The Ichthyoplankton of King Harbor, Redondo Beach
1974-2006

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1974-present

- quarterly fish transects
- monthly ichthyoplankton tows
- monthly recruitment surveys
- quarterly cryptic reef fish surveys
• 5 stations are sampled at the surface, middepth and bottom with 333 micron conical zooplankton net

• Surface samples are taken at night

• For WISER we focused on the mouth of the harbor stations and updated 1999-2006
• All fish larvae are identified to lowest possible taxonomic category and age class

• 145 taxa were sorted and processed at Occidental College

• 414,386 identified fish larvae

• Catch is standardized with a flow meter to 1000 m³
**Goal:**

- Determine what would be the appropriate frequency for an assessment
Hypsypops rubicundus-Garibaldi

- 49.4% variation explained by ENSO index
Hypsypops rubicundus-Garibaldi

• $R = 0.616, \ p = 0.033$
Hypsoblennius sp.

- 32.84%
- \( R = 0.49, P = 0.004 \)
Hypsoblennius sp.

- $R = 0.715$, $P = 0.009$
Seriphus politus – queenfish

$R = 0.889, \ p < 0.000001$
Goby A/C

1978-2006: $R = 0.69$, $p = 0.00003$
Goby A/C  R = 0.69, p = 0.014
Engraulis mordax (northern anchovy)

$R = 0.846, \ p < 0.000001$
Genyonemus lineatus
(white croaker)

R = 0.839, p < 0.000001
Mean Larval Density
$R = 0.673$, $p = 0.00002$

- # reps needed = 17
- Interval = 3 years
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• Correlates with entrainment
• Cannot be predicted from macroscale oceanographic metrics
• The PDO oscillation was significant but the community is not returning to that condition
• Long-term significant decline in productivity
• Sampling is sufficient to describe changes in larval density – suggest a three year assessment interval