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BETWEEN-YEAR DIFFERENCES IN ABUNDANCE AND DISTRIBUTION OF LARVAL FISHES AND ASSOCIATED ENVIRONMENTAL CONDITIONS OFF DAVENPORT, CALIFORNIA, 1991-1993

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of Master of Science in Marine Science

By
Brendan J. Daly
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CERTIFICATION OF APPROVAL

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ABSTRACT

Ichthyoplankton was sampled from December 1991 through April 1993 at five stations along an onshore-offshore transect near Davenport, California. In total, 66,301 larval fishes representing 63 taxa were collected. The five most abundant taxa (*Merluccius productus*, *Engraulis mordax*, *Sebastes* spp., *Stenobrachius leucopsarus* and *Genyonemus lineatus*) comprised > 94% of all larvae. *Engraulis mordax* abundance during January-April 1992 was three times higher than in comparable samples from 1993; in contrast, *M. productus* abundance was more than 50 times lower during January-April 1992 than in comparable samples from 1993. Additionally, mean January-April abundance of many larval fish taxa peaked further inshore in 1992 than 1993. These differences were attributed to oceanographic conditions associated with the 1992-93 El Niño. Cluster analysis of data from January-April samples revealed ecologically significant clusters in 1992 and 1993. Finally, a survey was completed comparing ichthyoplankton abundance and taxonomic composition in Davenport samples with those inside Monterey Bay.

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