Point Blue Publication Brief

U.S. West Coast whale deaths from ship collisions outstrip federal limits

Cotton Rockwood
crockwood@pointblue.org

Ship strikes are a primary cause of death for whales and threaten the recovery of populations. Current mitigation efforts in the Western U.S. focus only on the traffic lanes off San Francisco and Long Beach. However, we do not know what proportion of deaths happen in these lanes or elsewhere, or how many whales are killed in total.

To address these issues, we modified a quantitative framework based on naval warfare encounter theory to calculate the relative spatial distribution of ship strike risk and estimate mortality for blue, humpback, and fin whales in the West Coast Exclusive Economic Zone (U.S. waters to 200 nm offshore).

We estimate that 18 blue, 22 humpback, and 43 fin whales die off the west coast from ship strikes during each year's peak abundance period from June-November. Seventy-four, 82 and 65 percent of mortality for blue, humpback, and fin whales, respectively, falls within only 10% of the U.S. waters, showing we should focus mitigation on a region off of Central and Southern California. Only 13% (blue whale), 18% (humpback whale) and 3% (fin whale) of deaths occur in the delineated shipping lanes, which means that limiting conservation to only these areas cannot sufficiently curtail strike mortality.

To address ship strike mortality, we call for broader geographic regulation of shipping through speed reductions, protection of key whale habitat and re-routing of designated lanes where possible.

Main Points

Current efforts to reduce ship strikes to whales focused on shipping lanes are insufficient to reduce whale mortality in the Western U.S.

Mortality is 7.8x, 2.0x and 2.7x the legal guidelines for blue, humpback and fin whales, respectively.

We identify places where lane routing, speed reductions, and new 'Areas to be Avoided' are needed to lessen ship strike deaths and comply with federal law.

R. Cotton Rockwood, John Calambokidis, Jaime Jahncke. 2017. High mortality of blue, humpback and fin whales from modeled vessel strikes on the U.S. West Coast suggests population impacts and insufficient protection. PLoS ONE 12(8):e0183052.

https://doi.org/10.1371/journal.pone.0183052