

Forum presentation

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Decision item:

To approve the 2019 WRIA 9 project lists as presented for Cooperative Watershed Management, Salmon Recovery Funding Board funding, King Conservation District (KCD) funding, and 1 (one) Million Trees.

High Priority Capital Projects

Lowman Beach

Location/River Mile: North of Lincoln Park

Chapter project number: Nearshore

Sponsor: Seattle Parks and Recreation Department

Jurisdiction reference: City of Seattle, just north of Lincoln Park

Capital budget Request: \$450,000

Overview of Project/history: Supporting final design of the project.

Seattle Parks and Recreation (SPR) will complete final designs for shoreline restoration at Lowman Beach Park on Puget Sound, just N of Lincoln Park in the Morgan Junction neighborhood of West Seattle. Future construction will include removing the tennis court, daylighting of Pelly Creek, removing approximately 130 lineal ft. of a failing vertical concrete seawall, nourishing the beach to restore a natural profile with foreshore and backshore, and installing native plants to improve riparian habitat.

Impact: The goal of this future restoration project is to restore much needed Chinook, coho, and pink salmon habitat along an urban shoreline where there are limited opportunities for restoration. To the N and S are private homes each with its own bulkhead. This public park restoration project presents opportunities for public education about restoration benefits and alternatives to hardened shorelines.

Lones Levee Setback

Location/River Mile: River Mile 38; Near Auburn

Chapter project number: MG - 9

Sponsor: King County

Capital budget Request: \$427,269

Overview of Project/history: King County Department of Natural Resources and Parks proposes to restore a dynamic mosaic of riverine and floodplain habitats along 0.3 mile of the Middle Green River (River Mile 38) off Green Valley Road about six miles east of the City of Auburn. With this grant, the County will have secured the balance of funding necessary to construct the project in 2020. This grant will afford ~5% of the overall project construction cost and will be used for channel reconfiguration and connectivity work. Overall, the larger restoration project will:

- Remove 1,600-foot-long levee to enhance channel migration, channel splitting, sediment dynamics, floodplain connectivity, and wood recruitment/retention
- Redistribute native gravel from the levee's core to adjacent river and floodplain
- Place large wood throughout the floodplain and river, including an oxbow (remnant channel)
- Excavate a small side channel to promote flows into a historic river channel
- Remove invasive plants and revegetate restored lands with native vegetation
- Construct 1,300-foot long setback revetment to protect farmland from erosion
- Construct 600-foot long setback levee to reduce flooding potential on farmland
- Construct additional downstream erosion protection features (if necessary) to moderate future channel migration
- Construct 2,500-foot long gravel road for long-term monitoring/maintenance of new facilities

The levee, constructed in 1960, is failing and confines the river channel, preventing habitat-forming processes in the floodplain. The project goal is to improve salmonid rearing and spawning habitat throughout 80 acres of forested floodplain to increase the freshwater survival of ESA listed Chinook and Steelhead, and other salmonids.

While the mouth of Burns Creek (which flows into the Green River near the eastern portion of Lones Levee) will likely be manipulated through the construction (and for salmonid benefit) of this project, most of the lower 0.5 miles are intended to be restored via a future separate restoration project.

Impact: With the levee removal, the Green River would be allowed to re-occupy and reset old meander bends and channel migration zones, improving the diversity of habitat for salmonids and other species.

Point Heyer/KVI properties

Location/River Mile: Eastern side of Vashon Island

Chapter project number: NS – 17: Functioning Nearshore habitat protection on Vashon/Maury Island

Sponsor: King County

Capital budget Request: \$650,000

Overview of Project: King County Water and Land Resources proposes to purchase two target properties with a total of 990 feet of feeder bluffs located in the south reach of the Pt. Heyer Drift Cell (PHDC) shoreline on the east side of Vashon Island in central Puget Sound. Acquiring this property will preserve the sediment supply to the largest (and last) remaining barrier lagoon in King County with a 5+ acre salt marsh which provides important refuge and rearing habitat for juvenile salmonids. All the parcels in the drift cell are prioritized for acquisition. If King County is unsuccessful in acquiring the target properties, they will move on to other Tier 1 and 2 parcels.

The long-term goal of this project is to protect roughly 10,500 feet of the Pt. Heyer Drift Cell, which begins at the feeder bluffs at Vashon Landing and terminates 2.2 miles to the south at the Pt. Heyer barrier lagoon. As of March 2019, this effort has protected 13 parcels, totaling 72 acres and 3,646 feet of marine shoreline. Chinook, chum, coho, cutthroat, pink, and steelhead are known or expected to be present along the eastern shoreline of Vashon Island. Forage fish, which are a key food source for salmon, also spawn along the drift cell. Ongoing stewardship maintenance, including invasive species and litter monitoring and removal, will continue indefinitely.

Impact:

- 2650 feet of high-quality shoreline
- 3.5 riparian acres
- 5.3 acres of salt marsh
- 2 upland acres
- 13 tideland acres

Downey Farmstead

Location/River Mile: City of Kent; river mile (RM) 21.5 and 22.3 along the inside meander bend

Chapter project number: LG – 7; Suite of projects to restore habitat along the mainstem and lower sections of the Lower Green.

Sponsor: City of Kent

Capital budget Request: Alternate; Actual project cost \$5,324,438

Overview of Project: This final phase of the Downey Farmstead restoration project will restore salmonid habitat on the Lower Green River by creating 1875 linear feet of side channel habitat that will be available at a range of flows during the juvenile outmigration period, reconnect 16 acres of floodplain, and revegetate one-half mile of riparian corridor in an area that has been greatly altered from historical conditions.

Impact: Overall project goals, as identified in the WRIA 9 Salmon Habitat Plan, are to restore habitat along the Lower Green River by:

- Creating rearing and flood refuge habitat for juvenile salmon;
- Reconnecting mainstem and tributaries with portions of the floodplain;
- Installing anchored large woody debris; and
- Controlling invasive plant species and planting with native plants.

While the project is focused on juvenile Chinook salmon needs, the project also addresses the limiting factors and habitat needs of steelhead and coho. It will also provide over one-half mile of south bank shade over an extremely temperature-impaired river segment. These goals will be met once the restoration phase of the project is constructed.

Cost increase requests

Riverton Flapgate removal project

Location/River Mile: RM 6.6

Chapter project number: DUW – 8: Riverton Creek Habitat Rehabilitation and Fish Passage Improvement at RM 6.6 (Left Bank)

Sponsor: City of Tukwila

Capital budget Request: \$100,000 PSAR returned funds; \$21,000 additional funding

Overview of Project: This grant request will supplement the 2016 and 2017 SRFB/PSAR funding, and provide funds needed to complete the described design (including updated site analyses and multiple property owner negotiations), permitting, and construction. This grant will restore approximately 400 lineal feet of privately-owned Duwamish River bank adjacent to the site. This bank along the Duwamish River is categorized as 'critical' on the Muckleshoot Tribe's Sun Aspect Map, which identifies the areas along the river most in need of shade based on solar aspect. These funds will restore more than a half-acre of additional riparian buffer along Riverton Creek. This project will install a new pedestrian bridge/culvert for the Green River Trail and structural reinforcement to the adjacent roadway (Tukwila International Blvd). The creek will provide off-channel rearing habitat for salmonids, including the ESA listed Chinook salmon, steelhead, and bull trout, and compliments other completed projects that provide similar functions.

This project received 2016 PSAR and 2017 SRFB funds.

Impact: Rehabilitate habitat within Riverton Creek and improve its connection to the Duwamish River to improve fish access and provide off-channel rearing and refuge habitat.

Green River Riparian Revegetation

Location/River Mile: City of Tukwila and City of Kent; River mile 13.9, 15, 19.5 and 43.5.

Chapter project number: WRIA 9's 2016 Re-Green the Green Revegetation Strategy, an addendum of their 2005 Salmon Habitat Plan, sets goals for revegetation based on the 2011 Green River Temperature TMDL and the Muckleshoot Indian Tribe's sun/shade map analysis.

Sponsor: King County

Capital budget Request: \$100,000 PSAR returned funds; \$50,600 additional funding

Overview of Project: King County will restore 13 acres of riparian habitat along 1.35 miles of Green River shoreline nearly devoid of tree cover, by removing invasive plant species and planting native trees and shrubs. The project sites are in public ownership and were identified by the Muckleshoot Indian Tribe as an area with high or critical need for tree shade. Restoring native riparian vegetation will benefit spawning and rearing ESA listed Chinook salmon and steelhead in the Lower and Middle Green River basins. Historic removal of tall, native trees from the banks of the river allows too much sunlight to reach the water, resulting in summertime water temperatures that frequently exceed state water quality standards and the lethal threshold for ESA listed Chinook salmon and steelhead, as well as chum, coho, and pink salmon. The Green River Temperature TMDL identified the lack of shade as a main driver for these high temperatures and the need for tall, continuous riparian vegetation along the river's banks (Department of Ecology, 2011). To support this finding, the Muckleshoot Indian Tribe developed a series of maps prioritizing shorelines where trees would most effectively shade the river based on solar aspect. These studies informed WRIA 9's 2016 Re-Green the Green Vegetation Strategy, which set goals and named priority reaches for revegetating the Green-Duwamish River shoreline.

Impact: The goal of this project is to plant shade producing native vegetation that will help moderate high water temperatures and improve riparian habitat in areas that currently lack trees and native vegetation. Planting will occur at three sites on the mainstem of the Lower and Middle Green, for a total of 13 acres along 1.3 miles of shoreline. [Grab your reader's attention with a great quote from the document or use this space to emphasize a key point. To place this text box anywhere on the page, just drag it.]



Photo: Stream temperatures measured along the length of the Green River from above the Howard Hanson Dam reservoir to Tukwila at River Mile 7.9 on July 4, 2015. Temperatures are well above state temperature standards for the 7-day average daily maximum and reached lethal levels in all subwatersheds. From King County, unpublished data.

Education and Stewardship Funding

Policy ES1: Support vigorous education/information efforts to promote greater awareness of the watershed, its resources – including salmon – and how people depend on and affect those resources.

Improving Watershed Health and Salmon Habitat Through Education and Outreach – Environmental Science Center

Location: Highline School District (32 schools)

Sponsor: Environmental Science Center

Capital budget Request: \$30,000

Overview of Project:

- Increase public awareness of watershed health and salmon habitat protection through:
 - Student field studies – Salmon Heroes and Beach Heroes
 - Educational Outreach and Community Events
- Encourage people to make positive behavior changes to improve water quality of Puget Sound and protect salmon habitat.

Impact:

- In School Programs: 3,120 students (and their families!)
- Family and Community Events: 2,245 participants
- TOTAL: 5,365+



Beach Naturalists Program – Seattle Aquarium

For dates and locations please see:

https://www.seattleaquarium.org/sites/default/files/files/MEET%20Beach%20Naturalist_2019.pdf

Locations:

1. Olympic Sculpture Park
2. South Alki/Constellation Park
3. Lincoln Park
4. Seahurst Park
5. Des Moines Beach Park
6. Saltwater State Park
7. Redondo Beach
8. Dash Point State Park

Sponsor: Seattle Aquarium

Capital budget Request: \$21,000

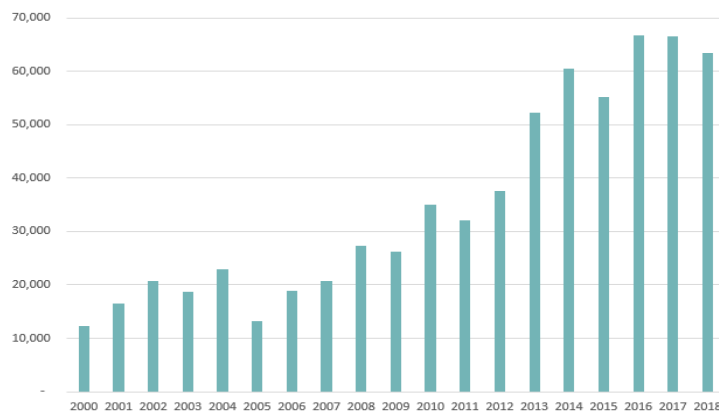
Overview of Project:

Stroll along almost any Seattle beach during low tide on a summer weekend and you'll see that the shore is alive!

Not only will you witness Puget Sound's multitude of marine plants and animals, you'll also see beach naturalists: advocates for these living wonders sharing their knowledge with beachgoers.

Beach naturalists are local citizens who care about Puget Sound beaches and want to help protect them. More than 100 have volunteered to help people learn about and enjoy area shorelines. Beach naturalists know their beaches: they can help you enjoy the habitat without harming it; tell you what sea stars eat; explain why barnacles stand on their heads; describe how moon snails lay their eggs; and so much more. "The enthusiasm and excitement of our beach naturalists transfers directly to the public—it's a wonderful, infectious thing!" beams Janice Mathisen, community outreach coordinator at the Seattle Aquarium. "To be able to meet a family and educate them on what a treasure we have here in Puget Sound is amazing.

Impact: In 2018, over 63,000 Puget Sound Residents, School groups, Camp groups, and Community partners engaged in discussion with a beach naturalist.



‘ReGreen the Green’ project applications:

Total Project Funding: \$250,000

Sponsors: King County, Green River Coalition, Mid Sound Fisheries Enhancement Group, and Forterra

Lower Green River Riparian Revegetation at Bicentennial & Riverview Office Parks | Green River Coalition: Priority 1 areas (WRIA 9 Riparian Vegetation Strategy) on the Lower Green River using professional crews and community stewardship. Subject areas are on public lands or Tukwila-owned parcels adjacent to the Lower Green River (RM) 13 -14.

Newaukum Creek Revegetation | King County: Proposal to revegetate the riparian zone of Newaukum Creek in a reach identified in an Ecology TMDL as having water temperatures that exceed state standards for salmon. At least 900 lineal feet of riparian zone will be revegetated within 100 feet of Newaukum Creek encompassing four acres of revegetation.

Lower Green Auburn Parks Revegetation and Stewardship Project | MidSound Fisheries Enhancement Group: Partnering with Auburn Parks to assist in revegetation and stewardship on 3 of their parks that are along the shores of the Lower Green River: Fenster, Dykstra, and Isaac Evans.

Fort Dent Shoreline Stewardship | Forterra: Engage the Tukwila community in transforming 1000 linear feet of riverbank at Fort Dent Park from blackberry monocultures to diverse native vegetation communities.

1 Million Trees Initiative – King County

Total Project Funding: \$175,000

Sponsors: Green Seattle Partnership and Vashon Maury Land Trust

Judd Creek/Ellisport Creek Conifer Underplanting and Salmon Enhancement Project | Vashon Maury Land Trust: We will be planting 5,000 trees over a 48-acre area to help transition our riparian forests from aging alder to conifers and to reforest cleared areas. This project is part of a larger wetland and salmon enhancement project that we are doing next year along Judd Creek, the largest salmon bearing creek on Vashon Island.

- Includes 15 acres of alder dominated forest on Maury Island.
- 5,675 trees over a project area that covers 63 acres.

Green Seattle Partnership Tree Planting | Green Seattle Partnership: This proposal seeks funding to aid in the restoration of GSP zones along Longfellow Creek, within the **West Duwamish Greenbelt** in West Seattle and the **East Duwamish Greenbelt along the east side of Interstate 5**, by providing funding specifically for planting of trees in these zones.

- 9,333 native trees on 9-12 acres along Longfellow Creek

TOTAL trees planted = ~15,000

Monitoring Projects

Total Project Funding: \$127,000

Monitoring has previously been approved at 10% of the total CWM funding amount (decision in 2013).

1. WDFW Smolt Trap | Request \$40,000 (total \$170K to run smolt trap)

WRIA 9 has contributed to the smolt trap for the past 5 years as part of a cost-sharing arrangement between WDFW, ACOE, and the city of Tacoma. The smolt trapping effort has occurred for approximately 20 years. The ITC has previously stated collecting this data is of the highest importance. Data collected from fish in/fish out is fundamental to understanding how juvenile salmon are using the system and provides information on limiting factors and habitat prioritization.

2. American Rivers Economic Study of salmon restoration on Property Value in Puget Sound | Request \$15,000 (of total \$75,000)

The primary barriers to floodplain restoration in the Lower Green are a lack of funding and available land. Municipalities in the Lower Green receive approximately 1/3 of their annual revenue from property taxes. This tax base has made even the most blighted and under-utilized properties appear to be more economically productive than the healthiest public space. However, research has shown that restoration of urban waterways has, on average, produced a substantial return on investment (ROI) in the form of increased value of adjacent property, increased investment, improved quality of life, increased willingness to pay and a variety of other social and environmental benefits.

American River's is seeking funding to develop a study to research the economic benefits of urban waterway, waterfront, greenway and salmon habitat improvements on residential and commercial property values in the Puget Sound Region. The study will build upon previous economic studies by WRIA 9 and identify sustainable funding mechanisms that can be used to finance and maintain improvements in perpetuity.

3. WDFW Otolith Study | Request \$32,000

WDFW was able to collect 150 otoliths in 2018, reducing the budget ask from last year. However, they do not have the money to analyze these otoliths. WDFW has previously evaluated otoliths from 2015, 2016, and 2017 (the last two with WRIA CWM \$). WDFW would evaluate these otoliths to establish 1) which juvenile life history types are contributing to adult returns, 2) Any differential survival between Soos, Newuakum and the mainstem), 3) how many natural unmarked adults were actually Soos Creek Hatchery fish.

4. King County (Chris Gregersen) | Green River Flapgate Salmon Passability and Design Evaluation | Request \$40,000

The purpose of this proposed project is to inventory current flapgate data, develop and implement flapgate monitoring technology to assess the functionality of existing flapgates, and pair fish sampling with flapgate monitoring to understand how flapgate function effects fish passage. This budget would allow for the study of 4-5 flapgates, their functionality, and fish passage associated with them. Recent work has provided evidence that fish passability of flapgates is variable and may be influenced by design criteria of flapgates (height, size, position relative to river). This project would seek to understand how those design criteria effect fish passage and provide recommendations for future flapgate construction and retrofit of existing structures.

Capital Project Implementation

Total request: \$131,300

This is a longstanding request through CWM that supports staff in the development and implementation of priority projects and programs within the Habitat Plan.

Work tasks include:

- Grant writing, design review, site visits, project database tracking and project outreach
- Consultation meetings, design assistance, field visits, funding identification and grant writing assistance
- Development of updated Project Implementation Progress Report; Project solicitation and prioritization
- Generate new funding mechanisms, update policies and timelines to accelerate Salmon Habitat Plan implementation efforts