

STATE OF THE SANDY



**Sandy River Basin
Watershed Council**

Working together to restore the Sandy River

Bolstering Resiliency in a Decade of Post-dam Restoration

Steve Wise

Katherine Cory

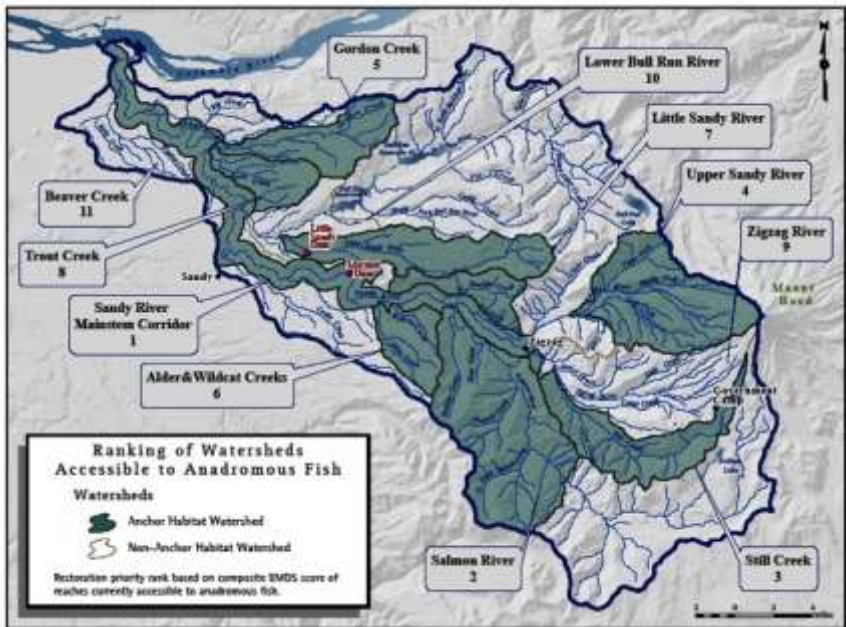
April 12, 2018

**Columbia River Estuary
Conference**



SANDY RIVER

watershed council



Mission—To restore and protect the natural, cultural, and historic resources of the Sandy River basin

Photo: Josh Kling, Western Rivers Conservancy

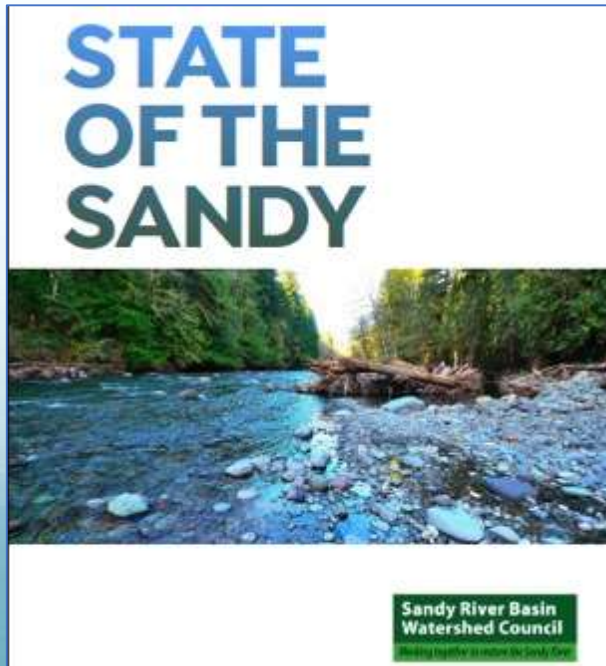


Sandy River Basin Partners



State of the Sandy

- 10 year progress review: Dam removal; restoration; fish; people
- ‘Seven steps’ toward a healthy future



Sandy Undammed



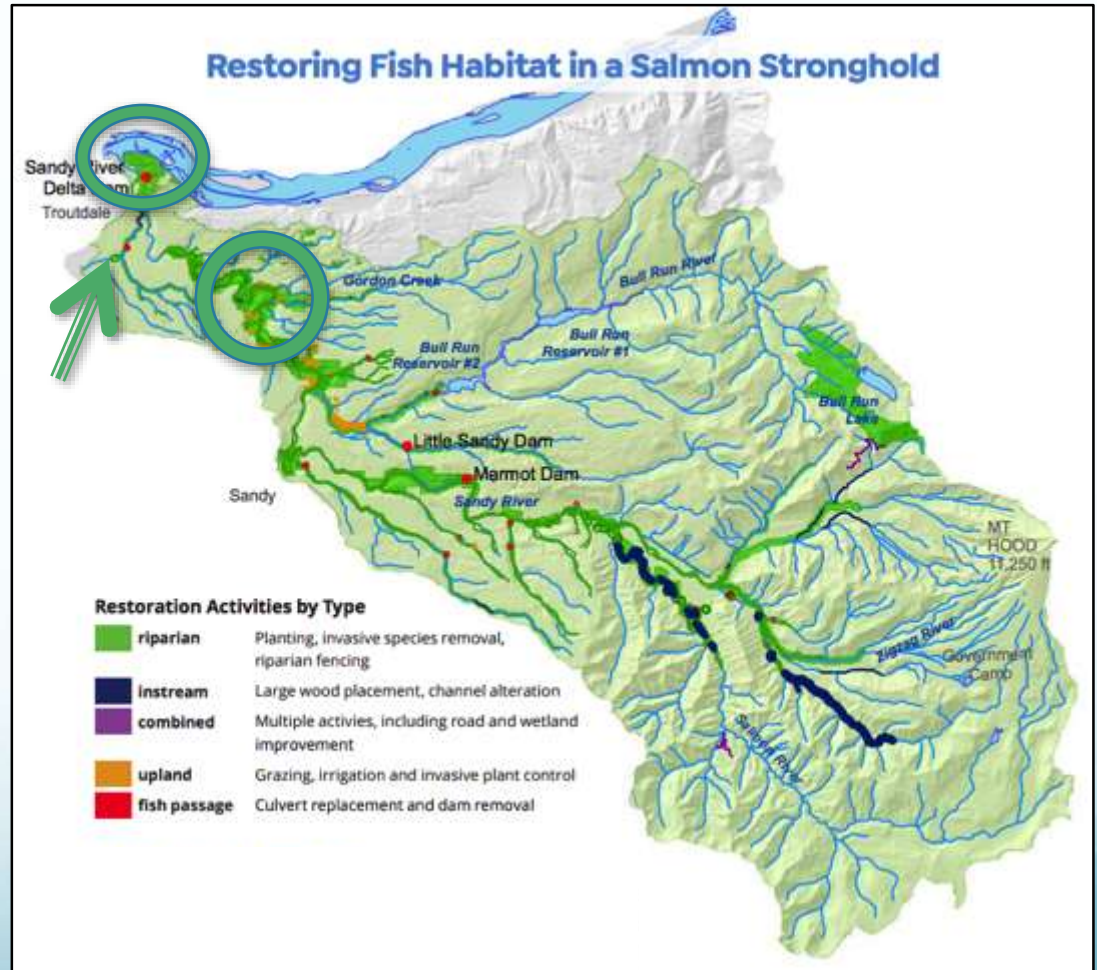
Restoration Actions

- Prioritized sub-basins
- Actions addressing limiting factors
- In-stream complexity, riparian, passage/floodplain connectivity, others



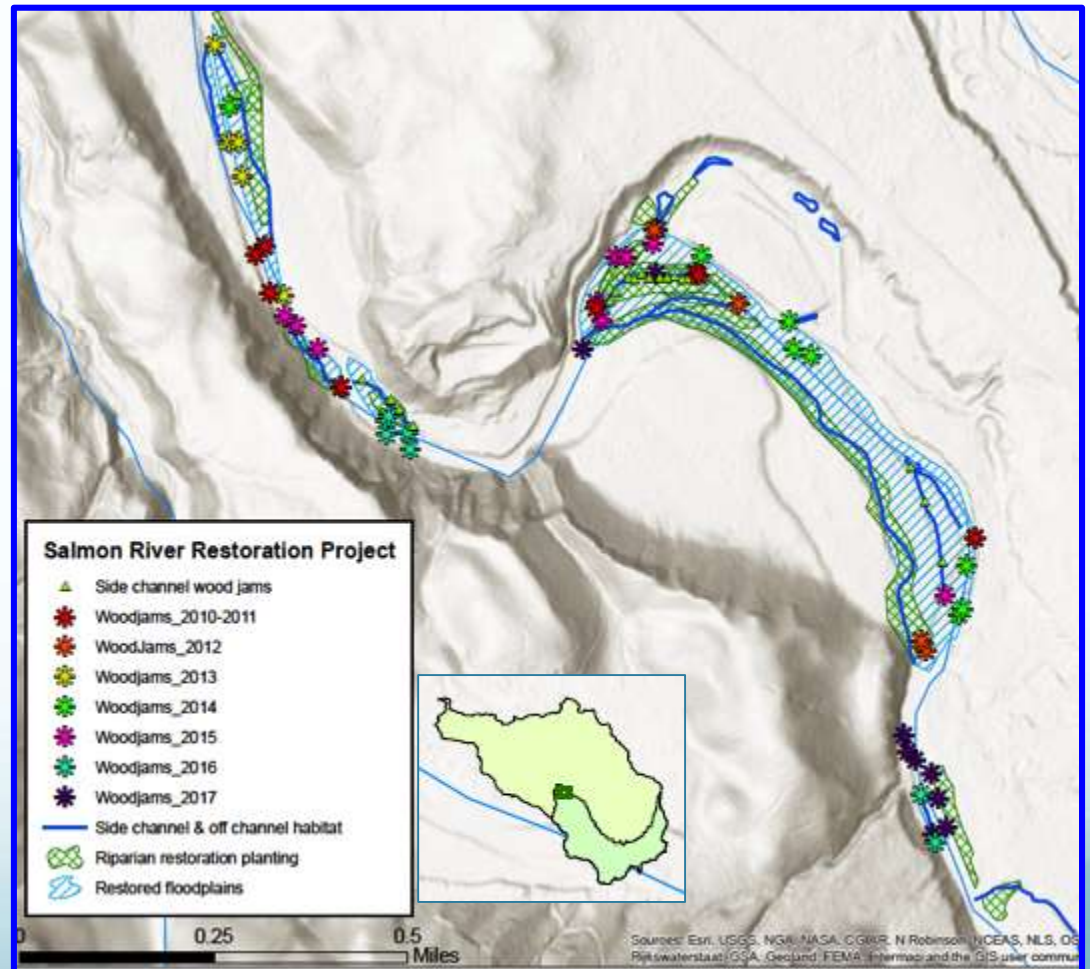
Sandy and the Estuary

- Sandy Delta (and its working partners)
 - Lower Columbia Estuary Partnership
- Oxbow side channels (sea lions reported)
- Beaver Creek Partnership and Mt Hood Community College Salmon Safe Retrofit



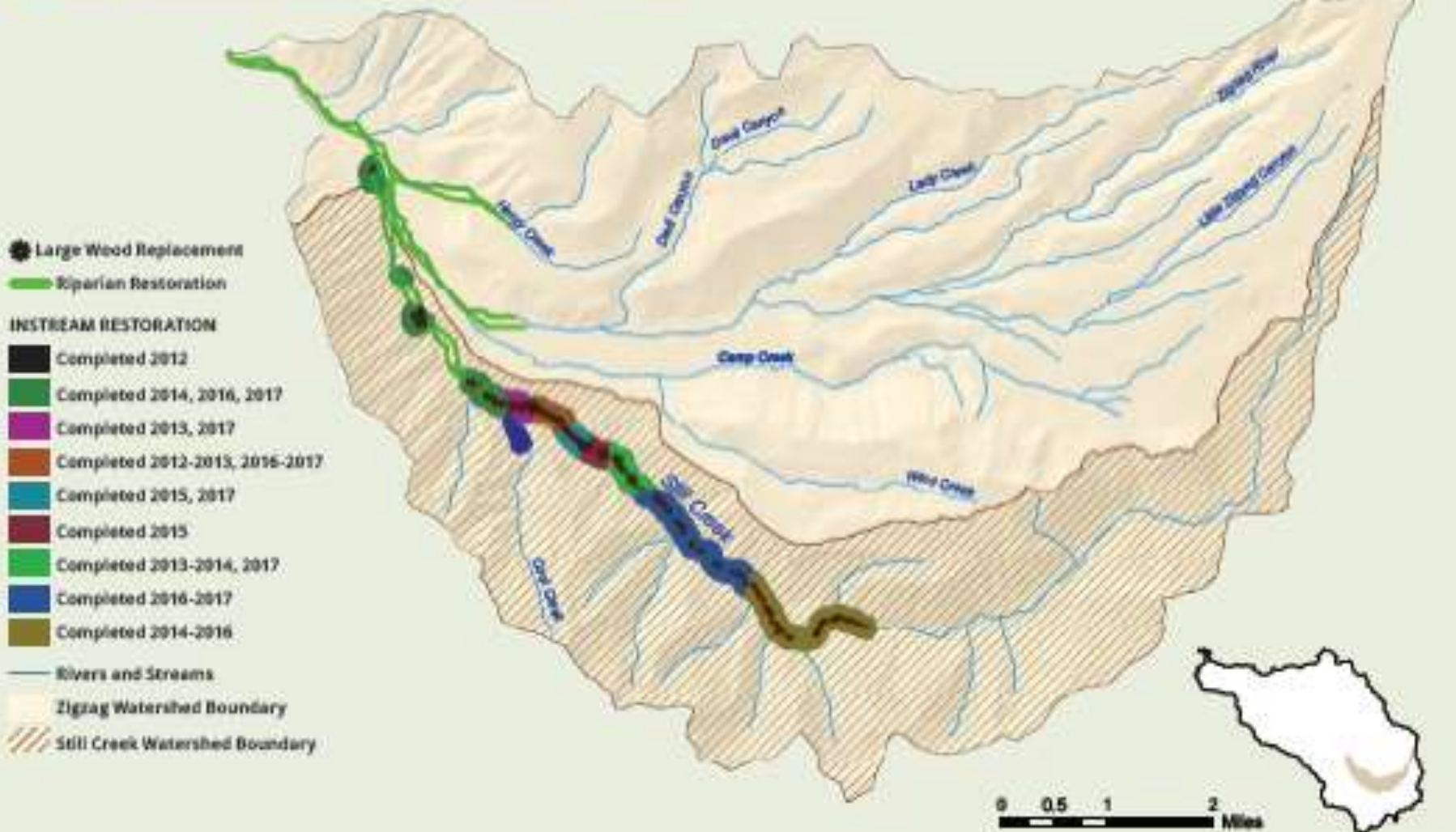
Subbasin Priority: Salmon River

- 2.1 side channel miles restored in 2.5 mile reach
- 67 logjams, ~2000 large wood pieces
- Increased juvenile, spawning densities



Subbasin Priority: Still Creek

Still Creek Restoration 2012-2017



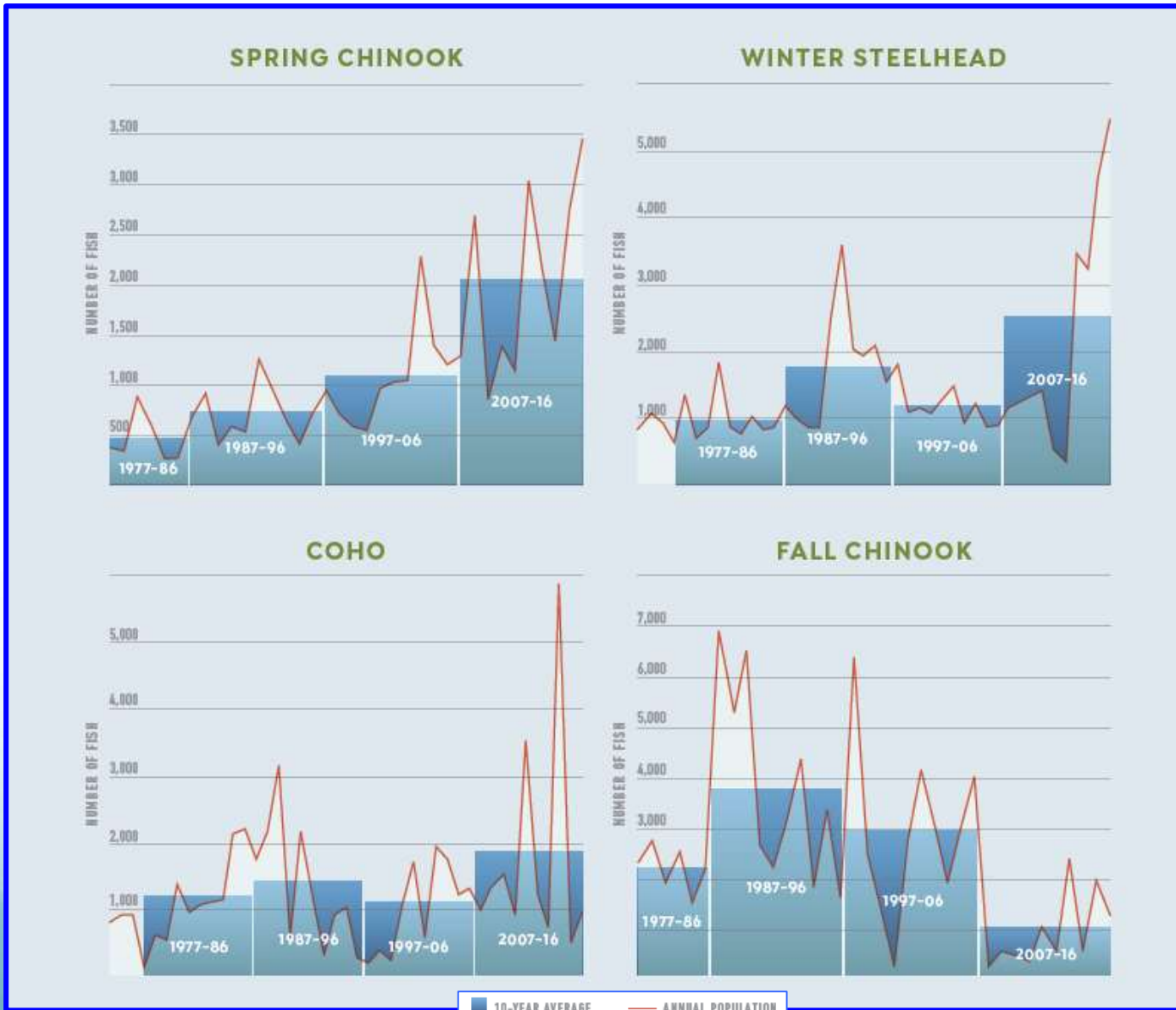
Monitoring:

Biological (+ social) Response



Columbia Land Trust
CONSERVING THE NATURE YOU LOVE

'Fish? Don't Go There'

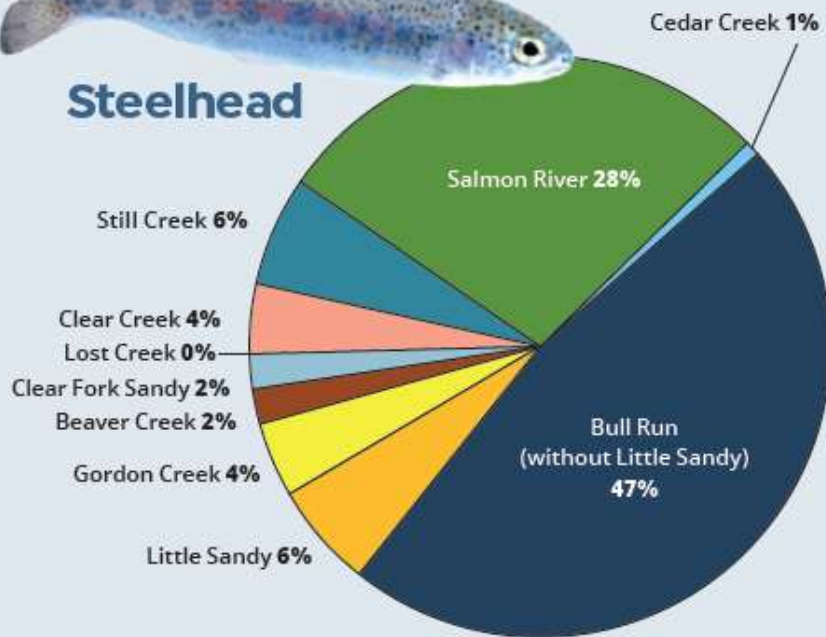


'Fish? Don't Go There' pt 2

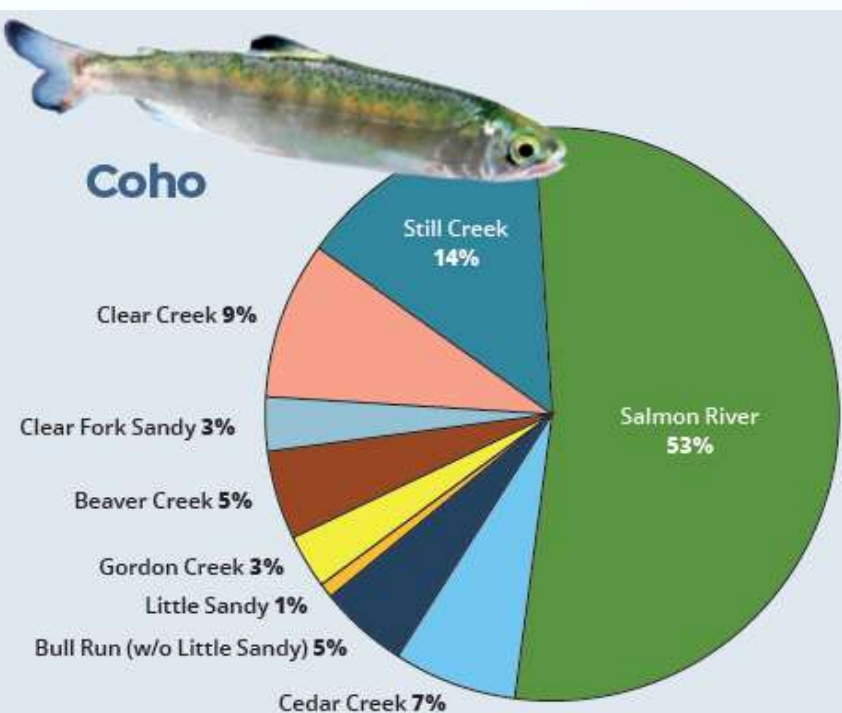
Where are Smolts Coming From?



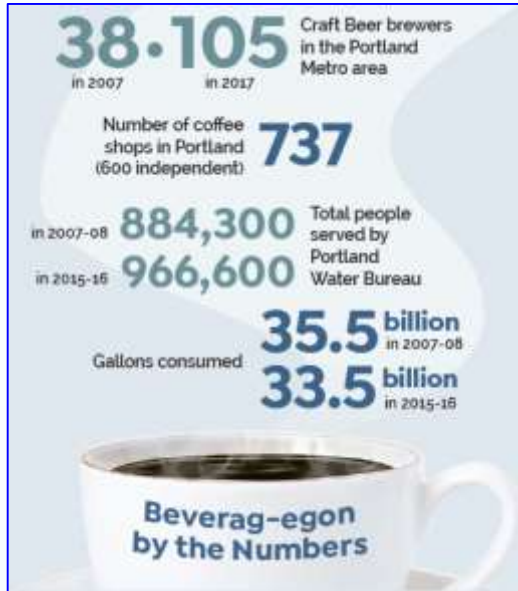
Steelhead



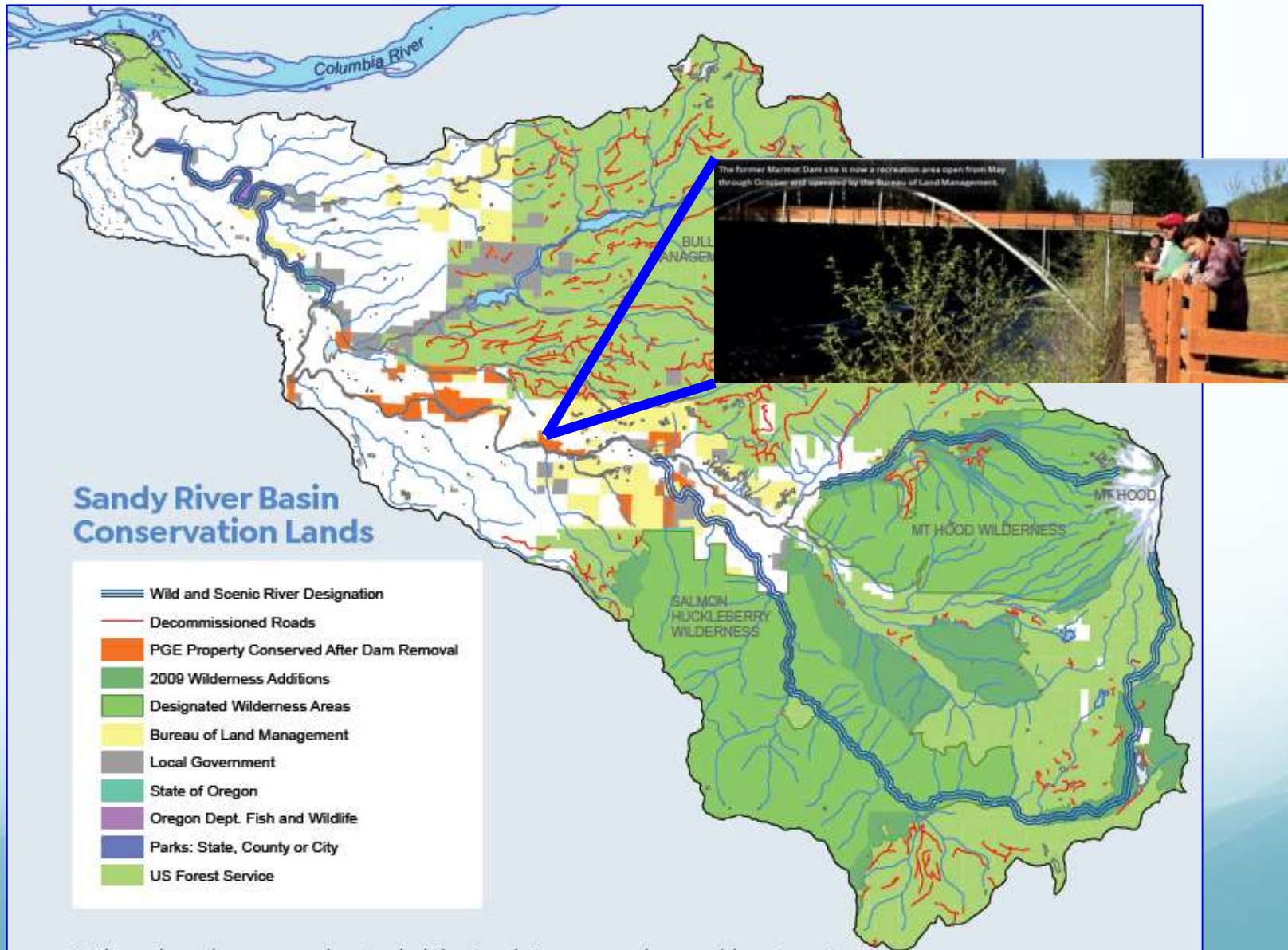
Coho



People, Culture, Conservation



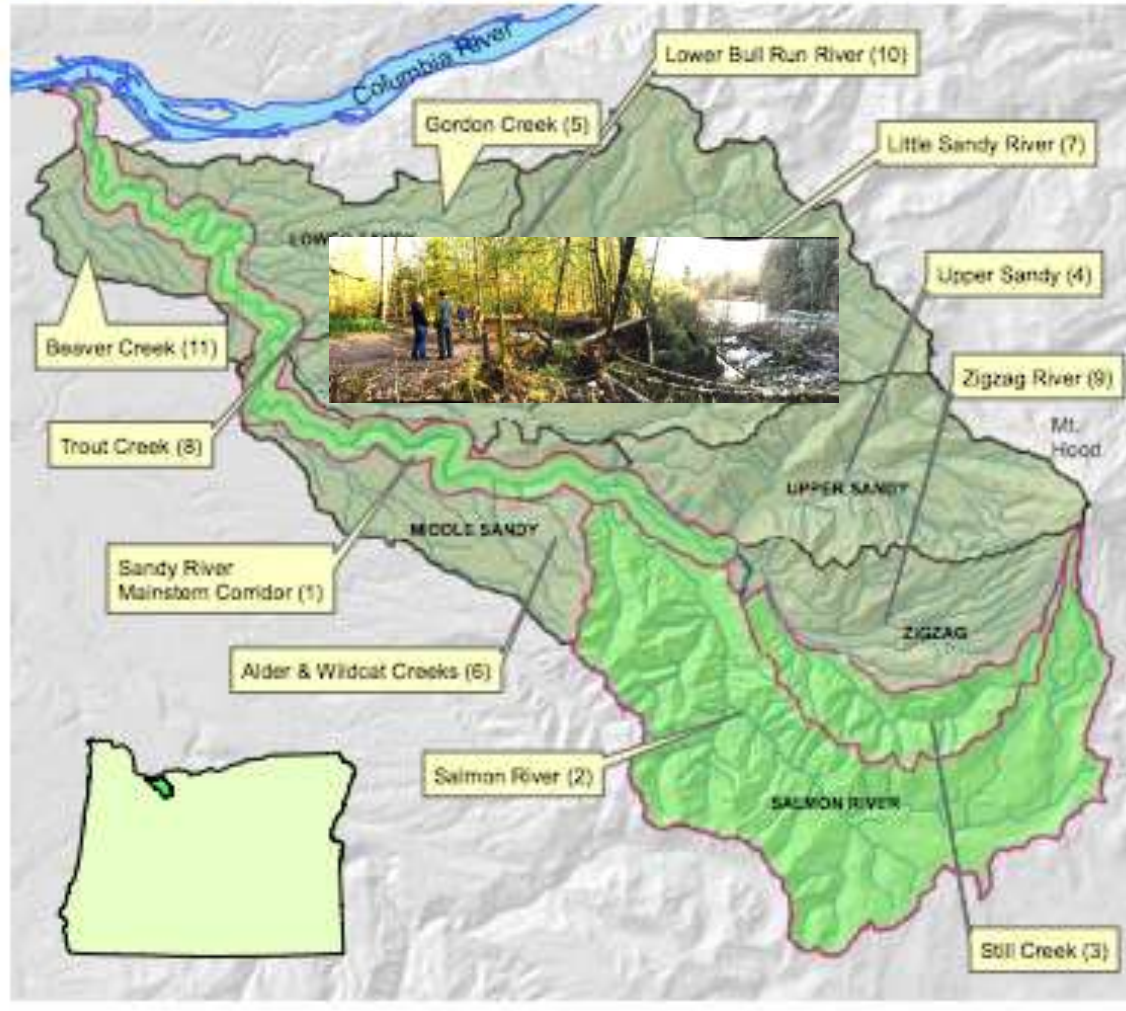
Conservation Lands



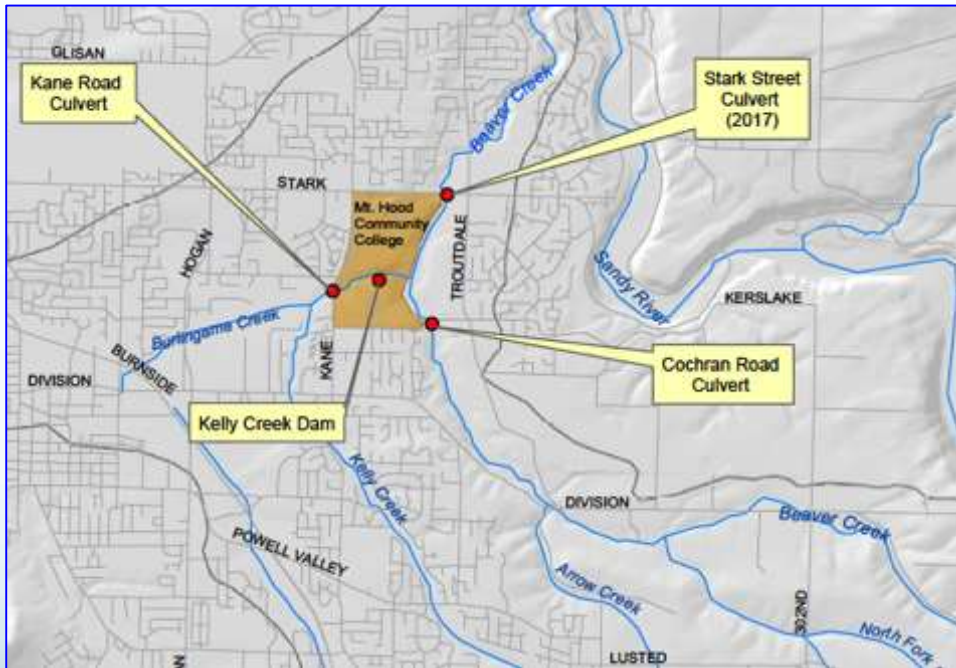
Seven Steps:

Next Priority Restorations

Priority Subbasins



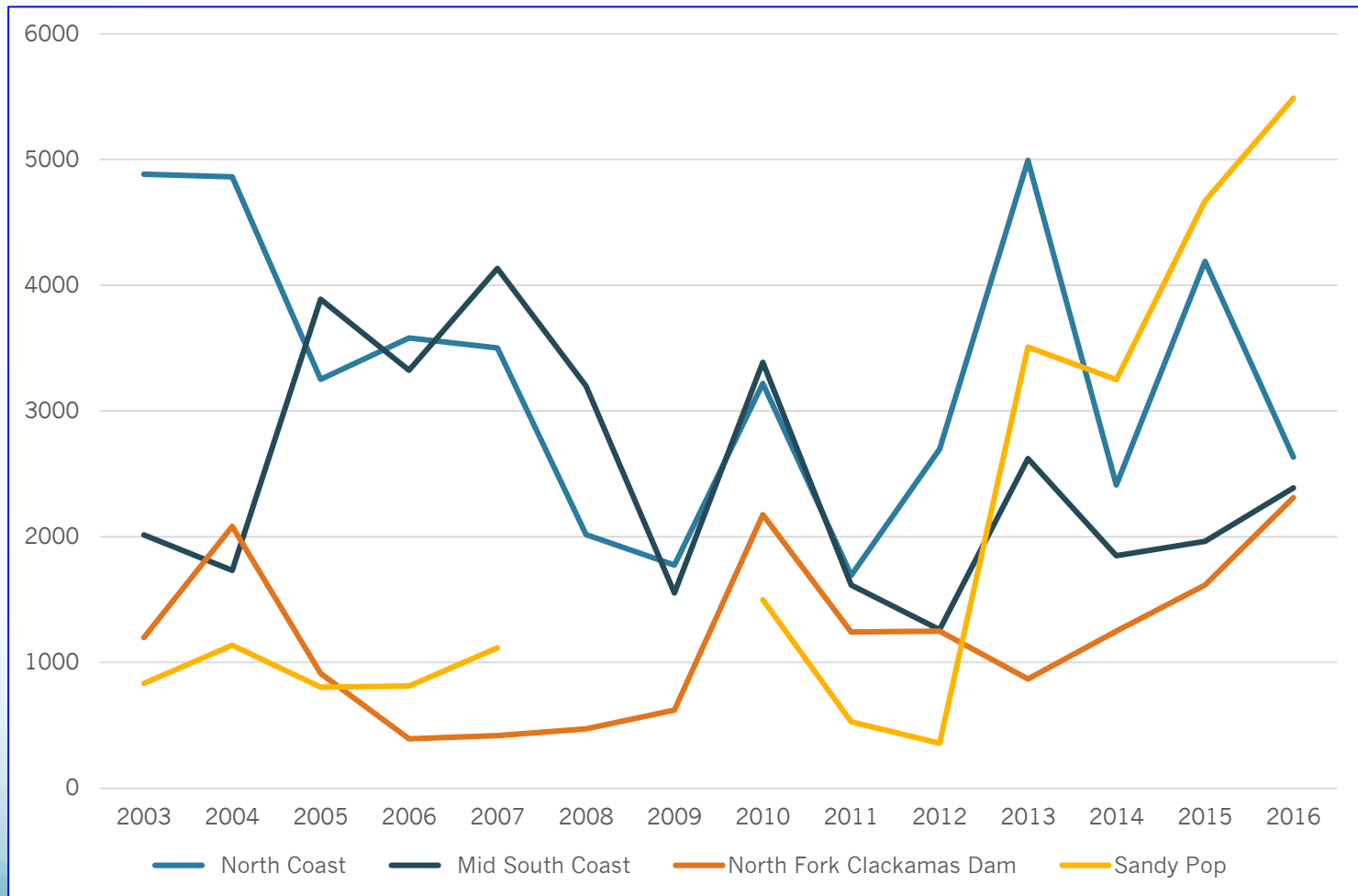
Seven Steps: (More) Rites of Passage



Imagine Salmon...

Seven Steps:

Digging Into Sandy Science

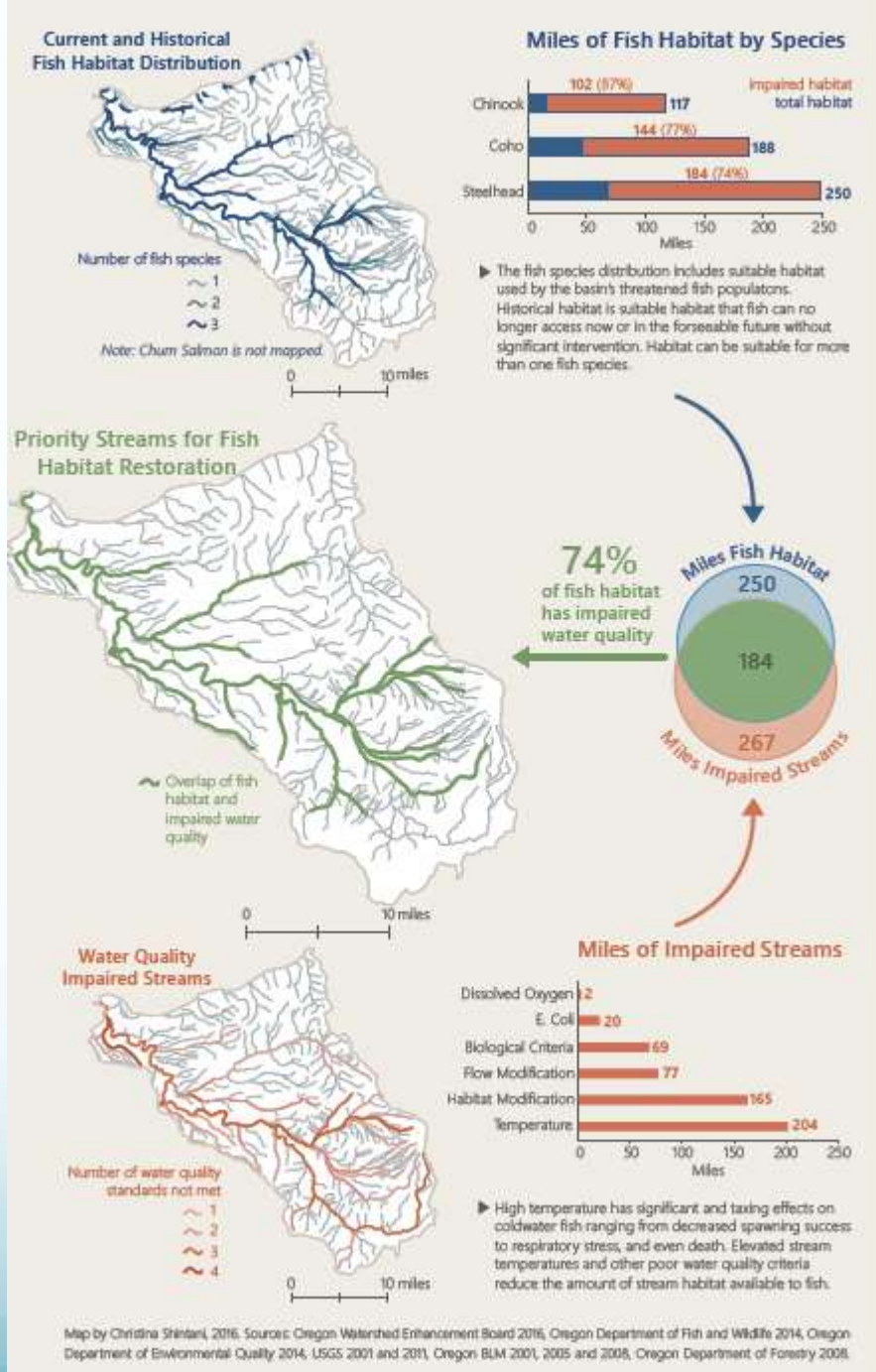


Steelhead Comparison
(ODFW adjusted proportional data)

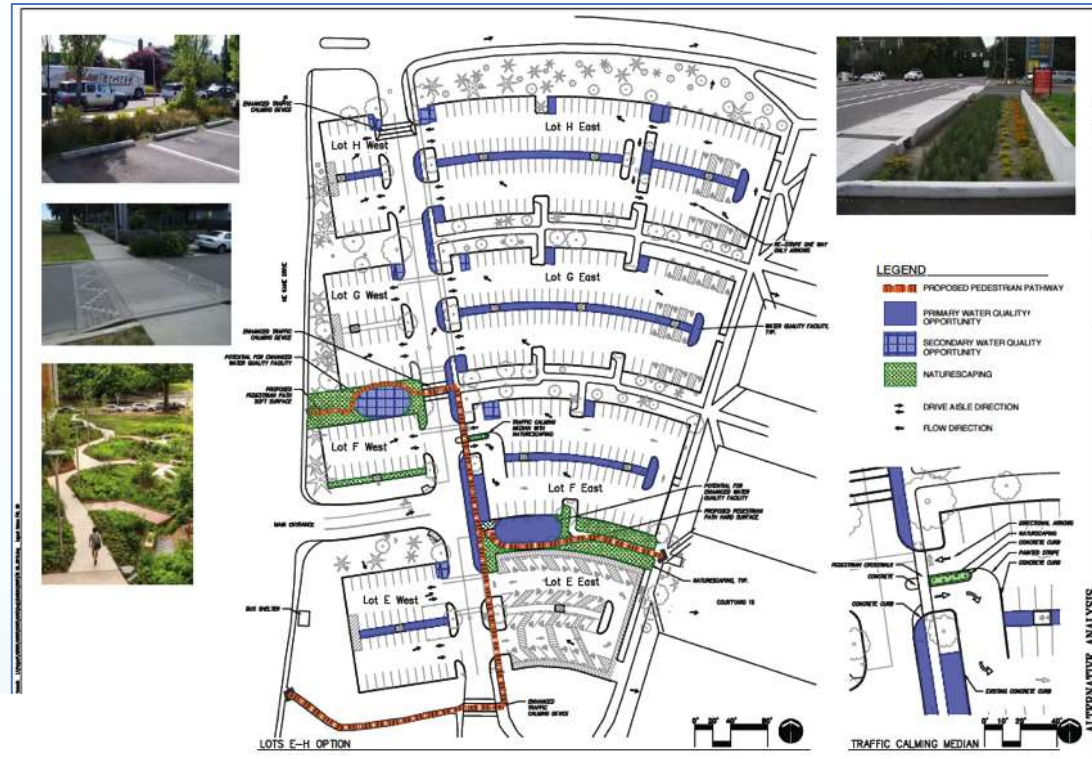
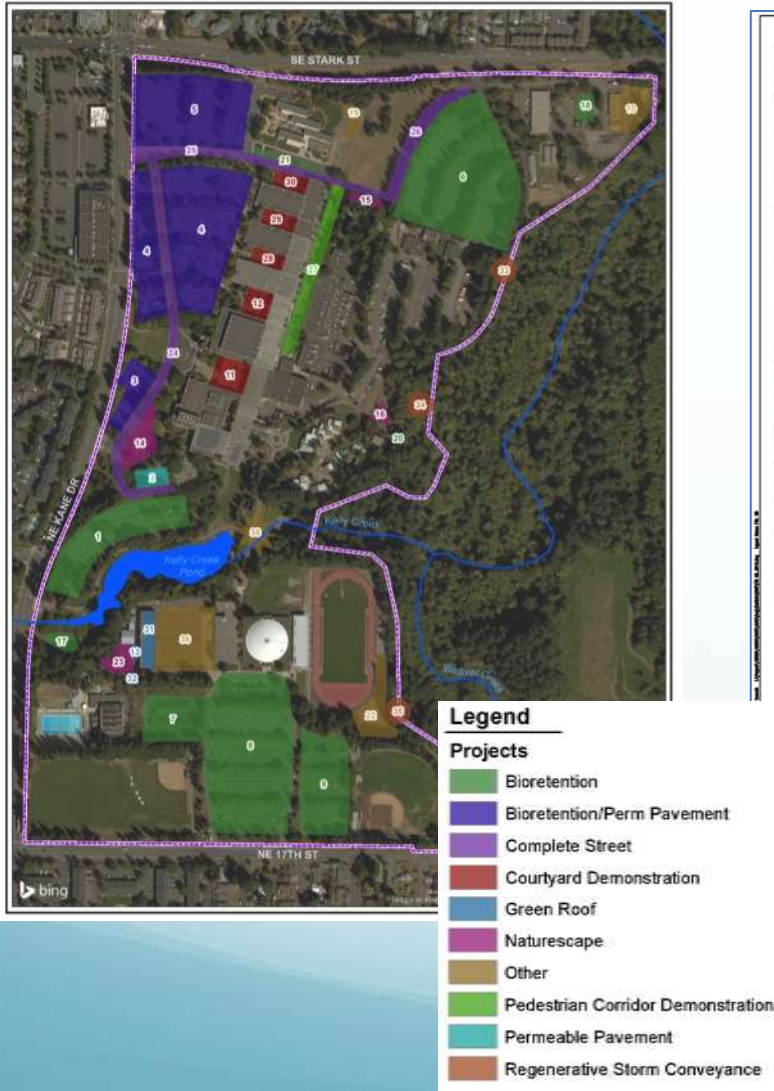
Missing Pieces

- Stream temperature profiles
- Sub-basin adult return analyses
- Demographics: distribution, age, ethnicity

Map by Christina Shintani



Seven Steps: Coping with Urban Impacts



MHCC Salmon Safe Retrofit

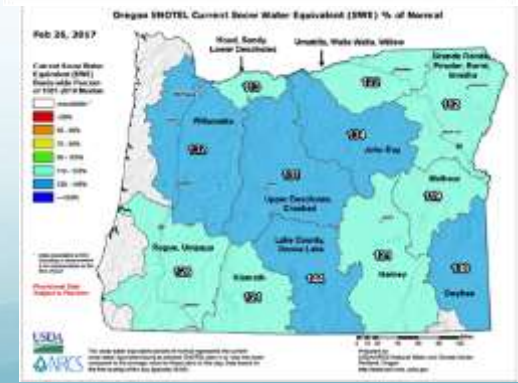
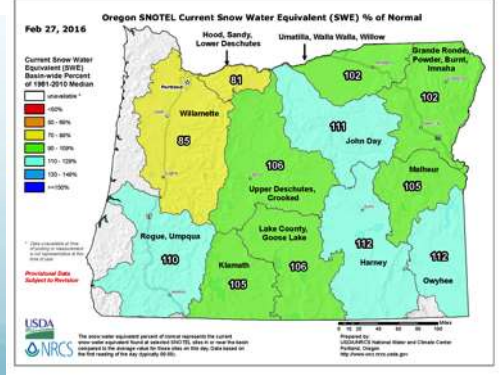
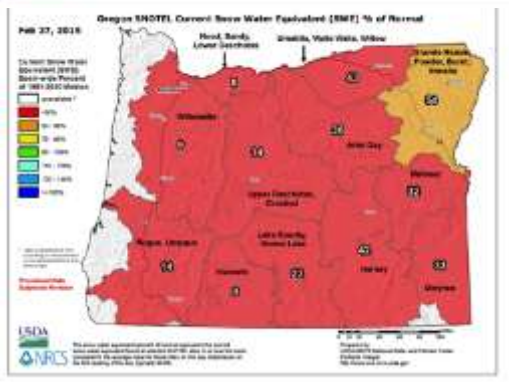
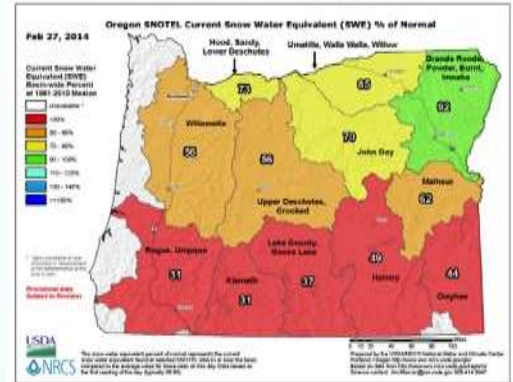
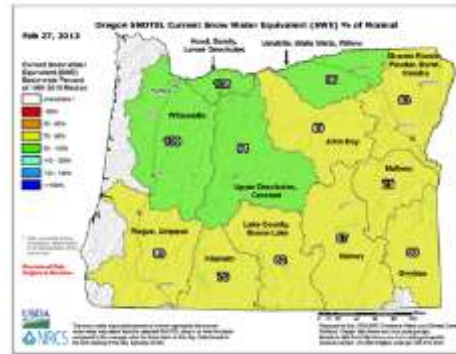
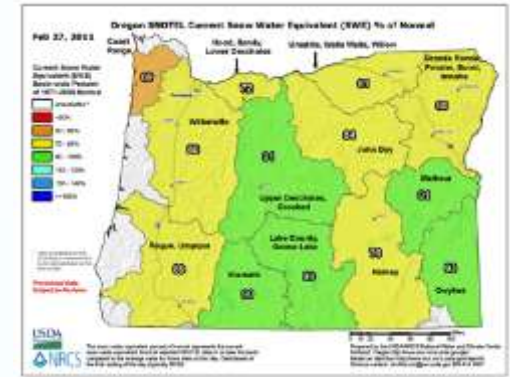
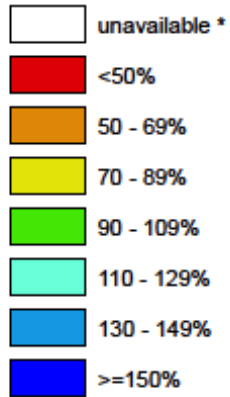
24 projects

1 Billion gallon intercept goal

Seven Steps:

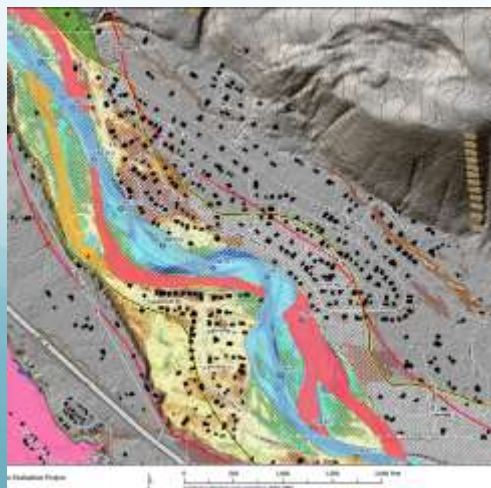
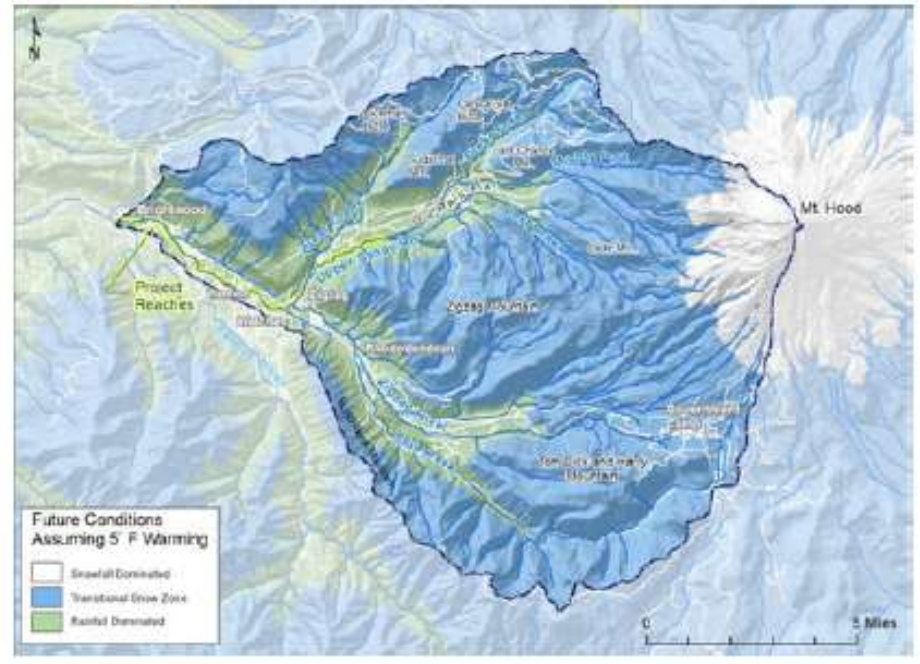
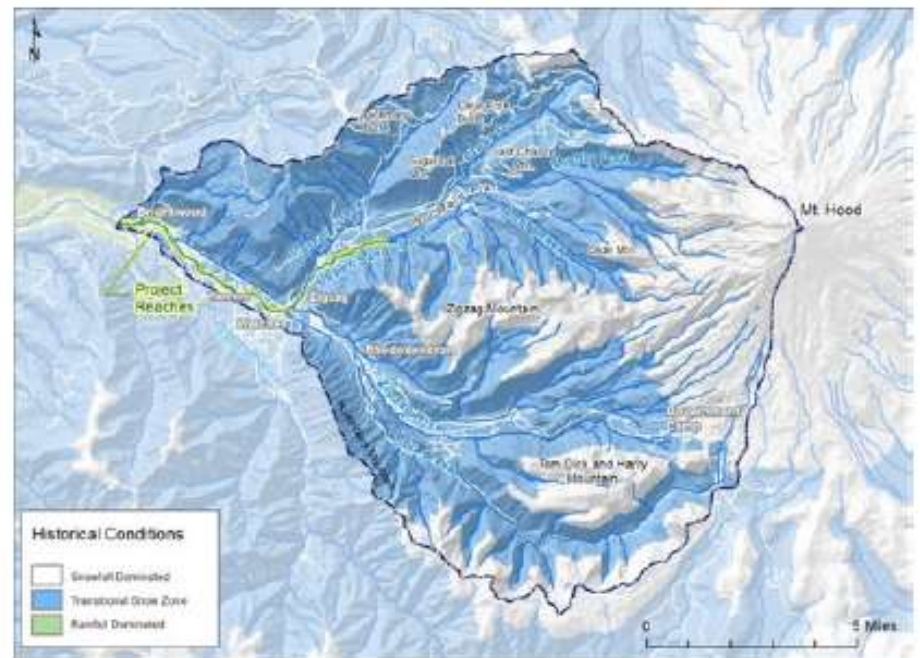
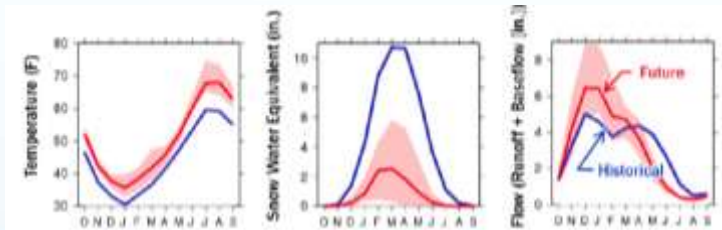
Climate Adaptation

Current Snow Water Equivalent (SWE) Basin-wide Percent of 1981-2010 Median



Hydrology 2080

- Shifting snow levels – 8% snow dominant vs 45% current
- 20+% increased storm intensity
- Additional debris from retreating glaciers
- Infrastructure risk: 450 houses w/in channel migration hazard zone



DOGAMI (2011) Channel Migration Hazard Delineation from Open File Report O-11-13

- Channel Migration Zone (CMZ)
- Historical Migration Zone (HMZ)
- Avulsion Hazard Zone (AHZ)
- Erosion Hazard Area (EHA)
- Disconnected Migration Area (DMA)

CMZ = HMZ+AHZ+EHA-DMA

Natural Systems Design Delineation (2014)

- Channel Migration Zone (CMZ)
- Avulsion Hazard Zone (AHZ)



Seven Steps:

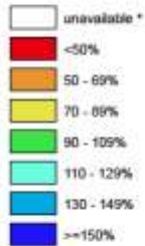
Climate Adaptation This Week

Oregon SNOTEL Current Snow Water Equivalent (SWE) % of Normal

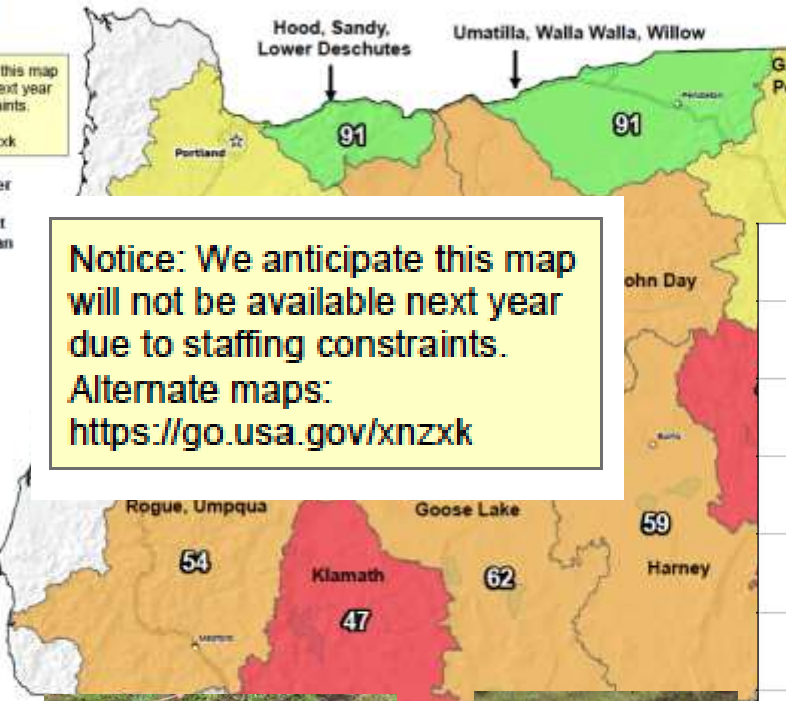
Apr 09, 2018

Notice: We anticipate this map will not be available next year due to staffing constraints. Alternate maps: <https://go.usa.gov/xnzxk>

Current Snow Water Equivalent (SWE) Basin-wide Percent of 1981-2010 Median



Notice: We anticipate this map will not be available next year due to staffing constraints. Alternate maps: <https://go.usa.gov/xnzxk>

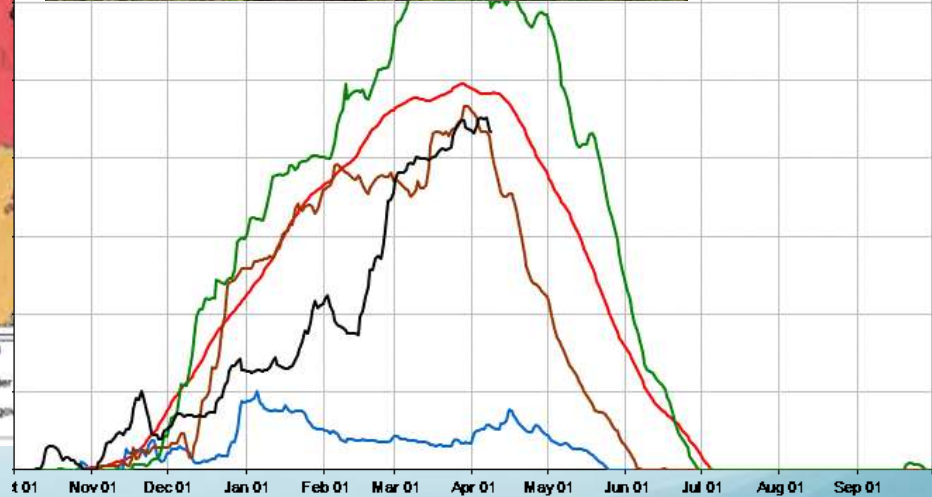


* Data unavailable at time of posting or measurement is not representative at this time of year

Provisional Data Subject to Revision



The snow water equivalent is compared to the first year

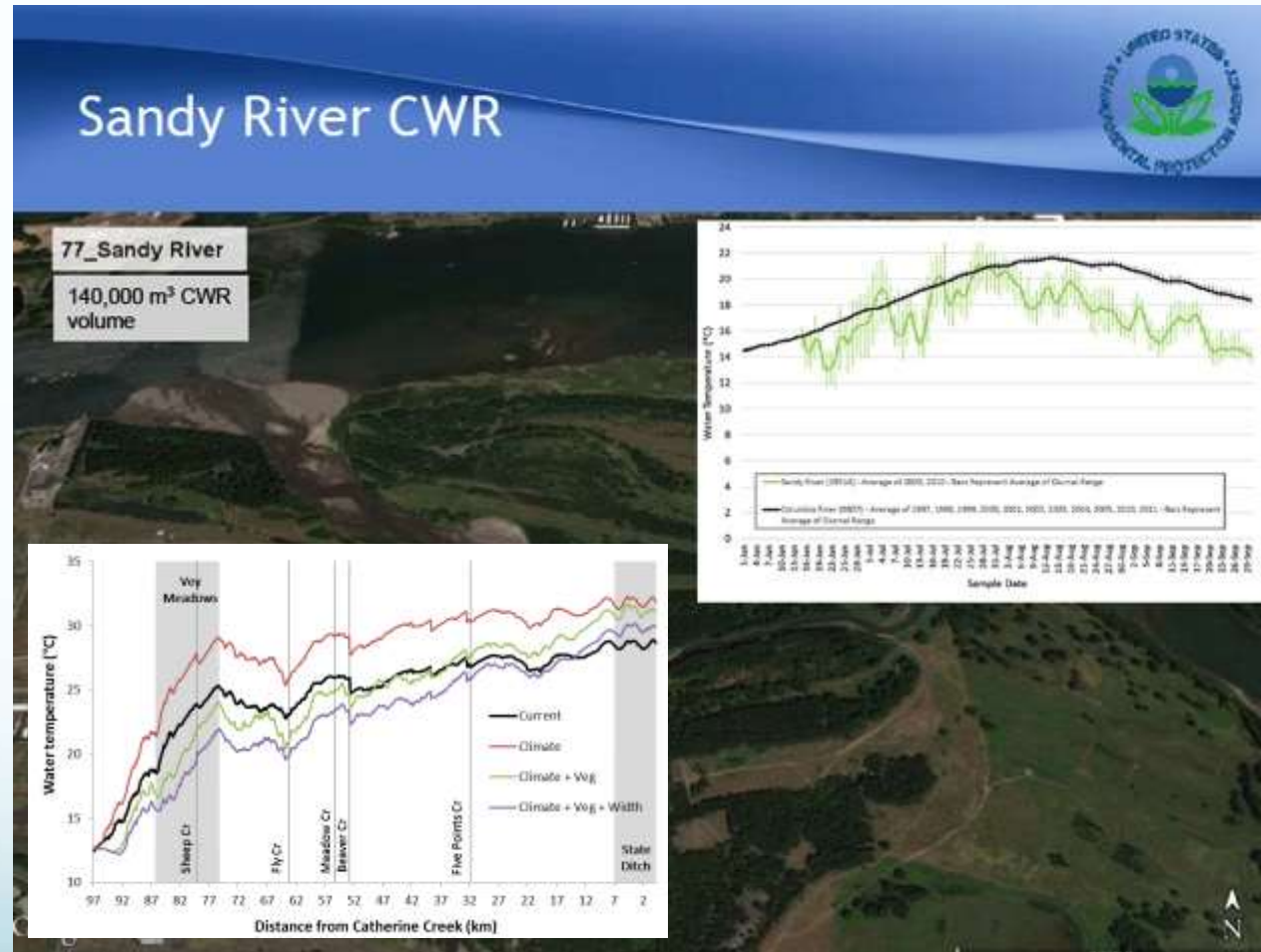


— Median — WY2015 — WY2016 — WY2017 — WY2018



Cold Water Refuge

- EPA study: Sandy 2-3 degrees cooler than Columbia
- CRITFC study: intensive instream + riparian planting can temper climatic stream heating
- Conservation plan under development



Median temperature change
(Climate + Veg + Width) = -2 °C
Justice, White and McCullough



Seven Steps:
Not Just for Fish

44

Rare, Threatened,
and Endangered
Species known in
the Sandy



Yellow-billed cuckoo



Seven Steps:

Fellowship of the Undammed

	2017	2016
Volunteers	2994	1834
Events	82	37
Value	\$125,712	\$94,942



Thank You / For More Info

www.sandyriver.org



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