



Oregon's Forests And Water

How Forest Management Works to Protect Water Quality



Oregon Forest
Resources Institute

Who is OFRI?

The Oregon Forest Resources Institute was created by the state legislature in 1991 to improve public understanding of Oregon's forest resources and to encourage environmentally sound forest management.



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Water is a Top Concern

- Oregonians rank water quality and fish habitat as their two top forestry concerns, and have for decades

- 2010 Values and Beliefs survey,
Oregon Forest Resources Institute



Water is in Top Demand

Oregonians demand a lot from their water:

- Drinking water
- Fish habitat
- Recreation
- Irrigation
- Power
- Etc.



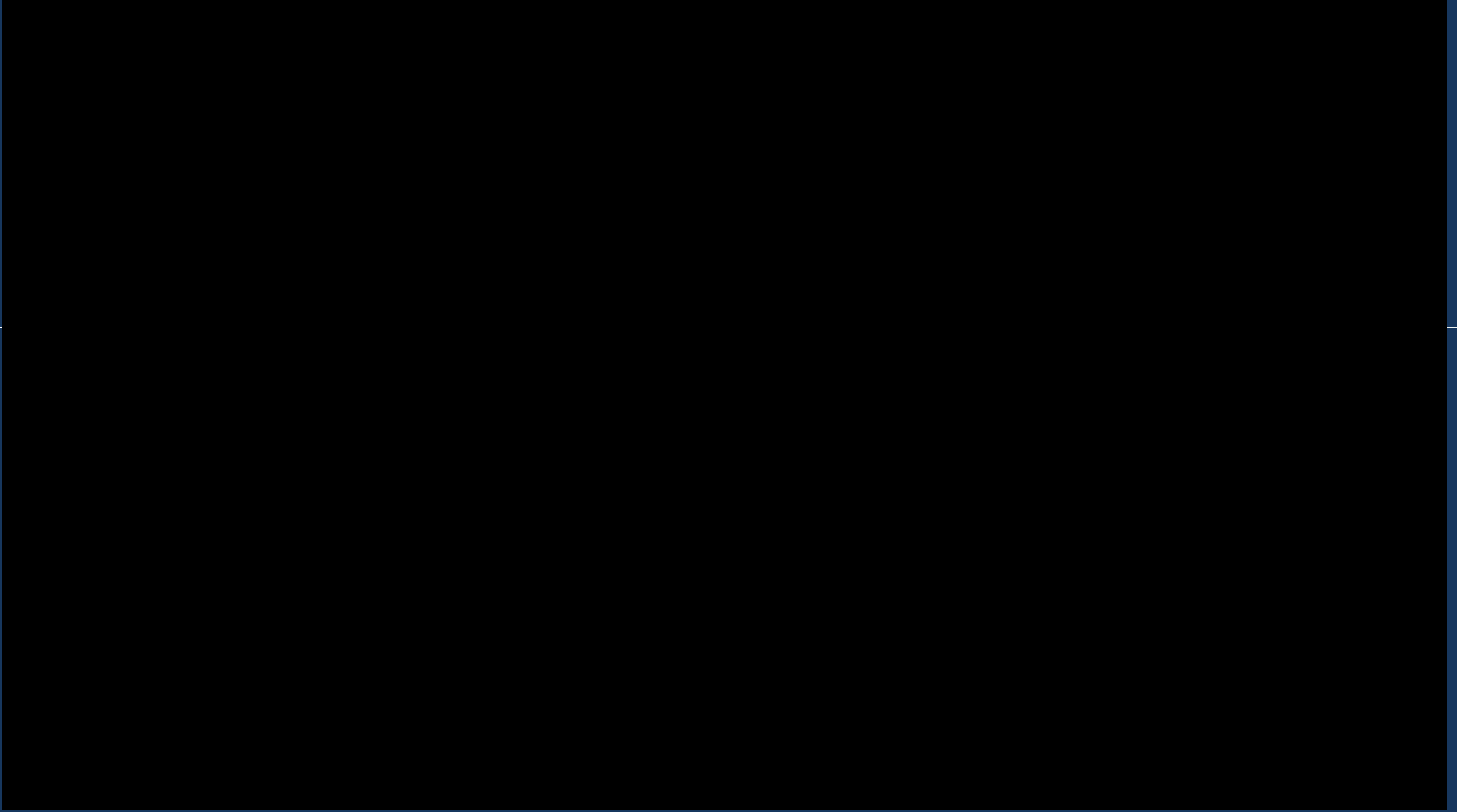
Oregon's Water is Forest Water

In Oregon...

- Most municipal water supply comes from our forests
- Forests produce cleaner water than any other land use
- Healthy forest soils provide natural filtration to keep streams and underground aquifers clean
- Careful stewardship by forest landowners remains a key to Oregon's water quality



How does it all work?



OFRI Forest Fact Break: Water

Forest Disturbance Affects Water



- Any forest disturbance affects water quality

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Naturally-occurring

- Flooding
- Landslides
- Fire



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Human-caused

- Timber harvest
- Road construction
- Prescribed burning

Old Forestry Practices

- Forest operations before the 1970's, were often detrimental
 - No aquatic buffers
 - High-impact machinery
 - Trees skidded along forest soils
 - Improperly sited road building



A Need for Research

- Watershed research began in Oregon in the 1950s (Aalsea Watershed Study)
- The goal: compare the effects of logging practices on multiple streams
- As research progressed, so too did the national discussion over clean water
 - *Environmental Protection Agency, 1970*
 - *Clean Water Act of 1972*

Research Leads to Change

- Results of the Alsea study indicated the need for changes in timber management practices to protect aquatic resources
- In 1971 the Oregon Legislature enacted the **Oregon Forest Practices Act (OFPA)**, the first comprehensive statewide act of its kind in the U.S.

Oregon Forest Practices Act

- The OFPA established rules that address the potential impacts of:
 - Road construction and maintenance
 - Logging practices
 - Stream crossings
 - Reforestation
 - Pesticide use
 - Other forest practices



Contemporary Forest Practices

- The OFPA is an evolving set of laws, today more robust than ever
- Using new technology, new research and new thinking, landowners are continually striving to protect water quality



Protecting Riparian Zones



Improving Forest Roads



Lighter Harvest Practices



Mandatory Reforestation



Volunteer Efforts by Landowners



Then vs. Now



1950...

- Great variation in temperature
 - Original Alsea study recorded temperatures variations of + 20°
- No stream buffers
- Streams cleared of big wood



Then vs. Now



Today...

- Stream buffers
- Limited temp and sediment
 - Current watershed studies indicate temperature variations of $+1^{\circ}$
- Large woody debris placed in streams for habitat



Looking Ahead

Current research is refining our knowledge about water quality and forest stream dynamics

- Hinkle Creek
- Trask River
- Alsea River Revisited



Science Leads the Way

The Oregon Forest Practices Act is informed by science and refined to guide current forest practices.



Threats on the Horizon

A big threat to water quality is the conversion of forest land to other uses.



Threats on the Horizon

One way to assure high-quality water in the future is to *keep private working forestlands as forests*



Sustaining our Water Quality



Today, Oregon enjoys some of the finest water quality in the nation, thanks to:



Sustaining our Water Quality



Today, Oregon enjoys some of the finest water quality in the nation, thanks to:

- Our forests



Sustaining our Water Quality



Today, Oregon enjoys some of the finest water quality in the nation, thanks to:

- Our forests
- Our scientists



Sustaining our Water Quality



Today, Oregon enjoys some of the finest water quality in the nation, thanks to:

- Our forests
- Our scientists
- Our landowners



Sustaining our Water Quality



Today, Oregon enjoys some of the finest water quality in the nation, thanks to:

- Our forests
- Our scientists
- Our landowners
- And our forest operators



Thank you

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