

<i>Tree Barge</i>	Sirotkin Artificial Reef Site	Deployed April 19, 2002
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Project Date: August 21, 2003

Subject: Annual monitoring report for the Tree barge

Location: Approximately 10 miles offshore Martin County, Florida

GPS coordinates N27 13.419/ W80 00.270

Crewmembers: Capt. Leon Morrison, Kerry Dillon, Diver Scott Glover, Jack Glanville

The following field report documents the conditions on the artificial reef known as the “Tree-Barge” located in the northeast portion of the Sirotkin permitted reefsite offshore Martin County, Florida. The report addresses four types of data collected: Fish species identification, benthic species identification, reef orientation and barge stability.

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 approx. 4 years in the Okheechobee 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 Growth Management Department turned it over to the County Engineering Department to be sunk as the first component of the newly created deepwater extension of the Sirotkin artificial reefsite. This area extends out to 200-foot water depths from the old boundary, which was in 110 feet of water. Although these depths are not recommended for normal recreational diving, the local offshore sport fishing interests prefer these depths for their blue water angling adventures because of the specific pelagic species encountered there.

On Friday April 19, 2002 the Tree barge was intentionally sunk in 188 feet of water in the northeast quadrant of the Sirotkin artificial reefsite. This report presents the conditions observed during the underwater survey performed August 21, 2003.

ORIENTATION:

The Tree barge settled on the bottom in an upright position with the deck level; no notable listing. The bow, damaged during deployment, faces easterly at 80° and the stern faces westerly at 260°. Some minimal scouring of the sand /shell bottom has occurred, especially on the western end. Water depths at this end were measured as 191 feet while the overall surrounding water depths at the bottom were measured as 188 feet. There is no apparent movement of the barge since original deployment in 2002.

BARGE 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 deckplates 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. No new damage to the hull or deck has been noticed since deployment, although an obvious rusting of all metal surfaces is occurring. Other than the damaged bow, which occurred during the sinking of the barge, no other major damages or deterioration was observed.

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FISH SPECIES & ABUNDANCE FINDINGS:

Fish identification and abundance were determined utilizing the guidelines established by the Reef Environmental Education Foundation, known as *REEF*. The roving diver method was used for a set time period of 20 minutes. The divers would roam around the barge and identify species and record data on underwater slates. Data would be double-checked once topside using field texts with color photographs and then transferred to the *REEF* data sheets to be added to their worldwide database. Underwater video photodocumentation was also utilized to accurately document fish species and abundance. Below are the results of those findings:

<u>Marine species identified</u>	<u>Quantity observed & estimated</u>	<u>Juvenile or Adult</u>
Greater amberjack	10	A
Red Grouper	1	A
Banks butterflyfish	1	A
Queen Snappers	12	J & A mixed
Black Grouper (approx. 30 lb.)	1	A
Snowy Grouper (approx. 4 lbs.)	1	A

BENTHIC SPECIES IDENTIFICATION:

The roving diver method was used for benthic species identification. Divers would roam around the barge structure and identify benthic species and record data on slates. Data would be double-checked once topside using field texts with color photographs. Underwater digital video photodocumentation was also utilized to accurately document benthic species and distribution. Below are the results of those findings:

Benthic species identified:

Sea Urchins (Black & White)

Barnacles, Red, approximately 40 % coverage

Feather duster worms (occasional)

Brown Green algae

Arrow crabs

NOTE: Unusually cold water temperatures occurred July-August 2003 (48 to 55°F near the bottom), which may cause the biological data for this report to differ from those expected for normal conditions.