50 years of Science Stewardship Service

NOAA FISHERIES

Oregon-Washington
Coastal Area Office
Willamette Branch

Restoration Priorities for Willamette River Salmonids

State of the Willamette
Anne Mullan
January 15-16, 2020

NOAA roles for ESA Willamette Salmonids

- Listed as threatened, designated critical habitat
- Recovery Plan in 2011, 5 year status→2020
- Restoration Center and PCSRF funding
- Consulting on **Federal** actions [Section 7, 4d, 10]
  - Programmatics, other Biological Opinions, Permits
- Scientific research, support
- Harvest limits, hatchery practices
- Monitoring: support for data collection

Other Federal Laws to protect fish & habitat

- Magnuson-Stevens Fishery Conservation and Management Act (Essential Fish Habitat)
- Rivers and Harbors Act (navigable rivers, 404 cert)
- Clean Water Act (temperature, contaminants, TDG)
- Federal Power Act (Clackamas passage & habitat)
- CERCLA Superfund (Portland Harbor, oil spills)
- Federal Highway Act (mitigation funds)
- Marine Mammal Protection Act (permits, protection)
- NEPA

Populations and habitat

PRIORITIES: key populations in protected habitat

GOALS:

- Focus on limiting factors, re-introduction & passage
- Monitoring: miles, area, riparian forests, fish counts

PROGRAMS

- Funding with partners, habitat focus
- Science of restoration, toxics, re-introduction

PERSPECTIVE

- Recovery and watershed health interconnected

Funding Opportunities: matching partner funds

- PCSRF: $65 million 2020 total (5 states); Oregon to OWEB
  - Prioritizes recovery actions for ESA; report to NMFS
- Restoration Center, grants.gov Proposals evaluated based on actions that will:
  1) help recover threatened and endangered species listed under the ESA;
  2) sustain or help rebuild fish stocks managed under the Magnuson-Stevens Act contribute to the sustainability of saltwater recreational fisheries.

Successful (pre)proposals will: 1) identify a **habitat-based issue/ concern** limiting the recovery or sustainability of one or more species targeted by the proposed restoration action;
2) describe in detail the habitat restoration project(s) 3) describe expected outcomes and measurable impact on target species & their ecosystem.

https://www.grants.gov/web/grants/view-opportunity.html?oppId=322357 **[closed on Jan 10, 2020]**
https://www.grants.gov/web/grants/manage-subscriptions.html

Top 10 PCSRF Willamette funds 2001-2018

Restoration (30%)

- Willamette Confluence, 2013-17
- Harkens Lake Restoration 2013-17
- Green Island Channel Restoration 2012-15
- Little Willamette Property Restoration 2012-17
- Sam Daws Landing and Snag Boat Bend Weed control, floodplain reforestation 2018-23
- Calapooia Santiam Riparian Reveg 2013-18
- Little Fall Cr Channel Enhancement 2013-15
- Summer Creek Conservation Project (Acquisition in Tualatin) 2009-10
- Staley Creek Floodplain Restoration (Middle Fork Willamette) 2016-18
- Clear Creek Restoration (Clackamas) 2017-20

*Combined fish passage and upland /riparian restoration

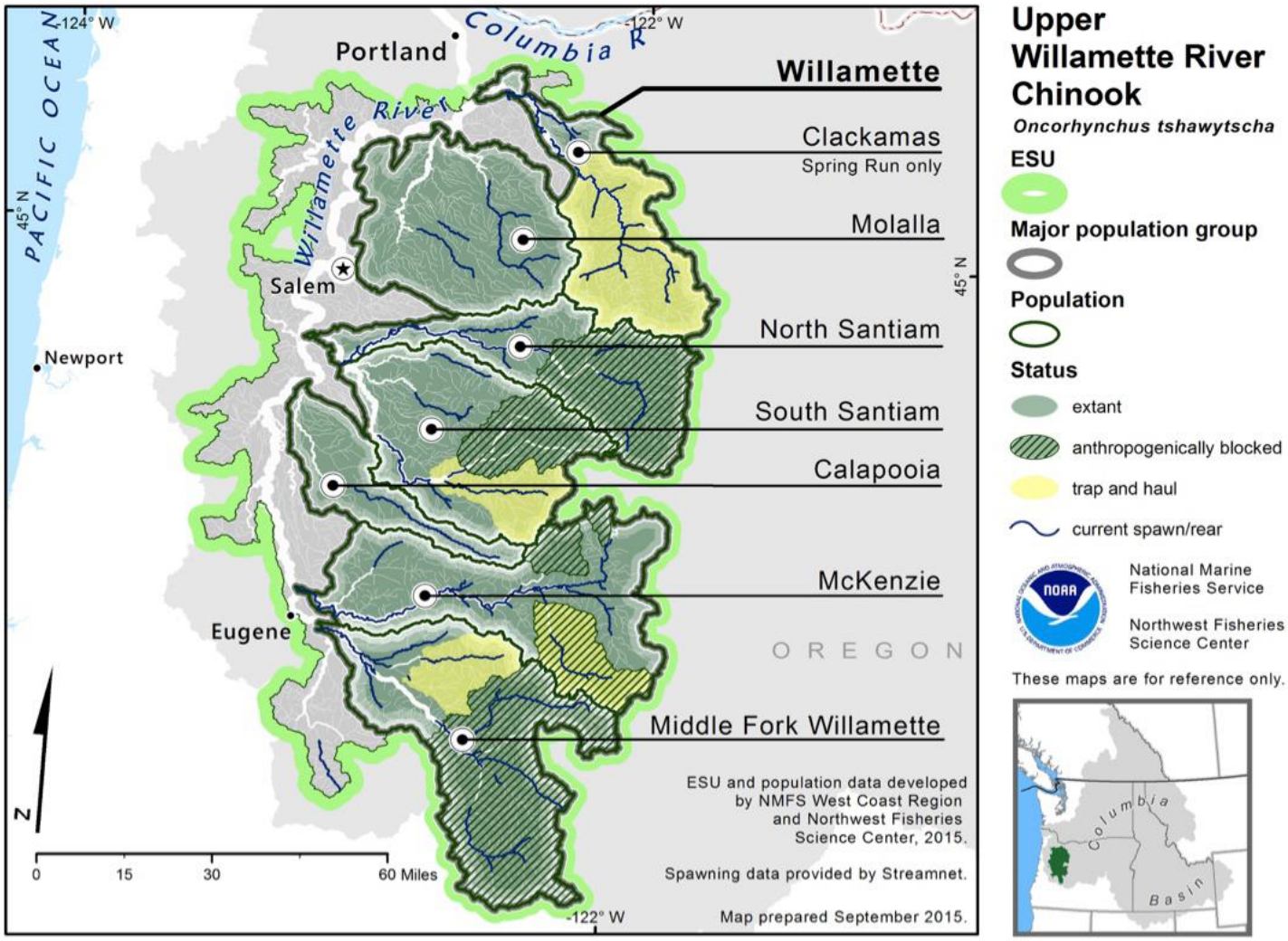
Passage (26%)

- ODFW Fish Screening & Passage Upper Willamette 2011-15
- Grand Ronde Tribes Fish Passage Improvement 2001-05
- Dart Creek Fish Passage Correction
- Clackamas Co 2002-3 Fish Passage Projects - Henry Creek, Gerber Road , Gibson Site, Howards Mill, Needy Road, Graves Road
- Oregon City 2003 Fish Passage Project
- EF Dairy Large Wood & Passage* 2018-21
- Crabtree Creek Fish Passage 2013-18
- Bird Haven Restoration* 2015-17
- Brownsville Dam Removal & Restoration* Calapooia River 2007-10
- Long Tom Passage & Restoration* 2003-09

What is limiting recovery?

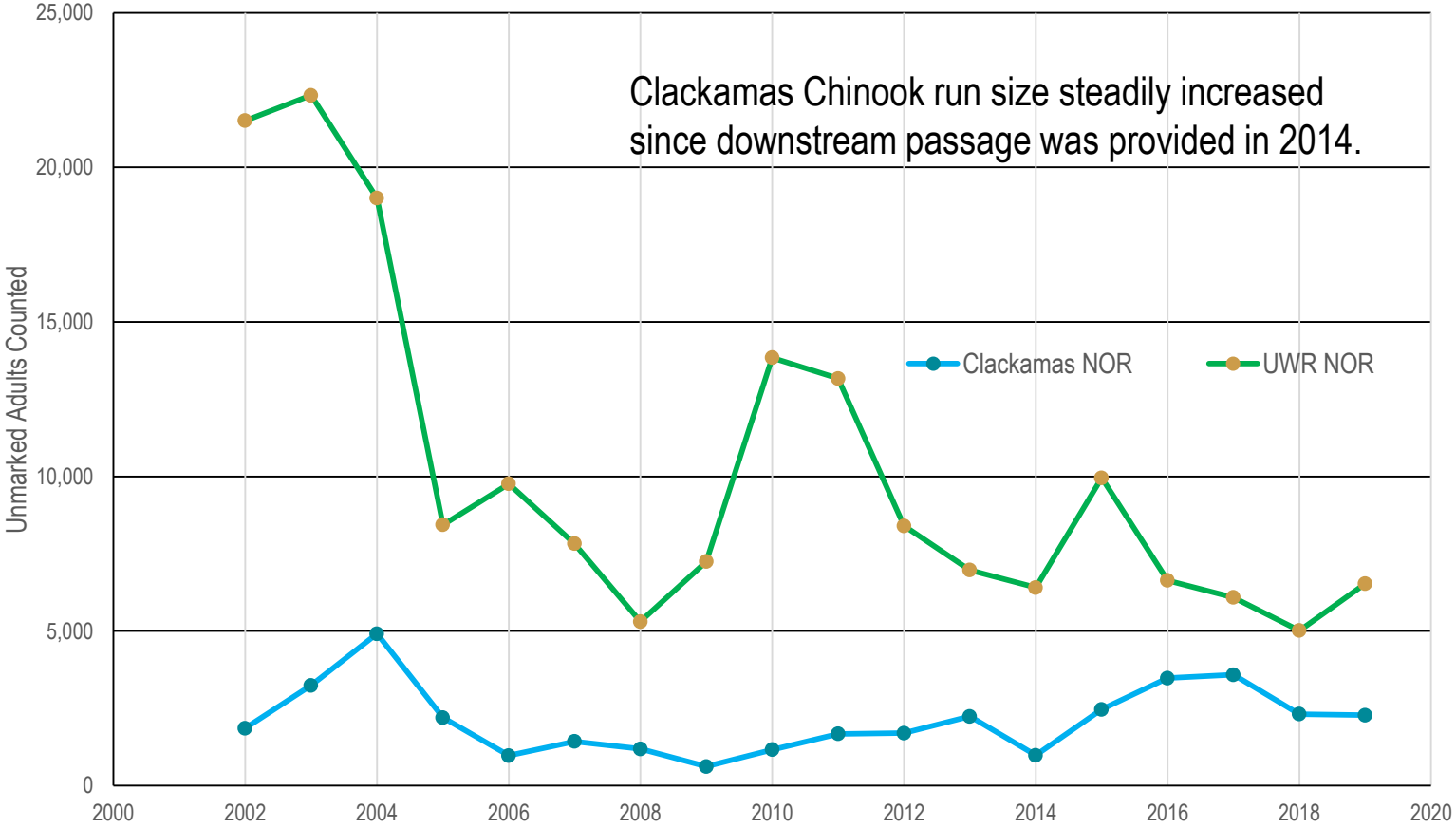
- **Cool, Clean** water quality
  - Instream and floodplain complexity
  - Diversions, return flow, runoff
- **Connected**
  - Which dams first for downstream passage?
  - Which revetments can be modified?
- Monitoring data on all populations, habitat use
- Funding, and scale of actions

Upper Willamette River Chinook Salmon ESU



Spawning and rearing areas are blocked by dams; no safe juvenile passage

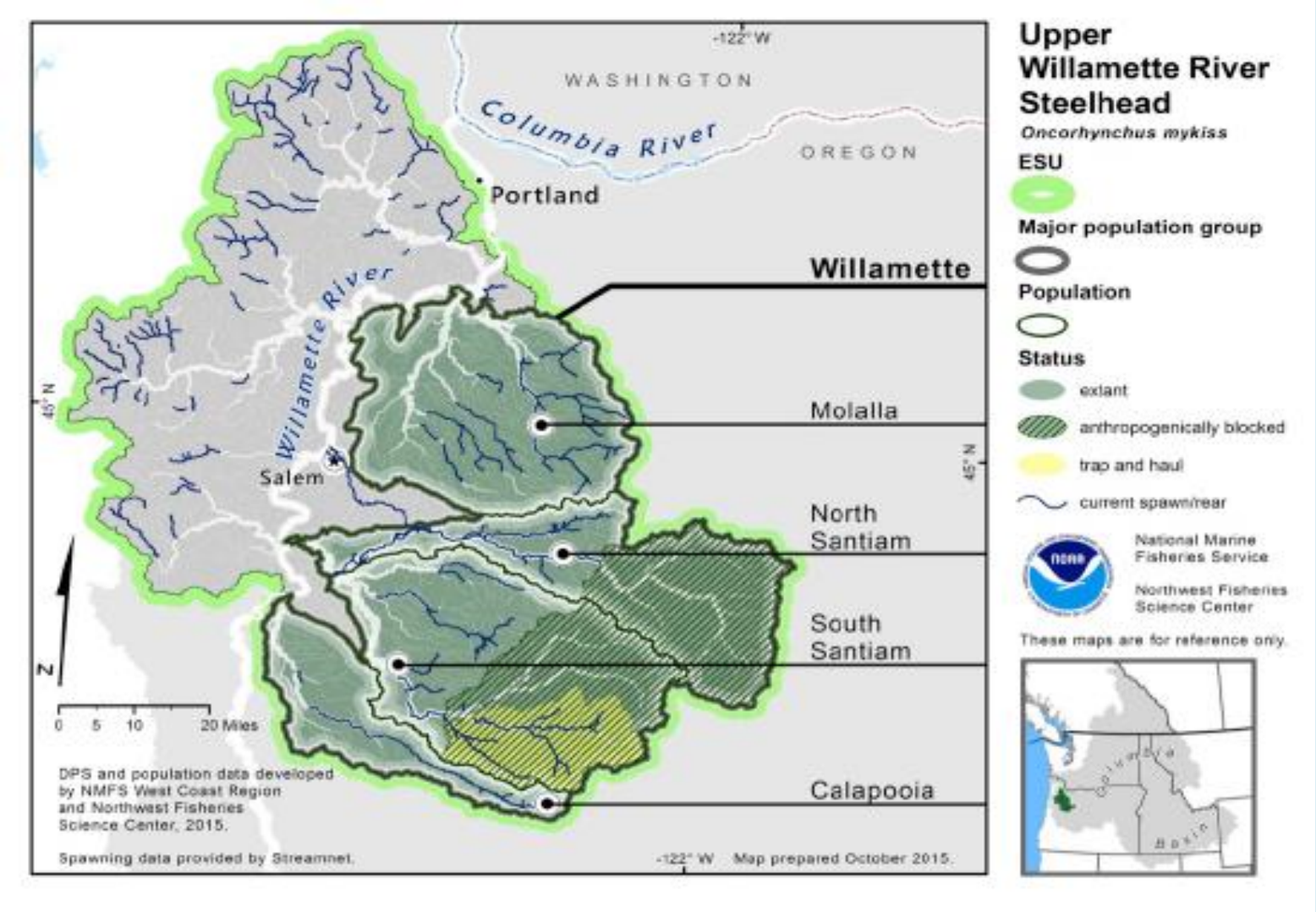
Willamette Falls and Clackamas Chinook NORs



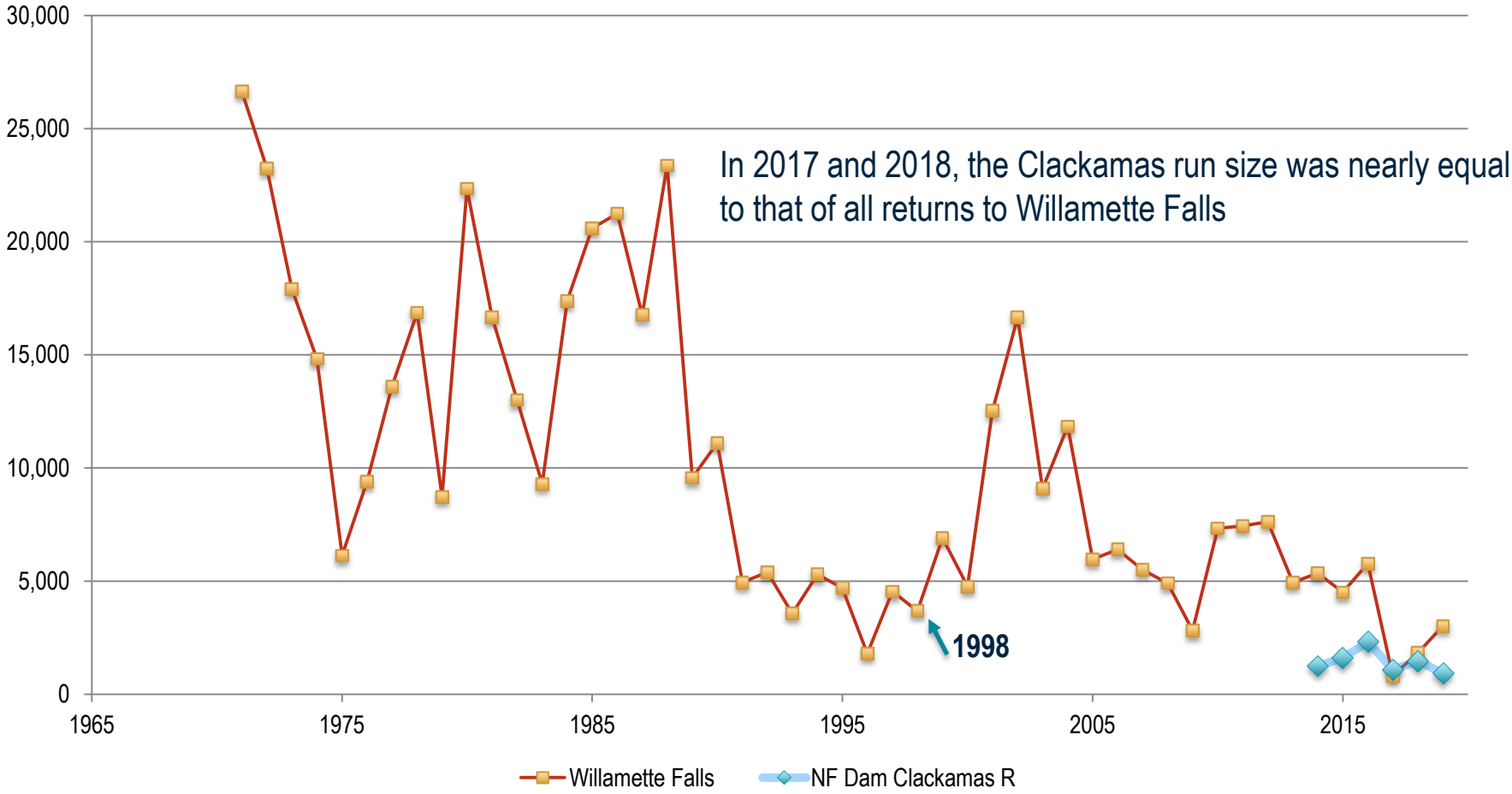
Counts of Chinook salmon adults at Willamette Falls and North Fork Dam Clackamas River (unmarked, presumed natural). 2002 was the first year natural and wild fish distinguished by adipose fin clips.

Recent data are preliminary.

Upper Willamette River Winter Run Steelhead DPS



Willamette Falls and Clackamas winter steelhead



Prior to 1998, hatchery-origin steelhead returns were included in counts and ~60% were native fish. After 1998, only NOR spawners are counted at Willamette Falls.

Recent data are preliminary

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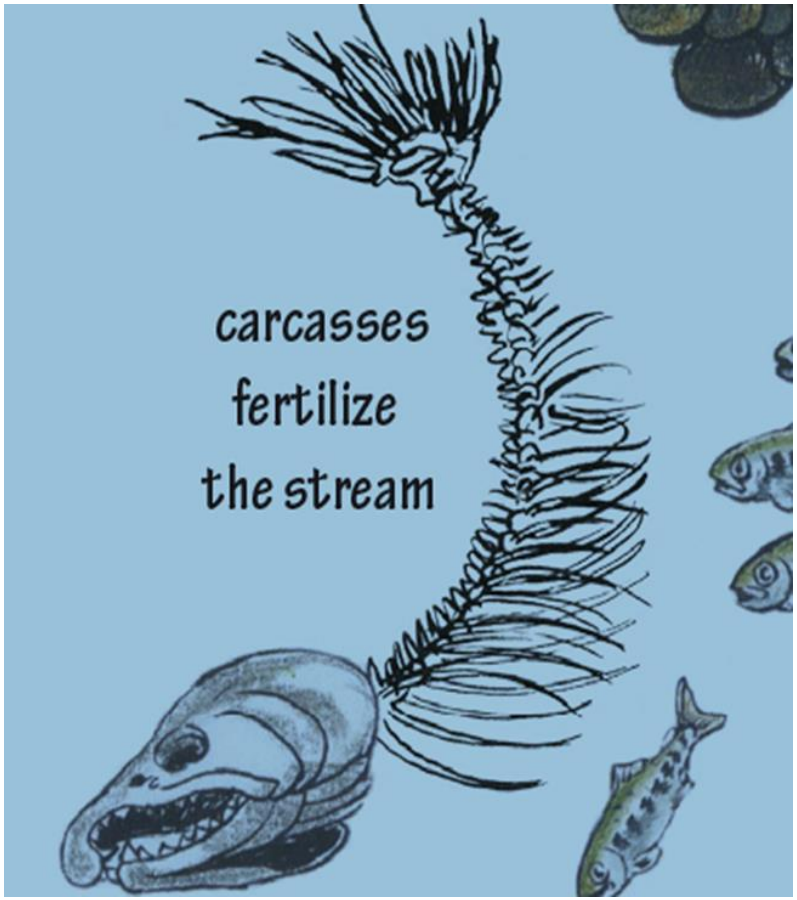
Re-introduction: population and habitat gains

- Salmon subsidize ecosystems

  -food for freshwater species & carcass-derived nutrients: C, N, P, Ca, K
- Spawning changes bedload
- Climate change = habitat at higher elevation crucial
- Flows/ Temp align with passage
  - Prespawning mortality
  - Timely incubation



Improving impact of ongoing actions

- Funding opportunities
  - BPA, OWEB funds up or down ?
- Communicating success, and dire needs
- Support for better habitat and recovery
    - Fisheries contribute to jobs
    - Restoration is an economic driver
    - Connected floodplains= cleaner water & flood risk reduction

New Opportunities

NOAA Habitat Focus Areas potential for UWR spp

- FIRO: Forecast Informed Reservoir Operations, better forecasting for better water management
- Habitat to reduce flooding & recover populations.
- Partners water conservation measures

NOAA assists with VetsCorps, AmeriCorps

- Monitoring support written into
  - Biological opinions, Re-introduction plans
  - Funding actions?
- Mitigation

Russian River Habitat Focus Area (HFA)

Overview | Priority Issues | Focus Area Objectives | Projects | Partners

1 Threatened and Endangered Fish Populations

Salmon and trout were once abundant in the Russian River watershed. Due to habitat loss, changes in river flow, and runoff, however, the populations have dwindled. The Central California Coast (CCC) coho salmon is now listed as endangered and steelhead trout and chinook salmon are considered threatened species. Restoring fish habitat and populations are priorities of the Russian River HFA.

2 Weather Extremes

3 Water Resources

Next steps? Review and improve

- Abundance: downward trends problematic
- Improving, where passage provided
  - *Clackamas: volitional bypass after screening*
  - *Fall Creek: operational*
- Habitat restoration through
  - Floodplain complexity and connectivity
  - Passage to historic, protected habitat areas
  - Improved communication & funding opportunities

Current Partners

- Tribes
- Watershed Councils
- Oregon DFW,DEQ,OWEB,ODOT,DOGAMI,OWRD
- Corps of Engineers
- USGS, USFS, BLM, FERC, BPA, BOR, EPA,
- NGOs: Riverkeepers, Land Trusts, Clean Water
- Researchers
- NOAA Weather and River forecasting
- **Missing? Stakeholders, future generations**

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Let's continue to coordinate

Thank you
meeting organizers!