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

Cindy Thomson NMFS, SWFSC, Santa Cruz

Managing Data-Poor Fisheries
December 1-4, 2008
Berkeley, CA

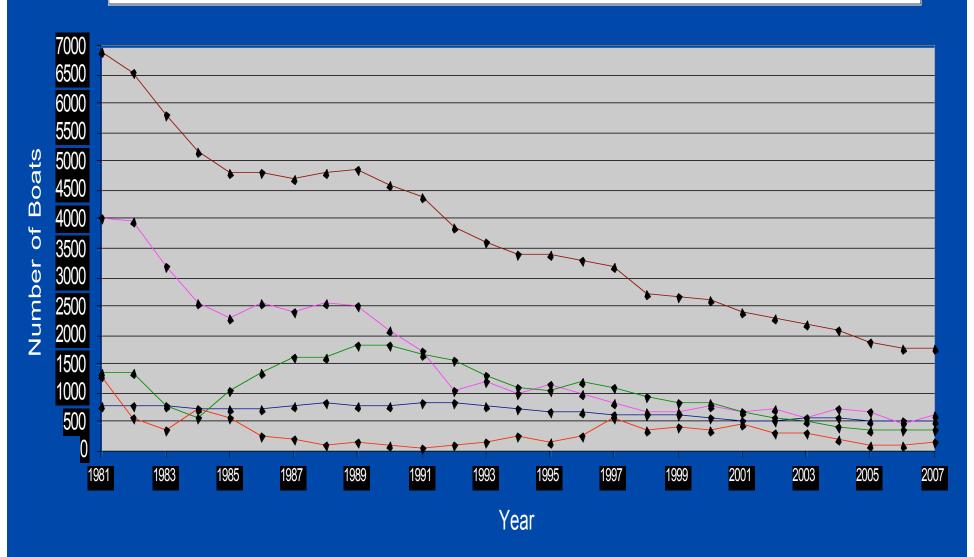
Desirable Data Characteristics

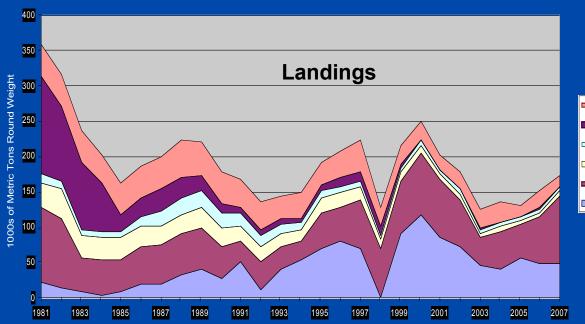
Data Characteristic	Uses
Link fishery activity to biological/ environmental indicators.	Determine source of biological/ environmental problem
Depict fishery activity at elemental level (e.g., trip, landing) & link to individual participants (e.g., vessels, dealers, fishermen) and participant characteristics.	 Provide analytical flexibility Develop customized solutions to management problems Consider allocational implications
Cover all fisheries pursued by individual vessels/dealers/ fishermen.	 Evaluate ability of fishery participants to mitigate regulatory losses Consider effects of effort displacement on other fisheries
Need to maintain historical fishery databases.	 Document problem development & how affecting fisheries Facilitate ability to predict future consequences of each mgmt alternative relative to status quo

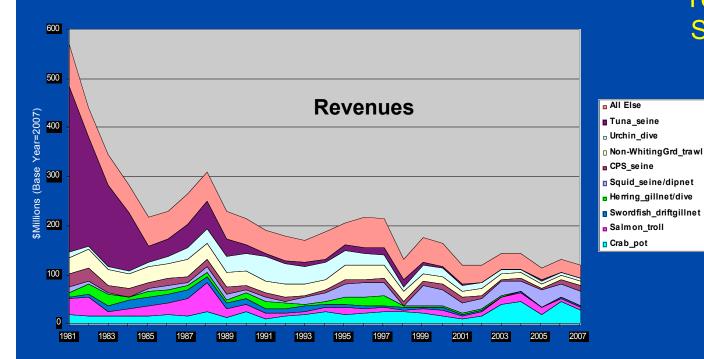
Dealer Vessel Fisherman Year Year Year Vessel ID Dealer ID Fisherman ID Vessel owner name/ Dealer name/address/ Fisherman name/ address/phone/email phone/email address/phone/email Vessel length, Dealer permits Fishing permits aross/net tonnaae. horsepower, year All dealers: revenues, Fishery & non-fishery Consider Landings built, home port fixed/operating costs, # earnings, home port, emplovees. Fishing permits Receipts... demographics Processors only: processing Fixed/operating costs capacity, proc. volume by source & product type. Landing_Header Landing_Spp > Elemental unit of Year Landing ID observation (landing, trip) Landing date Port* Species ID Landing ID > Can be linked to Year **3**Gear **∽**dDealer ID Port ID Condition. individual vessels, dealers, Vessel ID Disposition Port manager name/ ports (but not fishermen) address/phone/email Port ID Ex-vessel price Management area(s) Weight of landing > Provides comprehensive Fisherman ID(s). Infrastructure/fishery-Dealer type commercial fishery related businesses Trip duration PortSampler coverage Landing ID Obs/Log_Tow/Set > Available electronically Species comp Obs/Log Header Landing ID Vessel ID 1981-present Tow/set ID Landing ID Obs/Log_Catch Location ID Dates/times of anding ID Tow/set duration, gear departure & landing type & aty, fishing Tow/set ID. Skipper/crew/boat strategy/target species Species ID shares, fuel Weight of landed consumption/cost, & discarded catch Location* crew size Location ID Management area(s) Habitat characteristics

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





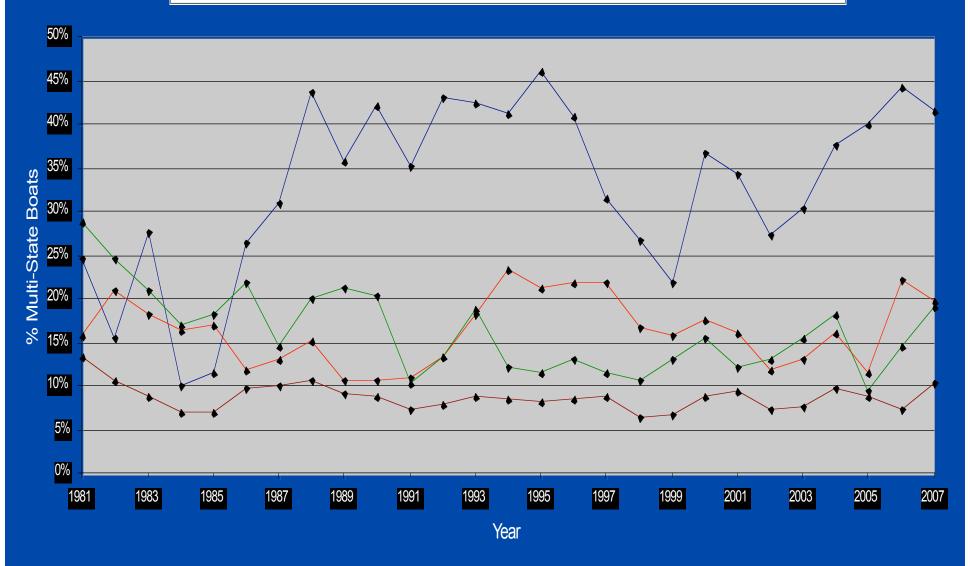


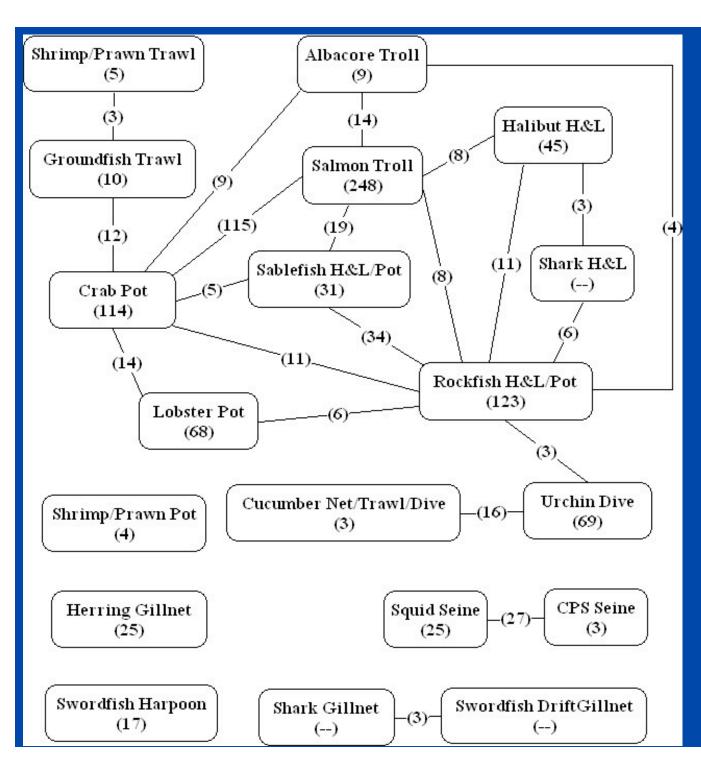


California
Commercial
Landings & Revenues:
Totals & Amounts in
Selected Fisheries,
1981-2007

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 ≥ 3 vessels
are depicted)

Dealer Vessel Fisherman Year Year Year Vessel ID Dealer ID Fisherman ID Vessel owner name/ Dealer name/address/ Fisherman name/ address/phone/email phone/email address/phone/email Vessel length, Dealer permits Fishing permits aross/net tonnage. horsepower, year All dealers: revenues, Fishery & non-fishery built, home port fixed/operating costs, # earnings, home port, emplovees. Fishing permits demographics Processors only: processing Fixed/operating costs capacity, proc. volume by source & product type. Landing_Header Landing_Spp Year Landing ID Landing date Port* Species ID Landing ID Year **3**Gear **∽**dDealer ID Port ID Condition. Vessel ID Disposition Port manager name/ address/phone/email Port ID Ex-vessel price Management area(s) Weight of landing Fisherman ID(s). Infrastructure/fisherv-Dealer type related businesses Trip duration PortSampler Landing ID Obs/Log_Tow/Set Species comp Obs/Log Header Landing ID Vessel ID Tow/set ID Landing ID Obs/Log_Catch Location ID Dates/times of anding ID Tow/set duration, gear departure & landing Tow/set ID. type & aty, fishing Skipper/crew/boat strategy/target species Species ID shares, fuel Weight of landed consumption/cost, & discarded catch Location* crew size Location ID Management area(s) Habitat characteristics

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

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