

Mississippi Gulf Fishing Banks, Inc.

Activity Report for the Period August 11 thru September 8, 2016

Activity Summary

During this period there were 2 Diving Trips made to changeout 5 USM Sensors. MGFB, working cooperatively on a USM/GCRL project headed up by Dr. Scott Milroy, deployed a dozen data loggers in the Gulf to measure Dissolved Oxygen, Temperature, and Salinity, every 15 minutes. Hopefully the information will yield insight into hypoxia conditions and sources plaguing Mississippi's Artificial Reefs. On August 20, a trip was made to exchange the data recorder at the FH-7 Jumbo Barge that had been in place since July 11. Air was also added to FAD2 although it was still floating. On September 4, a trip was made to exchange the data recorders at the FH-4 Ship Island Barge, the FH-12 Frank Taylor Reef, the FH-6 Reef Balls, and the Ole Faithful Vessel in FH-1. Our first data analysis summary is included in this report.

USM/GCRL Data Recorders Exchanged

On August 20, a trip was made to exchange the data recorder at the FH-7 Jumbo Barge that had been in place since July 11. This Sea Going Barge was deployed in 1986 and is still quite a productive reef. It lies in 135 feet of water with a water clearance of about 112 feet. The data recorder is tied to the bow and sits at 116 feet. Water conditions were not bad with visibility on the structure at about 30 feet and in the mid-water at about 60-80 feet. Amberjack and Red Snapper were plentiful in the mid-water all the way up to 20 feet from the surface where a freshwater layer had collected. Both fish seasons were closed and were by far the most plentiful fish populations seen. Amberjack had been disappearing from this reef since the tall mast was pulled over by someone's anchor. The placement of FAD2 on October 29, 2014 appears to have brought them back. Water clearance over FAD2 is about 65 feet. There was some white coral film over just one of the PVC center pipes which was similar to that seen on metal pieces at the Barataria Bay Pogie Boat. Other fish observations included Mangrove Snapper, several Lionfish, and a pair of Spottin Butterflies. An incidental dive was made on the Barataria Bay Pogie Boat in FH-13 on the way in. The Flag is still doing well but a half dozen lionfish were seen claiming residence in the wheelhouse. This reef is exploding with baitfish. See this video at <https://youtu.be/4AD4vL1EzyE> See the Recorder Video at <https://youtu.be/rb7fFKcixjA>

On September 4, a trip was made to exchange recorders at FH-4, FH-12, FH-6, and FH-1. Visibility was poor below the bottom 10 feet at all locations, possibly due to recent rains. However it was not real bad on the surface where fresh water is usually layered. The first stop was on the FH-4 and the visibility was especially bad at less than a foot. Because the barge is broken up at several places, it made it very difficult to find the old deployment location. After 2 attempts it was decided to just deploy the new one and a return trip will be attempted when exchanges are done at FH-8 and Cat Island in the coming weeks. The next exchange occurred at Frank Taylor Reef in FH-12. Conditions did not appear hypoxic as several juvenile red snapper were seen as well as a blue crab and larger game sized Red Snapper in the mid-water. There was much heavier vegetative growth on this reef when compared to all the other reefs. Jellyfish were abundant on this reef as well as at all the remaining exchanges. FH-6 also had game sized Red Snapper in the mid-water. The buoy that was placed here on the surface to facilitate finding the recorder was missing but the line was entangled on the second buoy that was placed 20 feet below the surface along with tangled fishing line and sinkers. The Ole Faithful Reef in FH-1 showed the most visual hypoxic evidence with the lack of the Tomtates, Triggerfish, and Red Snapper populations that were seen during deployment. Visibility was much worse as well, probably 3-5 feet compared to 15 feet or so. A Soapfish was seen inside the mast pipe as well as a couple game sized Mangrove Snapper and a few small Spadefish that were friendly with the GoPro. Schools of Menhaden were also seen in the upper water column. See the Dive Video at <https://youtu.be/9k5mf2a8ZUk>



Now that some data has been retrieved, I asked Scott to give us a summarized progress report and this was his response. Logger deployments began in early June, are on-going, and will continue into late October. Data has been analyzed for loggers @ FH-02, -03, -07, -10, -13, -14 from approximately 12 Jun - 20 Aug 2016, but is still being QA/QC'ed. Each FH experienced hypoxia (dissolved oxygen of less than 2 mg/L) during the Jun - Aug period. Fish Havens 07, 10, and 13 were least affected by hypoxia, characterized by very infrequent, very short-lived periods of hypoxia that were just slightly below 2 mg/L. Fish Havens 02 & 03 were significantly affected by hypoxia, where periodic hypoxia events lasted for several days (4-10 days) continuously, twice or more during the period of observation. Fish Haven 14 was critically impacted by hypoxia, where 80-90% of the observation period indicated hypoxic (<2 mg/L) conditions, and were predominantly anoxic (~ 0.0 mg/L). Temperature and salinity trends were generally stable and not unexpected, given seasonal norms. FH-10 waters were markedly more estuarine in nature (10-22 PSU), and displayed salinity fluctuations that were far greater in magnitude and frequency than at all the other sites (20-30+ PSU). Temperature trends were relatively stable and typical for the season, with deeper sites not surprisingly demonstrating lower temperatures that were more stable (i.e. fewer fluctuations, and with much lower magnitudes of variation). -Scott