaces clean so corals can flourish. Herbivores are the natural lawnmowers of the sea that can save our reefs from poor water quality, pollution, and coral bleaching, yet they must be abundant to do so. The science is clear that herbivores are depleted near human population centers because of fishing.

Importantly, herbivores are about far more than fishing and feeding people. They are the natural resilience mechanism needed for our reefs to recover and thrive. As saviors of our reefs, they are far more valuable to all the people of Hawai'i alive than as food. Healthy coral reefs protect our coasts from erosion, provide fisheries for many species (not just herbivores), and are valuable sources of recreation, tourism, and spiritual connection. Our reefs are seriously threatened by poor water quality and increasingly severe coral bleaching. Without abundant and diverse herbivores, many of our reefs are now covered in seaweeds, which quickly smother corals unless they are removed by these natural lawnmowers.

The science is clear that the present version of the Division of Aquatic Resources (DAR) proposed herbivore fishing rules is not enough to restore the critical ecological services of two important fishes: uhu (parrotfishes), which are the heavy lifters, cleaning the reef by scraping and excavating dead surfaces, and kala (unicornfish), which are the largest browsers of fleshy seaweeds on our reefs. In particular, at the very least, please:

(1) Reduce the total allowable commercial catch of uhu and kala: The DAR proposed limits are “~75% of the 5-yr. average reported sales (2017-2021).” This and prior average catches have reduced both fishes to very low levels such that they are considered depleted by the National Marine Fisheries Service. Please reduce the total allowable catch to no more than 50% of the recent reported sales.

(2) Reinstate the commercial daily bag limits for uhu and kala: Daily catch limits dilute fishing intensity at any given time and place, thereby spreading the removal of fish over the course of the year so that regional stocks can better absorb exploitation.

(3) Reinstate the blue uhu (large male parrotfish) protections: The depletion of blue uhu has caused problems in two ways. First, the harem-like uhu mating system is disrupted, thereby reducing reproduction. Second, these largest herbivores are critical for keeping dead reef surfaces clean so new coral can grow, plus each individual fish poops hundreds of pounds of sand each year.

This issue is not about environmentalists vs. fishers; it is about the long-term perspective of those who care about the future of our valuable coral reefs vs. the short-term perspective of those who would continue to allow the depletion of our reef saviors. As a coral reef scientist

and conservationist, I testify in favor of the proposed rule changes and strongly support even stronger management actions to foster healthy herbivore populations. If we do not do more, our coral reefs will continue to decline in resilience to climate change and eventually cease to functionally exist.

Mahalo,  
Eric Dilley



**From:** [Sarita Rich](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Testimony in favor of Hawaii's herbivore populations and coral reef health  
**Date:** Wednesday, December 6, 2023 8:59:50 PM

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Dawn Chang, Chair  
Hawai'i Board of Land and Natural Resources

Aloha Chair Chang and Land Board Members,

We have three keiki who love snorkeling and witnessing ocean wildlife. Last year, one of my daughters entered the Clarence TC Ching Foundation's Acts of Kindness Inspired in Hawai'i Art Contest with our coral reef herbivores in mind. Her poster titled, "Save the Uhu," was noticed by UH Manoa professor Mark Hixon, who invited her to attend local artist Jana Ireijo's launch of a special collection of paintings created to raise awareness for reef conservation. Stella and her ohana stand with the [FishPono-Save Our Reefs](#) campaign and she speaks up for the uhu and reef health through her art and interview attached below.

Since joining this critical conversation, Stella and her brother and sister have learned that herbivores are the ocean's gardeners, playing their essential part in a circle of life full of symbiotic relationships: herbivores like uhu and kala help restore reefs from coral bleaching; they eat seaweed that grow on the corals; the reef surfaces stay clean; new corals can grow; and the reefs and all the species that depend on them for food and shelter flourish too. Our keiki's favorite fact is that uhu poop out 800 pounds of sand a year by using their hard beaks and teeth in their throats to crunch dead corals, thereby creating our iconic beaches. Our ohana also learned that reefs produce phytochemicals that are used to treat lymphoma and leukemia and breast cancer. Let's protect the herbivores that keep the reefs healthy so the reefs, in turn, can keep people healthy too.

We believe in fishing. We fish to be connected physically, emotionally, and spiritually to the aina. But if we want to keep fishing and maintain these connections to our land and sea, we must be responsible stewards of the rich resources Mother Ocean gives freely—especially the herbivore populations that manage the health of our reefs. The choice to ignore what science says about the decline of herbivore populations due to overfishing is a choice that will deprive Hawai'i of a future of biodiversity and economic growth. Kill the herbivores, and you kill the coral reefs and beaches. Without reefs and beaches, our coastlines are threatened by erosion, and tourism and recreation industries will decline. Let's give our reefs, and our people, the gift of life by saving the herbivores.

We strongly support prioritizing reef health by replenishing the herbivore populations so that all Hawaiians, and our fellow human beings may continue to enjoy the benefits of a thriving ocean for future generations. Please do the following:

**1) Reduce the total allowable catch of uhu and kala to no more than 50% of the recent reported sales.**

**2) Reinstate the commercial daily bag limits for uhu and kala.**

**3) Reinstate the blue uhu (large male parrotfish) protections.**

Mahalo,

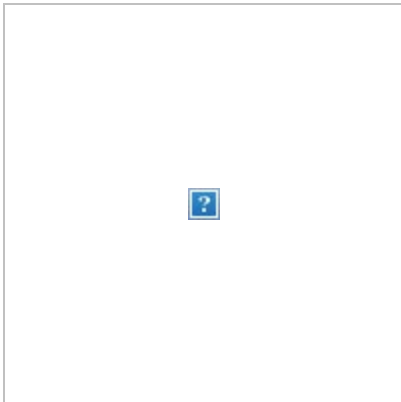
The Rich Ohana: Sarita, Jesse, Stella, Sophie, & Dylan

 [Stella and Jana Ireijo Fish Pono.MP4](#)

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Sarita Rich

[www.saritarich.com](http://www.saritarich.com)



(PJ Library, 2020)



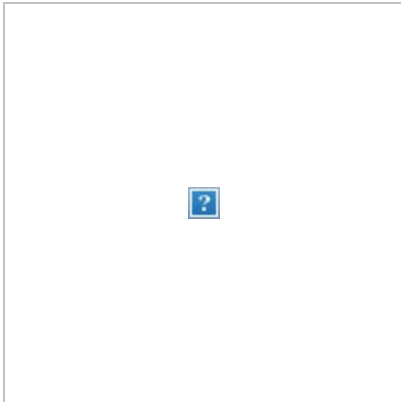
(Sky Pony Press, 2018)



(Sky Pony Press, 2016)

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Sarita Rich  
[www.saritarich.com](http://www.saritarich.com)



(PJ Library, 2020)



(Sky Pony Press, 2018)



(Sky Pony Press, 2016)

**From:** [Doug Harper](#)  
**To:** [DLNR.BLNR.Testimony](#)  
**Subject:** [EXTERNAL] Testimony Regarding the Herbivore Rules  
**Date:** Wednesday, December 6, 2023 4:23:49 PM

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Aloha, on behalf of Malama Mauanlua, I'd like to offer some comments regarding the herbivore rules. While we are supportive of better managing and protecting the state's herbivores, we have some suggestions regarding the proposed rules. 1. We feel there should be a ban on nighttime spearfishing. 2. Because of the issue of fish being illegally caught and sold at market, the DLNR should reconsider the previous rule of banning fish speared for sale in the markets.

If you have any questions, please let me know.

Mahalo,

Doug

--

Doug Harper  
*Executive Director*  
Malama Maunalua  
P: (808)395-5050 x3  
C: (808)285-7509

## Testimony

Dawn Chang, Chair  
Board of Land and Natural Resources  
1151 Punchbowl Street, Boardroom  
Honolulu, Hawai'i 96813  
Submitted via Email: BLNR.testimony@hawaii.gov

SUBJECT: Comments on Agenda Item F-5: Request for Final Approval to Amend and Compile Chapter 13-95, Hawai'i Administrative Rules, "Rules Regulating the Taking and Selling of Certain Marine Resources," BLNR Meeting December 8, 2023, 9:00 a.m.

Aloha Chair Chang and Members of the Hawai'i Board of Land and Natural Resources,

As a lifelong resident of Hawai'i, a conservationist, an educator, and proud fish eater, I come forward to testify in favor of replenishing coral reef herbivore populations that have experienced a downward decline for decades. While not as charismatic as predatory fishes like ulua or marine mammals like monk seals, these grazers of the sea are needed now more than ever to sustain our coral reefs that are undergoing unprecedented threats in the face of growing human impact, including climate change.

I applaud the Division of Aquatic Resources for working tirelessly to protect and manage living ocean resources for the benefit of all. Its staff members are intelligent and caring and they listen to the community. It is, of course, impossible to please everyone because of our own self-interests and causes, but it is possible to rise above the politics and pressure of a relative few to do what is right for generations yet to be born. The current proposed herbivore fishing rules are a step forward but too small for what is at stake. I urge the Board to reconsider the previously proposed rules that had stronger protections particularly for ulu (parrotfish) and kala (unicorn fish). Daily catch limits for both commercial and non-commercial fishers is needed. Protection from harvest of blue uhu (large male parrotfish) is also needed so that the uhu populations may rebound. Then there will be more fish for everyone.

I thank you for this opportunity to testify and appreciate your service to Hawai'i nei.

Sincerely,



Pauline M. Sato  
Lifetime Honolulu Resident



December 6, 2023

Board of Land and Natural Resources  
1151 Punchbowl Street  
Honolulu, HI 96813-3088  
[BLNR.TESTIMONY@HAWAII.GOV](mailto:BLNR.TESTIMONY@HAWAII.GOV)

SUBJECT: Comments on Agenda Item F-5: Request for Final Approval to Amend and Compile Chapter 13-95, Hawai'i Administrative Rules, "Rules Regulating the Taking and Selling of Certain Marine Resources," BLNR Meeting December 7-8, 2023, 9:00 a.m.

Aloha BLNR,

The Coral Reef Alliance (CORAL) supports the Division of Aquatic Resources' (DAR) Herbivore Rules package. CORAL ([coral.org](http://coral.org)) is a science-based organization that works to save coral reefs by reducing stressors to coral reefs so that they may adapt to climate change. Apart from land-based pollution, the other main killer of coral reefs in Hawaii is the excessive and unsustainable extraction of herbivorous fish. Herbivores play a vital role in maintaining reef health. A healthy reef needs healthy herbivore populations to keep coral substrate clean and prevent an ecosystem from shifting from a coral-dominated system to one of turf macroalgae and slime. There is a preponderance of data that shows Hawaii's herbivore populations are low due to pollution and overfishing and need replenishing. The best way to bring them back is to let them reproduce by reducing commercial take and strengthening protections for herbivores. On Oahu, reef ecologists estimate that we only have 5% of the potential herbivore population in our surrounding waters. Is this the kind of depauperate island ecosystem that we want to live in? If we continue down this path, we will join the ranks of Jamaica and Vietnam as overfished and impoverished places. Our fish populations and by default, our coral reef ecosystems are already struggling with warming ocean temperatures and cannot take more extraction. Let's reverse this decline while we still can. BLNR has the most powerful levers available for wise resource management-regulation and the precautionary principle. Please exercise your power to protect our herbivore populations and there will be many co-benefits for all the people of Hawaii and to our economy. A healthy herbivore population translates to healthy coral reefs, which in turn feeds our communities, protects our coastlines, creates jobs and livelihoods, and increases our overall resilience and well-being as an island society. The economic benefits from these ecosystem services alone, dwarf any benefit from short-term commercial extraction. Protecting herbivores is consistent with Hawaiian values of caring for our islands and each other. Instead of perilously catering to commercial fishing interests, which have already weakened herbivore rules, let's focus on ensuring that our herbivore populations can maintain coral reef health and provide for subsistence fishers instead.

Please support and strengthen DAR's mandate to protect our herbivore populations for the public trust. We all want more coastal resilience, not vulnerability. Thank you for allowing us at CORAL this opportunity to provide written testimony in full support of DAR's herbivore rules package-a great starting point for ensuring a thriving coral reef ecosystem for our islands.

Sincerely,   
Manuel Mejia  
Regional Program Director-Hawai'i  
Coral Reef Alliance ([coral.org](http://coral.org))  
Email: [mmejia@coral.org](mailto:mmejia@coral.org)

Cc: [DLNR.Aquatics@hawaii.gov](mailto:DLNR.Aquatics@hawaii.gov)

Dawn Chang, Chair  
Hawai'i Board of Land and Natural Resources

Aloha Chair Chang and Land Board Members,

In general, I support the proposed changes to HAR Sections 13-95-1, et seq. However, I believe that additional changes should be made to help provide additional protections for uhu (parrotfish), because parrotfish are so important to the long-term sustainability of both (i) our reefs, and (ii) our white sandy beaches. And parrotfish are being overfished, and depleted, in Hawaii in a way that is simply not sustainable.

My most important specific proposed change is to add an additional Section 13-95-16 (j) that would state: "It is unlawful to hunt or take uhu (parrotfish) by spear at night."<sup>1</sup>

### **The Critical Importance of Uhu (Parrotfish)**

According to scientists at the University of Hawaii, approximately 70% of the white sand in Hawaii comes from uhu (parrotfish). Parrotfish feed on the algae that grow on the surface of many reefs. In this process of eating, the parrotfish teeth also chew off a small bit of the coral, which is ground up further by special grinding teeth, and eventually expelled (pooped out) as white sand. A single large parrotfish can produce 2,000 pounds of white sand, or more, per year!

In addition to parrotfish helping us preserve our beaches by producing about 70% of all the white sand in Hawaii, scientists also tell us that parrotfish are good for the health of our coral reefs. In addition to removing the algae that sometimes smother and kill our coral reefs, the small bite marks on the coral actually stimulate new coral growth, which helps corals be more resilient against warming ocean water and pollution.

### **The Remaining Uhu (Parrotfish) Stocks are Being Rapidly Depleted**

Uhu (parrotfish) are already listed as a "depleted" species in Hawaii by the National Marine Fisheries Service. They have simply been overfished in a way that is not sustainable.

This scientific evidence is also consistent with my personal observations, and the observations of my friends who spearfish and surf. On both the North Shore and the South Shore of Oahu, we used to see many parrotfish, now we see very few.

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<sup>1</sup> To be super precise, an extra definition could be added to the alphabetical list of definitions in Section 13-95-1 that would state: "'Night' is defined as the period of time from 30 minutes after sunset until 30 minutes before sunrise."



### **Spearfishing at Night Makes it Way Too Easy to Find and Kill Uhu (Parrotfish)**

Parrot fish tend to be wary of humans in the daytime. At night, however, it is a very different story. At night, parrotfish are typically in a “sleep-like” state, and frequently sleeping under rock overhangs or in crevices, and particularly vulnerable to spearfishing with lights at night. When an underwater hunter finds a sleeping parrotfish and shines a light on it at night, it typically does not swim away, which makes it an easy target, just swim up to it and spear it.

All too often, especially on Oahu, large groups of people will spearfish for uhu (parrotfish) at night, with lights, and collectively kill dozens and dozens of parrotfish, and more or less “sweep an area clean” of all the parrotfish. Parrotfish are just too easy to spear at night, especially with the help of modern dive lights.

In order to help protect this depleted, but critically important, species of fish, there should just be a blanket prohibition on spearfishing for uhu (parrotfish) at night.

### **The Commercial Fishing of Uhu (Parrotfish) Should Also be Phased Out Completely Over the Next Several Years.**

I also strongly agree with University of Hawaii reef ecology expert, Dr. Mark Hixon, that limiting the reported commercial fishing of uhu (parrotfish) to 30,000 pounds statewide per year will not be sufficient for this depleted species to recover. Reducing that 30,000 pounds-per-year limit to 20,000 pounds, would be a good step in the right direction. Even more importantly, the commercial fishing of parrotfish really should be phased out, over perhaps a five-year period, by reducing that initial annual statewide limit, by 20% of that initial annual statewide limit, each year for the following four years.

Even if you estimate the whole-fish-price for uhu (parrotfish) at \$10 per pound (which is probably a bit high), the total economic value to commercial fishermen of even the 30,000 pounds per year annual statewide limit, is only \$300,000 for the whole state. Given the critical importance of uhu (parrotfish) to helping preserve our white sandy beaches, and to the resilience and overall health of our coral reefs, the economic gains from continuing to permit commercial fishing of uhu (parrotfish) are just not worth it in the long run.

By phasing out the commercial fishing of parrotfish over say a 5-year period of time (or some other extended period of time), rather than ending it all at once, the economic burden on commercial fishermen can be significantly reduced, by giving them time to plan ahead, and adjust to focus on other species of fish that are not so critical to preserving our white sandy beaches, and the overall health of our coral reefs.

References to support the scientific statements in this testimony are on page 3.

Mahalo for considering the ideas in this testimony,  
Ken Martyn, Waialua, Hawaii.

Supporting references:

<https://manoa.hawaii.edu/exploringourfluidearth/physical/coastal-interactions/beaches-and-sand/weird-science-parrotfish-and-sand>

<https://ocean.si.edu/ocean-life/fish/tough-teeth-and-parrotfish-poop>

<https://www.nature.org/en-us/get-involved/how-to-help/animals-we-protect/parrotfish/#:~:text=Parrotfish%20live%20in%20reefs%20all,in%20the%20coral%E2%80%94at%20night.>

<https://fishpono.org/>

12-6-23

Hearing date 12-7-23>12-8-23

See agenda item #F 5 under DAR re 13-95 final hearing

Testimony comments / recommendations regarding DAR final draft on HAR 13-95 relating to Kala fish, and Uhu / Parrotfish sections only.

To:

Dawn Ching, Chair

Board of Land and Natural Resources

Chair Chang and Land Board Members

Testimony From:

Phil Rarick

East Oahu resident for over 60 years

I am submitting testimony as an individual only. These comments are my viewpoint, and DO NOT represent any official local, state, or federal government entity / office Department / Division or management. My testimony herein is of personal nature.

It should be noted up front I have over 40 years of field experience working with the DLNR DOCARE Oahu branch in Conservation and Resources Enforcement, and requested via the chain of command prior approval to speak / testify as an individual only, without conflict of interest.

**BACKGROUND:**

The #1 resource violation (citations issued) is the taking of Kala fish less than 14" in length. Majority of citations issued @ night. Method of take night diving (spearing), with lights-mask-snorkel-fins

Night diving, and spearing are currently not a violation.

Most have been large groups of Pacific Islander divers / up to 9-10 swimming from shoreline out to night dive.

The number of Kala fish taken under 14" per individual cited, has dropped from dozens of undersized Kala fish taken years ago per incident. DAR during prior public "scoping sessions" stated that Kala was on the verge of not sustainable species now.

#### TARGET SPECIES:

The #1 targeted resource fish is commonly referred to all species of Uhu (Parrotfish).

Most common method of take encountered is night diving (spearing). Uhu sleep @ night and night divers know these fish are easier to target / spear them.

Night diving, and spearing of Uhu are currently not a violation.

Most had been large groups of divers swimming from shoreline out to night dive.

While citations have been issued for less than 12" for regulated Uhu, the targeted Uhu fish are large body 14"-20" range of commercial market value.

During field interviews of the night divers, nearly all claim they are individuals and not CML holders... "fishing for the family" = no violation.

#### OBSERVATIONS / CURRENTLY:

In the last two years DOCARE has seen on Oahu a paradigm shift in the methods and equipment of night divers spearfishing methods. The following **notable changes**.

Prior large groups swimming from the shoreline are **now using motorized boats launched at night** from various boat ramps.

While night diving with spears and artificial light is still the common practice used by the Pacific Islanders, they now are going out via boat. Use of SCUBA for deeper depth spearing of Uhu fish while they sleep is a newer take method.

Since Uhu / Parrotfish sleep at night, using SCUBA increases the take as the diver can stay down longer.

During field interviews of the night divers, nearly all claim they are individuals and not CML holders... "fishing for the family."

Not uncommon to observe 300 pounds of Uhu fish only in the boat, all 14"+ range with 6-8 night divers average on board. Numbers of fish taken is starting to drop per trip. Sustainability?

Conservation Enforcement continues to get public complaints from the citizens for night diving activity, and night spearing of Uhu @ night. This is a common public complaint as they thought it illegal. Most are shocked when they are advised DAR has no prohibitions on night diving, or the spearing of Uhu at night.

Prohibitions in FMA's / MLCD's, and lack of a visible divers flag are violations that should be noted, and citations issued.

#### COMMENTS ON ABOVE:

None of the method of take / equipment above is traditional Hawaiian "Pono". This is contrary to generations of institutional / historical data.

Methods being used NOW in ever increasing activity are putting more pressure on the resources. During calm water nights, night diving activity (on Oahu) is common.

#### RECOMMENDATION:

**Postpone final decision making on the agenda item** for BLNR action on Draft (final) DAR 13-95 rule decision vote..

Consider education and enforcement. You want voluntary compliance with clear understanding of the rule, vs misunderstanding and unknown legal status / identification issues of what is being regulated or cited for illegal actions. DAR simple to understand Uhu / Parrotfish rule should be drafted.

#### JUSTIFICATION:

Enforcement concerns. Scientific community concerns. Education.

As articulated in observations currently (see above), the proposed final draft non commercial limits if established will have many individuals seek a Commercial Marine License (CML) to avoid the daily bag limit as proposed in current draft.

I do not agree with DAR that this is not an issue of individuals seeking a no bag limitation via getting a CML.

This is contrary to the intent of the rule of reasonable management of the fish / saving the reef, and unfair overnight competition to existing CML's. The original draft language is suggested to be re-instated which was removed in final draft language ie have proof of PRIOR CML activity of Kala and Uhu fish harvesting / sale. Intent should not be create new overnight CML's against existing hard working CML's of record.

## ADDITIONAL CONCERNS:

Why has the Maui empirical data been ignored? They listened to the community, science input, and commercial fishers. They responded / implemented with plan which is keeping the resources / coral reef from decline. It worked...

## ACTION PLAN ITEMS:

Regulate ALL Uhu / Parrotfish with no exceptions such as Ponuhunuh and Yellow Bar Parrot fish... Most people do not understand what is regulated now, or even the proposed rule will NOT have new understanding as written, and how to identify the fish.

Define in simple language and easy to identify regardless of color / age phase of fish.

Reinstate the proposed prohibition of large body Uhu for breeding stock fish ie uhu 'ele'ele or uhu uliuli in commercial rules.

Reinstate commercial daily bag limit from original draft.

**Prohibit the commercial sale of speared Uhu fish.** This is to help save the fish which are targeted at night for eventual sale, and stocks declining. This is a way to reduce the pressure on the resource. DAR has had community public testimony on / support for prohibition of spearing Uhu at night. No DAR action to date. This does not prohibit night diving.

No exemption for CMVL of smaller length vessels should be allowed as an additional comment. Amend final 13-74-23 rule changes pending final decision making to address this. The original intent was for exception of Charter boat fishing, and long liners. NOT night spearfishing divers in a boat 22'+/- in length to exempt them. i.e all commercial divers should required to have a CML.

Keep small body Uhu minimum @ 12" to avoid confusion in the field, and again regulate uhu inclusive of ALL small body uhu to avoid what is regulated and what is not currently ie lack of education from DAR.

Kala fish bag limit. From quantity bag limit of 2 as original proposal, now

to 4 bag limit. Why? See above as the #1 violated fisheries violation, and related comments. Field observations ten night divers x 4 = 40 Kala in one night dive allowed as sport fishing...as proposed.

CML in your final draft proposal is no bag limit, pending notice of “adaptive management”....Has DAR filled all the open positions and have the staff to implement this in a proactive quick response vs after the fact on dated data?

11-3-23 DAR consulted with the “Fishers Working Group” to discuss this final draft. Are meeting minutes available pursuant to Chapter 92 for review?

Mahalo for the opportunity to provide testimony.

December 4, 2023

Dawn Chang, Chair

Hawai'i Board of Land and Natural Resources

RE: Agenda Item F-5 December 7/8 2023 Ch 13-95 HAR "Rules regulating the taking and selling of certain marine resources"

Dear Chair Chang and Board Members,

I write urging you to not relax any of the herbivore protection regulations that will be discussed at the December meeting. Herbivores are essential to reef health, and given the dire condition of most reefs in the main Hawaiian Islands, it is imperative to take protective measures. Studies have shown that larger fishes are more efficient cleaners, so they should be a target for conservation rules.

I am a Maui resident and have been diving our reefs for over fifty years. I have seen branching corals at many sites making a comeback after the last major bleaching event. These are the most sensitive to heat stress, and are vital habitat for many species of fishes and invertebrates. The only sites where I see schools of kala or harems of large-bodied parrotfishes, with a terminal male and initial phase females, are in reserves - and that is where there is the most coral regrowth.

Unfortunately, it is not a question of if, but when, the next bleaching will occur. Since there is a strong El Niño weather event in progress, it is likely that there will be bleaching next summer and fall. Controlling the overfishing of herbivores is one of the stressors that we can manage.

Please act in the longterm survival of our reefs, as in your mission statement "in public trust for current and future generations", when you consider Hawai'i the proposed regulations.

Thank you,

A handwritten signature in black ink that reads "Diane E Shepherd DVM". The signature is written in a cursive style with a long horizontal line extending from the end of the name.

Diane E Shepherd, DVM 808-283-2024

3329 Kehala Dr., Kihei, HI 96753 [diane.shepherd@outlook.com](mailto:diane.shepherd@outlook.com)



December 7, 2023

Hawai'i Board of Land and Natural Resources

Via email: DLNR@hawaii.gov

**RE: Qualified support for the “Proposed Amendment and Compilation of Hawaii Administrative Rules Chapter 13-95, ‘Rules Regulating the Taking and Selling of Certain Marine Species,’ to Update Rules for Manini, Kala, Uhu, and Pāpa’i Kualoa (Kona Crab), to Establish Rules for Kole, and to Update the Chapter with Other Various Housekeeping Amendments.”**

Aloha Chair Chang and Land Board Members,

We appreciate DAR’s commitment to restoring Hawai’i’s algae-eating reef fishes (herbivores), as these fish are critical to our environment, economy, security, and communities. However, we believe there is still room for improving these regulations to encourage the development of small fisheries. As students who are aware of the need to balance the protection of the marine environment with the development of local businesses and livelihoods, we are committed to protecting the marine environment, but we also have the well-being of the Hawaiian people in mind. Local fisheries are an important source of livelihood and need to be supported to ensure sustainable use of natural resources for future generations.

As future marine scientists, we have studied Hawai’i’s reef fish populations and coral reefs from many angles and have deepened our knowledge in numerous classes. At this time, we have documented the severe depletion of herbivore populations across the islands and the significant impact this depletion has had on local reefs. Recognizing the deep connection between local society and the delicate marine environment, we urge a focus on the conservation of fish communities rather than commercial gain.

**Herbivores are a critical part of the coral reef ecosystem, while also being important fisheries.** They are as essential to Hawai’i’s reefs as pollinators are to our forests. Herbivores

play a unique and vital role in fostering coral growth, grazing algae that otherwise smothers and kills corals. The role of herbivores has long been well established in the scientific literature (e.g., Hixon. 2015), so there is high confidence that this role must be protected. Herbivore fishing rules must recognize and conserve this reciprocal relationship, while balancing the importance of the fisheries for subsistence and livelihoods. If they do not, we risk the loss of both coral reefs and all the food fish that depend on them.

**Herbivore populations have declined and are hovering at dangerously low levels in many of our most important places.** Based on over 20-thousand scientific surveys of reef fish populations across all moku of the main Hawaiian Islands, it has been documented that herbivores are extremely depleted around O‘ahu and parts of Maui and Hawai‘i, and are at low abundance elsewhere in the main Hawaiian Islands, with the exception of Kaho‘olawe, Ni‘ihau and other relatively unpopulated moku (Donovan et al. 2023). O‘ahu’s herbivore populations are less than 5% of abundance compared to unfished locations across Hawai‘i, and even after accounting for variation due to other factors such as land-based pollution, biomass is less than 50% of potential (unfished) biomass. At these low abundances, herbivore populations are in crisis, alongside other targeted species (Friedlander et al. 2018, Gorospe et al. 2018, Stamoulis et al. 2018). New fishing rules must not only slow or halt declines, but substantially support their replenishment.

**The evidence is clear, much of the decline is the result of overfishing, and fishing-driven reductions have compromised reef health.** Multiple studies demonstrate two clear patterns: 1) populations of herbivores targeted by fishers decline with increasing human populations; and 2) there is no equivalent decline for species that are not targeted by fishers (Williams et al. 2008, Friedlander et al. 2018). These findings indicate that fishing is the primary driver behind the declines, as land-based pollution would affect all fishes, not just those targeted for consumption. Donovan et al. (2023) took into account other sources that drive herbivore populations (e.g., waves, depth, habitat, pollution) and revealed that in many places, especially where herbivore abundance is low, the fishing-driven reductions have led to less healthy reefs. While reducing land-based pollution is essential for preserving and restoring the resilience of Hawai‘i’s reefs, effective fishing rules must also be part of the solution.

**Reefs with more herbivores are healthier and more resilient to disturbances.** Recent high-profile studies from Hawai‘i (Gove et al. 2023) and globally (Donovan et al. 2021) have shown unequivocally that reefs with more herbivores are healthier and more resilient to disturbances, including to coral bleaching events, which are caused by climate-driven marine heatwaves and expected to occur more frequently and more severely in the coming years (van Hooidonk et al. 2016). Already, as a result of a 2015 marine heatwave, Hawai‘i has lost up to 50% of its live coral cover in some places (Kramer et al. 2016). High abundance and diversity of herbivores can help coral reefs recover from bleaching by keeping algae in check and space open for new

coral growth. If we hope to mitigate the loss of live coral and subsequent spikes of algae growth caused by future bleaching events, we must begin increasing herbivore populations immediately, as experience from coral reefs around the world indicates that it can take decades for reef fish populations to recover from intensive exploitation (MacNeil et al. 2015).

**Commercial exploitation of herbivore species can deplete overfished species, and those companies that could do without as large of an annual catch should be limited.** There is a lot of commercial take, particularly of the uhu and kala populations, species already at dangerously low levels. These are species that do a lot of the heavy lifting in scraping and browsing algae off of coral reef surfaces, and if they are overfished, there would be detrimental effects on the environment if they were depleted. It is important to recognize the biggest drivers of the depleting numbers of uhu and kala as the larger fisheries, and limit their catch so as to protect these species.

**Herbivore rules that do not focus on reef health imperil Hawai'i's economy and security.** Coral reefs underpin Hawai'i's tourism industry and coastal security, providing jobs and protecting coastlines from erosion and flooding. A 2018 U.S. Army Corps of Engineers study calculated the value of Hawai'i's ocean-based economy and shoreline resources at upwards of \$9 billion annually (USACE 2018). Sandy beaches and the reefs that protect them are central to this economy. Reefs also serve as valuable natural infrastructure, providing our first line of defense against wave-driven coastal erosion and flooding by diminishing up to 97% of wave energy (cite). A 2019 U.S. Geological Survey study estimated that Hawai'i's reefs help to avoid direct flood damages worth \$344 million to buildings and indirect damages of \$492 million to economic activity annually (Storlazzi et al. 2019). Additionally, uhu are among the primary producers of the sand that naturally replenishes our beaches, with a large uhu producing hundreds of pounds of sand annually (Ong and Holland 2010). The continued exploitation of herbivores puts reefs and our ocean-based economy at risk, and the loss of reefs puts coastal property owners and infrastructure at increased risk of flooding and erosion. New fishing rules should consider the weight of this tradeoff and support reef health and the interests of our larger community with the appropriate scale it deserves when considering the interests of commercial reef fishers.

**Small companies and fisheries who catch herbivores for commercial gain are largely made out of locals.** Because of this, fishing is their entire livelihood, and cannot be avoided if they wish to help themselves and their families. By making the claim that commercial fishing in general should be limited, these locals will suffer as well. It is important to distinguish larger fisheries from smaller fisheries, and their respective impacts on herbivore loss in the marine environment. Moreover, it's imperative that there are yearly meetings between fisheries and conservationists in order to ensure that we are reaching the best outcome without under-exploiting or overexploiting populations.

**To help build reef resilience and fishery populations, we ask that the BLNR:**

- **Reduce total allowable commercial catch of non-local, large fisheries to no more than 50% of recent reported sales** and assess the sustainability of these levels as soon as possible and adjust if needed.
- **Reinstate the blue uhu (large male parrotfish) protections** to prevent loss of our largest herbivores and further disruption to reproduction of prime spawners, the large, sexually mature fish that produce the most offspring.
- **Reinstate the noncommercial limit on take of kala to two per person per day**, a more conservative limit that has a greater chance of allowing recovery while the stock is being re-assessed. These are very long-lived fish so the assumption that they are sensitive to overfishing is well founded.
- **Reinstate the commercial daily bag limits** so regional stocks can better absorb harvest with reduced localized depletion.
- **Implement new fishing gear** to limit bycatch of other species and have less of an impact on the environment.

We recognize that herbivore protection in the oceans is incredibly important for the environment, as well as protecting the economy in Hawaii, because of how much reefs attract tourism, etc. We also recognize that there are companies and fisheries that are harmed disproportionately compared to other larger companies. Therefore, it is necessary to implement measures that aim to protect our reefs, as well as our smaller fisheries in order to create the most balance between environment and human-wellbeing. This way, we are not only looking at this dilemma through a conservation lens, but also by considering the people that will have to live with implemented measures.

Mahalo,

HPU MARS 4050 students

## References

Donovan, M. K., C. W. W. Counsell, M. J. Donahue, J. Lecky, L. Gajdzik, S. D. Marcoux, R. Sparks, and C. Teague. 2023. Evidence for managing herbivores for reef resilience. *Proceedings of the Royal Society B: Biological Sciences*.  
<https://dx.doi.org/10.1098/rspb.2023.2101>.

Donovan, M.K., D.E. Burkepile, C. Kratochwill, T. Shlesinger, S. Sully, T.A. Oliver, G. Hodgson, J. Freiwald, R. van Woesik. 2021 Local conditions magnify coral loss after marine heatwaves. *Science* 372:977–980.

Friedlander A.M., M.K. Donovan, K.A. Stamoulis, I.D. Williams, E.K. Brown, E.J. Conklin, E.E. Demartini, K.S. Rodgers, R.T. Sparks, W.J. Walsh. 2017. Human-induced gradients of reef fish declines in the

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re: BLNR meeting of Dec. 7, 2023  
Agenda Item F (Aquatic Resources) sub item #5  
Proposal to amend fishing regulations for kala, kole, manini, uhu, and pāpa‘i kualoa in  
HAR Chap 13-95, “Rules regulating the taking and selling of certain marine resources”

Dear Chair Chang and Members of the Land Board,

As a long time resident of Hawaii concerned about the health and future of Hawaii's coral reefs, I strongly support strengthening protections for herbivorous fishes, especially parrotfish (uhu) and unicornfish (kala).

These reef grazers are absolutely vital to help keep reefs resilient and allow new coral growth by controlling algae. Their populations have become far too depleted, particularly near more populated islands like Oahu. Without an abundance of these species, reef recovery will be incredibly difficult in light of growing threats like warming oceans.

Therefore, I urge you to amend the proposed rules by:

- 1) Reinstating specific protections for the blue uhu, which play an outsized role in reef health and ecosystem functions like sand production.
- 2) Reinstating the total allowable commercial catch limits for uhu and kala to no more than 50% of recent averages.
- 3) Reinstating commercial daily bag limits for uhu and kala.

Additionally, while the proposed rules are an important start, ultimately a multi-pronged approach will be needed combining spatial protections, seasonal closures, size limits, and community oversight. The stakes for our reefs and our planet are tremendous, and more precaution is warranted.

Please give our reef ecosystems a fighting chance.

Chair Chang, I deeply appreciate your consideration of this testimony as you make your decision on this critical issue. Volunteer members of the BLNR, I thank-you very much for your valuable time in serving our community on this issue and all the others you wrestle with!

Sincerely,  
Edward Wels