**WRIA 9 Implementation Technical Committee Meeting**
**November 16, 2022 | 9:30 am – 11:30 am**
Zoom Link: https://us02web.zoom.us/j/89069145463?pwd=SUhLOHhTVEs2VlhIeTFML0x4V3J2UT09
Meeting ID: 890 6914 5463
Passcode: salmon

9:30 **Welcome & Introductions**

9:40 **Enhancing Knowledge of Juvenile Salmon Habitat Use in the Mainstem Green River** — Aaron David, King County
*Presentation followed by Q&A and group discussion*

Aaron will present results from eight paired fish and habitat surveys in the lower Green River to better understand how juvenile Chinook and other salmon species use channel edge habitats (low-velocity zone along the channel margins) and how habitat use changes with flow, time of year, and salmon life-history stage. These surveys were spread across three reaches: Auburn (Fenster Park to Titus Pit), Kent (Titus Pit to the Riverbend Driving Range), and Kent-Lower Russell (Riverbend Driving Range to 212th St). This work was supported through a WRIA 9 Monitoring and Research CWM grant.

10:50 **2023 Regreen the Green and Monitoring and Research Requests for Proposals (RFPs)** — Suzanna Smith, WRIA 9
*Presentation followed by Q&A and group discussion*

Each year, the WRIA releases RFPs for the competitive grant programs as part of their annual grant round. This year, that includes the Regreen the Green RFP and the Monitoring and Research RFP. We are not releasing an RFP for the Stewardship, Engagement and Learning (SEaL) grants this year, but intend to release in 2024 after the 3-year programmatic funding opportunity ends. The ITC will discuss and come to a decision to approve the updated RFPs.

11:10 **Round Robin Updates** — All
*Slide deck activity*

- **Pre-meeting prep (5 minutes) –** Please find instructions on slide 1 at this link: https://docs.google.com/presentation/d/1U5CiLsGdBXLyhfnnasdtg8pQzjQxkMKbMw0ko2uf7eo/edit?usp=sharing. Use your slide to include relevant updates from your jurisdiction, project, or team. Slides are pre-filled with names for convenience; please feel free to combine slides. You can also email updates directly to Iris (ikemp@kingcounty.gov) for inclusion in the slide deck.

11:30 **Adjourn**

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

**Participant list:**
Aaron David, Christina Neff, Cleo Neculae, Iris Kemp, Jacqueline Miller, Jennifer White, Josh Kahan, Josh Hopkins, Julian Douglas, Katherine Lynch, Kerry Bauman, Kollin Higgins, Matt Knox, Matt Goehring, Mike Perfetti, Rowena Valencia-Gica, Suzanna Smith

Welcome Christina Neff (City of Kent) and Kristin Hayman (Puget Sound Partnership)!

WRIA 9 staff and ITC members extended thanks and celebration to Katherine Lynch at this final ITC meeting before her end-of-year retirement.

**Round-table Updates and Reminders**

We encourage WRIA 9 partners to submit comments on the King County Flood Plan EIS scope. Matt will circulate draft WRIA 9 comments for reference and approval. See this news release for more info: opportunity to comment and submit comments by December 9 to Jason Wilkinson at jason.wilkinson@kingcounty.gov.

Read through our **WRIA 9 ITC November round robin** slides at this link: https://docs.google.com/presentation/d/1U5CiLsGdBXLyhfnnasdtg8pQzjQxkMKbMw0ko2uf7eo/edit?usp=sharing. Includes updates from WRIA 9 Team, Puget Sound Partnership, King County, Ecology, WDFW, Seattle Public Utilities, and City of Kent.

What projects/information do you want to hear about, share, and/or discuss in 2023? Contribute to the whiteboarding brainstorm here: https://jamboard.google.com/d/1Y5axbEyNYvKxNgRWAJTauWSDapKGiS3eV-a_tnE-WaM/edit?usp=sharing. Add sticky notes with your ideas and/or use the stars piled in the lower right corner of each whiteboard to upvote the ideas already listed.

**Enhancing Knowledge of Juvenile Salmon Habitat Use in the Mainstem Green River (recording here)**

Aaron presented results from a WRIA 9 Cooperative Watershed Management grant-supported study of juvenile salmon habitat use in the mainstem Green River. Aaron and his team have used a boat electrofisher on a cataraft as a Green River sampling platform since 2016. This study collected data in three reaches of the Lower Green River over the past year and included previously-collected data from the Middle Green to look at how salmon use different types of habitats. The recommendations from this study for project design and implementation include removing armoring/riprap and restoring natural edge habitats, adding wood (biorevetments) where armor removal is not possible, recognizing the value of side channels for multiple juvenile salmon species and life histories, and incorporating habitat diversity into restoration projects whenever possible.

Watch the recording: https://drive.google.com/file/d/1g84pnwwsIhQmuenyYZX1HQd-aWxulVnr/view?usp=share_link

Q&A:

- Matt G. – how do barbs fit into this sampling regime?
    - Aaron – this study didn't include barb habitats so cannot speak to that. Other researchers like Kerry B. have observed fish using the low-velocity area behind Reddington barbs.
- Jennifer – what would you sample in future studies to try to explain more variation than the existing models can?
    - Aaron – in this study, we used low-velocity width. In future, would consider actually measuring water velocities. Would also consider other covariates like wood or substrate, which were not included in this study due to the need to balance the number of variables with the limited amount of data that could be collected. The existing models are pushing the envelope with number of parameters and data. Past sampling efforts have focused on binning and categorizing habitat types; future efforts might think more from the eyes of the fish by measuring specific variables the fish experience.
    - Jennifer – brainstorming…habitat/refugia continuity within the system? Distance to higher-quality habitat in upstream/downstream direction? Distance to nearest pollution source? Number of pollution sources?
    - Aaron – agree, adding spatial variables/context may be helpful. The working assumption has been that all fish have to "run the gauntlet" of the Lower Green and so specific habitat distribution may be less important since the fish choose when and where to move. But habitat/refugia continuity should be considered when deciding where to put projects – where are there long stretches with no restoration? Big gaps in habitat?
- Kerry – can you speculate about other variables that influence distribution? For example, thinking about bioenergetics of fish within the system, proximity to food source and/or risk of predation?
    - Aaron – absolutely expect that maximizing food opportunity and minimizing predation risk influences fish distribution. Quantifying that on the scale we do fish sampling would be challenging.
- Kerry – were Middle Green and Lower Green data combined in this study? Do you have a general idea of different patterns between the two river sections – for example, are you seeing Chinook on bars in the Lower Green or just in the Middle Green? What proportion of fish catches were in Lower vs. Middle?
    - Aaron – Middle and Lower Green data were all combined. We had roughly 100 transects in Lower Green and 58 transects in Middle Green. We observed Chinook on bars in the Middle Green and we also caught fish along bars in the Lower Green. Most bars in the Lower Green were at the upper end of the reach (Fenster Park, etc.); there was one bar fairly far down where we caught the most Chinook in the whole survey that night. Speculation – at coarser substrates less likely to see Chinook on bars, with finer substrates they will be there. Re: proportion of catches, would have to go back to data to be sure. Generally think we caught fish more consistently in the Middle Green but still caught a decent number in Lower Green.

- Kollin – thinking about the data evaluated for the Snoqualmie, which has geomorphology similar to the Lower Green but less degraded – recommend cross-river datasets.
- Kollin – you weren't able to sample all the things you wanted but you are pushing the models and had to sample multiple sites multiple times to get a good distribution. How confident do you feel in these results and how much more robust would doing another year of sampling and/or more sites be? Would you want to redo this study in the same form? Do you feel confident enough in the outcomes here to shift to different questions going forward?
    - Aaron – feel pretty confident about categorical habitat relationships. We saw lots of variation but it generally aligns with what we've seen in Middle Green and WRIA 7 in previous studies. There's more uncertainty in interaction effects, like habitat use shifting across seasons or with flows. We need more data to estimate those effects with confidence. For future studies, it really depends on the question. Personally I'm interested in delving deeper into food availability, isolation from floodplain impacts.
- Kerry – in the design process for Lower Russell, the initial design was an anabranching channel with log jams, etc. Hydrologist model predicted so much sedimentation that side channels would fill in within a few years due to mobile sand in the Lower Green. We moved away from that design and left a peninsula in place to keep sediment moving through the site. Will be interested to watch Downey (a series of side channels) over the coming years.
    - Kollin – FCD's desire to have habitat that doesn't need maintenance for 30 years is a tough constraint to work under. Personally think that we (WRIA, KC, FCD) all need to look further into sedimentation rates and patterns in the Lower Green based on the way we modify banks and create openings in banks. What's the longevity of something like Downey or Lower Russell? In my opinion, fish will key in on sediment deposition areas, so sedimentation isn't necessarily a bad thing – but certainly is a consideration when thinking about longevity. We need more real data throughout the Lower Green so we can operate with fewer assumptions.
    - Kerry – absolutely agree. Excited to begin sediment monitoring at Lower Russell this year.
    - Matt K. – we are thinking about this for the Riverview Park project, looking at how quickly the side channel is filling in. Would like to continue monitoring if possible.
    - Aaron – geomorphological questions may be even more important and pressing in terms of trade-offs – widen the channel to allow some sediment deposition and aggradation, but too much and it fills up and prevents access. There are many constraints when working in developed river corridors.
    - Kerry – reiterating what Kollin said, sediment deposition is good for juvenile salmon and they do key in on it. The problem is that those areas of habitat are so limited in the Lower Green that if sediment deposition cuts off access to low velocity habitat it is detrimental to rearing. If the goal is to create functional

juvenile salmon habitat, that habitat needs to be accessible for the entire rearing period.

- Aaron – Kerry, can you tell us about sedimentation at Reddington?
    - Kerry – we haven't been able to sample recently due to the large homeless encampment at the site. We had about 8 feet sedimentation measured by LIDAR. It's been dug out a couple times at upstream end but is not accessible as much as planned. Fish like the depositional alcove at the downstream end. It's still backwatered. The encampment has degraded habitat quality.
- Iris – can you tell us more about cross-dataset analysis of Green and Snoqualmie?
    - Aaron – in context with other systems, the Green and Snoqualmie data show similar patterns. Subyearling Chinook key in on bars, particularly lower gradient depositional where there's finer sediment and low velocities. One interesting result coming out of this work is that we have observed more Chinook using bars than the foundational work done in the Skagit in the 1990s that has driven a lot of our restoration perspectives. Part of this might be due to differences in sampling methods (e.g., day vs. night; bars are fairly devoid of cover so may be a riskier place to be in daylight) and/or basin-specific differences. Regardless of reason, an important result to note.

Further questions? Contact Aaron David at adavid@kingcounty.gov.

**2023 Regreen the Green and Monitoring and Research Requests for Proposals (RFPs) (slides here)**

Suzanna presented an overview of the 2023 grant round timeline, updates to RFPs and anticipated funding available, and introduced the new Foundant Online Portal application system. RFPs will be released early December. Project sponsors are strongly encouraged to attend one of the applicant workshops offered online Wednesday, January 11, 2-4pm and Thursday, February 7, 9-11am.

ITC members in attendance came to a decision to approve the updated RFPs for release.

Further questions? Contact Suzanna Smith at susmith@kingcounty.gov.