

Patuxent Wildlife Research Center

Productivity of Species of Concern – Least Tern and Common Tern on Poplar Island Restoration Site



The Challenge: Concern has been raised over productivity of two important tern species that have colonized Poplar Island Environmental Restoration Project (PIERP): the Maryland state-listed Least Tern (*Sternula antillarum*) and Common Tern (*Sterna hirundo*). Over the 12 year monitoring period at PIERP (beginning 2002), hatching and fledging success of these species has been variable, believed to be linked with natural stressors including avian and mammalian predators and severe weather events.



The Science: Productivity estimates such as hatching success (the number of nests in a sample that successfully hatch at least one egg) and fledging success (the number of chicks in a sample that survive to fledging) can be difficult to obtain, especially as chicks remain well-hidden after hatching. In 2013 USGS began a pilot project to improve estimates of hatching and fledging success for least and common terns on PIERP. We have increased colony counts during the nesting season and added a mark-resight study to estimate fledging success for these species. Hatchlings are banded with official USGS metal bands on one leg and plastic field readable (PFR) bands on the other. Intensive resighting efforts are employed using a high-powered spotting scope to “recapture” individuals by reading the code on the PFR (such as A03 shown in the top photo) and modeling detections to obtain estimates of survival. Temporary auxiliary markers on the breast feathers (using nail polish, not shown in photo) provide a back-up method for resighting individuals in the few weeks following banding.



The Future: Although resighting efforts require large numbers of person-viewing-hours, the new study has shown success with 173 chicks banded in 2013 and 2014, and improved estimates of survival. USGS works in close cooperation with US Fish & Wildlife Service, and benefits from additional help from qualified students, volunteers, and interns. The study will continue through 2017, with results being of interest to a wide community ranging from ornithologists, restoration ecologists, and the general public.