

Land Use Change on Non-Federal Land in Oregon and Washington: 2018 Update



Presented to the Oregon Board of Forestry

September 5, 2018

Salem, Oregon

AGENDA ITEM A
Attachment 11
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Background

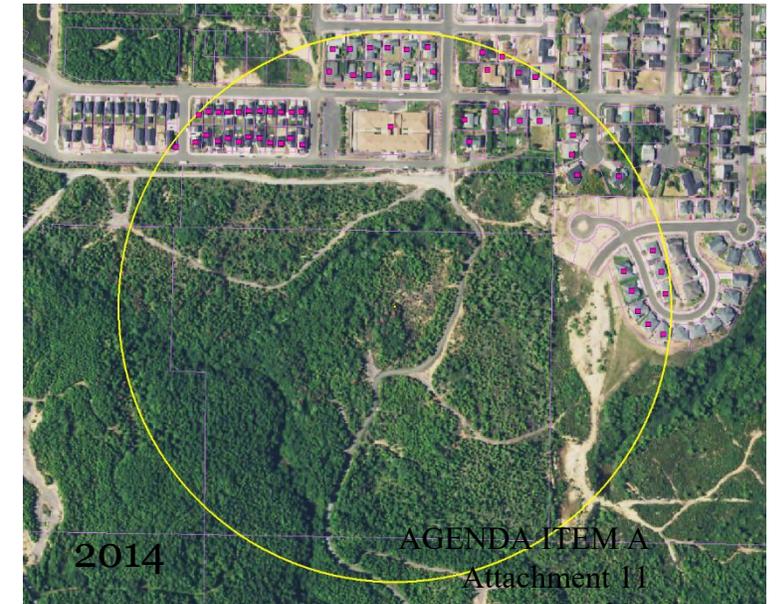
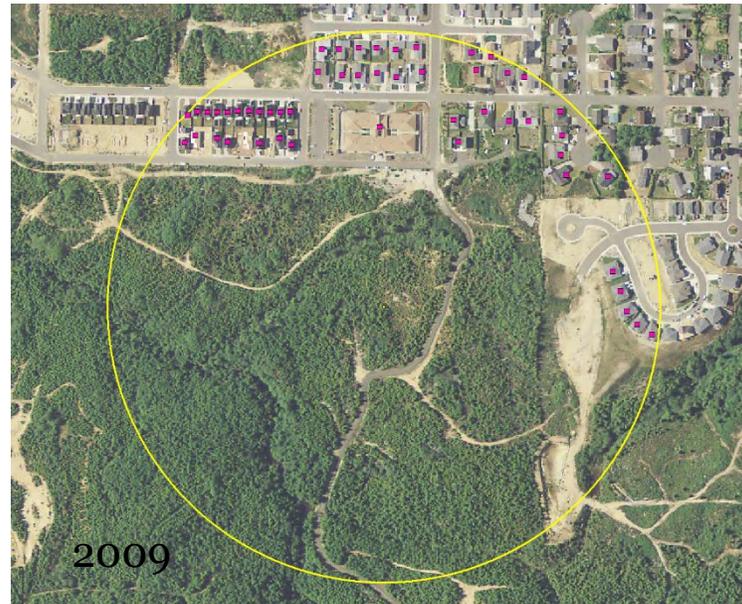
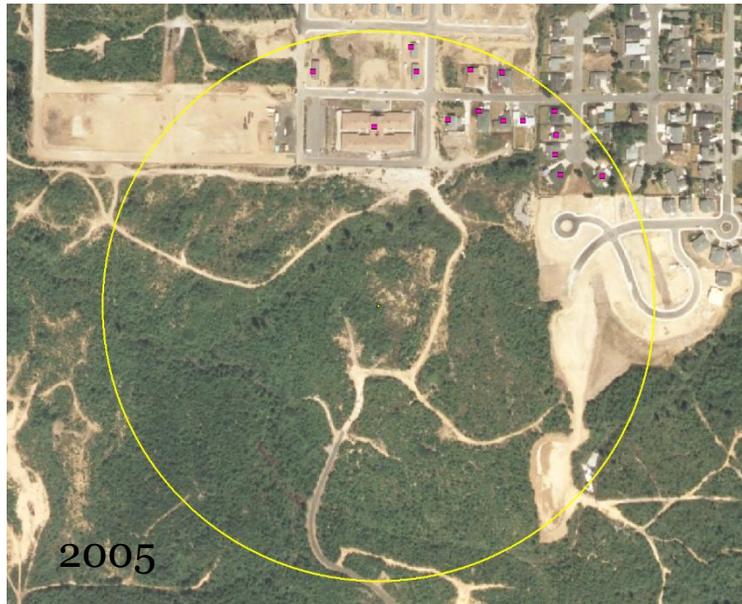
- ODF studies land use change in Oregon (since 1974) and Washington (since 1976) in collaboration with the U.S. Forest Service, DLCD, ODA, ODFW, and the Institute for Natural Resources
- A sample-based approach is used to quantify land use type and structure density on non-Federal land in both states
- Project years:
 - Oregon – 1974, 1984, 1994, 2000, 2005, 2009, 2014
 - Washington – 1976, 1994, 2006, 2013

Some Key Questions

- How successful has statewide land use planning been at preserving resource lands (i.e., forest, farm, and range lands) from development?
- How have land use patterns varied as population has increased?
 - Oregon's population increased by 74% (1.7 million) in the study period
 - Washington's population increased by 89% (3.2 million)
- How have land use trends been impacted by the 2007 recession and subsequent recovery?

Methods

- Analysts assess aerial imagery at each sample point
 - Oregon – 37,775 sample points
 - Washington – 44,554 sample points
- Each sample point is assigned to one of eight land use classes, and surrounding structures are counted



Land Use Classes

Resource uses

- Wildland forest
- Wildland range
- Mixed forest/agriculture
- Mixed range/agriculture
- Intensive agriculture

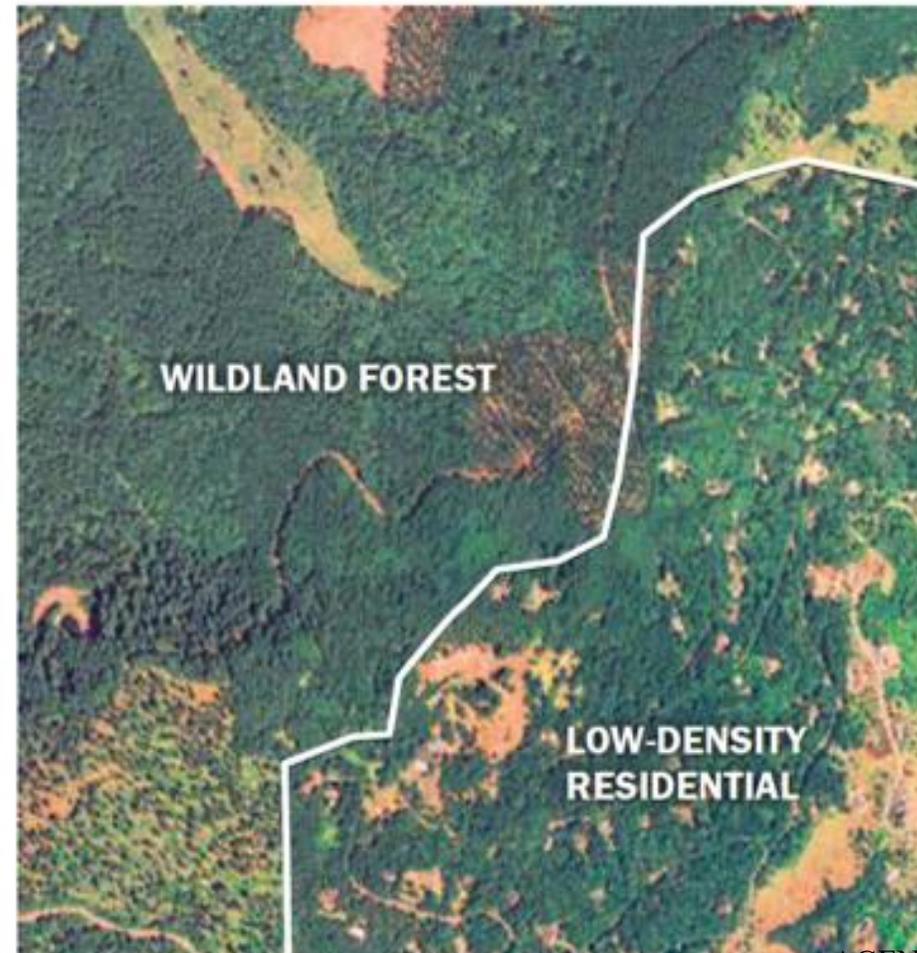
Developed uses

- Low-density residential
- Urban
- Other (sand, water, bare rock, etc.)

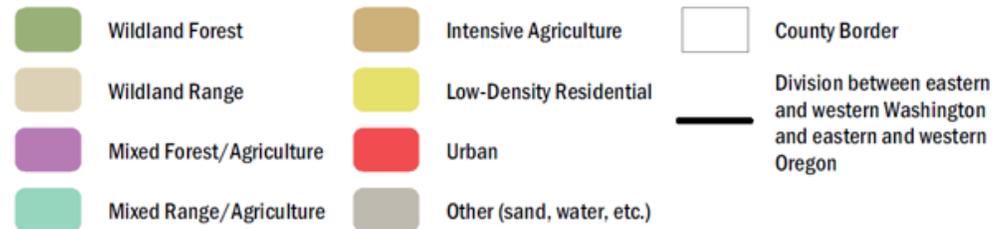
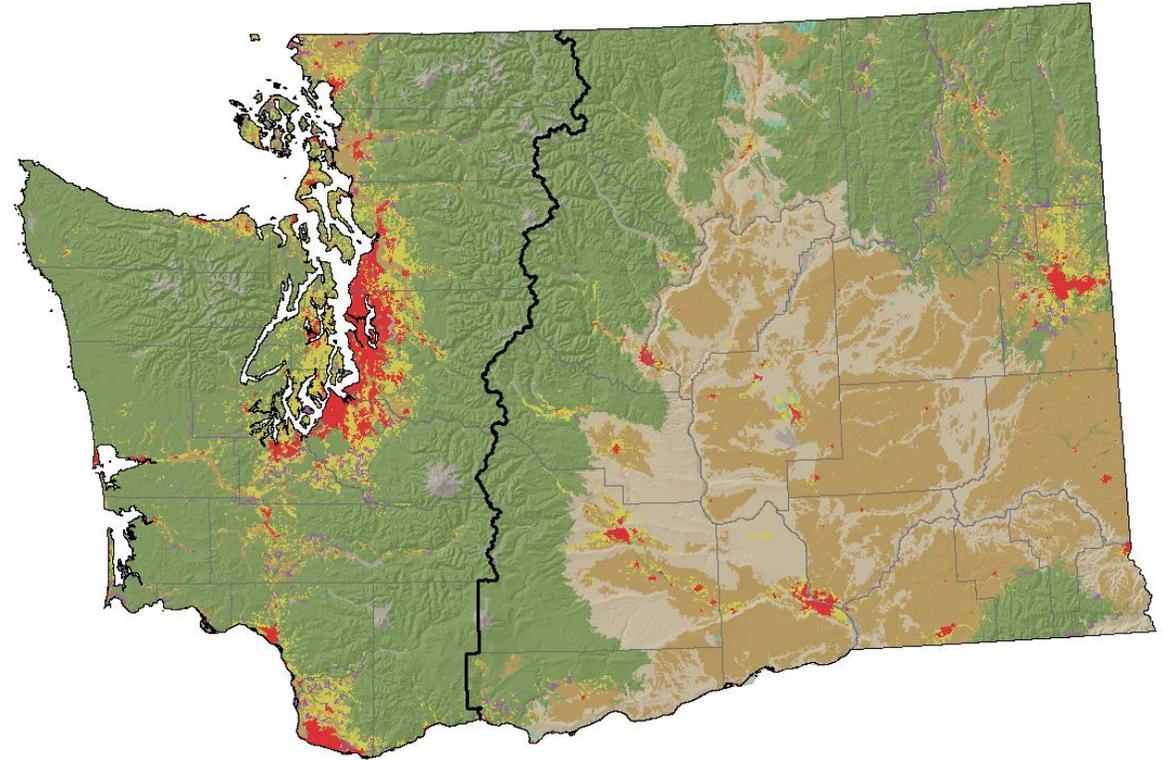
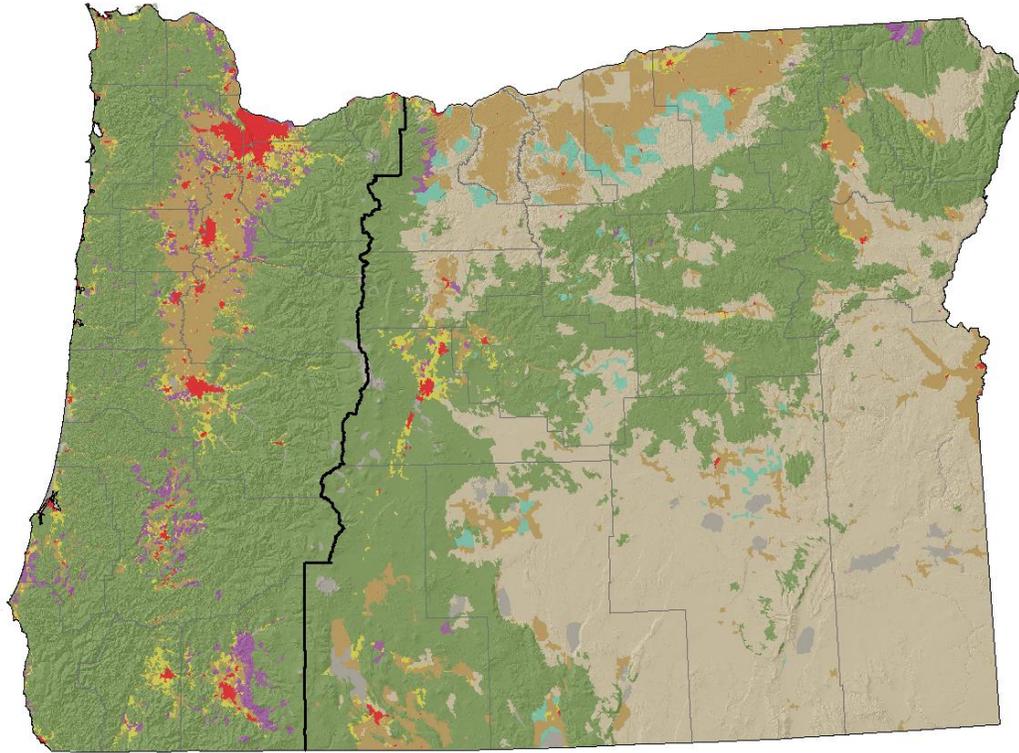
Land Use Classes: Examples



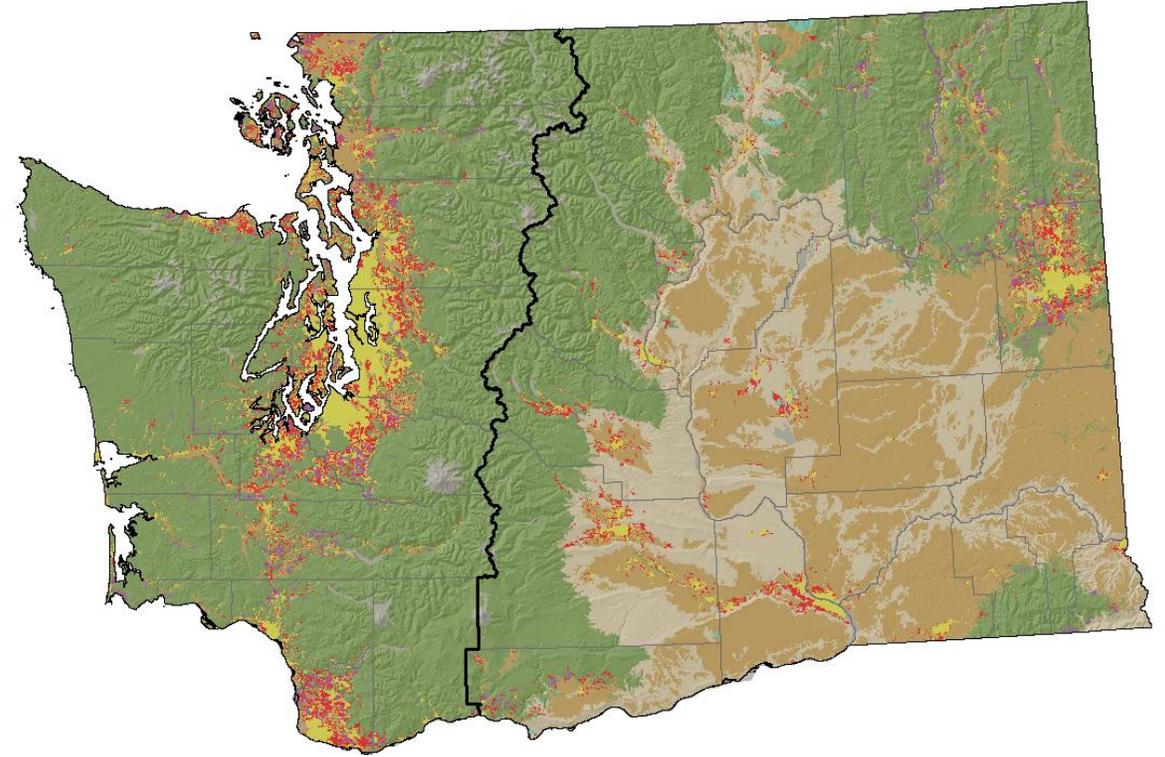
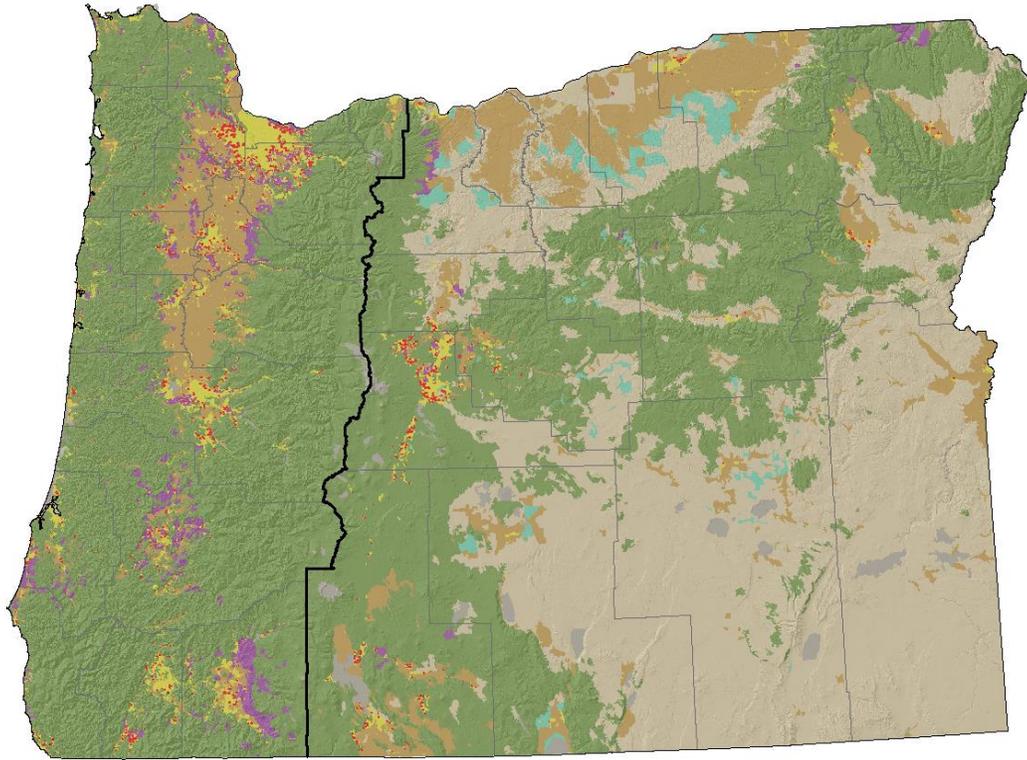
Land Use Classes: Examples



Current Land Use (Oregon 2014, Washington 2013)



Land Use Change (Oregon 1974 - 2014, Washington 1976 - 2013)



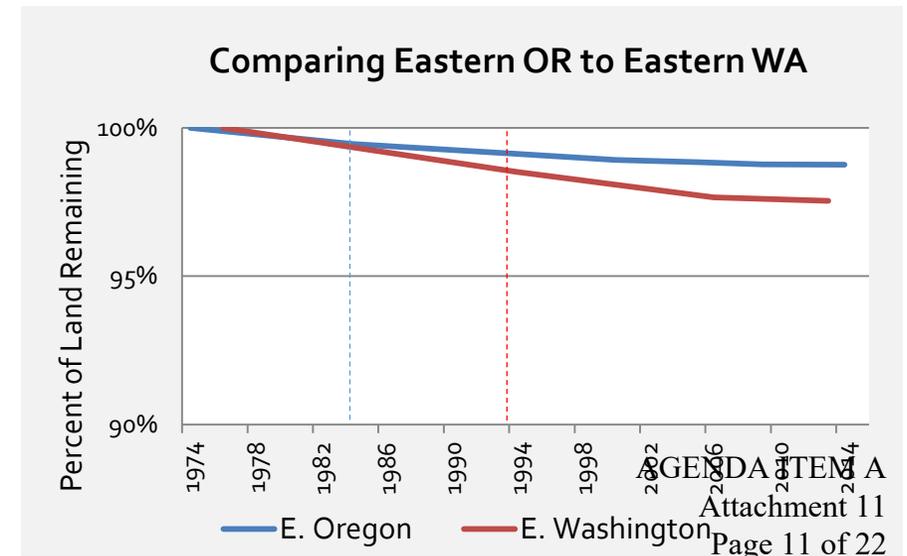
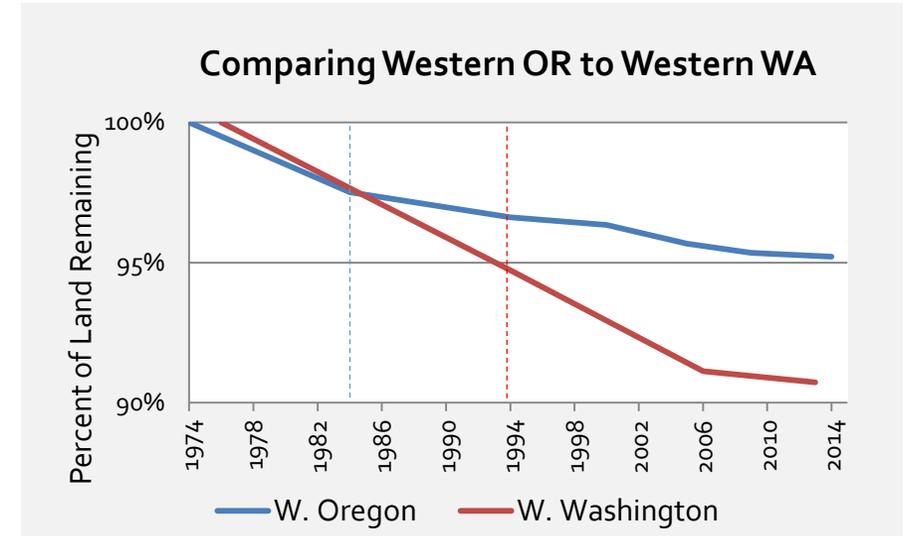
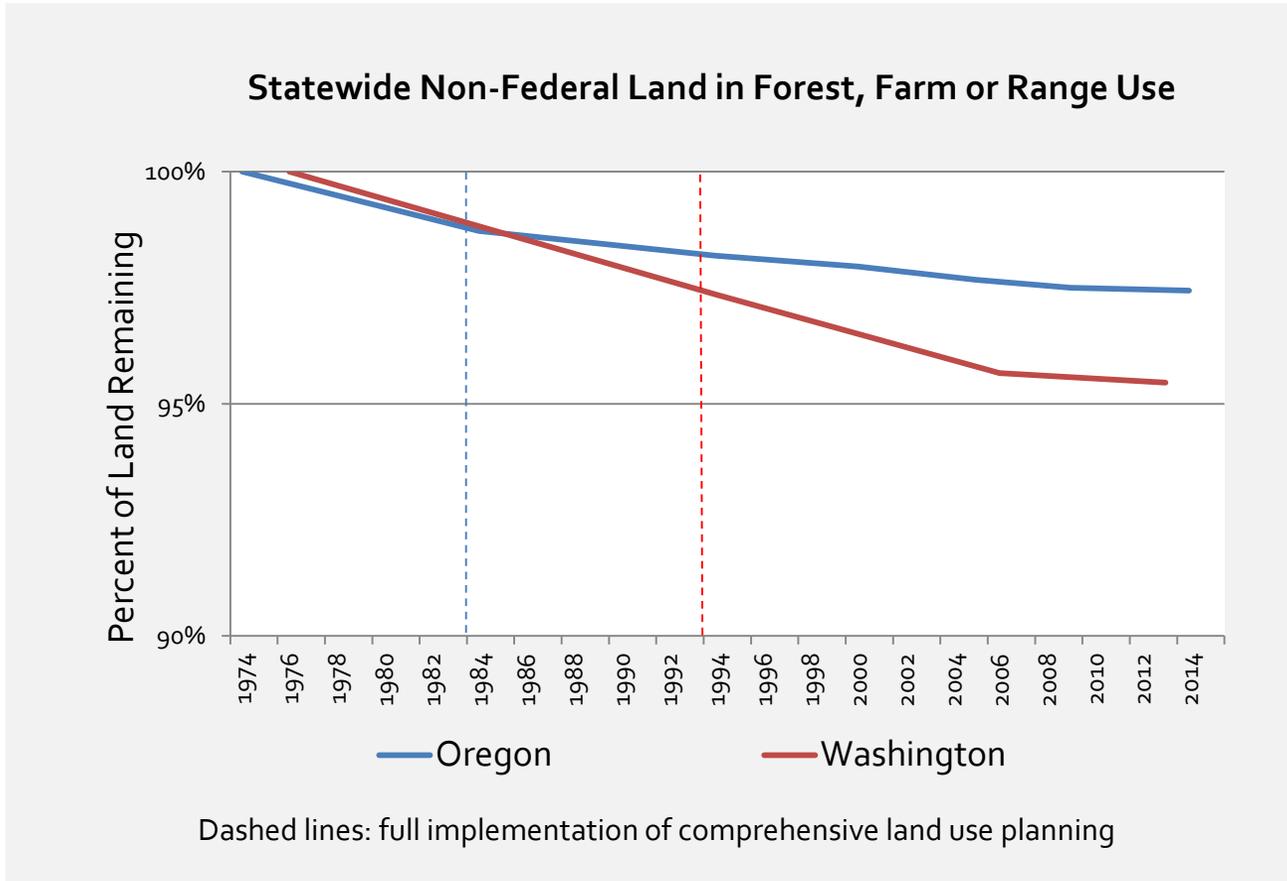
Oregon's Land Area and Conversions of Resource Land



- Oregon has converted 2.6% of its non-Federal resource land (704,000 acres) to developed uses since the 1970s
- *In comparison, Washington has converted 4.5% (1.3 million acres)*

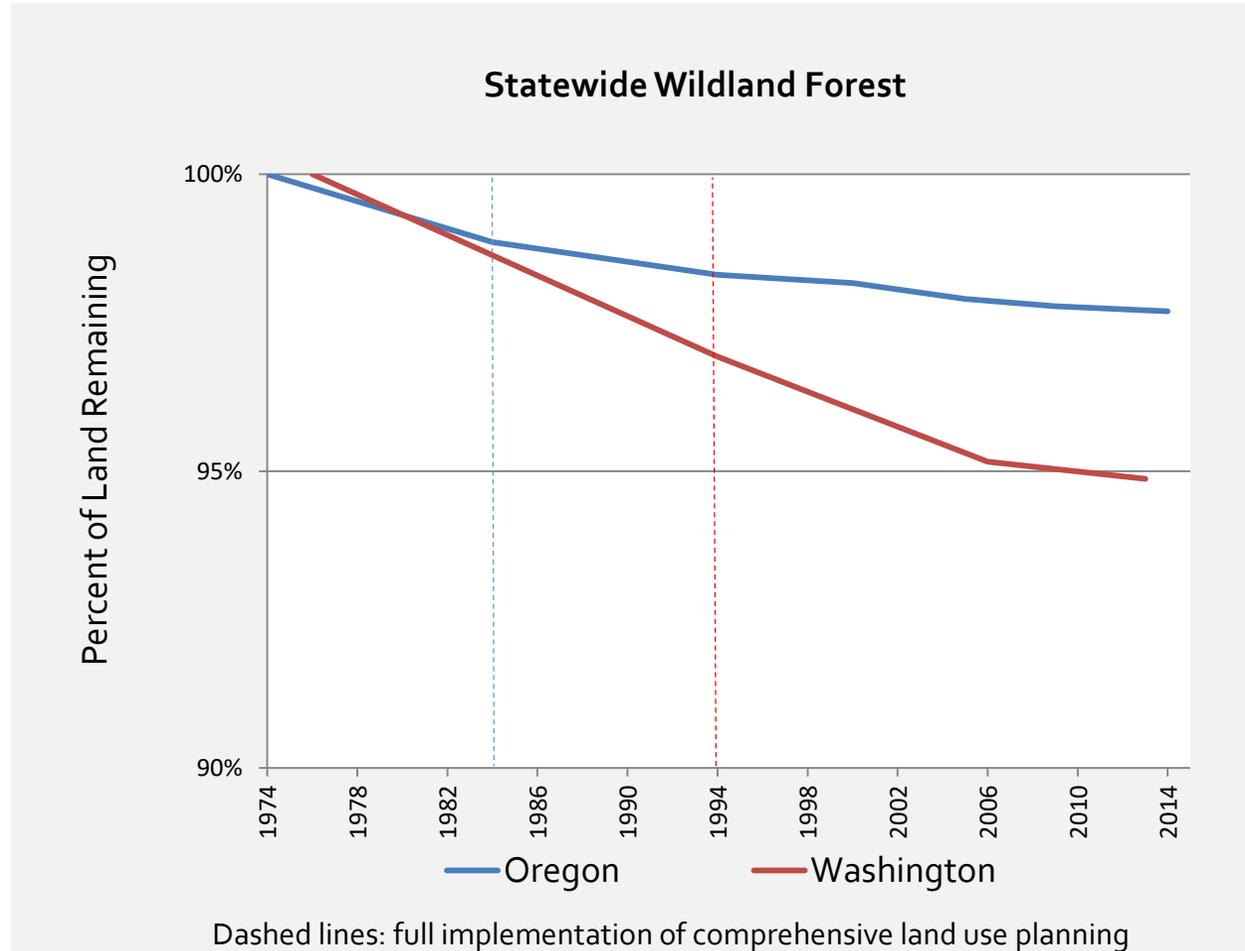
Non-Federal Land Remaining in Resource Uses

(Oregon 1974 – 2014, Washington 1976 – 2013)



Non-Federal Land Remaining in Wildland Forest

(Oregon 1974 – 2014, Washington 1976 – 2013)

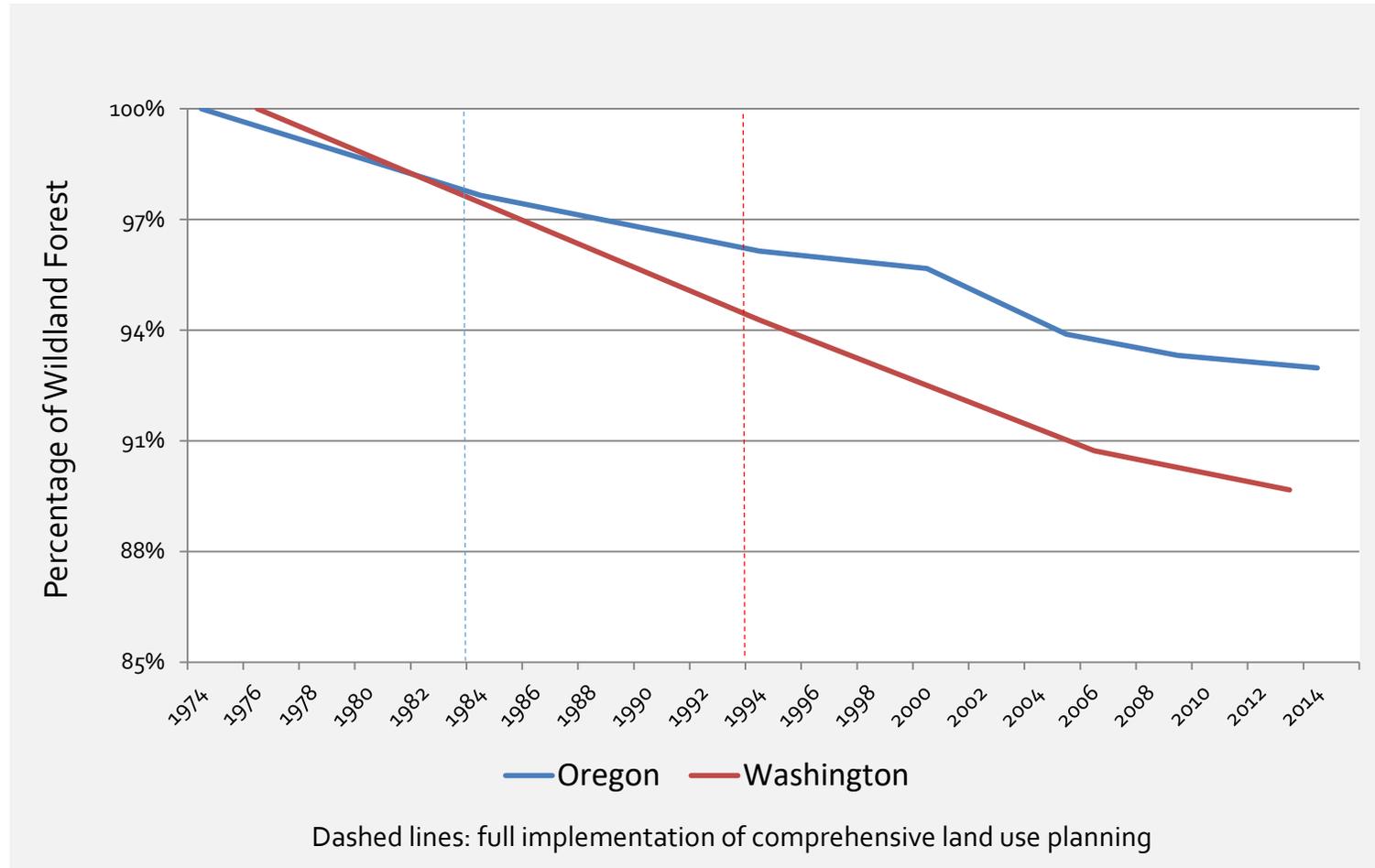


Change of Wildland Forest By Landowner Type

(Oregon 1974 – 2014, Washington 1976 – 2013)

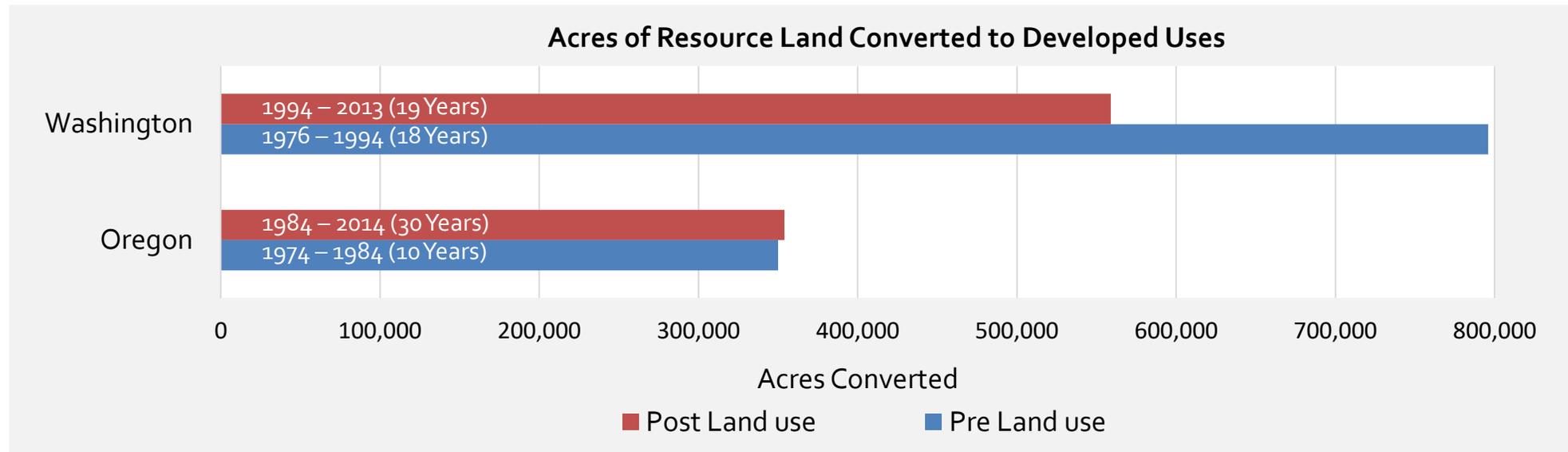
	Forest industry	Other private	Non-Federal public	All non-Federal owners
	<i>Change, in percent</i>			
Oregon	0%	-7%	-1%	-2%
Western Oregon	0%	-10%	-1%	-3%
Eastern Oregon	0%	-4%	0%	-1%
Washington	-1%	-11%	-1%	-5%
Western Washington	-1%	-24%	-1%	-7%
Eastern Washington	-1%	-4%	-1%	-3%

Non-Federal Wildland Forest with Less Than 10 Residents per Square Mile (Oregon 1974 – 2014, Washington 1976 – 2013)

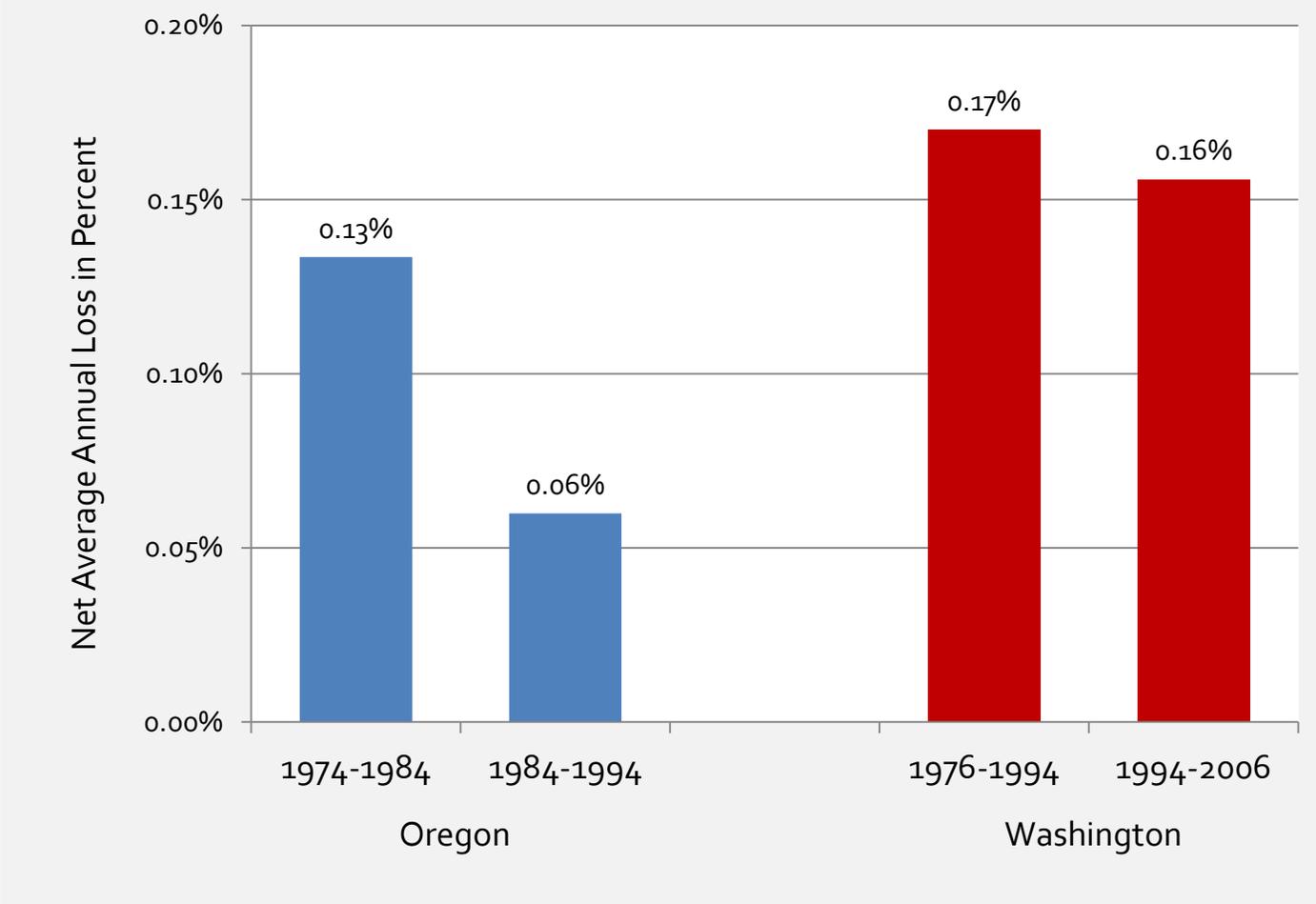


Trends After Land Use Planning and Economic Recession

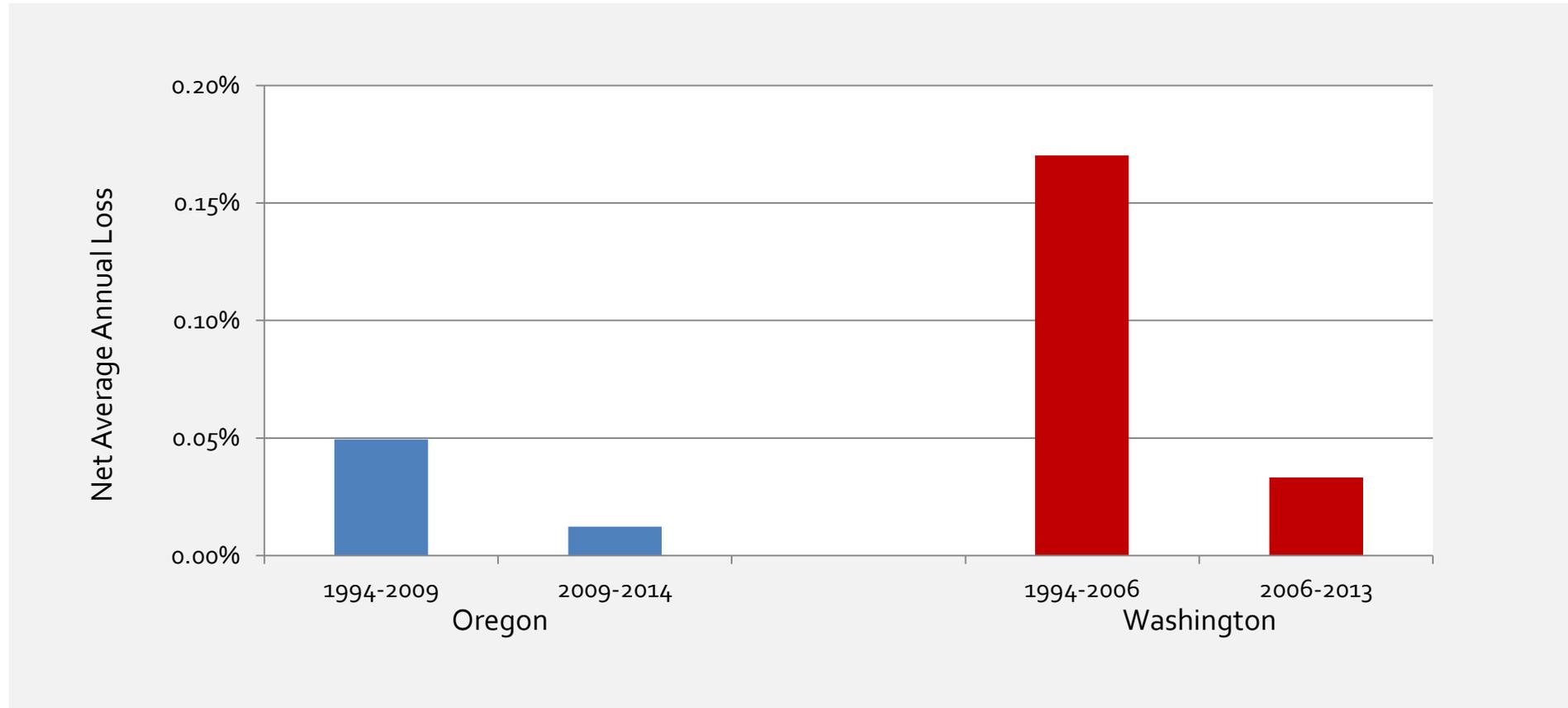
Land Use Change Before and After Land Use Planning



Effect of Land Use Planning: Net Average Annual Loss of Private Resource Land

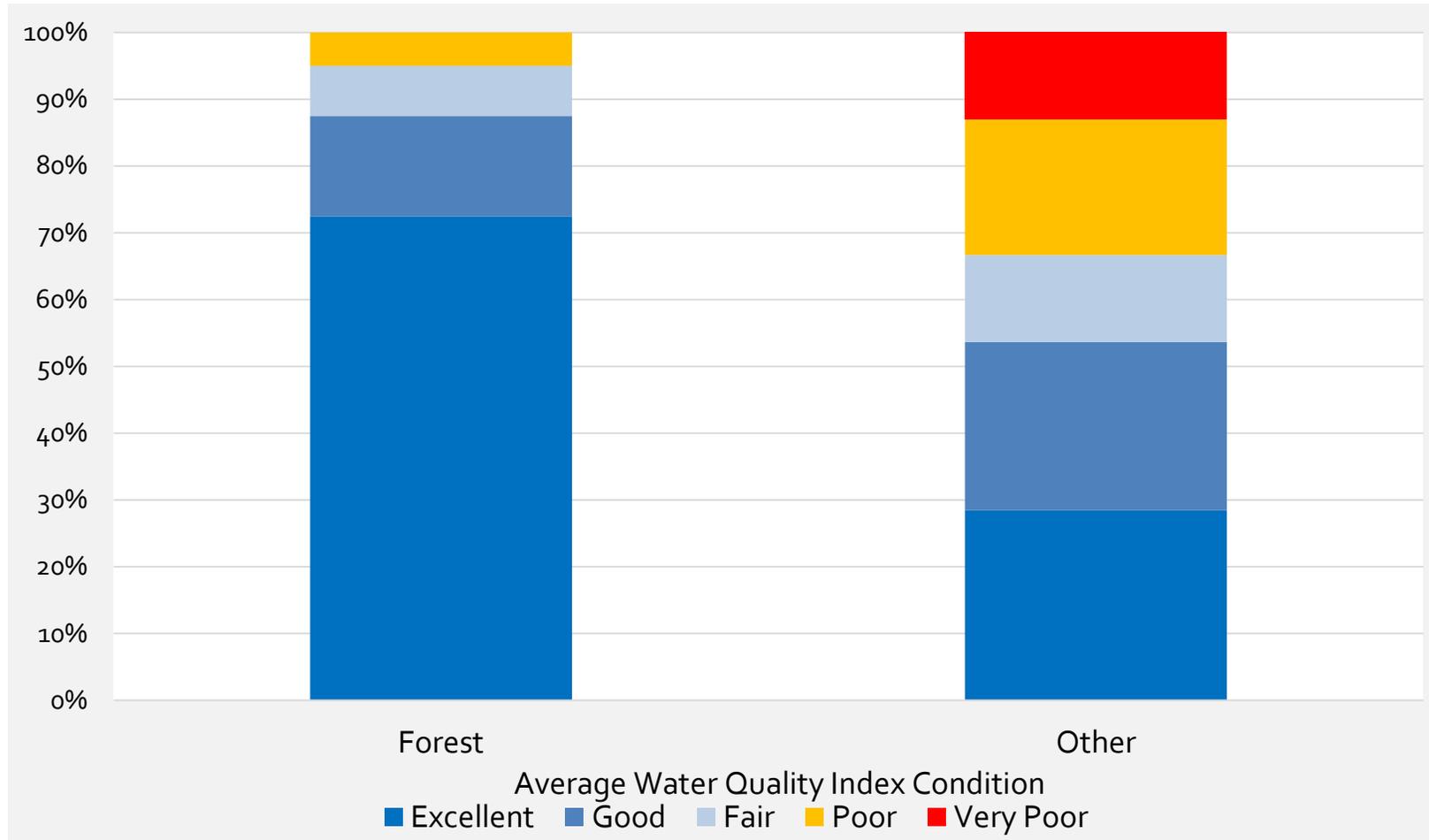


Trend since 2007 Recession: Net Average Annual Loss of Private Resource Land

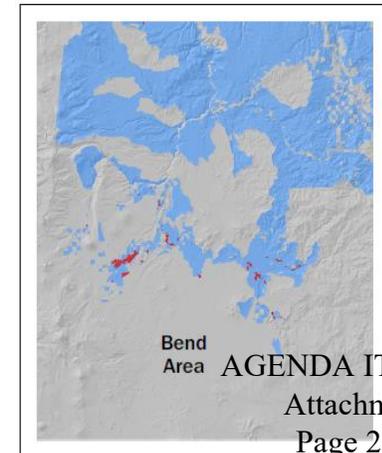
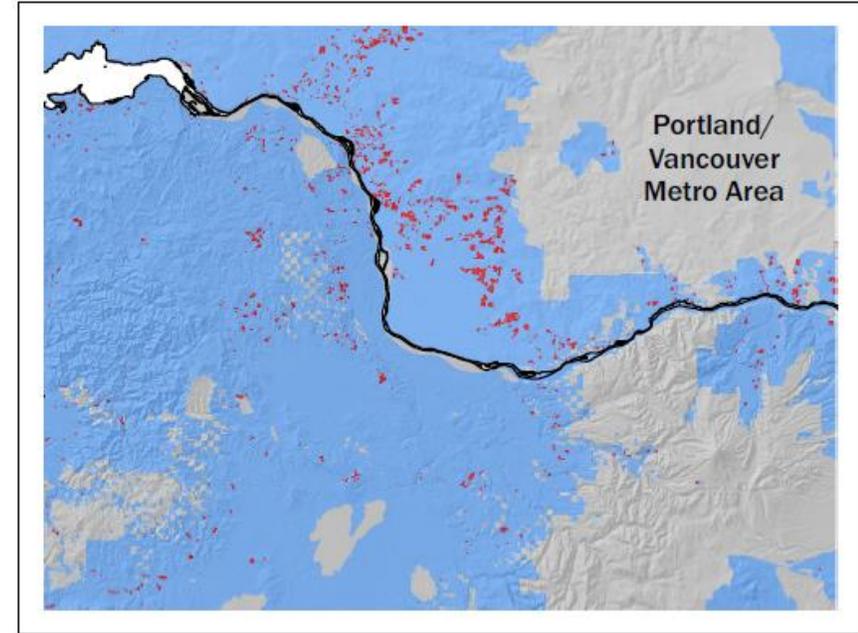
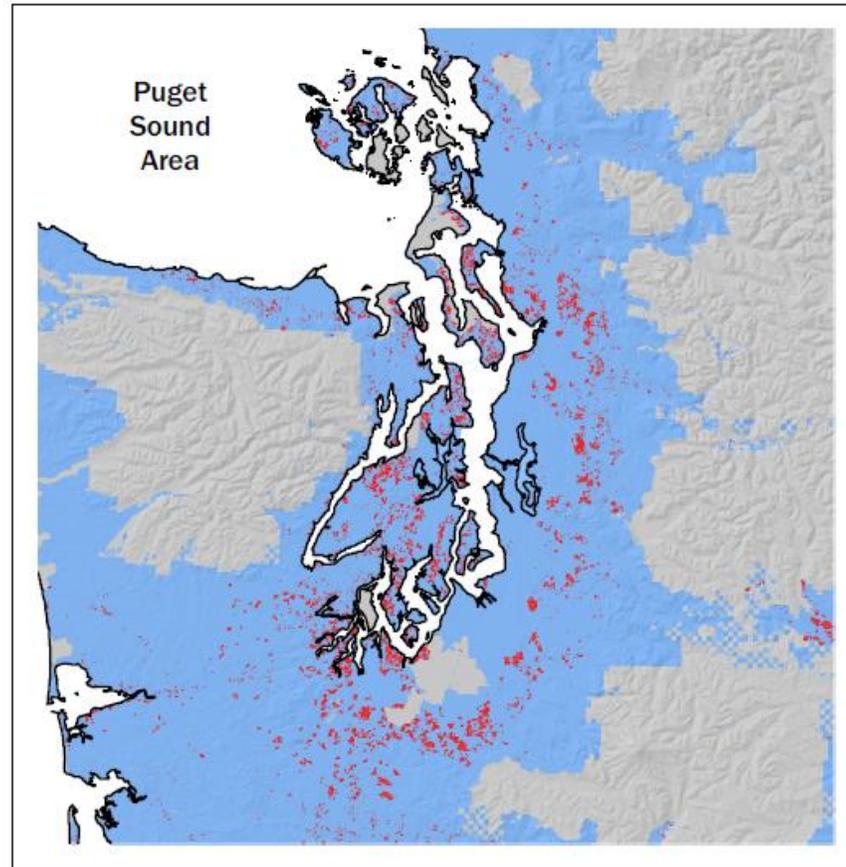
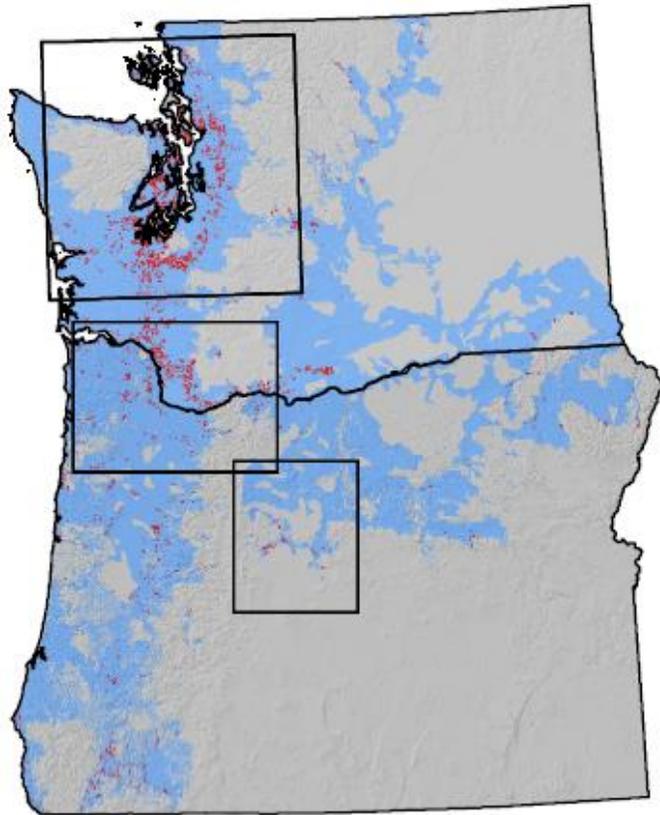


Exploratory Analysis: Land Use, Water Quality, and Fish Habitat

Oregon Land Use and Water Quality



Land Use Change and Fish Habitat



-  Land in wildland forest use in 1994 but converted to more developed uses* by 2013 (Washington) or 2014 (Oregon)
-  Other land within drainage basins of habitat streams

-  Land not within drainage basins of habitat streams and/or Federally-owned land
- *More developed uses: low-density residential, urban, intensive agriculture, mixed forest/agriculture, or mixed range/agriculture

Where to Find More Information

- *Forests, Farms and People: Land Use Change on Non-Federal Land in Oregon, 1974-2014* (Lettman et al., 2016)
 - Available at: <http://inr.oregonstate.edu/biblio/forests-farms-people-land-use-change-non-federal-land-oregon-1974-2014>
- *Changes in Land Use and Housing on Resource Lands in Washington State, 1976-2006* (Gray et al., 2013)
 - Available at: https://www.fs.fed.us/pnw/pubs/pnw_gtr881.pdf
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