

16:36:57	27.219	80.038	96.6	32.5
16:37:01	27.219	80.038	98.3	32.4
16:37:05	27.219	80.038	97.3	32.8
16:37:09	27.219	80.038	95.7	33
16:37:13	27.219	80.038	98.0	33.2
16:37:18	27.219	80.038	96.6	33
WEST REEFMAKER UNIT				
16:41:38	27.22	80.038	95.7	32.5
16:41:42	27.22	80.038	96.3	32.5
16:41:46	27.22	80.038	95.7	32.6
16:41:50	27.22	80.038	95.7	32.6
16:41:54	27.219	80.038	93.7	32.6
16:41:58	27.219	80.038	94.7	32.7
16:42:02	27.219	80.038	95.3	32.6
16:42:06	27.219	80.038	94.4	32.6
16:42:10	27.219	80.039	93.7	32.7
16:42:14	27.219	80.039	93.4	32.7
16:42:18	27.219	80.039	91.7	32.5
16:42:22	27.219	80.039	94.4	32.7
16:42:26	27.219	80.039	95.3	32.6
16:42:30	27.219	80.039	91.7	32.7
16:42:34	27.219	80.039	92.7	32.6
Note: All information obtained using a Hummingbird 1197c/997c, depths are relative to NAD83 Horizontal Datum				

5.9 GLASRUD - "BIG AL" REEF

- Location: Sirotkin Reef
- Materials: "Big Al" Tugboat (Steel)
- Maximum Depth: 191 feet
- Reef High Point: 162 feet
- Year Created: 2010
- Monitoring Date: 9/05/2012
- Total Cost: \$40,000 (MCAC)

5.9.1 History of the Glasrud Artificial Reef

On Wednesday February 24th 2010, the 69-foot steel tug boat "Big Al" was deployed offshore as an estimated 100 spectators aboard 20 boats watched, photographed and took video of the sinking. The tug sank quickly after it was properly positioned in line with other artificial reefs created. During the deployment the crews on the support vessels had to contend with current, wind and the edge of the severe midday squall. The tug reached bottom in 187 feet of water near the Wickstrom, a 168 foot long steel freighter deployed in January 2003. Figure 28 shows a chart with the location of the Glasrud Reef.

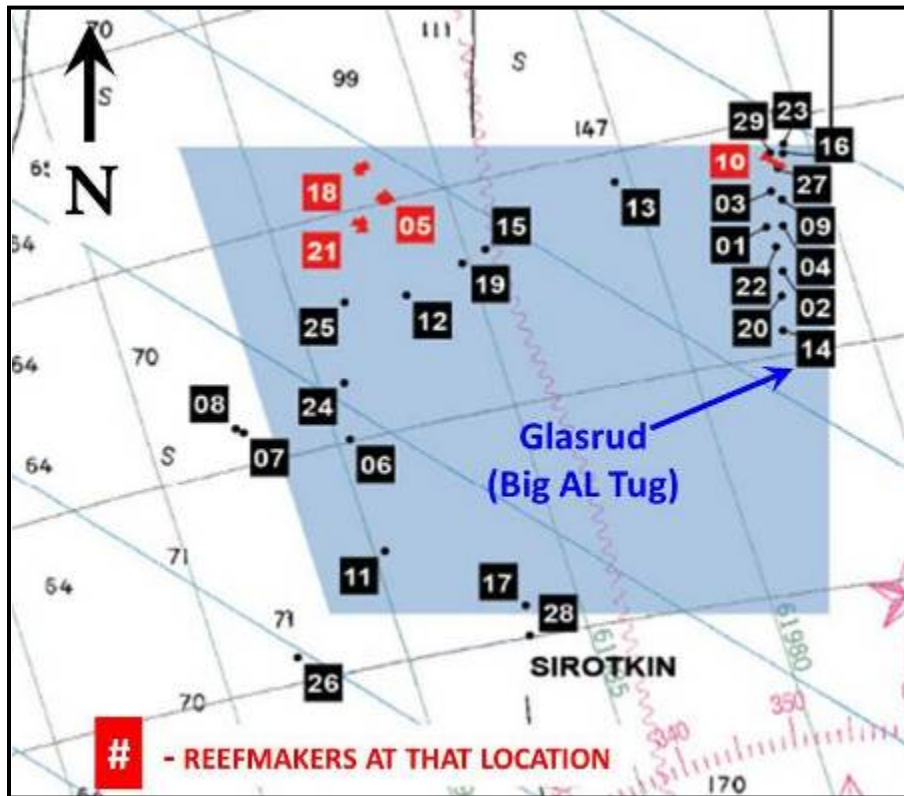


Figure 28. Chart of the Sirotkin Site showing Glasrud Reef location.

5.9.2 Fathometer Survey Summary

A fathometer survey of the Glasrud artificial reef site was conducted to obtain depth information in the vicinity of the reef site and a depth profile image of the reef. The map in Figure 29 shows the path of the survey vessel (yellow line), where the survey tracks recorded had an average depth of 188 ft, a minimum depth of 182 ft and a maximum depth of 201 ft.

The screen-shot image in Figure 30 was captured as the Glasrud appeared on the depth profile. The survey boat maneuvered above the artificial reef site and obtained an approximate top of reef depth of 161 ft. The depth profile image shows the Glasrud on the bottom with associated latitude/longitude, time, date, temperature, and depth information.

The timestamp from the Hummingbird image was used as a point of reference to display the depth data for the Glasrud Reef as the survey boat passed over. Results from the fathometer survey are shown below in Table 25. All depth data obtained during the fathometer survey of the Glasrud Reef is included in the Appendix.

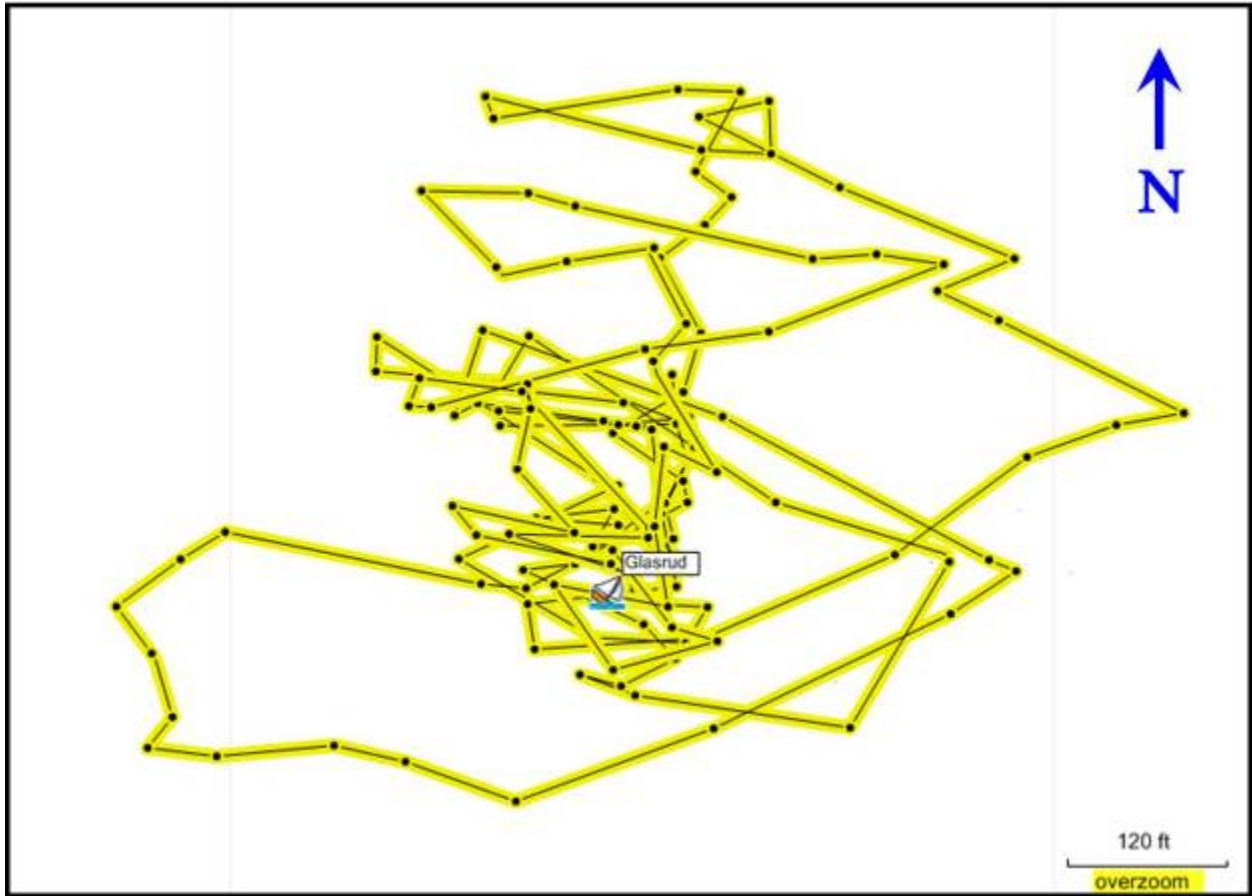


Figure 29. Garmin GPS track of the Glasrud Fathometer Survey.

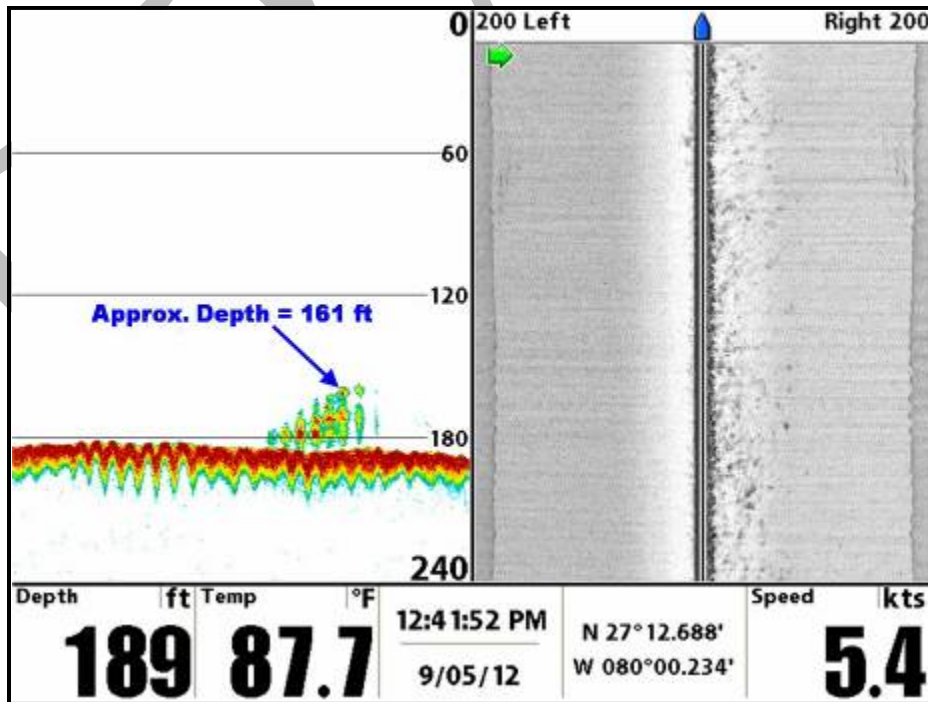


Figure 30. Hummingbird depth profile/sidescan images of the Glasrud Artificial Reef.

Table 25. Glasrud Artificial Reef Fathometer Survey Results.

Time	Latitude	Longitude	Depth	Water Temp
	(DD)	(DD)	(ft)	(°C)
12:41:00	27.211	80.005	186.9	30.9
12:41:04	27.211	80.005	184.6	30.8
12:41:08	27.211	80.005	184.9	30.8
12:41:12	27.211	80.005	187.9	30.8
12:41:16	27.211	80.005	186.9	30.9
12:41:20	27.211	80.005	186.2	31
12:41:24	27.211	80.005	189.5	30.8
12:41:28	27.211	80.005	188.8	30.9
12:41:32	27.211	80.004	192.1	30.8
12:41:36	27.211	80.004	186.9	30.9
12:41:40	27.211	80.004	186.5	30.8
12:41:44	27.211	80.004	189.8	30.9
12:41:48	27.211	80.004	189.8	30.8
12:41:52	27.211	80.004	190.2	30.9
12:41:56	27.212	80.004	192.8	30.9

Note: All information obtained using a Hummingbird 1197c/997c, depths are relative to NAD83 Horizontal Datum

5.10 CLIFTON S. PERRY MEMORIAL ARTIFICIAL REEF

- Location: Donaldson Reef
- Materials: Concrete slabs, pilings, roadway sections, pile caps, sidewalk sections, steel I beams, braces, piping, plating, rods, guardrails, grating, and Z sheetpiling
- Maximum Depth: 64 feet
- Reef High Point: 49 feet
- Year Created: 2005
- Monitoring Date: 09/19/2012
- Total Cost: \$6,832 (Martin County and FDOT)

5.10.1 History of the Clifton Perry Memorial Reef

Nine barge loads of concrete and steel materials were deployed at the Clifton Perry Memorial Reef site in the winter and spring of 2005. The reef materials came from the demolished Jensen Beach Causeway/Frank Wacha draw bridge that spanned the Indian River Lagoon at Jensen Beach. The new reef was named in honor of one of the Florida Oceanographic Society's (FOS) original founders. FOS was the first non-profit environmental advocacy group in the area and Mr. Perry's early efforts in the organization helped establish the original artificial reef deployments offshore of Martin County. This reef is located in the northeastern corner of the Donaldson Artificial Reef Site. Figure 31 shows a chart with the location of the Perry reef within the permitted artificial reef area.