

**Rachel Coffey, Fordham University.** Ecological and genetic characterization of sunfish nesting at Calder Lake. Mentors: Dr. Evon Hekkala and Dr. Rose Carlson

Abstract: The purpose of this research was to investigate the presence or absence of hybridization between two native sunfish species, *Lepomis auritus* and *Lepomis gibbosus*, in Calder Lake. Fieldwork entailed collecting DNA samples from adult guard males and embryo from both species. Adults were caught with a fishing pole and lure while embryos were scooped from nest bottoms with a net. A total of 15 nests were sampled. Depths, temperatures, and sediment types of each nest were recorded. DNA samples were extracted, amplified (PCR) with 13 microsatellite primers and run on an ABI 3730 DNA Analyzer. Results show no evidence for first generation hybrids. Approximately 1% of total samples showed incidence of backcrossing. Average nest depths and temperatures showed no statistical significance (p-values 0.375 and 0.059, respectively). Sediment types showed a significant difference between species nests. Data indicated the absence of any first generation hybrids, but displayed evidence for hybridization in the past.