



Benthic Community Composition Associated with a Petroleum Platform, High Island A-389-A, Located within the Flower Garden Banks National Marine Sanctuary



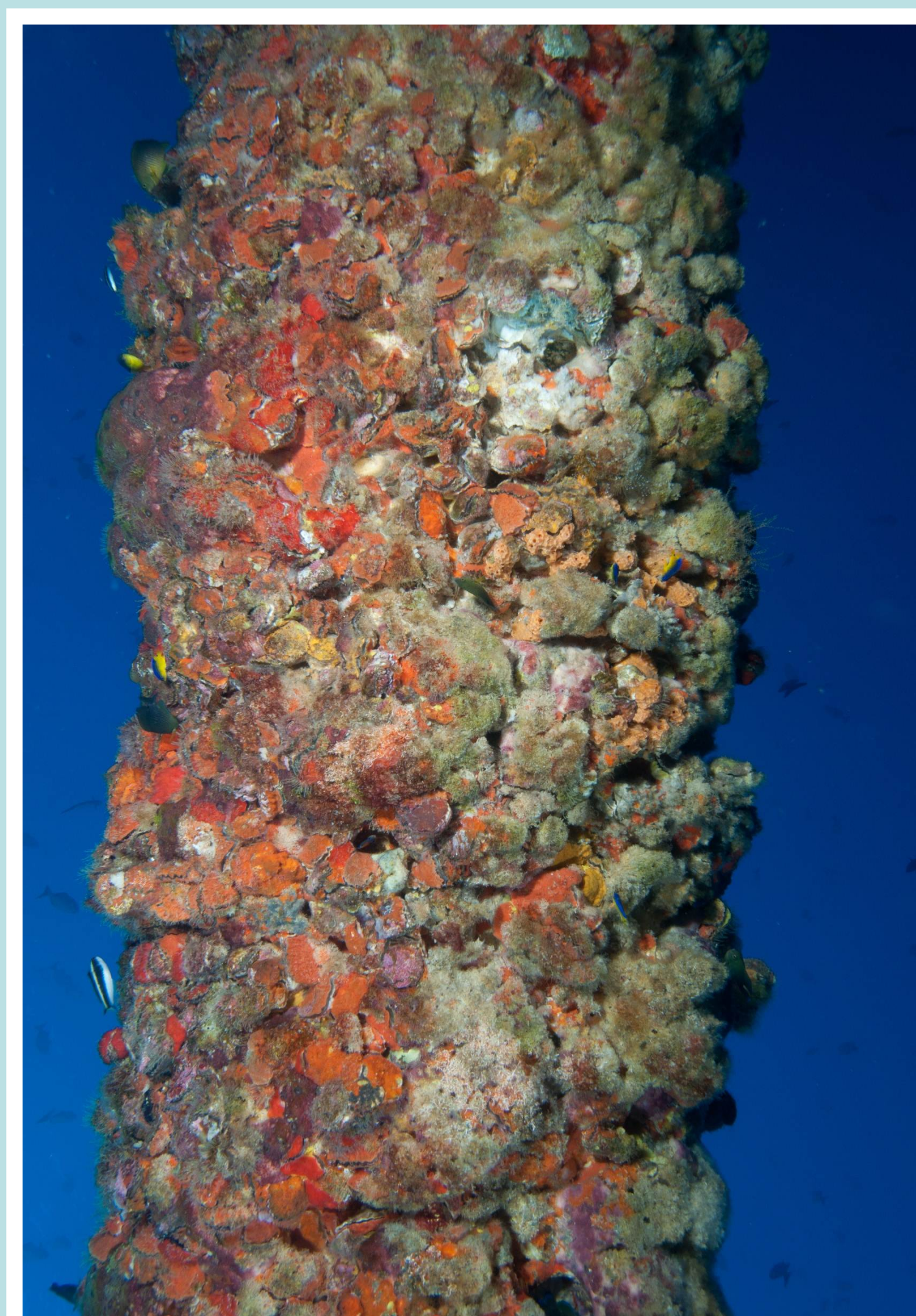
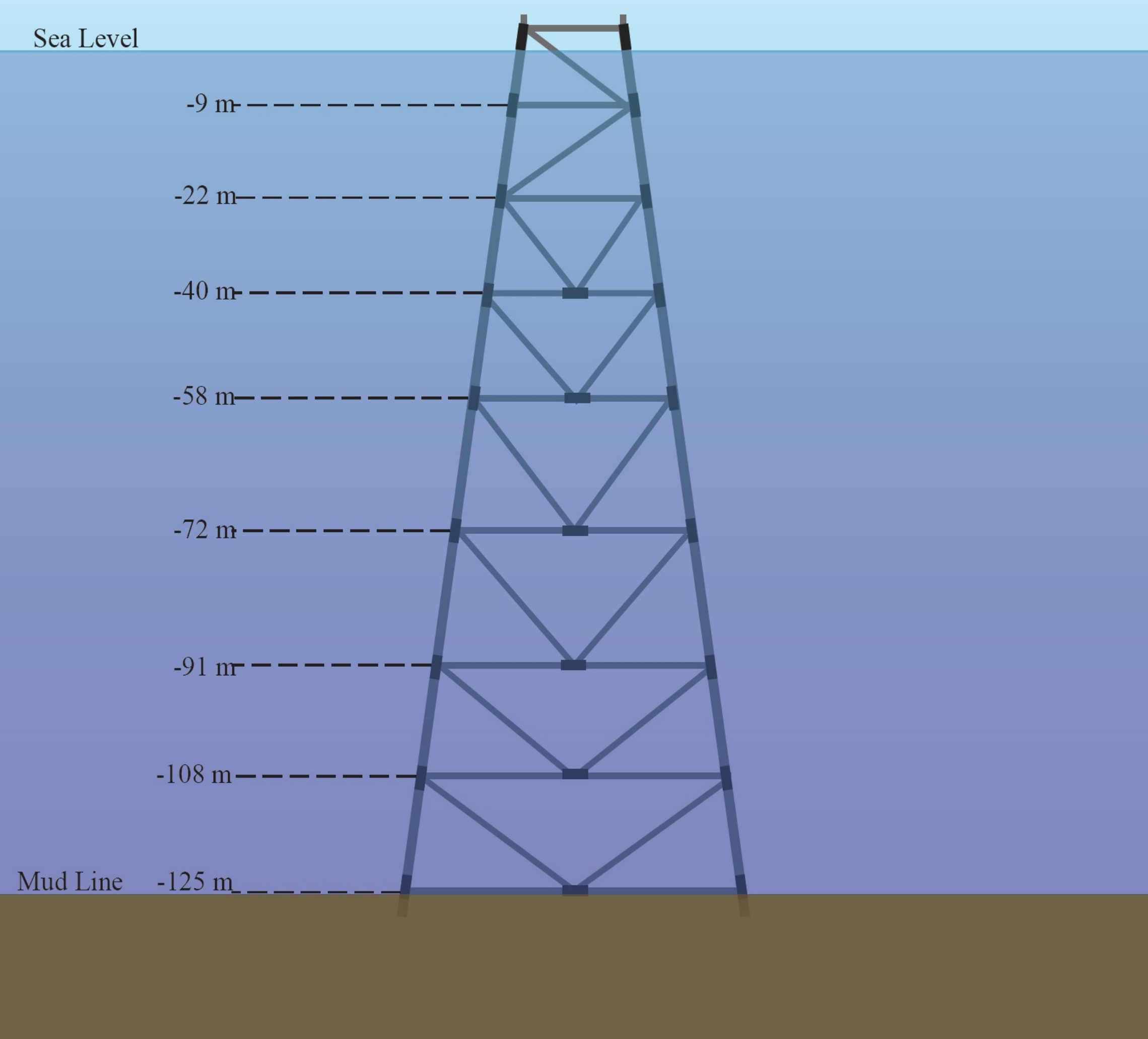
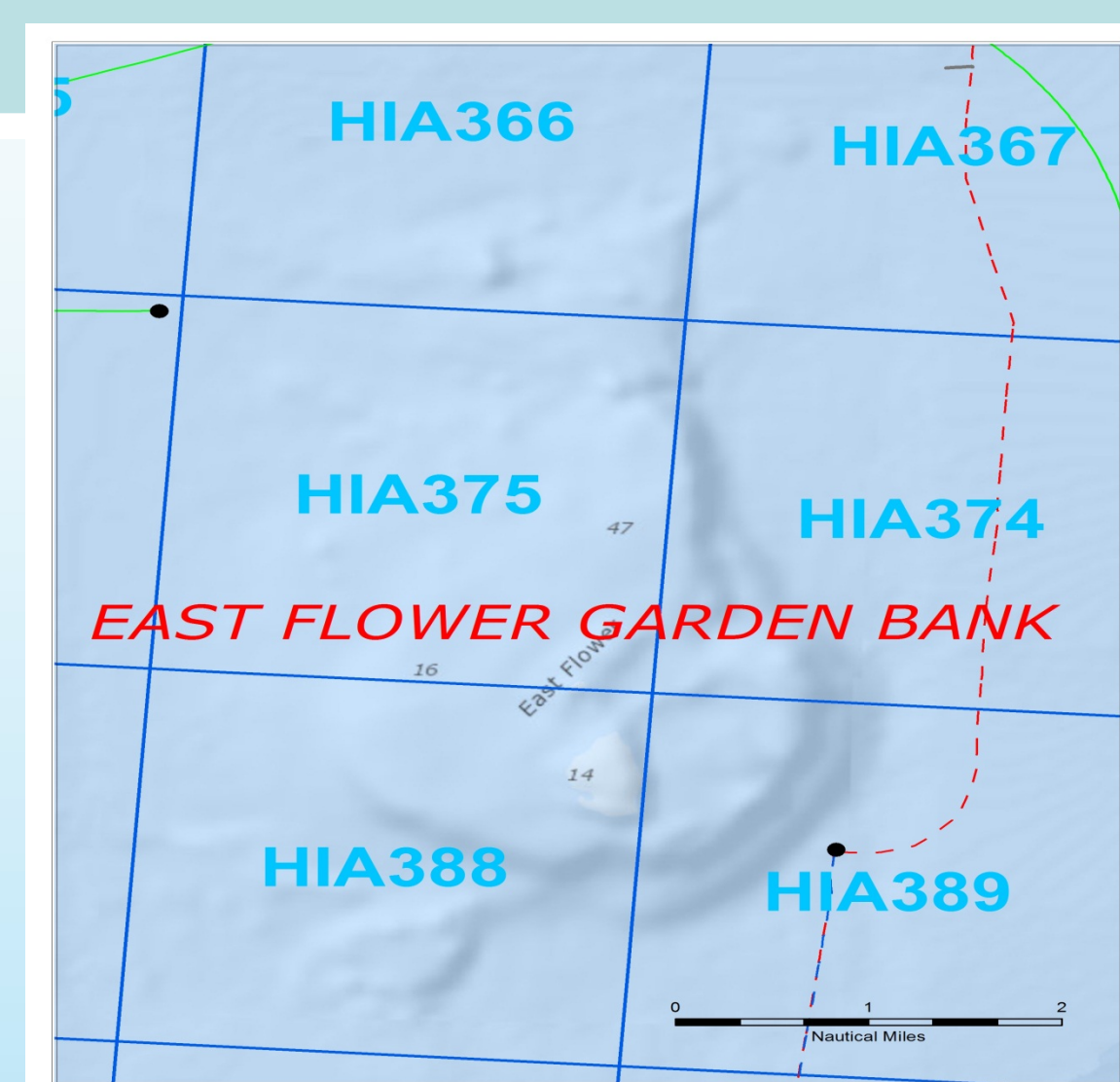
NATIONAL MARINE SANCTUARIES

FLOWER GARDEN BANKS

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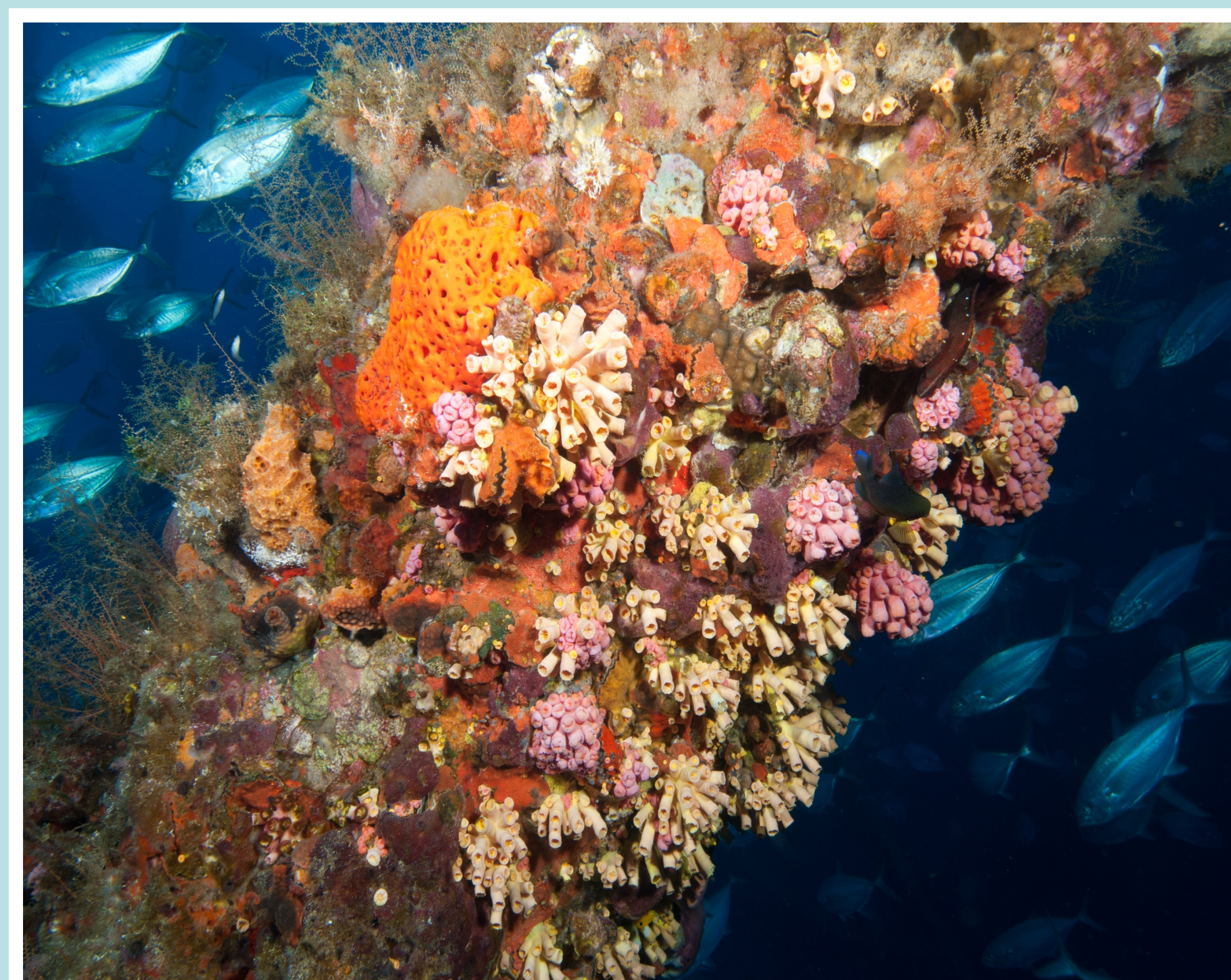
1. NOAA Flower Garden Banks National Marine Sanctuary, 4700 Avenue U, Building 216, Galveston, TX 77551

The High Island A-389-A (HI-A-389-A) petroleum platform is located within the boundaries of the Flower Garden Banks National Marine Sanctuary (FGBNMS) in the Northwestern Gulf of Mexico. The platform emerges from 125 meters water depth, 185 kilometers southeast of Galveston, Texas, and is 1.6 km from the coral reef crest of East Flower Garden Bank. HI-A-389-A was installed in 1981 and has developed a complex benthic and fish community over the past 32 years by providing hard substrate within the water column.



Bivalve dominated structure on HI-A-389-A (Photo: NOAA FGBNMS / GP Schmahl)

Much scientific debate has centered on what role oil and gas platforms play in the larger Gulf of Mexico ecosystem and whether artificial reefs are similar to coral reefs. FGBNMS scientific divers conducted benthic surveys of the vertical and horizontal structures of the HI-A-389-A platform to document the benthic components from a depth of 40 meters to the surface. The divers recorded the number and species of each coral colony.



Colonies of *Tubastraea* sp., the dominant coral on HI-A-389-A, on a diagonal structure of the platform (Photo: NOAA FGBNMS / GP Schmahl)



Madracis decactis and multiple species of fouling organisms on HI-A-389-A (Photo: NOAA FGBNMS / GP Schmahl)

Results of the surveys indicated that the benthic community of the platform, even though located in close proximity, did not resemble the coral reef of East Flower Garden Bank. The platform structure was dominated by fouling organisms including bivalves, sponges, barnacles, hydroids, and algae. The dominant coral on the platform was *Tubastraea* sp., an exotic, ahermatypic species. Very few native coral colonies were observed. Included were four discreet colonies of *Madracis decactis* and one small colony of *Diploria strigosa*. In contrast, over half of the benthic cover of East Flower Garden Bank, at depths less than 40 meters, is comprised of living hermatypic corals. Bivalves, sponges, barnacles, and hydroids are minimal components of the reef at these depths.



Typical benthic community, dominated by corals, at East Flower Garden Bank (Photo: NOAA FGBNMS / GP Schmahl)

Top Left: Emergent portion of HI-A-389-A (Photo: NOAA FGBNMS / GP Schmahl)
Top Right: Proximity of HI-A-389-A to East Flower Garden Bank (Map: BSEE / D Peter)
Bottom: Underwater profile of HI-A-389-A (Illustration: NOAA FGBNMS / R Eckert)

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