

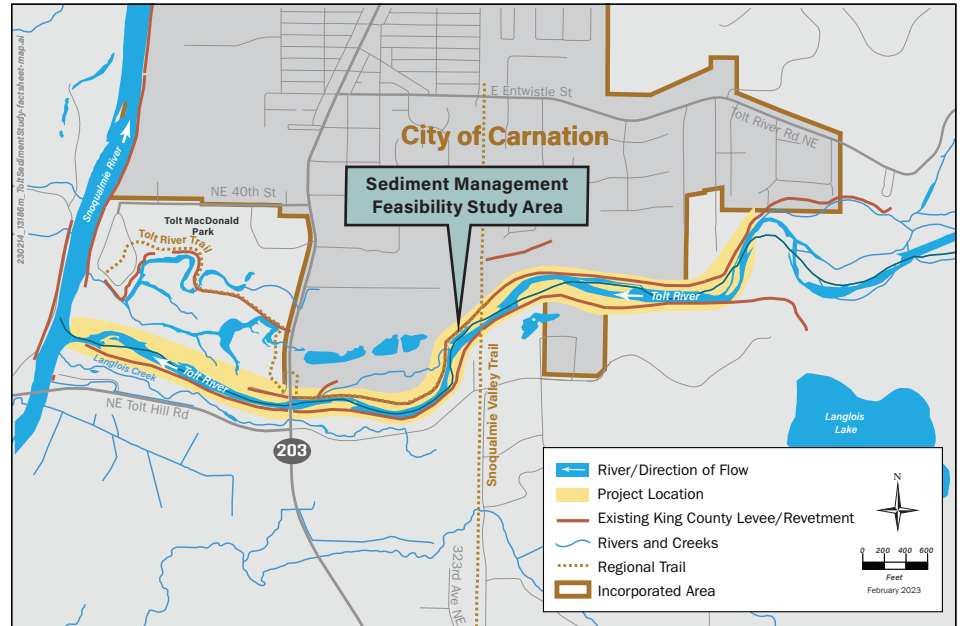
TOLT RIVER SEDIMENT MANAGEMENT Feasibility Study

Why is this study important?

The purpose of the Sediment Study was to determine if sediment removal is feasible and effective in reducing flood risks in the lower two miles of the Tolt River. The study also reviewed and updated previous studies on how much sediment is being produced in the upper watershed, moving down the river, and depositing in the lower two miles of the river.

From the 1930s through the 1960s, sediment was removed, or dredged, from the lower Tolt River. It was common practice to build levees with the removed sediment. Tolt River dredging ceased in 1968 because it is a costly solution that only provides short-term flood risk reduction benefits and requires frequent, labor-intensive work to maintain. More recently, we've learned about the significant negative impacts that dredging has on the environment and salmon that depend on undisturbed river habitats. Subsequent federal, state, and local regulations restricted some actions to prevent that harm.

King County's sediment management program includes monitoring river channel sediment levels to inform potential sediment management and flood risk



Project Location: This study area is on the lower Tolt River, south of the City of Carnation.

reduction actions. King County has monitored the lower Tolt River sediment levels every two years since 1992. Monitoring from 1994 to 2011 indicated increased sediment buildup in the river channel. Monitoring between 2015 to 2020 indicated reduced rates of buildup and channel lowering in some locations.

In 2017, King County evaluated four sediment removal scenarios. The evaluation found short-term, minor to moderate flood risk reduction benefits for removing sediment from gravel bars, and increased flood risk reduction benefits for full channel dredging

(*Evaluation of Gravel Removal in the Lower Tolt River, King County, 2017*). The 2017 evaluation did not include a review of regulations governing sediment removal or an assessment of the feasibility of obtaining permits to conduct the sediment removal scenarios evaluated.



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Tolt River Sediment Management Feasibility Study Results

In 2019, Washington State Department of Fish and Wildlife (WDFW) informed King County that any sediment removal for flood control purposes in rivers in Washington State is governed by WAC 220-660-170. The WAC states “The department may not authorize dredging in fish spawning beds unless it creates or improves the access or quality of fish spawning beds as part of an approved restoration project”. The entire lower Tolt River is considered fish spawning beds, where fish lay their eggs in the riverbed. This includes Chinook salmon and steelhead trout which are listed as threatened under the Endangered Species Act.

Further, WDFW stated that if permitting of sediment removal was to be considered, mitigation for aquatic habitat impacts, such as creating new fish spawning beds, would be required, and must be demonstrated to be fully functional, prior to any sediment removal. Additionally, sediment removal would only be permitted as a one-time action, and only if it could be demonstrated to be a long-term solution to a known flood risk, and other, less impactful flood risk reduction options that can provide additional areas for sediment deposition, such as levee setback projects, were not practicable.



Lower Tolt River

Conclusions

Sediment removal as a stand-alone flood risk reduction action in the lower Tolt River is not permissible under state regulations. King County will continue sediment monitoring to inform future projects. King County will consider sediment removal opportunities, outside the active river channel, in future levee setback projects.

For more information

Project website: kingcounty.gov/toltsedimentstudy

Contact Chase Barton, Project Supervisor,
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The Tolt River Sediment Management Feasibility Study Report and Evaluation of Gravel Removal in the Lower Tolt River are available on the project website.