

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

Page 1 of 22

Background

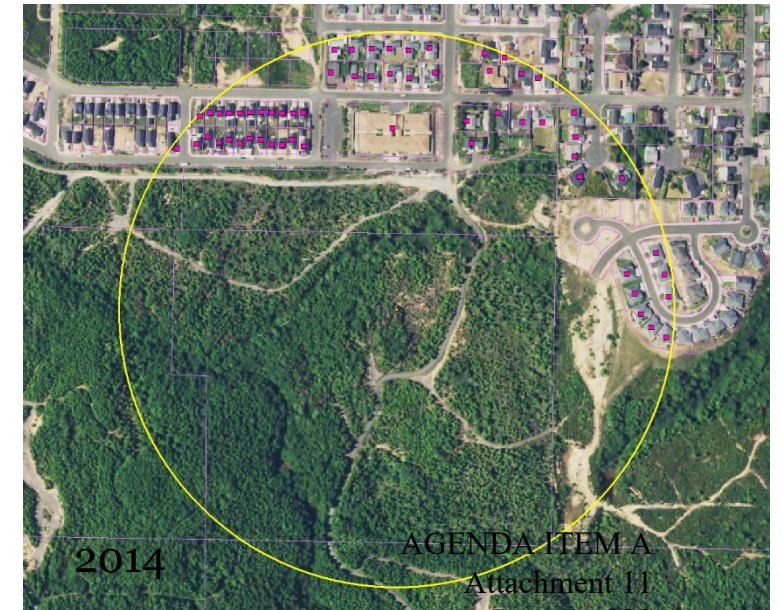
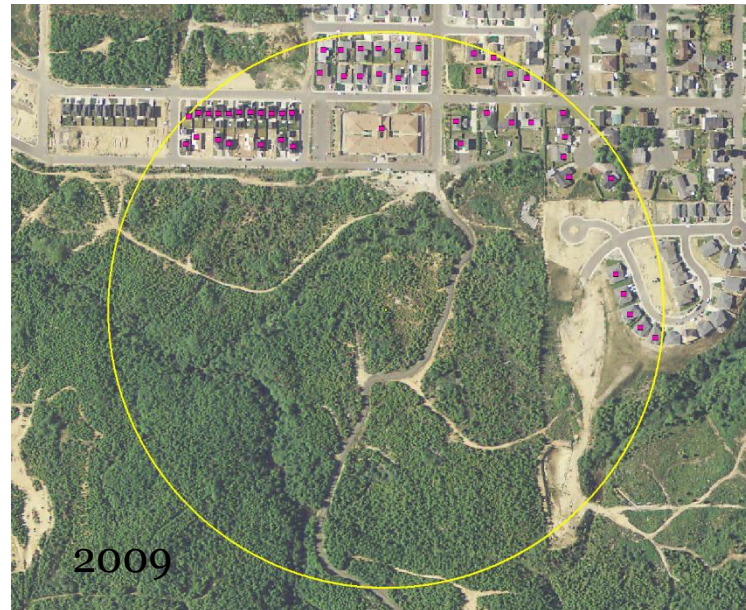
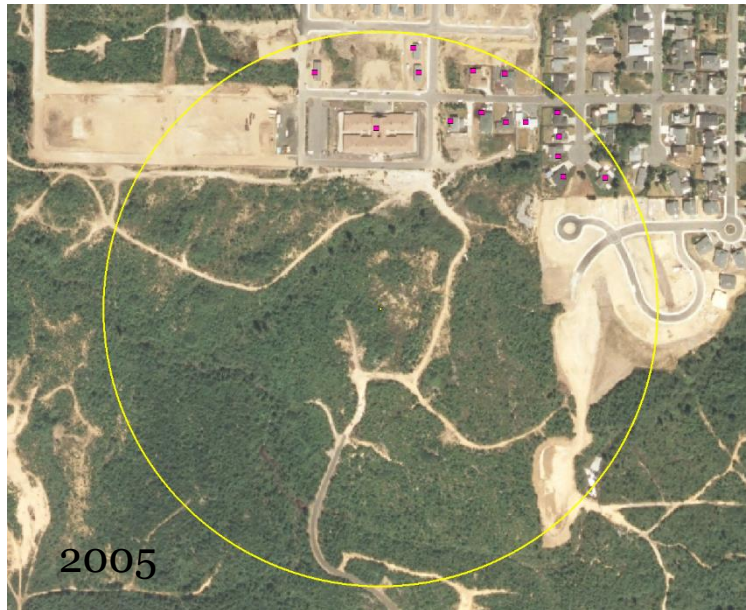
- ODF studies land use change in Oregon (since 1974) and Washington (since 1976) in collaboration with the U.S. Forest Service, DLCD, ODA, ODFW, and the Institute for Natural Resources
- A sample-based approach is used to quantify land use type and structure density on non-Federal land in both states
- 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

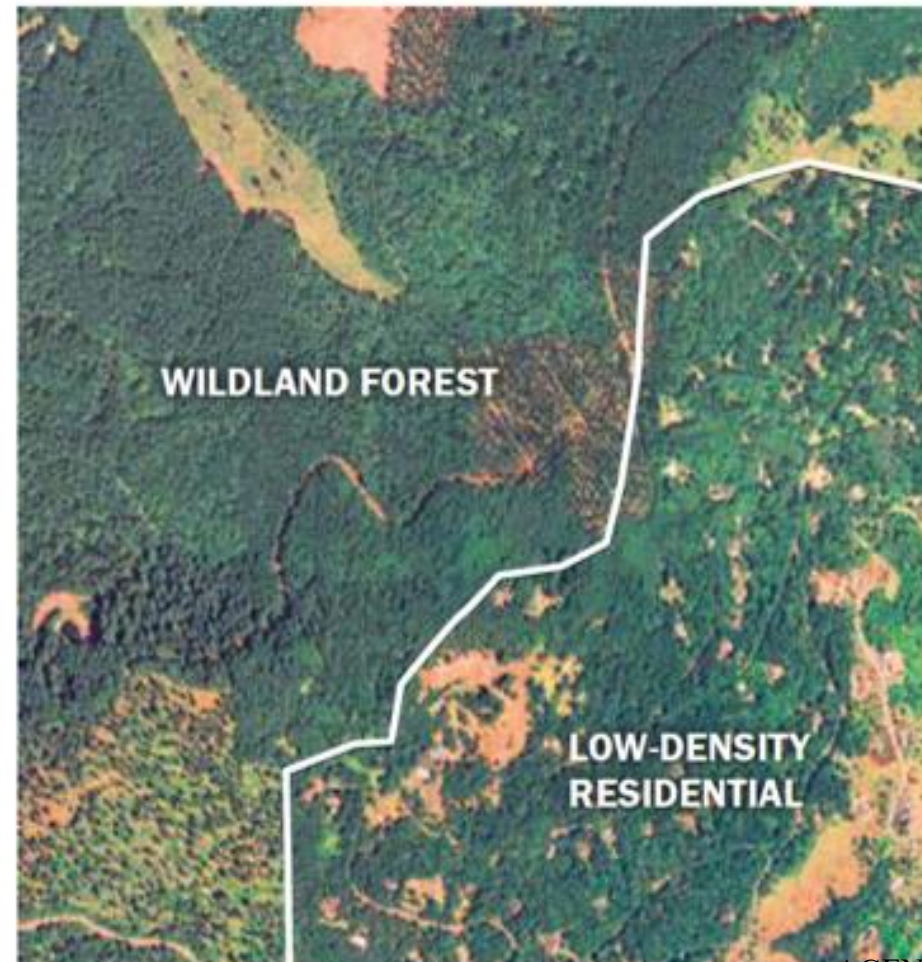
Developed uses

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

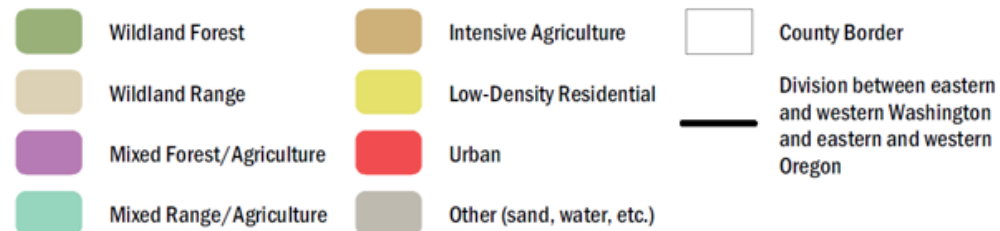
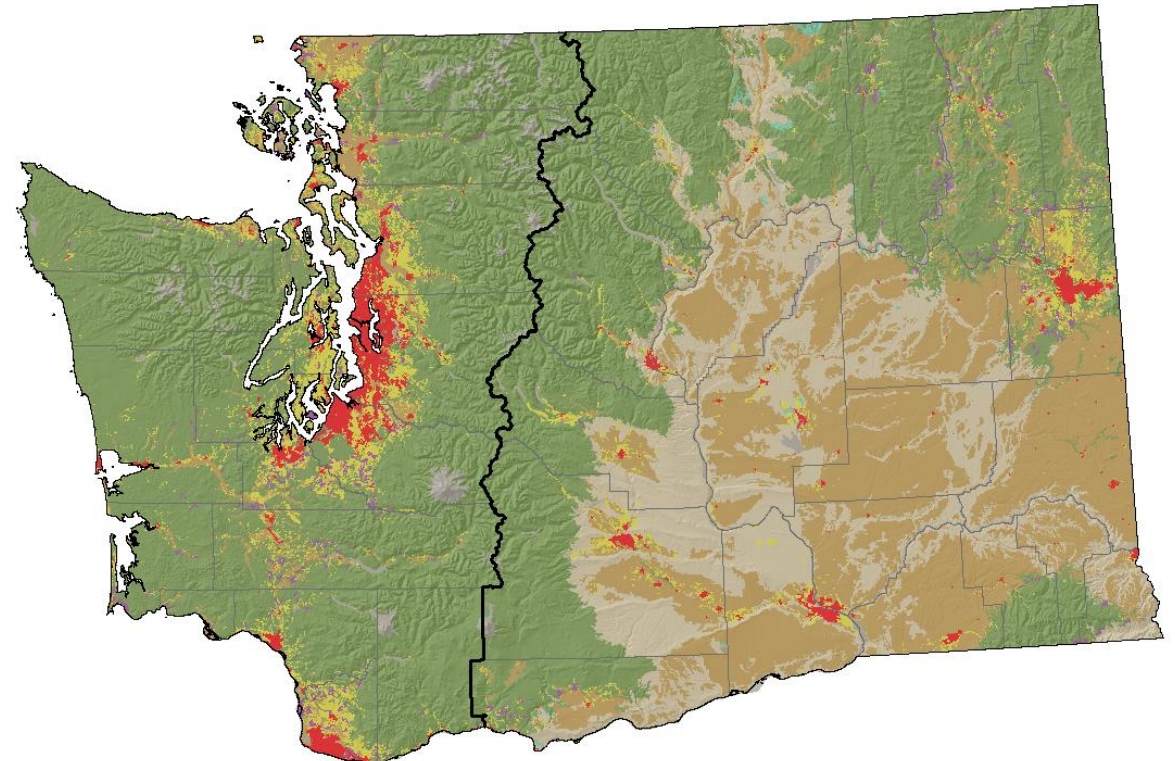
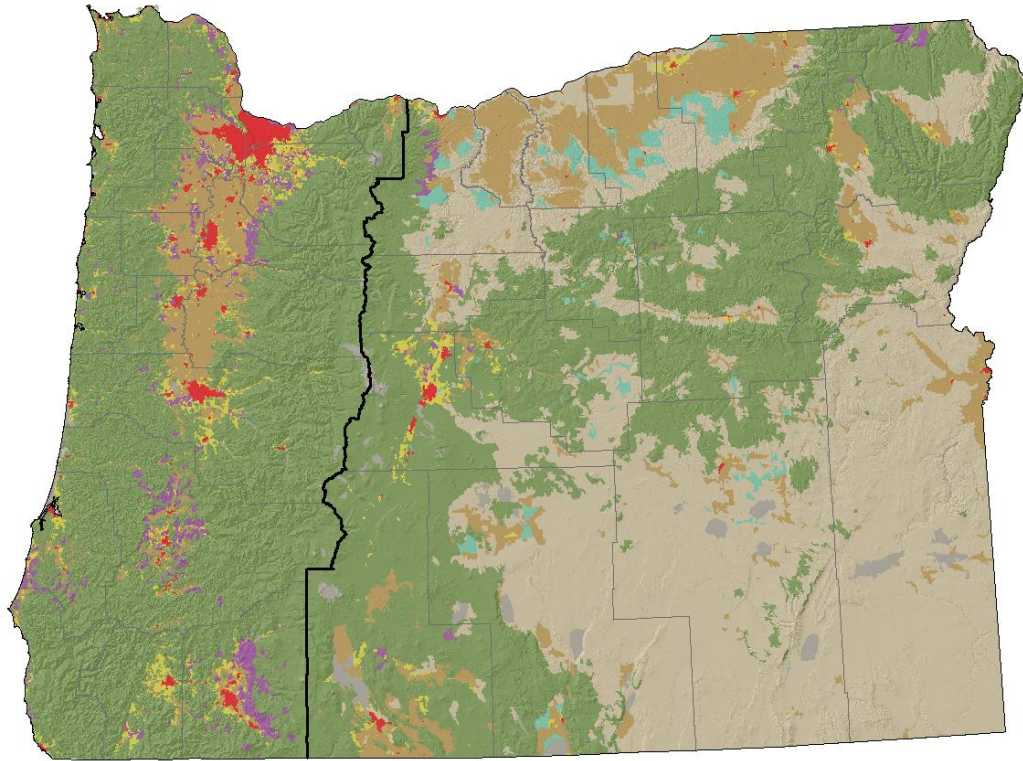
Land Use Classes: Examples



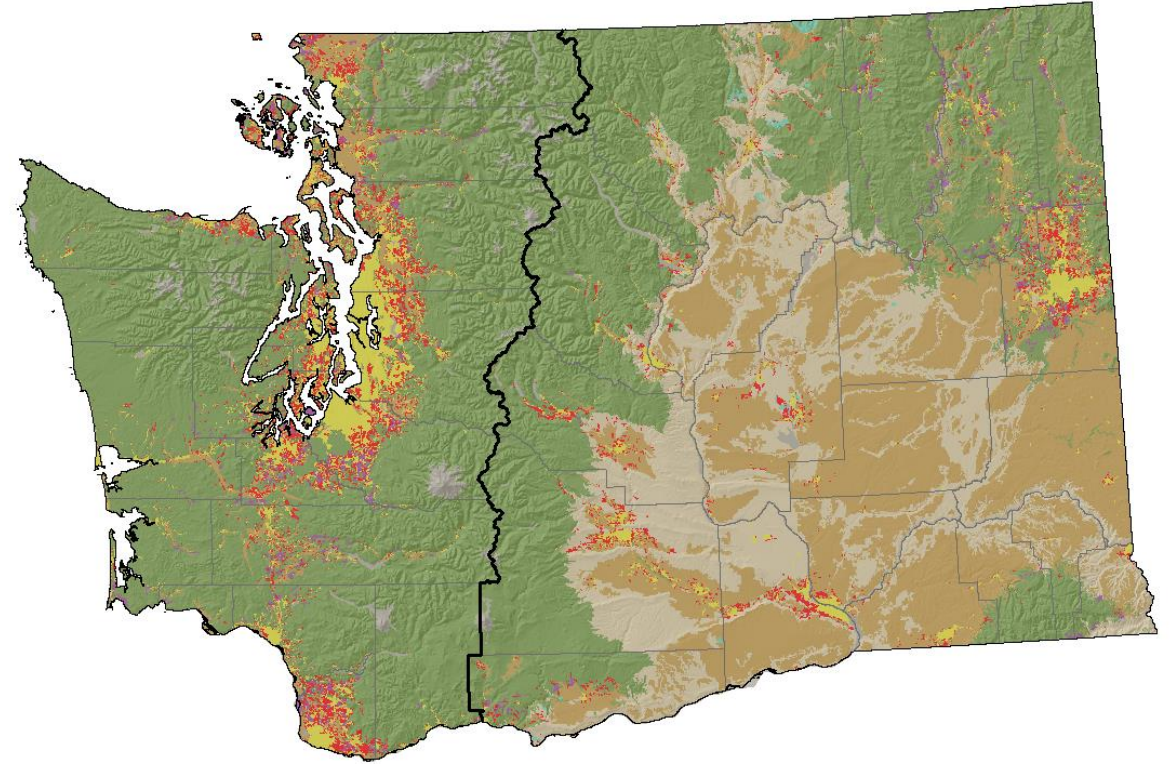
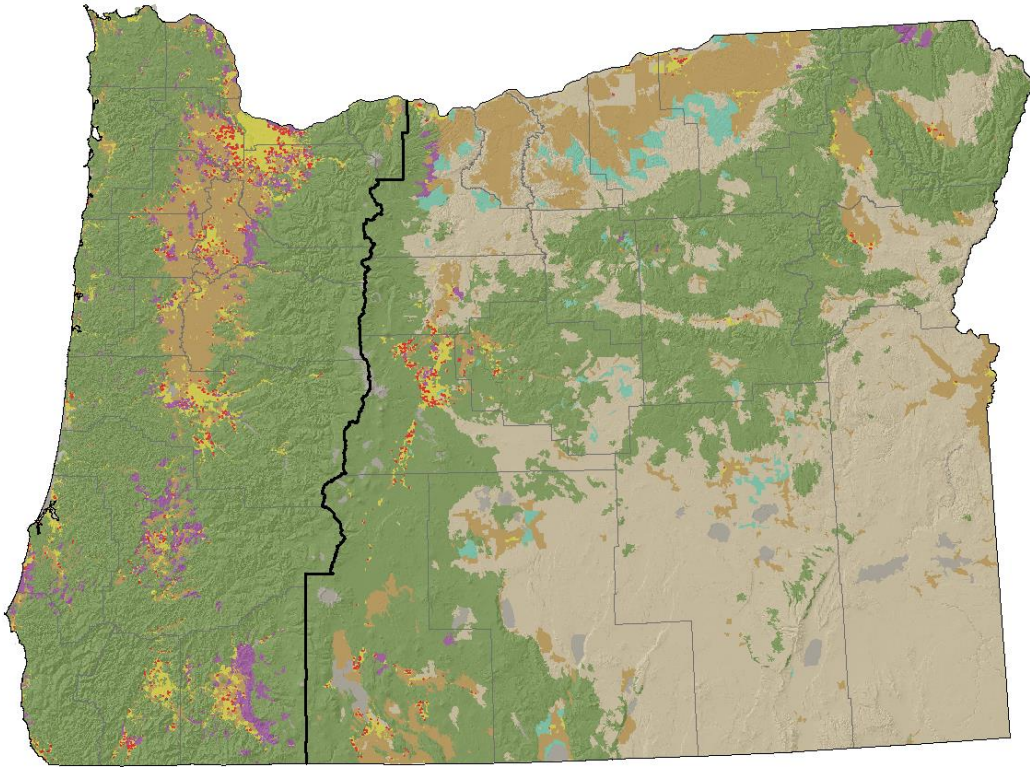
Land Use Classes: Examples



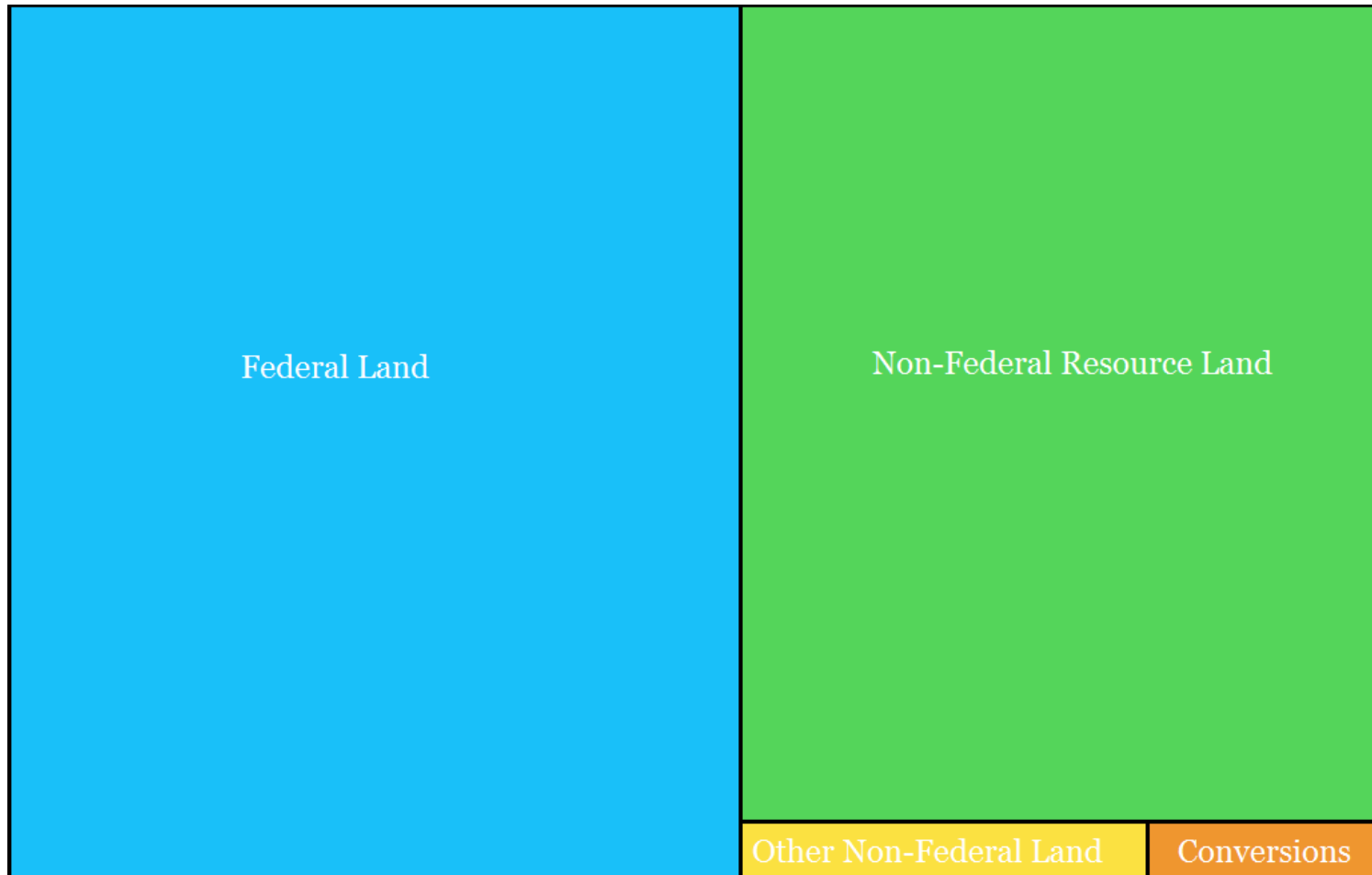
Current Land Use (Oregon 2014, Washington 2013)



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



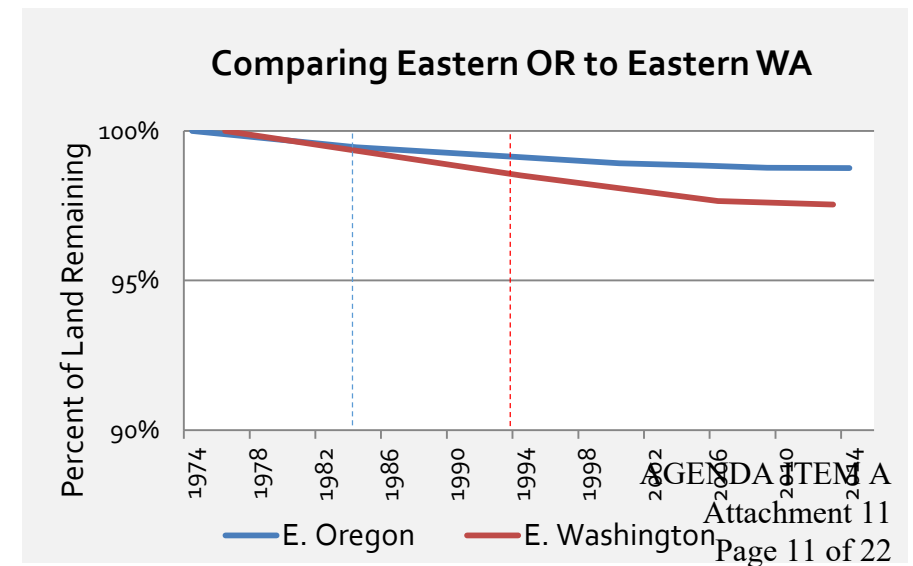
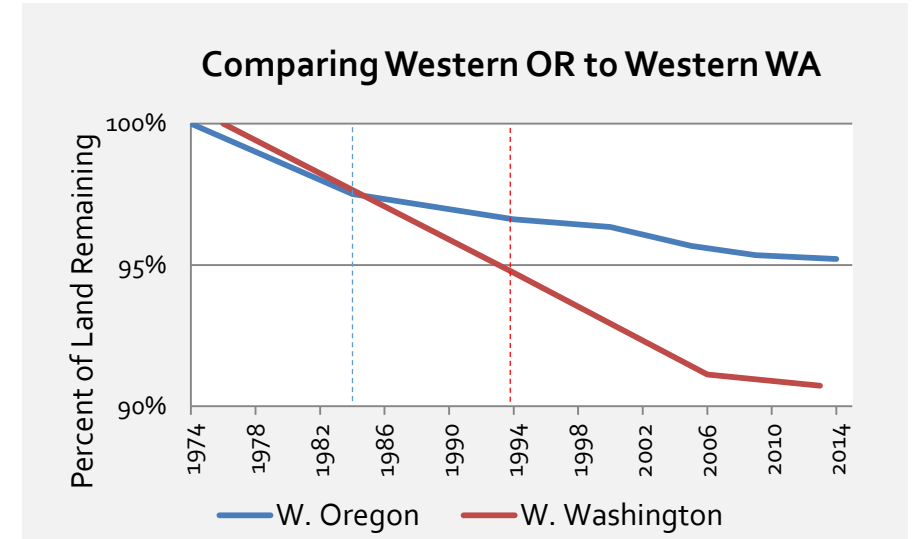
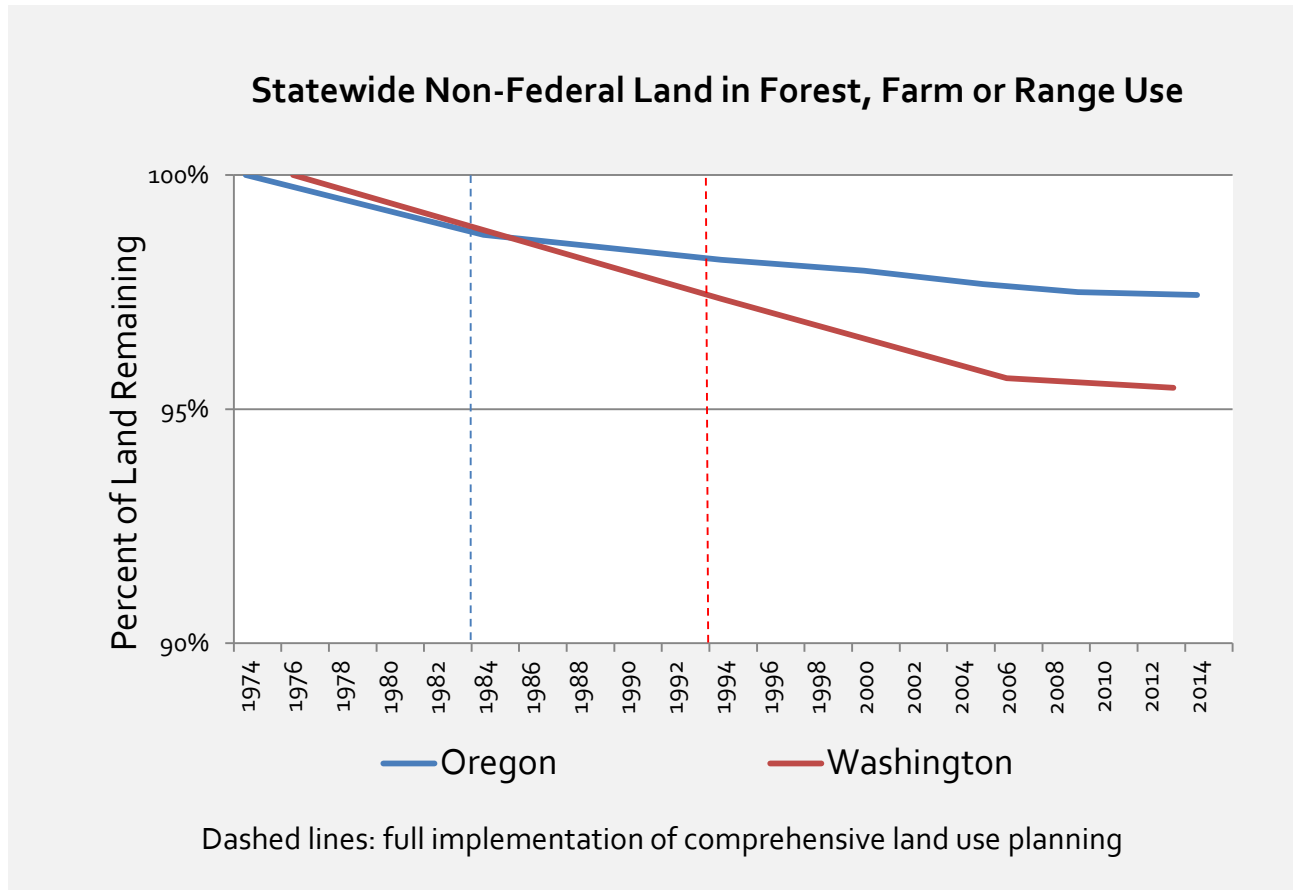
Oregon's Land Area and Conversions of Resource Land



- 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)*

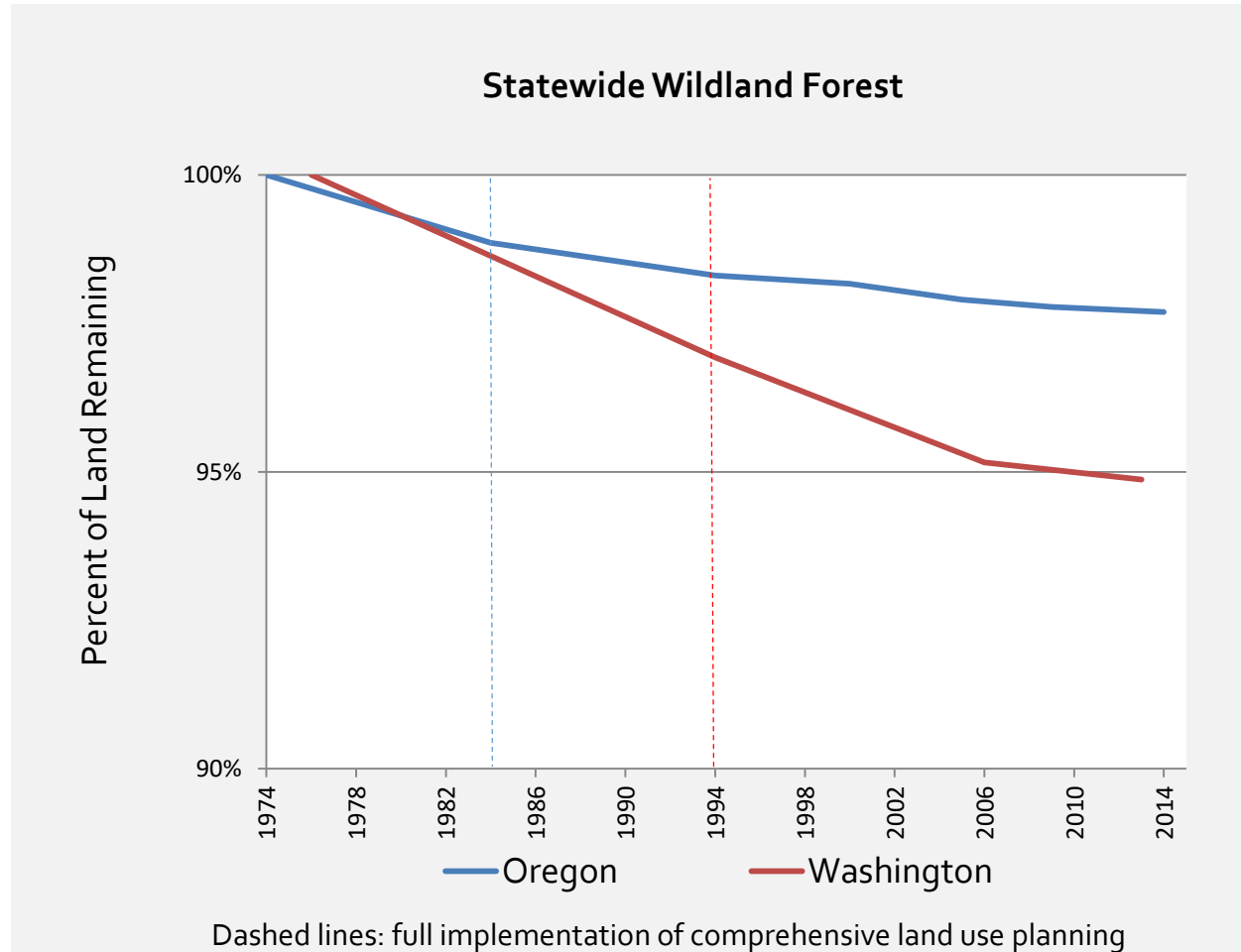
Non-Federal Land Remaining in Resource Uses

(Oregon 1974 – 2014, Washington 1976 – 2013)



Non-Federal Land Remaining in Wildland Forest

(Oregon 1974 – 2014, Washington 1976 – 2013)

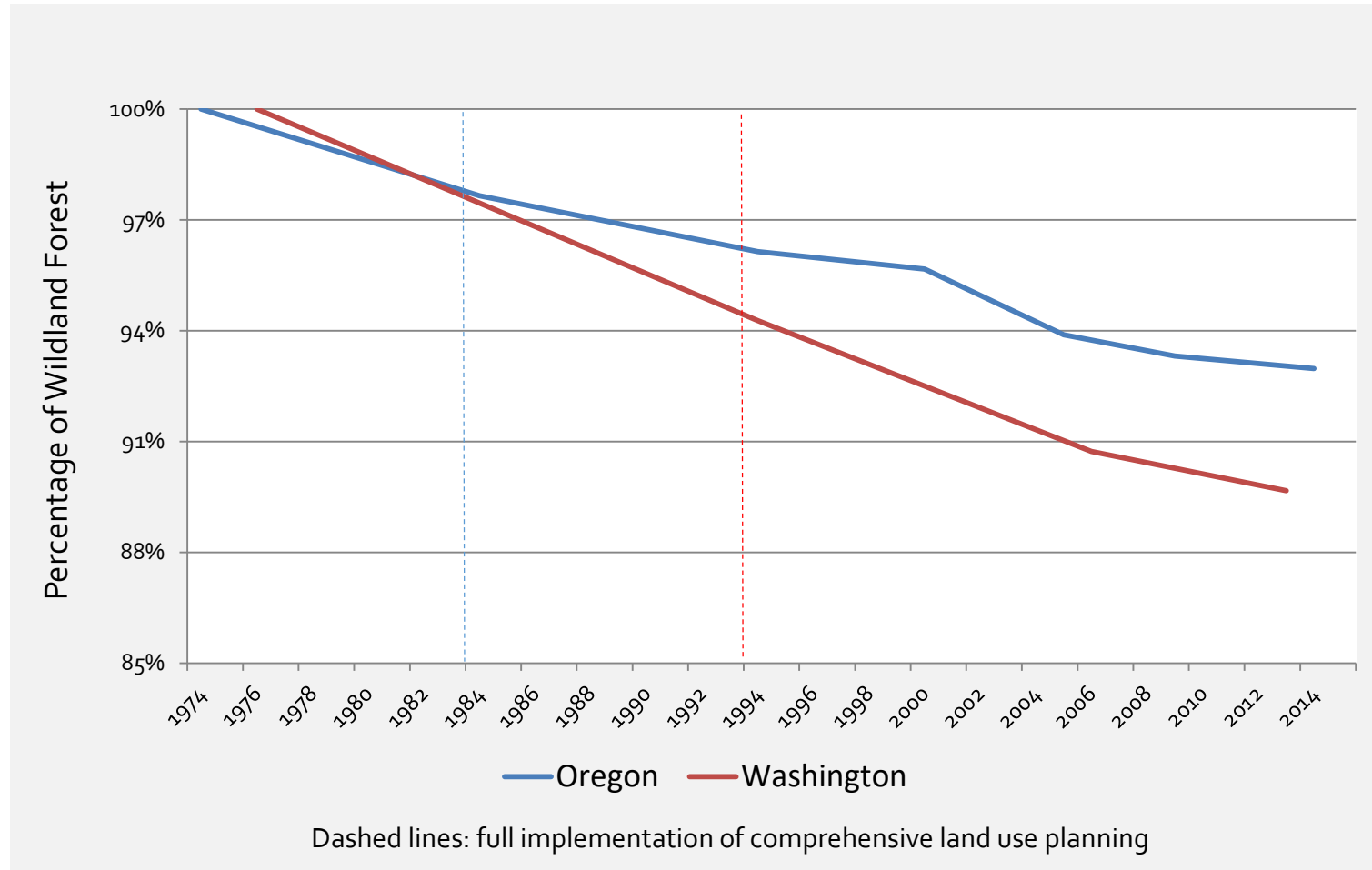


Change of Wildland Forest By Landowner Type

(Oregon 1974 – 2014, Washington 1976 – 2013)

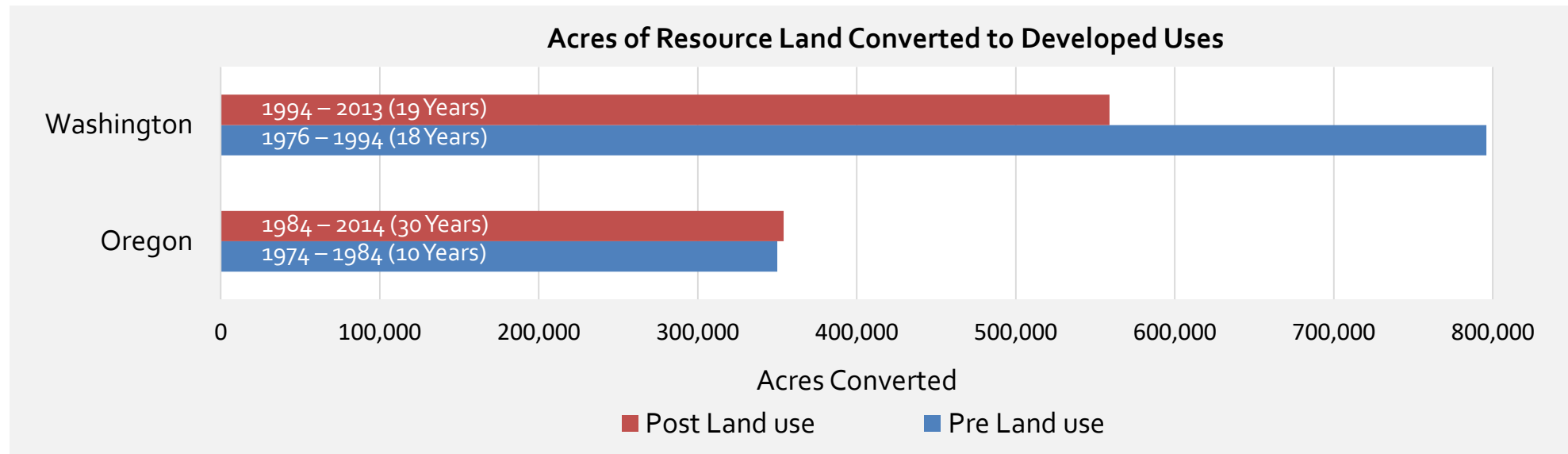
	Forest industry	Other private	Non-Federal public	All non-Federal owners
	<i>Change, in percent</i>			
Oregon	0%	-7%	-1%	-2%
Western Oregon	0%	-10%	-1%	-3%
Eastern Oregon	0%	-4%	0%	-1%
Washington	-1%	-11%	-1%	-5%
Western Washington	-1%	-24%	-1%	-7%
Eastern Washington	-1%	-4%	-1%	-3%

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

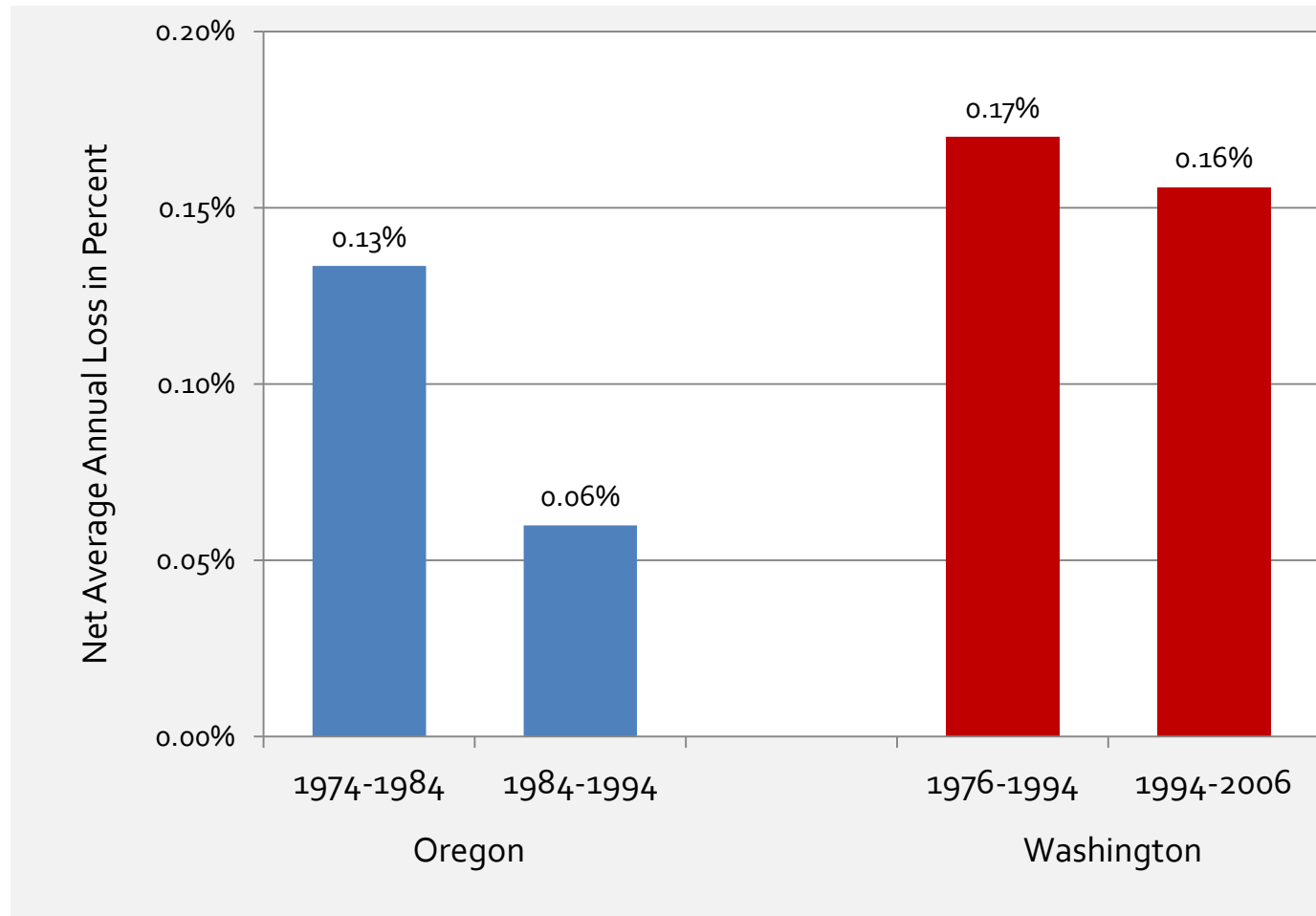


Trends After Land Use Planning and Economic Recession

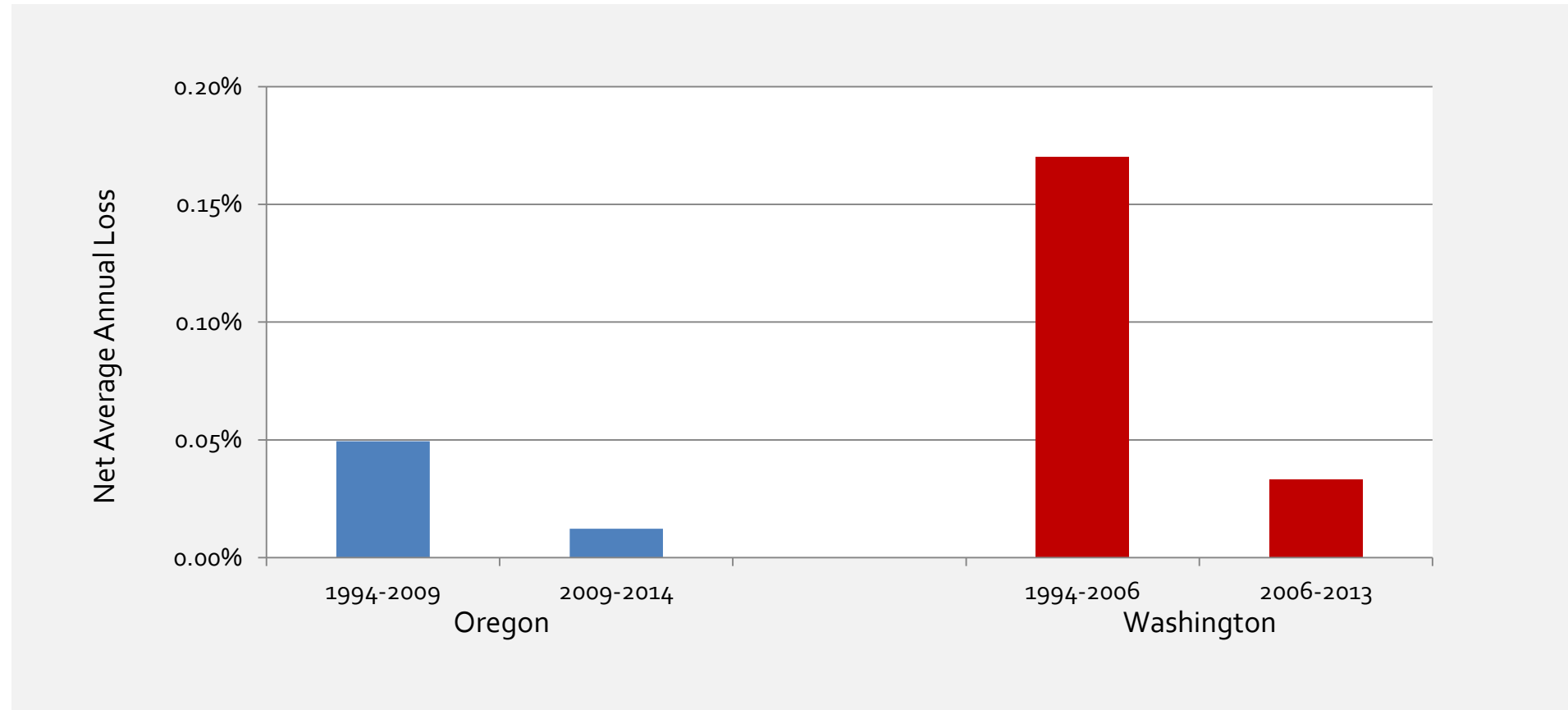
Land Use Change Before and After Land Use Planning



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

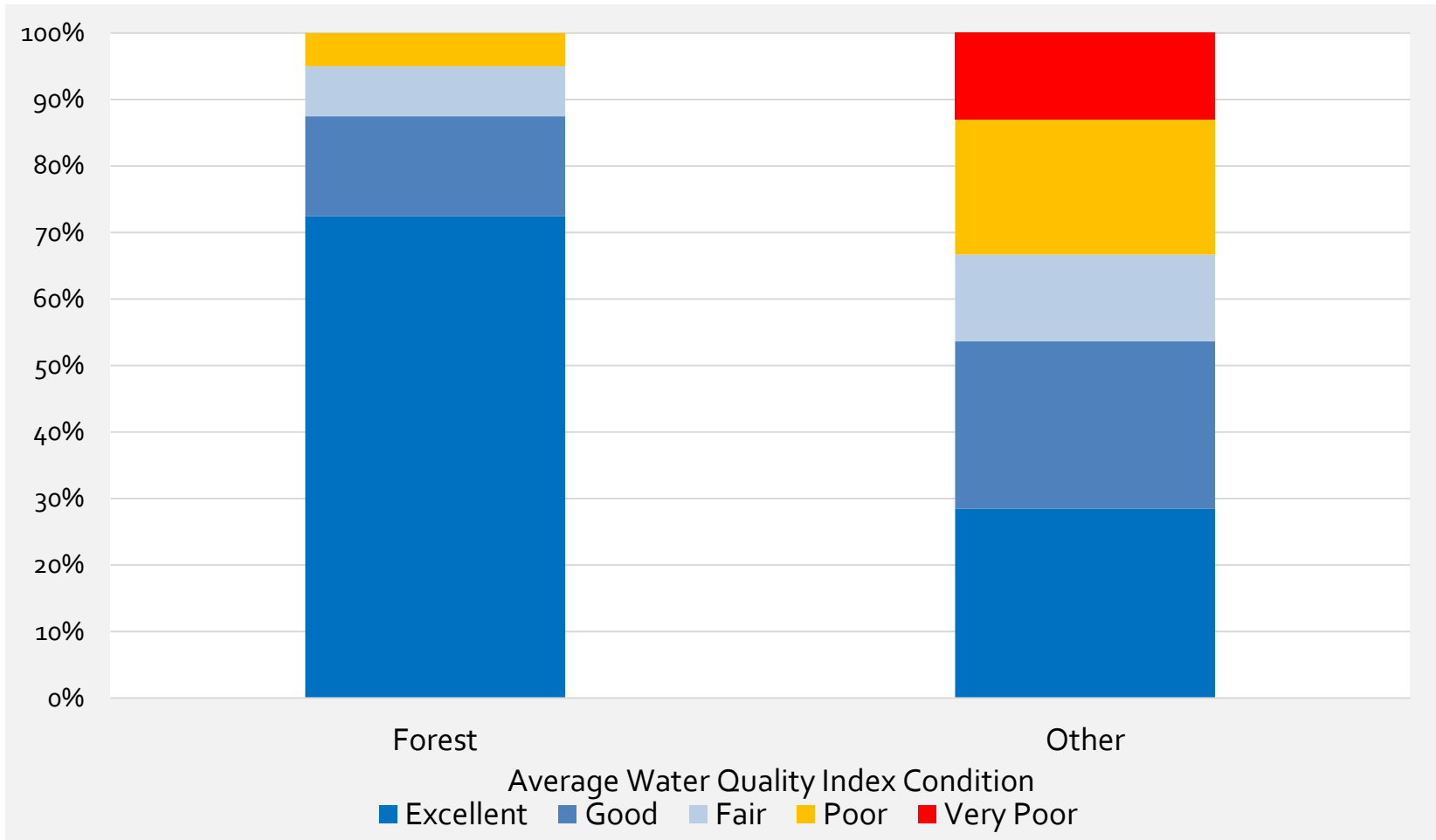


Trend since 2007 Recession: Net Average Annual Loss of Private Resource Land

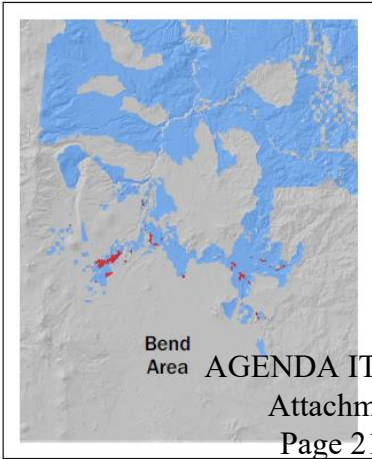
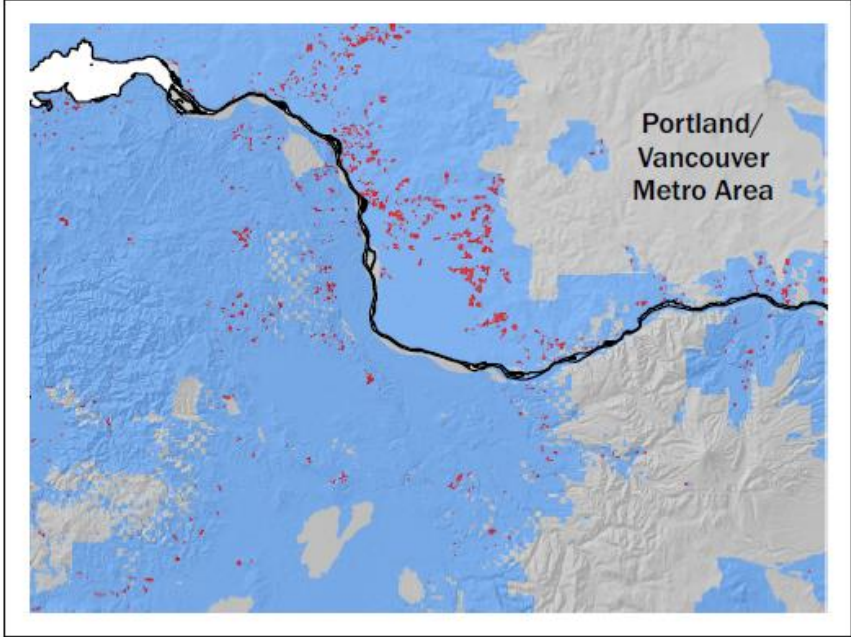
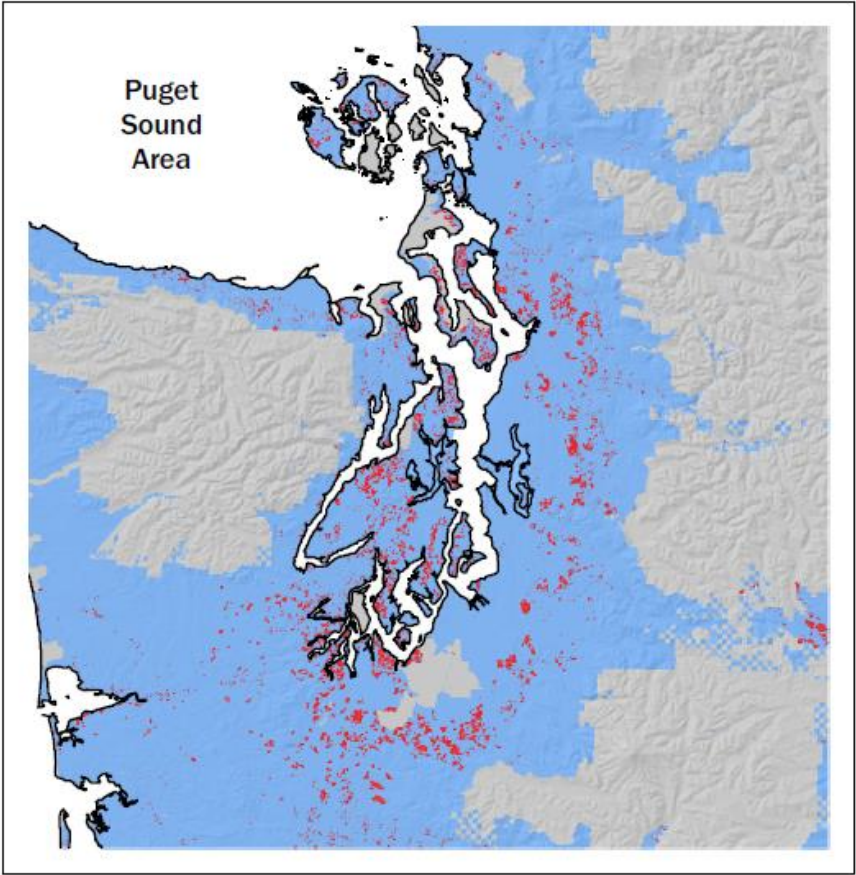
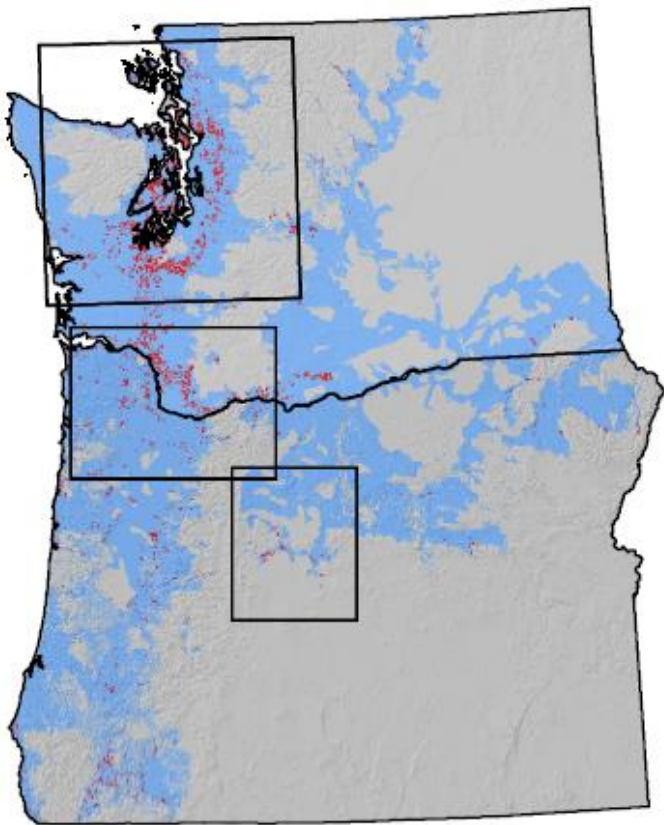


Exploratory Analysis: Land Use, Water Quality, and Fish Habitat

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
- Contact:
 - Dan Hubner, daniel.hubner@oregon.gov
 - John Tokarczyk, john.a.tokarczyk@oregon.gov