

# PUGET SOUND VITAL SIGNS

## VITAL Sign GROUNDFISH AND BENTHIC INVERTEBRATES

Groundfish and benthic invertebrates include dozens of resident marine fish that live on or near the seafloor as well as crabs, shrimp, and other invertebrates. This Vital Sign tells us about the abundance and distribution of groundfish and benthic invertebrates in Puget Sound. Many of these species are important to commercial and recreational fisheries and play a critical role in the region's marine food web.



Photo credit: Adam Obaza (Paua Marine Research Group)

### Related Strategies

- Awareness of Effects of Climate Change
- Climate Adaptation & Resilience
- Education Partnerships
- Funding
- Invasive Species
- Research & Monitoring
- Responsible Boating
- Salmon Recovery
- Stewardship & Motivating Action
- Strategic Leadership & Collaboration

VITAL SIGN > INDICATOR	PROGRESS	STATUS
Groundfish and Benthic Invertebrates		
Abundance and biomass of groundfish	INDICATOR TO BE DEVELOPED	NO TARGET
Abundance and biomass of benthic marine invertebrates	INDICATOR TO BE DEVELOPED	NO TARGET

### Vital Sign Reporter

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## KEY VITAL SIGN MESSAGES

- The marine waters of Washington State are home to over 90 species of groundfish.
  - These include: Pacific cod, Pacific tomcod, Pacific hake (or whiting), walleye pollock, all species of dabs, sole and flounders, Pacific halibut, lingcod, ratfish, sablefish, cabezon, greenling, buffalo sculpin, great sculpin, red Irish lord, brown Irish lord, rockfishes, Pacific staghorn sculpin, wolfeel, giant wrymouth, plainfin midshipman, all species of shark, skate, rockfish, rattail, and perches.
- Recent studies show below average abundances of most key groundfish stocks in Puget Sound.
  - Some of the species that once dominated the catches of recreational and commercial fisheries are now at depressed or critical abundances, resulting in historic low catches and reduced fisheries. A number of natural and human-induced factors may be responsible for the poor condition of groundfish.
  - Of the over 60 species of rockfish along the Pacific coast, 28 species are found within the Salish Sea. Two Puget Sound rockfish are listed under the Endangered Species Act (ESA): bocaccio as Endangered, and yelloweye rockfish as Threatened.
  - NOAA Fisheries currently has a [proposed listing under the ESA for the Sunflower Sea Star](#).
- The fish assemblages comprising groundfish populations utilize a variety of bottom habitat types, from complex boulder and steep rocky reefs, to cobble and sand, and fine sediments. Quantifying the available habitats is important to understanding strategies for recovery actions.
- **Forage fish** are important food resources for many groundfish species.

## BACKGROUND DOCUMENTS

This is a new Vital Sign and we are working with our partners to compile and report indicator status and trends. The Washington Department of Fish and Wildlife (WDFW) has conducted systematic scientific bottom trawling in the Salish Sea since 1987. These surveys collect abundance and distribution data for a broad range of groundfish and invertebrate species and will help inform the Vital Sign indicators.

- WDFW Scientific Bottom Trawl Surveys in the Southern Salish Sea: Species Distributions, Abundance, and Population Trends <https://wdfw.wa.gov/publications/02140>
- Lowry, D, Pacunski, R, Hennings, A, Blaine, J, Tsou, T, Hillier, L, Beam, J, and Wright, E. 2022. Assessing bottomfish and select invertebrate occurrence, abundance, and habitat associations in the U.S. Salish Sea using a small, remotely operated vehicle: results of the 2012-13 systematic survey. Fish Program Technical Report No. 22-03. Washington Department of Fish and Wildlife, Olympia, WA. 67 pp.
- Quantification of bottomfish populations, and species-specific habitat associations, in the San Juan Islands, WA employing a remotely operated vehicle and a systematic survey design <https://wdfw.wa.gov/sites/default/files/publications/02179/wdfw02179.pdf>

## OTHER RESOURCES

- [WDFW: Bottomfish Management](#)
- [NOAA Fisheries: Yelloweye and Bocaccio Rockfish Recovery](#)
- [Pacific Marine and Estuarine Partnership: State of the Knowledge of U.S. West Coast Nearshore Habitat Use By Fish Assemblages and Select Invertebrates \(2022\) pdf](#)

## CONTRIBUTING PARTNERS



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