

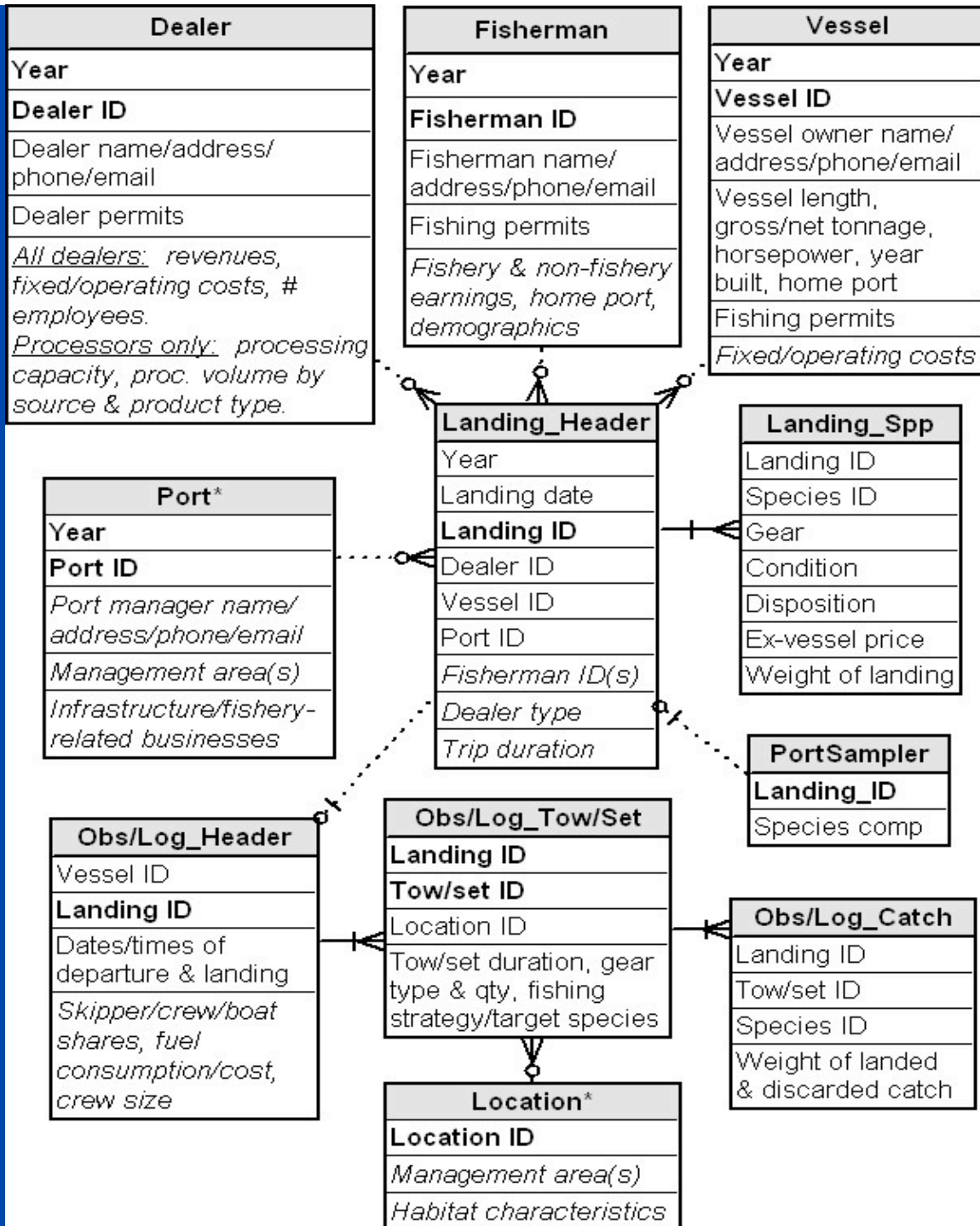
Data Requirements for  
Integrating Socioeconomic Considerations  
into Regulatory Analysis:  
Examples from California Commercial Fisheries

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Managing Data-Poor Fisheries  
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Berkeley, CA

## Desirable Data Characteristics

<i>Data Characteristic</i>	<i>Uses</i>
Link fishery activity to biological/ environmental indicators.	Determine source of biological/ environmental problem
Depict fishery activity at elemental level (e.g., trip, landing) & link to individual participants (e.g., vessels, dealers, fishermen) and participant characteristics.	<ul style="list-style-type: none"><li>&gt; Provide analytical flexibility</li><li>&gt; Develop customized solutions to management problems</li><li>&gt; Consider allocational implications</li></ul>
Cover all fisheries pursued by individual vessels/dealers/ fishermen.	<ul style="list-style-type: none"><li>&gt; Evaluate ability of fishery participants to mitigate regulatory losses</li><li>&gt; Consider effects of effort displacement on other fisheries</li></ul>
Need to maintain historical fishery databases.	<ul style="list-style-type: none"><li>&gt; Document problem development &amp; how affecting fisheries</li><li>&gt; Facilitate ability to predict future consequences of each mgmt alternative relative to <i>status quo</i></li></ul>

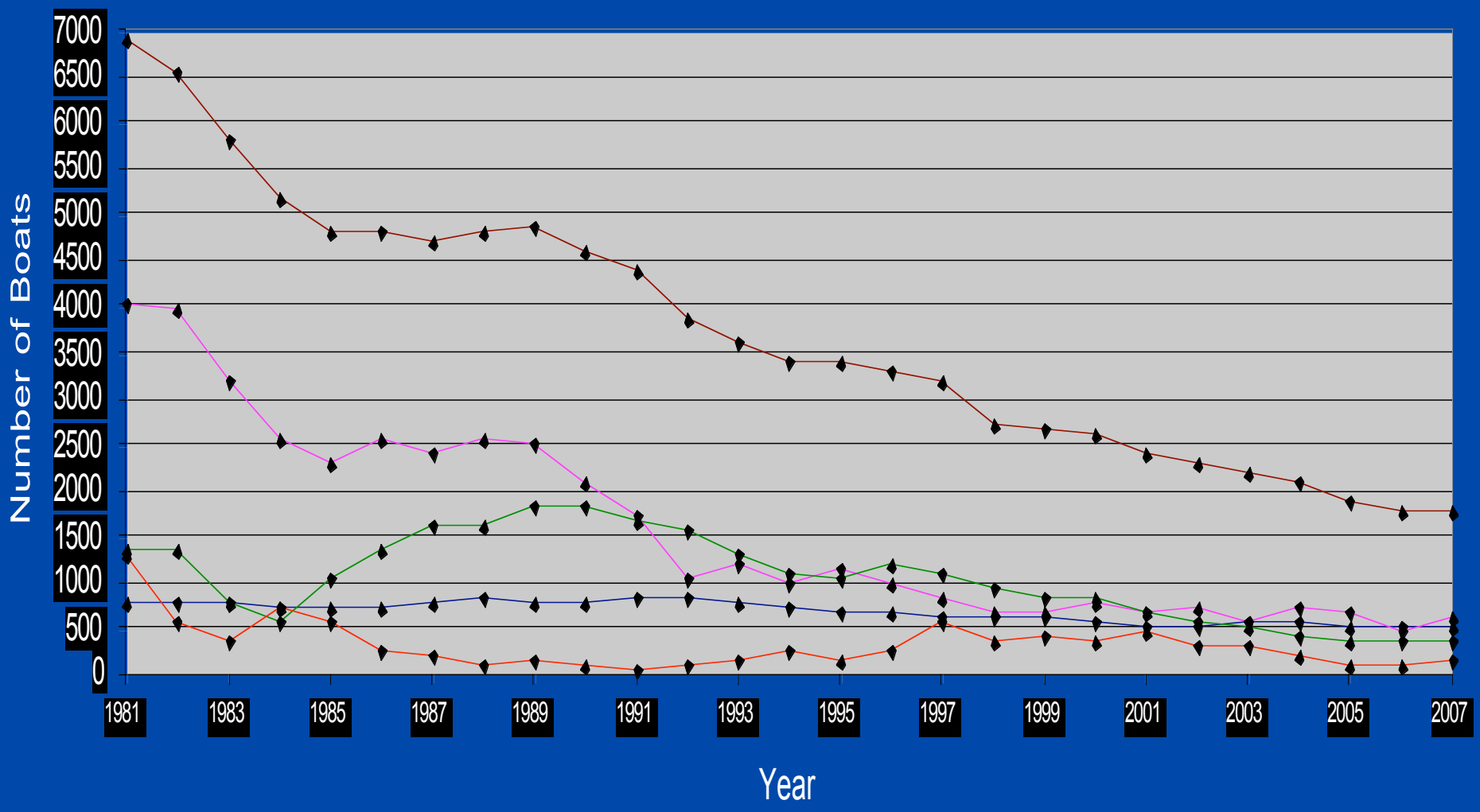


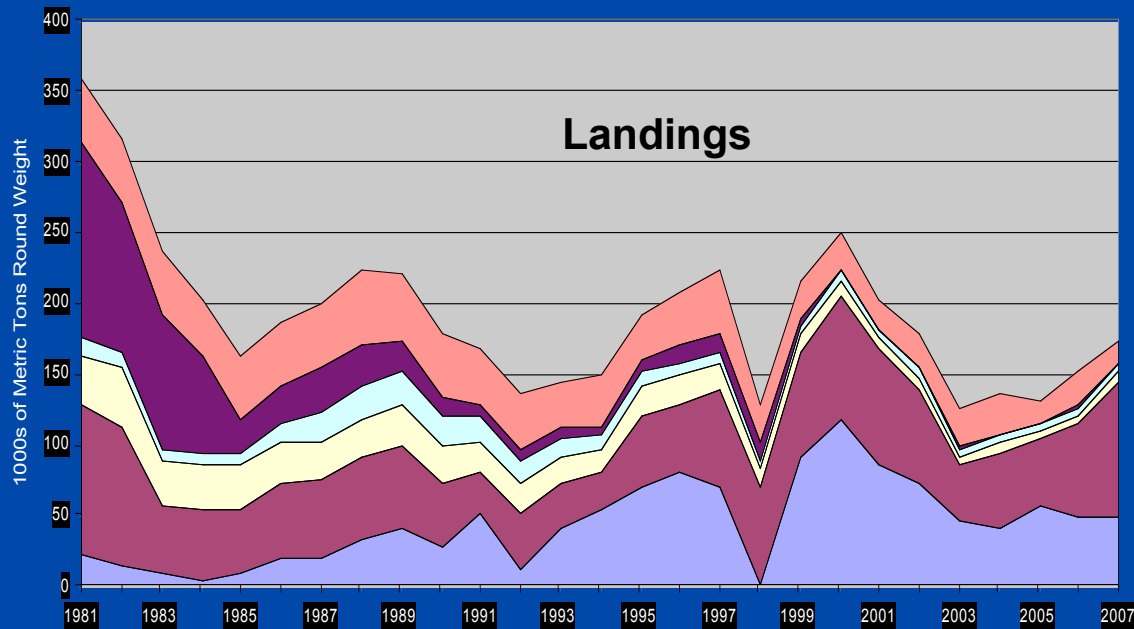
## Consider Landings Receipts...

- > Elemental unit of observation (landing, trip)
- > Can be linked to individual vessels, dealers, ports (but not fishermen)
- > Provides comprehensive commercial fishery coverage
- > Available electronically 1981-present

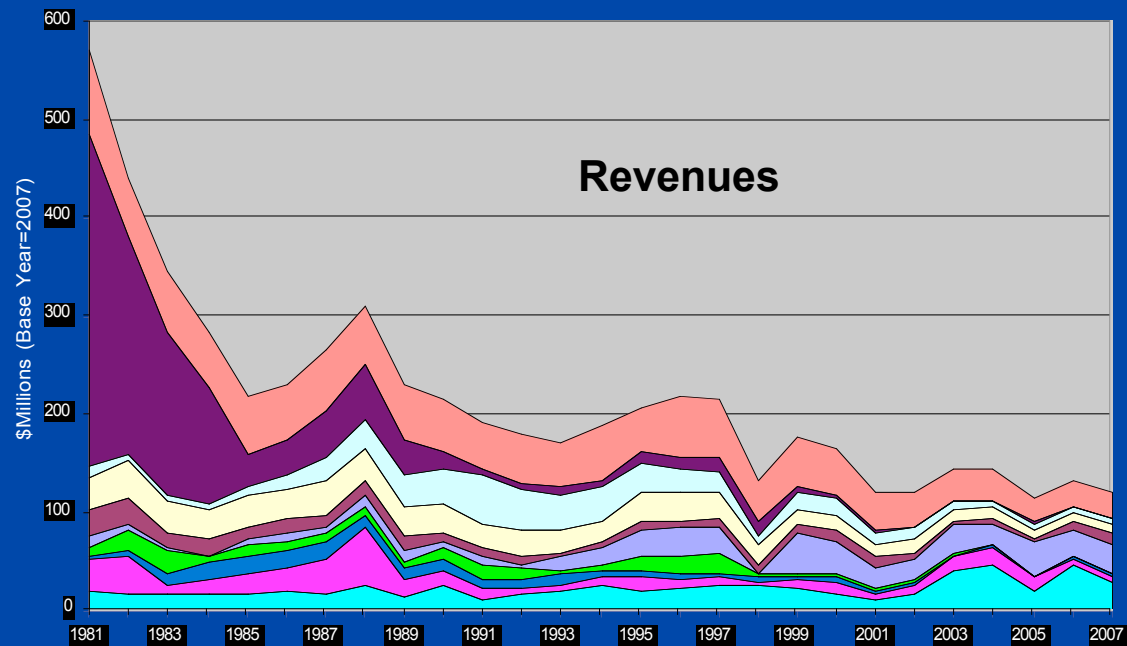
# Active California Commercial Vessels: Total Number and Numbers Participating in Selected Fisheries, 1981-2007

◆ Crab\_pot   
 ◆ Salmon\_troll   
 ◆ Rck/Lng\_H&L/pot   
 ◆ Albacore\_troll/H&L   
 ◆ Total vessels





- All Else
- Tuna\_seine
- Urchin\_dive
- Non-WhitingGrd\_trawl
- CPS\_seine
- Squid\_seine/dipnet

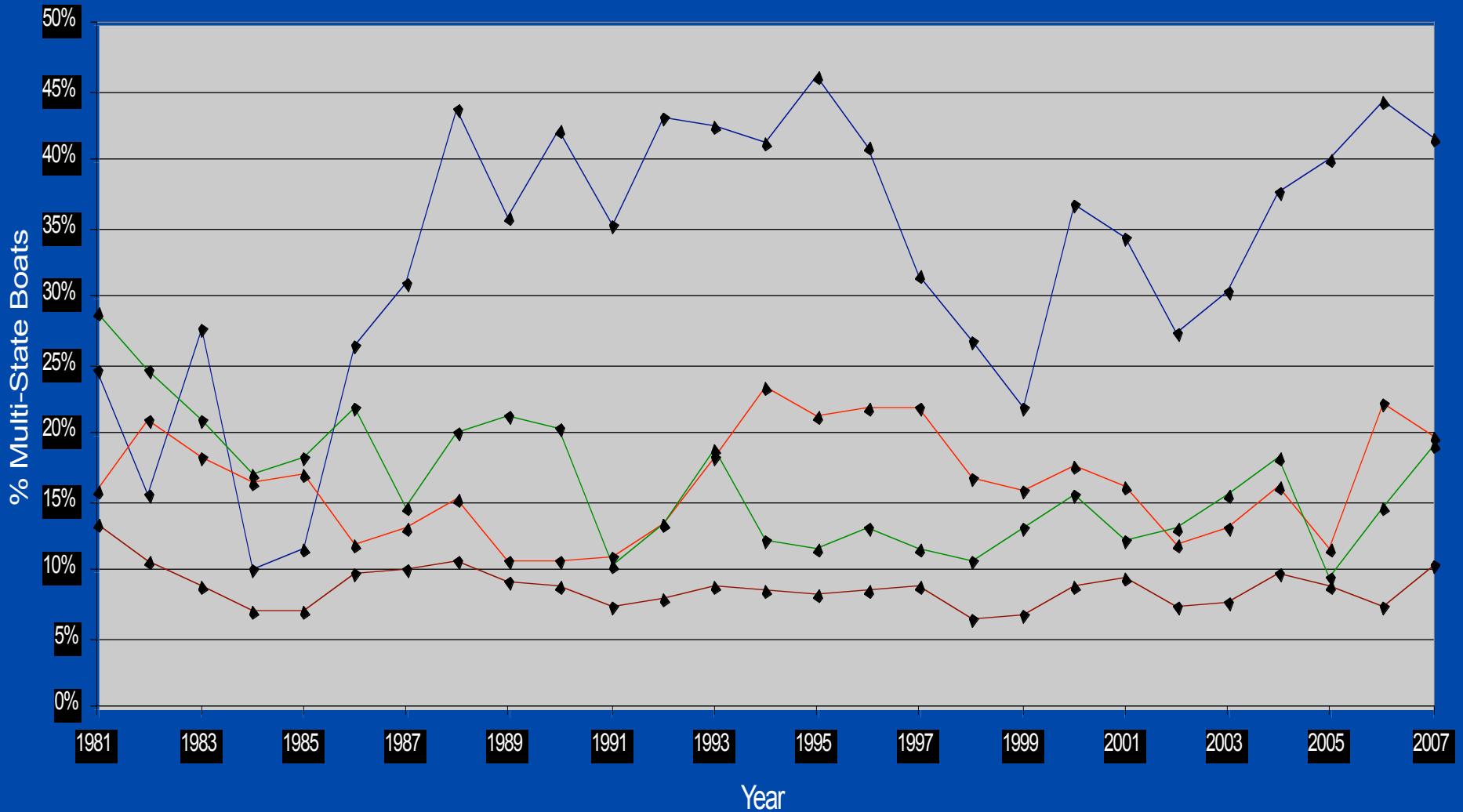


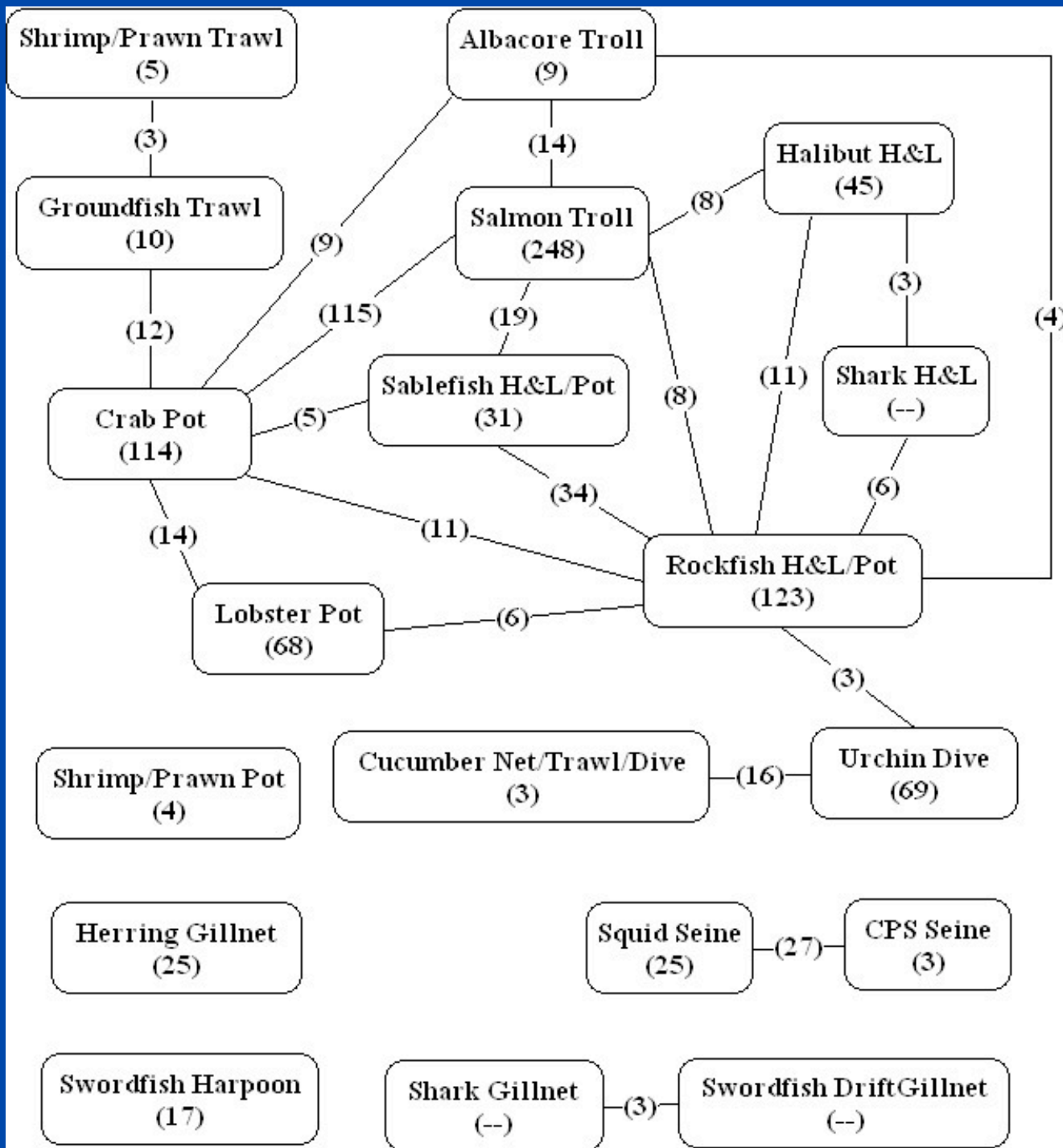
- All Else
- Tuna\_seine
- Urchin\_dive
- Non-WhitingGrd\_trawl
- CPS\_seine
- Squid\_seine/dipnet
- Herring\_gillnet/dive
- Swordfish\_driftgillnet
- Salmon\_troll
- Crab\_pot

## California Commercial Landings & Revenues: Totals & Amounts in Selected Fisheries, 1981-2007

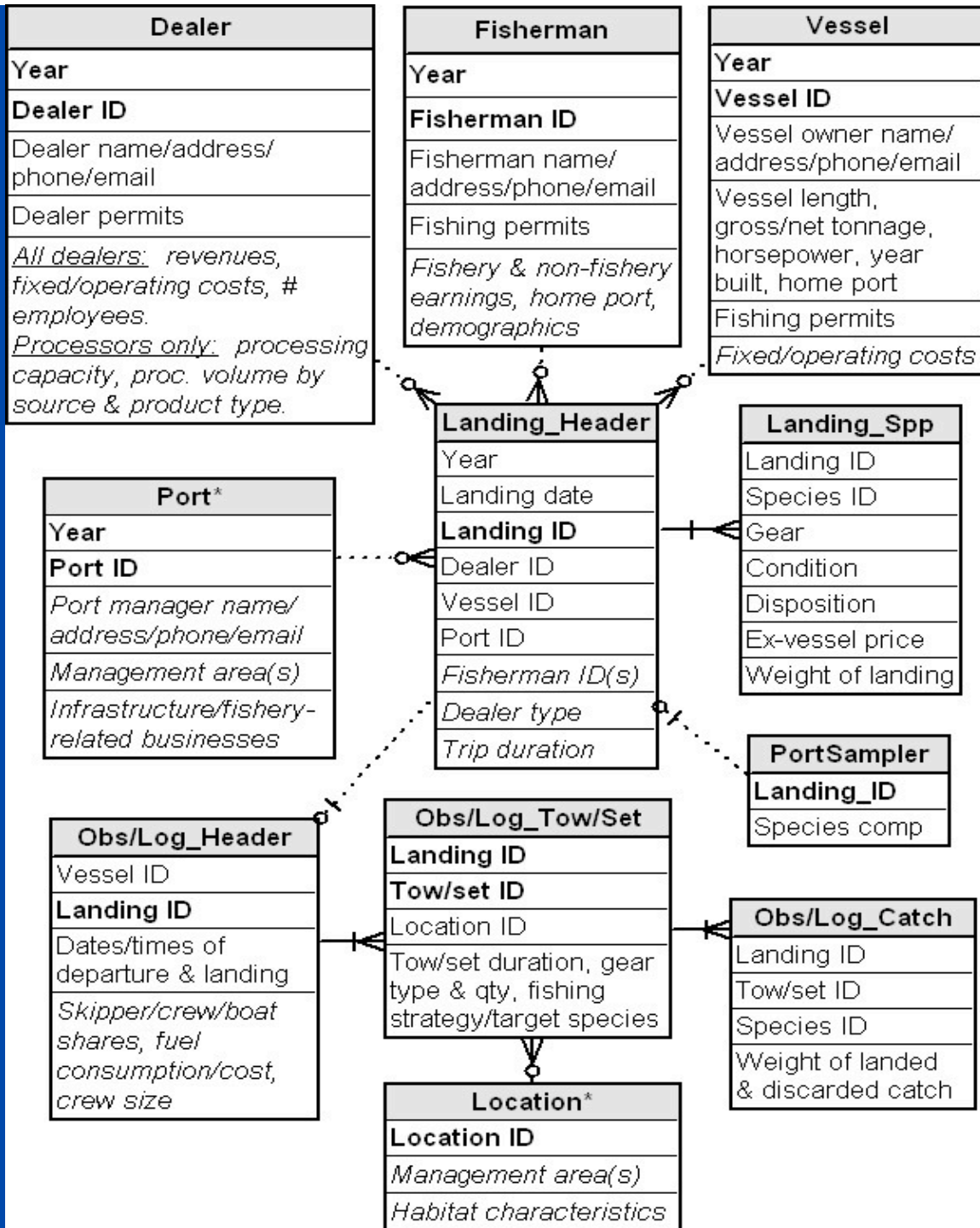
# Percent of California Boats That Also Fish in Oregon and/or Washington, in Total and for Selected Fisheries, 1981-2007 (Source: PacFIN)

◆ Albacore\_troll/H&L   
 ◆ Non-WhitingGrd\_trawl   
 ◆ Crab\_pot   
 ◆ AllBoats





Number of California Vessels Engaged in One- and Two-Way Fishery Combinations in 2007  
 (only combinations involving  $\geq 3$  vessels are depicted)



## California Commercial Fishery Data Sources: Examples of Actual & Potential Uses

- > User group effects (vessels, dealers, fishermen)
- > Spatial management
- > Habitat management
- > Port infrastructure