WHALE, WOULD YOU LOOK AT THAT?

A REVIEW OF WHALE AND VESSEL COLLISIONS ON THE WEST COAST

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PROGRAM ON THE ENVIRONMENT

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BACKGROUND

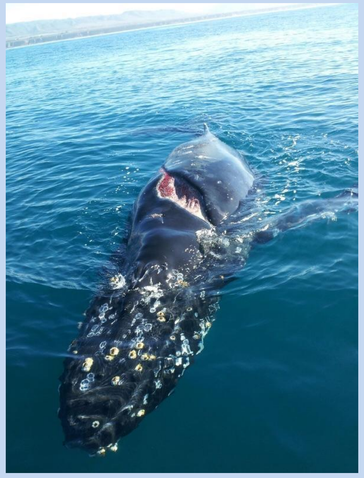

Figure 1. A young female humpback whale killed by a vessel, presumably the propeller, in October 2014

- Whales are a key species in marine ecosystems and are known to sequester carbon- a threat to them has serious implications
- Blue, humpback, fin and gray whales have migration paths overlapping high traffic areas
- Size, weight, and frequency of vessels traveling along the West Coast have increased, as have collisions
- Policy intervention through 2008 Vessel Speed Rule on East Coast, voluntary measures, like Blue Whales Blue Skies, on West Coast

RESEARCH QUESTIONS

- What is the scope of the whale and vessel collision issue in the West Coast?
- What policy intervention is necessary and feasible for collision frequency and collision mortality reduction?

INTERNSHIP & METHODS

- **Internship:** NOAA Fisheries West Coast Protected Resources Division and the East Coast Office of Protected Resources
- **Goal of internship:** assist with development of a national whale and vessel collision database, characterize avaliable data on collisions in the West Coast Region
- **Research methodology:** conducted policy analysis on mandatory and voluntary vessel speed reduction programs

FINDINGS

West Coast Data

Lack of Information

Due to low carcass recovery rates and underreporting, the scope of damage is largely unknown.

- Carcasses sink, gray whale recovery ~5%
- Not all vital information had fields in report forms

Collision Rates & Lethality

Not all collisions are created equal. Speed and location play a critical role in lethality, even in relatively small margins.

- 80% mortality rate at 15 kts
- 20% mortality rate at 8.6 kts
- Higher collision rates in high traffic port regions (Figure 2)

Policy Intervention

Voluntary Speed Reduction

Blue Whales Blue Skies is a current West Coast voluntary speed reduction program, but is voluntary effective enough?

- 2007 WCR voluntary program only saw 1% of ships reduce speeds
- When reduced, still between 16-18 kts
- Economic disincentives

Mandatory Speed Reduction

The 2008 Vessel Speed Rule saw significant success in mitigating risks to the North Atlantic Right Whale which the West Coast may also implement.

- Successful use of Seasonal and Dynamic Management Areas
- Could apply to the regional trends of West Coast (Figure 2)

Vessel Strike Cases Per Region

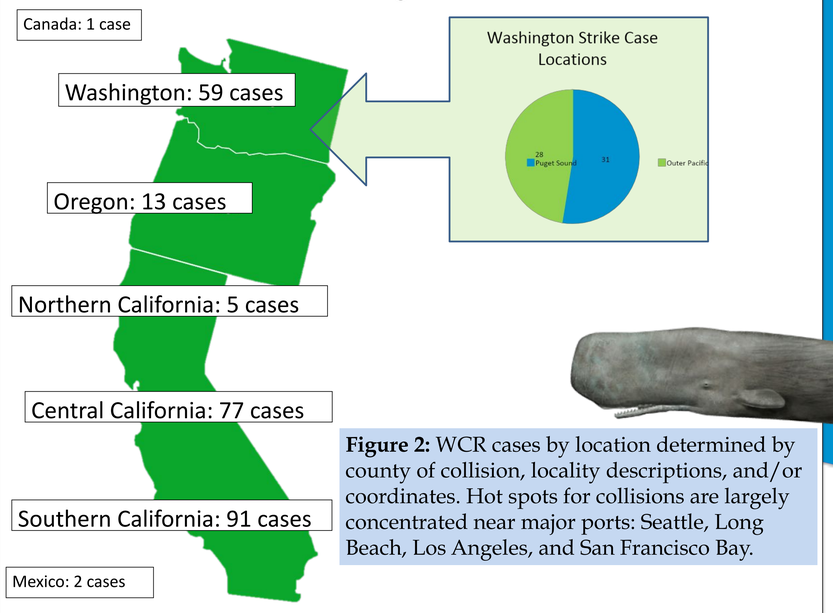

Figure 2: WCR cases by location determined by county of collision, locality descriptions, and/or coordinates. Hot spots for collisions are largely concentrated near major ports: Seattle, Long Beach, Los Angeles, and San Francisco Bay.

KEY TAKEAWAYS

- Much is still **unknown** about how whale populations are being affected by collisions
- **Stricter** speed reduction programs that are either mandatory or voluntary with **economic incentives** would improve conditions for West Coast whales
- Speed reduction in **seasonal** or **dynamic** areas is an **effective** and **necessary** form of mitigation

BROADER IMPLICATIONS

Projects like the national whale and vessel collision database will improve data avaliability and quality.

More data means more information for policy. The West Coast will be better suited to dictate regions for speed reduction and track common offenders.

Habitat remediation efforts are essential but without substantive speed reduction policy, it can put whales at a higher risk of collision.

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