

**Critical Information on Goliath Grouper,
Nassau Grouper and Red Hind, For
Inclusion In Educational and Outreach
Materials**

Final Report

Submitted to the

**Caribbean Field Office,
National Marine Fisheries Service**

28 July 2008

By

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1. Population status

All grouper stocks around the world are overfished. Large groupers are extremely vulnerable to overfishing due to a combination of life history traits such as a long life, slow growth, site attachment and the formation of spawning aggregations. In the Caribbean, and according to the International Union for the Conservation of Nature (IUCN), goliath grouper (jewfish) is critically endangered (at risk of extinction within the next 10 years) and Nassau grouper is endangered (at risk of extinction within the next 20 years). Many red hind stocks are depleted or overfished.

2. Protection status

Goliath grouper (jewfish) and Nassau grouper are protected species in U.S. federal waters, and state waters of Puerto Rico. Red hind is protected during its reproductive season through a series of federal and local regulations. Federal regulations consist of: 1) a seasonal closure (December 1-February 28 each year) in federal waters east of St. Croix within a 3.5 square mile area at head of Lang Bank; 2) a permanent fishing prohibition in Hind Bank Marine Conservation District, St. Thomas; and 3) a seasonal closure (December-last day of February each year) when no harvest or possession in federal waters west of 67°10'W longitude permitted. Puerto Rico regulations consist of a seasonal closure (December 1-February 28 each year) in waters around Puerto Rico. U.S. Virgin Islands do not have additional local regulations.

3. Habitat and basic life history

The three species need healthy mangrove (goliath grouper) and coral reef habitats to survive.

Goliath grouper (jewfish) are the largest and oldest groupers in the Atlantic Ocean. Goliath grouper need intact fringing red mangrove forests as nurseries, where juveniles live and grow in the underwater jungle of the mangrove roots until they reach about 1.2 m in length at 5 to 8 years old. Then, the fish migrate to nearby coral reefs, reef ledges, and other hard bottom structures, where, as adults, they can grow up to 2 m in length, weigh almost half a ton and live more than 40 years.

Nassau grouper were historically one of the most important sources of protein for Caribbean coastal communities. They use seagrass beds, patch reefs, and even the empty shells of queen conch as nurseries, and migrate to the coral reef when they reach 45 cm in length at 4 to 7 years old. Once in the coral reef, they can grow up to 120 cm long, weight 30 kg and live more than 30 years.

Red hind live in coral reefs. They use small patch reefs and seagrass beds as nurseries and migrate to deeper coral reefs at age 4 when they measure 25 cm in length. In the coral reef, they can live up to 22 years, and grow to 72 cm in length.

4. Reproduction

Groupers reproduce in large (some times thousands of individuals) spawning aggregations, where males and females release sperm and eggs into the water column. Once the eggs are fertilized, baby groupers hatch as larval fish, and after a month or so drifting with ocean currents, they recruit into nurseries, and then to the coral reef [nurseries, timing and size of movement to coral reef are indicated above in the “habitat and life history” section]

5. Action

[Possible suggestions for the general public. Choose suggestion depending on intended audience]

You can help the groupers repopulate the coral reef. This is what you can do:

Do not destroy or pollute the habitats where groupers live, the mangroves, seagrass and coral reefs.

Do not throw trash into the rivers or the ocean or on the beach. Plastic of any kind and other forms of trash can kill marine life.

Do not leave your fishing line or nets in the water or along the shore. Marine life, including groupers, sea turtles, seabirds and dolphins, can become entangled in the fishing line and nets, and die.

Do not anchor on seagrass or corals. Anchors dragging on the bottom in these habitats can destroy the critical nursery habitat of Nassau grouper and red hind.

Do not buy goliath grouper (jewfish) or Nassau grouper any time of the year, or red hind during its closed season when you visit the fish market.

Never ask for goliath (jewfish) or Nassau grouper in a restaurant or for red hind from December 1 to February 28. Instead, enjoy all the other delicious items on the menu.

6. List of suggested visual aids

To help in the identification of the species and for additional educational value photographs (preferred) or color drawings should be included to illustrate the following:

Photo 1: Goliath grouper juveniles in mangroves,

Photo 2: Goliath grouper adult/s in coral reefs or in a spawning aggregation

Photo 3: Nassau grouper adult in coral reef

Photo 4: Nassau groupers in spawning aggregation

Photo 5: Red hind adult in coral reef

Photo 6: Red hinds in spawning aggregation