PIPEFISH RISE IN THE WEST: RECENT DRAMATIC INCREASE IN THE DIET OF THE ELEGANT TERN (*THALASSEUS ELEGANS*) NESTING IN SOUTHERN CALIFORNIA

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Elegant Terns are ocean foragers that during the breeding season feed mainly on lipid-rich northern anchovy (*Engraulis mordax*) and Pacific sardine (*Sardinops sagax*) in the Gulf of California and in Pacific coastal waters adjacent to southern California. In the early years of our research on tern foraging ecology that began in 1993, pipefish of 1-4 species formed a minor part (<5%) of the fish prey delivered by Elegant Terns to their chicks at nesting sites in the Los Angeles and San Diego areas. Since 2004, that proportion has increased markedly, reaching 56% in 2007 and 65% in 2008 at the Bolsa Chica Ecological Reserve, the major nesting site for Elegant Terns in southern California. By contrast, the proportions of northern anchovy declined from 76% in 1993 to 13% in 2007 and 20% in 2008. The recent surge of pipefish in the Elegant Tern diet has been characterized by a short (2−3 wk) pulse of high occurrence early in the chick-rearing period followed by a sharp decrease in numbers. Whether the abundance of pipefish coincides with peak prey deliveries by Elegant Terns because of the temporal pattern of pipefish life history or of local oceanographic conditions remains unknown but is of intense interest to us. We plan to raise Elegant Tern chicks in the laboratory on different proportions of anchovy and pipefish during the 2009 nesting season to help determine the potential impact of the apparently low-quality pipefish prey on energy allocation and postnatal growth in the chicks.