

Humpback whale distribution patterns off California relative to fixed gear



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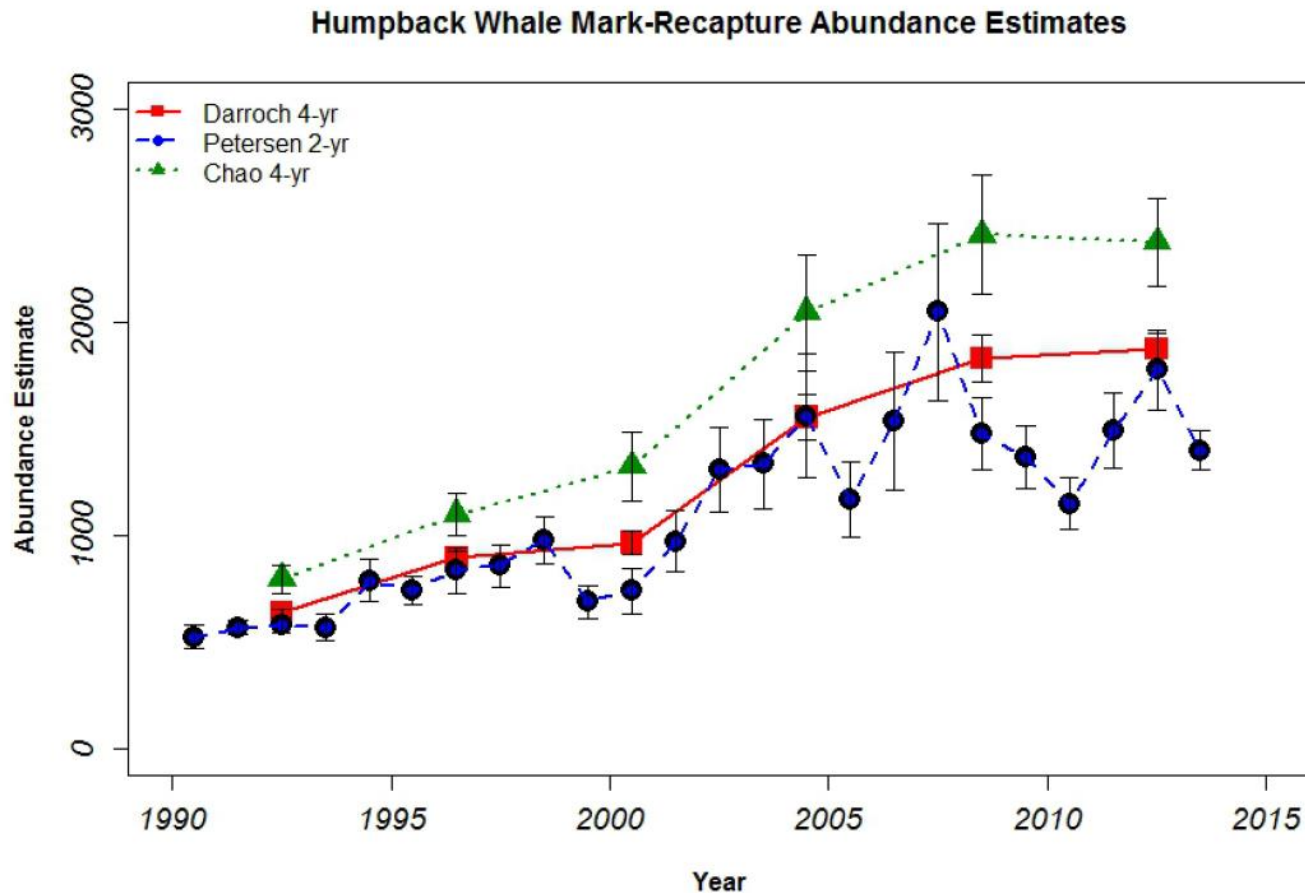
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CA/OR Humpback whale trends

(Calambokidis et al. 2017)

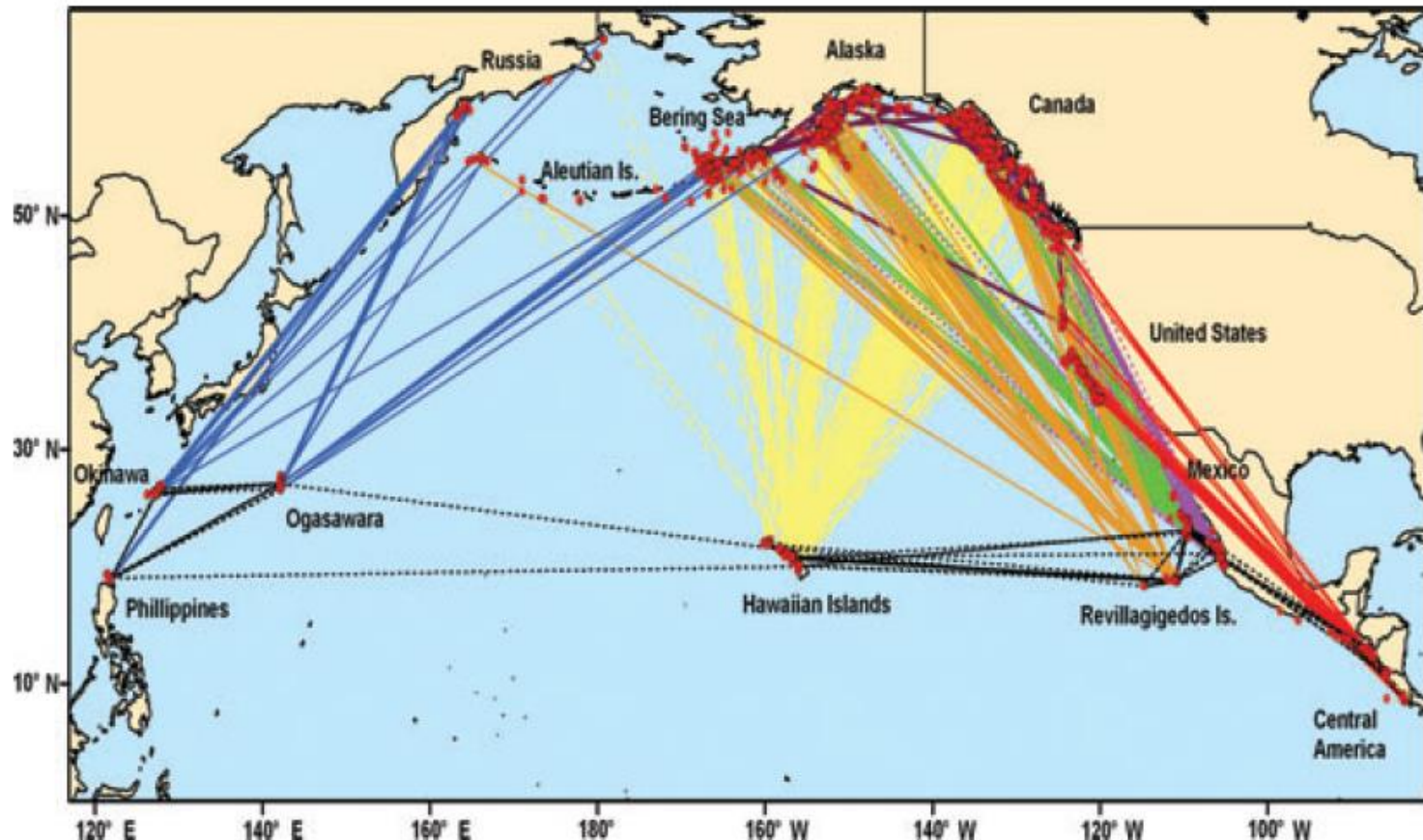
- Populations have been recovering from past whaling
- Increased from about 600 animals in 1990 to about 2500 in recent years
- This includes whales Central American and Mexican breeding areas



North Pacific Humpback whale populations

(Barlow et al. 2011, Marine Mammal Science)

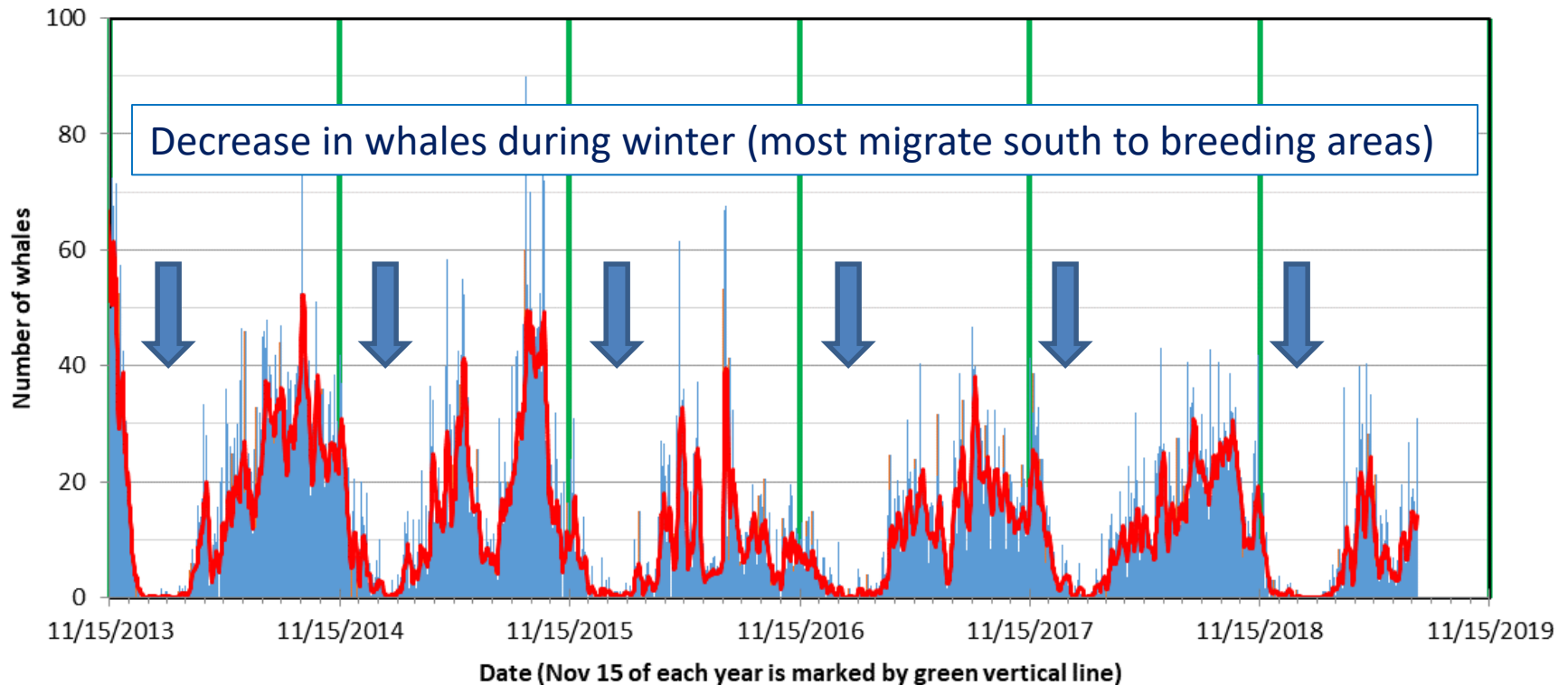
Whales that feed off California and Oregon (March-November) migrate to one of two breeding areas during winter:
Central America (Endangered) or Mexico (Threatened)



Seasonal Presence of Humpback Whales in Monterey Bay

(Monterey Bay Whale Watch, whales per ½ day trip,
Courtesy of Nancy Black)

Monterey Bay Whale Watch: Humpback whales per 1/2-day trip
(Nov 15, 2013 - July 22, 2019)

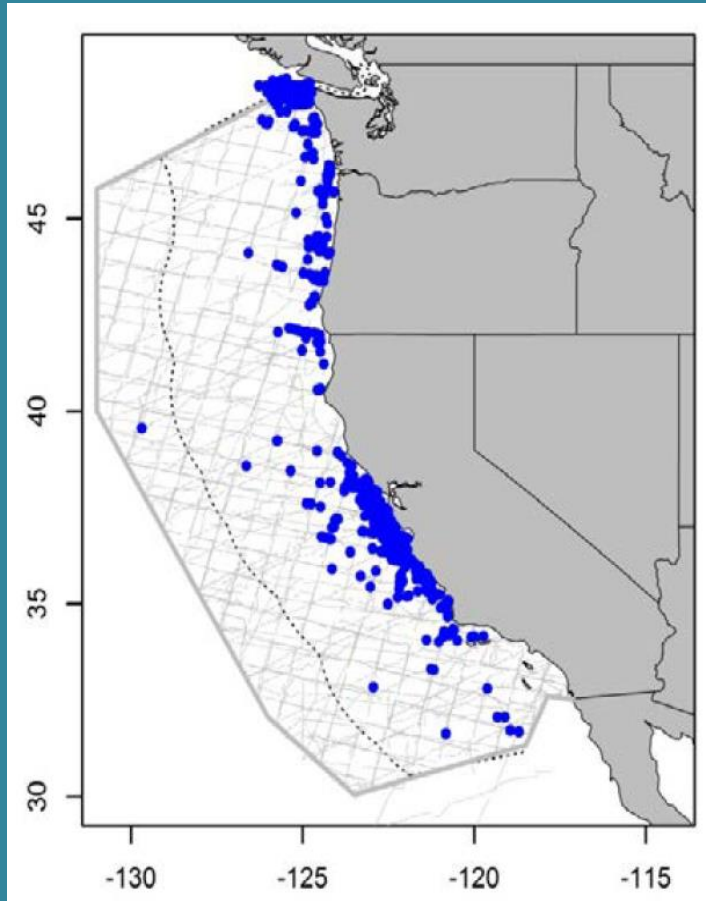


Seasonal timing of CA Dungeness crab fishing and feeding humpback whales, blue whales, and leatherback turtles

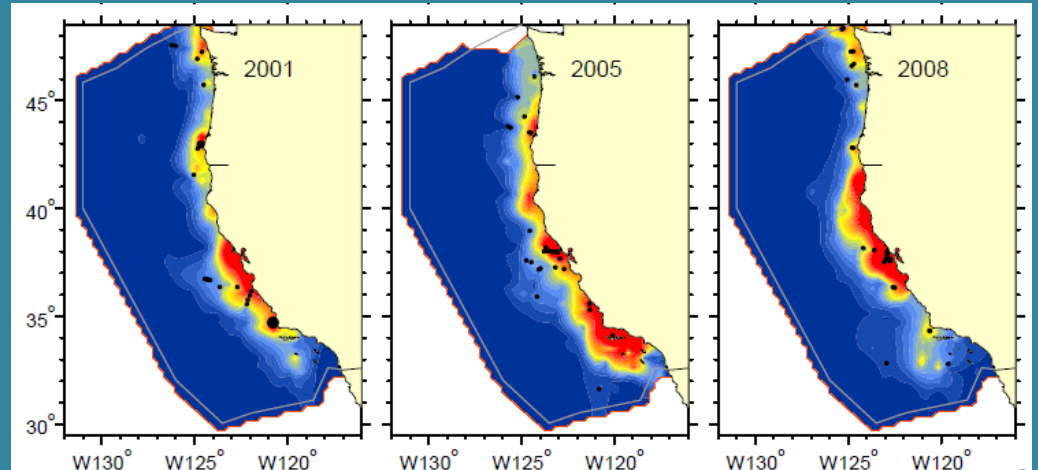
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Humpback whale distributions, Summer/Fall 1991-2014

(Barlow and Forney 2007, Becker et al. 2012, 2016, 2018)



Humpback whale sightings,
1991-2014



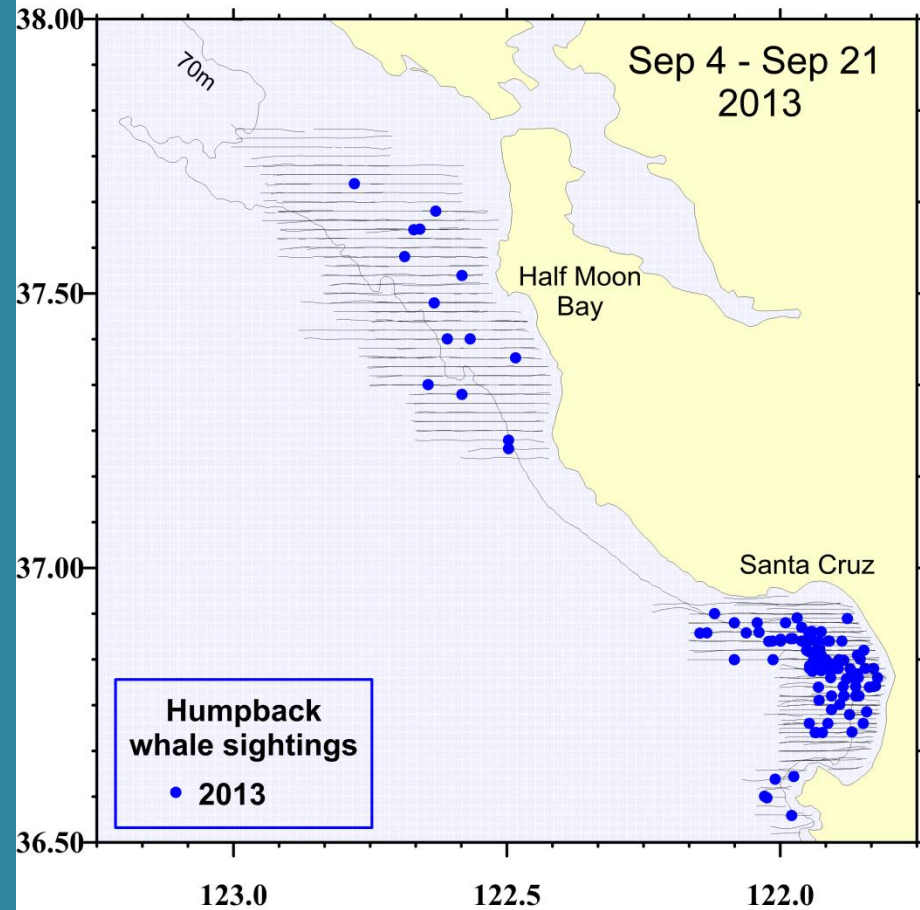
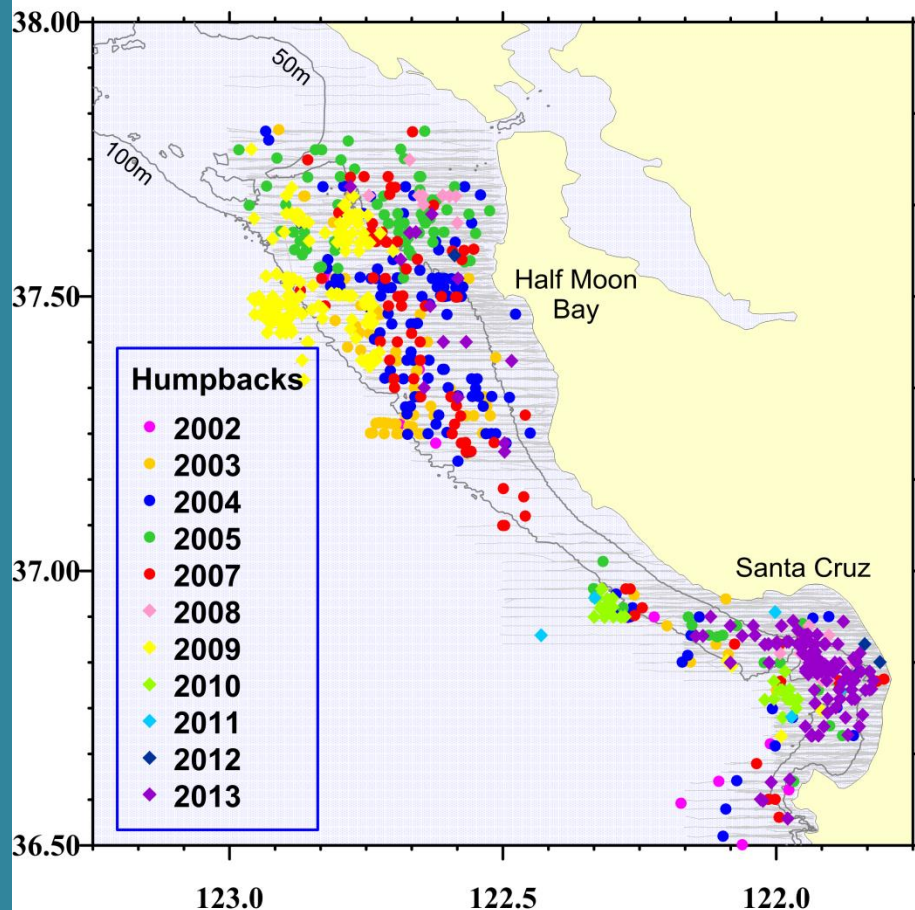
- Primarily shelf/slope associated
- Whales may feed on schooling fish (mostly nearshore) or krill (in slope-edge waters).
- Areas of concentration vary, but there are persistent 'hotspots' off CA, especially off central CA (Monterey Bay to Pt Arena) and in the Santa Barbara Channel

Central California Humpback Whale Distribution

From 2002-2013 leatherback turtle aerial surveys
(Scott Benson, NOAA/SWFSC)

Humpback whale sightings (on and off effort) during
2001-2013 fine-scale leatherback aerial surveys

(Source: Scott Benson and Karin Forney, NOAA/SWFSC)



Whales and Fish - August 15-16, 2019

