Harmful Algal Blooms in Marine and Freshwater Ecosystems of Texas

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Abstract: Harmful algal blooms (HABs) can significantly affect fish and aquatic resources, and present unique challenges to fisheries managers. In inland waters of Texas, toxic blooms of golden alga (*Prymnesium parvum*) have resulted in the loss of over 35 million fish and caused significant impacts to fish production at two state fish hatcheries. In coastal waters, red tides caused by high concentrations of the microscopic dinoflagellate *Karenia brevis* have resulted in the loss of an estimated 50 million fish since 1986 and have had devastating effects on local economies on the Texas coast. Texas' first recorded toxic bloom of *Dinophysis ovum* occurred along 100 miles of its coastline in early 2008, and resulted in the closing of 10 bays to shellfish harvest. In an effort to address these events and other HABs, the Texas Parks and Wildlife Department (TPWD) has developed response plans for toxic algal blooms, and continues to fund research efforts to (1) advance the understanding of golden alga bloom and toxin dynamics; (2) develop predictive capabilities; (3) identify viable mitigation options; and (4) develop effective resource management strategies to assist in the recovery of affected ecosystems. This presentation will highlight recent and ongoing research to address HABs in Texas, discuss critical information gaps and future TPWD research priorities for HABs, and discuss potential opportunities for other states in the southeast to partner with Texas and leverage knowledge and resources.

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