The marine bird population abundance indicator measures population abundance and trends of four bird species that breed locally or over-winter in the Puget Sound marine environment. The four species reside in Puget Sound most, if not all, of the year and include: marbled murrelet, rhinoceros auklet, pigeon guillemot, and scoters. The indicator provides an integrative view of the health of species that depend upon the Puget Sound for survival.

Each dot represents the estimated annual density (number of birds per km²) in Puget Sound and Strait of Juan de Fuca. The black lines are the estimated linear trends for each species across the time series. Grey band is the 95% confidence interval of the trend. Scoter = surf, white-winged, and black scoter combined.

Source: Washington Department of Fish and Wildlife

Key Vital Sign Indicator Results

Species in the marine bird indicator are displaying different abundance patterns over time.

- The Puget Sound marbled murrelet population, a federally threatened species under the Endangered Species Act, has declined by nearly 5% per year between 2001 and 2020.
- Scoter (surf, black, and white-winged scoter species combined) density has declined by approximately 2% per year between 2001 and 2020.
- In contrast, the density estimates of pigeon guillemot and rhinoceros auklet have gone up and down year-to-year but show no trend (confidence limits in estimate overlap zero change) between 2001 and 2020.
- Sound-wide trends for pigeon guillemot and rhinoceros auklet are consistent with local-scale colony-based monitoring results that generally suggest stable and healthy guillemot and auklet populations in the Puget Sound region.
- Studies suggest that conservation of suitable nesting habitat is critical to murrelet recovery. In the Puget Sound region, marine factors related to prey abundance and human disturbance also appear to play an important role in changes in murrelet distribution and abundance.