

Interim 2010 Goliath Grouper Monitoring Results Jupiter, Florida

By Mike Phelan 4465 Se Graham Drive Stuart FL 34997 (772) 341-4146

This is an interim report summarizing data collected during calendar year 2010. Previous monitoring reports for 2008 and 2009 have been finalized and published. Copies are available upon request.

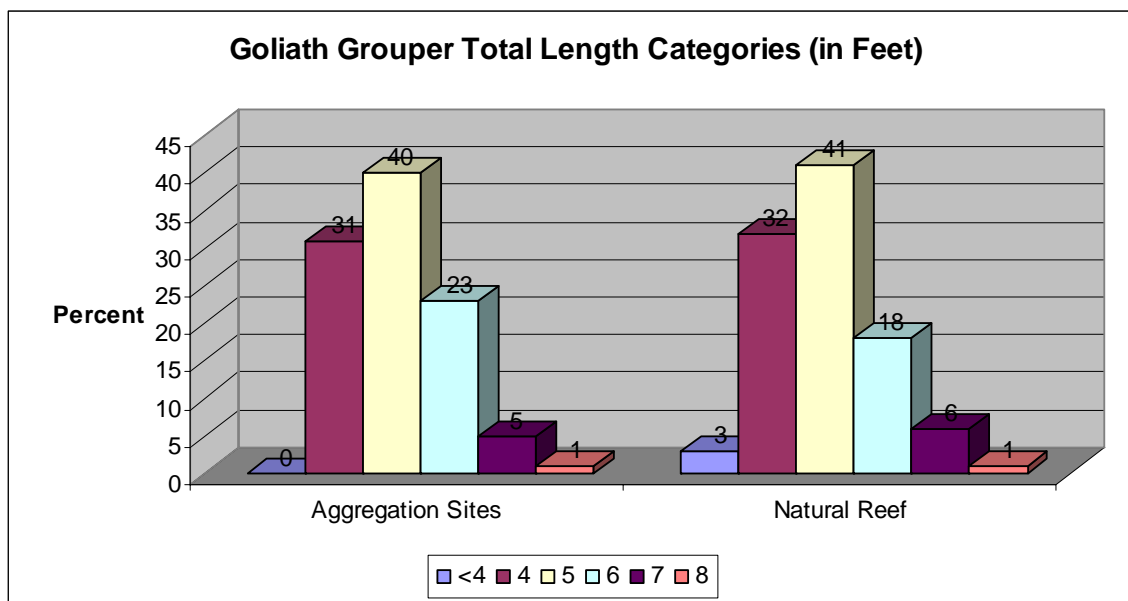
Eighty-eight surveillance dives have been conducted in 2010. The range of the monitoring dives extends from north of the Palm Beach Inlet to south of the St. Lucie Inlet at Stuart, Florida. The large majority of the dives have been on natural and artificial reefs in the Jupiter and Juno off-shore area. Two artificial reefs sites, the Zion Train wreck corridor and the MG-111 barge, have been the site of large Goliath grouper aggregations in late August through early October. The purpose of this year's data collection will be to better characterize the aggregation build up and dissipation by conducting regularly scheduled dives at known aggregation sites. In addition, total length estimations and counts will also be made at the surrounding local natural reefs to determine if the local resident Goliath grouper population leaves its year round habitat to participate in the late summer aggregations.

Nineteen natural reefs sites have been monitored during 74 dives conducted during the period January 3 through July 16, 2010. The sighting frequency of Goliath Grouper on natural reefs in the Jupiter-Juno area is 58%. The top three sites are Tunnels (8.43 Goliath groupers per dive), Loran Towers (4.83 Goliath groupers per dive), and Bluffs (3.75 Goliath Groupers per dive). During that same period, 13 monitoring dives were conducted on two Jupiter artificial reef sites that are documented aggregation sites. Both sites on every occasion were observed to have a resident Goliath Grouper population.

Preliminary analysis of the two populations (natural reef and artificial reef/known aggregation site) indicates that the size groupings as determined by the estimated Total Length are almost identical. No discernable seasonal pattern has been observed and it appears that both study areas have stable resident populations. Additionally, 71 percent of the estimated total lengths are in the 4-5 foot range which is suggestive that the Jupiter area is largely populated by young adults that probably recently emerged from the mangrove areas in the Indian River and Lake Worth lagoons. As a side note, the cold weather conditions in the lagoons this past winter may have resulted in some smaller Goliath groupers leaving the lagoon for the off-shore reefs earlier in their lifecycle than in previous years.

It is expected that the large aggregation of larger Goliath groupers in the 6 – 8 foot range will begin shortly and intense monitoring will commence at that time. A full report will be published in late fall.

Other noteworthy observations include the observation of four dead Goliath groupers at different times during year. Two instances were the result of a fatal spear fishing wound.



Estimated Length:	<4 Feet	4 Feet	5 Feet	6 Feet	7 Feet	8 Feet	Number of Goliath Observed	Total Dives
Aggregation Sites	0	38	48	28	6	1	121	14
Percentage	--	31%	40%	23%	5%	1%		
Natural Reefs	5	56	71	31	10	1	174	74
Percentage	3%	32%	41%	18%	6%	1%		