

**Green/Duwamish and Central Puget Sound Watershed (WRIA 9)
Implementation Technical Committee**

October 20, 2021 | 9:30 am – 11:37 am

Agenda and Meeting Summary

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Meeting ID: 549 620 831

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9:30	Welcome <ul style="list-style-type: none">• Introductions• Agenda Review	Iris Kemp, WRIA 9
9:35	Soos Creek Bioassessment TMDL <ul style="list-style-type: none">• Overview of the Soos Cr bioassessment TMDL• Brief update on temperature/DO TMDL	Cleo Neculae, Department of Ecology
10:45	2021 Lower Green Chinook PIT Study <ul style="list-style-type: none">• Preliminary results from Lower Green Chinook PIT tagging in 2021	Chris Gregersen, King County Science
11:20	Round Robin Updates <ul style="list-style-type: none">• Construction Projects updates?• New topic requests for future ITC meetings? Known future topics include: Harbor Island Dock Removal presentation Grant timelines/RFPs	All
11:30	Adjourn	

WRIA 9 ITC web page: <http://www.govlink.org/watersheds/9/committees/ImpleTechCmte.aspx>

Participant list:

- Iris Kemp - facilitator
- Matt Goehring
- Suzanna Smith
- Kollin Higgins
- Alexandra Doty
- Halley Kimball
- Jessica Olmstead
- Josh Kahan
- Matt Knox
- Meara Heubach
- Mike Perfetti
- Cleo Neculae
- Katherine Lynch
- Heidi Watters
- Chris Gregersen
- Carla Nelson

Soos Creek Bioassessment TMDL and Temperature/DO Update

Cleo Neculae, Washington Department of Ecology

- Overview on project to study impacts of Soos Cr hatchery on temperature. Four sites were monitored from 5-9/2020. Modeled temperature exceedances through summer for standard criteria and year-round for supplemental criteria for spawning. This project is being re-visioned; Cleo is excited to work with environmental program and stakeholders (like WRIA) to come up with framework designed for urban areas.
- Poor BIBI scores cluster around urban areas; BIBI has become an indicator of urbanized water health. Benthic invertebrates and BIBI impairment in Soos Cr; Ecology & EPA looked at causal pathways for impairment and stressor-ID analysis. Most likely causes of impairment were fine sediment, habitat degradation, high pulse counts (high flow events affected by stormwater and impervious surfaces). TMDL Stations ranked fair to very poor; Stressor ID Stations ranked excellent to very poor over the subbasins. TMDLs exist at the intersection between science and policy; legal challenges in other states limit ability for TMDLs for flow and habitat. Ecology's approach is a TMDL for fine sediment (which is related to and must address stormwater). Approach is to use forest (pre-development) conditions and get the runoff to match and next steps (TMDL Implementation Plan) to develop BMPs that control stormwater runoff, low impact development, and treat for sediment upland. Engineer has calibrated hydrology and is in process of calibrating the model for HSPF sediment. Build Sediment Management Scenarios. Scenario development will be done with local jurisdictions. Then statistical analysis to understand scenario bounds and ensure TMDLs can get to desired condition. Phased approach to TMDL implementation. Next steps are not prescriptive but will determine the amount of work to get there.
 - Kollin: The 2012 Status and Trends report showed the same Soos issue with temp not being met in the shoulder seasons from 1994-2011. Noted window for status and trends on temp. Cleo: Model focused on critical summer period in July.
 - Kollin: Why was DO not included in causal pathways? Cleo: Benthic Invertebrates do not require as much as salmonids.

- Kollin: Can you separate out anthropogenic sources of sediment from the likely natural background condition of high fine sediment of Soos as expressed via the broader geomorphology? Cleo: Scenario include a pre-development condition. Retrofits may not bring back a pre-dev state. Currently looking at level of retrofitting to reduce the impact in benthic invertebrates.
- Mike: What is the use case for TMDLs in municipalities/regulatory framework? Possible to link to permitting to help track/enforce wastewater allocations?
- Heidi: Other than waste load allowances from mandatory compliance, do other allowances exist? Are they specific pollutant based? Cleo: Load allocations are specific to pollutants. Temperature runoff could be reduced with a permit. Best to look at riparian buffers or in stream work.
- Matt K.: Warm water stems from Meridian Valley Creek and Lake Meridian in late spring. Warm spring temps likely have an impact on benthic invertebrates. Cleo: They will continue to focus on the Soos.
- Iris: What level of stakeholder engagement is preferred? Cleo: After December TMDL on options/understanding implications of scenarios. 1:1s to glean the most involvement and feedback. Submitting TMDL Q3-2022.
- Katherine: Could Ecology/EPA look at sediment from geomorphical perspective? Cleo: We are not working with a geomorphologist but would like to discuss this further offline.
- Josh: Will TMDL look at reaches that benefit from restoration efforts? Cleo: Riparian buffer restoration is working. Ecology is looking for public land locations to study where permission from landowners is not an issue.

2021 Lower Green Chinook PIT Study

Chris Gregersen, King County

- Preliminary results from Lower Green Chinook PIT tagging in 2021, using new PIT technology for a mark-recapture study. Fry migrants from the middle Green are not surviving to adulthood. Can the lower Green provide habitat to allow fry to grow into parr? How do Chinook use the lower Green, and how can we best target restoration efforts to support Chinook growth and survival?
- 9mm FDX-B tag can tag fish as small as 45mm. Surgical needles place tags to avoid organs, tagged fish monitored for 24 hours with 0.01% mortality. Tag fish at WDFW screw trap and in lower Green tributaries. West Fork FIN array deployed at downstream end of lower Green; solar antennas deployed in Tukwila, Mill Creek, Midway Creek.
- WDFW screw trap has 3% efficiency; PIT tag barge had 9% efficiency (excellent given conditions). Data suggest survival issue through the lower Green. Many Chinook spend considerable time in lower Green habitats; smaller Chinook spend more time than larger Chinook. Tributaries valuable habitat – restoration and access important. In 2022, Chris

plans a Lower Green habitat use study – electrofishing to examine specific habitat types and understand fish needs. In 2023, repeat PIT study on Green.

- Meara: Do you have your 2023 sites selected? Chris: Not yet but would like to brainstorm locations for best placement.
- Katie: How would you approach high-flow events and tributaries? Fish may be too small in January, fish stayed longer in the main stem noting that water temperature contributed to slower growth rate.
- Kollin: Provide a breakdown of cost for arrays. Chris: Power source is key. Array cost varies given size, power source. \$5-10k, solar panels \$20-30k per full antenna system. Tuefel array is large; \$80K for that system.

Round Robin/Updates

- Suzanna: At the next ITC we will be sending out RFP materials for review and approval. RFPs for Regreen the Green and Monitoring & Research. Looking for November ITC review and November WEF approval.
- Matt: have been working with Tacoma Water on a regional support letter for downstream fish passage at Howard Hanson. ACE offers there may be a pathway for funding through Infrastructure bill. Please help push that along at your respective organizations.
- Katie B: next public scoping notice for the Lower Green River Corridor Plan is expected to be released in next couple weeks.
- Mike Perfetti: Riverton Creek project is nearly completed. Fish passage component is complete. Would be interested in fish use studies at this site.
- Chris: Have been working with Black River crew on fish passage update in redesigns. Contract on finding a sonar-based adult fish counter, to determine what species are using fish ladder and when. Should have it in next two months.
- Kathrine: There's a tributary to Midway Creek near the landfill with a fish passage issue. SPU getting a project manager to remove that barrier. Katie/Kollin could provide information for that project manager that is selected.