

Trends in stream health

Current data provide a snapshot of stream health at one point in time. Trend data show long-term patterns, which increase our understanding of whether stream health is getting better or worse over time, and how streams are likely to be affected in the future.

Trends in stream health are more difficult to identify than current conditions. Usually it takes a large amount of data, collected over a long time, in order to identify trends with confidence. Because of this, our ability to detect and report on trends is more limited.

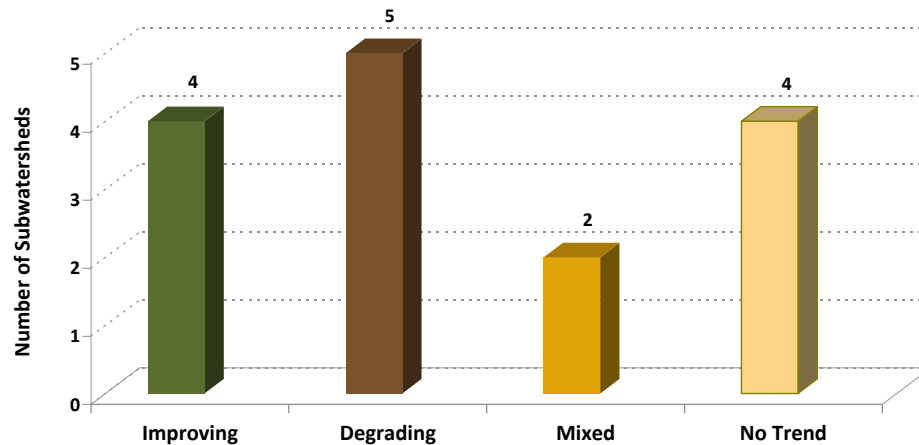
This section uses available data to discuss trends in water quality and biological health. For these indicators, current status is also summarized for comparison to the trend or likely future condition.

Water quality

Clark County's water quality dataset is the only one of the three metrics large enough to calculate mathematical trends. These trends have been calculated recently for 15 subwatersheds in Clark County by Environmental Services' staff and Washington Department of Ecology.

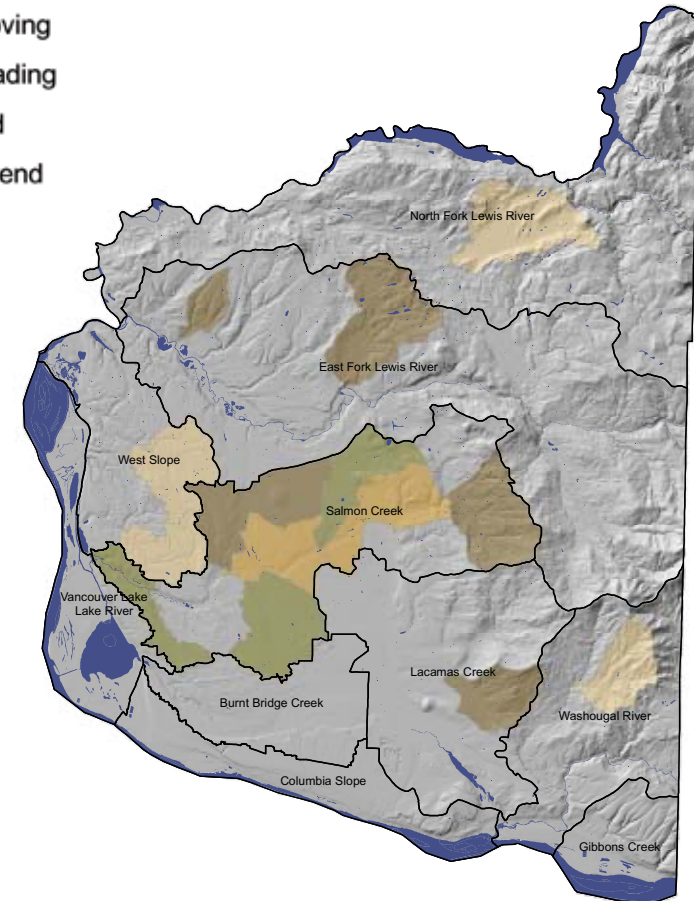
Of these 15 subwatersheds, calculated trends for water quality suggest that five subwatersheds are degrading, four are showing no change, four are improving, and two have mixed results, with some measures degrading and others improving.

Long-term Trends in Water Quality
(number of subwatersheds with data = 15)



Water Quality Trend

- Improving
- Degrading
- Mixed
- No Trend



More information

- Current water quality data show that, out of 24 subwatersheds scored, six have good water quality
- Improving trends are primarily in subwatersheds with poor current water quality that have been degraded for a long time
- Declining and mixed trends are primarily in subwatersheds that are seeing increased development

Trends in stream health

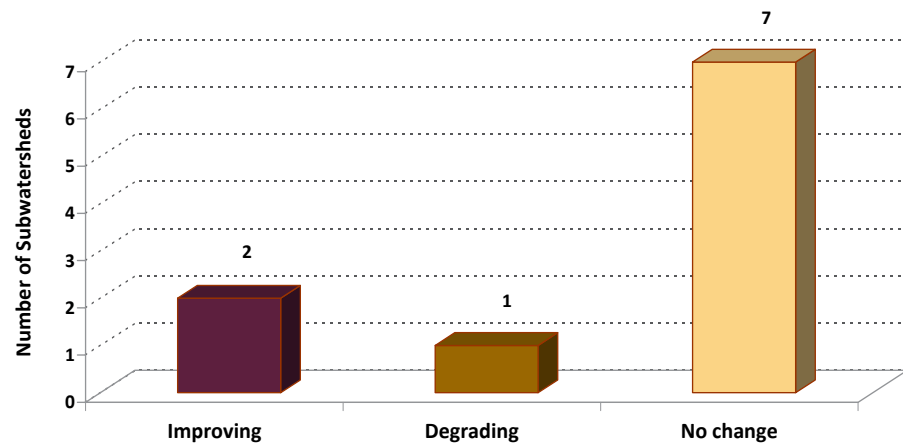
Biological health

Although the county has collected a large dataset of macroinvertebrate bugs to provide current biological health ratings, we do not have the amount of information needed to determine mathematical trends.

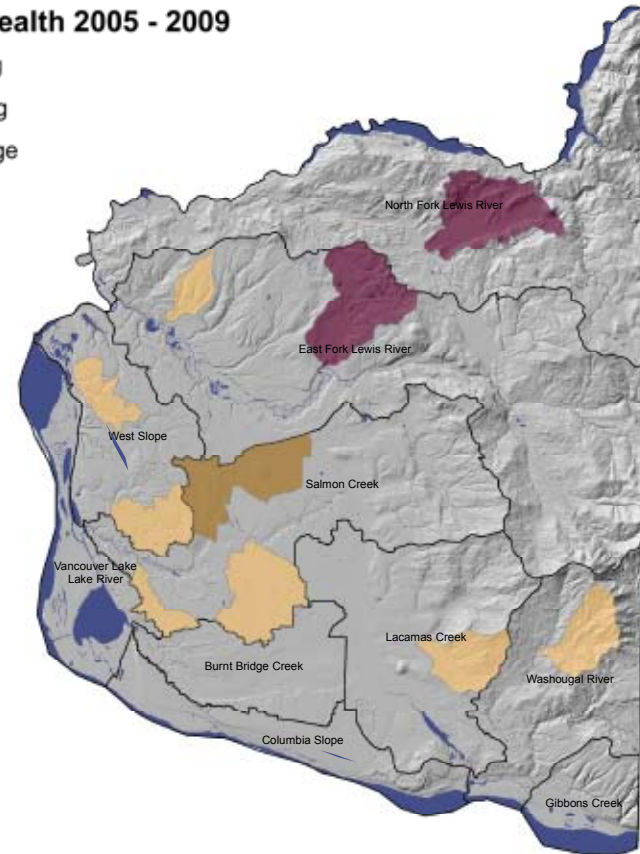
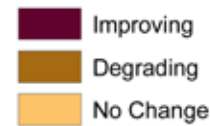
Macroinvertebrate experts working with county staff compiled enough data for ten subwatersheds, from 2005-2009, to provide the county with a summary of data patterns discussed in this section.

Of these ten subwatersheds, the biological health data suggest that one subwatershed is degrading, two are improving, and seven are showing no change since 2005.

Long-term Trends in Biological Health
(Number of subwatersheds with data = 10)



Biological Health 2005 - 2009



More information

- Among the seven subwatersheds showing no change in biological health since 2005, most (five) have had consistently low scores during that time.
- By comparison, current biological health data show that, out of 38 subwatersheds scored, five have high biological health; seven have low biological health, and 26 have moderate biological health.
- Subwatersheds with declining biological health or consistently low scores are in heavily developed and rapidly developing areas.
- Subwatersheds with improving biological health or consistently high scores are in relatively undeveloped areas with higher amounts of intact forest.

Data from the Pacific Northwest show that biological health (as measured by macroinvertebrate bugs) consistently declines as the amount of hard surface in an area increases. High biological health is very difficult to achieve once hard surfaces cover more than 25 percent of the land; moderate biological health is difficult to achieve once hard surfaces expand beyond 45 percent. Current data show that most Clark County streams have lower biological health than expected given the relatively low amount of hard surfaces around them. This means our streams can be improved; providing better stream habitat is likely to be successful at increasing bug scores and biological health. These are important building blocks toward protecting overall stream health and recovering wild salmon populations.