

From: [Robert Culbertson](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] F-5 Testimony for Herbivore Rules Package
Date: Monday, December 4, 2023 1:50:39 PM

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

I support the intent to accommodate commercial allowances, however the proposed rules now contradict pono fishing practices. I believe DAR does not have updated and complete stock assessments to properly set commercial allowances of these managed species.

I recommend the following non-commercial take of Kona Crab and managed species in this Herbivores rules package, but OPPOSE commercial allowances.

1. Establish the minimum size of manini at six inches;
2. Establish a bag limit for kala of two per person per day;
3. Observe the close spawning season for kala;
4. Prohibit the take of any uhu 'ele'ele or uhu uliuli;
5. Prohibit the take of any uhu at night;
6. Establish the minimum size for uhu pālupaluka and uhu 'ahu'ula at 14 inches;
7. Establish a bag limit of two uhu per person per day;
8. Observe close spawning season for uhu;
9. Allow the take of female pāpa'i kualoa without eggs;
10. Observe the close spawning season of May-September for pāpa'i kualoa.

Eliminate Commercial Allowances for Managed Species

Prohibit commercial take of any managed species until stock assessments are completed, spawning season are determined, and management tools are utilized to establish pono allowances and procedures.

Mahalo for allowing me to provide this testimony and recommendations.

R A Culbertson
Honokaa

1 December 2023

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

Aloha Chair Chang and Land Board Members,

We encourage DAR in their quest to address the chronic issue of depleted herbivore populations. Herbivores clearly present much more than a fishery issue alone (Hixon 2015). They are the natural resilience mechanism for our reefs to recover from past abuses and ever-worsening coral bleaching, as recently well-documented for Hawai'i Island (Gove et al. 2023). Abundant and diverse herbivores are essential for our reefs to recover from past and present problems of sediment, fertilizers, sewage, and other pollutants that favor seaweeds over corals, as well as present and future threats of ever-increasing ocean warming and acidification. When coral dies for any reason, dead coral surfaces ultimately become covered by new coral *only* if herbivores are abundant and diverse enough to control seaweeds; no herbivores, no corals.

Testifying as private citizens and as marine biologists who have studied Hawai'i's coral reefs and their herbivores for decades, we, first, concur with DAR that many herbivore populations are severely depleted, especially near major population centers, as detailed below. Second, while we are supportive of the intent of the proposed herbivore fishing rules, we are concerned that the rules have now been substantially weakened since first introduced to the BLNR a year ago. Importantly, we believe that the present version of the rules is insufficient to recover our most depleted herbivore populations.

Herbivores Depleted: Assertions from those opposing increased protections for herbivores argue that scientific data regarding the status of herbivore populations are lacking or inaccurate. These assertions are patently false. Despite problems and assumptions associated with indirect approaches such as fisheries stock assessments, there have been many direct undersea surveys of herbivore populations across *all* moku of the main Hawaiian Islands, as well as Papahānaumokuākea (Edwards et al. 2014, Friedlander et al. 2018, Gorospe et al. 2018, Stamoulis et al. 2018, Donovan et al. in press). These surveys have revealed that herbivores are extremely depleted around O'ahu and parts of Maui and Kaua'i, at low abundance elsewhere on the main islands, and at moderately high abundance only around Kaho'olawe and Ni'ihau, as well as a few other relatively unpopulated moku. Compared to Papahānaumokuākea and other unfished locations, O'ahu's herbivore populations are less than 5% of their potential abundance. Importantly, the abundance of herbivores and other fishes targeted by fisheries declines with increasing human populations, yet the abundance of non-targeted fishes shows no pattern regarding the abundance of humans, demonstrating that water pollution and habitat loss are *not* the primary causes of herbivore losses. Those who argue that they know where depleted herbivores – especially uhu and kala – are abundant fail to understand that these species are *not* at all abundant on most of our reefs. Additionally, it is an overstatement *in depleted moku*, such as all of O'ahu, to say that restricting herbivore catches takes food off

the table because some of these species, such as uhu and kala, are now too uncommon to be a substantial food source.

Suggested Re-strengthening of Proposed Herbivore Fishing Rules: We are dismayed that pressure from those supporting the status quo has now resulted in further weakening of the proposed rules, and we believe the proposed rules are presently too weak to replenish populations of uhu (parrotfishes) and kala (unicornfish). Uhu are extremely important as the heavy lifters among the herbivores, scraping and excavating dead reef surfaces to consume the algae within, thereby enhancing the growth of crustose coralline algae that serves as a settlement habitat for coral larvae. Kala are our largest species of browser, which are herbivores that consume large fleshy seaweeds. Kala can live to be at least 50 years old, so their reproductive rate is quite low. Note that keeping a reef clear of coral-smothering seaweeds is like maintaining a beautiful garden: many different tools – in this case different herbivore species – are required. Focusing on uhu and kala, and based on sound fisheries principles (Francis et al. 2007, Friedlander 2015), we urge the following:

(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. Please give these stocks a chance to recover by reducing the total allowable catch to no more than 50% of 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 and provide fishing opportunities for a larger number of people over a broader region.

(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 especially critical for keeping dead reef surfaces clean so new corals can grow, plus each individual fish poops hundreds of pounds of sand each year, which is essential to the health of the entire marine ecosystem and our beaches that provide recreation, tourism, and shoreline protection.

Insufficient data for accurate reef fish stock assessments has long been a problem in Hawai‘i, and indeed, traditional stock assessments are known to be inadequate for coral-reef fisheries (Friedlander 2015). When faced with such constraints, the wise course of action is to engage the precautionary principle (González-Laxe 2005, Francis et al. 2007). We believe that re-strengthening the proposed herbivore fishing rules will not only help our reefs recover from past degradation, but also hasten recovery of herbivore populations in preparation for the *annual* coral bleaching predicted to attack our reefs every year by 2040 (van Hooidonk et al. 2016 supplements). Note that it takes about a decade to recover severely depleted fish stocks.

We also believe that the burden of replenishing our herbivore populations should fall more on commercial and recreational fishers than on subsistence fishers, who are the keepers of pono fishing traditions. In addition to the proposed herbivore rules, we support DAR's efforts to enact place-based rules, including community-based subsistence fishing areas and island-by-island rules (e.g., Moloka'i is much different than O'ahu).

Finally, we urge the State of Hawai'i to invest more funds in (1) gathering more abundant and accurate fishery data, (2) producing public education campaigns to foster voluntary compliance with fishing regulations, and (3) expanding DOCARE to enforce the rules on those who do not fish pono.

In conclusion, herbivores are the potential saviors of our reefs, the living lawnmowers allowing the coral reef garden to flourish. We need abundant and diverse herbivores now more than ever to recover our reefs from past stressors and to allow them to endure worsening ocean warming and acidification. More living coral means more fish, sustaining and perpetuating our fisheries and the many other benefits provided by our reefs now and into the future.

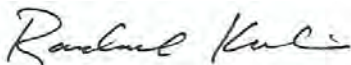
Mahalo,



Alan Friedlander, Ph.D.



Mark Hixon, Ph.D.



Randy Kosaki, Ph.D.



Kawika Winter, Ph.D.

Peer-reviewed scientific literature cited (digital reprints available upon request):

Donovan, M. K., C. W. W. Counsell, M. J. Donahue, J. Lecky, L. Gajdzik, S. D. Marcoux, R. Sparks, and C. Teague. In press. Evidence for managing herbivores for reef resilience. *Proceedings of the Royal Society B: Biological Sciences*.

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From: [Christiane Keyhani](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Testimony for agenda item F-5
Date: Tuesday, December 5, 2023 6:50:55 AM

Aloha Chair Chang and members of the Board of Land and Natural Resources,

I support, with amendments, the proposed rule changes to better protect herbivorous fish species that play a vital role in our reef ecosystems.

By increasing size limits for kole and manini, setting more reasonable bag limits for kala (unicornfish) and uhu (parrotfish), and establishing annual commercial catch limits and additional commercial restrictions on the take of kala and uhu, these rules will help to better steward critical species that are essential building blocks of a healthy coral reef ecosystem.

I appreciate that there have been many changes made to these rules since they were originally proposed, including the removal of nenu, wana, and several surgeonfish species from potential regulation, and the removal of bag limits for kole and manini. I do respectfully ask that the board consider reinstating the original proposed bag limit of 2 for kala - a long-lived and highly sought after species that may merit stronger protections. In addition, I also ask that you consider reinstating the proposed protection of "blue" uhu or supermales, given that the taking of these individuals can have a disproportionate impact on reproductive cycles and reproduction rates of these particularly important species.

Accordingly, I ask that you vote in favor of adopting these rules, with the amendments requested above. Thank you for your consideration of this important matter.

Sincerely,
Christiane Keyhani

From: [SANFORD LEE](#)
To: [DLNR.BLNR.Testimony](#)
Cc: [Jana Ireijo](#); [Cori Mackie](#)
Subject: [EXTERNAL] save our coral reefs
Date: Monday, December 4, 2023 7:54:35 PM

To whom it may concern,

Please save our coral reefs for the following reasons:

1. Herbivores are essential for our reefs to recover and survive.
2. Herbivores are severely depleted near human population centers.
3. The herbivore fishing rules proposed by DAR are too weak to replenish herbivore populations.

Thank you
Sanford Lee

From: [Dennis Mahaffay](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Save our reefs
Date: Monday, December 4, 2023 5:16:41 PM

Aloha,

Presently, the herbivore fishing rules proposed by DAR are too weak to replenish herbivore populations.

Please help strengthen them.

Mahalo,
Dennis Mahaffay

December 4, 2023

Dawn Chang, Chair

Hawai'i Board of Land and Natural Resources

Re: 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,

Diane E Shepherd, DVM 808-283-2024

3329 Kehala Dr., Kihei, HI 96753 diane.shepherd@outlook.com



SIERRA CLUB OF HAWAI'I

Testimony to
BOARD OF LAND AND NATURAL RESOURCES

December 7, 2023

In SUPPORT WITH AMENDMENTS of 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."**

Aloha Chair Chang and members of the Board of Land and Natural Resources,

The Sierra Club of Hawai'i offers testimony in **SUPPORT** of the petition for rulemaking to protect certain fish species that provide important benefits to our reef ecosystem – and by extension, the recreational and subsistence fishers, cultural practitioners, ocean enthusiasts, and small businesses that rely upon it. **While the Sierra Club supports the proposed rules, we urge the Board of Land and Natural Resources (BLNR) to provide due consideration of the precautionary principal, and minimally restore rule provisions previously considered regarding greater protections for kala and uhu.**

Our ocean environment, a foundation of our islands' resilience, cultural practices, recreational activities, economy, social fabric, and ways of life, is beset by numerous threats and challenges: stream diversions that impair life-giving muliwai; reef-smothering runoff from irresponsible land use decisions and invasive species; toxic contamination by military, industrial, and municipal pollution; nutrient overloads from cesspools and wastewater facility injection wells; ocean acidification; and climate destabilization; to name just a few. A number of these threats are within the purview of the BLNR and Department of Land and Natural Resources, which must address them proactively and with adequate care and precaution consistent with the BLNR's constitutional and fiduciary public trust obligations. **Notably, even in the absence of conclusive scientific or other data, the Hawai'i Supreme Court in In re: Water Use Permit Applications, 94 Hawai'i 97 (2000), noted that state agencies nonetheless have a duty to err on the side of precaution, should public trust resources be potentially threatened by agency action or inaction.**

Accordingly, the Sierra Club of Hawai'i appreciates and supports greater protections for herbivore fish species – such as those in the rules within this

agenda item – that can help to address the symptoms and impacts of some of the aforementioned threats.

The Sierra Club recognizes and appreciates the accommodations made in the rulemaking process to minimize regulatory impacts, by eliminating certain provisions from these rules as had been originally proposed. However, we believe that the precautionary principle does merit the re-inclusion of some of these provisions given the importance of our herbivore species as described in the submittal. **Minimally, we request that the original bag limit for kala of 2 specimens per person per day, and the originally proposed protection of “blue” uhu – which are important to maintain continuity in uhu reproductive cycles and growth rates – be reinserted into the final version of these rules. Such limits would still allow these species and other species to be harvested for consumption, and would better ensure that stocks remain sufficient for harvesting in the future.**

Therefore, the Sierra Club respectfully urges the BLNR to **approve** the staff recommendation to grant final approval of these rules, **with the above requested amendments.**

Mahalo nui loa for the opportunity to testify on this matter.

From: [s.t](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Subject: Testimony in Support of Stronger Herbivore Fishing Rules
Date: Tuesday, December 5, 2023 7:43:08 AM

To the Board of Land and Natural Resources,

Aloha,

I am writing to express my strong support for implementing more robust herbivore fishing rules as initially proposed by the Division of Aquatic Resources (DAR). The health and resilience of our coral reefs are of paramount importance, not only for the environmental ecosystem but also for our cultural and economic well-being in Hawaii.

Importance of Herbivores for Reef Recovery: Herbivorous fish play a critical role in maintaining the health of coral reefs. By grazing on algae, they prevent these plants from overgrowing and smothering corals, thus allowing for better recovery and survival of our reefs. The depletion of herbivores significantly hampers the reefs' ability to recover from various stresses, including climate change impacts.

Depletion Near Human Centers: It is evident that herbivore populations are severely depleted, particularly near human population centers. This decline has direct negative impacts on the ecological balance of our reefs, leading to decreased resilience and increased vulnerability to environmental threats.

Current Rules Inadequate: The current rules proposed by DAR, after being weakened due to external pressures, are insufficient to address the critical need for replenishing herbivore populations. Stronger regulations are urgently needed to ensure the sustainable management of these essential species and the overall health of our coral reefs.

I urge the Board of Land and Natural Resources to reconsider and strengthen the proposed herbivore fishing rules. It is our collective responsibility to safeguard our natural heritage for future generations. Let us act decisively and responsibly to protect and restore the vitality of our reefs.

Mahalo for your attention to this urgent matter.

Sincerely,

Skylor

From: [Colleen Wann](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] BLNR December agenda item F-5
Date: Tuesday, December 5, 2023 7:13:56 AM

Aloha Chair Chang and Honorable BLNR Members,

On behalf of the Hui Maka'ainana O Makana membership, we strongly support DAR's herbivore rules package as proposed in Agenda item F-5. We stand in the support of the data and findings of the research report by Friedlander, Hixon, Kosaki, and Winter as a basis. We are in support of community based co-management and collaboration input in this process (Ka Pa'akai)? however. Mahalo Presley Wann (President for the Hui Maka'ainana O Makana)

[Sent from Yahoo Mail for iPhone](#)

From: [ARNOLD WARSHAWSKY](#)
To: [DLNR.BLNR.Testimony](#)
Subject: [EXTERNAL] Herbivore Fish
Date: Monday, December 4, 2023 7:50:10 PM

Aloha,

My name is Arnie Warshawsky. I moved from California to Kailua in 1999. I am a scuba diver.

Though I do not have quantitative data, my strong impression is fewer and fewer grazing fish with a concomitant increase of algae-covered, and dying, coral heads.

The fish don't get to devise and develop survival strategies. They just disappear from our reefs lessening biodiversity and interrupting the food chain.

We are the stewards of ke kai. Do the pono thing.

Arnie

Sent from my iPhone