



GoMRI-sponsored Special Section Articles

Two newly discovered communities, one (MC297) located 6 km south of the Macondo wellhead and 13 km from the site in MC294 and another (MC44) 22 km southeast of the Macondo wellhead, were determined to host coral communities that had also been affected by the spill. At the MC297 site, a total of 59 occasional colonies present in two localized areas and separated by approximately 370 m were imaged. Of the 59 colonies imaged, 47 exhibited the characteristic patchy hydrofloc colonization pattern on at least 5% of the colony, and two others had no living tissue. The death of these two corals was attributed to the Macondo blowout, because they had died recently enough to still retain small dead branches. The number of

Figure 4. Parametria ligorea colonies in November 2012 at MC297, with the

als covered by flocc. Furthermore, colonies observed with low levels of flocc on their surface in 2010 (less than 20% coverage) were likely to exhibit apparently complete recovery of the flocc-covered branches by March 2012. However, the degree of

with the dead portions of branches heavily colonized by hydroids. The appearance of these corals was very distinctive (figure 3) and proved to be a powerful diagnostic tool for recognizing other corals affected in a similar way and during a similar period but not discovered until after the original for on the corals was no longer present.

To determine whether there were additional coral communities in the vicinity of the Macondo wellhead, two cruises using towed camera and autonomous underwater vehicles were used to explore the seafloor. These surveys resulted in the identification of five previously unknown discrete sites hosting colonial corals within 30 km of the Macondo wellhead (Fisher et al. 2014). The corals at each newly discovered site were then surveyed using a remotely operated vehicle (ROV) for evidence of recent deleterious impact.

in the deeper areas, somewhat elevated oil concentrations in sediments are expected in proximity to deepwater coral communities, because the carbonates on which corals are normally found in the deep GOM (Fisher et al. 2007, Cordes et al. 2008) form in areas with current or historical seepage (Roberts et al., 2013). In fact, most sediments collected in the deep GOM contain some oil, which reflects basin-wide and atmospheric inputs (e.g., Swane et al. 1994).

Oil content was examined in sediments collected at 10 sites associated with deepwater coral communities located between 6 and 194 km from the Macondo wellhead (figure 4). The top 0–1 cm and 5–10 cm sections of the sediment cores were analyzed for the total amount of saturated hydrocarbons and PAHs by Alpha Analytical Laboratories, and the data are available at www.pajpffinformation.com. For detailed methods, see the [pajpff-spill-spill data](http://www.pajpffinformation.com) (for detailed methods, see the