

Technical Review Report

Watershed Plan Addendum

Little Spokane Basin (WRIA 55)

Water Resources Program

Washington State Department of Ecology
Olympia, WA

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Related Information

- [WRIA 55 Plan Addendum¹](https://www.spokanecounty.org/DocumentCenter/View/35585/Watershed-Plan-Addendum-Final_110120)
- [Streamflow Restoration Planning²](https://ecology.wa.gov/Water-Shorelines/Water-supply/Streamflow-restoration/Streamflow-restoration-planning)

¹ https://www.spokanecounty.org/DocumentCenter/View/35585/Watershed-Plan-Addendum-Final_110120

² <https://ecology.wa.gov/Water-Shorelines/Water-supply/Streamflow-restoration/Streamflow-restoration-planning>

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I. Verification of Compliance with Submittal Requirements of Chapter 90.94.020 RCW

The Washington Department of Ecology (Ecology) has reviewed the WRIA 55 Watershed Plan Addendum in light of the requirements of RCW 90.94.020, and affirms that the document was submitted by the WRIA 55 Planning Unit (Planning Unit) prior to the February 1, 2021 deadline, and that the planning process followed the statutory process outlined in the law.

II. RCW 90.94.020 Technical Review

1. Overview

The Planning Unit has produced and approved an Addendum to the Little Spokane Watershed Management Plan (Plan Addendum), dated November 2, 2020, which addresses the requirements of chapter 90.94 RCW (RCW 90.94). This document provides the Streamflow Restoration Section technical staff's review of that Plan Addendum.

In addition to the coordination and technical assistance provided by Ecology to the Planning Unit, Ecology provided two specific documents to help them address the requirements of RCW 90.94:

Final Guidance for Determining Net Ecological Benefit GUID-2094 (Ecology Publication 19-11-079, July 2019 131p.) Ecology 2019a.

<https://fortress.wa.gov/ecy/publications/documents/1911079.pdf>

Streamflow Restoration Policy and Interpretive Statement POL-2094, Ecology 2019b.

<https://apps.wa.gov/ecy/docs/WaterRights/wrwebpdf/pol-2094.pdf>

The expectations presented in these two documents represent Ecology's recommendations regarding ways to address the requirements of RCW 90.94. Methods provided in the two documents are not rigid requirements and planning units can apply other credible methods. Ultimately, watershed plan updates must be judged against the requirements of RCW 90.94. In doing so, Ecology's strategy is to: (1) review the actions that planning units determine to be necessary to offset potential impacts to instream flows associated with permit-exempt domestic consumptive water use; and, (2) evaluate whether the plan updates will result in a Net Ecological Benefit (NEB) to instream resources within the WRIA.

Sections 2 through 6 of this technical review provide technical staff's synopsis and review of the elements discussed in the Planning Unit's Addendum. Figures and Tables from the Plan Addendum have been pasted into this document. Sections 7 and 8 provide the Ecology technical staff's NEB determination and conclusions.

2.0 Assessment of potential impacts

Note: This section presents information and conclusions provided in the Plan Addendum.

The Planning Unit divided the watershed into subbasins using the Washington Department of Natural Resources (DNR) Watershed Administrative Units (WAUs), consistent with previous watershed planning activities with the exception of the Dartford subbasin. That subbasin includes areas that drain to Dartford Creek, the Spokane Valley Rathdrum Prairie aquifer, and the mainstem of the Little Spokane River. Demand forecast for the Spokane Valley Rathdrum Prairie Aquifer was removed, as that area is governed by chapter 173-557 WAC. Demand for the rest of this subbasin was separated between areas connected to Dartford Creek and areas connected directly to the mainstem of the Little Spokane River. This resulted in the sub-division of the Dartford WAU into a Mainstem Little Spokane River subbasin and a Dartford subbasin, to go with the other DNR WAUs. In total, the Planning Unit broke the WRIA into nine subbasins. The Plan Addendum Appendix H Figure 1 (reproduced here as Figure 1) shows the subbasins used by the Planning Unit.

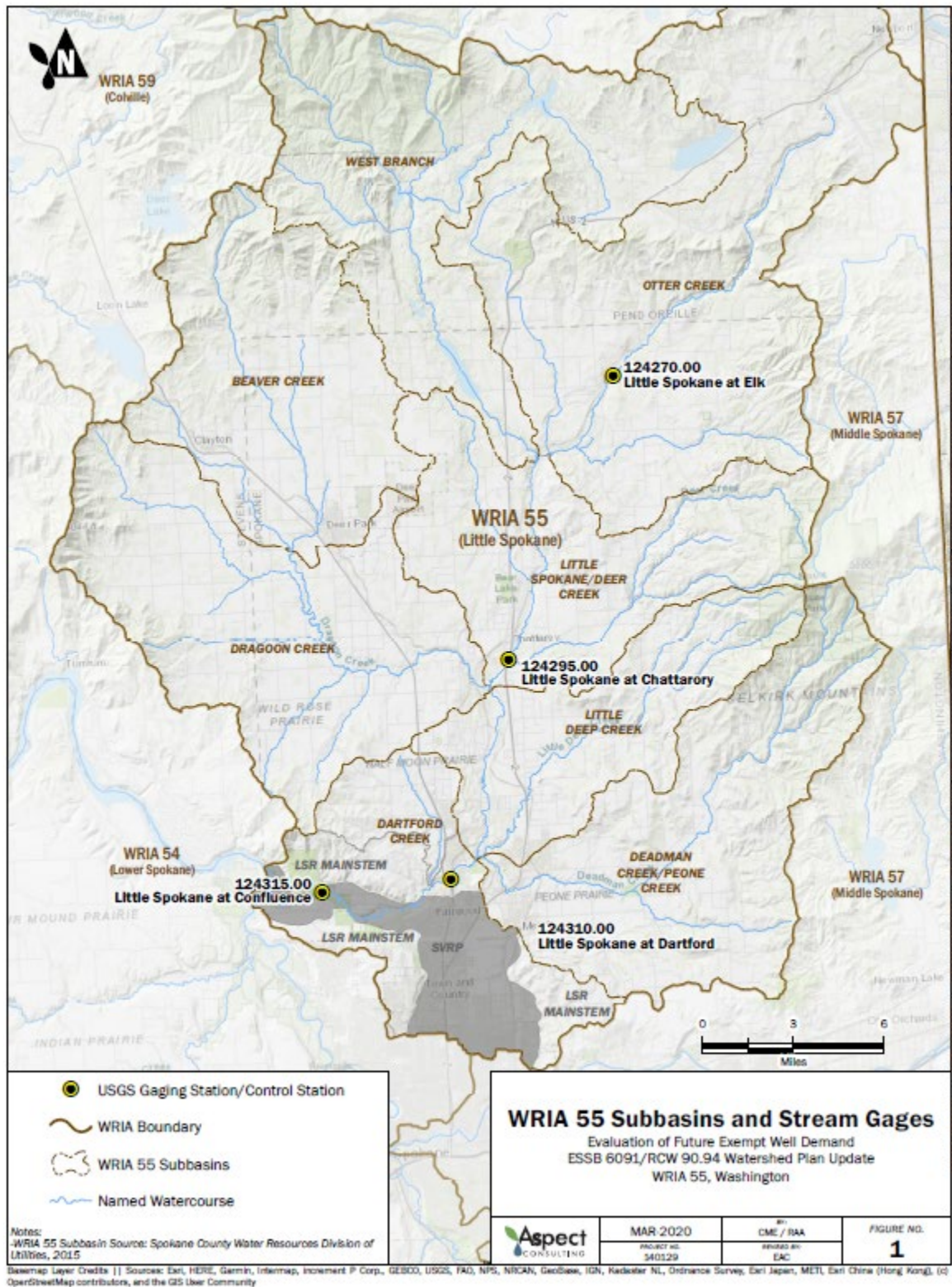


Figure 1 WRIA 55 Plan Addendum Subbasin Map

WRIA 55 extends into Spokane, Stevens, and Pend Oreille counties. All three counties conducted analyses and worked cooperatively to develop estimates of future residential

permits in WRIA 55 outside of areas with public water service. Each county developed 20-year (2018 through 2038) growth projections on a subbasin scale for single family residential units (SFUs) relying on permit-exempt domestic wells. Each county developed their forecast based on available county-specific information and professional judgment.

The counties also estimated average lawn size for homes relying on exempt wells, on a subbasin level, through a geographical information system (GIS) analysis of outside irrigation footprints for homes constructed from 2001 to 2017. Each county analyzed a sufficient sample size from the set of exempt well properties to attain an approximate 95 percent confidence interval with a 5 percent margin of error, within that county's portion of WRIA 55 that is served by exempt wells.

The Planning Unit's consultant then used this information to estimate the amount of consumptive use associated with the growth projections for SFUs relying on exempt wells. The analyses methodology relied upon the following assumptions:

- Indoor consumptive use estimates were based on examples presented in Ecology's Streamflow Restoration Recommendations for Water Use Estimates publication (Ecology 2019a) and a review of US Census data on average persons per household by county.
- Outdoor consumptive use estimates were made based on average irrigation lawn size determined on a subbasin level and methods described in Ecology Guidance 1210 Determining Irrigation Efficiency and Consumptive Use (Ecology 2005), using crop demand estimates provided in the Washington Irrigation Guide (WAIG) for pasture/turf for the Spokane and Newport stations. The water duty assigned to pasture/turf by the WAIG are based on commercial turf grass production, and some homeowners may irrigate less, which would lead to conservatively high estimates of irrigation use from this analysis.

The 20-year timeline WRIA 55 permit-exempt domestic well demand estimate that was produced forms the basis for the NEB analysis and the Plan Addendum's required water offset totals. These estimates were developed and refined through several iterations and distribution of draft memorandums to the Planning Unit. The first scenario presented to the Planning Unit was based on the Office of Financial Management (OFM) medium growth estimates for Spokane County, and historical growth rates in Stevens County and Pend Oreille County. The OFM medium estimate for Spokane County was utilized for consistency with Growth Management Act (GMA) planning. However, these estimates were lower than historical growth rates, and some Planning Unit members were concerned that they were too low. To accommodate those concerns and provide reasonable assurance that enough water offset would be developed over the planning horizon, the historical growth rate for Spokane County was used instead, resulting in 40 percent more single-family residences than the OFM projections.

Plan Addendum Table 2 presents the number of single-family residences projected over the planning horizon, including the estimate based on OFM and historical growth rates for Spokane County. 2,760 new permit-exempt domestic wells (and homes) are forecast over the 20-year timeline, which is the total of the Spokane County (Historical), Stevens County, and Pend Oreille County columns.

Table 2. Projected Growth in Single-Family Residences

	Spokane County (OFM)	Spokane County (Historical)	Stevens County	Pend Oreille County
Dartford Creek	93	131		
Mainstem LSR	124	174		
Dragoon Creek	281	395	179	
Deadman-Peone Creek	319	448		
Beaver Creek	155	218	65	
Otter Creek	156	219		194
West Branch	67	94	2	138
Little Spokane/Deer Creek	261	366		
Little Deep Creek	98	137		
Total	1554	2182	246	332

Figure 2 Reproduction of Table 2 from Plan Addendum showing the number of new wells (and homes) expected in WRIA 55 over the 20-year timeline.

In addition to utilizing a higher growth rate for Spokane County, some Planning Unit members were concerned that potential impacts from climate change may require additional offsets. To address this concern, the Planning Unit added 10 percent to their consumptive use projection to the exempt well demand based on modeling analysis of climate change impacts³. This adds to the reasonable assurances provided by the Plan Addendum in that actual demand over the planning horizon is, due to this addition, less likely to exceed projected demand. The demand scenario approved by the Planning Unit at its March 5, 2020 meeting for inclusion in the Plan Addendum is described in Plan Addendum Table 3. This table illustrates the increase in demand resulting from the inclusion of the climate change contingency.

Details of how the Planning Unit arrived at their final estimates for the estimated new permit-exempt domestic consumptive uses over the 20-year timeline are found in the Plan Addendum's Appendix H. Plan Addendum Table 3 presents the results. The final estimate of

³ Details of how the numerical model was used to determine that climate change impacts may result in a 10% increase in potential evapotranspiration between the baseline model results and the results from the climate change scenario model run can be found in Appendix H of the Plan Addendum.

new consumptive water use with climate change is 2,353.69 acre-feet per year (afy) or 3.25 cubic feet per second (cfs).

**Table 3. Total Projected Combined Indoor/Outdoor Consumptive Use
in WRIA 55, 20-Year Planning Horizon
(with Climate Change 10 percent Contingency Factor)**

WRIA 55 Subbasins	Without Climate Change Contingency Factor		With Climate Change Contingency Factor	
	Projected Consumptive Use (afy)	Projected Consumptive Use (cfs)	Projected Consumptive Use (afy)	Projected Consumptive Use (cfs)
Dartford Creek	124.91	0.17	137.40	0.19
Mainstem	165.91	0.23	182.51	0.25
Dragoon Creek	456.05	0.63	501.65	0.69
Deadman-Peone Creek	483.31	0.67	531.64	0.73
Beaver Creek	217.47	0.30	239.22	0.33
Otter Creek	298.04	0.41	327.84	0.45
West Branch	86.53	0.12	95.18	0.13
Little Spokane/Deer Creek	240.03	0.33	264.03	0.36
Little Deep Creek	67.48	0.09	74.22	0.10
TOTAL	2139.72	2.95	2353.69	3.25

Figure 3 Reproduction of Table 3 from Plan Addendum showing final Consumptive Use estimate.

2.1 Evaluation of Impacts from New Consumptive Use

The Plan Addendum anticipates that new development is likely to be distributed throughout each subbasin, and not concentrated in any specific location as is common with development supplied by public water supplies. Wells associated with new permit-exempt development will be completed in all hydrogeologic units present in WRIA 55 at various depths. While water use and pumping associated with residential development has a seasonal increase during the summer months, this impact will be attenuated by the distance from surface water both laterally and vertically. The distribution of wells and attenuation of changes in pumping rates creates a fairly even impact throughout the year. While impacts are essentially steady-state, they represent the greatest percentage of surface flow during the low flow periods of late summer and early fall. Consistent with this impact, several water offset projects are included in the Plan Addendum that focus on providing the greatest benefit during low flow periods.

This approach to assessing impacts from new consumptive use is consistent with Ecology's interpretation provided in Appendix B of GUID-2094: Final Guidance for Determining Net Ecological Benefit (Ecology, 2019a):

“The conclusion of this appendix is that in most instances pumping impacts associated with new permit-exempt domestic withdrawals will be quite small, well dispersed, and nearly steady-state with respect to streams. Also, in general it will not be possible and is unnecessary to evaluate the impacts of pumping at individual locations. Planning groups can assume the impacts from new permit exempt domestic withdrawals over the planning horizon will be steady-state.”

Ecology technical staff concludes that the Planning Unit fulfilled its obligations to adequately identify and quantify the anticipated consumptive use impacts associated with the projected new permit-exempt domestic water wells anticipated over the statutory timeline. The analysis was thorough and robust. It was conducted at both the subbasin and WRIA scales, which allows for meaningful determinations of the anticipated impacts. The Planning Unit calculated the size and distribution of the impacts on both an annual basis and an instantaneous basis (see their Table 3, reproduced above in Figure 3).

3.0 Planning unit analysis of offset project strategies

Note: This section presents information and conclusions provided in the Plan Addendum.

RCW 90.94 requires planning units to develop actions “necessary to offset potential impacts to instream flows associated with permit-exempt domestic water use” RCW 90.94.020(3)(b). The Planning Unit identified a suite of projects that it included in its Plan Addendum. These include Water Offset Projects and Non-Water Offset (Habitat and Water Conservation) Projects.

The Water Offset Projects focus on adding and retiming flow to surface water bodies through a mix of project types. These include:

- Water right purchases – Useful transactions include placing valid water rights into Ecology’s Trust Water Rights Program (TWRP) and an associated cessation of use that provides direct instream flow benefits. This includes completed and prospective purchases conducted by Spokane County in support of the Little Spokane Water Bank.
- Managed aquifer recharge (MAR) projects identified through modeling/GIS investigations – MAR projects involve the capture of surface water and infiltration to groundwater, when water is physically and legally available. Successful MAR projects result in streamflow benefits during critical low streamflow periods as well as throughout the rest of the year.
- MAR projects with preliminary design status – Field investigations were conducted at three potential MAR sites identified through modeling/GIS investigations, and two MAR project sites now have preliminary design work completed and site access secured.
- Surface water storage projects – Surface water storage projects involve the retention of surface water when water is physically and legally available, for later release during critical low streamflow periods.

- Water supply source exchange – This involves providing an alternative groundwater source for water supply for an existing groundwater user in order to lessen or eliminate impacts at the original water source location. Streamflow benefits occur within surface water bodies near the former source location.

The Non-Water Offset (Habitat and Water Conservation) Projects identified by the Planning Unit focus on restoring, improving, and protecting habitat through a mix of project types. These include:

- Fish barrier removal – These projects involve replacing or modifying culverts to remove barriers to fish passage, thereby increasing available accessible habitat.
- Floodplain restoration – Restoration projects can include reconnecting side channels and other modifications to stream channel morphology, levee modifications, and enhancement of associated riparian vegetation.
- Habitat restoration/enhancement – Habitat restoration projects can include enhancing riparian vegetation, placing woody debris, gravel augmentation, and other activities that improve habitat.
- Land acquisition – These projects include acquisition (or easements) that protect land from future development and allow preservation and restoration of upland and riparian habitat to preserve and enhance the aquatic environment.
- Water conservation – These projects focus on public outreach efforts to encourage water conservation.

The Planning Unit also identified a third category of projects that it called Opportunistic Projects. These highlight projects that may be identified in the future and pursued as they come along. These include:

- Seeking new opportunities for water right purchases
- Future identification of culvert/fish barrier projects
- Future landowner interest in habitat restoration projects

3.1 Water Offset Projects

The Planning Unit describes seven water right purchases, ten MAR projects, one surface water storage project, and one source switch project in its portfolio to offset new consumptive uses. These nineteen projects are discussed below and their locations are shown on their map reproduced below (Figure 4).

For each potential water right acquisition the consumptive use portion of the right has been estimated. Before any of these water rights can be acquired, they must undergo an extent and

validity determination to better define their consumptive use. Several of the water rights have already been acquired by Spokane County. Willing sellers have been identified for the others and are under negotiation for purchase. Once acquired, these rights will be permanently placed into the Trust Water Right Program to provide offset benefits in perpetuity.

A site optimization analysis was conducted for each potential MAR site using the transient, integrated surface and groundwater model that was developed for WRIA 55. Preliminary field work has been conducted for three of the MAR sites (funded by Ecology). This work concluded that one of the potential MAR sites on Deadman Creek was not suitable for development. The Plan Addendum, on page 21, discusses how nine MAR projects could each provide an offset of 180 afy, for a total offset benefit of 1,620 afy. Table 5 in the Plan Addendum (Figure 5 below) lists all of the projects by subbasin and includes their offset quantities.

During the technical review Ecology staff identified a discrepancy in the presentation of MAR projects. Table 5 lists ten MAR projects, including two MAR projects on Deadman Creek (#13 and #17). However, the Plan Addendum's discussion of offset projects included in the NEB determination, Section 6.2, lists nine MAR projects with only one on Deadman Creek as contributing offset water. Ecology technical staff believes that Project #17 should no longer be considered to be in the offset portfolio. This project's offset contribution (180 afy) is still listed in the Plan Addendum Table 5. The Plan Addendum says a total of 4,262 afy of offset water is identified in the Plan. Removing Project #17 from the portfolio list means that collectively, the 18 remaining water offset projects would provide 4,082 afy of offset water. Project #17 is included on the Plan Addendum's map (Figure 4 below) which shows where all the projects are located within the WRIA. Given this discrepancy between the narrative and the table, Ecology technical staff believe that Project #17 should not be listed in the table or on the map, and have reduced the total offset quantity of the Plan Addendum's portfolio to 4,082 afy for our evaluation. Those adjustments were made during the Ecology technical staff's analysis.

The following projects and estimated mitigation quantities were included in the tally that Ecology technical staff used during its analysis:

- Water right purchase G3-23099C (G3-CV2-SP52): 78 afy
 - Benefits Little Spokane/Deer Creek subbasin and Little Spokane River
- Water right purchase G3-*02228CWRIS: 100 afy
 - Benefits Beaver Creek subbasin, Dragoon Creek subbasin, and Little Spokane River
- Water right purchase G3-*01844CWRIS: 100 afy
 - Benefits Dragoon Creek subbasin and Little Spokane River
- Water right purchase S3-*12724CWRIS: 50 afy
 - Benefits Dragoon Creek subbasin and Little Spokane River
- Water right purchase S3-*06812CWRIS: 50 afy
 - Benefits Beaver Creek subbasin, Dragoon Creek subbasin, and Little Spokane River
- Water right purchase (owned by Spokane County) CG3-24214(A): 255.4 afy
 - Benefits Beaver Creek subbasin, Dragoon Creek subbasin, and Little Spokane River
- Water right purchase (owned by Spokane County) G3-20511C: 28 afy
 - Benefits Dragoon Creek subbasin and Little Spokane River

- Milan Road/Bear Creek MAR Project: 180 afy
 - o Benefits Little Spokane/Deer Creek subbasin and Little Spokane River
- Dry Creek - Site 1 MAR Project: 180 afy
 - o Benefits Otter Creek subbasin and Little Spokane River
- Otter Creek - Site 3 MAR Project: 180 afy
 - o Benefits Otter Creek subbasin and Little Spokane River
- County Park/Last Chance Road MAR Project: 180 afy
 - o Benefits West Branch subbasin and Little Spokane River
- Little Deep Creek - Site 1 MAR Project: 180 afy
 - o Benefits West Branch subbasin and Little Spokane River
- Deadman Creek MAR Project: 180 afy
 - o Benefits Deadman Creek/Peone Creek subbasin and Little Spokane River
- Dry Creek - Site 2 MAR Project: 180 afy
 - o Benefits Otter Creek subbasin and Little Spokane River
- Dragoon DNR MAR Project: 180 afy
 - o Benefits Dragoon Creek subbasin and Little Spokane River
- Bear Creek MAR Project: 180 afy
 - o Benefits Little Spokane/Deer Creek subbasin and Little Spokane River
- Eloika Lake Surface Water Storage: 1,400 afy
 - o Benefits Little Spokane River
- Whitworth Water District Source Exchange Project: 400 afy
 - o Benefits Little Spokane River

Both Stevens and Spokane counties have applied for several Streamflow Restoration and Enhancement grants for MAR projects, so those project cost estimates are becoming more refined as projects go from conceptual to site-specific in nature. Some preliminary work has been done on the Eloika Lake water storage project which improves that project's cost estimate. For planning purposes, the cost estimates included in the Plan Addendum meet the intent to provide reasonable assurances for the projects.

3.2 Non-Water Offset (Habitat and Conservation) Projects

The Planning Unit has included ten habitat projects in its portfolio. These projects are in addition to the 18 water offset projects highlighted in the previous section. These projects are intended by the Planning Unit to support attainment of NEB by providing additional benefits to instream resources beyond that necessary to merely offset the anticipated 20-year demand for new permit-exempt domestic uses in WRIA 55.

Eight of these habitat projects target specific subbasins. Their location and benefits are summarized in Section 6.2 of the Plan Addendum and summarized below:

- Deer Creek Fish Barrier Removal Project
 - o Benefits habitat restoration in the Little Spokane/Deer Creek subbasin, which includes habitat for redband trout and contains reaches with high intrinsic potential for steelhead and redband trout.

- Dartford Creek Floodplain Restoration Project
 - o Benefits habitat restoration in the Dartford Creek subbasin, one of the two subbasins with water offset deficits. Dartford Creek is habitat for redband trout and also contains reaches with high intrinsic potential for steelhead. Portions of Dartford Creek have also been identified as in need of habitat restoration.
- Dartford Creek Habitat Restoration Project
 - o Benefits habitat restoration in the Dartford Creek subbasin, one of the two subbasins with water offset deficits. Dartford Creek is currently habitat for redband trout and contains reaches with high intrinsic potential for steelhead. Portions of Dartford Creek have also been identified as in need of habitat restoration.
- Little Spokane Riparian Habitat Restoration Project
 - o Benefits the mainstem of the Little Spokane River in an area identified as in need of habitat restoration. This reach of the Little Spokane includes habitat for redband trout and contains reaches with high intrinsic potential for steelhead.
- Westover Habitat Restoration Project
 - o Benefits habitat restoration in the upper reach of the Little Spokane River, which has been identified as in need of habitat restoration.
- Cygiel Habitat Restoration Project
 - o Benefits habitat restoration in the upper reaches of the Little Spokane River. This reach has been identified as in need of habitat restoration.
- Deadman Creek Beaver Dam Analogue Project
 - o Benefits habitat restoration in the Deadman Creek subbasin, one of the two subbasins with water offset deficits. Deadman Creek is habitat for redband trout and also contains reaches with high intrinsic potential for steelhead. Deadman Creek also has significant reaches that have been identified as in need of habitat restoration.
- Waikiki Springs Habitat Preservation Project
 - o Benefits habitat restoration in the mainstem of the Little Spokane River. This reach of the Little Spokane includes habitat for redband trout and contains reaches with moderate intrinsic potential for steelhead.

Two of the ten habitat projects are basinwide in scope and include:

- WRIA 55 Fish Barrier Assessment and Prioritization Project
 - o This is a basinwide project that will support habitat restoration throughout multiple reaches of existing and potential redband trout habitat.
- Little Spokane Watershed Habitat Evaluation and Restoration Project
 - o This is a basinwide project that will support habitat restoration throughout multiple reaches of existing and potential redband trout habitat.

The ten habitat projects listed in the Plan Addendum have costs associated with each project. These projects have been proposed by organizations that have proven track records for developing these types of projects and their cost estimates are rigorous enough for planning purposes.

The Plan Addendum's Figure 2 (reproduced here as Figure 4) shows the location of the water offset and non-water offset projects that are listed in the portfolio.

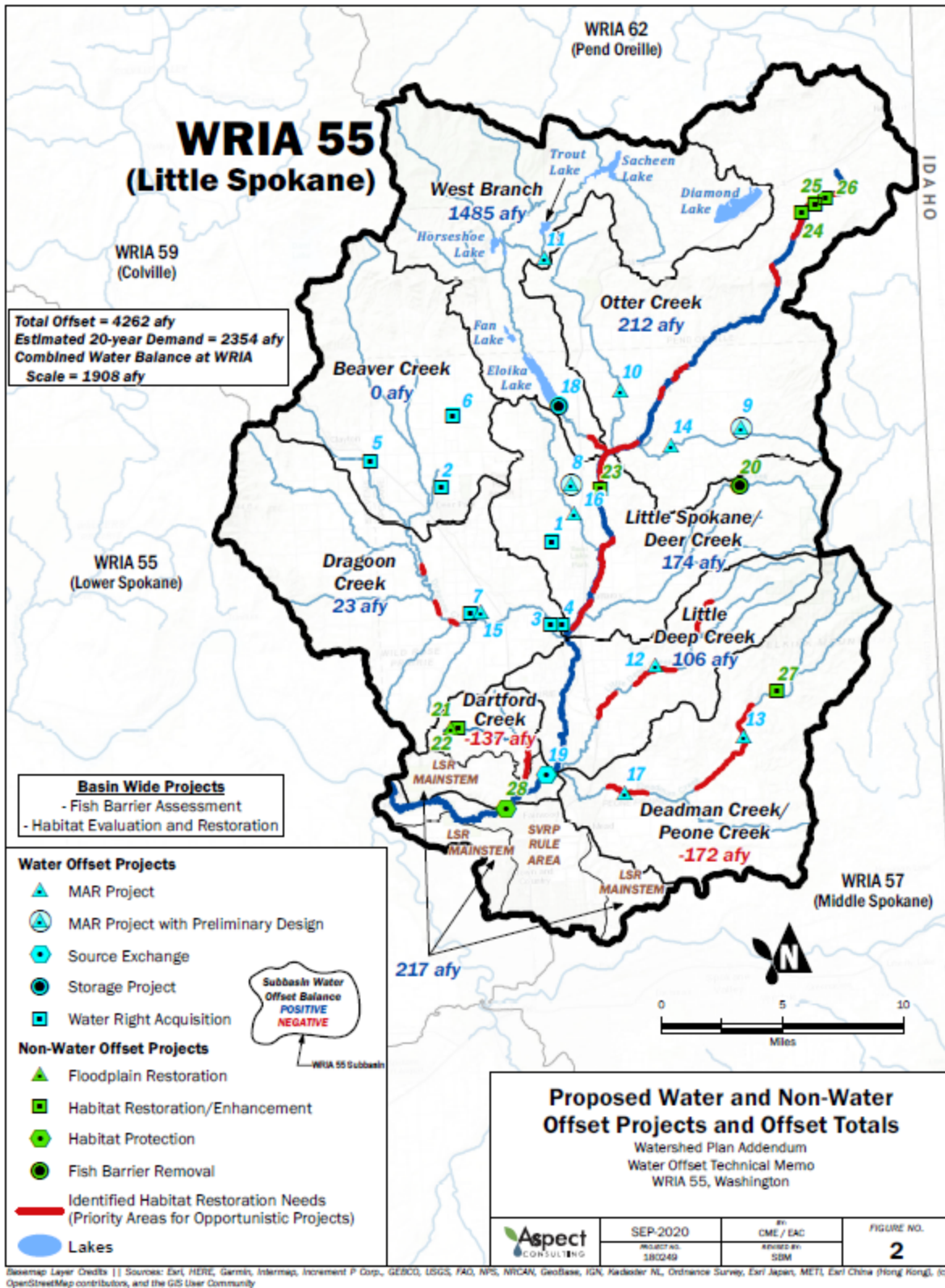


Figure 4 Plan Addendum's proposed project locations

3.3 Spokane County Water Conservation Projects

Water conservation is a significant aspect of both the WRIA 55/57 Watershed Plan (adopted by the Planning Unit in 2006) and Detailed Implementation Plan (adopted by the Planning Unit in 2008) developed under RCW 90.82. Water conservation actions directed to permit-exempt well users in WRIA 55 conducted with Watershed Planning Grant Funding included the following:

- Development and distribution of xeriscaping information to developers, builders, and homeowners
- Education and outreach related to the impact of groundwater use on surface water flows in WRIA 55, especially during low flow years
- Indoor water use fixture rebate program
- Irrigation efficiency workshops

As funding allows, Spokane County proposes to follow up on the programs initiated during implementation of the WRIA 55/57 Watershed Plan and add new programs as they are identified.

3.4 Policies

The Planning Unit has chosen not to recommend any changes to policies established in RCW 90.94.020(4)(d) such as fees or annual maximum withdrawal rates. Consequently the Plan Addendum does not require a rule change to chapter 173-555 WAC.

4. Planning unit discussion of Net Ecological Benefit

Note: This section presents information and conclusions provided in the Plan Addendum.

Section 6 in the Plan Addendum discusses the Planning Unit's evaluation of NEB. Ecology technical staff summarize the Planning Unit's NEB evaluation here in Section 4. The Planning Unit's discussion focused on six key factors including:

- Evaluation of impacts from new consumptive water use associated with exempt wells - Section 5 of the Plan Addendum reviews the conclusions of the exempt well demand analysis, with details on the analysis approach presented in a Technical Memorandum in Appendix H.
- Descriptions and evaluations of offset projects incorporated into the Plan Addendum - Section 6 of the Plan Addendum provides a summary of the set of proposed water and non-water offset projects, with additional details provided in Appendices D through G.
- Comparison of the water offset projects incorporated into the Plan Addendum to demand estimates for the entire watershed and on a subbasin basis.
- Review of projects and actions, including non-water offset projects, which provide the additional benefits to instream resources beyond those necessary to offset the impacts from new permit-exempt consumptive water use within the WRIA boundary.
- Addressing the ability to implement the Plan Addendum and associated offset projects.

- Concurrence from the WRIA 55 Planning Unit that the combined components of the Plan Addendum achieve NEB.

Consumptive Water Use

After considerable negotiation and consideration of the technical studies and materials prepared to support this, the Planning Unit determined that their 20-year, WRIA 55, exempt-well demand estimate was 2,353.69 afy. As noted above, this includes a 10 percent adjustment to account for climate change impacts. This estimate relies on a historical growth rate for new wells expected in Spokane County over the lower number forecast using OFM growth estimates. Historical growth rates for Stevens and Pend Oreille were also used to forecast their respective future well demands. The Planning Unit's use of this methodology provides reasonable assurances that enough offset water will be developed over the planning horizon to satisfy the requirements of the law and guidance.

The total offset project portfolio quantity presented in the Plan Addendum (4,262 afy) is significantly greater than the total projected demand (2,354 afy) at the WRIA level. The total offset quantity is also greater than demand in all but two of the subbasins. The combined water balance at the WRIA scale indicates a basin wide surplus of 1,908 afy. [As noted above, due to calculation and ministerial errors in the Plan Addendum, it is Ecology technical staff's opinion that the correct portfolio offset quantity is 4,082 afy, in which case the surplus would be 1,728 afy as discussed in Section 3.1 of this document.] Either way, this surplus supports attainment of NEB by providing additional benefits to instream resources beyond those necessary to merely offset the anticipated 20-year demand for new permit-exempt domestic wells in WRIA 55.

The surplus in offset water supports flexibility and provides reasonable assurance that permit-exempt demand will be offset in WRIA 55. If some offset projects are not developed due to funding constraints or other issues, a subset of projects can still provide sufficient water offset to meet projected demand. Projects implemented in excess of the projected demand provide additional instream benefit and contribute to achieving NEB.

Most of the WRIA 55 subbasins have sufficient offset supplies to meet estimated 20-year permit-exempt well demand, including:

- West Branch subbasin
- Beaver Creek subbasin
- Dragoon Creek subbasin
- Otter Creek subbasin
- Little Spokane/Deer Creek subbasin
- Little Deep Creek subbasin

Two of the WRIA 55 subbasins have deficits in offset supplies, including:

- Deadman Creek/Peone Creek subbasin
- Dartford Creek subbasin

Offset Projects

Many of the subbasins have non-water offset projects including the subbasins with offset water deficits. The non-water offset projects are intended to contribute to achieving NEB, and, where applicable, help compensate for subbasin water offset deficits. A beaver dam analogue project (Project #27) on Deadman Creek proposed by The Lands Council is intended to trap sediment, slow stream flow, and improve habitat in an area with identified habitat restoration needs. Two floodplain and habitat restoration projects in the Dartford Creek subbasin proposed by the Spokane Conservation District (Projects #22 and #23) are also included in the Plan Addendum. These projects are targeting areas that currently have poor habitat conditions and can provide significant benefits when implemented. The WRIA 55 Planning Unit considers it important to prioritize implementation of non-water habitat projects in these subbasins given the water offset deficits.

The non-water offset projects support attainment of NEB within WRIA 55 by targeting stream reaches specifically identified by members of the Planning Unit as having the potential to benefit from habitat projects. Non-water offset projects were proposed by the Spokane Conservation District, Pend Oreille Conservation District, The Lands Council, The Inland Northwest Land Conservancy, Spokane Tribe of Indians, and Washington Department of Fish and Wildlife. All of these project proponents have experience in implementing habitat projects and have an understanding of priority areas where projects will provide direct habitat benefits.

All of the offset projects included in the Plan Addendum are considered realistic, consist of project types regularly funded by state and federal funding programs, and have a solid scientific foundation.

Water offset and non-water offset projects are distributed throughout WRIA 55 including in the upper portions of the basin, which serve to provide more stream reaches of the watershed with streamflow benefits than projects lower in the basin. The combined proposed water offset projects provide stream flow benefits to approximately 150 river miles in the tributaries and mainstem.

The combination of these ten non-water offset projects, including three in water-offset deficit subbasins, and additional basinwide projects, support attainment of NEB by providing benefits to instream resources beyond those necessary to merely offset the anticipated permit-exempt domestic 20-year demand in WRIA 55.

5.0 Implementation, monitoring, management, and integration

Note: This section presents information and conclusions provided in the Plan Addendum.

Ecology's NEB Guidance requires that plans must include assessments of the likelihood that project and action benefits will occur, including local support, and any possible barriers to implementation.

The types of offset projects proposed in the Plan Addendum are typical for this type of planning activity. Spokane County and Stevens County have, in recent years, participated in purchasing existing water rights to contribute to watershed planning activities. Retiming projects like MAR and surface water storage and release have been implemented in many Washington state

watersheds for decades. The technology to implement these types of projects is mature. Spokane County has applied for funding to construct and operate multiple MAR projects within the watershed specifically for RCW 90.94 purposes.

The habitat projects listed in the Plan Addendum are similar to projects being implemented throughout the state to help restore and enhance instream flows within their respective watersheds. The project proponents for the habitat projects in the Plan Addendum all have experience developing these types of projects.

5.1 Implementation

Implementation of the Plan Addendum will be achieved through the efforts of multiple Planning Unit member organizations in the watershed. The offset projects are the core of the Plan Addendum, and they will be implemented by the entities that have proposed them. Non-water offset projects were proposed by the Spokane Conservation District, Pend Oreille Conservation District, The Lands Council, The Inland Northwest Land Conservancy, Spokane Tribe of Indians, and Washington Department of Fish and Wildlife. Each of the project proponents will further develop the project proposals described in the Plan Addendum, secure funding, construct the project, and operate and maintain the project.

The Planning Unit believes that in addition to implementing projects there is a need for an entity that can coordinate implementation over the course of the planning timeframe.

Coordination activities include:

- Tracking offset projects implemented by each entity to achieve NEB
- Tracking actual permit-exempt well demand
- Communication between the Initiating Governments, Ecology, the Planning Unit members, and the general public on topics of interest related to plan implementation
- Implementation of adaptive management actions

Spokane County has historically been the lead agency for watershed planning in WRIA 55 and proposes taking the lead role in coordinating implementation of the Plan Addendum.

With the exception of the proposed Whitworth Water project, Spokane County is the project proponent for all water offset projects within the Plan Addendum. The county, and the Plan Addendum both recognize the need for O&M to further facilitate plan implementation and sustainable project success. Spokane County has estimated that by the end of the 20-year implementation period, operation and maintenance costs could range between \$150,000-\$320,000 annually. To support current and future Streamflow Restoration and Enhancement grant project proposals, Spokane County has evaluated options to provide funding for operation and maintenance of these projects. The evaluation is provided in Appendix M in the Plan Addendum. Stevens County and Pend Oreille County also plan to conduct evaluations of funding options for their proportionate shares of operation and maintenance costs if state funding is not provided.

5.2 Adaptive Management

Adaptive management is included in the Plan Addendum to clearly articulate the Planning Unit's goal of successful plan implementation, to the extent possible based on available offset project funding from Ecology and from other sources. Adaptive management will add flexibility to the implementation process, allowing adjustments based on actual exempt well demand, offset project status, and new, opportunistic projects that are identified following adoption of the Plan Addendum.

Adaptive management provisions of the Plan Addendum include:

Review of Actual Permit-Exempt Domestic Well Demand

On an annual basis, Spokane County, in coordination with the Initiating Governments, will conduct a review of actual exempt well demand based on issuance of new building permits. Spokane County will review the number of new exempt wells in each subbasin and all of WRIA 55 combined. Spokane County will coordinate with Stevens and Pend Oreille counties to incorporate building permit data from their portions of WRIA 55. These data will be compared to the projected annual growth rates incorporated into the exempt well demand analysis presented in the Plan Addendum (Appendix H).

On a 5-year basis in support of adaptive management and reporting, Spokane County, in coordination with the Initiating Governments, will summarize actual exempt well demand by subbasin, with a comparison to the estimates presented in the plan. A review of evapotranspiration based on the Deer Park AgriMet station data will be conducted to assess the applicability of the estimated lawn and garden irrigation demand by exempt wells incorporated into the Plan Addendum, and adjustments to the estimates and associated demand will be considered based on the findings.

Review of Water and Non-Water Offset Project Status

On an annual basis, Spokane County will conduct a review of water and non-water offset projects that have been implemented to date and the availability of project capital funding for implementation of proposed offset projects. As part of this process, review of offset projects for potential submittal of watershed restoration grant applications to Ecology will be conducted, and associated grant applications may be prepared for selected projects. Opportunistic offset projects that have been identified will be considered for inclusion in the target project list.

On a 5-year basis, in support of adaptive management and reporting, Spokane County will review the status of water offset projects throughout WRIA 55. Water offset projects that have been implemented will be compared to actual exempt well demand on a subbasin and watershed basis. Surpluses and deficits in the water offset totals compared to actual demand will be noted. Potential changes to the overall water and non-water offset project list presented in the Plan Addendum will be considered based on any new, opportunistic projects that have been identified. Offset projects incorporated into the Plan Addendum that no longer appear to be feasible for implementation based on additional information, such as landowner interest or the inability to obtain funding, may be removed from the target project list.

Spokane County, in coordination with the Initiating Governments, will prepare the proposed annual reports that will consist of brief narrative reports to be distributed to the Planning Unit and posted online by June 1st each year for the previous year summarizing:

- Actual new permit-exempt domestic well demand for the preceding year based on a review of building permit data.
- Plan implementation actions to date.
- Any changes in overall approach to plan implementation since the last report.
- Any significant implementation challenges identified that will require a change in approach.
- Specific information regarding the status of implementation of offset projects that Ecology relied on in adopting the plan.

The proposed 5-year reports will incorporate a summary of plan implementation and adaptive management tasks, including:

- Status of actual permit-exempt domestic well demand by subbasin with a comparison to the estimates presented in the plan.
- Status of water offset projects implemented or in progress, combined with a tally of instream flow benefits by subbasin and for the whole watershed relative to actual exempt well demand.
- Status of non-water offset projects implemented or in progress.
- Modifications, if any, to the offset project list based on inclusion of new, opportunistic projects and removal of projects, with a description of the rationale for changes to the list.
- Operation and maintenance status of active projects, including identification of any concerns and/or corrective actions required.
- Status of offset project capital and O&M funding.

The 5-year reports will be prepared by Spokane County, in coordination with the Initiating Governments. These reports will be distributed to the Planning Unit and posted on the county website.

5.3 Integration

The Planning Unit recognizes there is an active, knowledgeable base of local entities to implement projects. As each project is funded, implementation of that project will include funding to ensure long-term success and consistency with other water resource protection measures. In addition to the Streamflow Restoration and Enhancement Grant program there are other applicable state and federal grant programs, including:

- Bureau of Reclamations WaterSmart Programs (e.g. Drought Resiliency, Water Efficiency, and Water Market programs)
- Ecology Office of Columbia River grant program
- Ecology Water Quality Program grants
- Various habitat restoration grant programs

The funding mechanisms established through RCW 90.94 did not, however, address ongoing implementation of the Plan Addendum. Ecology has indicated that under the current statutory framework for streamflow restoration, state funding will not be available to support ongoing implementation and offset project operations and maintenance. The WRIA 55 Planning Unit considers it a priority to “petition the Washington State Legislature to provide ongoing funding for plan implementation and for operation and maintenance of offset projects, in addition to capital funding of projects. In the absence of state funding for this purpose, each project proponent would need to develop a funding source for operation and maintenance of their offset projects.”

6. State Environmental Policy Act

Note: This section presents information and conclusions provided in the Plan Addendum.

The State Environmental Policy Act (SEPA) (chapter 43.21C RCW) requires state and local governments to consider potential environmental consequences of proposed actions, including project and non-project actions, during the decision-making stage. Under SEPA rules, non-project actions are defined as governmental actions involving changes to policies, plans, and programs (chapter 197-11-774 WAC). Any non-project action must be reviewed under SEPA unless specifically exempted. The SEPA review consists of identification and evaluation of probable impacts of a proposed action, reasonable alternatives to the proposed action, and mitigation measures, before committing to a particular action.

In accordance with SEPA, Ecology issued a Final Environmental Impact Statement for Watershed Planning under chapter 90.82 RCW (Ecology’s FEIS). In 2003, the WRIA 55 Planning Unit adopted Ecology’s Final Environmental Impact Statement and Determination of Significance. The Watershed Plan also noted that the Plan does not require a permit, action or funding by any federal agency, and therefore that review under the National Environmental Policy Act was not triggered.

Spokane County is the Lead Agency for SEPA and the Watershed Planning and Addendum process in WRIA 55. Spokane County has evaluated Ecology’s FEIS and determined that the actions proposed in the Plan Addendum are adequately addressed in the FEIS. The FEIS considers watershed planning actions, impacts and mitigation measures considered in the Plan Addendum, specifically:

- Transfer of water rights from out of stream uses to instream uses (Sec. 6.8)
- Allocation of ground or surface water for mitigation measures (Sec. 6.10)
- Construct and operate new on-channel storage facilities (Sec. 6.19)
- Construct and operate artificial recharge storage projects (Sec. 6.25)
- Implement instream habitat improvement projects (Sec. 6.42)
- Replace roadway structures to improve fish passage (Sec. 6.45)
- Construct fish passage facilities (Sec. 6.46)
- Implement out-of-stream habitat improvement projects (Sec. 6.47)
- Control sources of sediment (Sec. 6.50)
- Acquire property or conservation easements to protect habitat (Sec. 6.53)

Spokane County has reviewed the Watershed Planning FEIS and determined that the actions identified in the WRIA 55 Plan Addendum are consistent with the actions and impacts identified and evaluated in the FEIS. This addendum to the FEIS is issued under WAC 197-11-600(4)(c), and WAC 197-11-625. The Plan Addendum and its attachments add analyses or information about the proposal, but do not substantially change the analysis of significant impacts and alternatives in the existing environmental document. SEPA documents for approval of the Plan Addendum are included in their Appendix E.

7.0 Ecology Technical staff Net Ecological Benefit Determination

RCW 90.94.020(4)(c) directs the department to evaluate whether the actions identified in the submitted 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”. While Ecology intends to provide deference to the recommendations in a well-developed plan update, it is ultimately up to the agency to support its NEB decision. If adopted, Ecology will issue an appealable Order and will be responsible for defending its decision. The remainder of this document presents Ecology technical staff’s NEB determination.

7.1 Adequacy of the Plan Analysis

Ecology technical staff concludes that the Planning Unit has fulfilled its obligations to describe and evaluate the collective effects of new, permit-exempt domestic wells and offset projects. The Planning Unit’s narratives, and quantitative and qualitative assessments are as thorough as they can be at this stage in their development. The Plan Addendum Appendices include maps, pictures, figures, and cost estimates when appropriate.

Figure 4 shows the distribution of water offset projects and non-water offset projects, along with accounting by subbasin of the water offsets. All water offset projects combined provide a mitigation benefit of 4,082 afy, compared to the estimate for basin-wide demand of 2,354 afy, indicating that the water offset projects provide more than enough water to offset the estimated exempt-well demand at the WRIA level, as required.

Consistent with Ecology’s interpretation provided in Appendix B of GUID-2094: Final Guidance for Determining Net Ecological Benefit (Ecology, 2019a) it is assumed that the impacts of permit-exempt domestic wells on instream flows will generally be steady-state and well dispersed (i.e., no significant seasonal variations in instream flow impacts will occur). In addition, the water offset project list includes projects that are intended to provide instream flow benefits specifically during the summer and early fall, when instream flows are often not met. For example, the Eloika Lake Storage Project and MAR projects are intended to provide instream flow benefits during the most critical periods of the year.

The combined water balance at the WRIA scale indicates a basin-wide surplus of 1,728 afy, supporting attainment of NEB by providing additional benefits to instream resources beyond those necessary to merely offset the anticipated 20-year permit-exempt domestic demand in WRIA 55. This surplus supports flexibility and provides reasonable assurance that permit-exempt demand will be offset in WRIA 55. If some offset projects are not developed due to

funding constraints or other issues, a subset of projects can still provide sufficient water offset to meet projected demand.

The Plan Addendum lists nine MAR projects in their portfolio. As the Planning Unit developed their portfolio of offset projects, they intentionally used conservative infiltration rates for each MAR project. For planning purposes, they used a diversion rate of only one cfs for three months for each of their nine projects. This led to an estimate of 180 afy of offset for each project. The Plan Addendum acknowledges that it may be possible to divert and infiltrate more than one cfs at successfully implemented project sites. Three MAR sites diverting 3 cfs each infiltrates the same volume as six sites diverting 1.5 cfs each or nine sites diverting 1 cfs each. Therefore the Planning Unit's choice of conservative offset amounts for these MAR projects provide reasonable assurances that the MAR sites that do get implemented through this planning effort will collectively generate the offset volume attributed to MAR projects in the plan.

The Plan Addendum identifies the offset impacts from forecasted new permit-exempt domestic wells and benefits from new water offset projects on a subbasin scale. The Plan Addendum's Table 5 (reproduced below as Figure 5), displays offset values by subbasin in afy⁴.

⁴ There are two Project # 8's listed in Table 5 and no Project #7. The first project listed in Table 5 as Project # 8 (G3-20511C) is mislabeled. It is really Project #7.

Table 5. WRIA 55 Offset Project Summary Table

Project No. 180249, WRIA 55, Washington

Projects by Subbasin	Project #	Project Proponent	Project Type	Subbasin Demand	Water Offset
Dartford Creek				137.4	
Dartford Creek Floodplain Restoration Project	21	Spokane Conservation District	Habitat		
Dartford Creek Habitat Restoration Project	22	Spokane Conservation District	Habitat		
Subbasin Surplus/Deficit				-137.4	
LSR Mainstem				182.51	
Whitworth Water District Source Exchange	19	Whitworth Water District	Water Offset		400
Little Spokane Riparian Habitat Restoration Project	23	Spokane Conservation District	Habitat		
Westover Habitat Restoration Project	24	Pend Oreille Conservation District	Habitat		
Cygiel Habitat Restoration Project	25	Pend Oreille Conservation District	Habitat		
Stockton Streamflow Restoration Project	26	Pend Oreille Conservation District	Habitat		
Waikiki Springs Habitat Preservation Project	28	Inland Northwest Land Conservancy	Habitat		
Subbasin Surplus/Deficit				217.49	
Beaver Creek				239.22	
G3-*02228CWRIS Aquistion	2	Spokane County	Water Offset		100
CG3-24214(A) (Little Spokane Water Bank	6	Spokane County	Water Offset		255.4
Dragoon Creek				501.65	
Dragoon DNR MAR	15	Spokane County	Water Offset		180
G3-*01844CWRIS Aquistion	3	Spokane County	Water Offset		100
S3-*12724CWRIS Acquisition	4	Spokane County	Water Offset		50
S3-*06812CWRIS Aquistion	5	Spokane County	Water Offset		50
G3-20511C (Little Spokane Water Bank)	8	Spokane County	Water Offset		28
Subbasin Surplus/Deficit¹				22.53	
Deadman-Peone Creek				531.64	
Deadman Creek Site 1 MAR	13	Spokane County	Water Offset		180
Deadman Creek Site 2 MAR	17	Spokane County	Water Offset		180
Beaver Dam Analogue Project on Deadman Creek	27	The Lands Council	Habitat		
Subbasin Surplus/Deficit				-171.64	
Otter Creek				327.84	
Dry Creek Site 1 MAR	9	Spokane County	Water Offset		180
Dry Creek Site 2 MAR	14	Spokane County	Water Offset		180
Otter Creek Site 3 MAR	10	Spokane County	Water Offset		180
Subbasin Surplus/Deficit				212.16	
West Branch				95.18	
Eloika Lake Surface Water Storage	18	Spokane County	Water Offset		1400
County Park/Last Chance Rd MAR	11	Spokane County	Water Offset		180
Subbasin Surplus/Deficit				1484.82	
Little Spokane/Deer Creek				264.03	
Milan Road/Bear Creek MAR	8	Spokane County	Water Offset		180
Bear Creek MAR	16	Spokane County	Water Offset		180
G3-23099C (G3-CV2-SP52) Acquisition	1	Spokane County	Water Offset		78
Deer Creek Fish Barrier Removal Project	20	Spokane Conservation District	Habitat		
Subbasin Surplus/Deficit				173.97	
Little Deep Creek				74.22	
Little Deep Creek Site 1 MAR	12	Spokane County	Water Offset		180
Subbasin Surplus/Deficit				105.78	
Basin Wide Projects					
WRIA 55 Fish Barrier Assessment and Prioritization Project	N/A	Washington Department of Fish and Wildlife	Habitat		
Little Spokane Watershed Habitat Evaluation and Restoration	N/A	Spokane Tribe of Indians	Habitat		
Basinwide Surplus/Deficit				1907.71	

Notes: 1-Beaver Creek flows into Dragoon Creek, and excess mitigation in Beaver Creek benefits Dragoon Creek. Therefore, for the purposes of this table the surplus/deficit is calculated for these subbasins in combination. All values in acre-feet per year.

Figure 5. Reproduction of Table 5 from Plan Addendum, a summary table showing consumptive use offset impacts and offset projects by subbasin.

This table includes Project #17 in the Deadman-Peone Creek subbasin. As discussed above and in Section 3.1 of this document, Ecology technical staff is under the impression this project was removed by the Planning Unit from the project portfolio in the narrative of the document and was inadvertently included in this table. That results in an error in this table, which means the deficit for this subbasin should read -351.64 afy. With that adjustment, the Basinwide Surplus at the bottom of the table should be 1,728 afy. This correction to the table does not change the outcome of the water offset analysis. The Plan Addendum, as adjusted by Ecology technical staff's analysis, still provides significant water offset benefits to instream resources beyond those necessary to merely offset the anticipated 20-year permit-exempt domestic demand in WRIA 55.

Projects developed in excess of the projected demand provide additional instream benefits and contribute to achieving NEB.

7.2 Spatial Distribution of the Offset Projects

Ecology technical staff concludes that the Plan Addendum identifies and addresses water offset and non-water offset projects at an appropriate scale that allows Ecology to make a NEB determination. Most of the WRIA 55 subbasins have sufficient offset supplies to meet estimated 20-year permit-exempt well demand, including:

- West Branch subbasin
- Beaver Creek subbasin
- Dragoon Creek subbasin
- Otter Creek subbasin
- Little Spokane/Deer Creek subbasin
- Little Deep Creek subbasin

Two of the WRIA 55 subbasins have deficits in offset supplies, including:

- Deadman Creek/Peone Creek subbasin
- Dartford Creek subbasin

The remaining MAR project in the Deadman Creek/Peone Creek subbasin (#13) is located higher in the subbasin than the offset project (#17) that was removed. The habitat project (#27) is also located high within this subbasin, providing habitat benefits above the priority reaches identified by the Planning Unit (see red segments on Deadman Creek in Figure 4). Project #27's ultimate success will depend on beaver colonization of this site. It would be prudent for the MAR project on Deadman Creek to maximize its infiltration capacity to help offset new consumptive uses in this subbasin. Some of the basinwide non-water offset project work will also likely occur in Deadman Creek subbasin and these water conservation measures can help improve habitat conditions in this subbasin.

The habitat projects in the Dartford Creek subbasin (#21 and #22) are located near the top of the subbasin. They will restore impaired stream processes to promote a long-term success, and help improve poor habitat conditions downstream in this subbasin.

Water offset and non-water offset projects are distributed throughout WRIA 55 including in the upper portions of the basin, which serve to provide more stream reaches of the watershed with streamflow benefits than projects lower in the basin. The combined proposed water offset projects provide instream flow benefits to approximately 150 river miles in the tributaries and mainstem.

7.3 Relationship to existing plans and current watershed protection efforts

Ecology's NEB Guidance indicates that the agency will review the NEB evaluation that is submitted in a plan and will give it considerable deference in light of the knowledge, insights, and expertise of the partners and stakeholders who influenced the preparation of their plan. The WRIA 55 Plan Addendum has included their own NEB evaluation.

The Plan Addendum discusses the watershed's long-term commitment to watershed planning activities. Ecology adopted chapter 173-555 WAC in the 1976. The Planning Unit began RCW 90.82 Watershed Planning activities in 1998. The Watershed Plan for WRIs 55/57 was adopted in 2006, and a Detailed Implementation Plan was approved in 2008 for WRIs 55/57. Since March, 2018, the Planning Unit has conducted 8 public meetings along with two technical workshops to develop the Plan Addendum under RCW 90.94.

Spokane County has historically been the lead agency for watershed planning in WRIA 55 and proposes taking the lead role in coordinating implementation of the Plan Addendum.

7.4 Uncertainty

Whether or not implementation of the projects in the Plan Addendum will ultimately achieve a NEB depends upon a range of factors including but not limited to: the actual impacts from future permit-exempt domestic well pumping, the likelihood that water offset projects will occur, and the accuracy of projected benefits from these offset projects. The number of new homes utilizing new permit-exempt domestic wells, their collective use, and the consumptive portion of this use over the twenty-year timeline are all unknown and must be estimated for future conditions. How many of the offset projects proposed in the plan, their collective offset quantities, and the likelihood that these projects will still be functioning at the end of the twenty-year timeline are also unknown and must be estimated.

Given the length of the planning horizon, Ecology's technical staff agrees with the Planning Unit that adaptive management will be an important component of successful plan implementation, as it aims to reduce uncertainty over time and improve reasonable assurances that the plan will achieve a NEB. Adaptive management is included in the Plan Addendum and reflects the Planning Unit's goal of successful plan implementation, to the extent possible based on available offset project funding from Ecology and from other sources. Adaptive management will add flexibility to the implementation process, allowing adjustments based on actual exempt well demand, offset project status, and new, opportunistic projects that are identified following adoption of the Plan Addendum.

Spokane County, in coordination with the Initiating Governments, will prepare proposed annual reports which will consist of brief narrative reports to be distributed to the Planning Unit and posted online by June 1st each year for the previous year summarizing:

- Actual new permit-exempt domestic well demand for the preceding year based on a review of building permit data.
- Plan implementation actions to date.
- Any changes in overall approach to plan implementation since the last report.
- Any significant implementation challenges identified that will require a change in approach.
- Specific information regarding the status of implementation of offset projects that Ecology relied on in adopting the plan.

The proposed 5-year reports will incorporate summaries of plan implementation and adaptive management tasks, including:

- Status of actual permit-exempt domestic well demand by subbasin with a comparison to the estimates presented in the plan.
- Status of water offset projects implemented or in progress, combined with a tally of instream flow benefits by subbasin and for the whole watershed relative to actual exempt well demand.
- Status of non-water offset projects implemented or in progress.
- Modifications, if any, to the offset project list based on inclusion of new, opportunistic projects and removal of projects, with a description of the rationale for changes to the list.
- Operation and maintenance status of active projects, including identification of any concerns and/or corrective actions required.
- Status of offset project capital and O&M funding.

The 5-year reports will be prepared by Spokane County, in coordination with the Initiating Governments. These reports will be distributed to the Planning Unit and posted online.

8. Ecology Technical Staff Conclusions

Ecology technical staff find that the WRIA 55 Plan Addendum submitted by the Planning Unit meets the requirement of chapter 90.94 RCW to identify projects and actions necessary to offset the potential consumptive use associated with new permit-exempt domestic well withdrawals anticipated through 2038.

Section 3 in the Plan Addendum laid out the methodology used by the Planning Unit to quantify the anticipated new consumptive uses over the twenty-year timeline. The Plan Addendum predicts that 2,760 new houses will rely on permit-exempt domestic wells which will result in new consumptive uses totaling 2,354 afy. This includes conservative estimates for growth projections and outside lawn and garden watering rates that over-estimate the consumptive

volumes. Beyond this, the Planning Unit added a 10% safety factor to account for climate change impacts in the watershed.

Section 4 of the Plan Addendum identifies seven water right acquisition projects, nine MAR projects, one surface water storage and release project and one source exchange project that collectively will provide water offset benefits within the WRIA of 4,082 afy. That benefit will, when implemented, exceed the offset volume required under RCW 90.94 planning by 1,728 afy. This excess water and the instream benefits it provides helps to offset (at the WRIA scale) the water deficit in Dartford and Deadman Creeks. Members of the Planning Unit have already acquired two water rights and are actively pursuing additional water rights from interested sellers.

The Plan Addendum also identifies ten non-water offset habitat enhancement projects that will improve instream conditions within their respective subbasins and downstream. The plan describes the range of anticipated benefits associated with these projects. Many of these projects are designed to provide long term benefits by removing barriers to quality spawning and rearing areas as well as addressing the restoration needs in identified priority areas.

All offset projects identified by the Planning Unit have advocates/project proponents who will likely pursue funding to implement their respective projects.

The portfolio of projects will offset projected impacts from permit-exempt domestic wells in multiple subbasins and at the WRIA scale. They will enhance streamflow in subbasins that have a surplus of offset water. They will improve biological function in all of the subbasins that implement habitat projects. Collectively, they will result in a net ecological benefit in WRIA 55.

The Plan Addendum makes clear statements that the Planning Unit believes a NEB will be achieved.

Taken as a whole, the analyses in the Plan Addendum indicate that relative to the detriments created by future permit-exempt domestic wells anticipated in WRIA 55 over the twenty-year timeline, the offset strategies proposed will result in a net ecological benefit for the watershed.

Therefore Ecology technical staff conclude that the plan developed in the Plan Addendum meets the intent of the Legislature and requirements of RCW 90.94, and, when implemented, will result in a net ecological benefit to instream resources within WRIA 55 in the context of RCW 90.94.

9. References

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