

Culvert Replacement

Jesse Holt
Sandy River Basin
Watershed Council

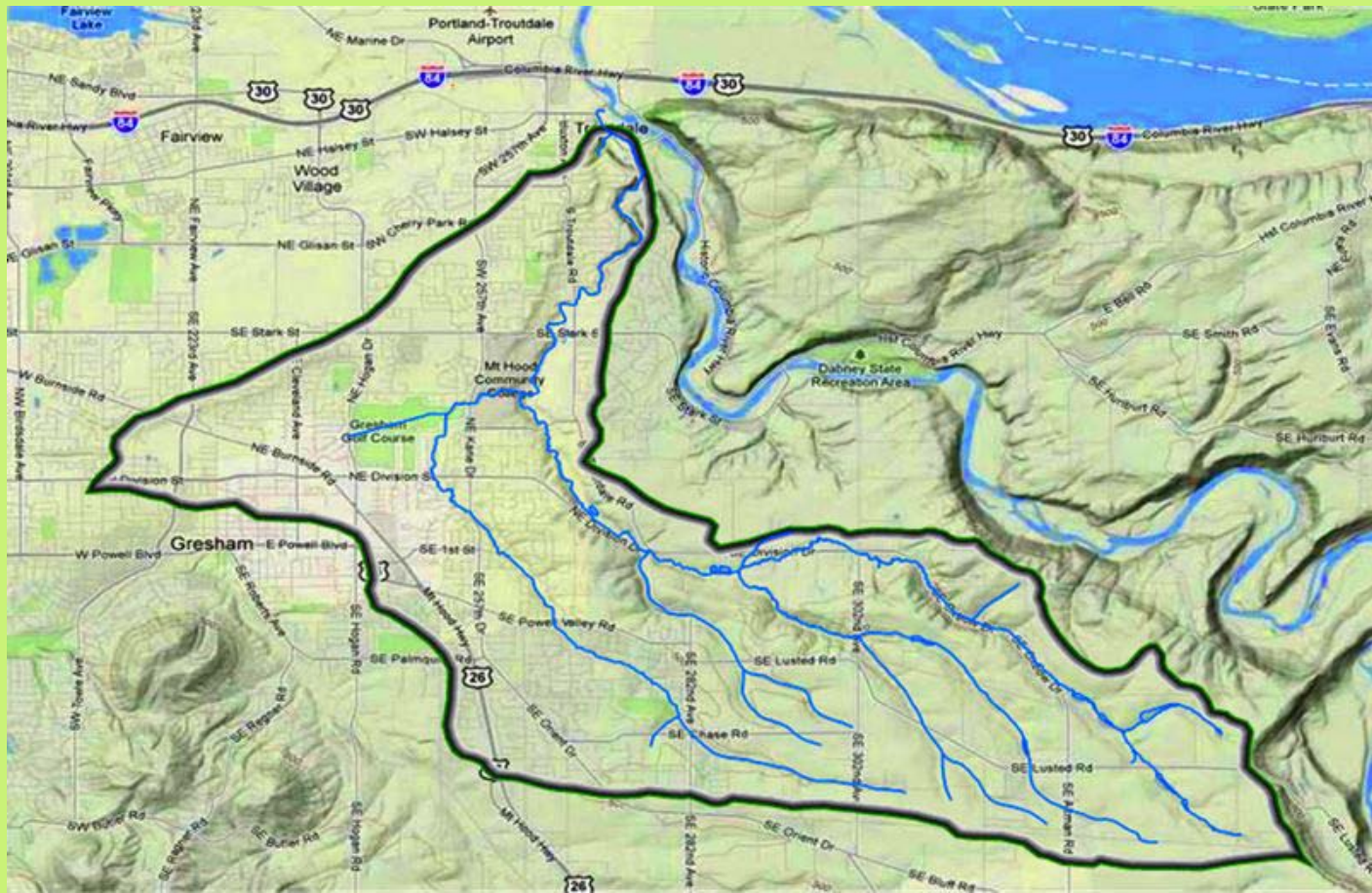
December 9, 2015

Sandy River Basin
Watershed Council

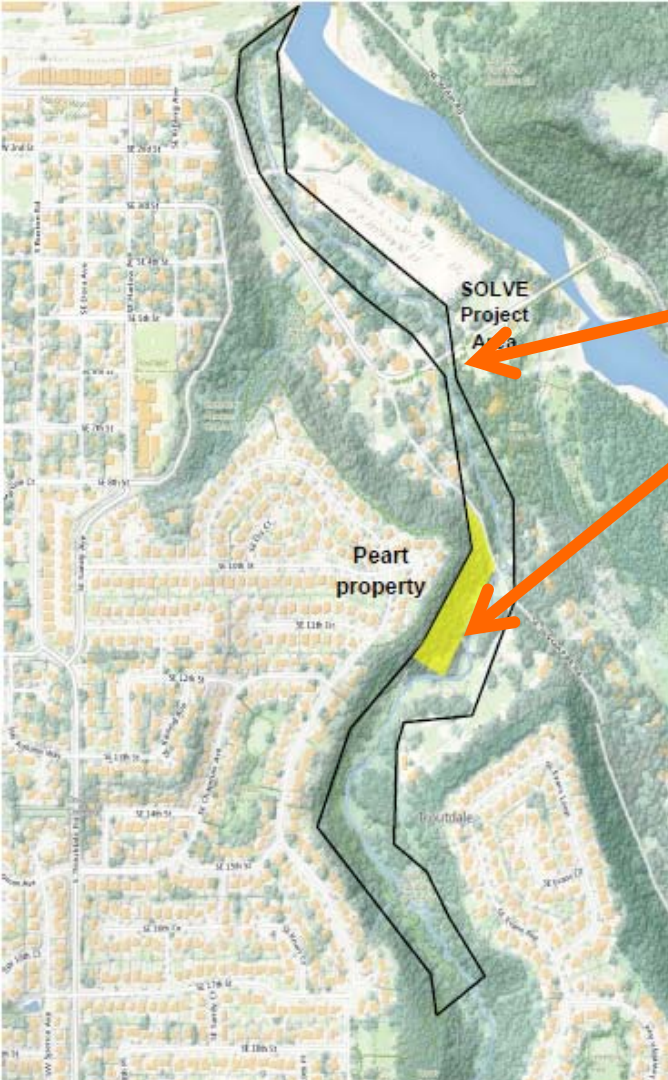


Beaver Creek

- Originates 2.5 miles south east of Barlow HS
- Drains 13.6 square miles.
- Has three tributary's: Arrow Creek, South Fork, Kelly Creek.
- Home to 14 different fish species including Coho, Chinook, and Steelhead

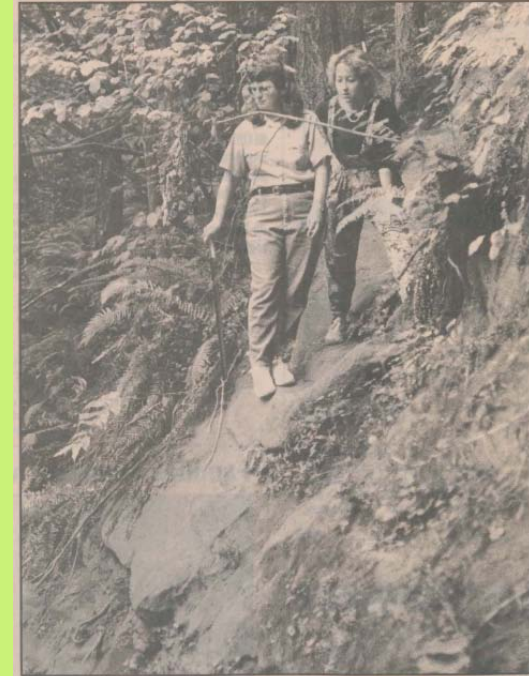
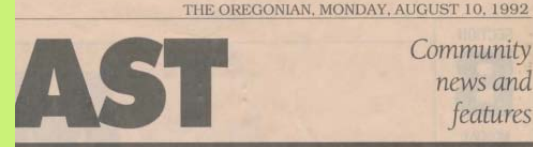


Restoration History



- Focus on Creekside adjacent to Glen Otto Park & Beaver Creek Canyon between Troutdale Rd. & Sandy Palisades

- Early 1990's research concluded storm water run was causing sediment deposition and erosion issues in creek



The Oregonian/ROGER JENSEN
Valerie Lantz (left), who heads Troutdale parks, and Patti Polly, who is on the city's parks advisory board, look over a trail washout at Kiku Park.

Restoration History



Before
Removal



After
Removal

- 1993 \$600,000 city bond included enhancements of Beaver Creek canyon.
- 1995 To reduce erosion around stream bank Invasive Himalayan Blackberry's were removed and native Willows were planted by Friends of Beaver Creek.
- 1996 Governors Watershed Enhancement Board (GWEB) grant funded restoration along the creek by Glen Otto Park.

1997 Construction

Restoration History

- Beaver Creek Canyon Boardwalk in June
- Log Bridge across Creek
- Strawberry Meadows Trail

INSERT SBERRY MEADOWS PICS HERE



Restoration History

- 2000 & 2001 MHCC Integrated Natural Resources Student Teams completed 5 studies each summer documenting natural areas within Beaver Creek noting wildlife such as deer, coyotes etc.
- 2000 & 2001 Inmates from correctional crews and Multnomah Youth Core performed maintenance and plantings along riparian area
- 2000-2002 April including Earth Day 145 individuals cleared 2 acres of blackberry bushes, cleared 2 cubic ft. of garbage and debris, planted over 500 plants, from 11 organizations totaling 557 hours.

Restoration History



East Multnomah Soil and Water Conservation District “StreamCare” program

- Started in Beaver Creek in 2009
- Partners with private landowners along the Creekside
- 100% free removal of weeds and revegetation with native species
- Aims to have project area stable in 5 years
- Shades Creek, lowers water temperature and stabilizes bank
- 80 land owner participants
- 200 acres of weeds removed and replanted
- 117,000 natives planted



Metro Regional Government

- Owns 3 property's in the Beaver Creek watershed with restoration work focusing on weed control and reforestation of native species
- South Beaver Creek 60 Acres on MHCC campus, invasive species removed in 2012 and 2014, 50,000 seedlings planted in 2015 with yearly maintenance
- Beaver Creek Canyon 12 acres
- North Beaver Creek 3 acres.



Restoration History

2002+ SOLVE worked on numerous property's including:

- The Espenial Property where townhouses currently sit
- Upstream from townhouses performing a peel back of the bank
- Adopting the Creekside adjacent to the RV park performing needed work
- Partnering with Anne Schilke and the Jackson Street Rd. neighborhood to access private parts of the Creek



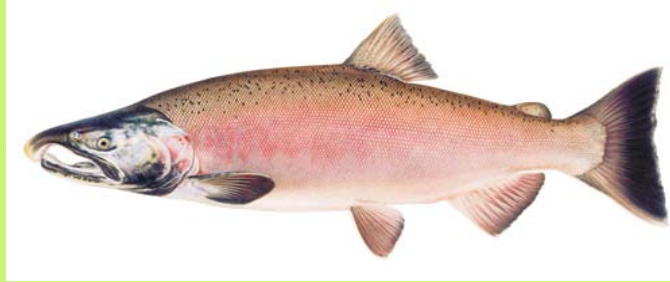
3 main types of Salmonids in Creek

Ecology of Beaver Creek

Chinook



Coho



Steelhead



Beaver Dam along Anne
Schilkes Property

Beaver in Beaver Creek

North American Beaver (Castor canadensis)

*Build Dams which help shape streams and change the
landscapes of the Creek*



Spawning Data



Glen Otto Park to Kiku Park:
30 live Coho 2 Dead Coho
8 live Chinook 5 Dead Chinook

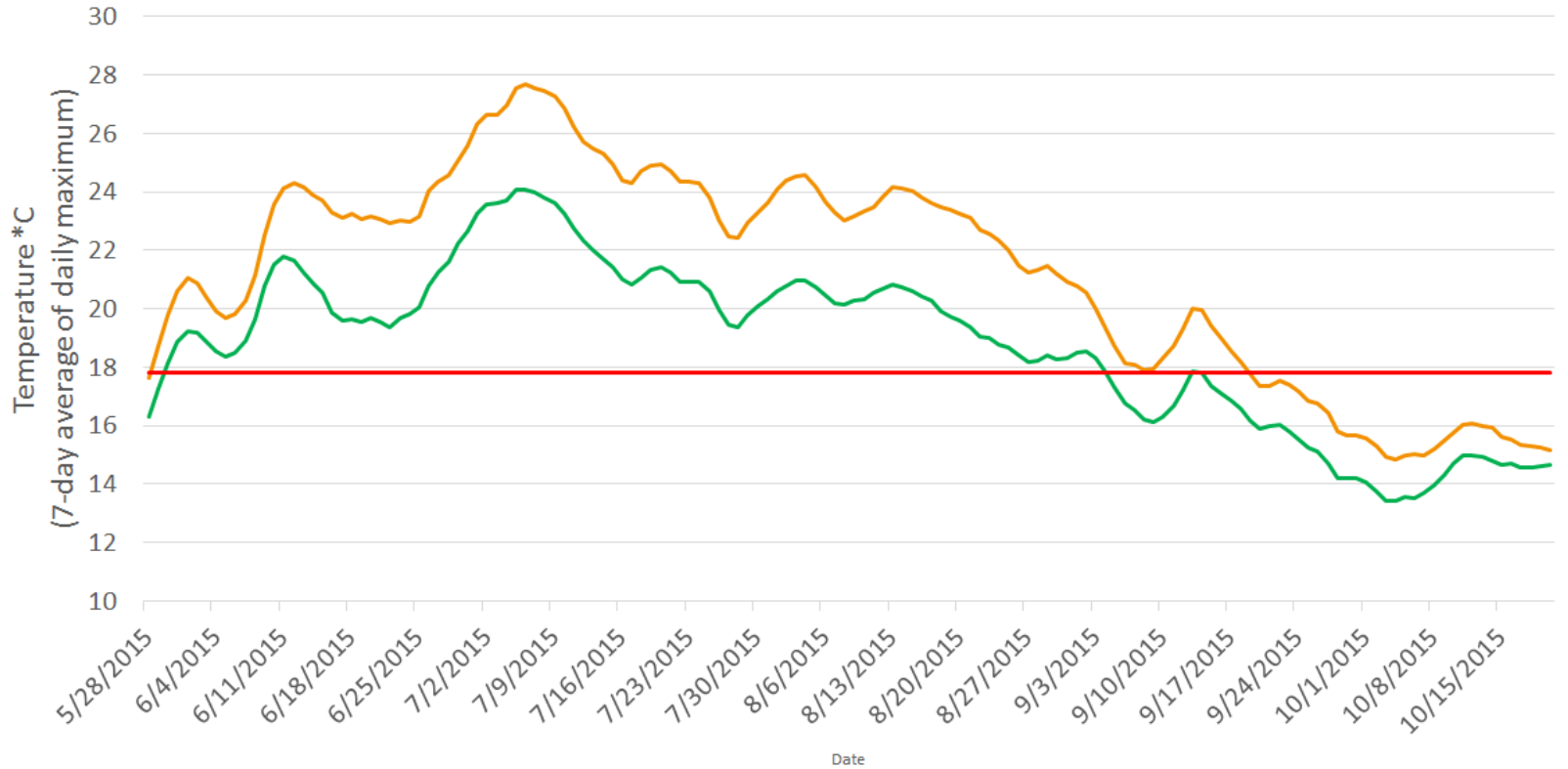
Kiku Park to Troutdale Rd.:
2 live Coho 1 Dead Coho
4 live Chinook 1 Dead Chinook

Troutdale Rd. to Kelly Creek Confluence
10 Live Coho 1 Dead Coho
5 Live Chinook 1 Dead Chinook

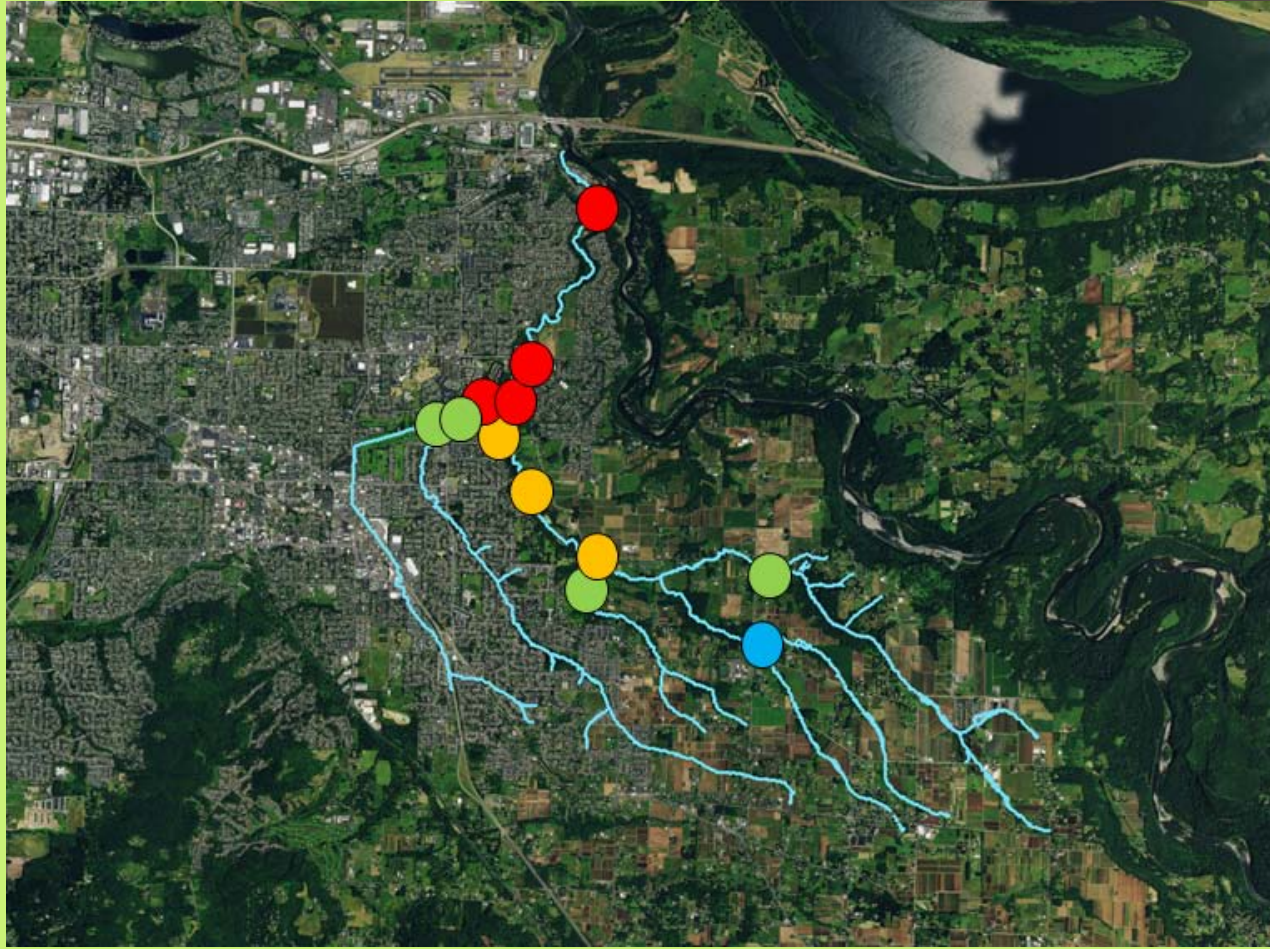
Kelly Creek to Cochran Rd
1 Live Coho 0 Dead Coho
0 Live Chinook 0 Dead Chinook

Temperature in Beaver Creek

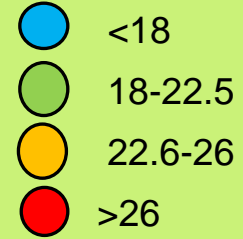
Beaver Creek Summer 2015 Temperature



Temperature in Beaver Creek



Max temp

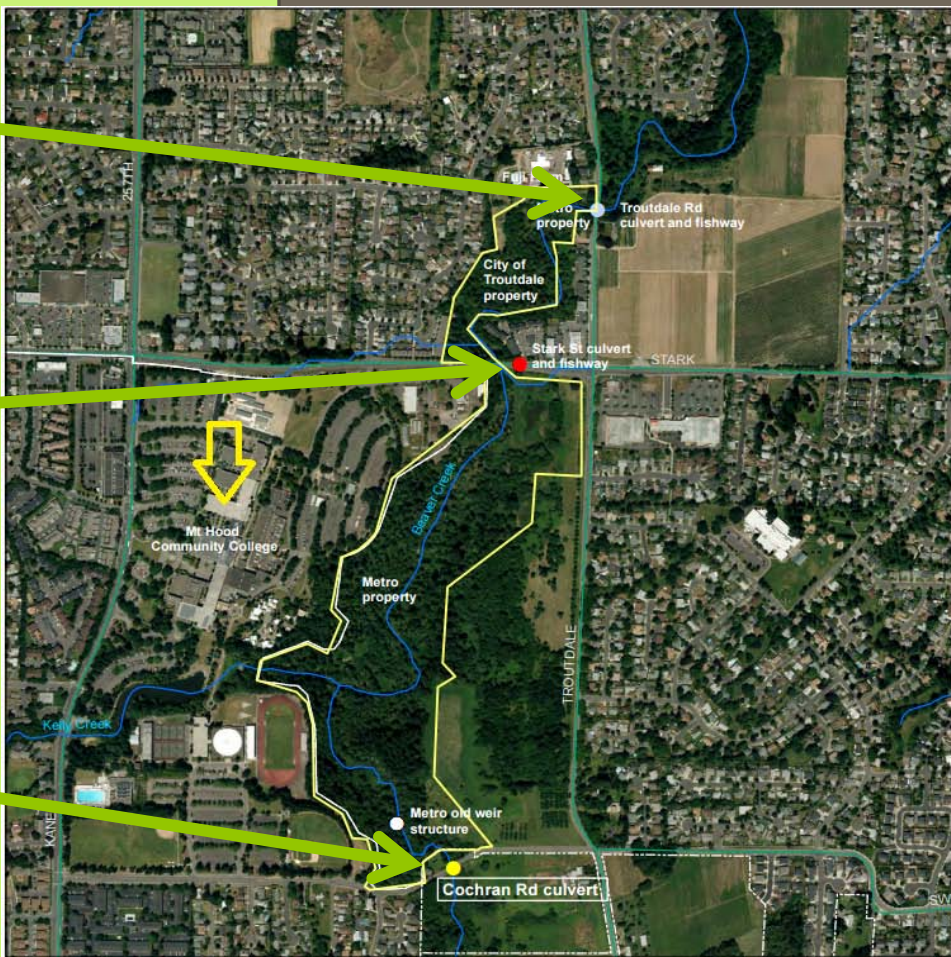


Beaver Creek Culverts

Troutdale Rd.
Existing fish ladder

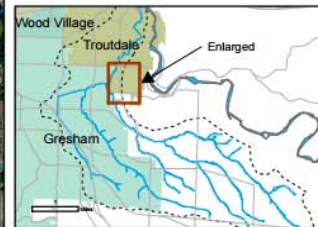
Stark Street
Full barrier, 0% passable

Cochran Rd.
Partial barrier, 33% passable

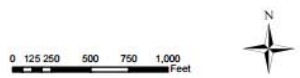


Beaver Creek Fish Passage and Habitat Enhancement Project

Project Site Map



- Legend**
- Culvert passability
- No survey
 - No barrier
 - Partial barrier, 67% passable
 - Partial barrier, 33% passable
 - Full barrier, 0% passable



Troutdale Rd. Culvert



Inlet of Culvert



Outlet of Culvert

Cochran Rd.



Inlet of Culvert



Outlet of Culvert

Stark Street



Inlet of Culvert



Outlet of Culvert