

Project Update: January 2013

We performed non-metric multidimensional scaling (NMS) ordinations to detect the difference and trajectory of community structure (size class and species) between 2009 and 2012. The size class structure and species composition of parrotfish and surgeonfish was significantly different between years. Striped parrotfish (*Scarus iseri*), princess parrotfish (*Scarus taeniopterus*), and stoplight parrotfish (*Sparisoma viride*) are driving the shift in species composition. The small (0-10 cm) and medium (11-30 cm) size classes are driving this shift in size class structure. An increase in medium size (mature) females is potentially a result of reduced fishing pressure. An increase in mature females would explain the increase in juveniles assuming that these populations are self-sustaining. Alternatively, if the juveniles are not locally retained, the observed increase could be a result of regional scale variability in population structure. To better understand regional herbivorous fish population dynamics, I plan to assess connectivity and recruitment in a future study by assessing the genetic structure of Stoplight parrotfish (*Sparisoma viride*) populations throughout the Mesoamerican Barrier Reef.