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Salem's Urban Streams

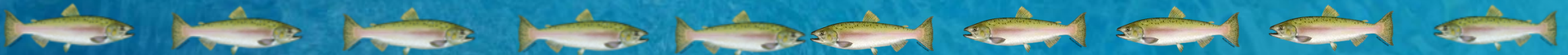
An Urgent Need For a Regenerative Approach to Land Use & Land Maintenance

By Michael Slater, 14 March, 2025

About Me



- Salem Planning Commission President
- Master's of Community and Regional Planning (UO, June 2025)
- Graduate Certificate, Ecological Design (UO, June 2025)
- ISA Certified Arborist
- Co-founder Mission Street Parks Conservancy
- 25 years' experience in civil & human rights nonprofit management



About My Colleagues

Salem Planning Commission, Streams & Wetlands Subcommittee



Marissa Theve is a soil scientist who has focused on urban, subaqueous, tidal marsh, forest, and wetland soils across several states, including in Oregon since 2016.



Lisa Heller is a dog lover, retired attorney, and claims to be pretty happy most of the time.



Robert Vieyra-Braendle. Salem raised, OSU Beaver, attorney.



Overview

1. The Importance of Urban Streams
2. Salem's Urban Streams
3. Property Ownership along Salem's Streams
4. Goals & How the Oregon Sustainability Board Can Help
5. Questions

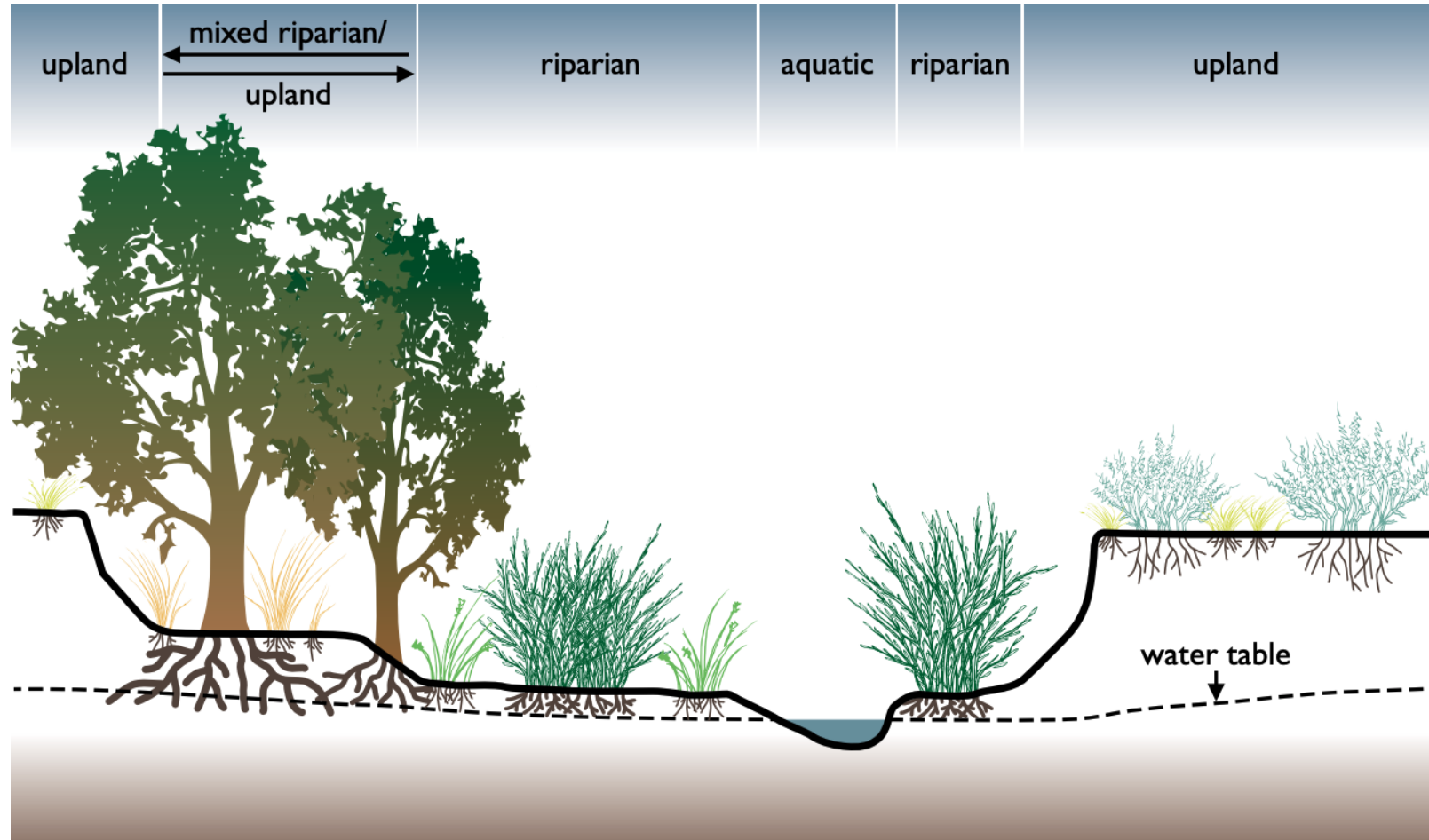


Salem's Urban Streams

Including Streams, Riparian Zones, Associated Wetlands & Floodplains

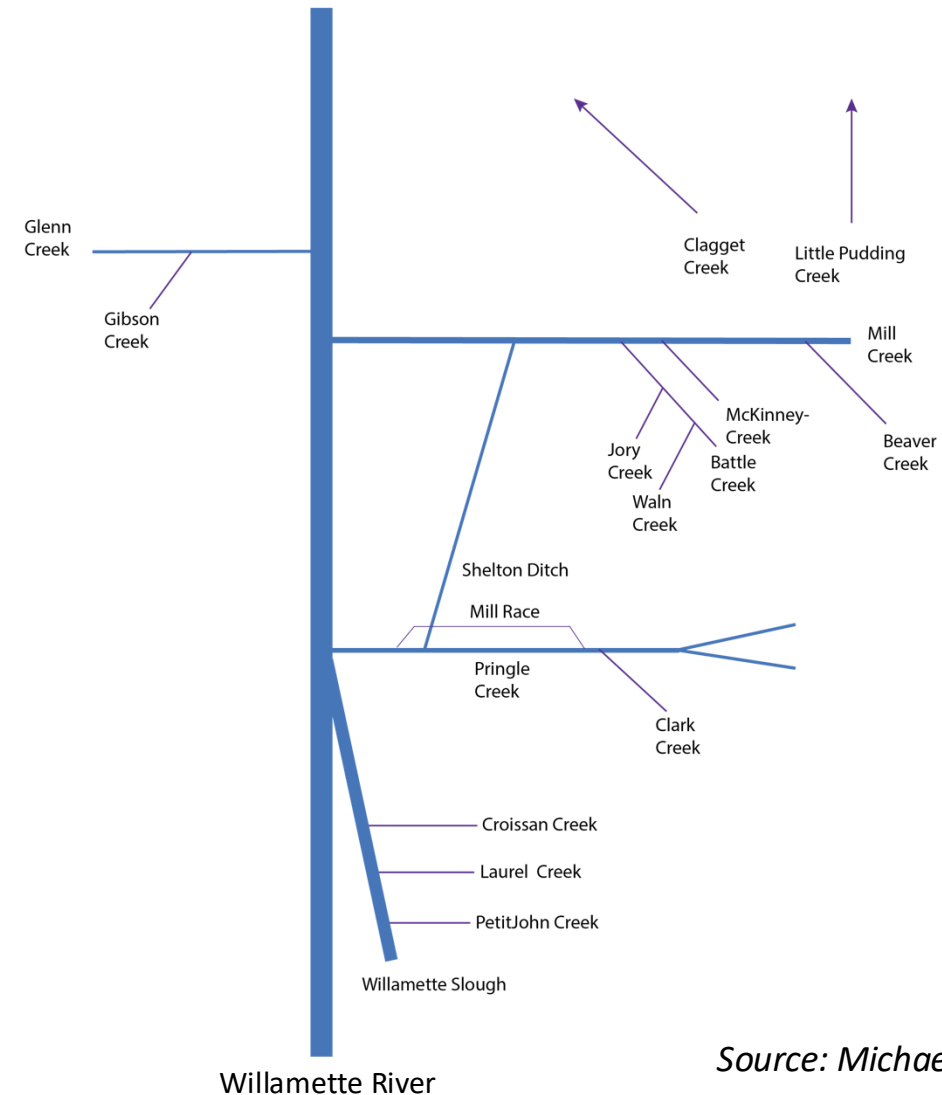
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General Stream Components

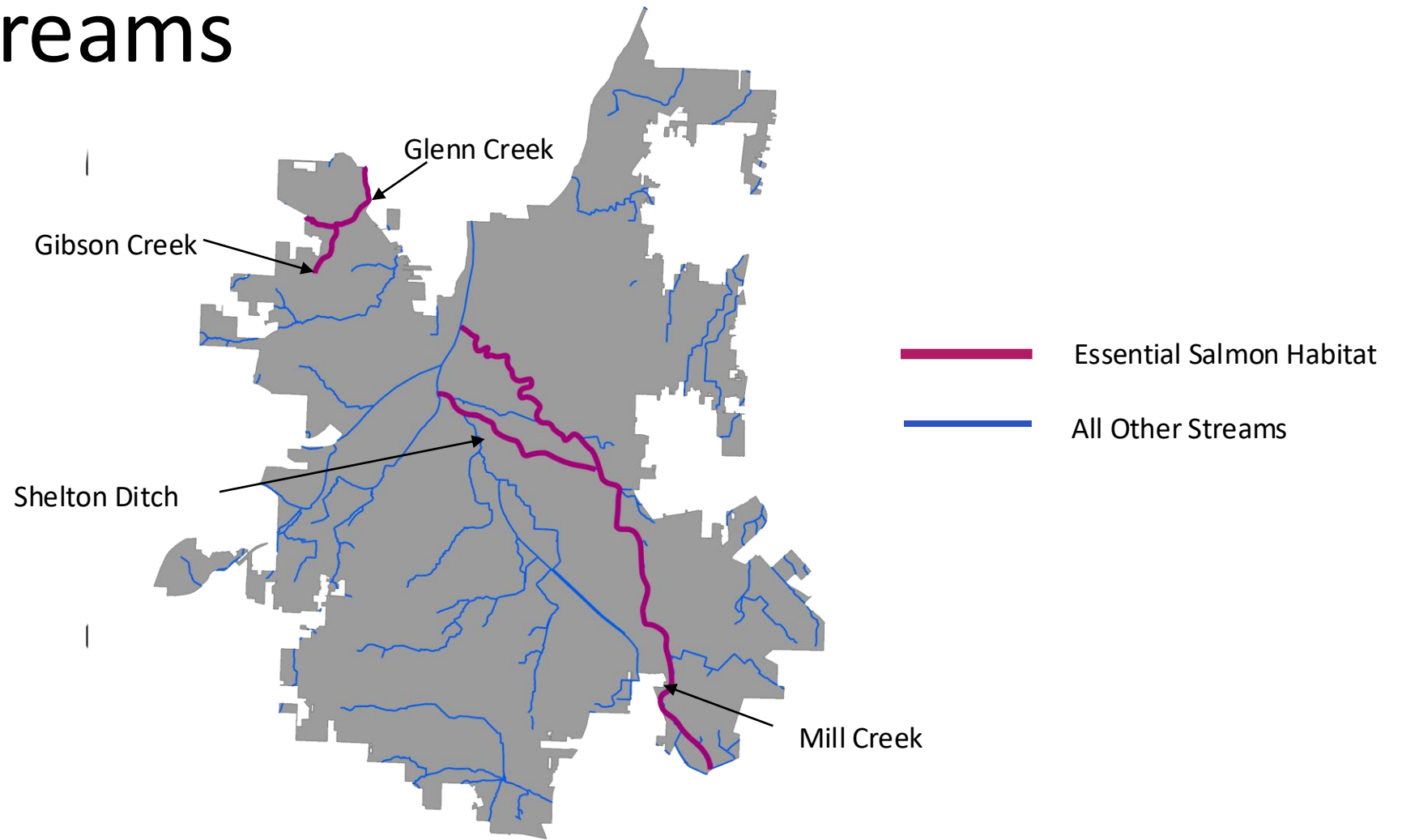


Salem's Streams

- 15 named streams as well as the Willamette River.
- 90+ miles of streams and tributaries
- Numerous open and closed stormwater facilities that are connected to Salem's streams.



Salem's Streams



Habitat Value of Riparian Zone

Serves a wide range of species

Home to several federal and Oregon protected species, including salmon

Fire refuge

Breeding habitat

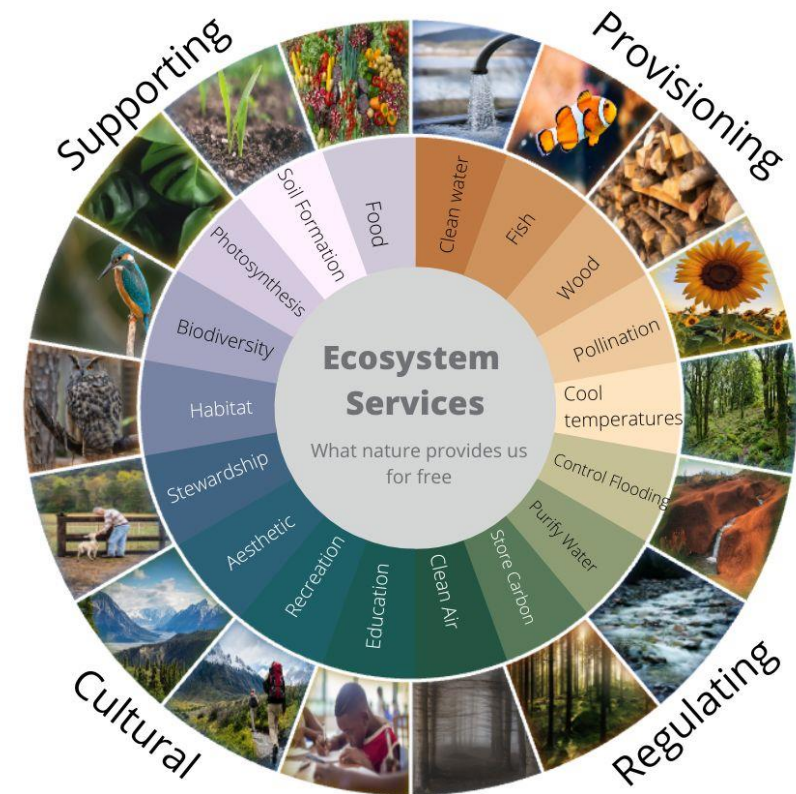
Supports genetic diversity



Ecosystem Services

Streams, Riparian Zones, Wetlands, & Floodplains

- Provides stormwater conveyance and storage
- Contributes to groundwater recharge
- Reduces fire-risk
- Reduces urban heat island effect
- Creates cooling channels through urban environment



Ecosystem Services

Streams, Riparian Zones, Wetlands, & Floodplains

- Sequesters carbon
- Helps remove air and water pollutants
- Contributes to pollination services
- Helps reduce pests
- Creates leisure, recreational, artistic, educational, and spiritual benefits
- Supports physical and mental health



Fauna of Salem's Streams

Listed, Federal Endangered Species Act

- Upper Willamette Chinook Salmon (T)
- Upper Willamette Steelhead (T)
- Oregon Spotted Frog (T)
- Yellow billed Cuckoo (T)
- Streaked Horned Lark (T)
- Fender's Blue Butterfly (T)



Fauna of Salem's Streams

Listed, Oregon State Species (excluding ESA species)

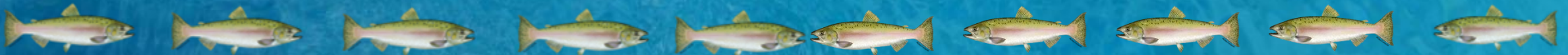
- Western Pond Turtle
- Pacific & Brook Lamprey
- Coastal Cutthroat Trout
- Oregon Vesper Sparrow
- Taylor's Checkerspot
- Franklin Bumblebee



Flora of Salem's Streams

Federal and Oregon Listed Species

- Kinkaid's Lupine (T)
- Willamette Daisy (E)
- Tall Bugbane (C)
- Willamette Valley Larkspur (E)
- Peacock Larkspur (SoC, E)
- Shaggy horkelia (SoC, C)
- Thin-leaved peavine (SoC, E)



Current Condition of Salem's Streams

- TMDL for total suspended solids, bacteria, mercury and heat
- Significant loss of riparian, wetland, and floodplain acreage
- Altered morphology (incised, eroded, channelized, covered, hardened)
- Altered hydrology
- Reduced stocks of aquatic species
- Unforested stream frontage
- Fish passage barriers
- Widespread presence of invasive plant material
- Artificially high winter flow and velocity
- Gravel mining in floodplain



City's Current Stream Policies & Practices

Prioritize stormwater storage and conveyance function of urban stream

Leveraging infrastructure upgrades as opportunities to enhance stream function and habitat quality

Comply with requirements of Salem's *Municipal Separate Storm Sewer System (MS4) Permit*

Co-exist with beavers



City's Stream Policies & Practices

Stormwater Storage & Conveyance

- GIS + LiDAR mapping
- Basin modeling
- Stream flow monitoring
- Infrastructure upgrades
- Land acquisition
- Stream bank cleaning
- Green infrastructure for large projects



Salem Stream Team. Source: City of Salem.



City's Stream Policies & Practices

Water Quality

- Green infrastructure
- Construction erosion protection
- Riparian restoration
- Monitoring
- Public education + outreach



*Minto-Brown Island Restoration.
Source: City of Salem.*



City's Stream Policies & Practices

Land Use Goal 5 Compliance

- Not compliant with current standards
(No 50' riparian setback as per state requirement)
- City is undertaking Goal 5 inventory
(Expected fall completion date)



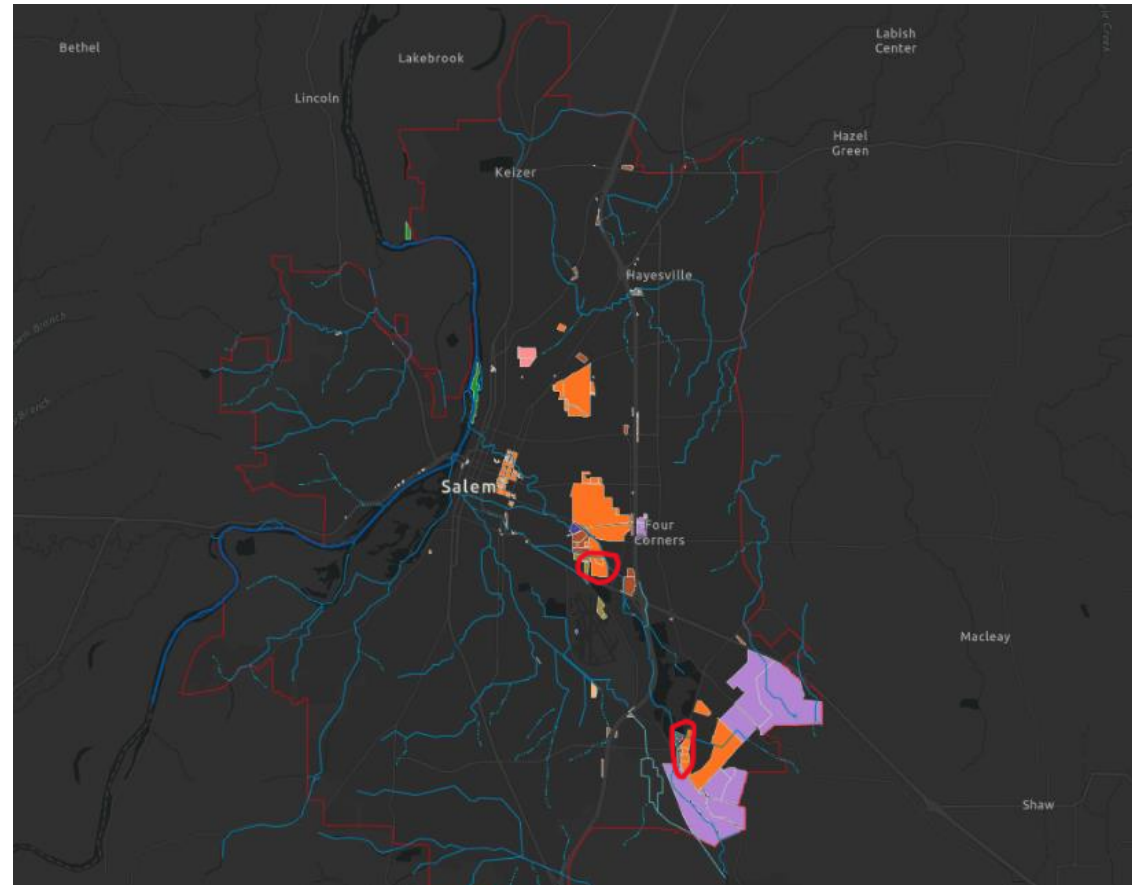
Source: US Geologic Survey



State-Owned Land Along Salem's Streams

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State-Owned Stream Front Property I



*State-owned properties in Salem.
Source: Paul Platosh, DAS.*



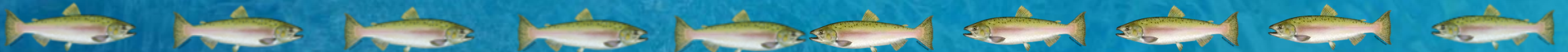
State-Owned Stream Front Property

Example 01

- Two state-owned tax lots
- One owner-DAS
- 36 acres
- 1,900' stream frontage
- 2.2 acres set aside for 50' buffer
- 7.4 acres set aside (preferred) for 170' buffer



Source: Michael Slater



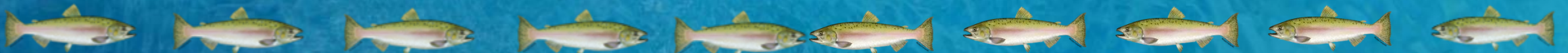
State-Owned Stream Front Property

Example 02

- Five state-owned tax parcels
- DAS, Corrections, ODOT
- 42.7 acres
- 2,500' stream frontage
- 5.5 acres set aside for 50' buffer
- 19.5 acres set aside (preferred) for 170' buffer



Source: Michael Slater



Goals & How the Oregon Sustainability Board Can Help

Preserve, Restore & Manage

Near Term Goal

Preserve Undeveloped Land

A buffer of 170 feet on either side of the channel, measured along the slope, or the full width of the floodway—whichever is greater.

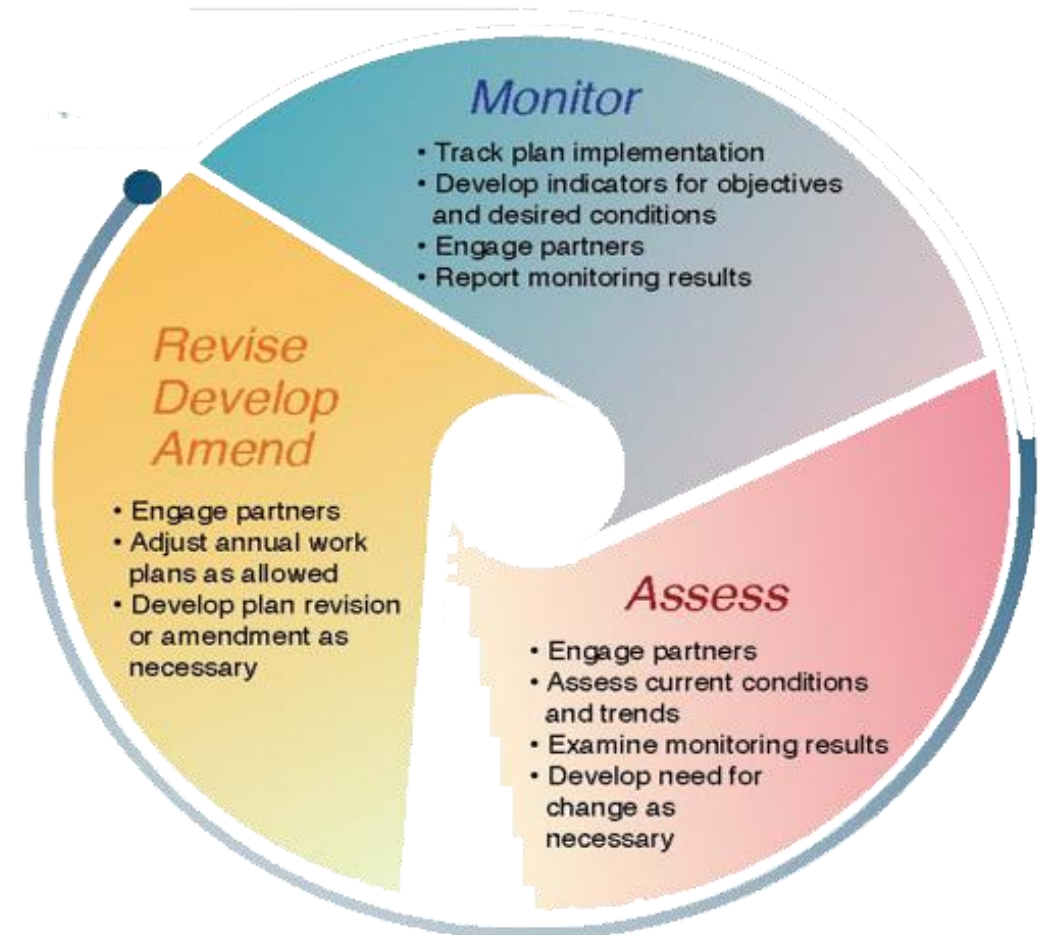
OR

The maximum extent possible for developed land



Mid-Term Goal

1. Restoration of stream areas
2. Develop appropriate land management plan
3. Coordinated or shared land management activities among public-sector frontage owners



Source: USDA Forest Service

How You Can Help

Initiate a multi-agency process to conserve and restore critical stream and stream adjacent habitat for state-owned properties with stream frontage in Salem



*Bald eagles nest in a protected area of Salem's Willamette River riparian zone, 2024.
Source: City of Salem*





Questions?

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