

## POTENTIAL IMPACTS OF SHRIMP TRAWLING ON THE DIETS OF FINFISH IN CORE SOUND, NC

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Shrimp trawling has been known to influence the environment through both direct and indirect impacts. Several studies have been conducted to look at the effects of trawling on benthic habitats and organisms, and many indicated that trawling will decrease the biomass of benthic organisms, specifically the soft-bodied and slow-moving organisms. A change in biomass can also occur through the direct removal of by-catch and targeted species. In Core Sound, NC, several areas are closed to commercial shrimp trawling (NCDMF nursery areas) while adjacent areas are open to shrimp trawling. For our study, we hypothesized that trawling would influence the diets of several species of finfish. Because our previous work has demonstrated that the abundances of certain juvenile fishes and decapods were greater in the closed areas, the prey resources available to large predatory fishes differed and may influence diets. Fish samples were collected during fall 2006 and spring and fall 2007. Species collected in areas that were both closed and open to trawling were selected and their diets were analyzed and compared. Specifically pinfish (*Lagodon rhomboides*), smooth dogfish (*Mustelus canis*), pigfish (*Orthopristis chrysoptera*), and bluefish (*Pomatomus saltatrix*) were chosen to be analyzed. Stomach content analyses showed that the diets of these species differed between areas closed and open to shrimp trawling. Pinfish consumed more plant matter in areas closed to trawling, smooth dogfish consumed more blue crab in areas closed to trawling, and bluefish consumed more squid and penaeid shrimp in areas closed to trawling. We will examine the impact of these diet differences in a network model of Core Sound to measure indirect impacts of shrimp trawling.