The summer low flows indicator measures long-term trends in river low flows that occur during summer months when there is less rain and temperatures are warmer. The indicator is designed to evaluate the Partnership’s 2020 ecosystem recovery targets identified for each of 12 major rivers in Puget Sound.

The percentage change per year (1975-2019) in summer low flows, calculated by dividing the gain or loss of flow (cfs) per year by the average 30-day summer low flow over the 1975-2019 period, for unregulated and regulated Puget Sound rivers. Bars are color-coded by trend category and values shown indicate the change in summer low flow (cfs) per year. Note: the Dungeness and Skagit rivers show increasing percentages per year, but with no significant change detected.

Key Vital Sign Indicator Results

- Trends in summer low flow between 1975 and 2019 at streamflow monitoring sites on 12 large Puget Sound rivers varied from river to river. Most rivers without dams have been on a declining trend since the 1970s. On the other hand, regulated rivers have had relatively stable or even increasing flows. Therefore, our conclusion about progress of the summer low flows indicator is “Mixed Results”.
- Summer low flow trends generally did not change much over the last few years and most rivers are on the same trajectory. Most rivers with stable summer low flows a few years ago continue to have stable flows, rivers with decreasing trends continue to show decreasing trends, and rivers with increasing trends continue to show increasing trends.
- Seven rivers are meeting their 2020 recovery targets for stable or increasing flows. Five of these are regulated rivers with large dams that are required to release agreed upon instream flows.
- Only two of the seven unregulated rivers, the Dungeness and Puyallup, are meeting the recovery target for stable flows. Both rivers are fed by glaciers in their headwaters.
- Summer low flow trends were evaluated at 16 additional “non-focus” streamflow gages to provide a more complete regional picture. Unfortunately, several of the non-focus flow trends have declined since the previous evaluation, a pattern that is cause for concern.

Indicator Progress Target Status

Target
No targets are currently set for this indicator.

Data Source
U.S. Geological Survey Stream Gauging Network, compiled by the Streamflow Monitoring Program at the Washington Department of Ecology

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