



# **Socioeconomic Assessment of Georgia Offshore Spearfishing**

**Rod Ehler, Economist**  
**NOAA National Marine Sanctuary Program**  
**February 2008**

Spearfishing was considered for regulation during the original 1981 GRNMS designation and again during the management plan review from 1999 until 2006. Spearfishing with powerheads was prohibited in 1981 and, although a prohibition on all spearfishing in the sanctuary was proposed with the draft revised management plan, no changes were made in the 2006 final plan. The sanctuary concluded, instead, that there was little data on the actual level of spearfishing at GRNMS and the sanctuary would, therefore, gather additional socioeconomic information on this activity in GRNMS and review the issue again in two years.

Results from the socioeconomic study indicate that no dive charters made spearfishing trips to GRNMS in recent years and none plan to in the future. A scuba club reported one spearfishing trip (1 day, six divers) a year to GRNMS. A small amount (no more than 1 percent of all fishing) of private boat based spearfishing at GRNMS can be assumed, but has not been documented. The combination of no charter spearfishing activity at GRNMS and the abundant substitution opportunities lead to the conclusion that a prohibition on spearfishing at GRNMS would result in no measurable economic impact.

## **Dive Charter Interviews**

In September 2007, in-person interviews were conducted with all businesses and organizations offering scuba diving trips along the Georgia coast. Four charter scuba diving operations and one scuba diving club were identified and interviewed. The interviews gathered information that included operating profiles, preferred diving locations and methods, detailed business data (revenue and costs), and general opinions of the current state of scuba diving and spearfishing off the Georgia coast. A total of 10 businesses offering scuba diving charter trips at some point during the past 5 years off the Georgia coast were identified. Of these, only 4 currently remain in business. Three are associated with dive shops and one is charter boat only. The 6 others have either gone out of business, moved away from the area, or are dive shops that no longer operate charter trips.

## Findings

### *Person-Days of Scuba Diving*

Dive charters reported a total of 1,747 person-days of scuba diving off the Georgia coast in 2007. Approximately 55 percent of these person-days were non-consumptive (no spearfishing) person-days, 44 percent were consumptive (spearfishing) person-days, and the remaining 1 percent was sightseeing/sportfishing. None of these person-days occurred at GRNMS.

One scuba club reported a total of 24 person-days of scuba diving off the Georgia coast with 6 of these person-days spent at GRNMS.

A person-day is defined as one person undertaking an activity for any part of a day or a whole day.

### *Revenue and Operating Costs*

The table below summarizes the revenue and operating costs of the Georgia offshore scuba diving charter fleet as of 2007. Charter operations appear to be a break even business with most stating that they use it to get customers in the dive shop. It is important to note that major variable and unexpected costs are not factored in to the table. These variable costs typically include major engine repair or replacement and equipment repair or replacement.

Table 1. Revenue and Operating Costs of the Georgia Offshore Scuba Diving Charter Fleet, 2007

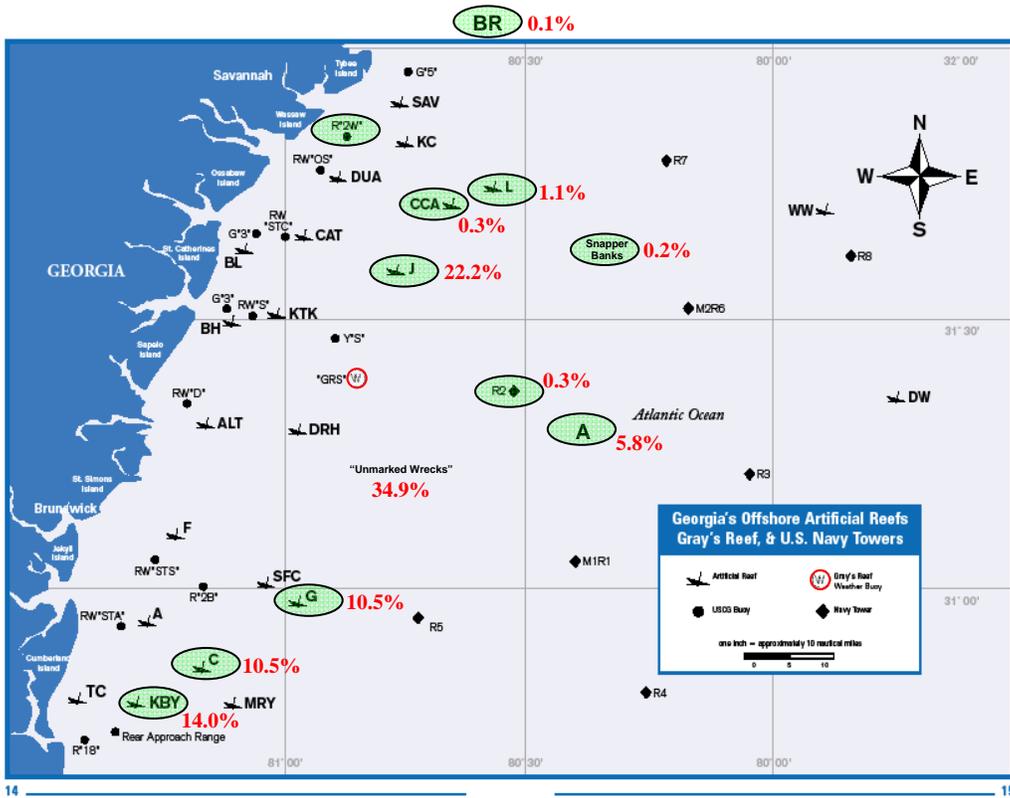
<b>Gross Revenue from Charter Diving</b>	<b>100,000</b>
<b>Operating Costs</b>	
Wages, Salaries and Benefits	3,500
Fuel	21,180
Repair & Maintenance	6,200
Equipment Rental and Leasing	41,920
Dock	7,200
Insurance	6,800
Interest Payments	15,600
<b>Total Operating Costs</b>	<b>101,800</b>
<b>Loss from Charter Diving</b>	<b>(1,800)</b>

*Preferred Spearfishing Locations*

Figure 1 below is a map of Georgia’s offshore artificial reefs, US Navy towers and Gray’s Reef NMS. The spearfishing locations mentioned during the interviews are indicated with green ovals, the percentage of reported visitation is indicated with red numbers, and GRNMS is marked with a red circle. The map demonstrates the extensive substitution opportunities for scuba diving and spearfishing that exist off the Georgia coast. Even if there were significant levels of spearfishing activity reported at GRNMS, the network of other locations would significantly decrease any economic impact. The single most popular site is J Reef. “Unmarked wrecks” are where the majority of trips are made.

GRNMS’s location, 17.5 nautical miles off Sapelo Island and more than 30 nautical miles from Savannah and Brunswick, makes accessing the sanctuary difficult. The map below demonstrates the multitude of spearfishing opportunities that exist closer to the primary access points of Savannah and Brunswick.

Figure 1. Georgia Preferred Scuba Diving Locations as Reported by Dive Charters and One Scuba Diving Club.



### *Comments and Opinions from the Interviews*

The interviewees expressed comments and opinions concerning spearfishing at GRNMS. Below is a summary of these comments and opinions.

I haven't been to GRNMS in two years  
Don't plan on going back to GRNMS  
Not enough reef at GRNMS, too patchy  
Drift dive only at GRNMS, too difficult for most divers  
The better spots are Snapper Banks and J Reef  
I don't trust people diving at GRNMS  
Too many sharks at GRNMS  
Visibility not reliable at GRNMS  
GRNMS is valuable for advertising to out of state  
customers, then we take them to better locations  
Make no money running dive charter business in GA,  
it just gets customers into the store

#### *Private Boat Based Spearfishing at GRNMS:*

A formal study of private boat based spearfishing at GRNMS has not been undertaken and would be difficult and cost-prohibitive to complete. A telephone survey is not considered feasible due to the extremely high number of calls that would be required to identify spearfishers who visit GRNMS; further, a statistically valid sample would be difficult to obtain because of the very small and widely-scattered sampling universe. On-water surveys are also not feasible due to the open ocean weather conditions, and the extremely small probability of encountering a spearfisher even when conditions are good. Opportunistic surveys during other visits (enforcement, research, monitoring) to the sanctuary would not result in a large enough sample size or valid sampling regime.

Despite the lack of such a formal study, on-water observations from fishermen, scuba divers, and researchers allow us to assume with some confidence that only a small amount (likely no more than 1 percent of all fishing) of spearfishing within the sanctuary occurs from private boats. As mentioned above, any potential economic cost would likely be absorbed by the multiple substitution opportunities off the Georgia coast.

Given that there is (1) presently no charter spearfishing activity within GRNMS and (2) abundant substitution opportunity in the region, a prohibition on spearfishing at GRNMS would not have a measurable or significant economic impact.