WASHINGTON STATE DEPARTMENT OF ECOLOGY MEMORANDUM

Date: June 2, 2020

To: Laura Watson, Ecology Director

From: Mary Verner, Water Resources Program Manager

Re: Recommendation to Adopt WRIA 59 Watershed Plan Addendum

Summary

The Water Resources Program, based on its analysis of the locally approved Water Resource Inventory Area 59 Watershed Plan Addendum, recommends that Ecology adopt this Addendum as described in RCW 90.94.020(4)(C).

This memorandum provides the Water Resources Program's analysis and recommendations regarding Ecology's action required pursuant to the Streamflow Restoration Act, RCW 90.94.020.

As required under this law, the Water Resources Program (Program) has reviewed the locally approved Water Resource Inventory Area (WRIA) 59 (Colville River) Watershed Plan Addendum (Addendum) and **recommends that Ecology adopt this Addendum as described in RCW 90.94.020(4) (C)**. The Program reviewed the Addendum, in accordance with the requirements of RCW 90.94.020(4)(b) and (c), and programmatic guidance. We determined that the "…actions identified in the watershed plan, after accounting for new projected uses of water over the subsequent twenty years, will result in a Net Ecological Benefit [NEB] to instream resources within the water resource inventory area."

Based upon a thorough review of the Addendum, it is the Program's position that the WRIA 59 Planning Unit (Planning Unit) used reasonable and scientifically-sound methods to forecast new, permit-exempt domestic consumptive use for the next twenty years. The Planning Unit forecasted the total impact of these new water uses to be 434.8 acre-feet per year (AFY). The Planning Unit identified and detailed 16 projects in their Addendum to offset the impacts and achieve an NEB.

The Program's recommendation is reinforced by the Addendum's inclusion of the Waitts Lake water rights project, funded by a 2019 Ecology Streamflow Restoration grant. Ecology granted these funds to Stevens County during the initial streamflow restoration competitive grant round in 2019 to facilitate a water right mitigation swap with Avista, and contribute 451.45 AFY to the WRIA, exceeding the Addendum's projected impacts by 16.65 AFY. As discussed below and in the attached Technical Review Report (TRR), the Program is satisfactorily assured that the

work described in the Addendum will offset the anticipated impacts from permit except wells over the next two decades, and result in an NEB to instream resources within WRIA 59.

Authorities

RCW 90.94.020 requires the WRIA 59 Planning Unit (as well as several other planning groups around the state) to prepare an addendum to their existing Watershed Plan (Addendum). This law requires each of these Planning Units to forecast the impacts of permit exempt wells from 2018 to 2038, and to identify projects and actions to offset those impacts. Planning Units must then submit a locally approved Addendum to Ecology. Ecology's statutory deadline for action on such an Addendum is February 1, 2021. Prior to adopting any such Addendum, Ecology is required by RCW 90.94.020(4)(C) to "…determine that actions identified in the watershed 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 Planning Units, Ecology issued *Interim Guidance for Determining Net Ecological Benefit for Streamflow Restoration Planning, and Water Permit Mitigation Pilots Under the 2018 Streamflow Restoration Act* (Interim NEB Guidance) in June 2018.[1] Ecology's Interim NEB Guidance provides that Ecology makes a Net Ecological Benefit determination if the "anticipated benefits to instream resources from actions [in the Addendum, are] designed to restore streamflow [and] will offset and exceed the projected impacts to instream resources from new water use."

Background

The Colville River Watershed (WRIA 59) is located in the northeast corner of Washington State with an area of about 649,270 acres. The Colville River begins at the confluence of Sheep Creek and Deer Creek, runs north for 60 miles, collects water from 19 sub-basins, and empties into Lake Roosevelt by the town of Kettle Falls. Land use in the watershed is primarily forest and range, with cropland located mostly in the floodplain and terraces of the Colville River and tributaries. Nearly the entire watershed is located in Stevens County with minor portions in Pend Oreille County. The cities of Colville, Chewelah, and Kettle Falls are the largest urban areas in the watershed.

In 1977, Chapter 173-559 WAC established minimum flows and seasonal closures in the basin to new surface water rights, and in 1994 groundwater rights were heavily restricted as an outcome of the *Postema v. Pollution Control Hr'gs Bd., 142 Wn.2d 68, 11 P.3d 726 (2000)* Washington Supreme Court decision. The Legislature passed the Watershed Planning Act (Chapter 90.82 RCW) in 1998, which led to the development of the WRIA 59 Watershed Plan; written by the Planning Unit, comprised of representatives from local, state, and tribal governments, special interest groups, and citizens. The Planning Unit started work on the Addendum in 2018, as soon as RCW 90.94 passed. Ecology staff participated in Planning Unit meetings to assist in the development of the addendum.

[1] Ecology subsequently finalized the guidance and published a superseding version in July 2019. Which, for reasons explained, in the background section does not apply here.

In early 2019, the WRIA 59 Planning Unit requested permission to prepare their Plan Addendum pursuant to the requirements of the Interim NEB Guidance, because of their progress at the time and their accelerated schedule. Ecology approved the Planning Unit's request conditional upon submitting the locally approved Addendum to Ecology no later than December 31, 2019. On December 23, 2019, the Planning Unit submitted their locally approved Addendum to Ecology.

Technical Review of WRIA 59 Plan Addendum

This section of the memorandum summarizes the attached Technical Review Report (TRR) prepared by the Program technical experts, who were also extensively engaged in supporting the planning work of WRIA 59. The TRR forms the technical basis for the Program's recommendation to adopt the Addendum.

The Planning Unit estimated both indoor and outdoor total future consumptive use impacts for the 1,118 new homes anticipated to be built within 19 subbasins. The Planning Unit estimated watershed-wide impacts of 434.8 AFY by using the Stevens County building permit database, basin-wide hydrogeology, land use information, and Ecology's guidance for estimating irrigation and consumptive use. The total projected consumptive use estimate is the sum of the estimates calculated for each of the WRIA's 19 tributary sub-basins.

The Planning Unit estimated rural population growth over the planning period using Stevens County Land Services Department historical building permit data. They determined the county database was more reliable than census data and OFM predictions for projecting average growth because the state and federal databases focused on overall growth patterns in the county rather than new uses outside of cities and public water system service areas within WRIA 59.

Between 2001 and 2017, Stevens County issued 950 new permits for rural homes utilizing domestic exempt wells within WRIA 59, averaging 56 new permits per year. The Planning Unit used historical building-permit data and subbasin delineations to estimate the number of new permit-exempt wells expected to be drilled in each subbasin over the twenty-year timeline for the Addendum.

The Planning Unit used Ecology's recommended average indoor use of 60 gallons per day per person and an indoor consumptive use value of 10 percent for homes connected to septic systems. In Stevens County, the average household size is 2.48 people per home (U.S. Census data). This results in a 20-year buildout for the total 1,118 new homes of 18.6 AFY of indoor household consumptive use.

The Planning Unit estimated future outdoor water use by first estimating the existing average irrigated lawn size, both within the WRIA and for each subbasin, and then estimating the irrigation water needs following Ecology's recommended standard crop irrigation requirement for pasture/turf as published in the Natural Resources Conservation Service's Washington Irrigation Guide. To estimate average lawn size the Planning Unit used GIS to analyze aerial imagery for a subset of the total new homes using wells built in the previous 17 years. For the purpose of the analysis, they considered lawn to be any outdoor watering of lawn, gardens, and/or landscaping that they could visually identify on aerial photographs.

The Planning Unit considered 48 projects in their initial list of offset projects and actions. They segregated the projects in their plan into three categories:
1) Acquiring senior water rights;
2) Developing Natural and Constructed Infrastructure; and
3) Habitat Enhancement.

The Addendum also prioritizes the projects based on four main considerations:

- Location of the Project
- Type of Project
- Certainty of Success
- Cost Effectiveness

They evaluated the certainty of success by considering the likelihood of the project occurring, and the certainty of the project benefits. They also considered the cost-effectiveness of projects, specifically considering the overall estimated costs including upfront construction and acquisition costs as well as long-term operation and maintenance costs. The Addendum ended up discussing 16 high and medium priority projects, and the appendices contain much greater detail of the 16 projects discussed below. (Fig 1)

The Planning Unit identified ten of these projects as high priority. The projects are located in multiple subbasins to provide benefits throughout the watershed. The projects were categorized as high priority because they include consumptive use offsets, flow mitigation, and habitat improvement, and they have local support and technical merit. The high priority projects meet the requirement to offset the impacts of future domestic water uses, and improve ecological functions in the watershed. Five of the high-priority projects are water offset projects and five are non-water offset projects with a habitat focus.

One of the high priority projects is a water rights acquisition project located in the Waitts Lake Creek subbasin. The Waitts Lake water right, currently held in the State Trust Water Right Program, was mitigating for Avista's Kettle Falls Generating Station. In October 2018, Stevens County, with the cooperation of Avista, applied for Ecology grant funding to acquire Sullivan Lake water rights. Avista will use Sullivan Lake water to mitigate for the generating station instead of Waitts Lake water. As a result, WRIA 59 can use Waitts Lake water to offset the projected new permit-exempt use. In January 2019, Ecology approved the funding request and has been\working with Avista to change the source of the mitigation. Ecology sent a Water Service Contract to Avista for signature on February 7, 2020. The Water Service Contract is the mechanism by which Avista will use the Sullivan Lake water. The Waitts Lake Trust Water Rights include a total water use of 566.1, and a consumptive use of 451.45 AF. This project alone exceeds the projected impacts of all future permit-exempt consumptive use by 16.65 AFY. (Table 1)

Offset Target AFY	Cumulative project water offset AFY	Currently funded offset AFY
434.8	752	451.5

Table 1: Offset target, cumulative offset from projects, offset from Avista Swap Project. This table demonstrates that the Plan Addendum exceeds the target offset amount.

The Planning Unit also identified six medium priority projects that have a mix of water offset and habitat improvement potential. For most of their projects, the Planning Unit calculated water offset volumes based on the goal of offsetting the volume of anticipated, consumptively used water within the projects' respective subbasins. They acknowledge that the storage projects will likely have the capacity to infiltrate more water than they are claiming.

Net Ecological Benefit

Ecology's Interim NEB Guidance provides that Ecology makes a Net Ecological Benefit determination if the "anticipated benefits to instream resources from actions [in the Addendum, are] designed to restore streamflow [and] will offset and exceed the projected impacts to instream resources from new water use."

The WRIA 59 Plan Addendum estimates new permit-exempt domestic uses established between 2018 and 2038 will have a total consumptive water use impact of 434.8 AFY, and the total water for water offset from the projects in the Addendum will be 752 AFY, exceeding the offset target by 317.2 AFY. Additionally, the Planning Unit identified habitat projects in seven tributaries that will improve wetland functions, riparian habitat, stream corridor meandering, instream habitat, habitat function, and reduce prolonged flooding impacts. These projects will also likely add shade and increase groundwater recharge to reduce stream flow temperatures in the summer – further enhancing instream resources.

The Planning Unit concluded that their Addendum provides a net ecological benefit to WRIA 59 as required by RCW 90.94.020 because it proposes projects that will fully offset and exceed the consumptive use and instream flow impacts of new permit-exempt domestic water uses from 2018 to 2038. Furthermore, many of the projects identified can be expanded in the future to provide additional offset for new permit-exempt domestic water uses after 2038.

In summary I concur, based on the water resources program's analysis of the locally approved Water Resource Inventory Area 59 Watershed Plan Addendum, with the Planning Unit's conclusion and therefore recommend that Ecology adopts this Addendum as described in RCW 90.94.020(4)(C).

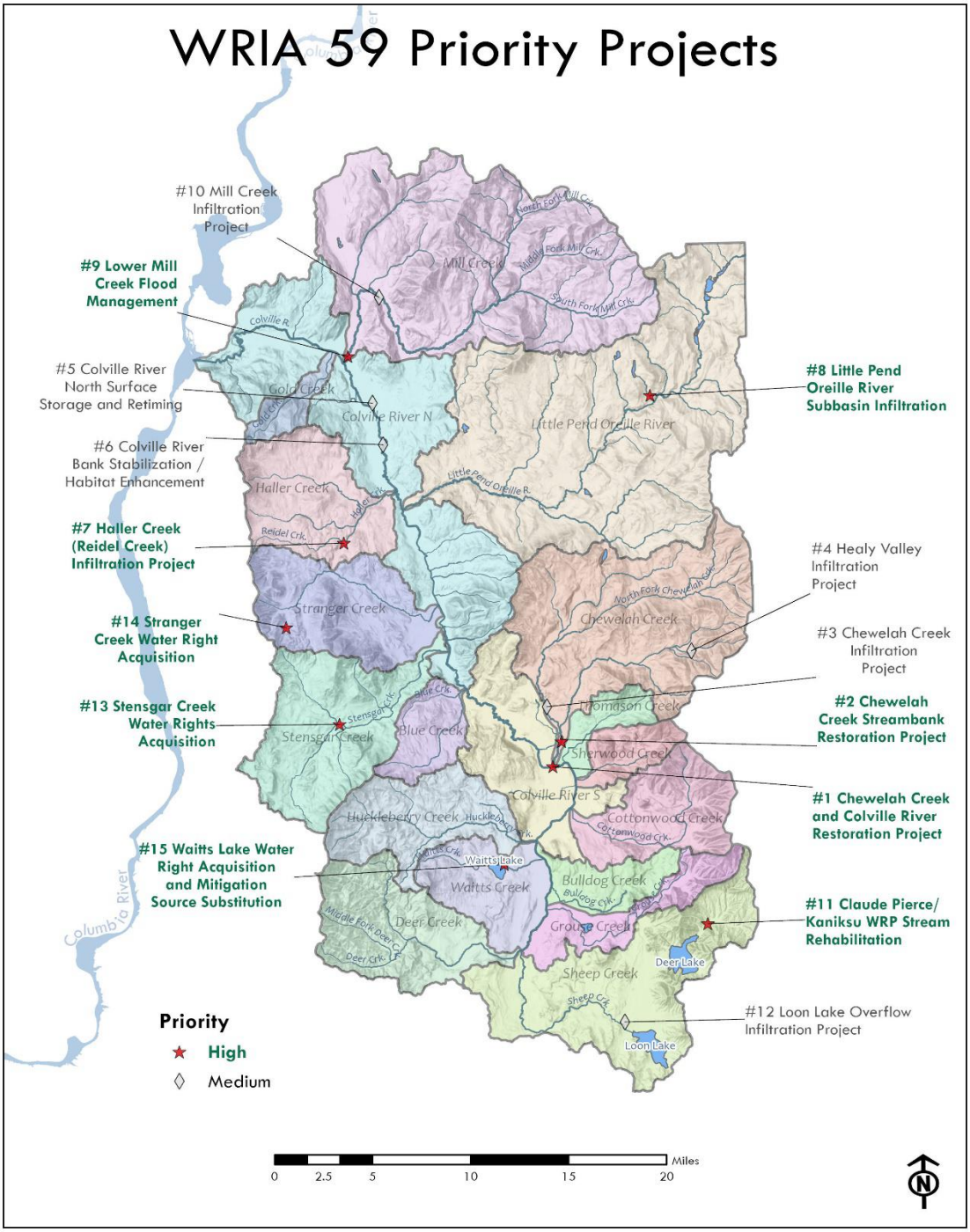

Figure 1: Map of WRIA 59 sub basins and corresponding project titles and numbers. This map is figure 10 in the Plan Addendum.