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Wang, J.C.S., L. Lynch, B. Bridges, and L. Grimaldo. 2005. *Using Morphometric Characteristics to Identify the Early Life Stages of two Sympatric Osmerids (Delta Smelt and Wakasagi - Hypomesus transpacificus and H. nipponensis) in the Sacramento-San Joaquin Delta, California.* Tracy Fish Collection Facility Studies. Volume 30. U. S. Bureau of Reclamation, Mid-Pacific Region and Denver Technical Service Center. 46 pp.

Delta smelt, Hypomesus transpacificus, an indigenous fish to the Sacramento-San Joaquin Delta, California, USA, has been listed as a threatened species by the U.S. Fish and Wildlife Service. The introduced wakasagi, Hypomesus nipponensis, is a very similar smelt, and it is difficult to distinguish between the two species in the Delta. This report describes how to identify and distinguish the early life stages of the two species. Four early life stages are reported: (1) prolarvae or yolk sac larvae; (2) postlarvae; (3) prejuvenile; and (4) juvenile. Field specimens were compared with laboratory reared specimens to develop the key. Morphological characteristics and morphometric measurements were used to compare the two species. Illustrations and photographs help identify the features that distinguish these two species. Due to the similar development of early life stages in these two species, it is necessary that the trained biologist use multiple characteristics to correctly identify these similar species.