

2019 Monitoring proposals		
1	WDFW smolt trap	40,000
2	WRIA 9. NTA. Effects of PCB exposure of Juvenile Chinook salmon survival.	90,000
3	Chris Gregerson – Green River Flapgate Salmon Passability and Design Evaluation	40,000
4	Jen Vanderhoof – Implementing Plan Project U-1: Upper Green Connectivity Project	71,000
5	American Rivers. Economic Study of salmon restoration on property value in the Puget Sound	15,000
6	Seattle/UW. Lowman Beach-pre-project monitoring	53,700
7	WDFW otolith study –	32,000
TOTAL request		\$341,700
FUTURE projects - 2020 & beyond		
	Kollin Higgins-Marine Shoreline Monitoring	\$40,000
	Data updates associated with Status and trends	
	Middle Green land cover classification (create data so matches Duwamish and Lower Green)	
	Kollin Higgins via UW (or other sponsor) – Trail user survey	

1. **WDFW. Smolt Trap. \$40K request of 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.
2. **WRIA 9 NTA-Effects of PCB exposure of juvenile Chinook salmon survival, \$90K**
The project provides tools that will enhance the ability to evaluate Chinook contaminant exposure and impacts to their health and survival throughout Puget Sound. Chinook fry rearing in the Duwamish estuary experience extremely low survival, limiting productivity in the Green/Duwamish watershed. Limited tissue chemistry data indicate juvenile Chinook are bioaccumulating contaminants while in the Duwamish and that PCB exposure may be causing adverse health effects. However, effect thresholds are sparse or lacking for evaluating chemical contaminants. Effect thresholds provide context for evaluating chemical toxicity to salmon and can be highly variable depending on assumptions used in their development. This project will use the WRIA 9 stakeholder process to establish assumptions, including screening criteria, for Puget Sound Chinook effects threshold development, develop a tissue effect threshold for PCBs, and provide inventory of dose-response studies for other contaminant thresholds.
3. **King County-Chris Gregersen. Green River Flapgate Salmon Passability and Design Evaluation, \$40K.**
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.
4. **King County-Jen Vanderhoof. Implementing Plan Project U-1: Upper Green Connectivity Project. \$ 71k.**

This proposal partially implements Salmon Plan project UG-1 as well as policy UG-2 (support forest harvest rotation programs that minimize impacts on salmonid habitat). This proposal represents the first phase in the development of a U-1 strategy to protect and restore habitat. This phase would thoroughly document, examine, and analyze the current conditions of the Upper Watershed with respect to biodiversity (fish and wildlife specifically) and propose a prioritization scheme for habitat protection. Deliverables from this phase would include a report with recommendations on future phases, including a suggested path forward to complete a strategy. Subsequent phase(s) may include further field study, if determined necessary, as well as the convening of a working group to pursue a public landownership protection plan based on the initial prioritization

5. American Rivers Economic Study of salmon restoration on Property Value in Puget Sound. Grant request is for \$15K of total \$75K.

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.

6. Lowman Beach pre project monitoring. Seattle/UW. \$54K.

Proposes biological monitoring to take place in Spring-Summer 2019 at Lowman Beach Park and several reference sites in West Seattle along Puget Sound shoreline. We will collect before-construction baseline data on habitat conditions at the site's armored and un-armored shoreline, including invertebrates that are used by juvenile salmon as prey resources. Habitat conditions that will be monitored are (1) beach wrack deposits (algae, eelgrass, terrestrial debris deposited on an ebbing tide), and (2) logs and riparian vegetation. This will be compared to another pair of armored and un-armored shorelines in the vicinity, providing a stable reference site for comparison after the Lowman Beach armor is replaced and parts of the beach restored

7. WDFW Otolith Study-\$33K

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.

8. Lower Green River Trail survey. This idea/concept has been pulled for consideration in 2019. Effort will be put into further developing the proposal for the 2020 monitoring grant round.