

Discussion Guide: WRIA 15 Technical Progress to Date

Last Updated 26February2020

This document provides a summary of the key technical components of the WRIA 15 Watershed Restoration and Enhancement Plan: subbasins, growth projections, consumptive use, and project and action identification. This document summarizes the methods, results, status of agreement, status of the technical memos, and questions for the committee.

Region delineation

Background

Dividing the WRIA into subbasins or regions is an essential step in developing a plan that complies with the law. RCW 90.94.030(3)(b) states “The highest priority recommendations must include replacing the quantity of consumptive water use during the same time as the impact and in the same basin or tributary.” The Final Guidance for Determining Net Ecological Benefit (Final NEB Guidance) (GUID-2094; Ecology 2019) states that, “Planning groups must divide the WRIA into suitably sized subbasins to allow meaningful analysis of the relationship between new consumptive use and offsets. Subbasins will help the planning groups understand and describe location and timing of projected new consumptive water use, location and timing of impacts to instream resources, and the necessary scope, scale, and anticipated benefits of projects. Planning at the subbasin scale will also allow planning groups to consider specific reaches in terms of documented presence (e.g., spawning and rearing) of salmonid species listed under the federal Endangered Species Act.”

Status

In June 2019, the WRIA 15 Committee made an initial determination of regions to use for the planning process. The committee also agreed to:

1. Find projects in the vicinity of new permit exempt well withdrawals that will offset the anticipated impacts, but also recognize we want projects that benefit fish critical streams; and
2. To revisit the region delineation in the future to see if further refinement is needed for the final plan.

Ecology distributed a technical memo on subbasins to the committee for review on February 14, 2020.

Methods

In determining the region delineation, the technical workgroup and committee considered the following attributes:

1. Size – ensuring not too big or too small.
2. Surface water flows and rainfall patterns.
3. Anticipated rural growth.
4. Priority areas for salmon recovery.
5. Isolated areas like islands.

In WRIA 15, we discussed starting with a nesting approach, using a larger region approach with smaller subbasins within, and ensuring that projects offset the anticipated impacts within each region. This approach would also support counties in providing more reliable projections for growth. There was

interest in looking at smaller subbasins, such as HUC12 or AU boundaries, but it was challenging to reach agreement on approaches.

In November 2019, the committee agreed to refine the region delineation to split Hood Canal into a North and South to account for differences in precipitation and status of fish species.

Results

The current region delineation includes the following:

1. Anderson/McNeil, Ketrion Islands
2. South Sound (including Coulter Creek, Burley Creek and Purdy Creek)
3. Vashon-Maury
4. Bainbridge Island
5. West Sound (including Chico Creek, Lost Creek, Olalla Creek, Salmonberry Creek)
6. South Hood Canal (including Tahuya River, Dewatto River, Union River)
7. North Hood Canal (including Anderson Creek, Big Beef Creek)

Note that the committee agreed to a blurred line in the northern part of Kitsap County between North Hood Canal and West Sound to allow for crossover. See Figure 1 for the region delineation.

Questions for the Committee:

1. Do we want to revise the region delineation to break into smaller subbasins for the final plan?
 - a. If so, are there proposals on what to base the subbasin delineation?

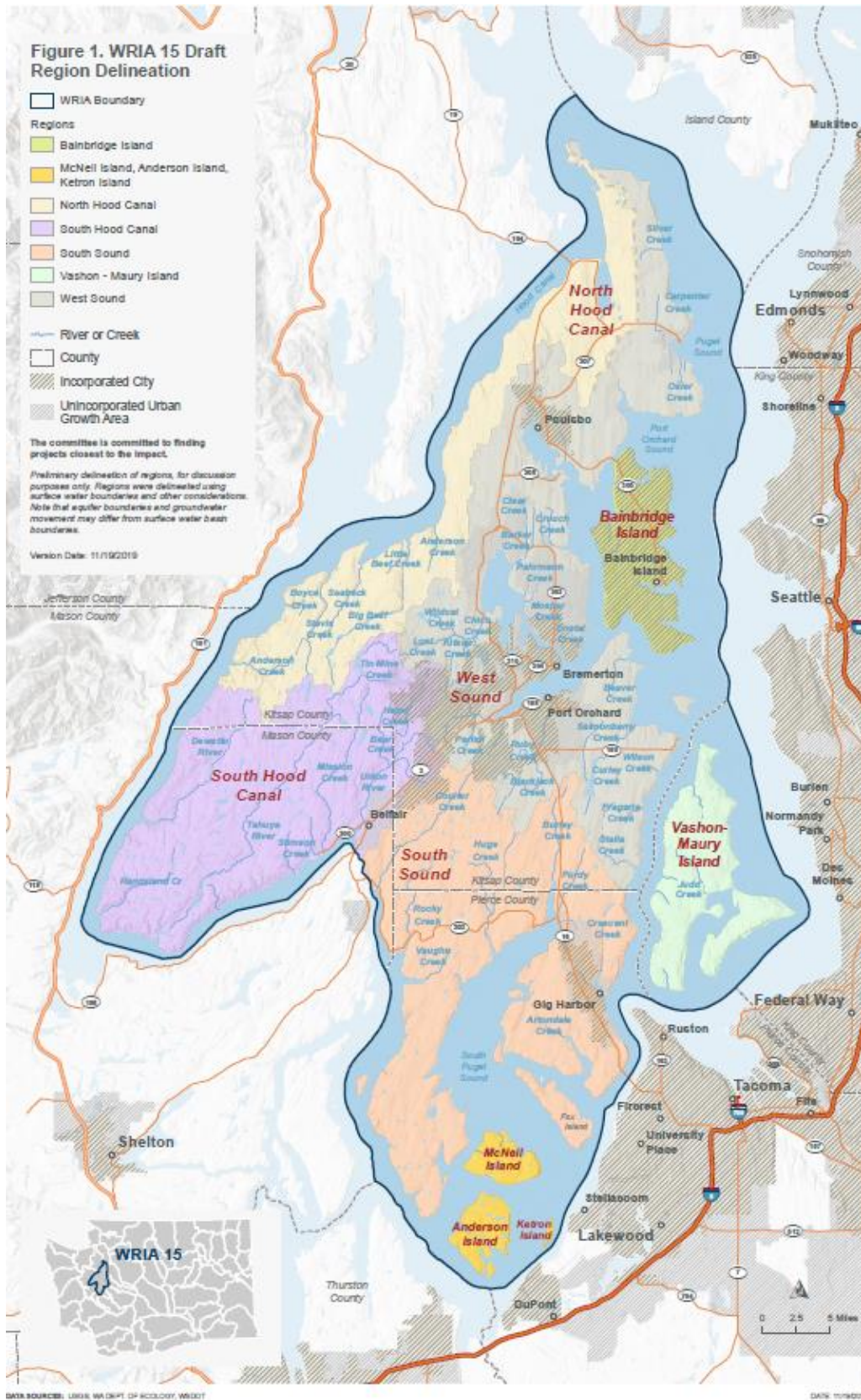


Figure 1: WRIA 15 Region Delineation (December 2019)

Permit-Exempt Well Growth Projections

Background

The WRE Plan needs to address impacts on streamflows from consumptive use from new domestic permit-exempt wells anticipated between January 19, 2018 and January 18, 2038. Therefore, the committee must project growth for the watershed for January 2018 through January 2038 (at a minimum). Based on the projected growth, the committee will estimate the amount of rural growth and associated consumptive water use from new permit exempt well connections.

Status

At the December 5, 2019 WRIA 15 Committee meeting, the committee reached an interim agreement on the number of permit exempt wells expected between 2018 and 2038, based on growth projections, for King, Mason and Pierce Counties. The following requests were made during the committee meeting:

- Squaxin Island Tribe wants to have a high growth scenario for Mason County. They are willing to continue to move forward with the process, but want to see the higher range/safety factor included in the future.
- Mason County wants to ensure that the adaptive management component of the plan considers the results of the census for changes in population growth (available in 2022).

At the February 6, 2020 meeting, the committee agreed to growth projections for Kitsap County. Additional details are provided in the discussion guides provided to the committee for the December 5, 2019 and February 6, 2020 meetings.

The committee has reached interim agreement on the growth projection ranges as presented in Table 1.

Results

Table 1. Growth Projections for WRIA 15.

County	Low	Medium	High
Pierce	624	978	1,416
Mason	1,301	1,301	1,301
King	368	368	368
Kitsap	2568	2920	3066
Total	4861	5567	6151

Questions for the Committee:

1. Is the committee comfortable moving forward with this range of growth projections?
 - a. If not, what do you propose?

Consumptive Use Estimates

Background

The committee is tasked with estimating how much water is consumed by each projected new well for both indoor and outdoor use. Consumptive water use is water that is evaporated, transpired, consumed by humans, or otherwise removed from an immediate water environment. For watershed planning purposes, consumptive use is water that is drawn from groundwater via a domestic permit-exempt well and not replaced through the septic system, irrigation return flow, or other means. Ecology's Final Guidance on Net Ecological Benefit recommends that committees look at a minimum of two different methods for calculating consumptive use – including the metered data method and outdoor irrigation method- and to use local data if available.

Methods

In WRIA 15, the committee considered the following methods:

1. Metered data method, based on data from KPUD (primarily) for Kitsap County. The committee will use this consumptive use estimate only for comparative purposes in the final plan.
2. USGS Groundwater Model method, which uses metered data for all of WRIA 15 with assumptions applied by USGS for consumptive use. The committee is still considering use of the USGS method to estimate consumptive use or for inclusion as part of a range.
3. Outdoor Irrigation method, based on assumptions provided by Ecology in the NEB guidance and results of a GIS exercise to calculate average outdoor watering area per PEW in WRIA 15. The committee has agreed to use 0.08 acres for the average outdoor watering area associated with this method. The committee is still considering use of the outdoor irrigation method to estimate consumptive use or for inclusion as part of a range.

Status

The February 6, 2020 meeting summary provides reflections by committee members on the use of the different methods for calculating consumptive use. Some members advocate for using the USGS method as they feel it is grounded in real data and that the outdoor irrigation method is conservative. Other committee members advocate for using the outdoor irrigation method because this method is consistent with what other committees are using and there is a preference to be more conservative to account for uncertainty and to benefit the watershed.

In addition to a lack of agreement on the most appropriate method, committee members are not in agreement on whether to apply an additional safety factor or account for uncertainty. The Squaxin Island Tribe provided a sensitivity analysis as a way to evaluate potential safety factors.

The committee has reached agreement on the following:

- Include all three methods in the final plan for comparison purpose.
- Use 0.08 acres for the outdoor irrigation method acreage, if we choose to move forward with that method.

The committee currently has a wide range of consumptive use numbers on the table without a clear coalescing around an agreement. Proposals brought forward by committee members include:

1. Reduce our range of growth projections, which will reduce the range of numbers under consideration for consumptive use.
2. Use the USGS Method (range or single number).
3. Use the outdoor irrigation method (range or single number).
4. Use a range based on:
 - a. Sensitivity analysis, e.g. low end of range = 1.06 cfs (Outdoor Irrigation Method estimate); high end of range = 1.9 cfs (USGS method + 3 conservative factors of uncertainty related to increase in temperature due to climate change, outdoor water use, and PEW growth).
 - b. USGS and Outdoor Irrigation Methods without sensitivity analysis, e.g. 0.65cfs to 1.17cfs

Note: If a range is used, consider a presentation of projects that align with the range (possibly sequencing projects to match with a high, medium, low estimate) and an adaptive management process that triggers the implementation of projects.

Note: Continue to show breakout of consumptive use by subbasin.

We do not see a path forward for agreement on consumptive use at this time. We recommend setting aside the consumptive use agreement to focus on development of the project list and an adaptive management and implementation plan. We recommend that we revisit the conversation in May or June.

Questions for the Committee:

1. Does the committee want to continue discussing a range or single number for consumptive use or postpone a decision on consumptive use until the project list is more developed?
 - a. If the committee wants to continue discussions, are there proposals that committee members want to bring forward for the committee's consideration?
2. Does the committee want to see additional sensitivity analysis (or other types of analyses to evaluate safety factors) conducted (e.g. by HDR)?
3. Does the committee want to move forward with a steady state assumption?

Project and Action Identification and Development

Background

The committee and partners have identified projects over the last eight months. The current project inventory is close to 170 projects, ranging from very developed projects to conceptual ideas for potential projects. PGG is also working on a water rights acquisition assessment to provide additional project ideas to the committee. The technical consultant team has budget to identify approximately 20 projects and develop in detail approximately 10 projects.

Methods

We are working to refine the project list in the following ways:

1. Move ideas or concepts to a separate sheet- completed.
2. Assign subbasins where known and show projects by subbasin (separate sheets)- completed.
3. Review projects pulled from salmon recovery lead entity four year workplans for streamflow benefit – DFW lead, in progress.
4. Gravel pit assessment and specific project development – Anchor and PGG lead, in progress.

Status

Current inventory includes:

Project Type	Number of Projects within Identified Project Type*
WR Acquisition Offset Projects	5
Non-WR Acquisition Offset Projects	20
Habitat projects	41
Other (combination of above or doesn't clearly fit in category type)	35

Region	Number of Projects within Identified Regions*
Anderson, McNeil, Ketrion Islands	1
South Sound	12
Vashon-Maury	6
Bainbridge Island	11
West Sound	56
South Hood Canal	9
North Hood Canal	31

*rough estimates

For consideration of policies and regulations, the committee completed a high level brainstorm. The committee will work on refining the list of ideas during the spring based on those ideas the committees wants to commit time and resources to develop.

The project workgroup will meet in mid-March and needs direction from the committee on how to focus their time.

Questions for the Committee:

1. How does the committee want to focus the time of the consultants on project identification and development?
 - a. Are there project types we want them to focus on?
 - b. Are there regions we want them to focus on?
 - c. Are there specific projects we want them to further develop?
2. How can we further narrow our list to provide some focus for project development?
3. Are there early ideas about how we might present our project list (note, none of these are required):
 - a. Higher and lower priority (to identify projects that are in time and in place vs those that are out of time or out of place)
 - b. Tiering, to show different levels of certainty around projects
 - c. Sequencing, to show priorities for implementation or consideration for different sets of projects based on adaptive management