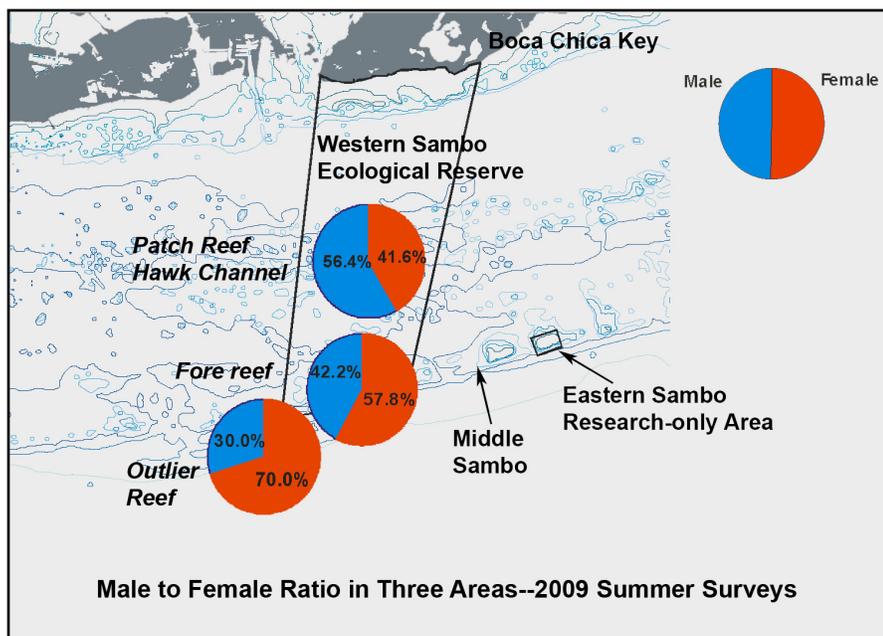


## SPINY LOBSTERS MOVE ACROSS HABITATS AND BOUNDARIES

**Research Project Description:** Spiny lobsters are an important commercial and recreational fishery in the Florida Keys. Adult lobsters inhabit crevices and caverns in coral reefs and hard-bottom habitats, emerging at night to feed in surrounding areas. Western Sambo Ecological Reserve (WSER), a nine square nautical mile no-take marine zone, contains critical habitats needed by lobster for sheltering and foraging. With the designation of WSER in 1997, scientists began closely tracking lobster populations in the reserve and nearby areas. During this time, scientists documented the establishment of a resident population of adult spiny lobsters inside WSER. From 2003 through 2007, acoustic tagging methods were used to investigate daily movements and migrations of adult lobsters living in and around the reserve. Spiny lobsters have complex reproductive and migratory behaviors. In addition to their daily movements, both males and females undergo nomadic migrations, which take place when a lobster travels many miles without returning to its home shelter.

**Research Results:** Acoustic tagging results show that both male and female lobsters travel back and forth from their shelters to foraging grounds on a daily basis and change shelters regularly. During the reproductive/spawning season, female lobsters migrate to deeper waters to release eggs and often visit the outlier reef south of the WSER boundary. These reproductive migrations typically last from five to seven days, and a single female can make up to three reproductive trips during the season. The precise locations of spawning areas are not known, but likely include the base of the fore reef and offshore outlier reef. Study results show that males and females undergoing nomadic migrations were also observed to visit this outlier reef, but the proportion of females is greater in the summer due to reproductive migrations (see graph below). Both male and females periodically undergo long nomadic migrations that move them many miles into new habitats. Lobsters routinely cross the WSER boundary both in a random fashion when migrating nomadically and deliberately to release fertilized eggs.



During the reproductive season female lobsters migrate to deeper waters, including the outlier reef outside of Western Sambo Ecological Reserve boundaries. This accounts for the higher portion of females to males at the fore reef and outlier reef during the summer months.

Figure: Florida Fish and Wildlife Conservation Commission

**Reference:** R.D. Bertelsen, *et al.*, Florida Fish and Wildlife Conservation Commission. *Spiny Lobster Movement and Population Metrics at the Western Sambo Ecological Reserve*. Linking Science to Management: A Conference and Workshop on the Florida Keys Marine Ecosystem. 2010.