Soil Loss and the Willamette Mercury TMDL

Focused Ag Solutions for Water Quality — Helping Water Quality in the Willamette Valley

The Problem

Oregon's streams and rivers are being polluted because high levels of mercury attached to sediment are getting into them. When high levels of soil erosion occur, it causes many problems, such as:

- Valuable topsoil is lost forever.
- Catch basins get clogged, which can cause floods.
- Dangerous chemicals, such as mercury and pesticides, are bound to soil and end up in streams and rivers.
- Mercury levels can rise in fish, which is harmful to people who eat them.
- Fish struggle to survive and reproduce, reducing their populations and your recreation.

What Causes Sedimentation?

Sedimentation (or the accumulation of soil) occurs when wind, rain, or irrigation runoff carries soil from places such as farm fields or streambanks into streams and rivers.

Sediment levels in waterways are often high in areas where riverbanks are grazed by livestock, on farms with steep slopes that are cleared of trees, where fields are left bare during the rainy season, and where there is a lack of vegetation along a waterway.

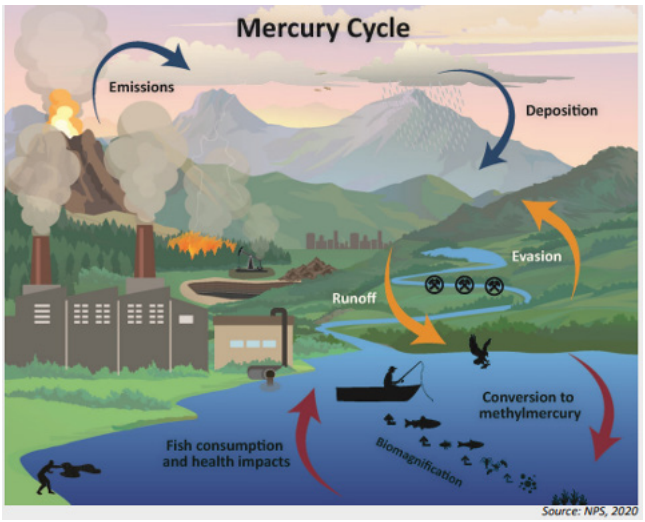
OREGON DEPARTMENT OF AGRICULTURE

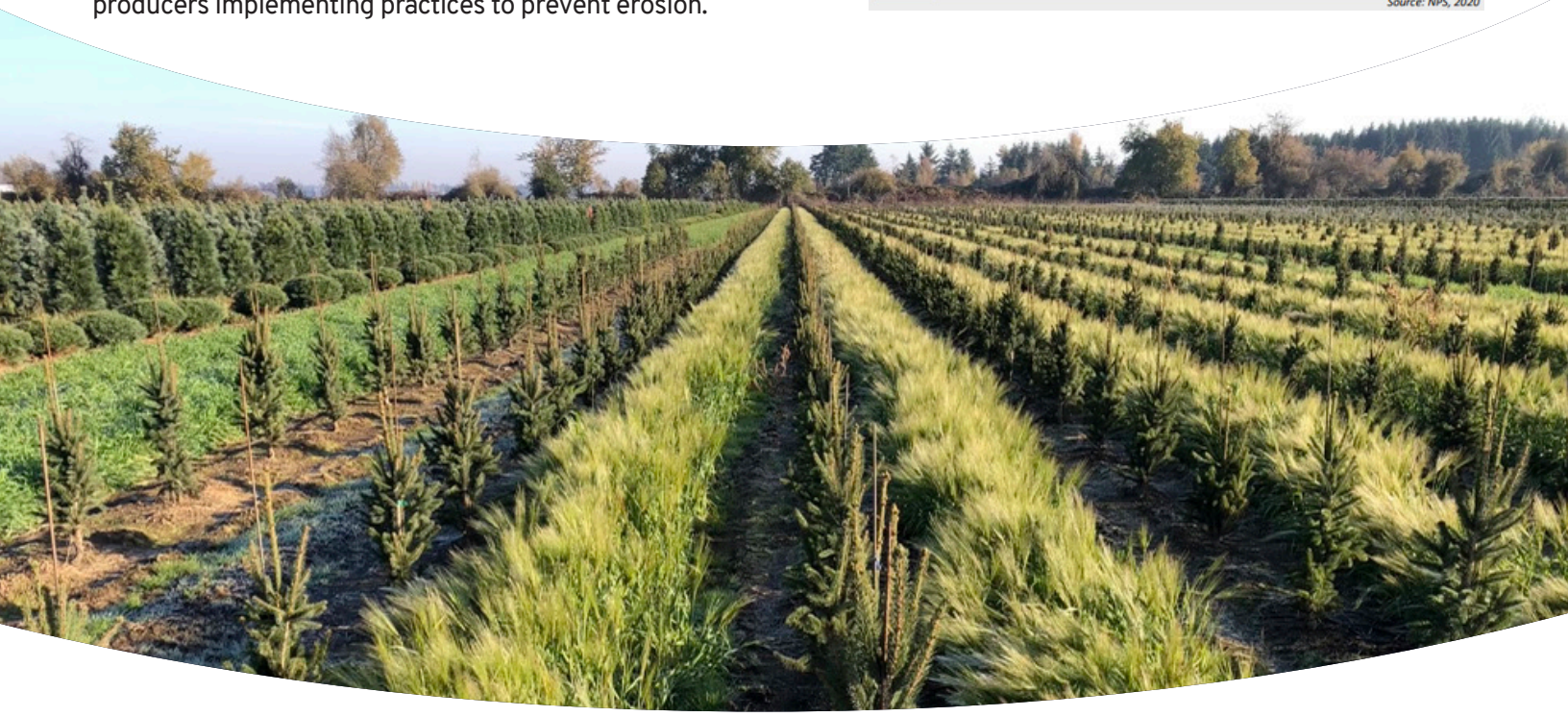
Mercury in Sediment and Fixing the Problem

Mercury in our soils comes mostly from outside Oregon, from sources such as factories and burning fuels (such as coal). Mercury is suspended in the air and is deposited on agricultural lands.

The Oregon Department of Environmental Quality has set a regulatory limit, called a Total Maximum Daily Load (TMDL), for how much mercury can be in our waterways. This limit is set to ensure safe drinking water, recreation, and healthy fish populations.

Even though farming isn't the main source of mercury, erosion of soil from agricultural lands does contribute mercury to our streams and rivers. Agricultural practices can add to the problem of mercury in our water by letting soil that contains mercury wash into our streams and rivers. Agricultural practices can also help prevent mercury from entering our streams and rivers by producers implementing practices to prevent erosion.





AG SOLUTIONS FOR WATER QUALITY

Farmers can help by:

Maintaining Soil Health

- Minimize ground disturbance
- Keep bare soil covered with mulch and cover crops
- Maintain organic matter in the soil for stability, infiltration, storage, nutrient holding capacity, and habitat
- Maximize soil biodiversity
- Maximize presence of living roots to hold the soil in place
- Feed the soil biology throughout the year, providing food for many life forms and assisting with soil structure formation

Promoting Plant Growth by Streams

Plants along streams help:

- Keep the water cool for fish
- Stop the streambanks from washing away by trapping sediment and building banks and floodplains
- Filter out pollutants in the sediment before they get to the water
- Store water in the soil for cooler and later season flows
- Provide habitat for numerous species of fish and wildlife
- Provide a cool place for you and your family to swim, fish, or get out of the sun

Agricultural Rules for Streamside Management

The Oregon Department of Agriculture (ODA) Water Quality Program regulates all water quality concerns on agricultural lands.

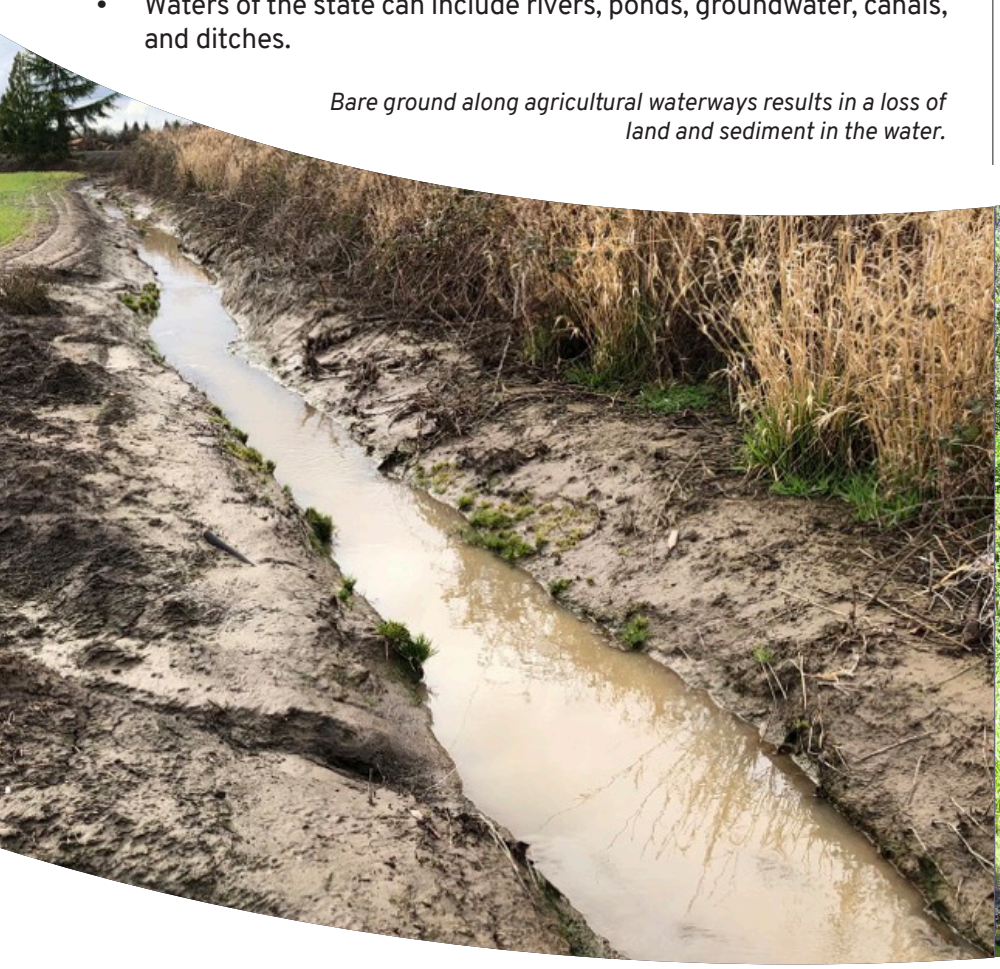
Waste rule

Agricultural landowners must comply with the waste rule by not polluting groundwater or surface water, discharging wastes into waters of the state, or placing any wastes in a location where they are likely to enter waters of the state.

- Wastes include excess soil, manure, fertilizer, or other substances that can pollute water.
- Water pollution includes alteration of the physical, chemical or biological properties of any waters of the state, including change in temperature, taste, color, turbidity, silt, or odor of the waters.
- Waters of the state can include rivers, ponds, groundwater, canals, and ditches.

Streamside vegetation rule

Agricultural landowners must comply with the streamside vegetation rule by allowing vegetation to establish and grow along streams to stabilize banks, filter out pollutants from overland flow, and provide shade if the stream flows year round.



Bare ground along agricultural waterways results in a loss of land and sediment in the water.

Trees and grass provide stability and filtration, and maintain soil for productive agriculture.

Where to get help

If farmers need help protecting water quality on their property, they can ask:

- ODA
- Soil and Water Conservation Districts
- Natural Resources Conservation Service (NRCS)
- Oregon State University Extension

Finding funding

There are grants and incentive programs available from:

- NRCS
- Farm Service Agency
- ODA Agricultural Water Quality Support Grants
- ODA Strategic Implementation Area Restoration Grants

We can all work together to keep our water clean and safe for everyone. Thank you for doing your part!