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### **Pelagic fish distribution and growth patterns**

**Abstract:** The Summer Townet (STN) and Fall Midwater Trawl (FMWT) are two long term monitoring programs that survey abundance of pelagic fish in the San Francisco Estuary. Abundance indices for delta smelt, age-0 striped bass, American shad, and threadfin shad are calculated using catch data. Fork lengths of fish are also recorded which can be used to examine growth rates (mm/day). The 2011 high outflow wet year resulted in a large low salinity habitat (1-6 ppt) zone and thought to be an important habitat for delta smelt. Abundance and distribution comparisons were made from this year to two relatively dry years, 2005 and 2010, and another wet year, 2006, when outflows were lower. Daily growth rates for delta smelt and age-0 striped bass were also examined and compared to previous years. Fish were primarily distributed in low salinity habitat or upstream in Cache Slough and the Sacramento Deep Water Ship Channel. The 2011 delta smelt daily growth rate is among one of the highest in a decade. Age-0 striped bass growth rate in 2011 was above the overall growth rate average, but lower than years 2006 and 2010.

**Statement of Relevance:** These fish species were targeted as part of the Fall Low Salinity Habitat (FLaSH) studies initiated in fall/winter 2011/2012 as a result of the delta smelt biological opinion to help manage California state water operations.