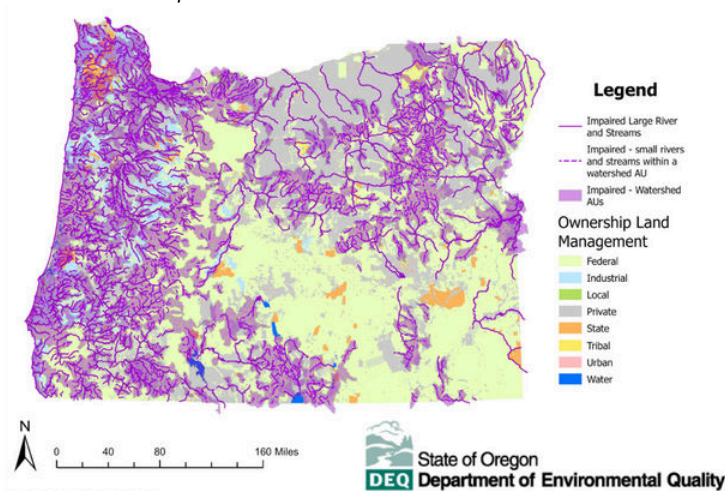


HB 3932: Improving Oregon's Water Quality Using Beaver: Natural Ecosystem Solutions

THE PROBLEM: Most of Oregon's waterways struggle with water quality issues, with many deemed "impaired" by the Department of Environmental Quality (DEQ).

- There are 310,464 miles of big rivers and small streams in Oregon, of which only 46% have been assessed for water quality data and 106,390 miles have been deemed impaired (Category 4 and 5 of DEQ's water quality classification)
- To restore impaired waterways, DEQ needs to be develop TMDLs (Total Maximum Daily Load assessments) for each waterway. But TMDLs are expensive, and DEQ lacks resources to develop and implement a TMDL for every stream and watershed that needs one. As a result, most streams continue to stay impaired in Oregon

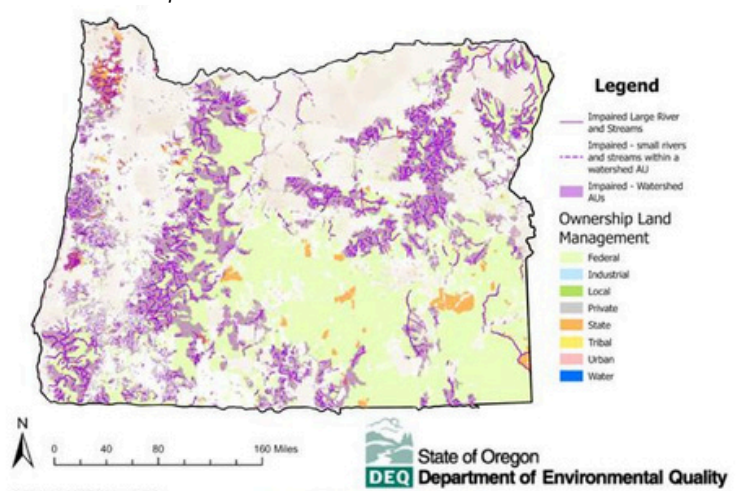
Impaired Waters in the Entire State



WHY BEAVERS? One of the most important ecosystem services that beavers provide is in addressing water quality issues.

- Based on the DEQ's current data, the primary factors for a waterway to be deemed impaired are: high water temperature, sedimentation, dissolved oxygen level, bio-criteria (health of invertebrates and shellfish) toxins (along the coast).
- Scientific research and literature has shown that beaver dam complexes and floodplains help to address four of these top five factors - they are nature's solution, and they tackle these issues free of charge.

Impaired Waters on State and Federal Lands



WHAT DOES HB 3932 DO?

- It proposes beaver hunting and trapping closure in waterways on public lands the DEQ classifies as impaired so they can provide the ecosystem services and improve water quality.
- The bill does not apply to private lands
- The bill provides an off-ramp from these regulations - if a stream is removed from DEQ's category 4 or 5 for six consecutive years, ODFW Commission can change regulations and open hunting/trapping on that particular stream to the hunting and trapping of beavers.
- It allows for take of beaver on public lands in instances of damage caused by beavers on adjacent private lands.

CURRENT BEAVER HARVEST ON PUBLIC LANDS

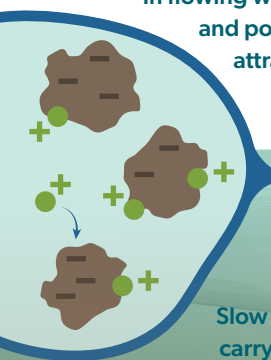
- ODFW's 2024 data shows state and federal public lands combined accounted for only 4% of reported beaver harvest.
- This bill is NOT about limiting beaver harvest and increasing beaver population. Instead, this bill would enable beavers to access waterways where they need to be and remain long enough to perform their ecosystem functions without getting trapped out.
- Less beaver harvest reported on public lands is likely due to low beaver presence on public lands.

Beaver dams: A natural pollution solution

Beaver dams improve water quality by using physical, chemical, and biological methods in two lines of defence. Initially, pollutants are removed as **(1) water entering the pond slows down** and again as **(2) water is filtered through the dam**.

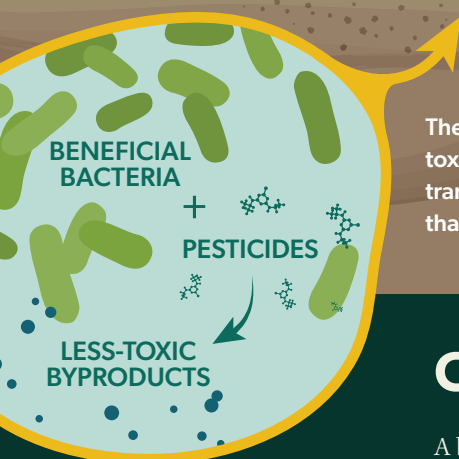
As rainwater flows across the landscape it can pick up a variety of pollutants from urban, industrial, and agricultural sources. Pollutants accumulate in streams where they threaten the health of ecosystems and humans. For instance, the residue left on roads by car tires is responsible for a toxic chemical capable of killing coho salmon. Although many human-engineered facilities exist to improve water quality, promoting nature-based solutions can save time, energy, and money while preserving the function and beauty of natural landscapes.

In flowing water, negatively charged soil particles and positively charged pollutants are attracted to each other like magnets.

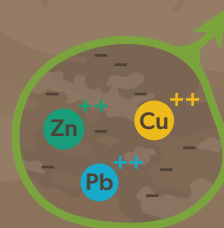


① WATER SLOWS AS IT ENTERS THE POND

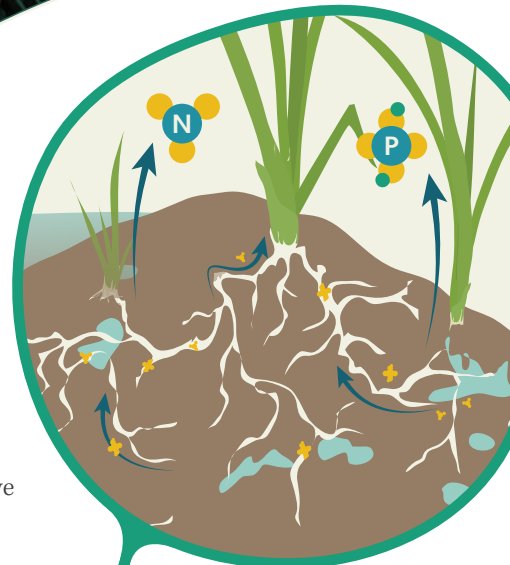
Slow water no longer has enough energy to carry sediment and it settles to the bottom, taking pollutants with it.



The sediment behind the dam does not become toxic thanks to microbes that consume and transform pollutants like pesticides into forms that are less harmful.



The negatively charged soil in the dam traps positively charged pollutants like copper, zinc, and lead as the water flows through.



The plant roots and microbes in the dam take up and trap chemicals. Wetland plants also remove excess nutrients.

② WATER IS FILTERED AS IT CROSSES THE DAM

Large pollutants are trapped within the sticks, roots, and soil pores of the dam.

Can dams be used without beavers?

A beaver dam without any beavers will not clean the water for long. With each heavy rainfall, flows can erode sediments, wash away wood, and find new paths around or through the dam. Beavers work continuously to maintain and repair their dams. Fortunately, there are many coexistence tools that make it easier to accommodate both beavers and their dams.

For more information and references visit:
projectbeaver.org

