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Green-Duwamish River

State: Washington

Threat: Outdated flood management

At Risk: Chinook salmon and public safety

Summary

Washington's Green-Duwamish River provides important habitat for chinook salmon — vital to local tribes and communities and critical to the diet of endangered southern resident killer whales (orcas). However, decades of contamination, floodplain development and dams have devastated the salmon population. Further, current flood management is inadequate to protect local communities from increasing flood risks due to climate change. As the King County Flood Control District develops the Lower Green River Corridor Flood Hazard Management Plan, it must select community supported alternatives for the plan that will promote sustainable flood management and significantly increase salmon habitat.



The River

The Green River flows unimpeded for 30 miles through forested mountains before reaching two dams: Howard Hanson Dam, a U.S. Army Corps of Engineers flood control facility, and Tacoma Headworks Diversion Dam for the city of Tacoma's drinking water supply.

Downstream of the dams, the river provides some of Puget Sound's best salmon and steelhead spawning habitat as it flows through forests, farms and the scenic Green River Gorge. At the city of Auburn, the river transforms into a channelized urban river with limited natural habitat. As the river approaches Seattle, it becomes the Duwamish River. The tidally-influenced Duwamish River provides critical nursery habitat for young salmon and a historically rich estuary before emptying into Elliot Bay and Puget Sound.

The river's salmon are especially essential to the culture and well-being of the Muckleshoot Indian Tribe, whose reservation lies on the divide between the Green and White river watersheds. Tribal members harvest fish from the Green-Duwamish River for subsistence, commercial and ceremonial use under fishing rights reserved by the 1855 Treaty of Point Elliott.

The Threat

For the past 40 years, wild chinook salmon returns have averaged less than 10 percent of the historic average adult return of 38,000, with as few as 800 chinook returning in recent years. Salmon declines are having devastating impacts on the southern resident orcas. Returning salmon face a daunting journey up the river. Extensive industrial development has resulted in the loss of approximately 97 percent of the historical estuarine habitat, and industrial pollution from polychlorinated biphenyls (PCBs), arsenic and other toxic chemicals has led to the designation of two contaminated Superfund sites in the estuary. Moving

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For More Information

Brandon Parsons
American Rivers

(512) 517-4001

bparsons@americanrivers.org

Doug Osterman
Green/Duwamish & Central Puget
Sound Watershed (WRIA 9)(206)
477-4793

Doug.osterman@kingcounty.gov

Cathy Cochran
Puget Sound Partnership
(360) 790-7958

cathy.cochrane@psp.wa.gov

Mindy Roberts
Washington Environmental Council
(206) 631-2600

mindy@wecprotects.org

Take Action:

[www.AmericanRivers.org/
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upstream, salmon must navigate a highly leveed and confined channel, largely devoid of vegetation and natural floodplain habitat. The extensive levee system separates the river from its historic floodplain, negatively impacting water quality, reducing rearing habitat and dramatically decreasing the amount of shade-giving trees along the river. Compounded by climate change, this has led to high water temperatures that can be lethal to salmon.

The Howard Hanson Dam is only capable of providing protection from a 140-year flood event, and climate change will cause the region to experience more intense and frequent flooding. The King County Flood Control District has chosen to upgrade the levee system in the Lower Green River to provide 500-year flood level protection for the communities and industry throughout the valley. The District has initiated development of a flood hazard management plan, which in its current form would lead to a larger and more extensive levee system. This would result in further loss of habitat and almost certain continued decline of salmon. Improving habitat and reducing flood hazards can both be achieved by setting back levees from the shoreline and creating side channels and more functional riparian areas.

In addition, nearly half of the historic salmon habitat in the Green-Duwamish watershed lies above Howard Hanson Dam, which still lacks adequate fish passage despite years of negotiations. Without access to the abundant, forested spawning habitat above the dams, and without improved water quality and quantity of juvenile rearing habitat in the Lower Green River, salmon and steelhead will continue their precipitous decline.

What Must Be Done

The public must hold agencies accountable to follow through on their promises to clean up the Lower Duwamish Superfund Site and improve fish passage at Howard Hanson Dam over the next ten years. Moreover, King County Flood Control District must develop a truly integrated plan for the Lower Green River. The District recently released the draft scope for a Programmatic Environmental Impact Statement (PEIS) for the Lower Green River Corridor Flood Hazard Management Plan, a plan that will guide flood hazard reduction actions for several decades. The scope, as currently drafted, intensifies river bank armoring and levee construction, and fails to include habitat restoration goals or specific habitat improvements in its alternatives.

More than \$163 million has been invested to restore vital chinook salmon habitat as part of the Green-Duwamish Salmon Habitat Plan (2005). The Watershed Ecosystem Forum, which oversees the recovery of salmon habitat in the Green-Duwamish River, and many other groups invested heavily in salmon recovery, are united in calling for a plan that will promote sustainable flood risk management, salmon recovery, water quality, aquifer recharge, public access and recreational and educational opportunities. The King County Flood Control District must strengthen the plan by defining integrated goals, maximizing the number of levee setbacks to increase flood storage capacity and salmon habitat, and offering clear habitat restoration actions to address the critical needs of salmon rearing habitat and riparian shade in the Lower Green River.