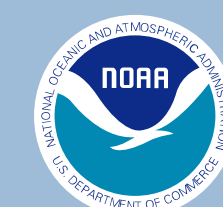


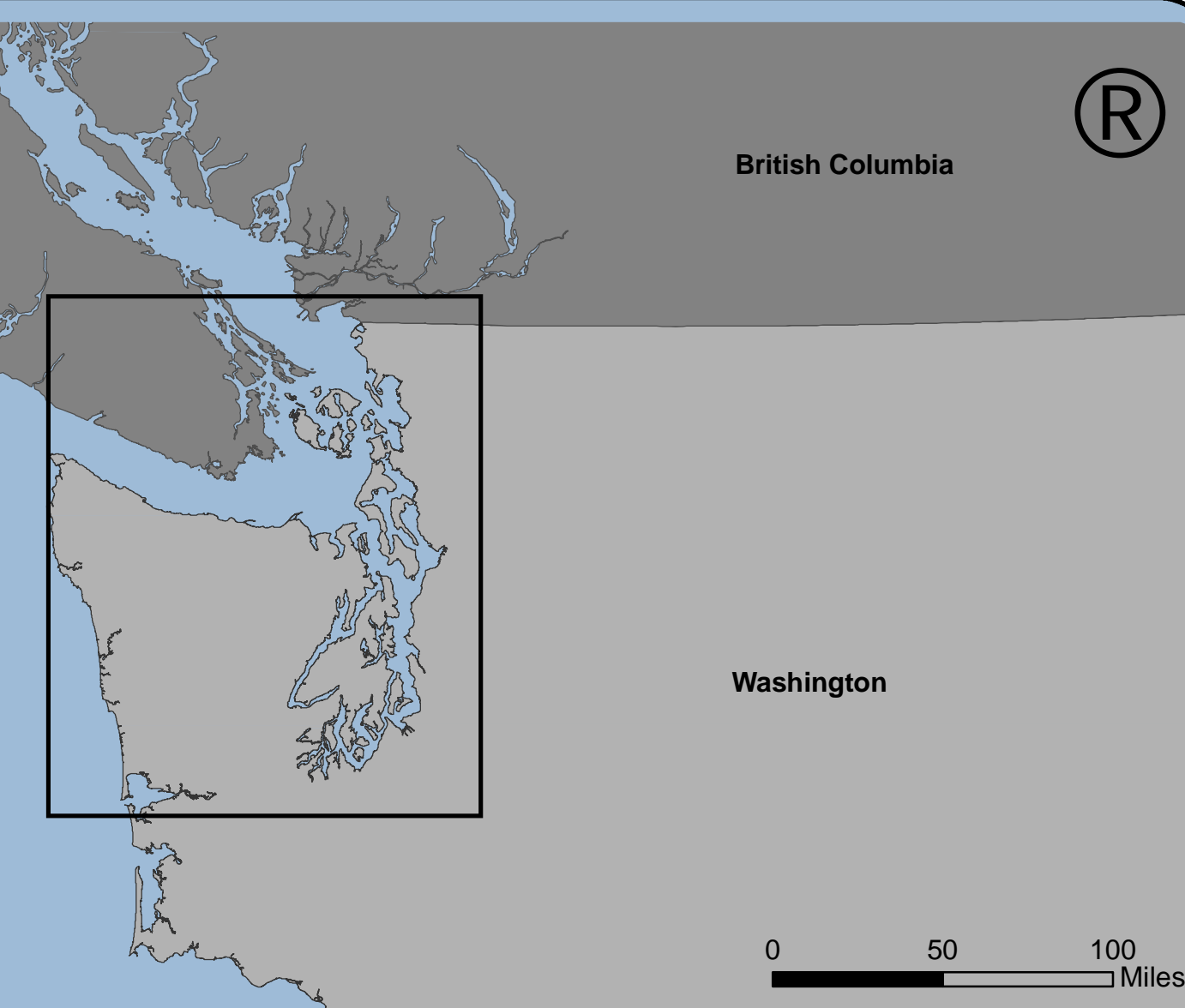
# Potential Sources of HPAHs Within the Range of the Eastern North Pacific Southern Resident Killer Whales



The National Oceanic and Atmospheric Administration (NOAA) has determined that one of the primary potential risk factors for the Southern Residents is pollution in their habitat. To address this risk, NOAA gathered and analyzed marine sediment quality data from the Sediment Quality Information System (SEDQUAL) managed by the Washington State Department of Ecology and Marine Sediment Data for the Middle and Hylebos Waterways in Commencement Bay, Tacoma, Washington, and Harbor Island Site, Seattle, Washington, managed by the U.S. Environmental Protection Agency, Region 10.

NOAA integrated the marine sediment quality data from these sources into a geodatabase. In some instances, the data from these datasets were excluded from subsequent analysis because no sampling location information was available (e.g., latitude and longitude), the data did not address sediment samples or contaminants of interest, or the data could not be integrated readily into the geodatabase.

NOAA then used the data in the geodatabase to identify locations where sediment samples have been analyzed for contaminants of interest. This information was analyzed further to identify locations where sediment sample analysis indicated that elevated levels of these contaminants were detected. NOAA identified those sampling locations where high molecular weight polynuclear aromatic hydrocarbons (HPAHs) were detected at concentrations below and above the "No Effects" and the "Minor Adverse Effects" levels of the Washington State Sediment Quality Standards. The following compounds are HPAHs: fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(a)pyrene, indeno(1,2,3-c,d)pyrene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene, and benzofluoranthenes (total). Separate sediment quality standards exist for each of these compounds and for total HPAHs (WAC 173-204).



References:

- Washington Administrative Code (WAC). Chapter 173-204.
- Washington State Department of Ecology. Sediment Quality Information System (SEDQUAL) Release 5. October 2004.
- U.S. Environmental Protection Agency. Marine Sediment Data: Commencement Bay, Tacoma, Washington: Harbor Island. <http://www.epa.gov/>. Accessed May 17, 2005.
- U.S. Environmental Protection Agency. Marine Sediment Data: Commencement Bay, Tacoma, Washington: Hylebos Waterway. <http://www.epa.gov/>. Accessed May 17, 2005.
- U.S. Environmental Protection Agency. Marine Sediment Data: Commencement Bay, Tacoma, Washington: Middle Waterway. <http://www.epa.gov/>. Accessed January 13, 2005.

