

3.10 American Custom Yachts Tower Artificial Reef

- Location: Sirotkin Reef
- Materials: Steel
- Maximum Depth: 187 feet
- Reef High Point: 155 feet
- Year Created: 2008
- Monitoring Date: 10/15/2009

3.10.1 History of the American Custom Yachts Tower Reef

This artificial reef is one of four almost identical steel towers that were constructed by Harbor Branch Oceanographic Institution for the United States Navy. The navy planned to deploy these towers and use them for submarine acoustic and navigation exercises, however, the towers were never used for their original purpose and were secured by Martin County for inclusion in the artificial reef program. The towers were deployed in 2008 from a secured barge in the northeast corner of the Sirotkin reef site, near several other ships and barges. Figure 25 shows the location of the American Custom Yachts Tower in the Sirotkin Artificial Reef area.

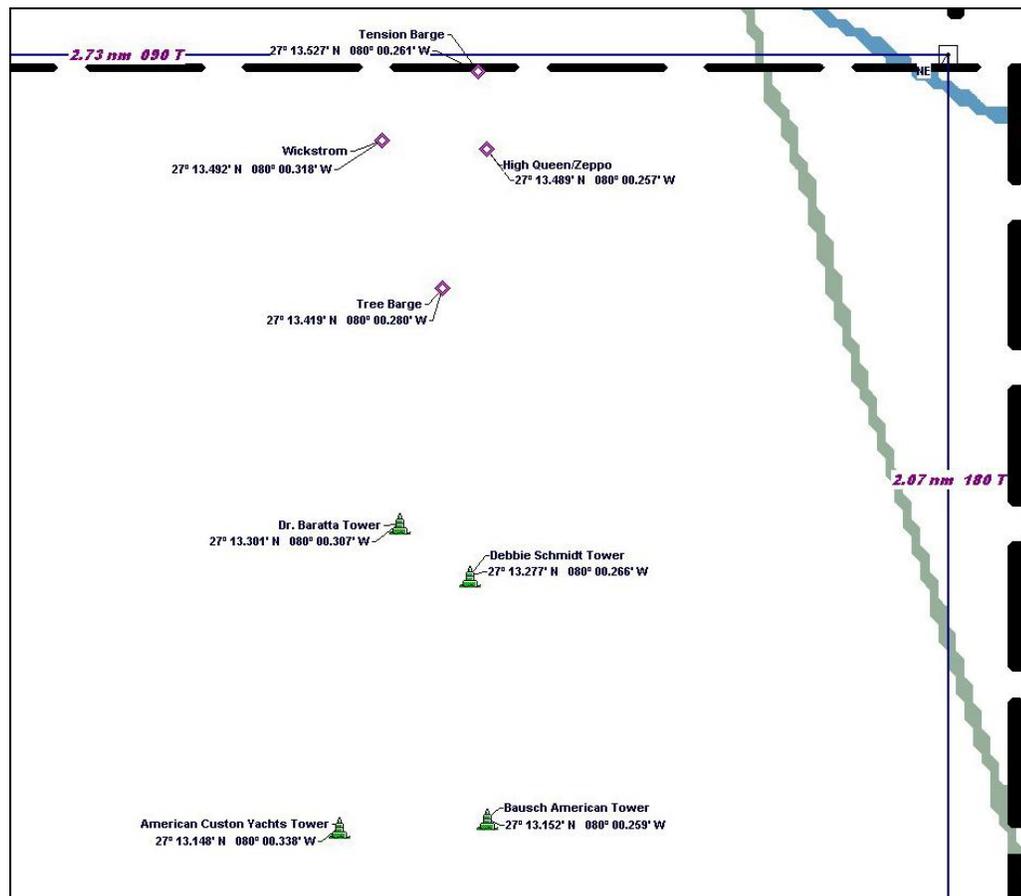


Figure 25. Chart view of Sirotkin Reef showing locations for American Custom Yachts Tower and other artificial reefs.

3.10.2 Structural Summary

Each tower was constructed from heavy tubular and plate steel with a tall latticed spire supported by three heavy, braced legs. To help ensure an upright deployment and promote stability, a bouy was affixed to the top of the tower and continues to float slightly above the tip of the spire. The maximum seafloor depth at this artificial reef site is about 187 feet and the tower stands 35 feet from the bottom. The seafloor at this site is quite firm and composed of a shell and coarse sand mixture that appears to provide a solid base for the heavy tower, as scouring is not significant around the tower's three feet.



Figure 26. American Custom Yachts Tower 2009 photographs. Note small colony of *Oculina* coral above dive computer in lower right photo.

3.10.3 Biological Survey Results

Because this tower was deployed in 2008, this report contains data from the first annual monitoring event for this reef. Fish species consisted mainly of seabasses and jacks. Black and bank seabasses were common around the tower feet and greater amberjacks patrolled the tower legs and mast. A single snowy grouper juvenile was photographed at the base of the tower (Figure 26). Vast schools of unicorn filefish were observed around the rope and barrels above the tower. Because of the strong Gulf Stream current, these filefish were all facing into the current. Invertebrate biomass on the artificial reef was already well established with barnacles, hydroids, tunicates, tube worms and numerous small colonies of *Oculina* coral. Table 14 presents the fish species observed during 2009.

Family/ Common Name	Species	2009	
		Abundance	Size
Serranidae			
Bank seabass	<i>Centropristis ocyurus</i>	M	A
Black seabass	<i>Centropristis striata</i>	M	A
Snowy grouper	<i>Epinephelus niveatus</i>	S	J
Carangidae			
Almaco jack	<i>Seriola rivoliana</i>	M	A
Amberjack	<i>Seriola dumerili</i>	M	A
Chaetodontidae			
Bank butterflyfish	<i>Chaetodon aya</i>	F	A
Balistidae			
Unicorn filefish	<i>Aluterus monoceros</i>	M	A
	Total	7	

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 15. American Custom Yachts Tower Artificial Reef fish species census.

3.11 Mango Artificial Reef

- Location: Ernst Reef
- Materials: Concrete
- Maximum Depth: 61 feet
- Reef High Point: 48 feet
- Year Created: 2007
- Monitoring Date: 6/27/2008, 10/8/2009

3.11.1 History of the Mango Artificial Reef

Staff from Martin County Engineering sought to simplify the collection and transport of materials of opportunity to aid artificial reef construction. Arrangements were made to allow local contractors to drop acceptable reef materials at the Martin County Landfill with no tipping fees. These materials were taken to Harbor Pointe Park in Ft. Pierce, loaded on barges, and brought to the north end of the Ernst Artificial Reef area. On June 15 and 26, 2007, 440 tons of concrete culverts, bridge components, and other large forms were unloaded from an anchored barge to form the Mango Artificial Reef.