Habitat and Flood Capacity Creation Project

Winter 2016 - 2017

Project Overview

The Habitat and Flood Capacity Creation Project (formerly the Sediment Management as a Risk Reduction Tool Project) seeks to explore sediment removal as one of several potential short-term strategies for reducing the risk of damage from moderate flood events. Since 2009, Pierce County has been studying potential applications for sediment removal and, since 2014, has been carefully evaluating potential locations. Pierce County has selected a portion of the Puyallup River between Sumner and Puyallup as the best option for this multi-benefit pilot study.

The pilot study is fact-finding in nature, and the results of this holistic study will help determine if targeted sediment removal could be an appropriate and cost-effective strategy to reduce flood risk and improve fish habitat. The project is only to evaluate potential applications of sediment removal and related habitat benefits.

Stretch of the Puyallup River with heavy sediment loads and potentially limited habitat value.

Why are we doing this?

Create Habitat

The project provides an opportunity to create habitat where none currently exists or is degraded. The extensive system of revetments and levees on the Puyallup, White, and Lower Carbon rivers contributes to river channelization and isolates rivers from floodplains. The loss of these habitats has affected fish populations throughout the watersheds.

Targeted sediment removal and other habitat restoration activities can increase channel complexity and reconnect floodplains. This work can increase the rearing and spawning habitats of fish. These additional habitats can increase the overall fish productivity of a watershed.

Reduce Risk from Moderate Flooding

Mount Rainier provides Pierce County rivers with an extraordinary and constant supply of sediment. Following major flood events in 2006 and 2009, Pierce County residents expressed concern about this sediment and its connection to flood events. Residents and elected officials charged the county with exploring whether sediment removal could be an appropriate tool to reduce risk from moderate flooding. After study and conversations with regulators, Pierce County determined that targeted sediment removal could minimize impacts to resources and maximize benefits to infrastructure.

Pierce County recognizes that sediment removal is an important topic to many people, but it requires careful consideration. The county uses many tools and strategies to better manage flood risks. Localized sediment removal could be one tool to use in appropriate areas where:

- It would be difficult to implement other long-term flood hazard reduction strategies
- Other cost-effective management strategies do not exist
- Damage to public resources is likely to occur in the foreseeable future

What are you doing now?

The project team began work on the current sediment removal pilot study in 2014 by gathering technical information and evaluating information needs. In late 2015, a rigorous, year-long site selection process began to examine reaches of the Puyallup River that could potentially serve as effective locations for the pilot study. When evaluating these sites, the project team considered local geomorphology, sediment load, habitat value, and other factors. The final reach selected for the pilot study is a half-mile stretch of the Puyallup River, upstream and downstream from where it meets the White River.

The county is currently working to refine the design of the pilot study, as well as determine the right balance of habitat creation and flood capacity creation. In addition, the project team is working to draft technical studies in support of environmental documentation.

What's happening next?

Throughout 2017, Pierce County will continue project planning, permitting and design activities. Anticipated next steps include the following:

- Further develop habitat elements and sediment removal methods for the pilot study
- Continue coordinating with tribes and resource agencies
- Complete project reports and technical and environmental documents
- Continue outreach to communities
- Submit applications for permits
- Continue work on 60% conceptual design, including conceptual monitoring and adaptive management plans

Pierce County staff members are available to provide presentations about this project at local city councils and other community meetings upon request.

If you have questions, or if you would like to schedule a presentation, please contact:

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For more information about the project, visit:

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