

II. INTRODUCTION

The Galveston Bay National Estuary Program (GBNEP) is presently developing a Comprehensive Conservation and Management Plan (CCMP) for Galveston Bay. The focus of the CCMP is to develop solutions with respect to problems and interactions among various groups which utilize or benefit from the Galveston Bay estuary system. Consequently, GBNEP has contracted numerous individuals and organizations to initiate investigations which are aimed at characterizing the physical, chemical, geological, ecological and biological aspects of Galveston Bay. Since the bay supports extensive commercial shrimp and bait shrimp industries, capture of bycatch species during trawling operations may have an impact on individual populations. Bycatch is non-target species (finfish and invertebrates) caught during shrimp trawling; it includes non-target organisms kept or discarded by fisherman as well as target species that are not retained. Thus, analysis of bycatch in the shrimp fishery is essential to the Galveston Bay characterization program; ultimately it will contribute to development of the CCMP.

Two agencies in Texas most involved with addressing impacts of bycatch are the Texas Parks and Wildlife Department (TPWD) within state waters, and the National Marine Fisheries Service (NMFS) in the Exclusive Economic Zone (EEZ). Until recently, neither agency had thoroughly addressed the magnitude and effects of bycatch of the bay shrimp fleet, although both agencies have monitored the fisheries within Galveston Bay for many years. TPWD has evaluated abundance of fishes and invertebrates in state bays since 1975 because fish and shellfish abundance are useful indicators of the biological status of the bay (Hegen 1983). These abundance estimates employ a fishery-independent, random sampling plan. Since the late 1950's, NMFS has monitored landings from the commercial shrimp fleet (Klima 1980) and the live bait shrimp industry (Baxter et al. 1988).

NMFS was contracted to characterize bycatch from the shrimp fisheries in Galveston Bay during the 1992 fishing season. The characterization of bycatch within the Galveston Bay system presented in this report is based on three primary objectives: 1) a review of historical bycatch studies within Galveston Bay, 2) initiation of new, comprehensive sampling efforts to characterize abundance and distribution of bycatch species in shrimp trawling operations throughout Galveston Bay, and 3) an attempt to link data from new sampling efforts with data collected during TPWD fishery independent surveys. The latter may provide an index or tool allowing future projections of bycatch magnitude based on data from the TPWD annual fishery-independent surveys. All data presented in this report are standardized for net length and tow duration (CPUE; catch per unit effort).

