

GREEN/DUWAMISH AND CENTRAL PUGET SOUND (WRIA 9) IMPLEMENTATION TECHNICAL COMMITTEE



WRIA 9 Implementation Technical Committee Meeting

October 18, 2023 | 9:30 am – 11:30 am

[Click here to join the meeting](#) or call in (Teams audio only) [+1 425-653-6586](tel:+14256536586), [911155469](tel:+11155469)#

Meeting ID: 291 061 535 541

Passcode: uafR9e

9:30 **Welcome & Introductions**

9:40 **Land Cover Forest Retention and Impervious Surface**

Presentation followed by Q&A and group discussion

Pre-meeting reading: [Land Cover Forest Retention and Impervious Surfaces, pp. 39-51](#)

Kollin will present trends in forest cover and impervious surfaces within WRIA 9 at subwatershed, subbasin, jurisdiction, and UGA vs. rural area scales. Retaining forest cover is important for maintaining large scale hydrological processes and water quality. Impervious surfaces can change timing and pathways of runoff, impacting water quality and groundwater recharge.

Kollin Higgins,
King County
Science

10:05 **Lower Green and Middle Green Floodplain**

Presentation followed by Q&A and group discussion

Kollin will present floodplain data related to WRIA 9 habitat goals in the Lower Green and Middle Green and discuss recent project contributions towards achieving the recommended 10-year targets (2030) established in the WRIA 9 2021 Salmon Habitat Plan: restore 240 acres of floodplain habitat in the Lower Green and reconnect 200 acres of floodplain in the Middle Green.

Kollin Higgins,
King County
Science

10:40 **Middle Green Aquatic Habitat: Large Wood and Pools**

Presentation followed by Q&A and group discussion

Iris will summarize results from the 2022 instream habitat and large wood survey of the Middle Green conducted by Kleinschmidt Associates. These surveys monitor reach scale habitat trends as part of the regulatory requirements of the HHD AWSP and Tacoma Water Habitat Conservation Plan.

Iris Kemp, WRIA 9

11:00 **Round Robin Updates**

Slide deck activity

Pre-meeting prep (5 minutes) – Please find instructions on slide 1 at this link: https://docs.google.com/presentation/d/1jh2RDF_JCY3Do4ica2RiAHPZBOI9IMGrXQppv3WLzSc/edit?usp=sharing. Slides are pre-filled with names for convenience; please feel free to add and edit slides. You can also email updates directly to ikemp@kingcounty.gov.

All

11:30 **Adjourn**

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

Participant list:

Alicia Kellogg, Chester Bennett, Cleo Neculae, Debbie Meisinger, Erik Rigaux, Heidi Watters, Iris Kemp, Jenn Stebbings, Julian Douglas, Kelley Govan, Kerry Bauman, Kollin Higgins, Marc Marcantonio, Matt Goehring, Mike Perfetti, Natane Moore, Nikolas Novotny, Patty Robinson, Rowena Valencia-Gica, Zach Wilson

Round-table Updates and Reminders

Read through our **WRIA 9 ITC October round robin** slides at this link:

https://docs.google.com/presentation/d/1jh2RDF_JCY3Do4ica2RiAHPZBOI9IMGrXQppv3WLzSc/edit?usp=sharing. Includes updates from WRIA 9 Team, Duwamish and Lower Green Basin Stewards, Covington Water District, City of Kent, King Conservation District, Tacoma Water, Ecology, Mid Sound Fisheries Enhancement Group, WDFW, City of Tukwila, and King County.

Please contact Alicia (alkellogg@kingcounty.gov) and Kelley (kgovan@kingcounty.gov) if you are interested in participating in the [Green Duwamish Revegetation Partners](#) group. The next meeting is Monday, November 6th, 1-2:30pm.

Land Cover Forest Retention and Impervious Surface

(slides 1-21 at this link)

Forest cover and impervious surface data were obtained from the National Land Cover Database (NLCD) and evaluated across years and at multiple spatial scales. Please refer to the slide deck for maps and detailed results.

Take-aways:

- Rural areas are not seeing major decreases in forest cover or increases in impervious surfaces.
- Focusing growth in urban areas comes at a cost of loss of forest cover broadly in areas already lacking it. Losses in forest cover and increases in impervious surfaces are likely to degrade urban stream conditions further.
- Much of the impervious surfaces in the watershed were installed prior to stormwater regulations, indicating high need for retrofits of older developments.
- The center of changes are in Soos/Jenkins areas and the cities within.

Q&A:

- Jenn – what is the minimum acreage for forest cover?
 - Kollin – the analysis is done at a 90ft pixel size.
- Chester – the rate at which Renton is losing forest cover doesn't pencil with the rate we're gaining impervious surface. What can we do to address or manage that?
 - Kollin – would need to look back at Renton specifically to address with these data. It could be due to property changes (e.g., landscaping could affect forest cover without increasing impervious surfaces) which might be improved with tree management guidelines, outreach and education campaigns about the importance of trees, etc.

- Kollin – King Conservation District (KCD) is working with multiple jurisdictions to map urban canopy in a different way than we have done for the watershed status & trends report. They may have additional insight.
 - Heidi – we (Tukwila) are a part of that work. It’s based on the same national dataset. You can request three different target geographies. Data are available on the PlanIT Geo portal: <https://pg-cloud.com/KingCD-Cities/>.
 - Debbie – Ellen (ellen.arnstein@kingcd.org) manages KCD’s Urban Forestry Program and would be a good contact for tree canopy assessment information.
 - Mike – relevant to this conversation: the draft NPDES permit is considering mapping urban tree canopy and goals.
- Cleo – the upcoming Soos Cr TMDL for fine sediments will address stormwater runoff in the Soos, Jenkins, and Covington subwatersheds.
- Mike – how were the forest cover and impervious surface categories and goals developed?
 - Kollin – the 10% impervious and 60% forest are both tied to the scientific literature.

Further questions? Contact Kollin at kollin.higgins@kingcounty.gov.

Middle Green River Floodplain and Lower Green Off-Channel Habitat ([slides 22-38 at this link](#))

This report component addresses metrics and targets developed for and formalized in the 2021 update to the WRIA 9 Salmon Habitat Plan. It focuses on projects and changes that have occurred since the targets were developed in 2017.

Since 2017, the Lones Levee setback project in the Middle Green contributed 16 acres towards the 2030 recommended target of 200 acres of connected floodplain.

Since 2017, the Downey Farmstead, Lower Russell Road setback, and Teufel log structure mitigation have contributed towards the 2030 recommended off-channel habitat targets in the Lower Green. In sum, projects contributed 43 acres off-channel habitat of the 240 acres goal and 2,720 ft of side channel of the 4,290 ft goal.

Please refer to the slide deck for maps and break-downs of habitat type goals and progress.

Q&A:

- Mike – upcoming Lower Green projects status: Gilliam Cr and Nelsen side channel are in early design. Also, Gunter and Desimone are two flood management projects that might contribute to Lower Green targets.
- Kerry – how was the meander channel at Lower Russell Road categorized for this analysis?
 - Kollin – that was a tough one because WRIA 9 goals don’t include or account for alcove habitat; there is no category or target for improved edge habitat. We

ended up including it as “other floodplain” because it is improved edge habitat but not a backwater.

- Matt – we struggled during goal development for how best to reflect goals and what metrics to use. In the end, we simplified our metrics and targets, but agree that this means some types of habitat don’t fit perfectly. Worth a follow-up discussion.
- Kerry – is there a way to differentiate between habitat like this where it is inundated to the setback levee versus non-inundated floodplain?
- **Next step:** follow-up conversation(s) on what and how we track and report for Lower Green habitats.
- Matt – if Lones had been in the Lower Green, would that go into the wetland bucket?
 - Kollin – we would have had to parse out wetland, side channel, other categories.
- Matt – how do we think about reconnection to floodplain wetlands?
 - Kollin – if we punch a hole through a levee and connect to a wetland behind it, that would count as reconnection. If we restore connection to a previously disconnected wetland, that would count as reconnection. Reconnection doesn’t necessarily require lowering the floodplain. It doesn’t necessarily need to be accessible to fish to still provide floodplain benefit.
- Kerry – trying to understand the difference between edge and floodplain in the categories for the benching at the meander.
 - Kollin – we counted everything waterward of the trail as connected floodplain.
 - Kerry – part of what is shown here as other floodplain was not lowered and not connected. Will follow up offline.

Further questions? Contact Kollin at kollin.higgins@kingcounty.gov.

Middle Green Aquatic Habitat: Large Wood and Pools ([slides at this link](#) and [full report at this link](#))

Kleinschmidt Associates/R2 conducts habitat and large wood surveys as part of an ongoing monitoring program conducted by USACE and Tacoma in concert with the HHD Additional Water Storage Project and the Tacoma Water Habitat Conservation Plan. WRIA 9 contracted the same consultant to conduct habitat and large wood surveys in the Lower Green for 2022; the ITC reviewed results from the Lower Green surveys in May 2023.

WRIA 9 includes habitat complexity (habitat composition, wood, pools) in status and trends reports. For the Middle Green, WRIA 9 also developed a recommended 10-year target for large wood of 5 jams/mile.

Overall, mainstem Middle Green River habitat composition appears to be relatively stable over time. Pool habitat increased from 10% total length in 2017 to 13.5% total length in 2022. Pools were observed in all reaches surveyed in 2022. Pools formed by large wood were only observed in the lower reaches of the Middle Green (downstream of Newaukum Creek); this is consistent with previous surveys. A total of 145 jams were counted across mainstem and side channel habitats in the Middle Green. Reaches 3, 4, and 5 (river miles 38-57) had the highest density of jams ranging from 3.5-4 jams/mi. Reach 2 (river miles 57-61) had the lowest density at 2.9 jams/mi. Most jams observed in the 2022 survey were small, with some medium (N = 12) and

large (N = 5) jams observed in reach 5 (river miles 38-40.8). The number of jams observed in 2022 was the lowest since 2014.

Relative to the WRIA 9's habitat goals, the 2022 survey results suggest that we are not yet meeting the recommended target of 5 jams/mi although there has been some improvement since the 2000s. Both 2021 and 2022 surveys recorded lower densities of jams than the 2020 survey.

Q&A:

- Kollin – similar concerns about observer bias, especially regarding pools, as what we discussed in May while reviewing the Lower Green aquatic habitat report. We had assumed the Middle Green would be more straightforward to survey than the Lower Green but don't feel totally confident in the pool results based on some initial spot checking on aerials.
 - The group agreed to expand the **next steps** from May (discuss further, consider investing in studies that lead to improved consistency/methodology) across the Lower Green and Middle Green alike.
- Matt – what is the big picture for Middle Green?
 - Kollin – the Middle Green is dynamic but progress towards goals is static. We are not seeing improvements as much as we want. We haven't done enough.
- Kollin – would be interesting to look at high wood years in relation to wood placements.
- Zach – we are preparing our wood placement for this year in the next week or so. Will send pictures!
- Jenn – is this a possible recruitment issue?
 - Kollin – in the Lower Green, there aren't many places where wood can lodge. I'm surprised by the Middle Green results. Once we have Middle Green riparian analysis results, we may be able to say more about sources in terms of natural recruitment vs. USACE supplementation. Channel movement has in some cases been into places that don't have many trees.
 - Nik – most large wood recruitment comes from the most active area of the watershed (landslides) but dams block access to wood floating downstream – which is why USACE does supplemental wood placement downstream. The original intent was to place half of reservoir wood each year but that wasn't practical given the extreme variability in recruitment above the dam. A consistent amount is placed each year. Wood salvaged from the reservoir is recorded.
- Rowena – do we know if observed jams were mostly from natural sources or from projects/introduced LWDs? Where does large wood tend to get trapped?
 - Kollin – almost all natural/USACE supplemented. USACE adds wood in one location so the wood can move downstream naturally.
 - Zach – the Auburn jam captures a lot of wood. To my knowledge we don't yet have data to share on log movement.

Further questions? Contact Iris, Zach, and Nik at ikemp@kingcounty.gov, zachary.m.wilson@usace.army.mil, nnovotny@cityoftacoma.org.