

5.6 TENSION BARGE ARTIFICIAL REEF

- Location: Sirotkin Reef
- Materials: 140 ft steel barge
- Maximum Depth: 188 feet
- Reef High Point: 179 feet
- Year Created: 2004
- Monitoring Date: 9/29/2011
- Total Cost: There was no cost to Martin County

5.6.1 History of the Tension Barge Artificial Reef

The tension barge was so named because of much “tension” that went into the acquisition, cleanup, storage issues, towing contractor, Coast Guard approval and final moment while she was sinking. Each artificial reef has its own unique personality from initial concept to final placement on the seafloor but once in place it can become a thriving complete ecosystem full of fish and benthic marine species. The location of the Tension Barge and adjacent artificial reefs is shown in Figure 16.



Figure 16. Chart view of the Tension Barge Reef within the Sirotkin Artificial Reef site.

5.6.2 Structural Summary

The Tension Barge lies completely upside down in a north/south orientation. Unlike the High Queen/Zeppo about 100 yards to the south, the Tension Barge's deck is flat on the seafloor. The side hull plates of the barge are buckled in many places, but otherwise it is intact. The steel is heavily rusted and small holes exist in many places on the hull and sides. In contrast to the High Queen/Zeppo, the Tension Barge has very little complexity. Fish were seen swimming into the holes that allow access to the dark confines of the barge's interior. Over time it is expected the sides will collapse allowing much more surface area to become available for marine life to occupy. The photographs from the monitoring dive in Figure 17 show the general condition of the Tension Barge as it sits on the seafloor.

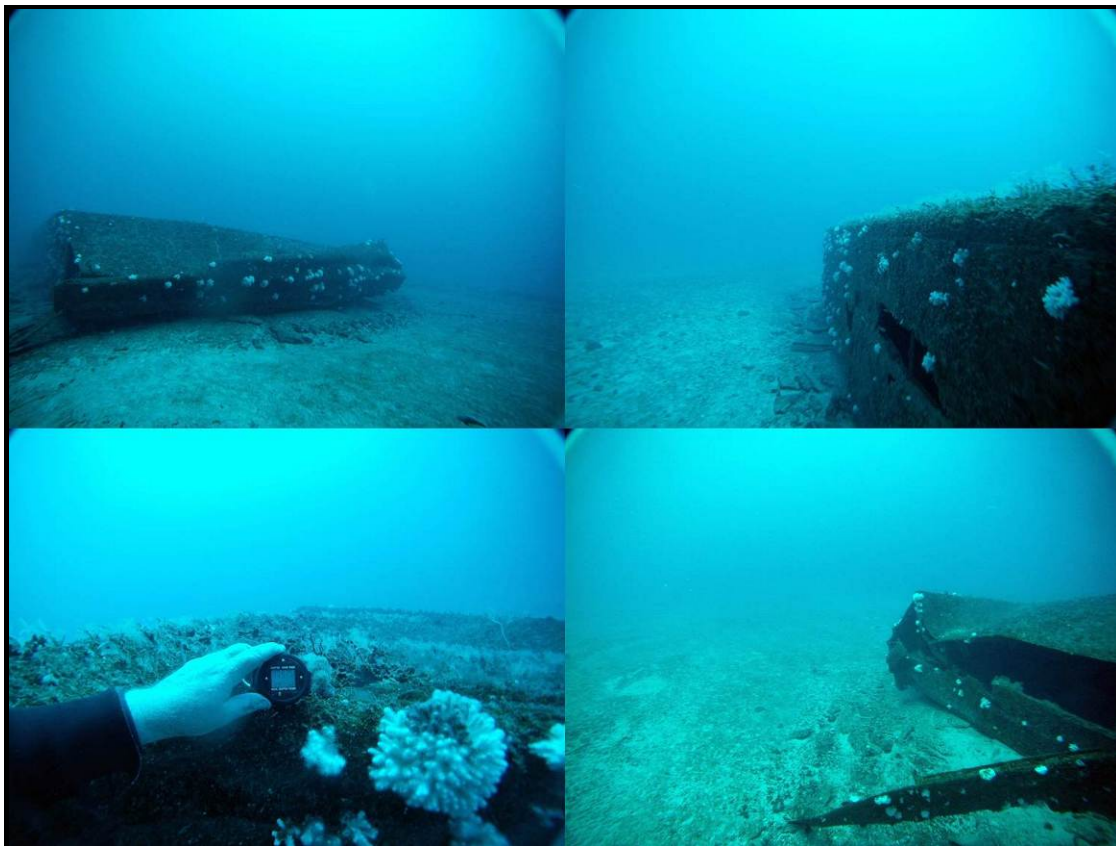


Figure 17. Tension Barge Reef 2011 photographs.

5.6.3 Biological Survey Results

The fish species census for this reef documents observing only 6 fish species, this could be attributed to the site's lack of structural complexity. Three of the six species identified are considered important sport fish in the Grouper/Snapper complex including black sea bass, snowy grouper, and greater amberjack. Although not many fish species were seen this day, the federally protected deepwater coral species *Oculina varicosa* is growing quite prolifically on the large steel hull plates of the Tension Barge. Most of these coral colonies are found on the sides, although some do exist on the flat hull surfaces as well but are smaller in size. Table 18 and Table 19 list the species/taxa, their relative abundance and size class (adult, intermediate, and juvenile) observed during the monitoring dive.

Table 18. Tension Barge Artificial Reef Fish Species Census.

Family/ Common Name	Species	2011	
		Abundance	Size
Carangidae			
Greater Amberjack	<i>Seriola dumerili</i>	M	A
Pomacentridae			
Yellowtail reeffish	<i>Chromis enchrysurus</i>	M	A
Serranidae			
Bank sea bass	<i>Centropristis ocyurus</i>	F	A
Black sea bass	<i>Centropristis striata</i>	M	J & A
Snowy grouper	<i>Epinephelus niveatus</i>	F(2)	J/A
Sparidae			
Sheepshead porgy	<i>Calamus penna</i>	F	A
	Total	6	

Abundance Key: S=single, F=few (2-10), M=many (11-100), A=abundant (>100)

Size Key: A=adult, J=juvenile, A/J=intermediate

Table 19. Tension Barge Artificial Reef Benthic Species Census.

	Common Name	Scientific Name
Echinoderms	Rock Boring Urchin	<i>Echinometra lucunter</i>
	3 Rowed Sea Cucumber	<i>Isostichopus badiotus</i>
	Common Arbacia Urchin	<i>Arbacia punctulata</i>
	Sea Star	Unidentified species
Cnidarians	Sea Anemones	<i>Aptasia sp.</i>
	Hydroids	Unidentified species
Ascidians	Overgrowing Tunicates	<i>Didemnidae</i>
	Giant Tunicates	<i>Polycarpa spongibilis</i>
	Button Tunicates	<i>Distaplia corolla</i>
Crustaceans	Yellowline Arrow Crab	<i>Stenorhynchus seticornis</i>
	Giant Hermit Crab	<i>Anomurans</i>
	Rough Box Crab	<i>Calappa gallus</i>
	Caribbean Spiny Lobster	<i>Panulirus argus</i>
Mollusca	Rock Snails	<i>Muricidae</i> (Unidentified Species)
	Octopus	Unidentified Species
	Cowery Shell	

	Common Name	Scientific Name
Scleractinia	Large ivory coral	<i>Oculina varicosa</i>
Ectoprocta	Encrusting Bryozoans	Unidentified Species
Anthozoa	Gorgonians	
Porifera	Star Encrusting Sponge	<i>Halisarca sp.</i>
	Orange Encrusting Sponge	<i>Ulosa ruetzleri</i>
