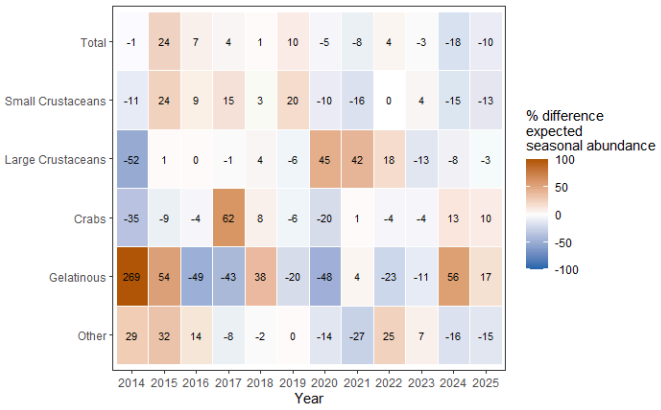
PUGET SOUND
VITAL SIGNS

INDICATOR
ZOOPLANKTON INDEX

This indicator measures annual deviations in zooplankton biomass relative to expected seasonal conditions in Puget Sound. It shows whether major zooplankton groups were unusually high or low in a given year after accounting for their normal seasonal cycles. Large or persistent deviations may reflect extreme events or broader changes in ocean and climate conditions and can signal that the marine food web is shifting away from historical patterns.



Annual Puget Sound zooplankton abundance anomalies by taxonomic group, 2014–2025. Values are percent differences from monthly long-term averages; positive values are above average and negative values below. The color scale is capped at ±100%; cells show actual values.

Key Vital Sign Indicator Results

- In 2025, total biomass was 10% below the long-term seasonal average. Contrasting responses among groups could favor some predators over others, leading to a “MIXED RESULT”.
- There is no single healthy target for zooplankton biomass: more is not always better and less is not always worse. Interpretation requires timing, composition, and long-term patterns.
- As in 2024, small crustacean biomass remained below average, while crab larvae, gelatinous zooplankton, and other taxa remained above average.
- Increased “other” biomass was driven primarily by chaetognaths and larvaceans, which accounted for a larger share of biomass than their long-term average.
- Individual groups varied more among years than total biomass, showing that a relatively stable total can mask substantial changes in zooplankton community composition.
- Changes in community composition could increase predators’ foraging costs and alter the flow and efficiency of energy transfer through the marine food web.

Indicator Trend

MIXED RESULTS

Target

No targets are currently set for this indicator.

Data Source

Puget Sound Zooplankton Monitoring Program Dataset (2014 - 2025)
https://green2.kingcounty.gov/Scienc
ArticleID=556

Vital Sign Indicator Reporter

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Indicator Details

Click below for more information about this indicator, including Maps, Charts, Indicator Importance, Methods, Interpretation of Results, and Additional Resources.

Complete Indicator Report

Last Updated

11/13/2026

CONTRIBUTING PARTNERS

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