



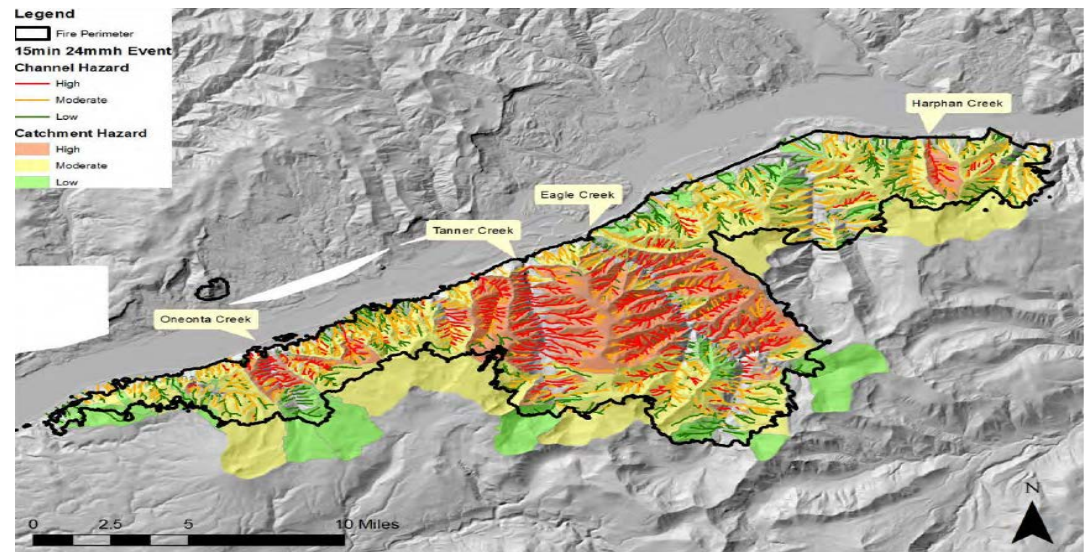
National Regional Sediment Management Program Portland District (NWP): Post Wildfire Sedimentation - Eagle Creek Fire



Description

In Fall of 2017, a wildfire swept through the Columbia River Gorge, burning approximately 50,000 acres of forest immediately adjacent to the Columbia River Federal Navigation Channel (FNC) and USACE owned Bonneville Dam. Tributaries to the Columbia River in highly affected areas, especially Eagle and Tanner Creek, present a threat to mobilize a great deal of sediment (up to 7 tons per acre) into both the FNC and the intakes/navlock at Bonneville Dam. Monitoring is needed to develop planning strategies to proactively manage potential impacts to USACE investments.

Figure 1. Map of Eagle Creek Fire Area.



Issue/Challenge To Address

The Eagle Creek Fire, which started in September of 2017, burned a large area in the Columbia River Gorge. The impacted area, near RM 140-160, is in close proximity to both the Columbia River FNC and Bonneville Dam. Roughly 50,000 acres was impacted by this fire. In February of 2018, a DOTS request was completed to have a team from ERDC give an initial assessment of the damage and potential impacts that NWP and local stakeholders could see as a result of the fire. Their assessment indicated that a significant amount of sediment could be mobilized in affected watersheds within the next 3-5 years as a result of vegetation loss and severely burned soils. It is also expected that debris dams and their subsequent breaching may cause large debris flows to move downstream, threatening Interstate 84 (the main east-west highway), the FNC, and Bonneville Dam. As next steps following the initial assessment, NWP would like to track sediment mobilization in order to plan for potential impacts.

The Columbia River FNC and Bonneville Dam are vital assets to national infrastructure. Impacts to either of these projects would be devastating to the regional economy since \$24 Billion in commerce passes through the Columbia-Snake River System annually, supporting the 2nd largest grain export industry in the world, and Bonneville Dam produces an estimated \$95 Million in power generation annually. Environmentally, the Columbia River supports runs of ESA-listed salmonids that rely on upstream and downstream passage through the Federal Columbia River Power System.



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Successes Lessons Learned

DOTS team completed a qualitative assessment of the area in early 2017. LiDAR runs were completed in the summer. Based on the DOTS evaluation it is expected that increased sedimentation is likely to occur 3-5 years post-fire.

Projected Benefits Cost Savings Value Added Expected Products

Predictability of impacts to the Federal Navigation Channel and/or Bonneville Dam. Partners at other agencies may use findings to predict impacts to major interstates and other facilities.

- Gage Installation
- Database of sediment budget
- IPR Presentation
- Poster at SEDHYD
- Technical Note,
- Conference Presentation

Stakeholders/Users

NWP, ERDC, ODOT, USGS, ODFW, WDFW, NOAA, DLCD, DOE, ODEQ, USFS, ! others. !

Leveraging Opportunities

DOTS request and BAER report from ODOT have a lot of existing data and analysis to build on.

Points of Contact

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Participating Partners

ODOT, USGS, USFS, USFWS