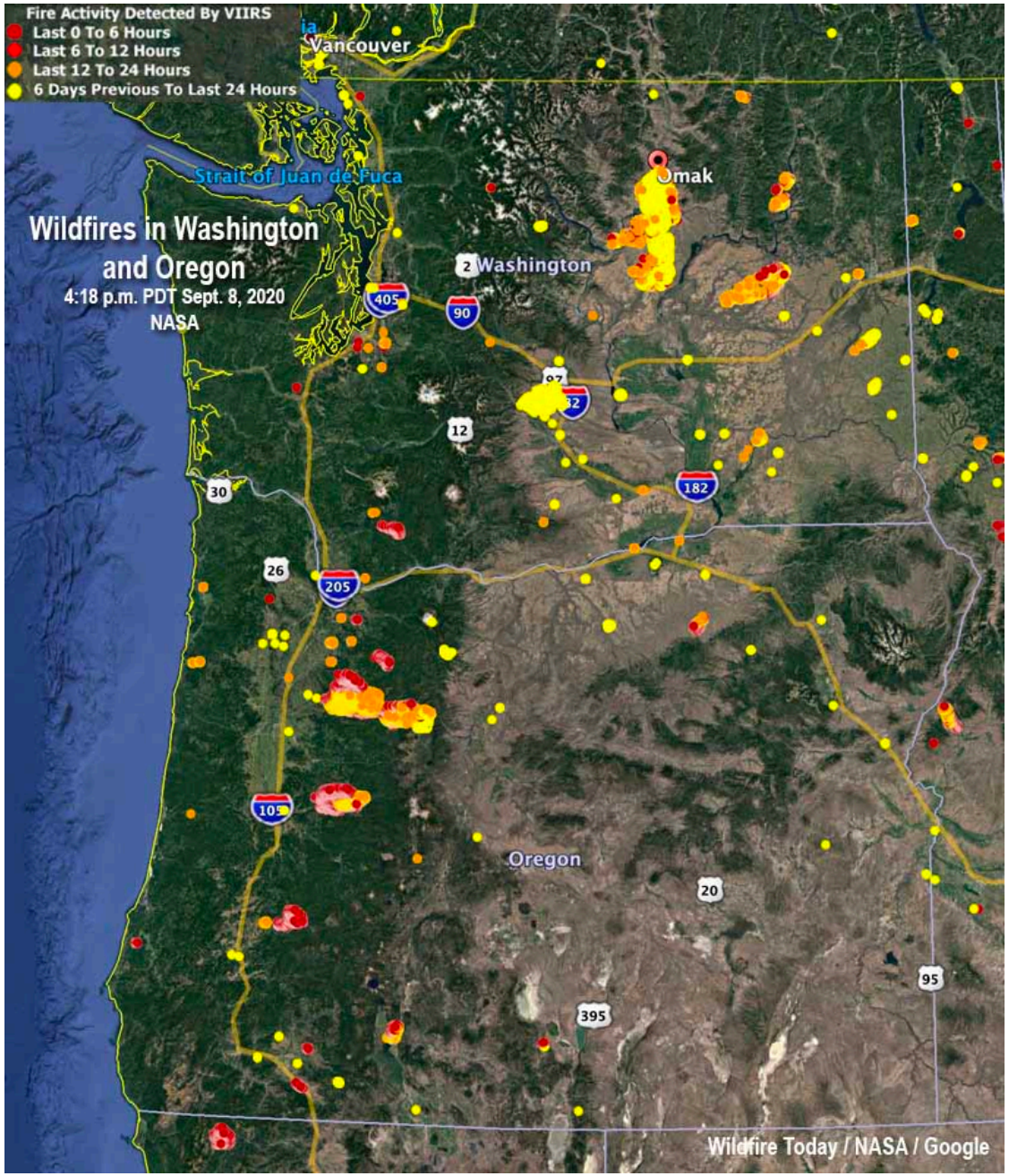
Water Quality Impacts and Coordination for the 2020 Rogue Basin Wildfires

Oregon DEQ
Water Quality Division

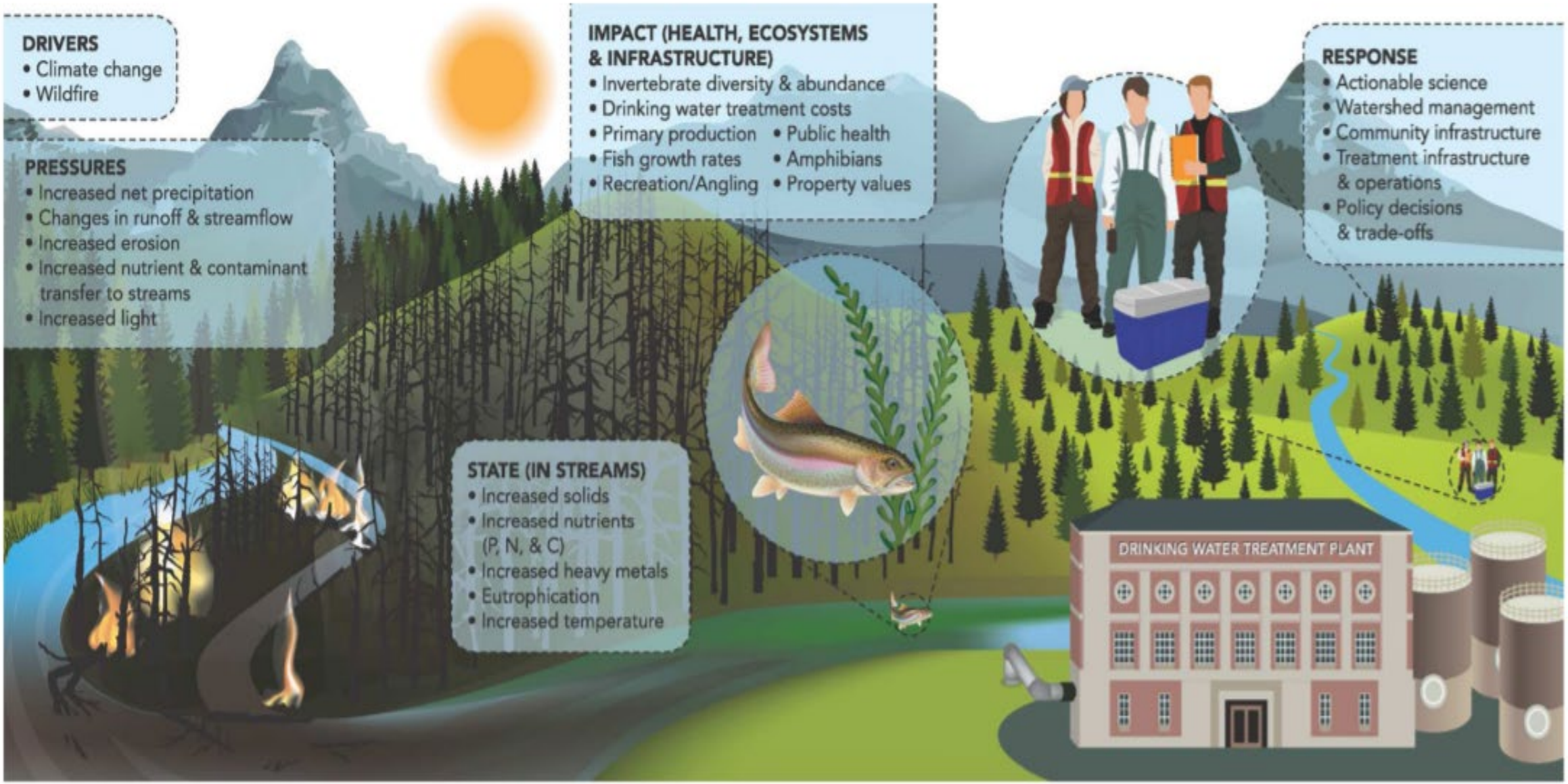
Jan. 13, 2021



Wildfire Name	Number of Public Drinking Water System Intakes Impacted
Almeda	3
Archie Creek	10
Beachie Creek	11
Echo Mountain Complex	1
Hager Ridge, Horse	1
Holiday Farm	6
Lionshead	4
Riverside	8
Slater	1
South Obenchain	7
Steinmetz Creek	1
Thielsen	1
Total	54

Total Acres burned: 1,000,562 Acres
Public drinking water systems impacted: 54

State of Oregon
DEQ Department of Environmental Quality



Graphic courtesy of Bladon et. al. Environ. Sci. Technol. 2014, 8936-8943

Impacts of Almeda Fire on Bear Creek

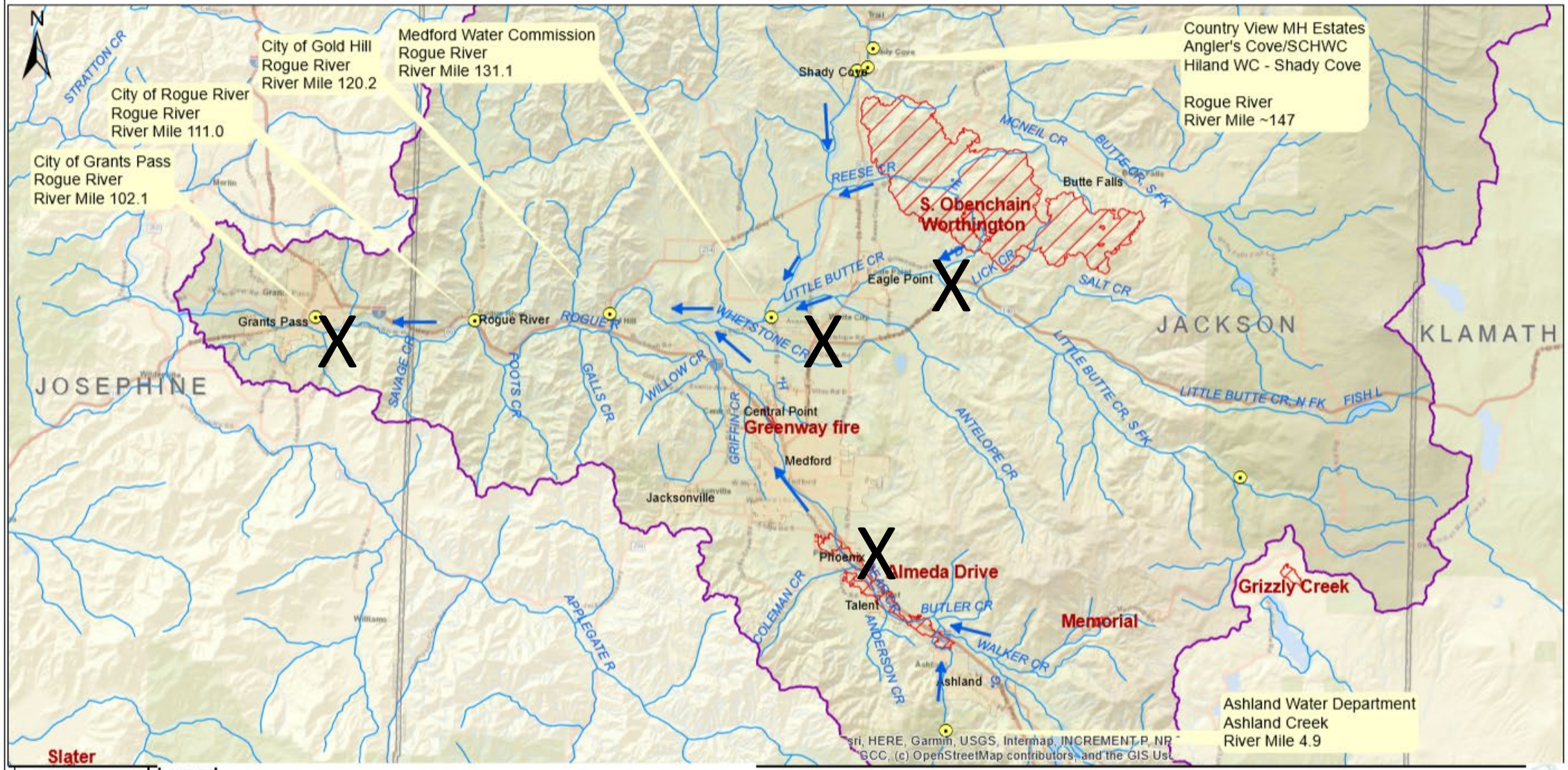
Immediate Concerns: Fire Retardant, Impacts on Stormwater

OAR 333-061-0036 – Research shows elevated potentially over drinking water guidelines:
Aluminum, Arsenic, Asbestos, Barium, Cadmium, Chromium, Cyanide, Iron, Manganese, Mercury, Nickel, Zinc, Ammonium, Nitrate, Nitrite, Phosphorus, pH, TDS, TOC, DOC

Figure 3. Examples of unburned (left) and postfire (right) stream beds.

Photos courtesy of Bladon et. al. Environ. Sci. Technol. 2014, 8936-8943

Upper and Middle Rogue Public Water Systems and 2020 Wildfires



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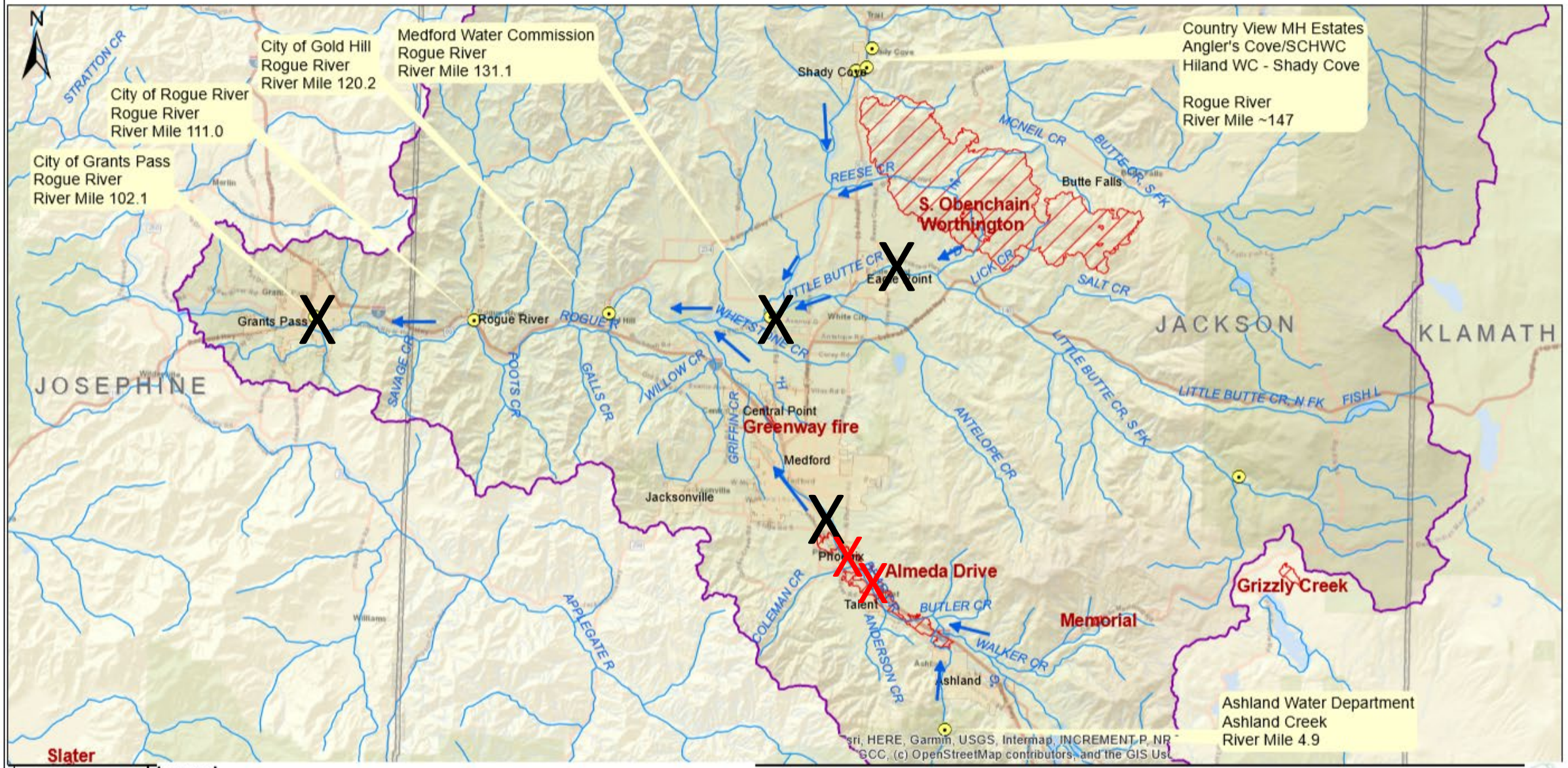

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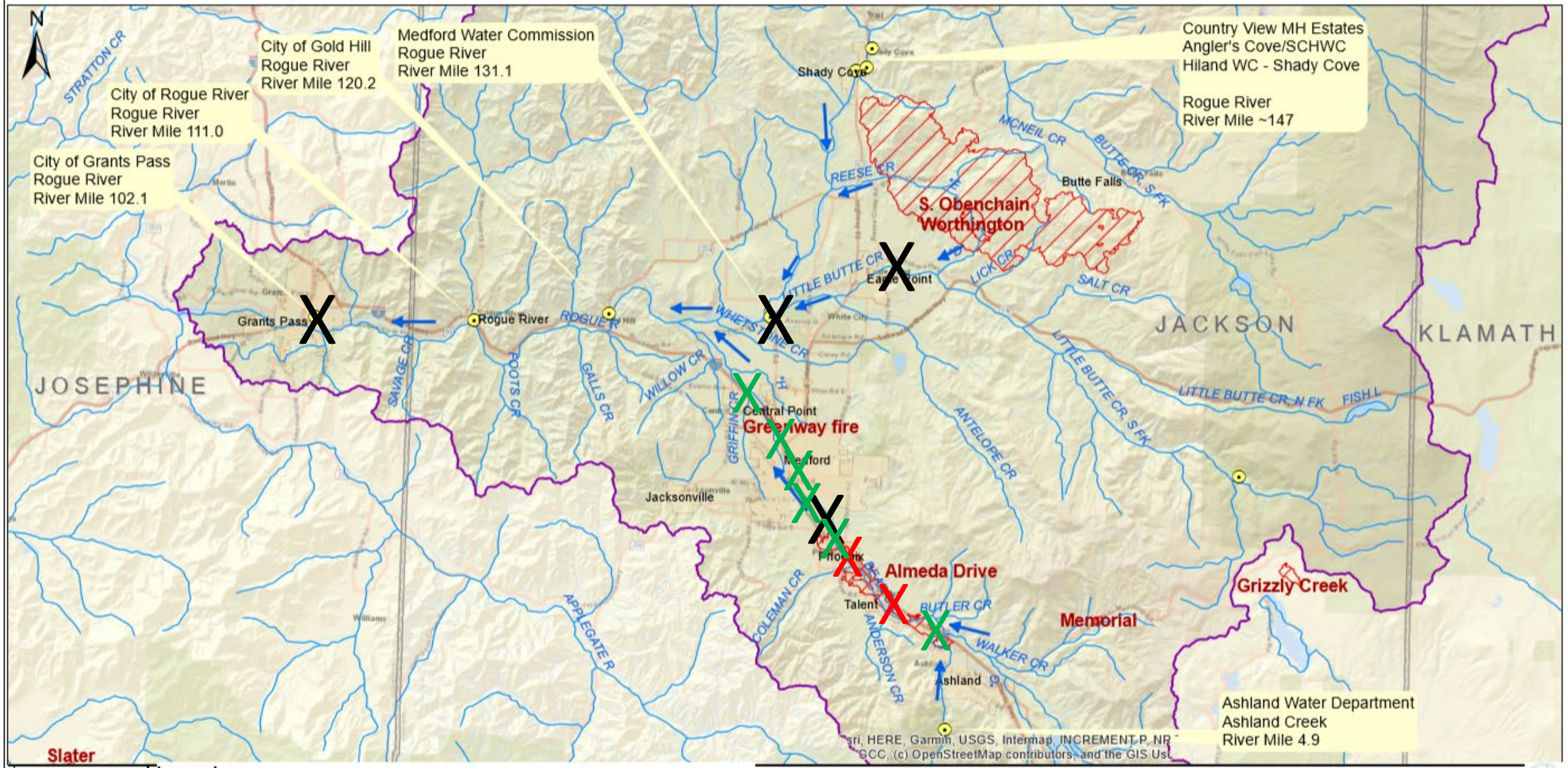

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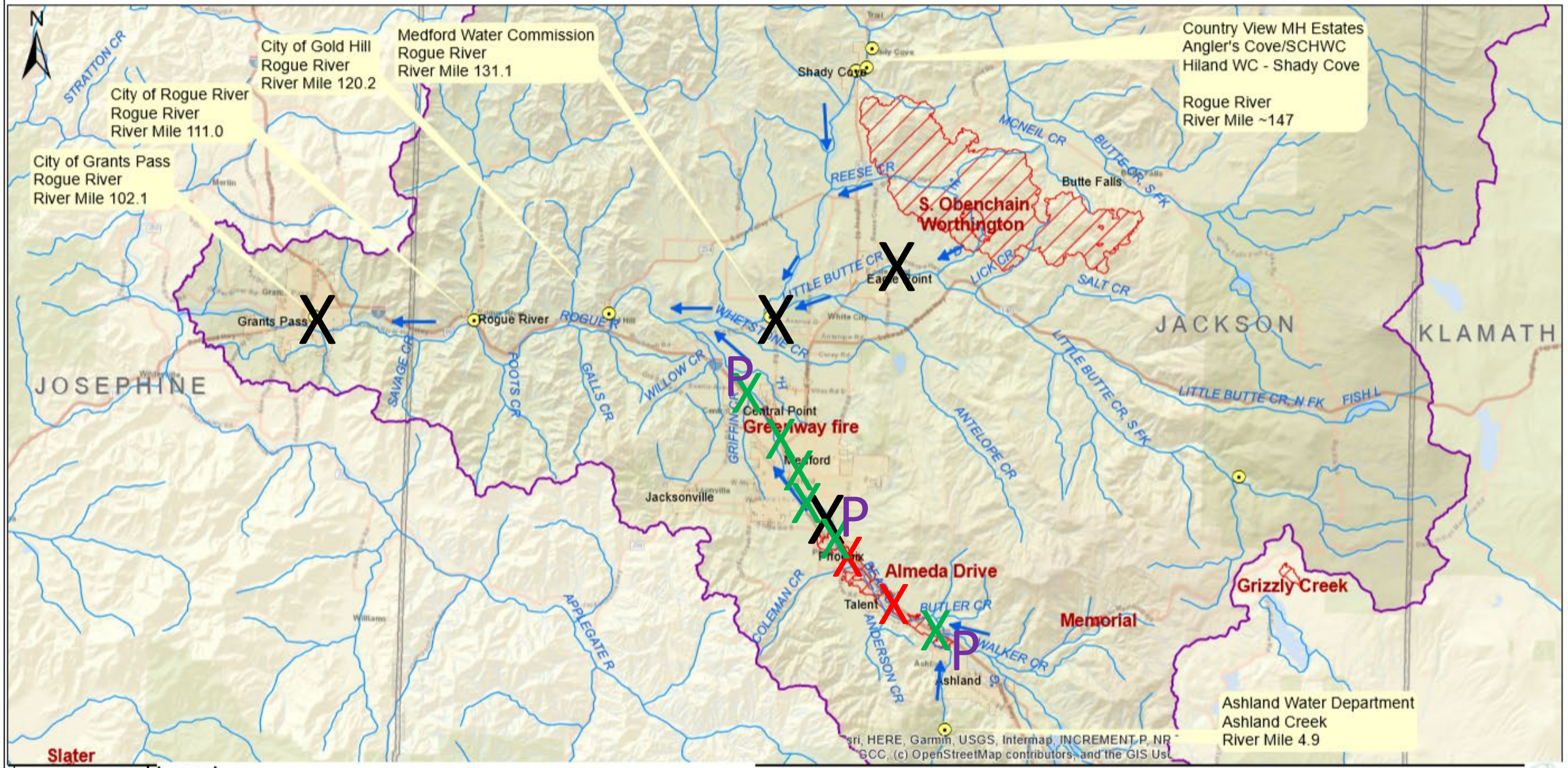

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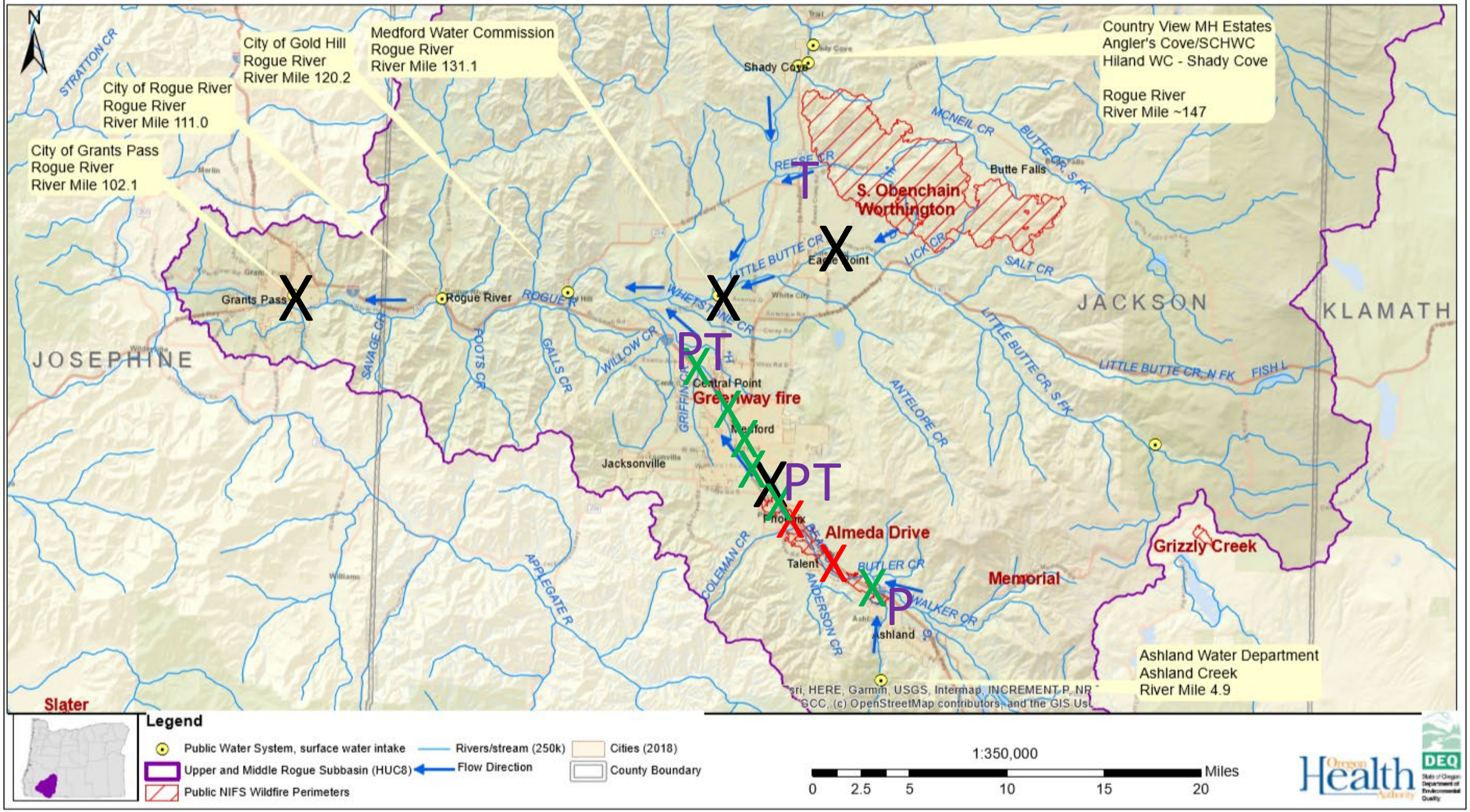

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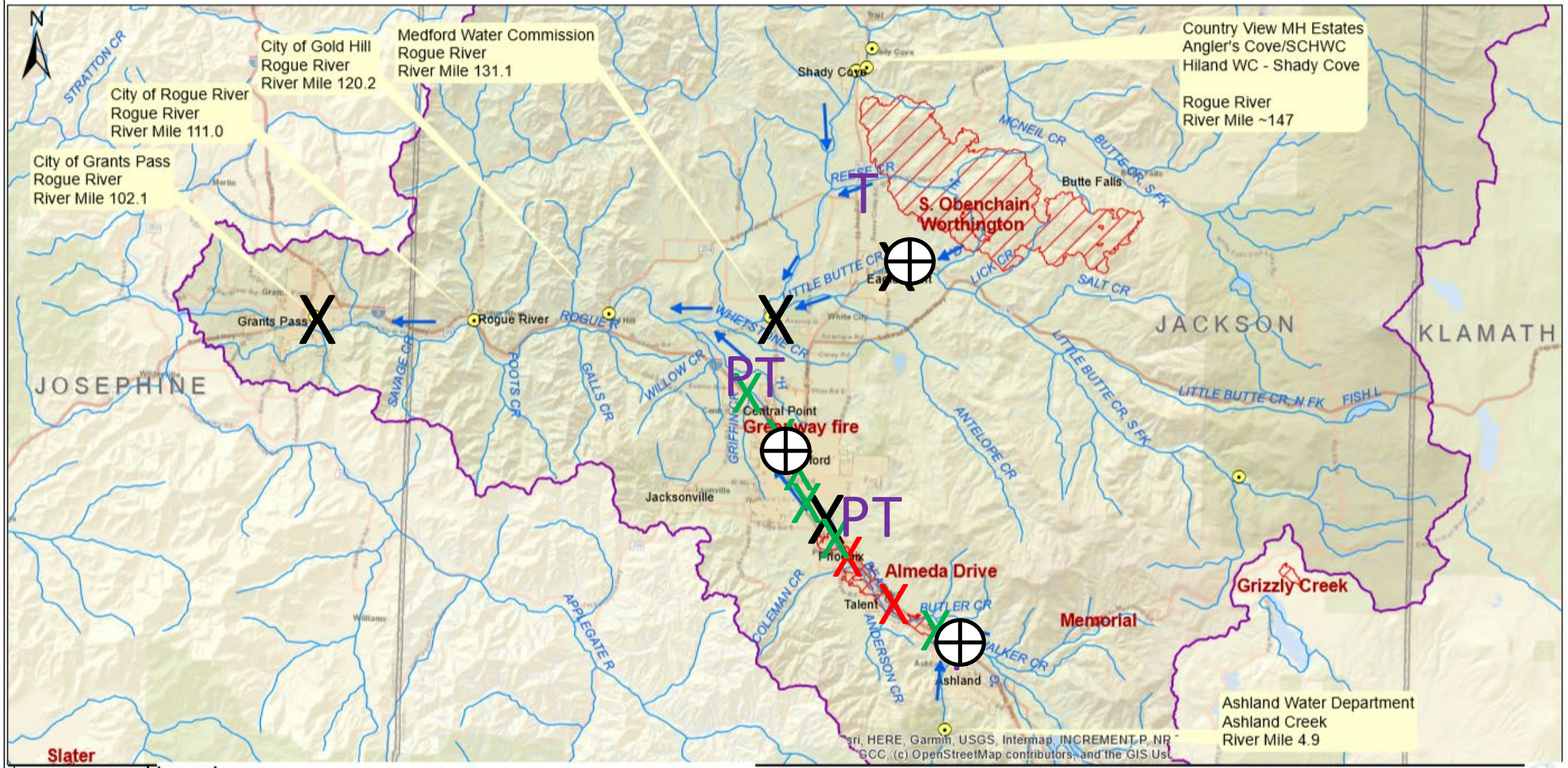

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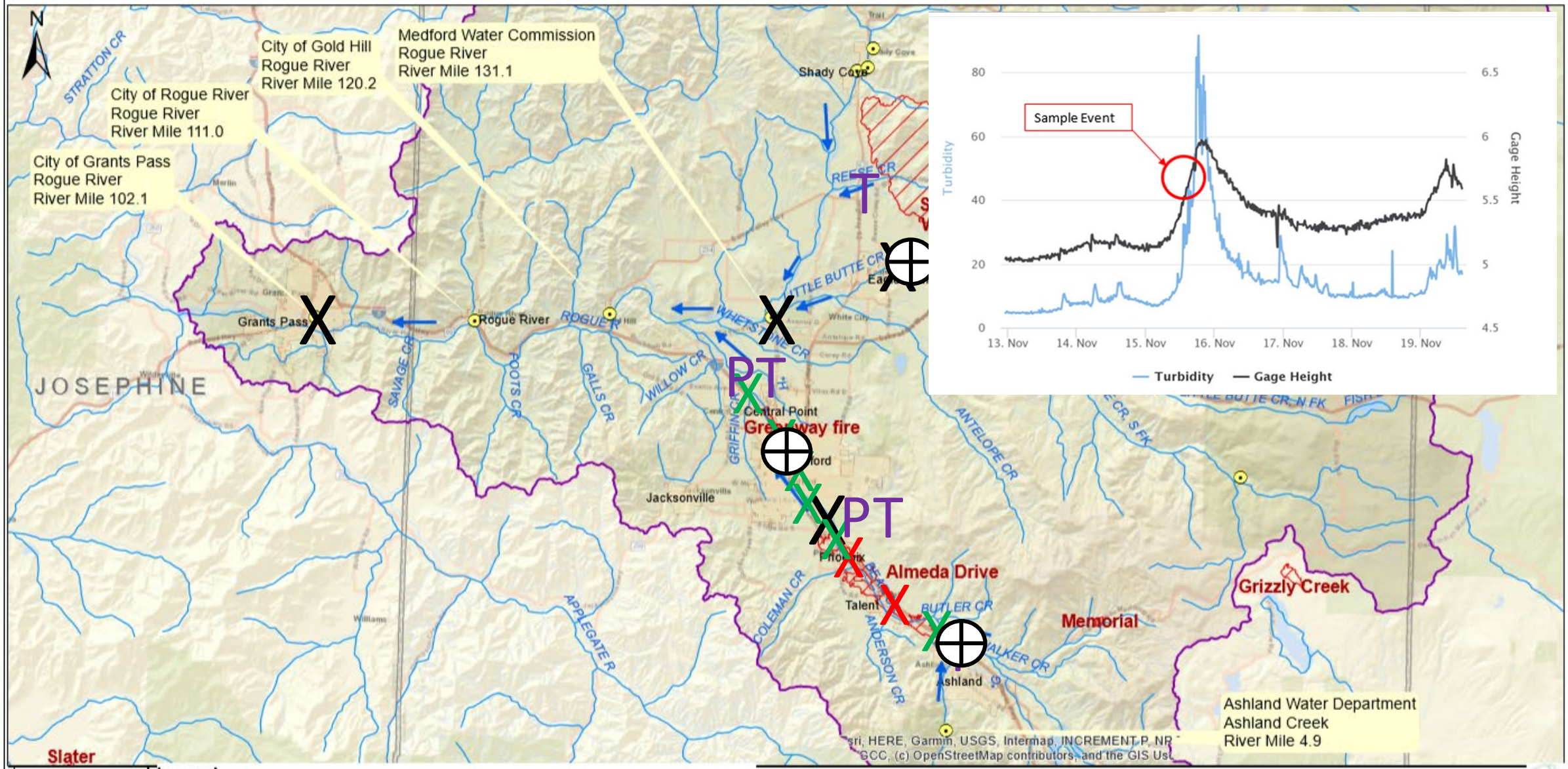

Current Results:

- High DOC levels seen during storm events – November 15th may be wildfire related. (1.9 mg/L Little Butte, 1.2 mg/L BearCk)
- Metals concentrations – Aluminum spikes occurred on November 15th (4.50 mg/L Little Butte, 4.29 mg/L BearCk)
- VOCs have not been detected in raw water downstream of the fires
- Preliminary pesticide monitoring results from October and November downstream of the fire are not indicating increasing contaminant levels
- Nutrient levels: Total Phosphorus seems to have spiked due to wildfire (0.235 mg/L LittleButte, 0.624 mg/L BearCk)
- Real time turbidity data is essential information for drinking water providers
- Real time data provides an important tool to monitor and improve BMP effectiveness

Future:

- Continue to monitor both chemical and physical properties: DEQ, RVSS, RVCOG, Medford Water Commission, City of Grants Pass, DEQ, Jackson SWCD, Rogue River Watershed Council
- Continue to monitor and implement stormdrain BMPs and ground stabilizing BMPs: RVSS and Jackson County
- Continue to pursue funding for additional monitoring and long term restoration of burned areas

Partnerships are key! Many Thanks to:

Jackson County, Rogue River Watershed Council, Jackson SWCD, Medford Water Commission, City of Grants Pass, Rogue Valley Sewer Services, Rogue Valley Council of Governments, Jackson County Watermaster, ODOT, DEQ, FEMA, EPA and many others…