

7 Tree Barge

Due to the deep depths and sometimes poor offshore conditions, this deep site is not always able to be monitored.

Construction date: April 19, 2002

Monitoring date: September 3, 2007

Location: Sirotkin permitted artificial reef site

GPS coordinates: 27° 13.419 North / 80° 00.270 West

7.1 History of the Tree Barge

The Tree Barge was nicknamed such because a young Australian pine tree had grown on top of the deck while the barge lay idle for approximately four years in the Okeechobee waterway several miles west of the St. Lucie Locks. Martin County acquired this barge when the owner abandoned it where it was grounded on the north embankment of the waterway. The County Engineering Department arranged for the sinking of the barge as the first component of the newly created deepwater extension of the Sirotkin artificial reef site. On Friday April 19, 2002 the Tree Barge was towed offshore and sunk in 188 feet of water in the northeast quadrant of the Sirotkin artificial reef site.

7.2 Tree Barge Orientation

The Tree Barge remains on the bottom in an upright position with the deck level; no notable listing. The bow damaged during deployment faces easterly at 80 degrees and the stern faces westerly at 260 degrees. The highest profile is where the damaged bow is buckled, where a depth of 175 feet can be found. In May of 2005 four concrete/steel Florida Special ReefMakers Units were deployed between the Tree Barge and the nearby ship the Wickstrom. The southernmost ReefMaker unit landed on top of and upright at the east end of the Tree Barge. At the apex of that unit a depth of 167 feet was recorded. Some minimal scouring of the sand /shell bottom has occurred, under and immediately adjacent to the hull/seafloor interface. Water depths in the scoured areas were 190 feet, while surrounding water depths at the bottom were 188 feet. There is no apparent movement of the barge since original deployment in 2002. Underwater photographs of the Tree Barge are shown in Figure 15. The ReefMaker unit is shown on top of the Tree Barge in the left photo, and the right photo shows the 2-foot scour along the side of the barge, and the damaged top.



Figure 15. Tree Barge June 3, 2006 Photographs

7.3 Reef Components Stability

The Tree Barge was considered a derelict abandoned vessel and was in poor condition when acquired by Martin County. Before deployment offshore, some areas of the deck could not be walked on because of thinning deck plates and holes in the steel deck. As a working barge this is not a favorable asset but underwater as an artificial reef the holes provide access for fish and marine life. On the north center section of the deck, a large area of peeled open deck plates was located and photographed, as shown in Figure 15. This damage may have occurred during one of the three major hurricanes that passed through Martin County in 2004 and 2005. This actually is a positive thing for the overall artificial reef's habitat, as it allows marine life easier access in and out of the hull.

7.4 Fish Species and Abundance Findings:

Fish census data from September 3, 2007, June 3, 2006 and August 21, 2003 are shown in Table 9.

Table 9. Tree Barge Fish Census

Common Name	Scientific Name	Adult or Juvenile	2007	2006	2003
Bank Seabass	<i>Centropristis ocyurus</i>	J&A	M	S	
Banks Butterflyfish	<i>Prognathodes aya</i>	A			S
Black Grouper	<i>Mycteroperca bonaci</i>	A	F	F	S
Gag Grouper	<i>Mycteroperca microlepis</i>	A	F		
Gray Snapper	<i>Lutjanus griseus</i>			M	
Gray Triggerfish	<i>Balistes capriscus</i>			M	
Greater Amberjack	<i>Seriola dumerili</i>	A	A	M	F
Little Tunny (Bonito)	<i>Euthynnus alletteratus</i>	A	F		
Queen Snappers	<i>Etelis oculatus</i>	J&A			M
Red Grouper	<i>Epinephelus morio</i>	A		S	F
Red Snapper	<i>Lutjanus campechanus</i>			M	
Reef Butterflyfish	<i>Chaetodon sedentarius</i>			F	
Roughtongue Bass	<i>Holanthias martinicensis</i>	J&A	F		
Scamp	<i>Mycteroperca phenax</i>	J&A			S
Silversides (Baitfish)	<i>Atherinidae</i>	A	A		
Snowy Grouper	<i>Epinephelus niveatus</i>	A			
Southern Stingray	<i>Dasyatis americana</i>	A	S		
Warsaw Grouper	<i>Epinephelus nigritus</i>	A	S		
Yellowtail Reef Fish	<i>Chromis enchrysur</i>	A			M
	Total Number of Species:		9	8	7