

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



WRIA 9 Implementation Technical Committee Meeting

January 17, 2024 | 9:30 am – 11:30 am

[Click here to join the meeting](#) or call in (Teams audio only) [+1 425-653-6586](tel:+14256536586), [185643467#](tel:+185643467)

Meeting ID: 212 285 313 251

Passcode: t9wk6N

9:30 **Welcome & Introductions**

9:40 **Middle Green, Soos & Newaukum Riparian Condition**

Iris Kemp, WRIA 9

Presentation followed by Q&A, discussion

Pre-meeting reading: [Riparian Condition, pages 65-73 and 83-88](#)

Riparian vegetation provides many benefits for salmon habitat (e.g., bank stability, water filtration, shading, source of large wood and food sources) and is assessed and tracked in WRIA 9 on a subwatershed basis. In the Middle Green, riparian condition metrics are based on the extent of forested area within the channel migration zone. We expanded this analysis to include Soos Creek, Newaukum Creek, and select tributaries, assessing treed/not treed area within a 200ft buffer of the stream centerline.

10:10 **Lower Green and Duwamish Riparian Condition**

Jen Vanderhoof,
King County
Science

Presentation followed by Q&A, discussion

Pre-meeting reading: [Riparian Condition, pages 73-82](#)

In the Lower Green and Duwamish, riparian condition metrics were previously based on the length of vegetated bank that is expected to provide shading on the river at the ordinary high-water mark. We updated this analysis to characterize treed/not treed area within a 165 ft riparian corridor.

10:40 **Marine Nearshore Riparian Condition**

Kollin Higgins, King
County Science

Presentation followed by Q&A, discussion

Pre-meeting reading: [Riparian Condition, pages 88-94](#)

In the marine nearshore subwatershed, riparian condition metrics are based on the length of shoreline with trees immediately adjacent to the water.

11:10 **ITC Year Planning & Round Robin Updates**

All

Whiteboard activity

We will use the meeting whiteboard to brainstorm suggestions for 2024 meeting topics and discuss round robin updates. You can also email Iris (ikemp@kingcounty.gov) directly with your suggestions and updates.

11:30 **Adjourn**

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

Participant list:

Alicia Kellogg, Ben Saari, Chapin Pier, Chester Bennett, Chris Gregersen, Cleo Neculae, Iris Kemp, Jen Vanderhoof, Jenn Stebbings, Josh Kahan, Joshua Hopkins, Julian Douglas, Katey Bean, Kelley Govan, Kerry Bauman, Kollin Higgins, Marc Marcantonio, Mason Bowles, Matt Goehring, Nik Novotny, Rowena Valencia-Gica, Thaniel Gouk

Round-table Updates and Reminders

[Image of meeting whiteboard included at end of meeting notes.](#) The whiteboard includes brainstormed meeting topics for 2024 as well as round robin updates.

Riparian Condition in the Middle Green, Lower Green and Duwamish, Soos and Newaukum, and Marine Nearshore subwatersheds ([link to slide deck](#))

The riparian vegetation component of status and trends reporting is linked to the Salmon Plan's Riparian Vegetation Tier 1 Conservation Hypothesis: protecting and improving riparian conditions by adding native riparian vegetation will enhance habitat quality by improving water quality, stabilizing streambanks, providing overhanging vegetation and large woody debris (LWD), and contributing organic matter, nutrients, and terrestrial prey items, thereby leading to greater juvenile salmon growth and higher survival.

Kollin, Jen, and Iris assessed riparian conditions across WRIA 9 subwatersheds. Methods differ somewhat in each subwatershed, in part due to the history of analysis methods for previous report and need to use comparable methods to detect change over time, and in part due to the different processes, goals, and metrics relevant to each subwatershed.

The Middle Green riparian condition analysis involves manually digitizing treed and not treed areas within the channel migration zone (CMZ) based on aerial imagery assessed at the 1:1000 scale. Cause of tree loss/gain was assigned to restoration, human impacts (e.g., residential clearing, agricultural clearing), or natural processes (e.g., tree growth on islands, tree loss due to bank erosion).

From 2009 to 2021, the Middle Green gained 21 acres of forest cover within the CMZ, mainly in the severe hazard zone. Riparian forests in 2021 covered approximately 56% of the total area assessed. Excluding the river channel much of the unforested land within the CMZ is agricultural land. About 93% of the treed area in 2009 remained treed area in 2021 (1048 acres, representing just over half the total area mapped). Roughly 46 acres of trees were lost to natural processes – about 80% of which reflect channel migration and the remainder of which reflects change in tree cover in wetland areas and potential beaver activity. Just under 9 acres were lost to human impacts. Restoration accounted for almost 18 acres of tree gain, and almost 59 acres of trees were gained via natural processes: roughly 75% due to channel migration and canopy growth on riverbanks and islands and the remaining quarter due to canopy growth and natural seeding in previously untreed areas. Restoration sites were confirmed via consultation with the Middle Green basin steward.

In comparison, from 2005 to 2009 the total change in forest cover was a gain of 5.6 acres, with 30 acres lost to natural processes, 3.7 lost to human impacts, 3.7 gained to natural processes, and 36 acres of restoration gains. A few factors may contribute to this result. A lot of planting projects were completed on the mainstem Middle Green in the earlier analysis period, while more recent restoration efforts have shifted to address the urgent need in the Newaukum basin. Additionally, the earlier timeframe for analysis includes only four years of change while the more recent analysis includes 12 years of change and three times as much time for natural processes like channel migration, bank erosion, vegetation establishment, etc. to occur.

ITC suggestion: consider looking at changes on an annualized basis to better compare periods.

ITC questions:

- Regarding ability to identify natural seeding vs. restoration planting visually from aerials, how did you do that and could it inform how we think about restoration planting plans?
 - o This analysis didn't determine species composition. Generally, restoration plantings happened over large areas and often young plantings were visible (clearly intentional rows of same-size/age plants) before they grew large enough to meet the size criteria to count as trees in this analysis. Areas with natural seeding are generally smaller and adjacent to already treed areas. Additionally, we verified with the Middle Green basin steward the sites where restoration was known to have occurred and the sites where restoration was known to have not occurred.
- Were known restoration areas from the past few years counted as restoration gain?
 - o Restoration sites are not counted in restoration gains until the trees have established and matured to a sufficient size to meet the analysis criteria. Plantings in the last few years are likely not yet big enough to count as treed area but should show up in 2028 status and trends analyses.

The Lower Green and Duwamish riparian condition analysis involves manually digitizing treed and not treed areas within a 165 ft buffer based on aerial imagery. Due to the large amount of analyst time and effort necessary to capture the complexity of this subwatershed, methods were simplified during the analysis process; data are available for a 300 ft buffer at a high level of detail for land type category (e.g., tree vs. shrub vs. grass vs. impervious) in some portions of the subwatershed. Most tree losses from 2012 to 2021 reflected clearing for development and clearing for restoration while most tree gains reflected shrubs growing into trees or trees growing and shading out previously defined shrub areas as well as plantings/restoration. In sum, tree gains outpaced tree losses by 17.5 acres.

ITC questions:

- Were recently planted sites classified as shrub?
 - o It depends on what the site looks like on the aerial. Initially plantings appear to be bare ground, then shrub, then tree.
- How do you identify bare ground versus grass in aerials taken in different seasons?

- Surface texture, other subtle cues. It can be difficult but is often more difficult to identify grass vs. shrub. The ornamental category can also be a bit of a judgment call (e.g., is a golf course grass or ornamental?).
- Is there a way to assess restoration potential? How much progress we could actually make in the Lower Green?
 - These questions were brought up in the SWIF process and the outcome of those discussions was that it wouldn't be a productive analysis and could artificially constrain future potential. For example, currently we think there is no restoration potential for the Costco parking lot, but if Costco switched entirely to drone delivery in the future and no longer needs parking, that could change.

The Soos and Newaukum riparian condition analysis – previously a length of bank with presence/absence of canopy cover – was updated to treed area within a 200 ft buffer from the stream centerline for select streams within the subwatersheds using data from the King County 2021 tree canopy layer (algorithmically defined instead of manually defined). The Soos Creek portion of the analysis included Big Soos Creek, Covington Creek, Jenkins Creek, Little Soos Creek, and Soosette Creek. For these streams, 51.6% to 68.6% of the 200 ft buffer was forested. The Newaukum portion of the analysis included Big Spring Creek, Newaukum Creek, North Fork Newaukum Creek, Stonequarry Creek, and Watercress Creek, and further delineated areas within and outside of the Forest Production District. For areas of Newaukum and North Fork Newaukum within the Forest Production District, 85-90% of the 200 ft buffer was forest canopy while outside of the Forest Production District, these streams all had under 50% canopy cover within the buffer. Because the updated analysis methods differ from the methods used in previous reporting, a direct comparison is not possible. However, it is apparent that the Newaukum basin continues to have less canopy cover than the Soos Creek basin.

The Marine Nearshore riparian condition analysis involves manually assessing length of shoreline with trees within a roughly 200 ft buffer. This analysis categorizes trees and shrubs from high value (adjacent to shoreline and dense) to low value (separated from shoreline and patchy), grass, and none (no vegetation present). From 2009 to 2021, riparian condition improved for 1.1 miles but degraded for 2.94 miles. Improvements were predominantly associated with natural regrowth (61%) but also restoration (31%, or 1,787 ft of shoreline). About 95.6% of the shoreline (86.56 miles) showed no change in condition. Across jurisdictions, the percentage of shoreline with degraded vegetation condition ranged from 2.35% to 8.08%. In all jurisdictions, degradation outpaced improvements. Degradation mainly included conversion of trees to grass or lower value trees (i.e., less dense and/or more separated from shoreline) and shrubs to grass and was predominantly associated with existing residential areas (73% of degradation). The most dramatic instances appeared to be tied to changes in residence ownership. It's unclear whether homeowners are aware of regulatory restrictions associated with Shoreline Master Plans that limit vegetation clearing.

ITC questions:

- Is there outreach that happens at change of ownership to inform new homeowners of restrictions on cutting trees?
 - o Not that we're aware of. Unsure which agency would be most appropriate to lead, but would love to see this type of outreach. At King County, staff implementing SMP are supported by permit fees and necessarily focus on permits and permit processing – little/no capacity for outreach.
 - o **Action:** Cleo will share these results with Ecology's Shorelands and Environmental Assistance program.
- Relevant but omitted from these analyses: wetlands. New county wetland inventory that should be complete in March. Mason has compared 1990 inventory and updated inventory and seen over 400% increase in wetland area (but also places of wetland loss).

Action item: ITC members agreed to form a riparian analysis subgroup to complete a more rigorous analysis of pros/cons across analysis methods (e.g., manual digitization of treed area vs. algorithmic detection of canopy cover), define WRIA 9 needs especially with regard to level of detail needed for riparian analyses to provide information addressing WRIA 9 priorities, and provide guidance for future riparian analyses for 2028 status and trends reporting.

ITC suggestion: consider implementing similar treed area analyses in the Upper Green watershed.

Further questions? Contact Kollin (kollin.higgins@kingcounty.gov), Jen (jennifer.vanderhoof@kingcounty.gov), and Iris (ikemp@kingcounty.gov).

Meeting whiteboard: meeting topics for 2024

WINTER (JANUARY-MARCH)

- Evaluation of Lower Green River flapgates - function and juvenile Chinook passage results (Gregersen)
- Updates from USACE Seattle on progress.

SPRING (APRIL-JUNE)

- ITC review draft 2024 funding package
- shoreline armoring survey
- Update on USACE Seattle progress.
- Tacoma Water's fish passage facility
- Update on wetland mapping
- AWSP habitat mitigation and restoration projects

SUMMER (JULY-SEPTEMBER)

- site visit(s!)
- Monitoring data from Lones/cakwab?
- Reddington Levee Setback 10-year monitoring results
- Vashon site tour? can this be via Kayak?
- Update on USACE Seattle progress.
- share Marine shoreline monitoring and compliance report
- Soos Creek fine sediment TMDL presentation

FALL (OCTOBER-DECEMBER)

- Duwamish project effectiveness monitoring (fish sampling) results
- PIT tag early results?
- WDFW contaminants analysis results
- Update on USACE Seattle progress.
- CoSMOS model results presentation from Lara Whitely-Binder.
- City of Seattle culvert projects

Meeting whiteboard: round-robin



★ What's new in your world?

Planning a trip to D.C. in March.

WRIA 9 team:
The 2024 grant round is open! Applications due Feb 28.
<https://govlink.org/watersheds/9/funding/default.aspx>

👍 1

Chris G: Draft report for lower green river flapgate study complete- stay tuned for results and findings.

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City of Kent: Ben Saari- Excited to Join Rowena's team, working on a variety of smaller projects, water quality work in lakes, McSorley Wetland, and supporting permitting/monitoring

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Submitting multiple grant applications to fund NE Auburn Creek Restoration project construction (from Kelley Govan)

👍 1

Miller and Walker Creek Community Salmon Investigation results and guest presenter Dr. Ed Kolodziej on 6PPD-q research.
Wednesday, January 24, 6-8pm at the Cove, 1500 SW Shorebrook Dr, Normandy Park. All are welcome!

Do you like the whiteboard round robin format better than google slides?

Vote here using reactions:

👍 = YES

😬 = NO

😬 1

👍 1