Campos Dávila, L., **V.H. Cruz Escalona**, **F. Galván Magaña**, **L.A. Abitia Cárdenas**, **F.J. Gutiérrez Sánchez** & E.F. Balart P. (2005). Fish assemblages in a Gulf of California marin reserve. Bulletin of Marine Science, 77(3): 347-362.

Fish assemblages in a Gulf of California marin reserve

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Fish assemblages at the Loreto Marine Reserve at Loreto Bay, Baja California Sur were studied from February 1997 to February 1998. We sampled a variety of habitats at eight sites. The most important species were determined according to abundance, frequency of occurrence, and weight. Specific richness, diversity, and evenness also were calculated. Cluster and canonical correspondence analyses were used to evaluate variance of environmental and ecological variables. Sixty-six fish species belonging to 36 families were collected during the study. The most common species were *Mulloidichthys dentatus*, *Microlepidotus inornatus*, *Haemulon flaviguttatum*, *Caranx caballus*, *Scomber japonicus*, and *Scomberomorus sierra*. Species richness was higher during the warm season. Cluster analysis produced three groups (57% similarity): Group 1 was dominated by *S. sierra* and *Ariopsis platypogon*; Group 2 was dominated by *C. caballus*, *H. flaviguttatum*, *H. sexfasciatum*, *Kyphosus elegans*, *Lutjanus argentiventris*, and *M. dentatus*; and Group 3 consisted of a fish assemblage with only a few species at the Juncalito Island location. The pattern of change in community structure at the different sites was not correlated with environmental parameters. Fish diversity of the Loreto Marine Reserve is intermediate with respect to other areas in the Gulf of California and other reef fish communities in the world, and our results provide baseline information for this reserve. However, quantitative studies on species densities and size structures, and on settlement and recruitment processes, are essential for creating appropriate reserve management plans.