



September 13, 2021

Rodney Barreto
Chair, Florida Fish and Wildlife Conservation Commission
Farris Bryant Building
620 S. Meridian St.
Tallahassee, FL 32399-1600

Dear Commissioner Barreto:

As the Florida Fish and Wildlife Commission considers the FWC staff recommendation for limited, highly regulated harvest of Goliath Grouper (Goliath), I am writing to again express the diving industry's opposition to any plan to harvest a species that appears as "vulnerable" on the [International Union for Conservation of Nature \(IUCN\) Red List](#)¹

As you are aware, the Diving Equipment and Marketing Association (DEMA) is the international trade association for the recreational scuba diving and snorkeling industry. DEMA has more than 1,400 business members worldwide, more than 300 business members in Florida, and represents the interests of diving manufacturers, diver training organizations, diving-related magazines and media, diving retailers, dive travel providers, and dive charter operators as well as millions of divers, especially in Florida. DEMA's mission is to bring businesses together to grow the diving industry worldwide, and our goals include promoting recreational scuba diving and snorkeling, while protecting the underwater environment.

Florida is home to hundreds of thousands of certified divers, with hundreds of retail and resort facilities that cater to the need of divers. As of 2020, Florida had the largest population of recreational divers of any state in the U.S. Always a desirable dive destination for international dive travelers, Florida far exceeded other dive destinations for U.S.-based dive travelers during the pandemic. One very important reason divers come to Florida and spend their money in this state is to see a Goliath Grouper in situ. As the Commission has been advised many times by DEMA and others in previous meetings, a living Goliath Grouper is much more economically valuable to Florida than one that has been harvested.

As is pointed out in Jessica McCawley's presentation to the Commission dated April 14, 2021, scientists have recently attempted to assess the Goliath population through traditional stock assessments three times (2004, 2010, and 2016), and each assessment was rejected by independent expert reviewers. The Commission's most recent stock assessment in 2016 was rejected by a group of independent scientists for use in Goliath Grouper stock management in federal waters, who stated that, "the results were not deemed suitable primarily because of missing information needed to generate an accurate 'model' of the fishery." Neither the Commission nor fisheries scientists have sufficient data about the life history of these fish, and lack basic information about such data points as the maximum age of Goliaths, and

¹ Bertoni, A.A., Aguilar-Perera, A., Barreiros, J., Craig, M.T., Ferreira, B. & Koenig, C. 2018. *Epinephelus itajara* (errata version published in 2019). *The IUCN Red List of Threatened Species* 2018: e.T195409A145206345. <https://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T195409A145206345.en>.

information about the stock of Goliaths outside the southeastern U.S. FWC's own information indicates a continuing need for further study **prior to opening this species to harvest of any kind.**

As was reported in 2019 in *Florida Trend*, Florida's leading business magazine, the lack of science supporting even a limited harvest should stop the FWC from moving forward on this proposal². The best science available to the FWC comes from Christopher C. Koenig, in an article published on Fisheries.org in 2019³. Dr. Koenig's research provides all the reasons needed to dismiss any notion that a state organization such as FWC, whose decisions have historically been based on science, should allow fishers to cull predator populations for the sake of "trophy fishing."

In 2018 FWC adopted "alternative" methods of assessing the stocks of Goliaths, and alternative metrics. These alternative metrics included:

- Long-term stability or increase for juveniles and adults by measuring the relative indices of abundance.
- Increased adult density on natural reefs.
- Increases in genetic diversity, indicating a low level of inbreeding - An increase in genetic "effective population size" for Atlantic and Gulf stocks.
- An expanded presence of fish in older age classes, tied to older, larger females which produce more eggs of higher quality and, thus, are particularly important to stock productivity and resilience.

The metrics for recovery cited within Ms. McCawley's presentation indicate that no significant, measurable Goliath Grouper recovery has taken place. For example:

Lack of Juvenile Abundance

While FWC data seems to indicate that there were some increases in juvenile catch rates beginning around 2003, cold weather and red tide occurrences drove these catch rates dramatically down in a very short time. As you know, Goliath are highly susceptible to natural mass mortality events. For example, the 2009-2010 cold-kill events and the 2017-2019 prolonged red tide event likely slowed Goliath recovery. With so much uncertainty about future events of this nature, it makes little sense to open a fishery to harvest when juvenile recovery is so fragile.

Low Adult Density on Natural Reefs

According to FWC, recolonization of natural reefs is a key indicator of stock recovery. While there appears to be a higher population of Goliaths near artificial reefs, FWC's own data indicate that Goliaths have NOT recolonized natural reefs – the mean occurrence rate for the Keys is 2.0% while the Dry Tortugas is slightly higher at 4.5%. Ninety-five percent of stations where Goliath occurred consisted of a single individual, and confirm Goliath continue to be rare on what should be suitable natural habitat. With no explanation of why this is occurring, FWC should NOT conclude that there is an increase in the relative indices of abundance of Goliath Grouper.

The Need for Increased Genetic Diversity, Indicating a Low Level of Inbreeding

According to FWC, samples from over 850 fish have been analyzed and show low to moderate levels of genetic diversity. FWC also indicates that **more genetic samples from a wider area are needed to further evaluate this issue.**

² *Florida Trend*, November 18, 2019, "FSU researchers find risk in opening goliath grouper fishery."

³ Dr. Christopher C. Koenig, *Atlantic Goliath Grouper of Florida: To Fish or Not to Fish*; 2019 American Fisheries Society, www.fisheries.org.

Using the proposed alternate approach of close-kin analysis requires **five-to-seven years** to complete, assuming that it is possible to analyze 250 genetic samples per year during this time. **Thus, a minimum of five years is required before this methodology can yield results.**

The Need for an Expanded Presence of Fish in Older Age Classes

Tied to older, larger females which produce more eggs of higher quality and, thus, are particularly important to stock productivity and resilience, FWC acknowledges that there is no evidence that fish in older age classes are present. Again, according to [FWC's own data](#):

“The current age structure of the population is missing fish in the older age classes. Only three Goliaths aged after 1990 have been older than 25 years. To achieve the long-term goal of having older fish in the population, survival rates must be high.

Since there are currently few older fish in the population (i.e., most fish at spawning aggregations are between four and 20 years old), **no improvement toward this goal is expected for at least 10 years.**”

In addition to the fact that these FWC-adopted alternative stock assessment tools point to little or no recovery of Goliath Grouper stocks, the fact that the flesh of these fish cannot reasonably be consumed due to high levels of mercury, adds to the contention that harvesting them for food or other reasons is inappropriate.

While we appreciate that the FWC has attempted an alternative stock assessment of Goliath Grouper, DEMA and the diving industry continue to favor the following:

1. Maintaining the current harvesting status of the Goliath Grouper in Florida; that is, harvest and possession should be prohibited.
2. In addition to the current harvest moratorium, a prohibition on possession should be enacted, because, as FWC acknowledged in their April 2018 presentation, presently Goliath Grouper are uncommon-to-absent in much of their historical range outside of South Florida. Care should be taken to allow for Goliath Grouper to return to their historical habitats before any harvest – even a limited one - is considered.
3. FWC or NOAA (or another appropriate agency or scientific organization) should continue monitoring the stocks of Goliath Grouper through the traditional or alternate methods for a long enough time to obtain a genuine stock assessment of these animals. **More time is needed.**
4. The FWC should reject any recommendations to collect data while using a “limited harvest” of these fish. In fact, the FWC has noted in the past that such a “limited harvest” will serve no valid data collection purpose, stating; **“It is important to note that any data gathered from a limited harvest will not result in accepted stock assessment” and warn that such a limited harvest raises “concerns about consumption...because of high levels of mercury in large Goliath.”** A limited harvest seems to serve no useful or valid purpose, except, perhaps the possible ‘opportunity’ of harvest for a small group of fishers.
5. FWC or NOAA (or another appropriate agency or scientific organization) should conduct additional research on the age of these creatures, such that any future assessment would have more validity.
6. FWC should review its current regulations to determine if protections for Goliath Grouper could be implemented that are comparable to those reasonable protections afforded Manatees.

Without solid scientific evidence of recovery, data indicate that Goliath Groupers remain vulnerable to overfishing due to (among several reasons) late maturity, slow growth and being subject to large scale mortality.

As the Commission is also aware, since the prohibition of harvesting Goliath Grouper began in 1990, these animals have become extremely popular hosts to underwater habitats and are mentioned frequently by visiting/tourist divers who greatly enjoy watching these remarkable creatures roam the ocean floor. The Goliath Grouper's size, visibility, low birth rate and slow movement seem to trace another of Florida's truly majestic waterborne creatures, the Manatee, a protected species that also has considerable ecotourism value. If harvesting of Goliaths is allowed without verified stock assessments and measurable recovery, we believe Goliath Grouper could easily be thrown back to species extinction.

In addition to concern regarding the stocks of these fish, DEMA also relies on the opinions of divers and dive-related businesses regarding the current harvesting status of Goliath Grouper. In DEMA's past survey of divers and dive professionals, more than 69% indicated their desire to maintain the current moratorium on harvesting the Goliath Grouper. Among Florida residents, 64% indicated a desire to maintain the moratorium, while among those traveling to Florida to dive and see the Goliath Grouper while diving (bringing tourist and tax revenue to the state) the number rose to more than 77%.

FWC's April 14, 2021 presentation indicated that the presence of high levels of mercury in the flesh of Goliath makes them inedible. With the high economic value for live Goliath Grouper among divers, especially the perceived value from divers visiting from outside of Florida, who are willing to pay \$336.00 to see these fish (as compared to a maximum of \$79 for fishers to harvest a Goliath Grouper), it seems most appropriate economically and scientifically to maintain the moratorium on the Goliath Grouper harvest.

Finally, anecdotal evidence of Goliath Grouper taking fish caught on a fishing line is hardly a valid reason to cull a vulnerable fish population. Goliath Grouper are opportunistic feeders and fishers are engaged in an opportunistic activity. Goliaths are going to take fish struggling on a line – there is a reason it is called “fishing” and not called “catching.”

Please do not permit ANY harvest of this vulnerable species. Please maintain the current harvest moratorium until the Goliath has been shown through objective data to have recovered, not only in Florida but throughout its range. Until such time as recovery can be confirmed, opening the Goliath to fishing runs counter to FWC's stated vision:

“The FWC envisions a Florida where fish and wildlife are abundant and thriving in healthy and connected natural landscapes with vital working lands and waterways; where natural resources are valued and safely enjoyed by all; and wherein natural systems support vibrant human communities and a strong economy.”

Thank you for your careful consideration of this issue.

Sincerely,



Tom Ingram
President and CEO

cc: The Honorable Ron DeSantis, Governor, State of Florida
Eric Sutton, Executive Director, Florida Fish & Wildlife Conservation Commission
Bob L. Harris, Esq., Tallahassee
FWC Commissioners
DEMA Board of Directors