



# Gauging Restoration Success



How site conservation plans and key ecological attributes inform restoration along Johnson Creek



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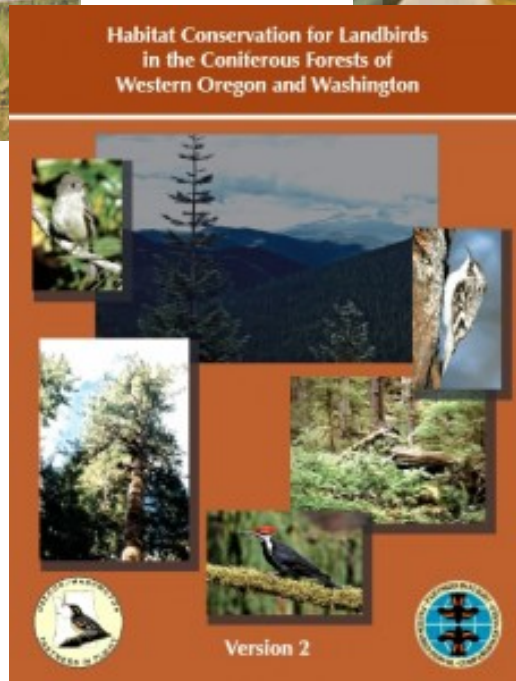
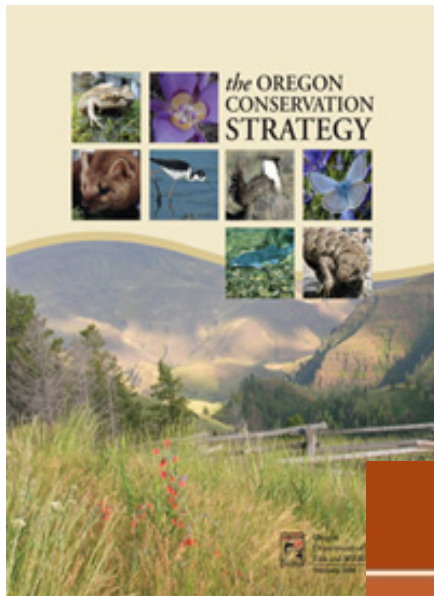
Special thanks to Lori Hennings



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# Ecological planning foundation



This document is part of a collection of [Ecological Integrity Assessments](#) addressing 67 of Washington's 99 [Ecological Systems](#). These documents were prepared by the Washington Natural Heritage Program with funding provided by the Washington Department of Fish and Wildlife.

## Ecological Integrity Assessment: Willamette Valley Upland Prairie and Savanna

### Ecological Summary

The Willamette Valley Upland Prairie and Savanna is a grassland and savanna system endemic to the Puget Trough and Willamette Valley. Historically, this system occurred as large and small patches in portions of the Georgia Basin, Puget Trough, and Willamette Valley. In Washington, it is most expansive in the South Puget Sound region (e.g., Pierce and Thurston counties) and is also found in the San Juan Islands and in southwestern Washington. Most sites are topo-edaphically dry and experience extreme soil drought in

# Site Conservation Plans

**Scientist, park/trail planner, field tech**

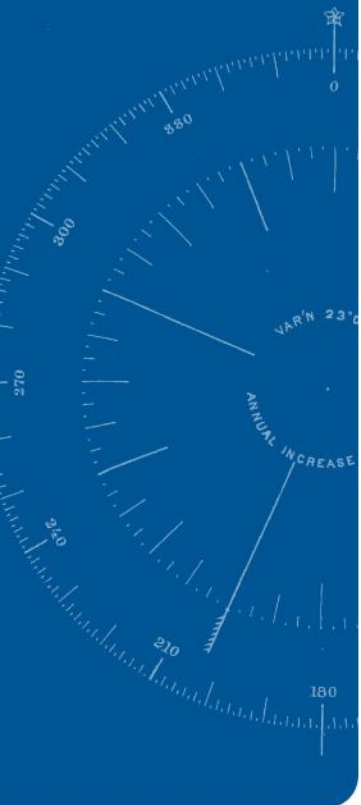
**Foundation for management & access**

**Roughly follow TNC's Framework**

**Conservation Targets +**

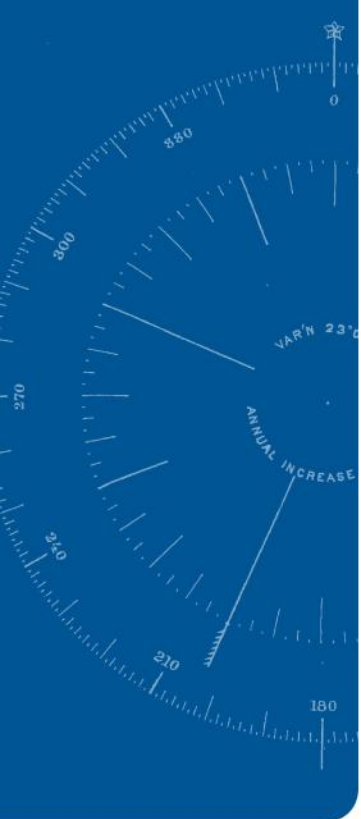
**Key Ecological Attributes +**

**Threats = 15-year plan**

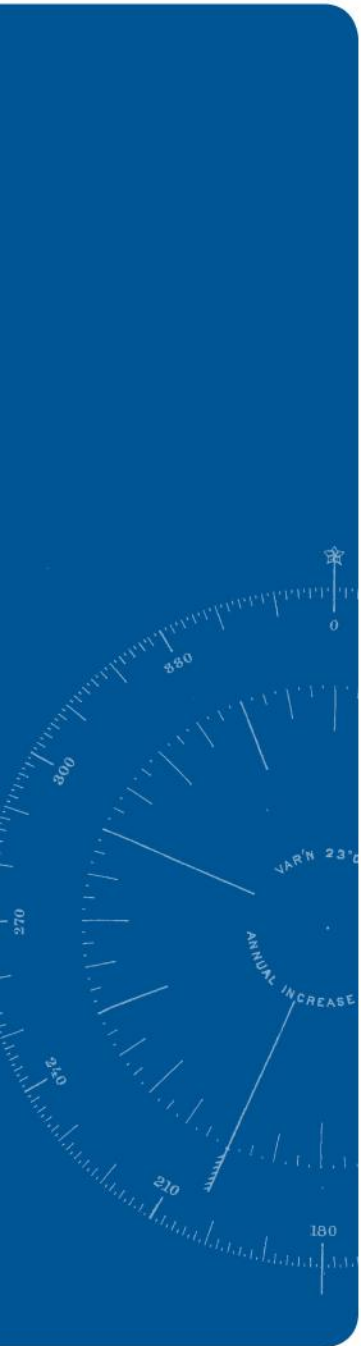


# Key Ecological Attributes (KEAs)

- Riparian forest
- Upland forest
- Upland shrub (early successional)
- Emergent, Shrub & Forested wetlands
- Oak savanna & Oak woodland
- Prairie (wet and dry)
- Native fish habitat (instream)
- Native turtles
- *Delphinium leucophaeum*







Upper Johnson Creek NA conservation targets

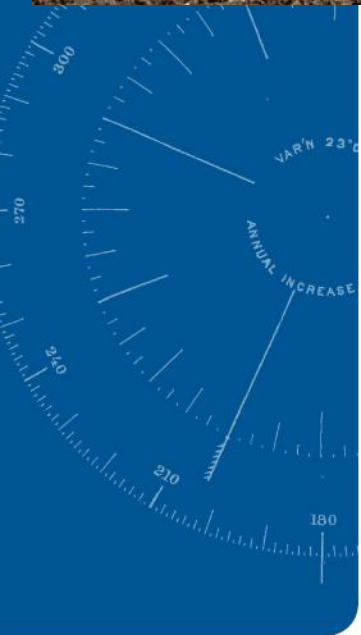
Native fish habitat

Riparian habitat

Wetland shrub habitat

Upland forest habitat



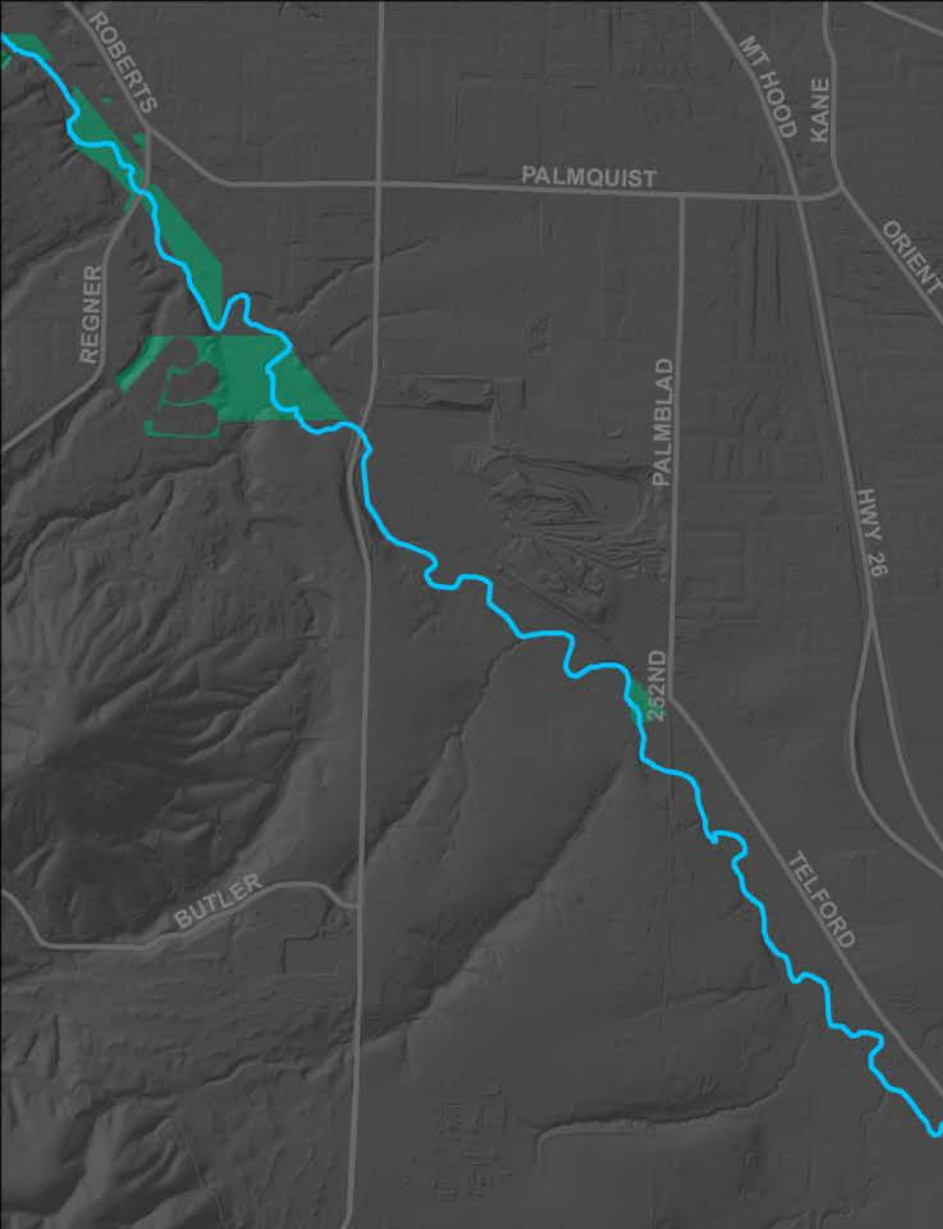


Riparian habitat existing conditions

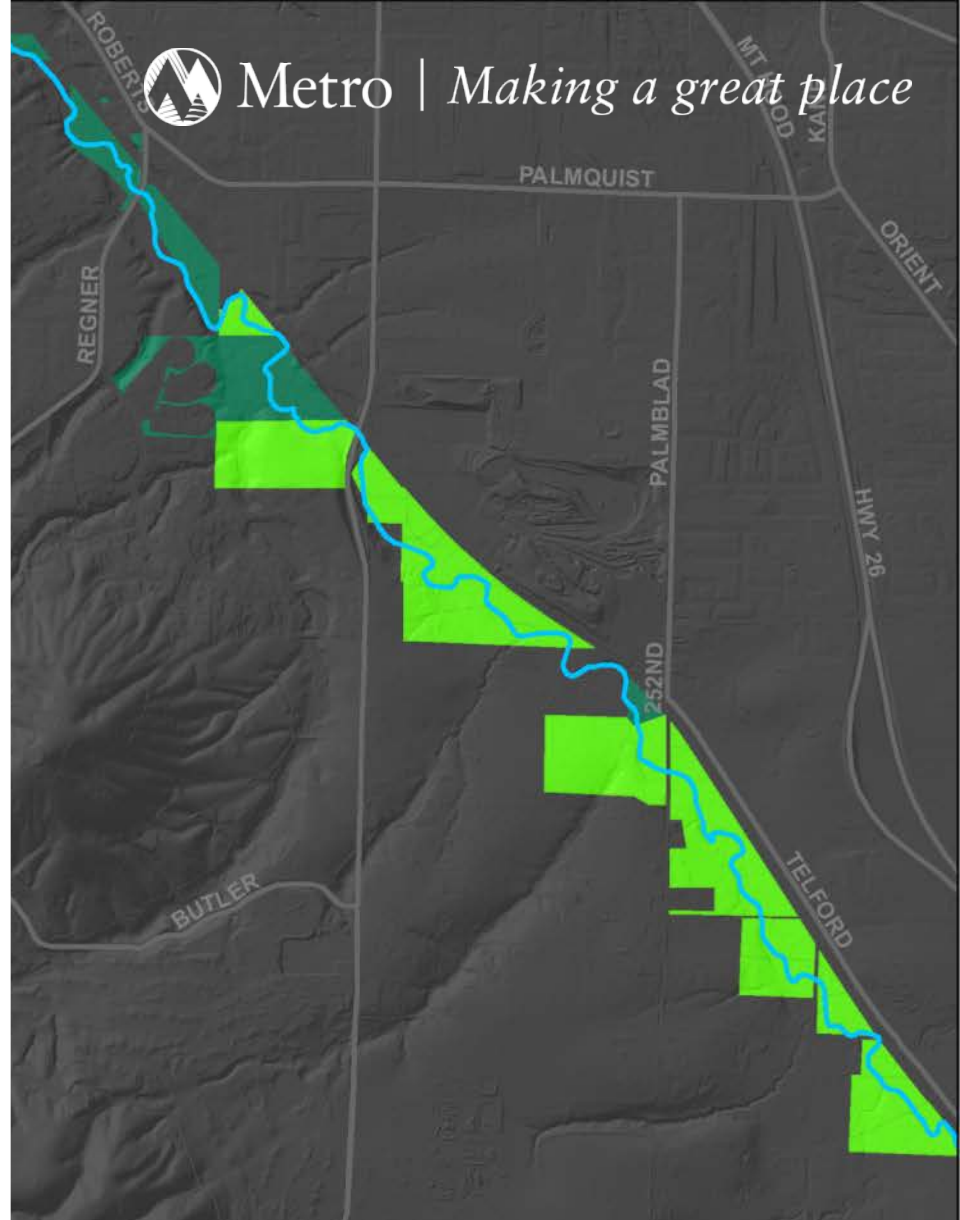
# Riparian habitat KEAs

CATEGORY	KEA	INDICATOR	----- INDICATOR RATING -----				CURRENT RATING	DFC* FOR THIS SCP	LONG TERM DFC
			POOR	FAIR	GOOD	VERY GOOD			
Size	Riparian forest width	Average width of riparian forest	<15 m (50 ft) each side of stream	15-30 m (50-100 ft) each side of stream	30-61 m (100-200 ft) each side of stream	>61 m (200 ft) each side of stream	F	G	G
Condition	Native herbaceous layer richness	# native species of grasses, herbs, forbs and ferns, at least half of which are riparian-associated, per 0.4 ha (1 ac)	<5 species	6-12 species	12-18 species	>18 species	P	G	VG
Condition**	Riparian habitat continuity	Gaps in woody vegetation	>2 gaps >50 m (55 yards) OR >3 or more 25-50 m (27-55 yards) gaps	1 or 2 gaps >50 m (54 yards) OR 2 or more gaps between 15-25 m (16-27 yards)	1, 25-50 m (27-55 y) gap OR 2 or more gaps between 15-25 m (16-27 yards)	0 or 1, 15-25 m (16-27 yards) gap	F	G	VG
Condition	Standing and downed dead trees	Average # snags and large wood (> 50 cm, or 20 in, DBH) per 0.4 ha (1 ac)	< 5 snags and <5% down wood	5-11 snags and 5-10% down wood	12-18 snags and 10-20% down wood with moderate variety of size and age classes	> 18 snags and >20% cover down wood in a good variety of size and age classes	P	p	G
Condition	Floodwater access to the floodplain	Degree of connection between stream/ floodplain during high water events	Extensively disconnected by channel incision, dikes, tide gates, elevated culverts, etc.	Moderately disconnected by channel incision, dikes, tide gates, elevated culverts, etc.	Minimally disconnected by channel incision, dikes, tide gates, elevated culverts, etc.	Completely connected (backwater sloughs, channels)	P	F	F





Upper Johnson Creek pre 1995



Upper Johnson Creek 2015  
Increases in riparian width to  
200ft+









Native herbaceous layer richness: 12+ species





Standing/down wood: less than 5 snags and 5% down wood/acre





Improved floodplain connectivity





From weed land to wild land in less than 10 years-thanks to the  
Metro district voters!