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# DATA

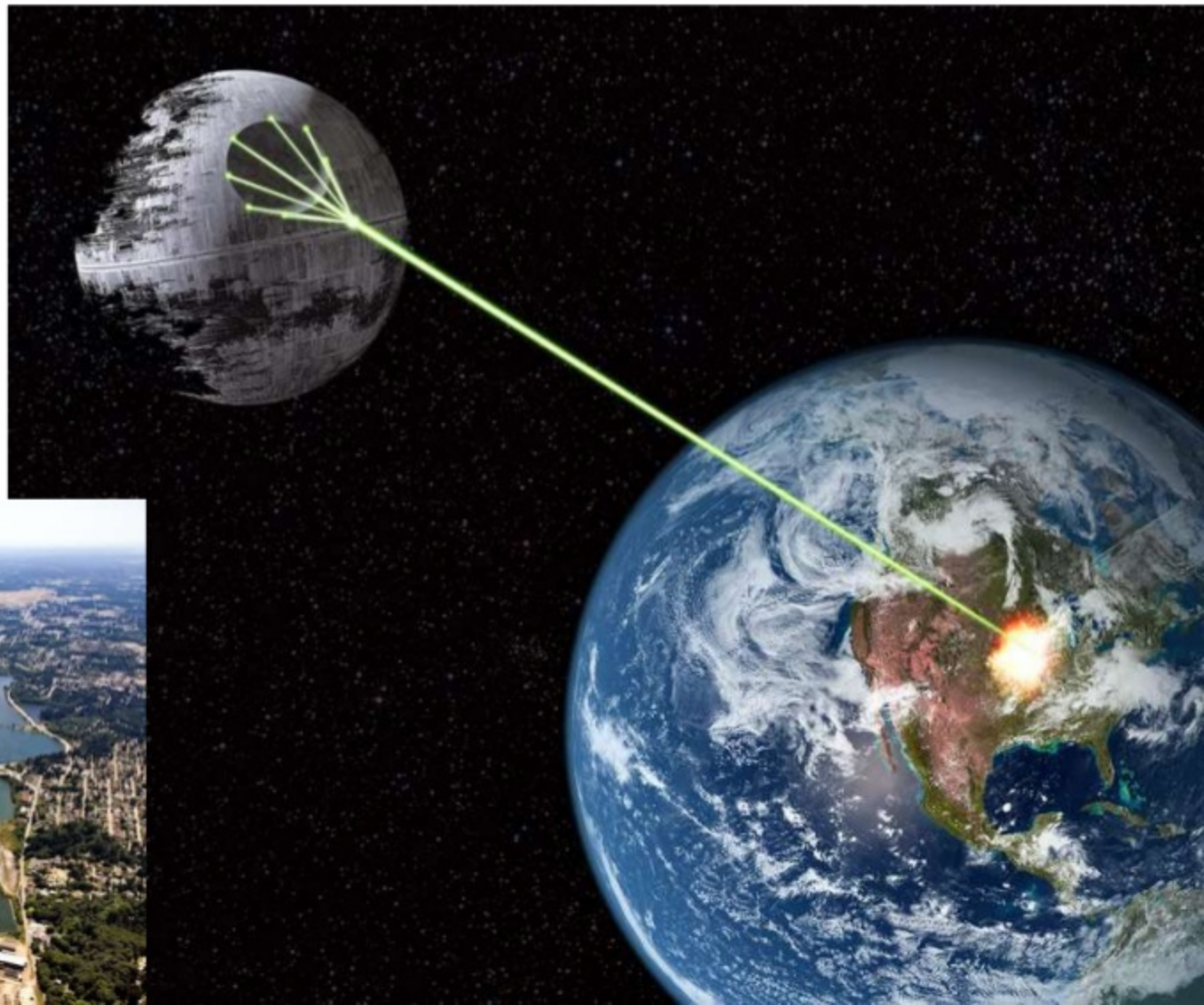
THE FORCE AWAKENS

# WARS



# The Port Star

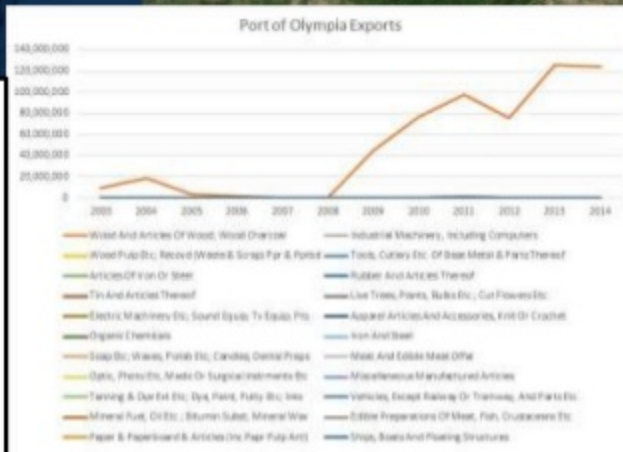
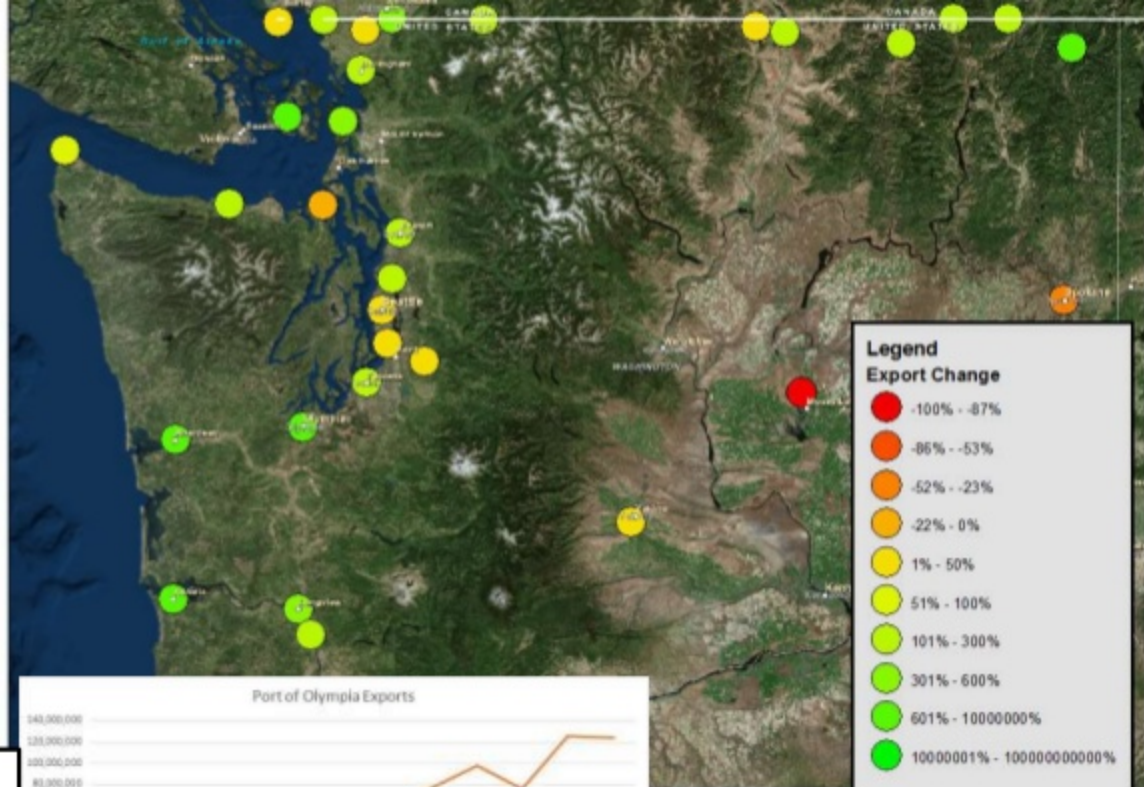
- One of the Smallest Ports in the State
- Logs are the only export; fracking materials are the only import
- Losing Money on \$5 million of public funding
- Mandate is county economic development but return on investment is terrible economically, ecologically, and socially



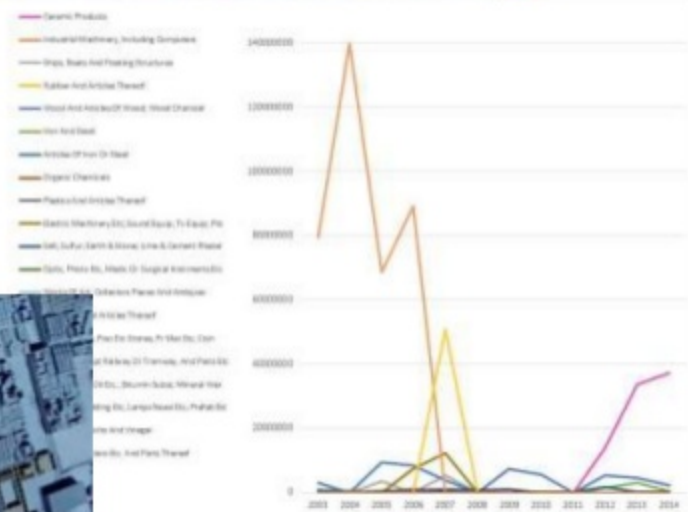
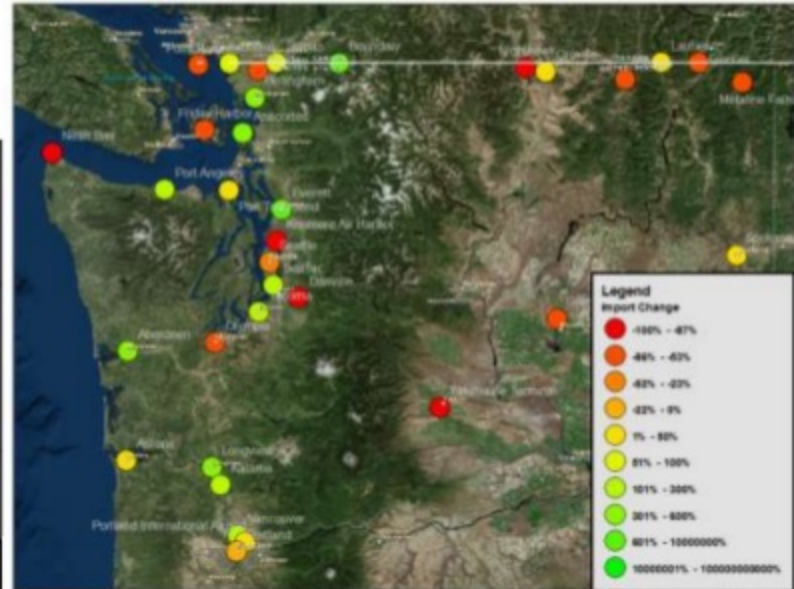
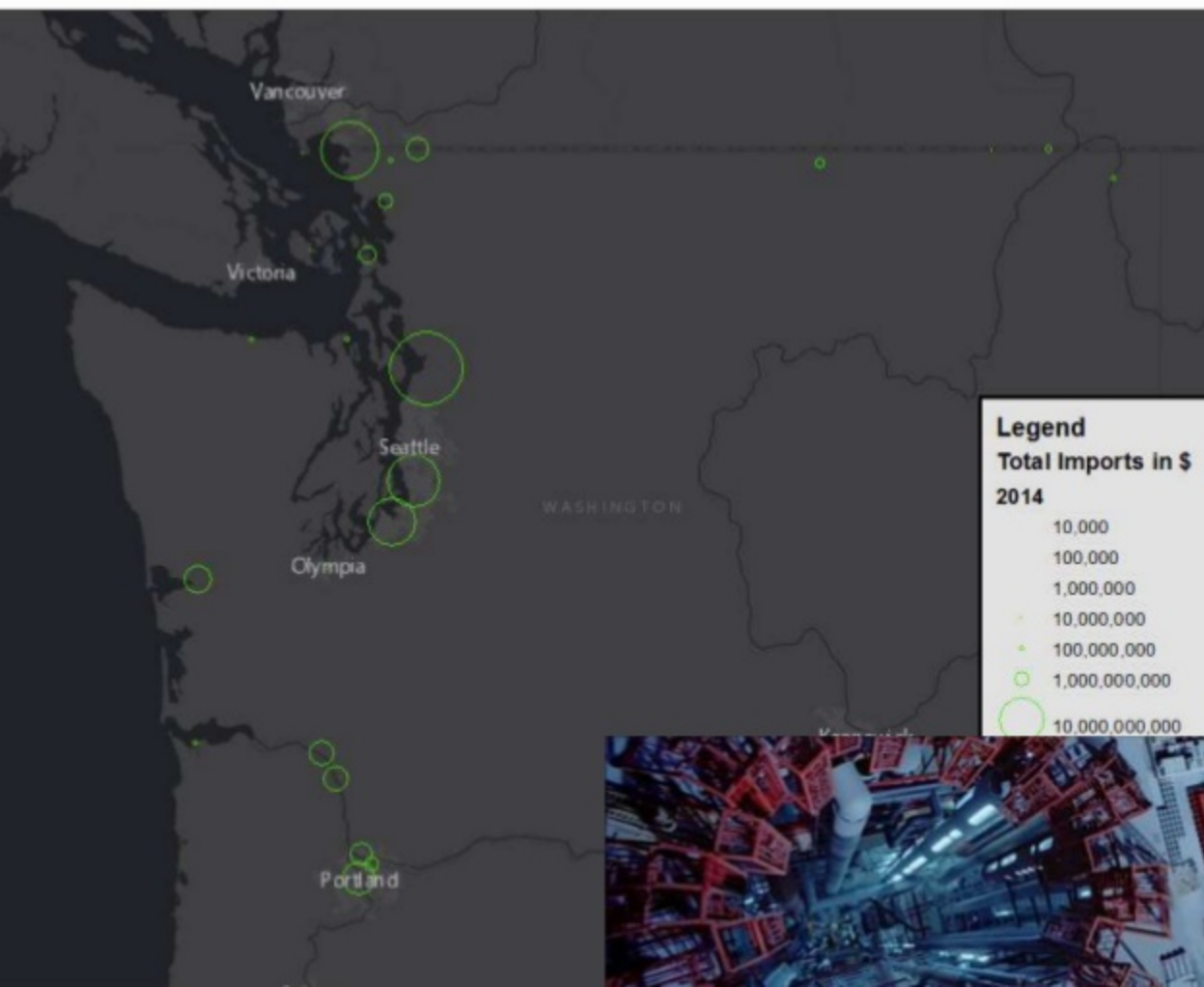




- Olympia cannot compete with other Ports
- Only export of logs has grown 600% over the past decade



- Imports down 250% over the past 10 years
- Proppants support fracking

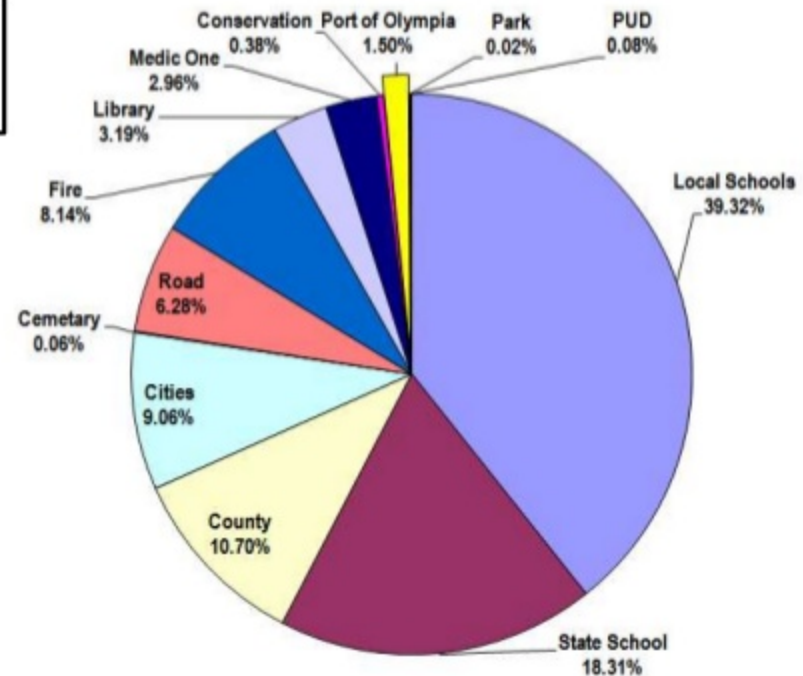




- Port funding from the public is \$5million; making up s 1.5% of our property tax; or about \$40 or a median household
- Losses on marine terminal -40% this past year

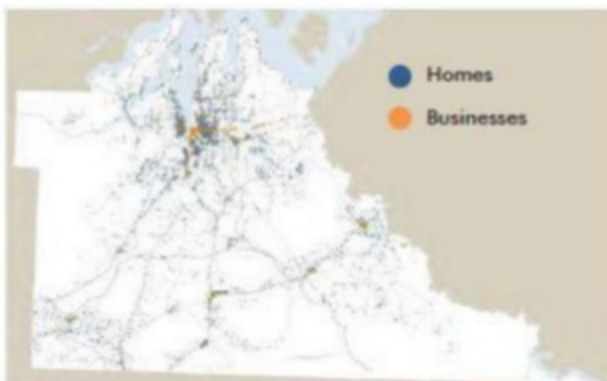
Port of Olympia  
Income Statement  
Management Format  
2016 Budget

	2016 Budget					2015 Projected			Variance
	Airport & New Market	Swantown Marina	Marine Terminal	Peninsula Properties	Storm Water Facility	General Admin.	2016	2015	Fav(Unf)
Operating Revenues	2,523	2,515	4,322	741	657		\$ 10,758	\$ 10,053	\$ 705
Operations & Maintenance Expenses	(955)	(1,539)	(3,633)	(378)	(369)		(6,874)	(6,192)	(682)
Contribution Margin	1,568	976	689	363	288	-	3,884	3,861	23
Administration Expenses	(655)	(650)	(649)	(646)	(46)		(2,646)	(2,472)	(174)
Operating Expenses	(1,610)	(2,189)	(4,282)	(1,024)	(415)	-	(9,520)	(8,664)	(856)
Operating Income before depreciation	913	326	40	(283)	242		1,238	1,389	(151)
Depreciation	(844)	(586)	(1,809)	(210)	(120)	(303)	(3,872)	(3,856)	(16)
Operating Income (loss)	69	(260)	(1,769)	(1,000)	122	(303)	(2,634)	(2,467)	(167)
	2.7%	-10.3%	-40.9%	-66.5%	18.6%		-24.5%		
Non-operating Revenues (expenses)									
Bond Interest Expense	(83)	(152)	(581)	(277)	(172)	(290)	(1,383)	(1,505)	122
Interest Income						128	128	97	31
FTZ Revenue & Expense, net						-	-	(1)	1
Non Operating Revenues						29	29	29	-
Non Operating Expenses						-161	(161)	(105)	(56)
Grant Income						541	541	903	(362)
Settlements						-	-	288	(288)
Non-operating Revenues (expenses)	(83)	(152)	(581)	(277)	(172)	247	(846)	(294)	(552)
Income (loss) before Tax Levy	(14)	(412)	(2,350)	(770)	(50)	(56)	(3,480)	(2,761)	(719)
Tax Levy							5,065	4,999	66
Interest Expense, G.O. Bonds							(1,383)	(1,505)	122
Principle payments, G.O. Bonds							(2,825)	(2,705)	(120)
Environmental Expense							(937)	(582)	(355)
Election Expense							(65)	-	(65)
Forest Board & Leasehold Tax							130	114	16
Public Parks & Roads Expense							(230)	(236)	6
Under (Over) Spending of Tax Levy							(245)	85	(330)
Adjustment: Interest Expense, G.O. Bonds (shown twice)							1,383	1,505	(122)
Adjustment: Principle, G.O. Bonds (not part of Income Statement)							2,825	2,705	120
Total Port Income (Loss)							483	1,534	(1,051)





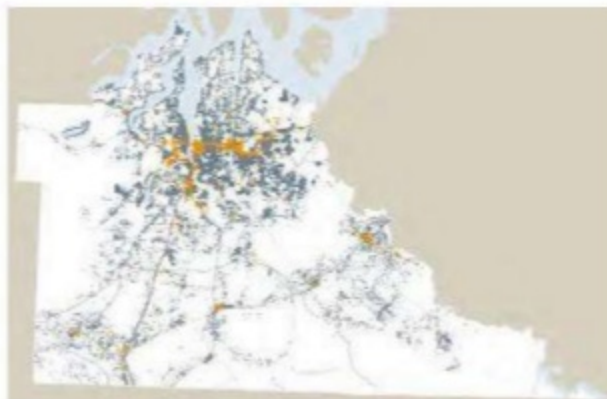
# Sustainable Thurston Report



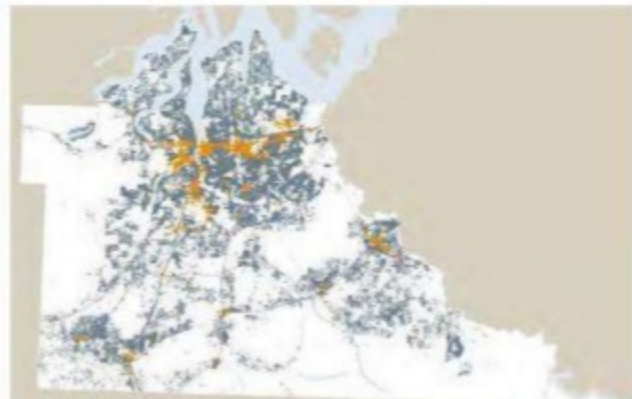
1950... compact communities around Puget Sound, major roads, and railroads



1970... after construction of Interstate 5 growth begins to increase

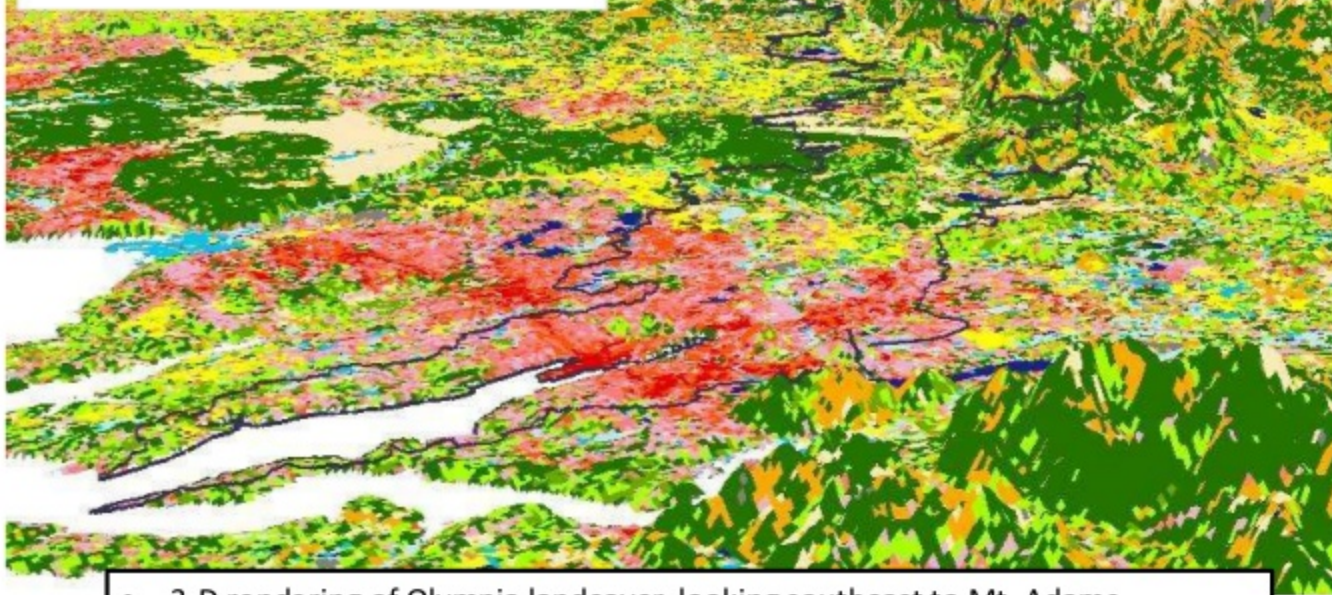
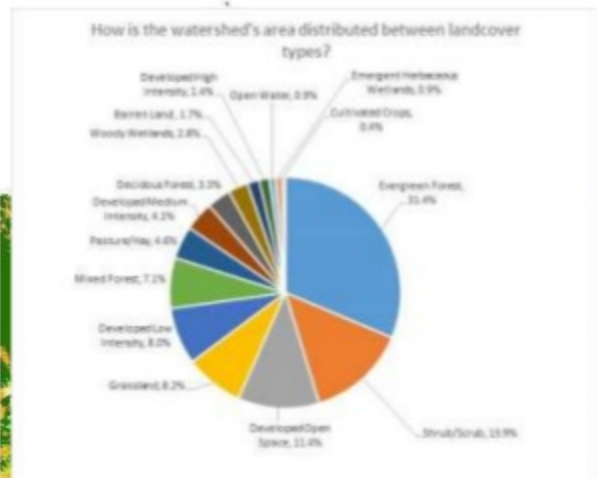


1990... decades of sprawl result in the state passing the Growth Management Act



2010... changes in zoning designations did protect some rural areas, however residential growth in suburban and rural areas continued, while city centers attracted little new activity





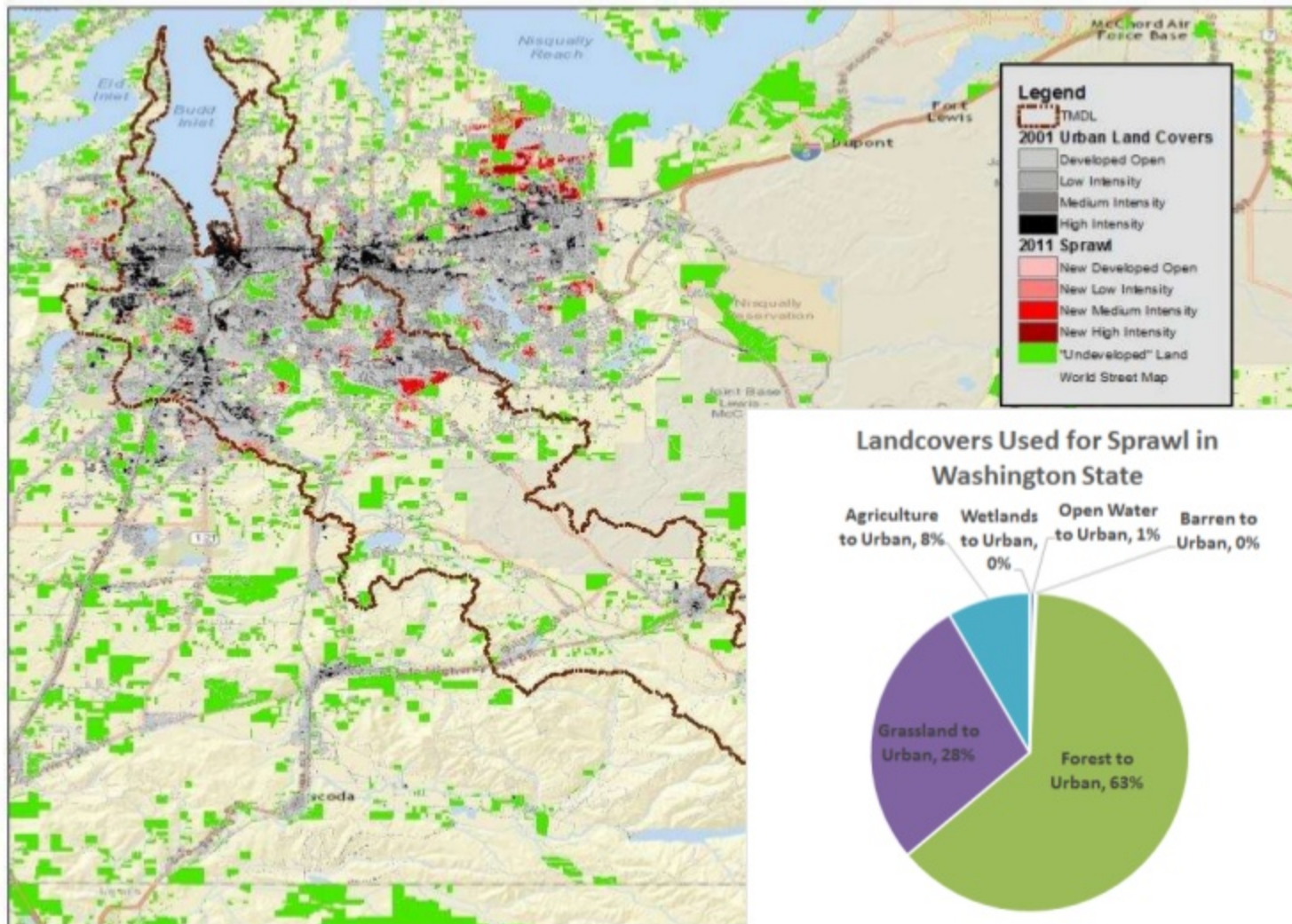
## NLCD Land Cover Classification Legend

- 11 Open Water
- 12 Perennial Ice/ Snow
- 21 Developed, Open Space
- 22 Developed, Low Intensity
- 23 Developed, Medium Intensity
- 24 Developed, High Intensity
- 31 Barren Land (Rock/Sand/Clay)
- 41 Deciduous Forest
- 42 Evergreen Forest
- 43 Mixed Forest
- 51 Dwarf Scrub\*
- 52 Shrub/Scrub
- 71 Grassland/Herbaceous
- 72 Sedge/Herbaceous\*
- 73 Lichens\*
- 74 Moss\*
- 81 Pasture/Hay
- 82 Cultivated Crops
- 90 Woody Wetlands
- 95 Emergent Herbaceous Wetlands

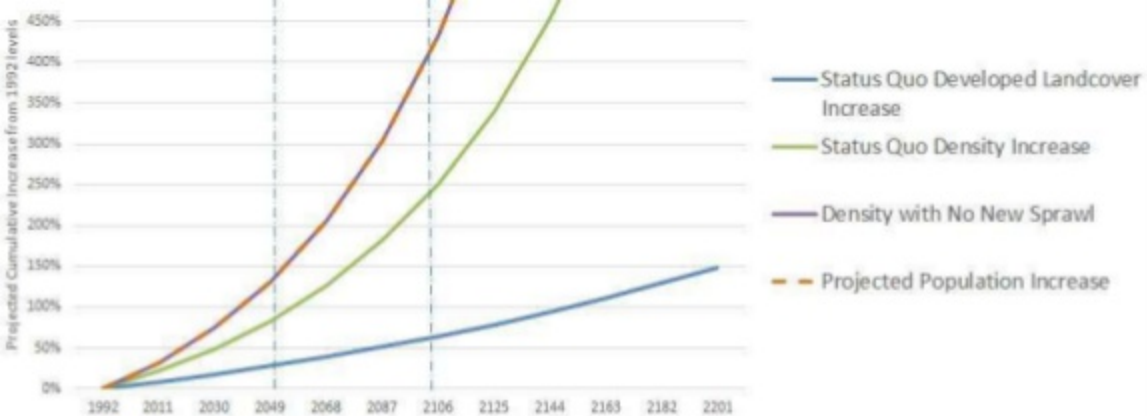
\* Alaska only

- 3-D rendering of Olympia landcover, looking southeast to Mt. Adams

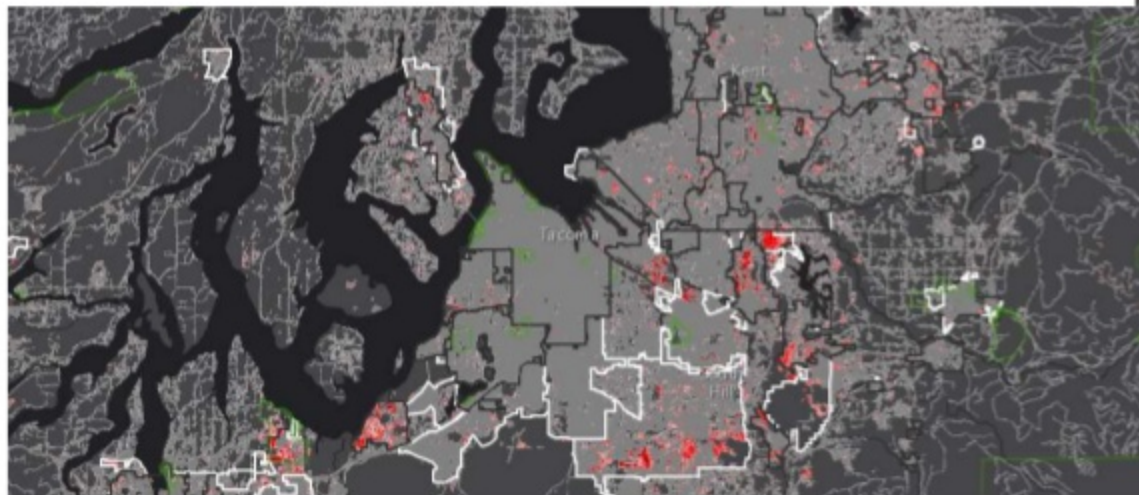




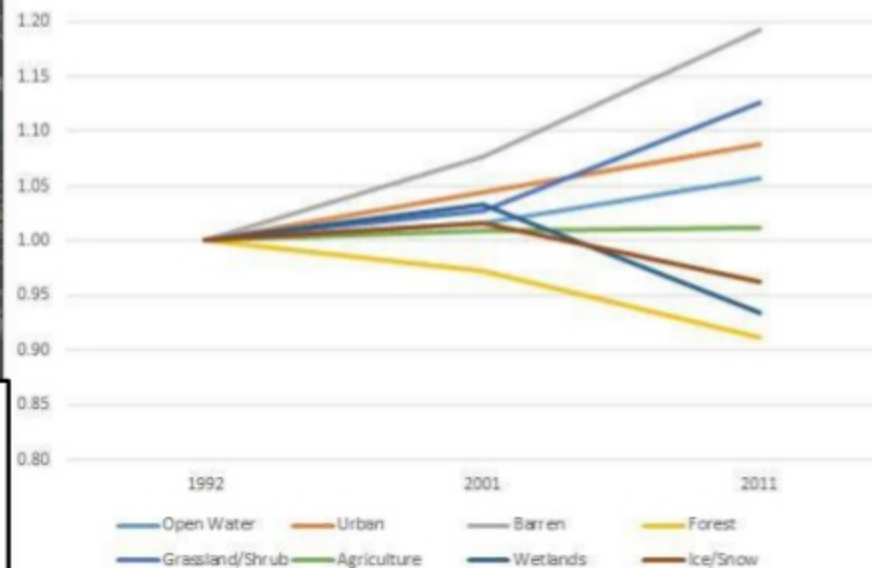
- New Sprawl between 2001 and 2011 in red and pink; existing sprawl footprint in grey; existing urban footprint in black; undeveloped areas in green are "up for grabs" – sprawl, habitat, or food?



- Considering loss rate of landcover, time to loss can be calculated; here each line shows 20 years changes relative to 1992 levels; barren (grey) and grassland (light blue) is logging activity; orange is urban; forest (yellow), wetlands (dark blue), and ice snow (brown) are declining



Landcover Change by Current Landcover Change Trajectory  
(1.0 = Total Stock in 1992)



- It is possible to measure density improvements per city, county, or state; and ask "how would density need to improve to accommodate new population without increasing sprawl footprint?" the answer for Washington State is —10 fold the background improvements of the past 10 years...the three lines above are **scenarios** based on present trajectories



# Weyerhaeuser the Hut

- With other timber interests owns 2/3rds of the watershed
- Logging is 1% of Washington State Exports; 0.3% of Thurston County Jobs
- Loss of forest cover affects climate resilience in terms of flooding, fire, and habitat



Weyerhaeuser Co (NYSE:WY)

Add to portfolio

**25.00** +0.75 (3.09%)

After Hours: 25.00 0.00 (0.00%)

Feb 24, 5:58PM EST

NYSE real-time data - Disclaimer

Currency in USD

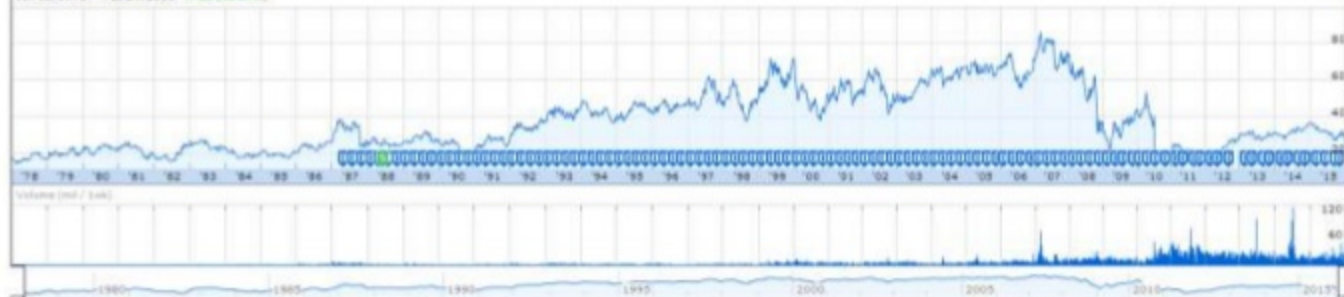
Range	24.00 - 25.37	Div/yield	0.31/4.96
52 week	22.06 - 35.68	EPS	0.89
Open	24.00	Shares	510.49M
Vol / Avg	13.04M / 7.63M	Beta	1.33
Mkt cap	13.16B	Inst. own	85%
P/E	28.11		

GO 14

Compare:  other ticker names  ☐ Dow Jones ☐ S&P 500 ☐ DEL ☐ UFP1 ☐ PCH ☐ ANSBF ☐ IPSPF ☐ WFTBF ☐ CFP2F

Zoom:

Jan 13, 1978 - Feb 24, 2016 +7.25 (40.87%)

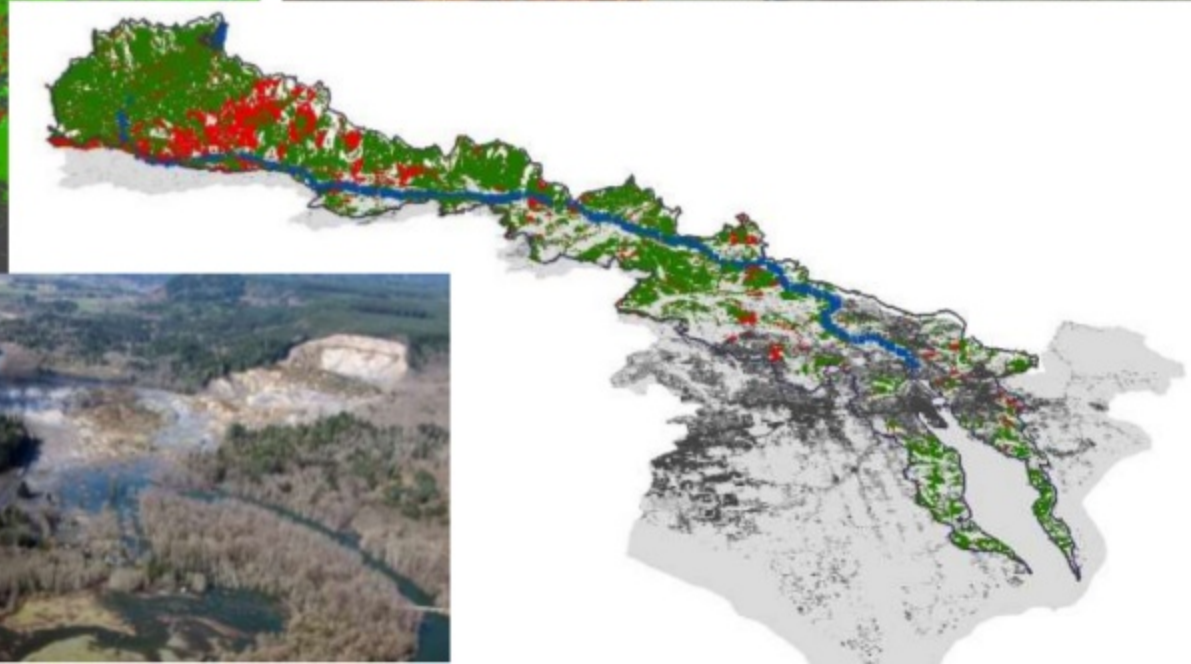
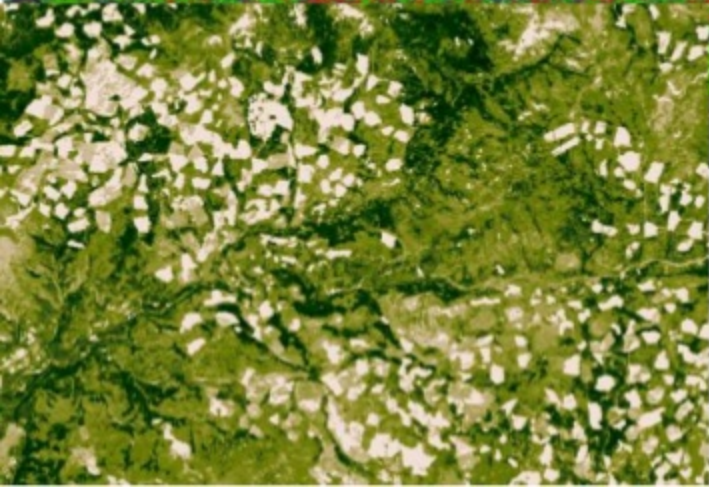
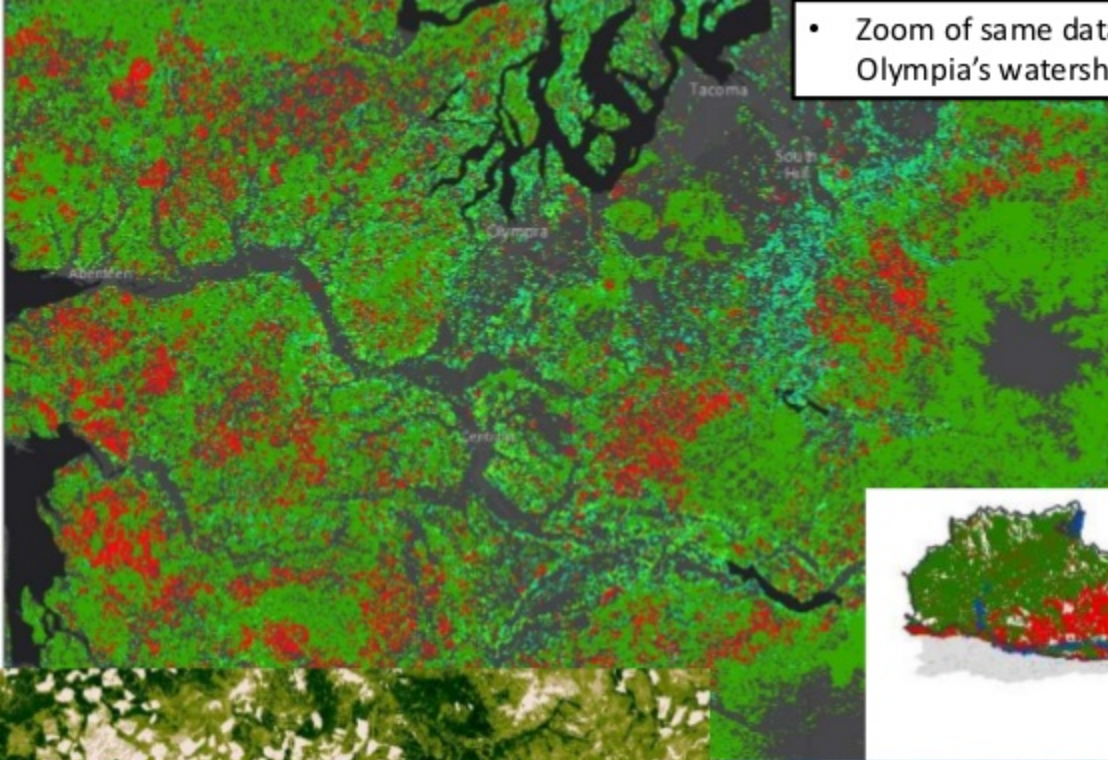


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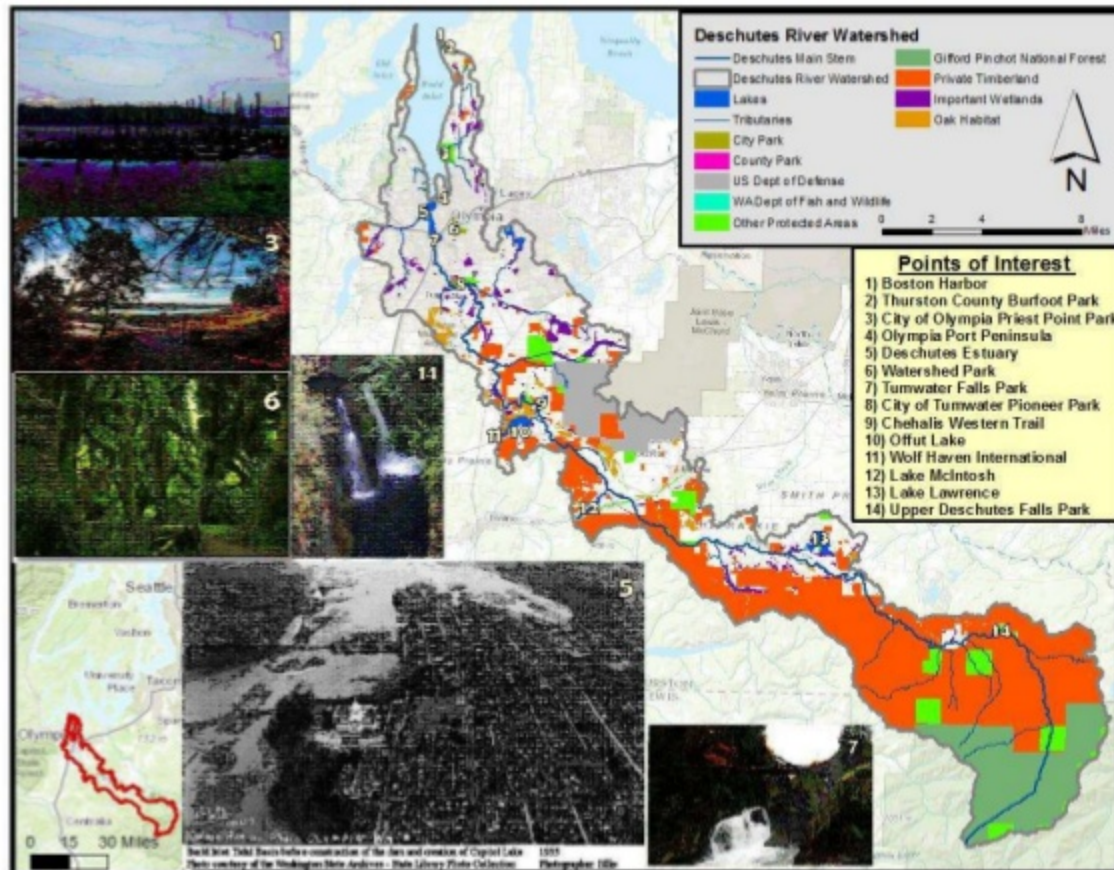
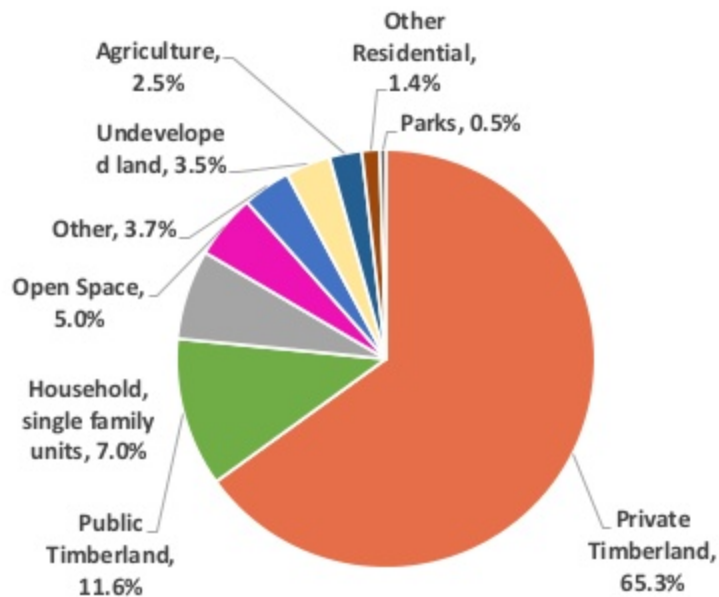


- Zoom of same data around Olympia; 3D rendering (lower right) looking south on Olympia's watershed shows logging on steep slopes and impervious surfaces in black





## Who owns the watershed? Total Area of Parcels by Zoning Designation

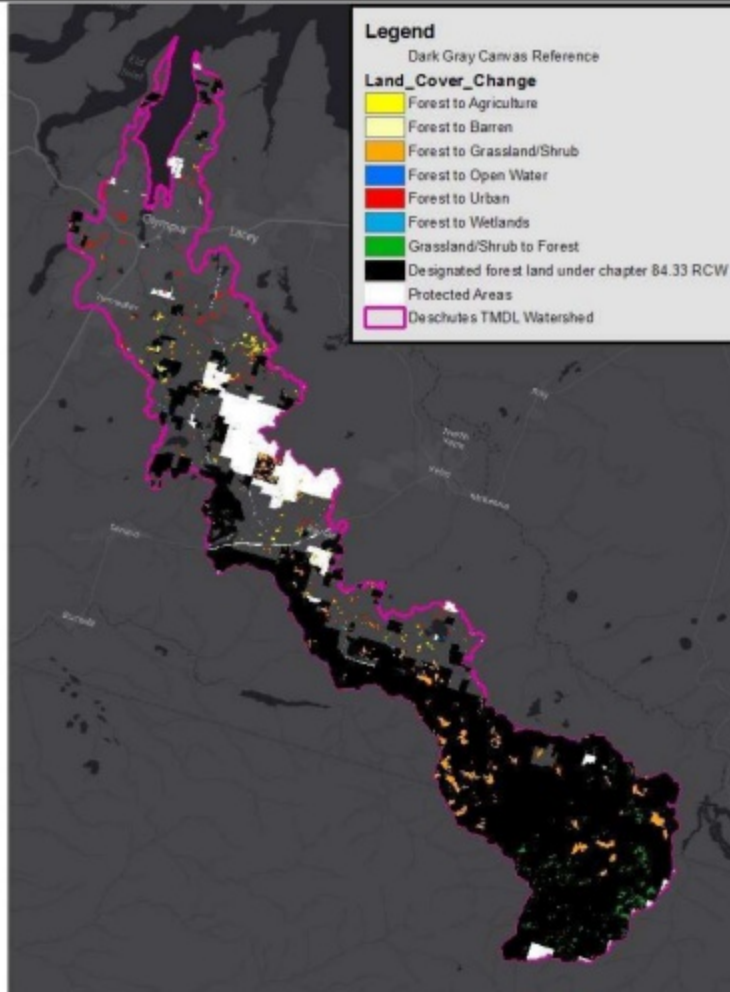
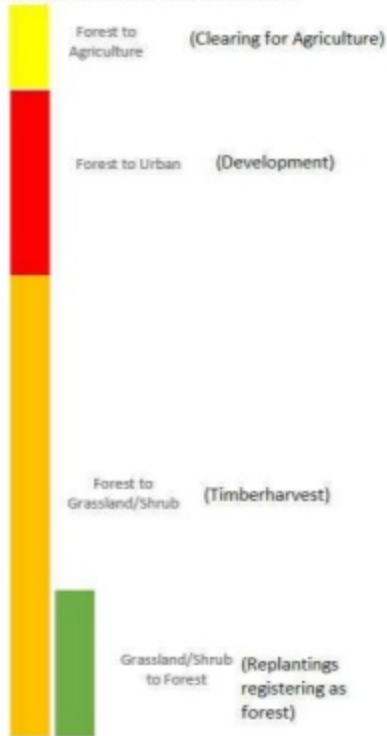


- Ownership of land in the watershed by category on the left; timberlands for logging are in orange



- 1992-2001 forestry activity in the Deschutes watershed; the graph on the left shows loss (left bar) and regrowth (right bar)

NLCD 1992-2001 Changes in Forestcover for the TMDL Deschutes

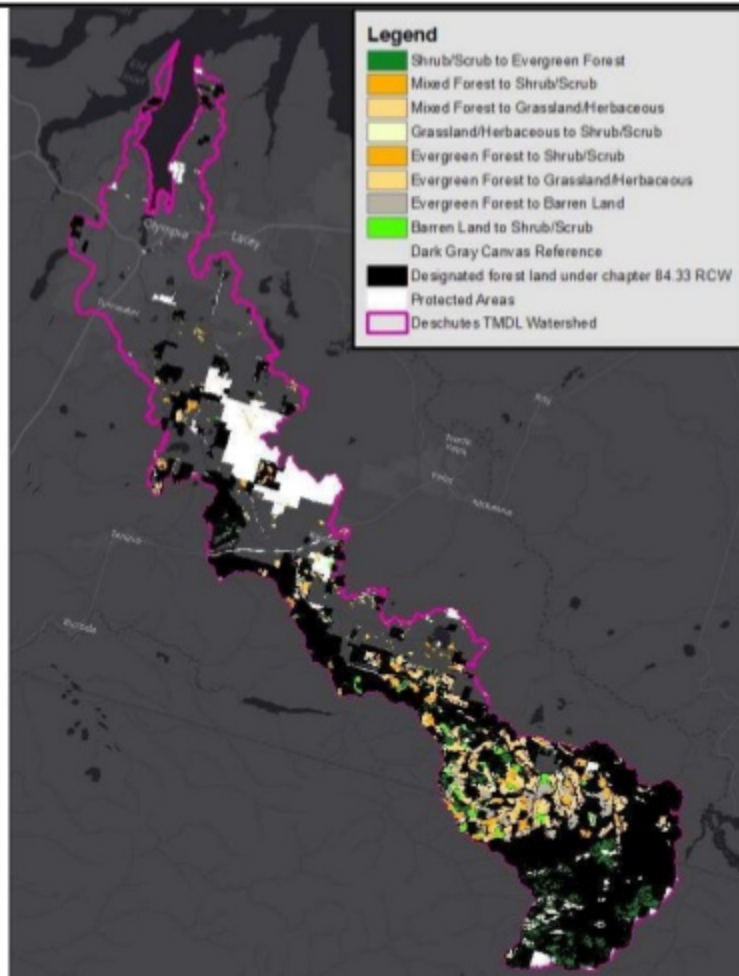
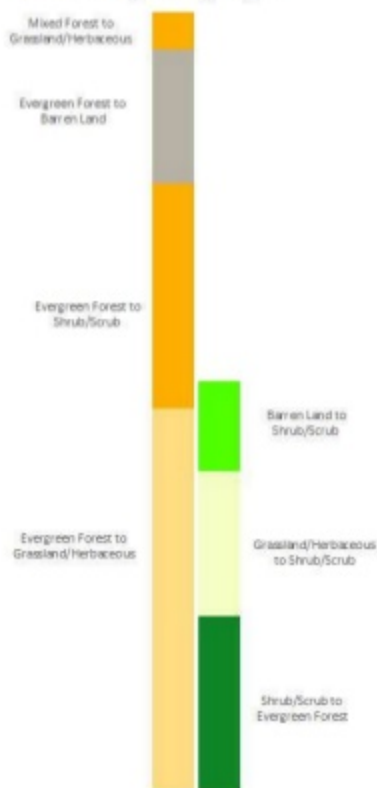


30 x 30 meter pixels	Land_Cover_Change
10043	Forest to Grassland/Shrub
4086	Forest to Urban
3193	Grassland/Shrub to Forest
1803	Forest to Agriculture
416	Forest to Wetlands
244	Grassland/Shrub to Urban
99	Forest to Barren
78	Open Water to Wetlands
71	Grassland/Shrub to Wetlands
60	Grassland/Shrub to Agriculture
58	Barren to Wetlands
46	Open Water to Urban
44	Barren to Open Water
27	Agriculture to Urban
26	Open Water to Forest



- 2001-2011 forestry activities in the Deschutes watershed; the graph on the left shows loss (left bar) and regrowth (right bar); generously including intermediary stage “shrub/scrub”; logging intensity has increased in the past ten years!

**NLCD 2001-2011  
Leading Landuse Changes  
Dominated by Forestry Stages**

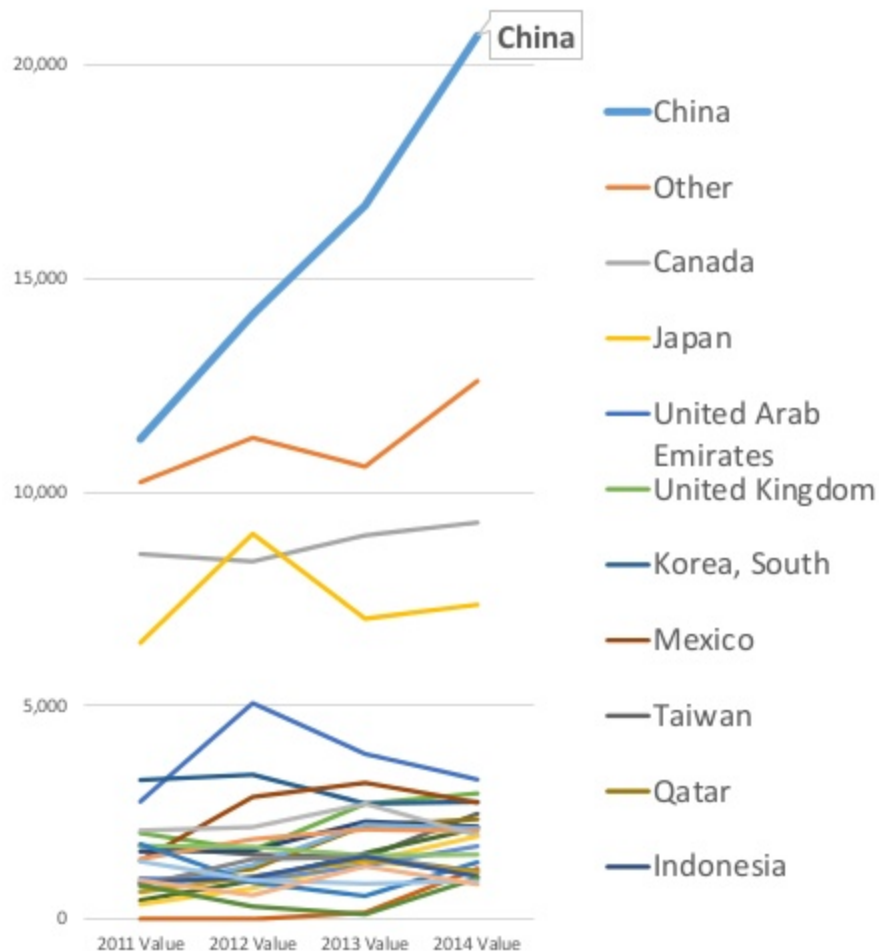


30 x 30 meter pixels	F2001_2012
20140	Evergreen Forest to Grassland/Herbaceous
11829	Evergreen Forest to Shrub/Scrub
9373	Shrub/Scrub to Evergreen Forest
7801	Grassland/Herbaceous to Shrub/Scrub
7081	Evergreen Forest to Barren Land
4746	Barren Land to Shrub/Scrub
1992	Mixed Forest to Grassland/Herbaceous
1685	Developed, Open Space to Developed, Medium Intensity
1182	Developed, Low Intensity to Developed, Medium Intensity
1038	Mixed Forest to Shrub/Scrub

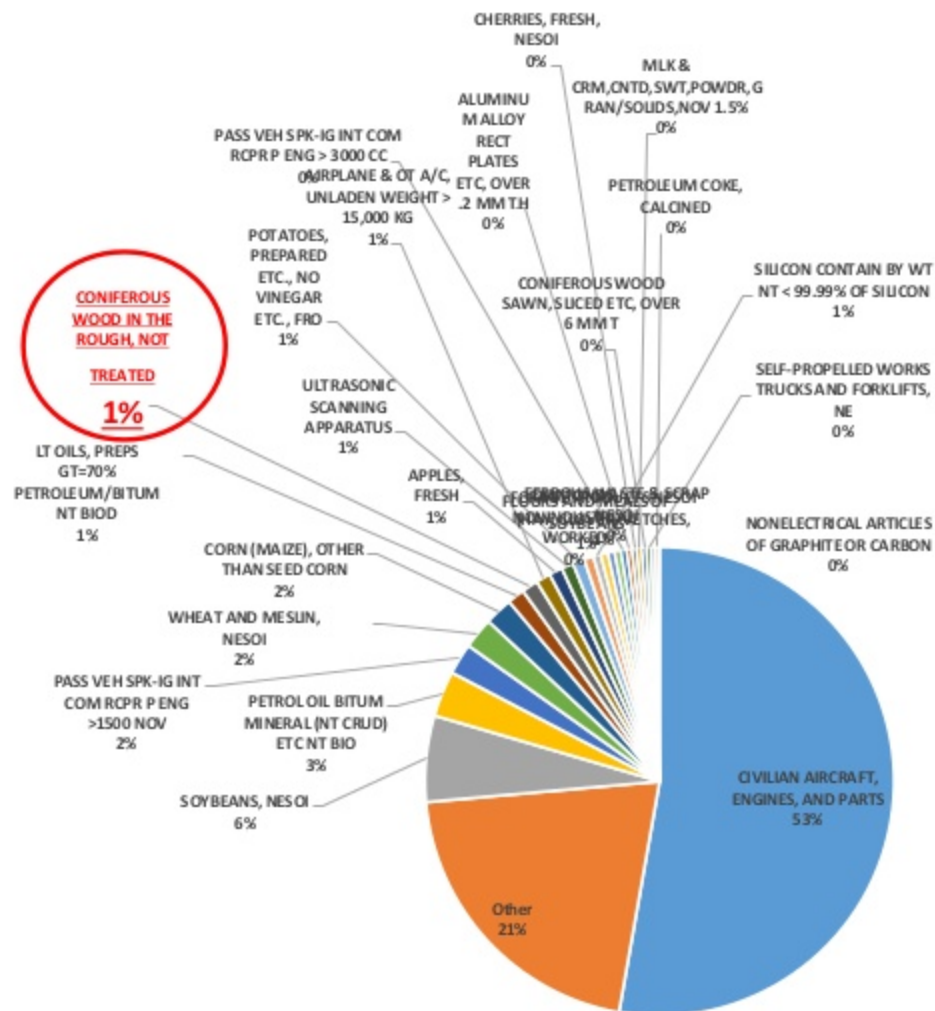




Destinations for Washington State Exports (mm\$)



Value of Timber as an Export of Washington State

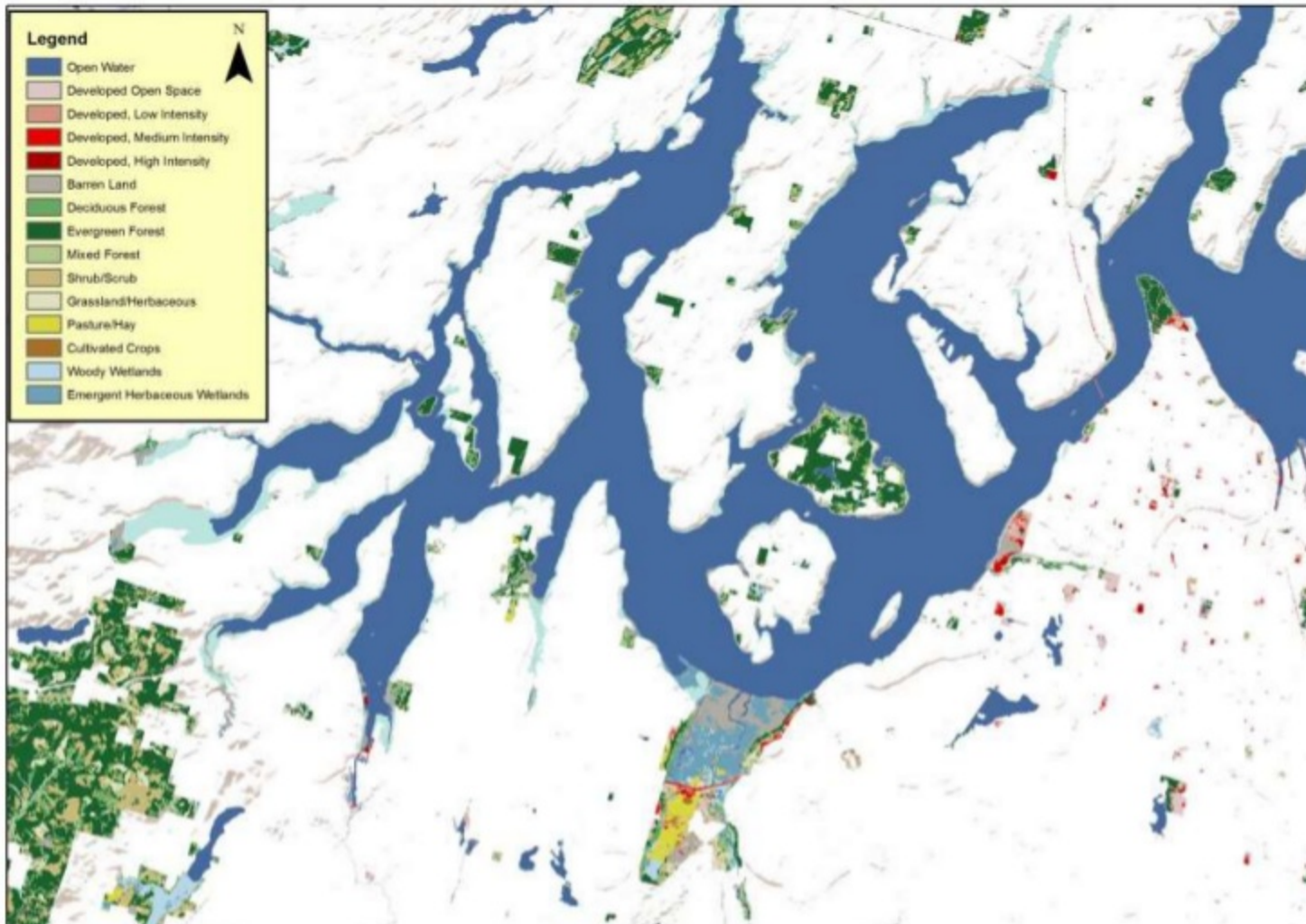


# A New Hope: The Rebellion

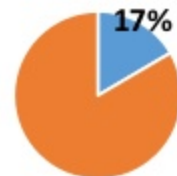
- Protect Critical Areas
- Restoration
- Zoning
- Conservation Acquisitions
- Public Funding
- Participatory GIS/Digital Democracy/Public Governance







Percent of Watershed that is "Protected or Public" Land



- Relative strength in terms of land protections and limitations on development given Nisqually NWR, Capitol Forest, and Joint Base Lewis McChord; what other ecosystem should be strategically protected?

- Park acquisition strategy can be anthropocentric (left) where we see “park deserts” where dense populations (red) outside of a sensible walking distance buffer (light green) from public lands (green); or an ecological priority approach (right) where undeveloped land next to protected ecosystems can be identified

