

## 20 Frances Langford Memorial Reef

Construction date: February to August 2005

Monitoring date: June 2, 2006

Location: Sirotkin permitted reef site

GPS coordinates: N27° 13.353 / W80° 01.046

Crewmembers: Lee Harris, Kerry Dillon, Jack Glanville

### 20.1 History of the Frances Langford Memorial Artificial Reef

In the winter of 2005 nine barge loads of concrete and steel materials were deployed on the Frances Langford Memorial Reef in 150 feet of water within the Sirotkin permitted artificial reef site in Martin County, Florida. These materials came from the decommissioned Frank Wacha draw bridge that spanned the Indian River Lagoon in Jensen Beach. The new reef was named in honor of one of the local celebrities and benefactors, Frances Langford, who was a former actress. Frances Langford was a great supporter and benefactor for the Florida Oceanographic Society (FOS) FOS was the first non-profit environmental group in the area and Ms. Langford's support for the Society helped establish the FOS Coastal Science Center on Hutchinson Island.

### 20.2 Dive Data

Max. depth at bottom in sand = 151 feet

Min. depth at top of peaks = 133 feet

Underwater visibility this day = 40 feet bot., 70 feet top

Divers breathing mode and gases = SCUBA with NITROX

### 20.3 Frances Langford Memorial Artificial Reef Orientation:

Figure 38 shows a chart with the location of the Langford Memorial Reef. The new 2006 deployment of the Lyons Deep Reef lies to the SW of the Langford Reef, as shown in the chart.

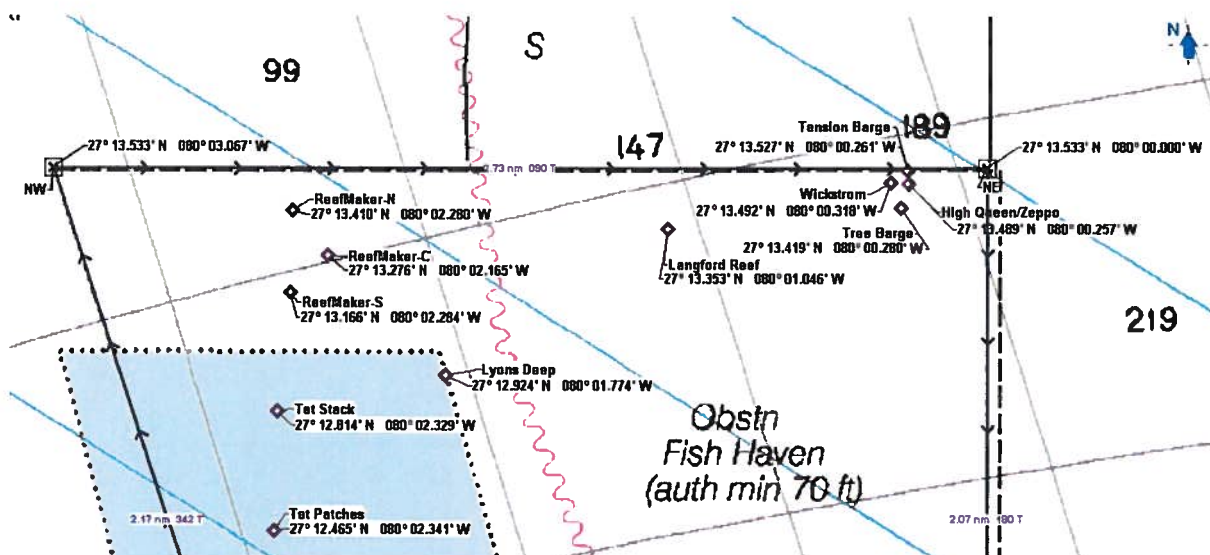


Figure 38. Chart showing Locations of Langford and Lyons Deep Reefs

### 20.4 Representative Photographs

Figure 39 shows representative photographs from the Langford Memorial Reef. Bridge pieces, sheepshead, a diver, angelfish, grouper and benthic growth are shown in the photographs.



Figure 39. Langford Memorial Reef Photographs

### 20.5 Reef Components Stability

The reef pieces appear to be stable, with only minor settlement and scour. The stacking of pieces provides interstices for habitat.

### 20.6 Fish Species and Abundance Findings:

Table 31 presents the fish species observed and documented during monitoring on June 2, 2006.

**Table 31. Frances Langford Memorial Artificial Reef Fish Census**

| <i>Marine Species Identified</i>                                                      | <i>2006 Observed</i> | <i>Juvenile or Adult</i> |
|---------------------------------------------------------------------------------------|----------------------|--------------------------|
| Tomtate                                                                               | M                    | A & J                    |
| Greater Amberjack                                                                     | F                    | A                        |
| Black Seabass                                                                         | M                    | A                        |
| Sheepshead                                                                            | F                    | A                        |
| Sheepshead porgy                                                                      | F                    | A                        |
| Southern Stingray                                                                     | S                    | A                        |
| Blue Angelfish                                                                        | S                    | A                        |
| Gray Triggerfish                                                                      | S                    | A                        |
| Scamp                                                                                 | F                    | A                        |
| Bank Butterfly                                                                        | F                    | A                        |
| 'A' Abundant (>100), 'M' Many (100 to 11), 'F' Few (10 to 2) or 'S' Single Individual |                      |                          |

### 20.7 Frances Langford Memorial Reef Summary

The Frances Langford Memorial Reef is comprised of 3500 tons of concrete and steel bridge components. Some individual pieces are as large as 20' x 15' x 12' (the bridge tenders house) and are scattered in a general south to north orientation on the seafloor. The larger pieces have created a profile of between 20 – 32 feet above bottom. Many crevices have been created by the varied arrangement of slabs, piping, grating, guard railings, sidewalk sections, bascule sections, roadway spans, pilings, pile caps, rubble, and other bridge components of the old Frank Wacha Bridge. Because of the depth, proximity to the western edge of the Gulf Stream, and distance offshore (8 miles) this site has both deep water and shallow water fish species present, as well as migratory species in the fall and spring.

During the 2006 monitoring, an unusually low total number of fish species were observed (ten). On this and other deep artificial reefs, a cold water upwelling event in the months of June, July, and August is often encountered, with water temperatures on the bottom in the 40's & 50's °F, while surface water temperatures remain in the mid 80's. During these times many tropical fish species common in Florida escape the cold and travel inshore towards the natural reefs for warmer waters. During other visits to this site, as many as twenty separate species have been seen. This site is only ¾ mile west of some of the other deepwater artificial reefs, including the ship Wickstrom that is in 188 feet of water, and many of the large Black & Gag Grouper seen there can often be found on the Langford Reef in 150 feet of water.