

# WASHINGTON STATE DEPARTMENT OF ECOLOGY MEMORANDUM

Date: April 27, 2021

To: Laura Watson, Ecology Director

From: Mary Verner, Water Resources Program Manager

Re: Recommendation to Adopt WRIA 9 Watershed Restoration and Enhancement Plan

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The Water Resources Program (Program), based upon its review and analysis of the locally approved Water Resource Inventory Area (WRIA) 9 Watershed Restoration and Enhancement Plan (Watershed Plan), **recommends that Ecology adopt this Watershed Plan, as described in RCW 90.94.030(3).**

This memorandum provides the Program's analysis and recommendations regarding Ecology's action required pursuant to Streamflow Restoration, RCW 90.94.030(3)(c).

## **Program Analysis of the WRIA 9 Watershed Restoration and Enhancement Plan**

As required under this law, the Program has reviewed the locally approved WRIA 9 Duwamish-Green Watershed Plan, and recommends that Ecology adopt this Watershed Plan as described in RCW 90.94.030(3). The Program reviewed the Watershed Plan in accordance with the requirements of RCW 90.94.030(3), as well as programmatic Guidance and Policy.<sup>1</sup> The Program determined that the "...actions identified in the plan, after accounting for new projected uses of water over the subsequent twenty years, will result in a net ecological benefit to instream resources within the water resource inventory area."<sup>2</sup>

Based upon a thorough review of the Watershed Plan, it is the Program's conclusion that the Duwamish-Green (WRIA 9) Watershed Restoration and Enhancement Committee (Committee) used reasonable and scientifically sound methods to forecast new, permit-exempt domestic well consumptive water use for the twenty-year planning horizon (2018-2038). The WRIA 9 Committee projected 632 new permit-exempt domestic wells (PE wells) with a total projected consumptive use for the WRIA of 247.7 acre-feet per year (AFY). The Committee added a margin of safety to the consumptive use estimate to account for uncertainties in the planning process. They developed a

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<sup>1</sup> Final Guidance for Determining Net Ecological Benefit - GUID-2094 Water Resources Program Guidance - July 31, 2019 - Publication 19-11-079; Streamflow Restoration Policy and Interpretive Statement – POL-2094 Water Resources Policy – July 31, 2019.

<sup>2</sup> RCW 90.94.030(3)(c)

water offset target of 495.4 AFY by doubling the 247.7 AFY consumptive use estimate.

The WRIA 9 Committee sought projects to provide water offset benefits exceeding the 495.4 AFY offset target. The WRIA 9 Committee included six offset projects in the watershed plan. The Program determined that the WRIA 9 Committee used reasonable and scientifically sound methods to estimate 1,075 AFY in water offset benefits from those six water offset projects. These projects are intended to offset the impacts from new, permit-exempt domestic well consumptive water use, and estimated offset benefits exceed the offset target by 580 AFY.

The WRIA 9 Committee also included 10 habitat improvement projects to contribute toward achieving the net ecological benefit (NEB) requirements of the law. The habitat projects provide benefits to the watershed such as floodplain restoration, wetland reconnection, availability of off-channel habitat for juvenile salmonids, increase in groundwater levels and baseflow, and increase in channel complexity.

To allow for analysis of the relationship between new consumptive use and offsets, the WRIA 9 Committee divided WRIA 9 into 12 subbasins. Table 1 provides a comparison of project benefits and offset target by subbasin and at the WRIA scale. Figure 1 shows the location of water offset and habitat projects and the estimated consumptive use and water offsets by subbasin. If implemented, the benefits from the water offset projects and habitat improvement projects achieve a NEB.

Table 1. Subbasin Water Offset Totals Compared to Offset Target (adapted from Table 7.3 in the WRIA 9 Watershed Plan). The projects are listed in Table 5.1 in the WRIA 9 Watershed Plan, and descriptions of the projects can be found in Appendix H.

Subbasin	Offset Project Totals (AFY)	Offset Target: 2x Consumptive Use (AFY) <sup>1</sup>	Surplus/Deficit (AFY) <sup>2,3</sup>
Central Puget Sound	0	0	0
Duwamish River	0	0	0
Lower Green River	0	4.2	-4.2
Soos Creek	193	82.8	+110.2
Jenkins Creek	0	42.4	-42.4
Covington Creek	411	43	+368
Lower Middle Green River	0	102	-102
Mid Middle Green River	0	63.8	-63.8
Upper Middle Green River	114	53.8	+60.2
Newaukum Creek	0	78	-78
Coal/Deep Creek	0	25.2	-25.2
Upper Green River	357	0	+357
<b>WRIA 9 Total Consumptive Use</b>	<b>1,075</b>	<b>495.4</b>	<b>+579.6</b>

Table Notes:

<sup>1</sup> Values in table have been rounded, which is why totals may differ.

<sup>2</sup> Surplus water offset is associated with a positive value and a deficit in water offset is associated with a negative value.

<sup>3</sup> Water offset projects in the Upper Green and Upper Middle Green subbasins will contribute to offsetting consumptive use downstream, in the Mid Middle Green, Lower Middle Green, and Lower Green River subbasins.

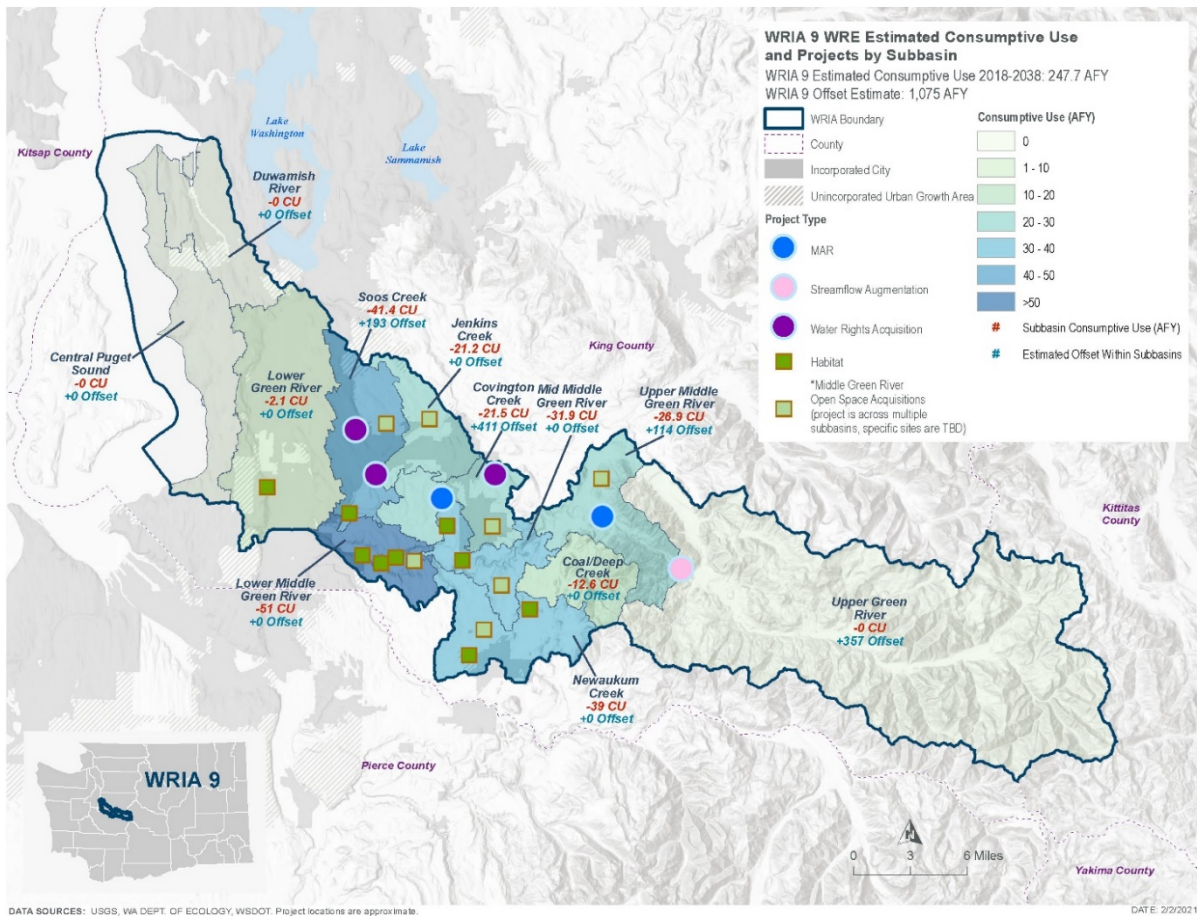


Figure 1. Consumptive Use and Water Offsets by Subbasin (Figure ES.1 in the WRIA 9 Watershed Plan).

The Program’s recommendation to adopt the plan is reinforced by the project tiering and recommended adaptive management measures that the WRIA 9 Committee included in the plan for the purpose of addressing uncertainty in plan implementation. The WRIA 9 Committee used a tiering process to identify projects with greater implementation certainty (tier 1), based on readiness to proceed and having an identified project sponsor. The tier 1 projects provide a water offset of 893 AFY. The plan includes recommendations for adaptive management measures, including permit-exempt well tracking, project implementation tracking, and periodic watershed plan implementation reporting. The Committee also recommended Ecology adjust the projects and actions in the plan if the goals of the watershed plan are not on track to being met in the plan’s 20-year timeframe. These adaptive management measures, in addition to the surplus water offset and supplemental habitat improvement projects, provide reasonable assurance that the plan will adequately offset new consumptive use from PE wells anticipated during the planning horizon.

The WRIA 9 Committee included their own NEB evaluation in their plan and stated in Chapter 7.5:

“Based on the information and analyses summarized in this plan, the WRIA 9 Committee finds that this plan, if implemented, achieves a net ecological benefit, as required by RCW 90.94.030 and defined by the Final NEB Guidance” (WRIA 9 Watershed Plan, page 79).

**As discussed below and in the attached Net Ecological Benefit Determination, the Program is sufficiently assured the projects described in the WRIA 9 Watershed Plan will offset the anticipated impacts from new permit-exempt domestic wells projected from 2018 through 2038, and result in a NEB to instream resources within WRIA 9.**

### **Agency Authorities**

RCW 90.94.030 directs Ecology to establish and chair watershed restoration and enhancement committees in WRIAs 7, 8, 9, 10, 12, 13, 14 and 15. The law directs Ecology to prepare and adopt a watershed restoration and enhancement plan in each of the WRIAs, in collaboration with the Committees. This law requires the Watershed Plans to forecast the potential impacts of new permit-exempt domestic wells from 2018 to 2038 on instream flows, and to identify projects and actions to offset those impacts. All members of the Committee must approve the Watershed Plan prior to submission to Ecology. Ecology’s statutory deadline for adoption of the WRIA 9 Watershed Plan is June 30, 2021. Prior to adopting any such Watershed Plan, Ecology is required by RCW 90.94.030(3)(c) to “... determine that actions identified in the plan, after accounting for new projected uses of water over the subsequent twenty years, will result in a net ecological benefit to instream resources within the water resource inventory area.”

To support the work of the Committees, Ecology issued the *Final Guidance for Determining Net Ecological Benefit* (NEB Guidance) in July 2019. Ecology’s NEB Guidance provides that Ecology will determine that the watershed plan achieves a NEB if “the outcome that is anticipated to occur through implementation of projects and actions in a plan [will] yield offsets that exceed impacts within: a) the planning horizon; and, b) the relevant WRIA boundary.”<sup>3</sup>

In addition, Ecology’s role with the Committee and Watershed Plan is described in RCW 90.94.030(2) and (3). Ecology established the Committee, chaired the Committee, and prepared the Watershed Plan in collaboration with the Committee. Ecology contracted with a technical consultant and a facilitation team to support the development of the Watershed Plan and work with the Committee. Ecology staff led the preparation of the Watershed Plan, vetting Committee decisions and Watershed Plan language with Ecology management throughout the process. The WRIA 9 Committee work was led by Stephanie Potts.

Ecology also prepared the non-project programmatic SEPA environmental checklist and determination of non significance (DNS). The SEPA public comment period opened on March 8, 2021 and closed on April 8, 2021. No comments were received and the Agency has retained the determination of non significance. The SEPA checklist and DNS are attached.

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<sup>3</sup> Final Guidance for Determining Net Ecological Benefit - GUID-2094 Water Resources Program Guidance - July 31, 2019 - Publication 19-11-079

## **Watershed and Planning Overview**

### ***Watershed Characteristics***

The Duwamish-Green watershed (WRIA 9) is located in King County, Washington and is approximately 482 square miles in area. It includes all the lands drained by the Duwamish-Green River, including marine nearshore areas that drain directly to Puget Sound. The Green River originates in the Cascade Range south of Snoqualmie Pass and flows in a generally northwest direction before becoming the Duwamish River at the historical confluence with the Black River near the City of Tukwila. The Duwamish River is highly channelized and flows northwest before discharging to Elliott Bay in the City of Seattle. The overall length of the Duwamish-Green River system is 93 miles. Tributaries within the system include Coal Creek, Deep Creek, Newaukum Creek, and Soos Creek (Covington Creek and Jenkins Creek flow into Soos Creek).

The upper portion of the watershed contains Howard Hanson Dam, an earthen dam on the Green River constructed for flood control. The City of Tacoma operates a diversion facility approximately three miles downstream from Howard Hanson Dam for municipal water supply. The eastern or upland portion of the watershed extending from the Tacoma Headworks Diversion Dam on the west, to the eastern boundary of WRIA 9, is the Green River Municipal Watershed. Tacoma Public Utilities manages the Green River Municipal Watershed for municipal water supply under a Habitat Conservation Plan and a 1995 agreement with the Muckleshoot Indian Tribe. This portion of the watershed consists of forestland and has limited public access. Land uses shift to agriculture, suburban developments, and small urban centers such as Black Diamond and Enumclaw in the foothills of the Cascade Mountains. Extending from the cities of Auburn and Kent to the cities of Burien, Tukwila, Renton, and Seattle, the northwest portion of WRIA 9 is highly urbanized. Approximately 30 percent of the watershed is within a city or designated urban growth area. The Duwamish-Green watershed is one of the most heavily populated watersheds in Washington.

### ***Planning Process***

WRIA 9 is one of eight watersheds listed in Section 030 of Streamflow Restoration (RCW 90.94.030). These watersheds all have older instream flow rules that do not regulate permit-exempt wells, and the watersheds did not adopt watershed plans under Watershed Planning (RCW 90.82).

Following the enactment of RCW 90.94 in early 2018, Ecology established the WRIA 9 Committee by inviting the entities to participate as identified in RCW 90.94.030(2)(b). The Committee first met in October 2018 and continued to meet monthly or bi-monthly as needed through February 2021.

This planning process, by statutory design, brought diverse perspectives to the table. The authorizing legislation required all members of the Committee to approve the final plan prior to Ecology's review. It was important for the Committee to identify a clear process for how it made decisions. The Committee strived for consensus for interim decisions because consensus on decisions during plan development served as the best indicator of the Committee's progress toward an approved plan. Consensus was reached on all interim decisions.

The WRIA 9 Committee reviewed components of the watershed plan and the draft plan on an iterative basis. Once the WRIA 9 Committee reached interim agreement on the final draft of the watershed plan, broader review and approval by the entities represented on the WRIA 9 Committee

was sought, as needed. The WRIA 9 Committee voted to approve the Watershed Restoration and Enhancement Plan on February 23, 2021. As chair of the Committee, the Ecology representative voted on all decisions that came before the Committee, including the approval of the Watershed Plan.

## **Technical Review of WRIA 9 Watershed Restoration and Enhancement Plan**

This section of the memorandum summarizes the attached Net Ecological Benefit Determination prepared by the Program's technical staff, who were also extensively engaged in supporting the planning work in WRIA 9. The Net Ecological Benefit Determination forms the technical basis for the Program's recommendation to adopt the Watershed Plan.

Ecology technical staff conclude that the WRIA 9 Watershed Plan adequately describes and evaluates the collective effects of new PE wells and offset projects. The plan's narratives, and quantitative and qualitative assessments are as thorough as they can be at this stage in their development, and followed a clear and systematic logic. The plan provides a well-organized and transparent evaluation of benefits from projects. The plan appendices include maps, pictures, figures, quantification of benefits where available, and cost estimates when appropriate. The plan makes clear statements that the Committee believes a NEB will be achieved.

The combined water balance at the WRIA-scale indicates a basin-wide surplus of 580 AFY, supporting attainment of NEB by providing additional benefits to instream resources beyond those necessary to offset the anticipated new, 20-year PE well demand in WRIA 9. This surplus provides reasonable assurance that new PE well demand will be offset at the WRIA scale. If some offset projects are not developed due to funding constraints or other issues, a subset of projects can still provide sufficient water to offset the projected new consumptive uses.

The portfolio of projects will offset projected impacts from PE wells in multiple subbasins and at the WRIA scale. The projects will enhance streamflow in subbasins that have a surplus of offset water and will improve biological function in all of the subbasins that implement habitat projects. Collectively, the projects will result in a net ecological benefit in WRIA 9.

In conclusion, Ecology technical staff's analyses of the plan indicate that relative to the impacts created by future PE wells anticipated in WRIA 9 over the twenty-year planning horizon, the offset strategies proposed will result in a net ecological benefit for the watershed. Therefore, Ecology technical staff conclude that the plan meets the intent of the legislation and requirements of RCW 90.94.030.

## **Recommendation**

The Program staff acknowledge that the WRIA 9 Watershed Plan includes plan implementation and adaptive management recommendations, including tracking and monitoring new PE wells and project implementation, reporting on implementation, and adaptive management of the plan. For many WRIA 9 Committee members, these additional recommendations build assurance for Watershed Plan implementation and achieving NEB. We do not present these additional recommendations in this memo: the Program will review recommendations for Ecology action

across all of the Watershed Plans and make a programmatic decision on where and how to invest resources on recommendation implementation.

This Watershed Plan does not include recommendations that would trigger rulemaking, such as modification of fees or water use quantities as described in RCW 90.94.030(3)(f).

**In summary, I concur, based upon the Program technical staff's analysis of the locally approved WRIA 9 Watershed Restoration and Enhancement Plan, with the Watershed Restoration and Enhancement Committee's conclusion and therefore recommend that Ecology adopt this Watershed Restoration and Enhancement Plan, as described in RCW 90.94.030.**