AGENDA

WRIA 15 Watershed Restoration and Enhancement Committee Meeting

December 3, 2020 | 9:30 a.m.-1:00 p.m. | WRIA 15 Committee Webpage

Location
WebEx Only
(See instructions below)

Committee Chair
Stacy Vynne
Svyn461@ecy.wa.gov
(425) 649-7114

Handouts
- Agenda
- October 29 and November 5 Meeting Summaries
- Discussion Guide: Plan Comments
- Detailed Project Descriptions and Project Inventory

Welcome

9:30 a.m. | 5 minutes | Susan Gulick

Meeting Agenda and Review Meeting Summaries

9:35 a.m. |10 minutes | Susan Gulick
Handouts: Agenda, October 29 and November 5 Meeting Summaries

Updates and Announcements

9:45 a.m. | 5 minutes | Stacy Vynne, All

Remaining Obstacles for Consensus on Plan

9:50 a.m. | 30 minutes | Susan Gulick | Discussion

- Commitment to plan implementation
  - Discuss needs of Committee members
  - Discuss opportunities for project development and support
  - Discuss opportunities for entities to support plan implementation
- Other obstacles?
- Next steps

Outstanding Plan Comments

10:20 a.m. | 1.25 hours | Stacy Vynne, Susan Gulick, All | Discussion
Handout: Discussion Guide

- Overview and initial feedback on new or revised chapters
  - Chapter 5 - Projects
  - Chapter 6 - Policy and Adaptive Management Recommendations
  - Chapter 7- NEB Evaluation (if available)
- Review and discuss outstanding comments
- Final tasks before local review
- Next steps

Break

11:35 a.m. | 10 minutes | All

Projects

11:45 a.m. | 65 minutes |Stacy Vynne, Bob Montgomery, All | Discussion
Resources: Detailed Offset Benefit Project Descriptions, Project Inventory

- Updates on offset projects
  1. Mason County Rooftop Infiltration
  2. Raingarden and LID Applications
  3. MAR Package
  4. Community Forest Package

5. Beall Creek Flow Improvement Project
6. Vashon Maury Acquisitions
7. Lovgreen Water Right

- Revisions to inventory
  - Project Inventory
- Discussion
- Next steps

Public Comment

12:50 p.m. | 5 minutes | Susan Gulick

Next Steps and Action Items

12:55 p.m. | 5 minutes | Susan Gulick, Stacy Vynne

- Next meeting—Thursday, January 7, 2021, 9:30-1:00 (anticipated) Webex

WRIA 15 Upcoming Meetings: https://ecy.box.com/v/WRIA15UpcomingMtgs

WebEx Information

Wria 15 Committee Meeting

Webex Link
Meeting number: 177 696 6656
Password: Wria15WREC

Join by phone
+1-415-655-0001 US Toll
+1-206-207-1700 United States Toll (Seattle)
Access code: 177 696 6656

Summary

WRIA 15 Watershed Restoration and Enhancement Committee Meeting

October 29, 2020 | 9:30 am to 12:30 pm

Location

WebEx (see below)

Committee Chair

Stacy Vynne McKinstry
Svyn461@ecy.wa.gov
(425) 649-7114

Handouts

- Agenda
- Memo on Project Updates and Recommendations
- Discussion Guides: Adaptive Management, NEB Evaluation, Consumptive Use

Attendance

Committee Representative and Alternates*

Alison O'Sullivan (Suquamish Tribe, alternate)
Allison Satter (City of Bremerton, alternate)
Austin Jennings (Pierce County, alternate)
Bri Ellis (City of Gig Harbor, alternate)
Brittany Gordon (WDFW)
Christian Berg (City of Bainbridge Island, alternate)
Dan Cardwell (Pierce County)
Dave Ward (Kitsap County)
Dave Windom (Mason County, alternate)
David Winfrey (Puyallup Tribe)
Nathan Daniel (Great Peninsula Conservancy)
Greg Rabourn (King County)
Joel Purdy (Kitsap PUD)
Joy Garitone (Kitsap CD)
Mike Michael (City of Bainbridge Island)
Paul Pickett (Squaxin Island Tribe)
Randy Neatherlin (Mason County)
Russ Shiplet (Kitsap Building Association)
Sam Phillips (Port Gamble S'Klallam Tribe)
Seth Book (Skokomish Tribe)
Shawn O'Dell (WA Water Service, *ex officio*)
Stacy Vynne McKinstry (WA Dept of Ecology)
Teresa Smith (City of Bremerton)
Zach Holt (City of Port Orchard, alternate)

Other Attendees

Susan Gulick (Sound Resolutions, Facilitator)
Angela Pietschmann (Cascadia, Info Manager)
Bob Montgomery (Anchor QEA)
Joel Massmann (Suquamish Tribe Consultant)
John Covert (Ecology)
Isabel Jamerson (Ecology)

Committee Representatives not in Attendance*

Mason-Kitsap Farm Bureau (*ex-officio*)

**Attendees list is based on roll call and participants signed into WebEx.*

Consumptive Use

The Committee discussed the following options for addressing Consumptive Use in the WRE Plan:

A. Consumptive use estimate of **766.4 acre feet per year** (irrigated area method, medium growth projection).

B. Include a **range**, using a combination of growth scenarios and methods.

C. Present the different growth projection scenarios and methods for calculating consumptive use, but **do not state a consumptive use estimate**.

Materials:

- **Discussion Guide:** Consumptive Use

Discussion:

- **Mason County** will support only the USGS method for estimating Consumptive Use.
- **Squaxin Island Tribe** proposes the following range:
    - Most likely scenario = 766.4 af/year (irrigated area method, medium growth projection).
        - Higher scenario = use irrigated area of 0.12 acres at higher PE growth projections. If offsets in each subbasin meets the higher number, that will be a success for addressing consumptive use and restoring streamflows.
        - If offsets in each subbasin fall between the likely and high scenario, which would be a concern (need to put more attention towards offset projects).
        - If offsets in each subbasin fall below the likely scenario, that would be a critical problem (law not being met).
    - **Skokomish Tribe** agrees. Adaptive Management component important here.
    - **Puyallup Tribe** agrees with Squaxin and Skokomish.
    - **Mason County** does not support these higher CU estimates and does not think they are realistic numbers. There are insufficient projects in Mason County to achieve higher target.
- **Kitsap County** does not support using any of the high growth scenarios because they do not reflect best estimates; counties are required by state law to take action if they deviate from the mid-growth scenario. The County prefers the USGS method to the irrigated area method but could live with using the irrigated area method. Uncomfortable with using a range as a target as it does not provide a clear measure of success.
    - **King County** could support a range as long as the floor/minimum is clear (pass/fail line).
    - **Pierce County's** perspective aligns with Kitsap and King Counties. Can live with a range as long as it is clear that 766.4 af/yr is the number that will determine whether the watershed plan is successful. The County would like to see additional text to explain the purpose of the higher number.
- **Great Peninsula Conservancy** believes the USGS method is most scientifically sound and most likely to happen. 766.4 af/year is a reasonable offset estimate. GPC could support a range, but don't see a reason for it.
    - **Kitsap PUD** notes that the law requires the Committee to offset impacts of consumptive use. Although real data was used in the USGS model, KPUD could agree to the higher estimate calculated using Ecology's indirect irrigated area method as a more conservative compromise. Will Adaptive Management be used if PE wells are higher/lower than anticipated? Or only if higher? If a range is used, be clear about the floor.
    - **Kitsap County** agrees with GPC and KPUD. Not clear on the purpose of the range.
    - **Squaxin Island Tribe** believes the USGS method estimate is too low.
- **City of Bainbridge Island** agrees a pass/fail point needs to be clearly determined.

Straw Poll: "Can you live with the 766.4 as the cu estimate with the higher range of 1218 aft per year as optimal target?" **No consensus reached.**

YES	NO
• Great Peninsula Conservancy • King County	• Kitsap Building Association • Mason County

• Kitsap Conservation District • Kitsap Public Utility District • Pierce County • Squaxin Island Tribe • Skokomish Tribe • Suquamish Tribe • City of Gig Harbor • City of Port Orchard	• Puyallup Tribe • Kitsap County - if the wording identified 766 as the target, and identified 1200 as aspiration, Kitsap's vote would change to yes. • City of Bainbridge – agrees with Kitsap County

Next Steps: Stacy and Susan will have conversations with Committee members over the next week and bring back a revised proposal on November 5.

NEB Evaluation

The Committee discussed the **structure of the NEB (Net Ecological Benefit) Evaluation** in the WRIA 15 WRE Plan. Ecology is required to complete a review of each WRE Plan to determine whether it meets NEB. To meet the NEB threshold, plans must demonstrate that offsets from projects and actions exceed projected consumptive use from new permit-exempt domestic groundwater withdrawals over the planning horizon. By including the evaluation, Ecology will give considerable deference to our committee to decide what NEB means for our watershed.

In the **NEB guidance**, Ecology recommends steps for planning groups to complete the NEB evaluation.

The **Squaxin Island Tribe** proposes an alternative process, presented in the discussion guide.

Materials:

- **Discussion Guide**: NEB Evaluation Chapter Structure

Discussion:

- **Squaxin Island Tribe** emphasized the following components of their proposed language:
    - Comparison of areas where stream improvement is expected and where lacking benefit.
    - Evaluate likelihood of implementation and whether the plan will meet the goals of streamflow restoration.
        - **King County** thinks Ecology's NEB guidance covers this component.
- **Kitsap County** questioned the Committee's authority to change the NEB evaluation methodology recommended by Ecology.
    - **Ecology**'s NEB guidance provides recommendations on how to complete the NEB evaluation. If the Committee diverges from Ecology's recommended steps, they may not give as strong a deference to Committee. Could potentially complicate NEB review.
    - **Kitsap County** recommends using Ecology's methodology.
- **Pierce County** would prefer consistency across WRIAs (Ecology method).
    - **Ecology** noted that some committees have deviated from Ecology's guidance.

Next Steps: Ecology and HDR will begin drafting the NEB Evaluation (Chapter 7), following Ecology's guidance but taking into consideration the additional information that Squaxin Island Tribe has requested. Ecology will share the draft Chapter with the Committee in November or early December.

Adaptive Management

The Committee reviewed and provided feedback on updates to the Adaptive Management Section of the watershed plan.

Materials:

- **Discussion Guide**: Adaptive Management

Discussion:

1.) **Should Adaptive Management (including the group that convenes after this process is completed) be limited to implementation of this plan/offsets from PE wells, or should it also address broader watershed issues?**

- **Squaxin Island Tribe** thinks this AM group could address streamflow restoration more broadly than what is in the watershed plan and CU offsets. Other WRIAs have created similar successful groups.
- **Port Gamble S'Klallam Tribe** wants the AM Section to include a 5-year review of streamflow status and trends.
    - **Suquamish Tribe** agrees.
    - **Skokomish Tribe** generally agrees with PGST and notes there must be a review component so that the watershed plan can be effectively adaptively managed to meet plan goals.
    - **King County** agrees that a 5-year review sounds like a reasonable frequency. The AM group should avoid duplicating watershed efforts and interests of the salmon recovery lead entities.
    - **Kitsap County** agrees with PGST and thinks AM could include a review of streamflow status/trends (ultimately the purpose of legislation). The County is reluctant to commit to a threshold beyond what is in legislation. Even if all PE well withdrawals are offset, streamflow could still trend flat or downward because many factors influence streamflow. Focus on offsets, but don't forget underlying purpose of legislation.
- **Pierce County** is unclear whether there would be legislative support or authorization to address broader watershed issues through this watershed plan. The Adaptive Management Section of watershed plan should focus on implementation of plan and adapting projects and actions to meet consumptive use offsets.
    - **Kitsap County** agrees. The AM Section should focus on the adaptive management of the actions within the Plan, focusing on whether offsets are being met.
- There was no objection to converting monitoring and reporting recommendations that go beyond adaptive management into the policy recommendations, and not including them as part of the adaptive management recommendation. (Note that this does not change the inclusion of the recommendations—it merely moves them from one part of Chapter 6 to another.)

2.) **There is a need for clarity on the reporting requirements.**

- **Kitsap County** can provide the data required by law and the PE well locations.
    - **Pierce County** agrees.
- **Squaxin Island Tribe** emphasized the importance of identifying PE well locations by subbasin to ensure offsets by subbasin are being met.
- **Ecology** has no concerns as long as "if available" is included in language.

3.) **Does the Committee want to recommend that ECY compile and report additional water resource information (see lines 199-213)?**

- **Pierce County** observed the language primarily applies to Ecology's work; defer to Ecology on how to frame in the watershed plan. Recommend explaining how this information will be used and how it relates to PE well consumptive use.

- **Ecology** noted that if framed as a recommendation, they won't object to its inclusion in watershed plan. Ecology has shared its concern about data/gaps and going beyond the intent of law with Squaxin Island Tribe.

Next Steps: Susan will work on revisions to the Adaptive Management Section of the plan as well as the Policy Recommendations and redistribute Chapter 6 for further review.

Other Policy Recommendations

The Beaver Task Force is refining the Beaver Package to address concerns raised in survey results. The Task Force will bring updated Package to Committee to discuss at 11/5 Committee Meeting. The Committee will also discuss funding for overall plan implementation at that meeting.

Background Materials on Plan Development

The Committee discussed options for presenting (1) background materials on plan development and consensus building; and (2) different interpretations of the law.

Question 1: How does the committee want to incorporate background information provided by participating entities or partners?

- **Example**: The Skokomish Tribe prepared an analysis of outdoor irrigation and an associated report. They would like the report included in the plan.
- **Recommendation**: Develop a compendium document that includes background information not generated and/or approved by the committee. This document would come after the appendices and be submitted with the final plan to Ecology. A note would be included at the top of the document indicating that the materials included within were not vetted or approved by the committee and represent the authors' opinions only.

Question 2: How does the committee want to address differing interpretations of the law and other statements from entities?

- **Example:** Multiple Tribes have a different interpretation of the law than Ecology.
- **Recommendation:** Develop a compendium document that includes signing statements from each entity that chooses to submit. This document would come after the appendices and be submitted with the final plan to Ecology. A note would be included at the top of the document indicating that the materials included within were not vetted or approved by the committee and are represent the authors' opinions only.

Materials:

- Compiled Comments on Draft Watershed Plan

Discussion:

- **Kitsap County** thinks the wording is ambiguous. If incorporated in the document or appendices, Kitsap will consider part of the plan (red flag). If provided as a separate document, no issues.
  - **City of Bainbridge Island** notes that if something is not included in the watershed plan distributed to City Council, it cannot be included as part of the final watershed plan. It could be provided as background information on the public record in a compendium or other form.
- **Squaxin Island Tribe** noted the purpose of these signing statements is to provide additional narrative for context. Will discuss with attorney whether Tribe would be okay with signing statements being included as a document separate from plan.
- **Pierce County** understands goal of including these statements, but many of Squaxin Island Tribe's issues are already reflected in meeting summaries.

    - **Ecology** will maintain meeting summaries on EZ view page. Compendium would guide readers to meeting summaries for more information.
- **Port Gamble S'Klallam Tribe** noted the signing statements would come from sovereign governments on their own letterhead and would not obligate other committee members to anything outside the plan. Unclear how this could open anyone up for liability/litigation.
    - **Mason County** noted that these statements would be established as part of the overall plan and could be challenged in court (review of intent).
- **Great Peninsula Conservancy** noted that if the watershed plan is not approved because of this issue and goes to Ecology, the signing statements won't be included anyway. Would like to find middle ground.
    - **Squaxin Island Tribe** will submit a letter whether or not watershed plan is approved.

Next Steps: Susan recommended the Committee move forward with having a place to put important things on the record – without including them in the watershed plan itself. We will include clear language that these statements/background materials are NOT part of the plan. Squaxin Island Tribe will consult with legal team on whether this is acceptable.

Project Updates

Stacy provided updates and recommendations on projects.

- **Water Right Acquisitions**
    - No longer pursue the McNeal Island Water Rights (DOC).
    - Support a package of water right acquisitions for Vashon Maury. Determine portion of available water rights to include as offset benefit in plan (e.g. % of 279 acre feet).
    - Update Bainbridge Island water rights with most recent information.
    - Reach out to McCormick regarding South Sound subbasin water right.
    - Reach out to Anderson Island Parks District for opportunities.
- **Offset Benefits for Projects**
    - Keep Mason County Rooftop Infiltration Project on project list as a potential future consideration. Multiple entities provided comments expressing concern about including this project as an offset benefit (comments will be distributed after meeting). Some entities want to continue the technical work. Without counting this project towards offset, there are gaps in meeting offset need by subbasin in some areas of WRIA 15. Given limited time, capacity, and budget, Ecology recommends pausing work on this project to conserve budget/resources and redirect consultant time towards finding other projects.
    - Support inclusion of the MAR package, with potential for additional site inclusions. The package currently recommends inclusion of 582 acre feet per year for offset benefit across the WRIA.
    - Review the Beall Creek Stream Restoration Project following revisions.
    - Support inclusion of the Kitsap Conservation District Raingarden and LID project. Recommend targeting applications across subbasins.
    - Support inclusion of the Community Forest Project. The project package includes a total of approximately 178 acre feet per year of offset across WRIA 15.
    - Continue outreach to Anderson Island Parks District for additional opportunities.
- **Project Inventory Clean Up and Organization**
    - Continue to add categories to projects (i-iv), additional descriptions, outcomes and sponsors where available.
    - Subbasin groups review projects and provide additions and corrections.
    - Determine removal of projects flagged.

- **Offset Benefits by Subbasin**
    - RCW 90.94.030 requires that offsets and NEB are met at the WRIA scale.
    - Committee set goal of finding enough offset benefits to meet and exceed the anticipated consumptive use estimate for each subbasin.
    - With inclusion of additional projects, we are likely short in South Sound Subbasin and South Sound Islands. We are talking to Pierce CD regarding raingardens for SS and SSI.

Materials:

- Memo on Project Updates and Recommendations

Discussion:

- **Water Right Acquisitions**
    - King County / City of Port Orchard – no concerns.
    - Next steps: Revise Vashon Maury water right acquisition opportunity package and distribute for review. Work with technical consultants and King County to recommend a reasonable offset benefit.
- **Offset Benefits for Projects**
    - **MAR Package**
        - **Port Gamble S'Klallam Tribe** requested removal of the Gamble Creek and Seabeck DNR projects (not well vetted). PGST supports the MAR package, with an interest in identifying new projects during implementation.
        - **Kitsap PUD** noted the Silverdale Recycled Water Project would benefit streams in North Hood Canal and West Sound Subbasin areas.
        - **Kitsap County** has no concerns.
        - **King County** requested inclusion of general language in high priority areas like Vashon with about pursuing if funding becomes available.
        - **Skokomish Tribe** is concerned there are insufficient offsets in North Hood Canal without Mason County project. The Tribe generally supports MAR projects, especially in upper reaches of watersheds. Belfair MAR groundwater discharges to Coulter Creek but could possibly direct discharge to Union River but would need work (maybe the sewer extension to Bremerton airport could have MAR component?). Upper Union River/Gorst Creek MAR project not feasible at this time, per conversations with City of Bremerton.
        - **Ecology** noted the likelihood of implementation of Water Right Acquisition and MAR projects are included in package; trying to balance offset assigned to projects with the likelihood that the projects will move forward.
        - **Squaxin Island Tribe** is concerned because they have not seen Pierce County and Mason County willingness to move these projects forward.
            - **Skokomish Tribe** agrees regarding project sponsors.
            - **Ecology** is looking for sponsors for more of these projects.
        - **Suquamish Tribe's** support of MAR projects will depend on details (for example, injection is not supported but infiltration is).
    - **Kitsap Conservation District Raingarden & LID Project**
        - **Kitsap Conservation District** has to meet benchmark number of projects each year; while they do not know the location of every project, they normally develop 45 rain gardens and 20-30 other practices that infiltrate water. KCD wants to recognize these projects in the Plan.
        - **Squaxin Island Tribe** noted there are significant headwaters in Kitsap County and KCD could look into other headwaters as well.
            - **KCD** can do work anywhere in any watershed and/or incorporated areas in the county. KCD conducts an inventory every year on performance.

        - **Squaxin** asked whether there are mechanisms to ensure rain gardens are protected and maintained in the long run (e.g., an easement or a signed landowner agreement)?
            - **KCD** noted there is a signed landowner agreement. If the landowner fails to maintain the instillation, they have to pay back the lifespan of the practice. The landowner reports to KCD every year for five years and KCD inspects those gardens to make sure they are still functioning as intended. Sometimes education is needed when property changes hands.
        - **Ecology** noted these projects are currently estimated at 29 afy in the project description; can count projects back to 2018.
        - **City of Bainbridge Island** is in favor of this project; looking for ways to bring to Bainbridge.
    - **Community Forest Project**
        - **Port Gamble S'Klallam and Skokomish Tribes** support this project.
        - **Ecology** has reached out to Pierce County partners but has not heard back.
- **Offset Benefits by Subbasin**
    - Kitsap Conservation District can work within the South Sound to help develop project proposals.

Next Steps: Stacy and Bob will work on revisions to project descriptions and distribute for review in November. Stacy and Bob will continue to seek out projects in southern subbasins.

Public Comment

No public comments.

Upcoming Meetings

- **WRIA 15 Committee Meeting**: Nov. 5 from 9:30AM – 2:30PM (anticipated)

Action Items for Committee

- Review Nov. 5th meeting agenda and come prepared for discussion.

Action Items for Ecology & Consultants

- Provide revised consumptive use estimate proposal.
- Update Chapter 6 (Policy Recommendations and Adaptive Management) of the watershed plan.
- Draft Chapter 7 (NEB) in alignment with Ecology guidance and consider additional components proposed by Squaxin Island Tribe.
- Work on project revisions.
- Distribute October 1 Committee Meeting Summary for review.

MEETING SUMMARY

WRIA 15 Watershed Restoration and Enhancement Committee Meeting

November 5, 2020 | 9:30 a.m. – 2:00 p.m. | WRIA 15 Committee Webpage

Location
WebEx

Committee Chair
Stacy Vynne McKinstry
Svyn461@ecy.wa.gov
(425) 649-7114

Handouts
- Agenda
- Discussion Guide: Proposed Plan Revision Chapter 6
- Project Updates and Recommendations Memo
- Discussion Guide: Funding Section

Attendance

Committee Representatives and Alternates *

Joel Purdy (Kitsap Public Utility District)
Stacy Vynne McKinstry (WA Dept of Ecology)
Greg Rabourn (King County)
Teresa Smith (City of Bremerton)
Allison Satter (City of Bremerton, alternate)
Dave Ward (Kitsap County)
Kathy Peters (Kitsap County, alternate)
Zach Holt (City of Port Orchard, alternate)
Nam Siu (WA Dept of Fish & Wildlife, alternate)
Austin Jennings (Pierce County, alternate)
Dana Sarff (Skokomish Tribe)
Paul Pickett (Squaxin Island Tribe)
Randy Neatherlin (Mason County)
Russ Shiplet (Kitsap Building Association)
Sam Phillips (Port Gamble S'Klallam Tribe)
Mike Michael (City of Bainbridge Island)
David Windom (Mason County, alternate)
Alison O'Sullivan (Suquamish Tribe)
Bri Ellis (City of Gig Harbor)
Nathan Daniel (Great Peninsula Conservancy)
David Winfrey (Puyallup Tribe)
Brittany Gordon (WA Dept of Fish & Wildlife)

Other Attendees

Susan Gulick (Sound Resolutions, Facilitator)
Angela Pietschmann (Cascadia, Info Manager)
Bob Montgomery *(*Anchor QEA*)*
Joel Massmann (Suquamish Tribe Consultant)
John Covert (Ecology)
Stephanie Potts *(*Ecology*)*

Committee Representatives Not in Attendance*

Kitsap Conservation District
Mason-Kitsap Farm Bureau (ex-officio)
Washington Water Service (ex-officio)

**Attendees list is based on roll call and participants signed into WebEx.*

Meeting Agenda and August Meeting Summary

Susan Gulick (Facilitator) reviewed the agenda. *No changes.* Stacy Vynne McKinstry (ECY – Chair) reviewed revisions to the October 1 meeting summary. *Summary finalized.* Stacy and Angela will retain a PDF copy of the Google Slides in case future reference is needed to comments made during the meeting. Comments made on the Google Slides and via Chat on Webex are incorporated into meeting summaries. The Committee will review the October 29th and November 5th meeting summaries during the December 3rd Committee meeting.

Reference Materials:

- Link to October 1 Meeting Summary

Updates and Announcements

Stacy provided the following updates:

- Ecology awarded $22M across 21 projects via the Streamflow Restoration Grant process. There were 66 project applications for over $88M collectively. None of the projects funded are in WRIA 15.
- City of Poulsbo provided a written withdrawal from the committee. They plan to track progress and Ecology may provide them with some briefings in the future.
- Ecology invites the Committee to submit photos from WRIA 15 to use for the watershed plan cover.

Projects

Stacy provided updates on projects from the October 2nd Project Workgroup Meeting and since the October 29th Committee Special Meeting.

Reference Materials:

- Link to Project Updates and Recommendations.

Discussion:

- *Mason County Rooftop Infiltration Project*
    - **Squaxin Island Tribe** noted concerns around this project and compliance with the statute and Ecology's stormwater infiltration requirement. The Tribe would like a projection around when Phase 2 stormwater permits will go into effect in Mason County. Would like response from Ecology in writing on both those points. Concern that other projects are being neglected because too much time has been spent on this concept.
        - **Ecology** is looking for the project proponent or the Committee to make the case that this project goes above and beyond requirements of law for stormwater/LID improvements with new building permits. While Ecology does not have concerns with this project, they do not recommend spending more of the consultant's time and resources on it at this time because four entities have raised concerns and two entities have asked that the project not be included as an offset benefit. Ecology will bring back any updates from WRIA 14 as they continue to evaluate the project. If a path forward is determined in WRIA 14, Stacy will talk with entities that expressed concerns about the project and see if the concerns can be resolved.

        - **Mason County** would like the WRIA 15 Committee to reconsider its rooftop project post-discussion with WRIA 14.
        - **Next Steps:** Stacy will update the committee on progress made at the WRIA 14 Committee.

- *Beall Creek Stream Restoration Project*
    - **King** County noted this project would maintain a level of constant flow in the streambed rather than diverting the whole stream and then dumping excess back in.
    - **WDFW** generally does not support fish barrier removal as an offset project but is comfortable including other benefits of these types of projects.
    - **Next Steps**: The technical consulting team will move forward with developing a write-up for this project.

- **Squaxin Island Tribe** expected more technical consultant work on the Belfair WWTP Reclaimed Water Project and Port Orchard Airport Project, but nothing has happened for months. The Tribe would like more attention focused on these types of projects. Offset needs must be met within the South Sound subbasin, as well as throughout the WRIA. The WRIA is large and diverse and includes many different Tribal U&A areas. Subbasins are closely aligned with Tribal U&As.
    - **Bob Montgomery** explained that these projects have not moved forward because they are too speculative and would not likely happen in the near future. The team has collected all the information they anticipate being able to find. It is unclear how these projects could be taken further. No one has conducted outreach with the Port Orchard Airport Project landowner. Would Kitsap County consider sponsoring this project?
    - **Kitsap County** is not interested in pursuing this project due to its speculative nature and being entirely on private property. Kitsap County does not put regional stormwater facilities on private property, especially without a conversation with the landowner. There are also questions about what happens to groundwater after the quarry next door goes below grade level. They are open to further discussion.
    - **Next Steps:** Stacy and Bob will connect on what information is available for the Belfair WWTP Reclaimed Water Project and Port Orchard Airport Project.

- **Squaxin Island Tribe** is concerned by lack of offset projects in South Sound.
    - **Ecology** confirmed that South Hood Canal, South Sound, and South Sound Islands are currently falling short of offset goals by subbasin.
    - **Great Peninsula Conservancy** asked whether longer stand rotation projects could be considered as valid offsets. There are several watersheds within Key Peninsula / Gig Harbor where GPC could submit more acquisition projects that they could manage as a working forest.
    - **Squaxin Island Tribe** is okay with a toolbox approach; however, longer stand rotation projects have small offsets and take a long time to have an effect. The Tribe is very interested in projects but feeling like the WRIA 15 Committee is not committed to projects in the South Sound subbasin. The Tribe would like to see the counties "step up."
    - **Next Steps:** Stacy and Bob will continue to work to find project sponsors and new projects in the subbasins that are falling short of meeting their offsets.

- **Kitsap Conservation District Raingarden Project**
    - **Squaxin Island Tribe** asked about the status of Tom Culhane's (Ecology) concerns about these projects that were raised in the WRIA 14 Committee Meeting.

        - **Next Steps**: Stacy, Angela Johnson (Chair of the WRIA 14 Committee), and John Covert are meeting with Tom next week to discuss. Further technical analysis will need to be conducted. Expect a revised description/technical analysis from HDR for Committee review.

- *Project Inventory Clean Up and Organization*
    - **Kitsap PUD** suggests listing 10 or so well-developed projects with higher certainty in the body of the plan itself, then referencing full list in appendix/inventory.
    - Stacy working on significant revisions to Chapter 5 and inventory and is looking for feedback.
- *General Statements - Water Right Acquisitions*
    - **Squaxin Island Tribe** requests clarifying that full or partial acquisitions are both of interest.
- *General Statements - Climate Resiliency*
    - **Ecology** noted that climate resiliency is a factor considered on applications for streamflow restoration grant funding.
    - **Squaxin Island Tribe** would like the watershed plan to cite Beechie et al's 2013 work around restoration projects and climate change.
    - **Kitsap County** can support wording; "*The WRIA 15 Committee recommends that projects and actions include components that help improve the resiliency of our stream systems, but also for projects and actions themselves to be resilient to the impacts of climate change*" is the key message.
    - **Port Gamble S'Klallam Tribe** asked whether "adaptation" should be included as well.
- *General Statements - MAR/Storage Projects*
    - **Mason County** supports MAR/storage projects, especially in headwaters. They'd like the committee to consider applicable incentives outside of County funding and request funding from legislature.
    - **Port Gamble S'Klallam Tribe** requests further explanation in the watershed plan around how MAR functions (e.g., conceptual diagram).
        - **Kitsap County** noted it could be helpful for readers to include some examples to illustrate projects.
    - **Great Peninsula Conservancy** asked whether beaver dam analogues (BDAs) could be considered as an MAR offset.
        - **Kitsap County** would support including if offset is viable.
        - **WDFW** does not support BDA projects for offsets, given the uncertainty of long term success. WDFW has not seen much success with beavers using and maintaining BDAs.
        - **City of Port Orchard** asked whether WDFW's position also applies to Engineered Log Jams (ELJ) and Large Wood Debris (LWD)?
            - **WDFW** noted the intent of an ELJ and LWD is to function as natural wood to add stream complexity. We can have relative certainty that those will successfully provide those functions. Whereas the intent of a BDA is for beavers to use and maintain it to gain recharge and flow benefits, and we don't have much certainty those projects will succeed long term.
    - **Squaxin Island Tribe** would like the watershed plan to mention that MAR/storage projects will likely require long term maintenance (unlike water right acquisitions and

homeowner maintained projects). Incentive to develop and maintain these projects may increase if MAR project has multi benefit (e.g., designed to have co-benefit with off channel habitat for fish).
    - **Ecology** noted these general statements would not be intended to call out specific projects or quantities for offset. These statements would inform future grant round funding to show support for types of projects the Committee supports that may not be conceived of yet. Ecology will take Committee's comments into consideration when revising statements in Draft Plan.

- The Committee agreed to pause further Project Workgroup meetings and instead have discussions around projects at the Committee level.
- **Next Steps:** Stacy and Bob will work on revisions to projects based on feedback; Stacy and Bob will further develop projects as needed; Stacy will include general statements in Chapter 5; Stacy will keep committee updated on raingarden and rooftop runoff project discussions; Stacy will send out detailed project descriptions and project inventory for committee feedback.

Consumptive Use Estimate

The Committee was presented with two options for addressing Consumptive Use in the watershed plan:

- **Option 1**: *The committee recommends a consumptive use estimate of 766.4 acre feet per year. This is based on the medium growth projection for the irrigated area method and is viewed as the most likely consumptive use. Based on data presented, some members of the committee supported a lower consumptive use estimate and others supported a higher number, but the committee ultimately agreed that 766.4 af/yr should be the CU estimate. The committee recognizes that a targeted offset of 1218 acre feet per year, while not required, would be beneficial to streamflows. The WRIA 15 Implementation Group should review and recommend adaptations to the targeted offset based on actual growth, water use, project implementation and other new information as the plan is being implemented.*
- **Option 2:** If the Committee cannot agree, an alternative option is to present the different methods and scenarios in Chapter 4 and do not present a specific consumptive use estimate. While not ideal, it would allow the Committee to move forward with a plan.

Reference Materials:

- Draft language provided in meeting presentation.

Discussion:

- *Option 1:*
    - No issues: **Kitsap County**, **City of Bainbridge Island**.
    - This option is unacceptable to **Squaxin Island Tribe**. The Tribe holds treaty water rights. PE wells violate those rights by taking water that should be protected for those rights. Chapter 90.98 RCW and this Plan are intended to correct the impairment of senior water rights like the Tribe's from PE wells. Therefore, the Plan cannot say "maybe we won't impair your rights" or "most likely we won't impair your rights". The Tribe will not compromise by giving up their rights. The test for consumptive use targets in this Plan must be "beyond a reasonable doubt". The higher value is based on future possibilities that are real, such as high levels of growth and more water use in hot summers. The higher value is necessary to protect senior water rights beyond a reasonable doubt. The Tribe is open to other suggested language, but not if it dilutes their primary concern.

- **Port Gamble S'Klallam Tribe** suggested using the 1218 af/year as a safety factor.
- **Pierce County** has strong concerns about the technical basis for the 1,218 acre feet number. They feel the Ecology irrigated yard area method is sufficiently protective of the resource since turf irrigation very likely overstates the average water use for a residential lawn. Based on Ecology's method and the High Growth scenario, Pierce County's understanding is that the upper range of consumptive use was nearer to 846. It is unclear in the draft compiled plan or HDR technical memos where the 1218 number arose from, and the County is hesitant to include this number in the plan without discussion of its technical merits. Initial impressions are that it is inconsistent with the results of months of technical review and discussion, and with the general agreement among many committee members that 766 is technically sound and incorporates protective measures. A footnote to acknowledge the 1218 number is insufficient; as much real estate should be dedicated to 1218 in the plan as the 766 number.
  - **City of Bainbridge Island** agrees**.**
  - **Mason County** also has concerns about the 1218 number. Months of work have gone into developing an accurate model based on data. The use of turf numbers for irrigation are substantially higher than the 1 inch per sq. ft per week as recommended by USDA for lawn and garden irrigation. The County will accept this number if used as a basis for a safety factor. Unclear why this estimate is being introduced in the 11th hour. 1218 isn't anywhere in the previous body of work and seems to be based on feelings rather than data.
  - **Suquamish Tribe** noted the turf irrigation method was used to address higher irrigation requirements during drought years (i.e., it might not be a safety factor under drought conditions).
  - **Kitsap PUD** agrees with Pierce County. Should all numbers proposed by committee members be included to show diversity of opinions?
- **Kitsap Building Association** would like to ensure the consumptive use estimate takes into consideration the substantial growth expected to continue in Kitsap and Mason Counties. More folks from King and Snohomish Counties are moving into areas like Gig Harbor.

- *Option 2:*
  - This option is unacceptable to **Squaxin Island Tribe**. For the Plan to be legal, it needs to have an estimated consumptive use target; otherwise there is no way to know whether the plan is succeeding.
- *REVISED Option 1 language:*
  - "*The committee recommends a consumptive use estimate of 766.4 acre feet per year. This is based on the medium growth projection for the irrigated area method and is viewed as the most likely consumptive use. Based on data presented, some members of the committee supported a lower consumptive use estimate and others supported a higher number, but the committee ultimately agreed that 766.4 af/yr should be the CU estimate.* ***The committee recognizes that some members believe that a higher consumptive use estimate--1218 af/yr--is necessary to ensure that offsets are met, and streams are benefited. While there is not consensus on using the higher number as the consumptive use estimate, the committee does agree that attempting to reach an offset target of 1218 af/yr would be beneficial to streams.*** *The WRIA 15 Implementation Group should review and recommend adaptations to the targeted offset*

based on actual growth, water use, project implementation and other new information as the plan is being implemented."

- Susan Gulick (Facilitator) proposed the Committee agree to the unbolded language above for now and continue to try and reach consensus on the bolded text.
- **King County** supports this proposal.
- **Mason County** would accept the unbolded text.
- **Pierce County** is uncomfortable with any draft that includes the bolded text without a technical basis for that number.
- **Squaxin Island Tribe** noted the 1218 number comes from using the 95th percentile to irrigated acreage and includes margin of safety to account for uncertainties in future (replaces the .08 average acreage for outdoor irrigation with .12 acres and uses the high growth scenario). Agrees that language should make clear how this number was calculated/selected.

- **Next Steps:** Stacy will work on revisions to Chapter 4 that update the bolded text above and clarify how the 1218 af/yr was calculated.

Plan Development

Ecology received over 200 comments from multiple entities on the WRIA 15 Draft watershed plan. Ecology made clarifications, corrections, or simple fixes to language. The compiled comment tracker includes how each comment is being addressed and if it still needs committee conversation. Today's discussion focuses on the comments that need committee input.

Reference Materials:

- Discussion guide
- August Draft Plan and Compiled Comments

Discussion:

- *Local Entity Review*
  - **Mason County** will be holding a workshop with commissioners later this month to coordinate WRIA 14 and 15 reviews and put WRIA 22/23 on the agenda for a hearing in December.
- *General Comments*
  - **Squaxin Island Tribe**: insert quotations from the law.
    - **Ecology's** goal is to use plain talk in the plan and summarize the law to the extent possible.
    - **Squaxin Island Tribe** suggested using call out boxes/side boxes for quotes and include plain-talk in text.
    - **Kitsap County***:* appreciate plain talk but ok to include direct quotes when discussing where the Committee must meet specific parts of RCW.
    - **Ecology** will include quotes where requested. Coordinating with other WRIAs where this was requested.
- *Plan Overview*
  - **Port Gamble S'Klallam Tribe**: We decided that salmon recovery program goals which focus only on listed stocks with limited freshwater residency were not appropriate for this plan. Instream flows and streamflow restoration must strive to protect fish stocks

and aquatic life, regardless of listing status, and in order to provide a benefit to the greatest length of stream channel, protection and restoration of headwaters streamflows would be the highest priority.

- **WDFW** and **Squaxin Island Tribe** support this statement.
- **Kitsap County** has no objections.
- **Suquamish Tribes** supports "*Instream flows and streamflow restoration must strive to protect fish stocks and aquatic life, regardless of listing status, and in order to provide a benefit to the greatest length of stream channel, protection and restoration of headwaters streamflows would be the highest priority."*
- **Mason County** is concerned this statement goes beyond 9094 requirements; does not discuss fish stocks or aquatic life.
- **Ecology** will work on revisions and cross-walk to the law (which speaks about fish and aquatic life) to ensure consistency.

- **Squaxin Island Tribe** requested adding "Watershed plans must be prepared to ensure full implementation."
  - **Kitsap County** noted that not everything in the plan is required to happen; some are recommendations.
  - **Squaxin Island Tribe** noted the Tribe's view is that the Plan should include an obligation to fully implement the Plan and disagrees with Ecology's interpretations. There needs to be consequences for the Plan not being adequately implemented. If offset projects are not adequate to protect PE well impacts, Ecology needs to take action, which could include water use restrictions or restriction on permits for new PE wells.
  - **Ecology** can negotiate this language but cannot go outside of Ecology's interpretation of the law. Committee members can self-obligate as desired. Will include some language about it being the intent of the Committee that the plan is implemented.
- **Squaxin Island Tribe**: Clarify what projected uses must encompass. See RCW 90.94.030(3)(e) -estimates of the cumulative consumptive water use impacts over 20 years. This comment relates to the Tribe's legal opinion that the Plan should have more information than just consumptive use of future permit exempt wells. Chapter 6 may address this concern.
- **Port Gamble S'Klallam Trib**e: The law requires projects to offset impacts from new wells over the 20-year period. We assume the impacts will continue beyond the 20-year period (in perpetuity), so the offset projects must continue as well.
  - **Kitsap County** agrees.
  - Consistent with Ecology's interpretation. Stacy will incorporate language into the plan.

- *Watershed Overview*
  - **Squaxin Island Tribe**: this section must state that there are instream rules and closures in place; that instream flows in many streams are unmet and basins are over-appropriated; and must include and cite to supporting data to that effect. Link habitat needs of fish to instream flows.
    - **Mason County** would like to review the language. Correlation does not equal causation (i.e., other environmental impacts can lead to low instream flows aside from PE wells).

- **Squaxin Island Tribe** – could list as a limiting factor (may not be a limiting factor in every case).
- Squaxin Island Tribe to provide specific language to discuss with the committee in December.

- **Suquamish Tribe**: Add discussion regarding hydrologic maturity and the effects on evapotranspiration and streamflows. We know that young forests use more water than mature forests. This ties in with project prioritization acquisition of key riparian areas.
  - **Mason County** noted that younger forests support a wider variety of wildlife.
  - **Suquamish Tribe** noted that younger forests support different wildlife. Mature forest edge areas also have an impact.
  - **Suquamish Tribe** to provide specific language to discuss with the committee in December.
- **Squaxin Island Tribe**: This discussion should be expanded to provide more complete and clear information about the relationship of GMA to water planning. For example, water system plans should not encourage development that is inconsistent with zoning, should not allow municipal water rights holders to consumptively use water in excess of their actual rights, and should require mitigation if system expansion or other change in use will impact instream flows. Add language about legal requirements for critical areas and the Counties' adoption of critical area ordinances, and how critical areas protect recharge and salmon habitat. Also describe how ESSB 6091 amended the GMA and Subdivision Code to allow for reliance on instream flow rules, and the Building Code to allow for reliance on compliance with the SRA. Ecology therefore must ensure that this plan meets all mandates established in the SRA (and other laws), including implementation to ensure offsets, restoration and enhancement.
  - **Kitsap County** unclear on purpose of including additional information here. We have information on Critical Area Ordinances; don't believe ESSB6091 amended GMA in subdivision code.
  - **Squaxin Island Tribe** noted this comment came from their legal staff. Could explore linkage more thoroughly in plan. Paul Pickett to review with legal staff and request a paragraph or so of proposed language. Stacy will share proposed language with counties prior to including in plan.
- **Mason County**: Saltwater intrusion seems extraneous to the instream flow requirements of the plan.
  - **Pierce County** and **Kitsap County** agree.
  - **Squaxin Island Tribe** will confer with staff but assuming saltwater intrusion is a minor issue in this context.
  - Stacy and Bob will review language to address comment.
- **Skokomish & Squaxin Island Tribes**: Given that aquifers may be continuous beneath several drainage basins, we need to say something about the dynamics when adjacent basins are experiencing different levels of development (urban/UGA vs rural) and the effects that could result to streamflow from cross basin transfer of groundwater. For example, the Gig Harbor/Silverdale/Bremerton urban area is more urbanized that the south and West sides of WRIA 15 (the western half of the South Sound subbasin and the Hood Canal Subbasins). Maybe describe the Port Orchard Foster modeling project which is now underway. (Out of basin water transfers that are causing impacts to salmon bearing rivers and streams in an adjacent basins must be mitigated "in kind" and "overriding consideration of public interest" (OCPI) does not qualify except under

certain circumstances. In Foster v. Department of Ecology, 184 Wn.2d 465, 362 P.3d 959 (2015); according to the Supreme Court, the prior appropriation doctrine does not allow for any impairment, even de minimis impairment, of senior water rights, in accordance with the Court's earlier decision in Postema v. Pollution Control Hearings Board, 142 Wn.2d 68, 11 P.3d 726 (2000). Accordingly, out-of-kind mitigation may not be used to remedy impairments to senior water rights, and the OCPI exception may only be used to offset temporary impairment of minimum flows.)

        - **City of Port Orchard** noted the Foster modeling is a subset of a bigger project. Timing of this project will not align with publication of WRE Plan. Fine with referencing the project as work currently occurring but won't be able to contribute data output.
        - Stacy & Bob to work on draft language and reach out to City of Port Orchard for input.
    - **Pierce County**: The increase in impervious surfaces are related to past development practices...should there be acknowledgement of Low Impact Development requirements related to new development?
        - **Squaxin Island Tribe** ok with using County's LID language.
        - Pierce County to provide specific language to discuss with the committee in December.
    - **Suquamish Tribe**: Please discuss the limitations of the Climate Toolbox due to the small size of our watersheds. The UW is developing modeled future stream flows and temperatures for Chico Creek under future climate scenarios which might have relevance for other small adjacent watersheds.
        - **Squaxin Island Tribe** suggests acknowledging the Climate Toolbox as one source of information. Acknowledge information gaps. Provide context.
        - Stacy will follow up with Alison and work with Bob on revisions.
    - **Suquamish Tribe**: Note that the 2020 Water Quality Assessment does not include all of the up to date information. Suquamish has submitted updated stream temperature data several years ago that is still not reflected. Specifically, Salmonberry Creek is not listed for temperature and it regularly exceeds the7DADmax of 16C throughout the summer.
        - Stacy will follow up with Alison.
- **Next Steps**: Stacy and Bob will work on revisions for the next draft of the plan. The committee will continue discussions on outstanding plan comments at the December meeting. The committee will receive a "clean" version of the plan as well as a version with track changes in December.

Adaptive Management & Other Policy Recommendations

The Committee discussed updated Adaptive Management and Policy Recommendation language in the Draft watershed plan.

Reference Materials:

- Revised Chapter 6
- Discussion Guide- Funding

Discussion:

- *Policy Recommendation - #8 Beaver Package*
    - Beaver Taskforce worked through revisions to address the concerns raised in the survey.
    - **Kitsap County** willing to participate and hopes this package will eventually grow into a partnership with GPC, who brings a lot to the table, especially for the acquisition piece, outside of what Kitsap County could do. The County has had reductions in GIS capacity – reached out to UW for support on analysis / modeling. The County will also continue to explore transferred development rights program.
    - **Great Peninsula Conservancy** fine with being named in this section; package aligns with GPC's strategic goals.
- *Policy Recommendation – Financing Package*
    - Options for Committee Consideration:
        1. Request that new PE well fees are increased to $1500 per connection.
        2. Request the legislature provide funding for plan implementation.
        3. Request the legislature provide funding for plan implementation, monitoring, and adaptive management.
    - **Mason County** is opposed to Option 1; does not support any increases to PE well fees. Any fees generated in counties should stay in county. Need funding from state for state mandated actions.
    - **King County** generally supports developers paying for development. Need to be clear on how increased fee was calculated and how it would be used. Consider alternate language noting that the implementation body will review fee increases as a funding option when the Plan is being implemented. Support request to legislature for funding for plan implementation.
    - **Pierce County** has concerns about a recommendation to increase fees as part of a future financing package. The 1500 number appears arbitrary and it is already unclear what is happening to existing fees transmitted to Ecology. If the 'implementing committee' were to recommend fee changes, this would require rulemaking and Ecology has expressly indicated they will not approve a plan which requires conditional rulemaking as a component of adaptive management. We are not opposed to fee increases provided there is a technical basis for the increase amount and a clear plan for specifically how those funds will be spent to benefit streamflows. We are opposed to including a recommendation for future revisions to the fee by some unidentified subset of the committee representatives outside of the plan development process.
    - **Squaxin Island Tribe** noted the $1,500 was an imprecise placeholder number in original proposal. Agrees that Plan could include several potential funding options (e.g., requests to legislature for dedicated funding; grants; shared funding from local agreements/contributions; increased PE well fees) for the implementation body to evaluate after first year's analysis.
        - **Kitsap PUD** agrees with including options for funding but not providing a specific number.
    - **Pierce County** noted that planning groups may include components which they believe help ensure that projects/actions will be completed successfully (e.g. conditions to allow for adjustment of the watershed plan in the future) as an "adaptive management" element. However, Ecology cannot adaptively change statutory-defined requirements, such as water quantities or the connection fee, at some future date if certain projects or actions are not completed. Such a change requires rulemaking. Ecology could not include such a "potential conditional rulemaking" for adaptive management as part of a

watershed plan adoption. Ecology's interpretative statement – cannot approve plan that recommends changes to rulemaking.
        - **Ecology** reviewed with management; okay as long as framed as a recommendation. Would not support if framed as "plan approval / adoption contingent on future change."
    - **Kitsap County** is opposed to inclusion of specific amount of PE well fee increase without a budgetary basis. Not categorically opposed to raising fees, just needs sound basis. Under what authority could an implementation group propose an increased fee? Counties do not have authority to raise fees.
        - **Ecology** noted the state would need to increase fees through rulemaking unless legislation changes.
        - **Squaxin Island Tribes** believes the counties would still have significant influence over potential fee increases.
    - There was general agreement that option 3 was the best approach, with a general statement that in the future the committee may also recommend consideration of a broad range of additional options, such as grants, fees, shared contribution or other options.
- *Adaptive Management – Reporting & Adaptation (C)*
    - *The WRIA 15 Committee believes a group of engaged stakeholders and tribal representatives are needed to continue collaboration on the implementation of this plan. The Committee recommends continuing to meet as needed, with participation from all interested WRIA 15 representatives.*
    - **Kitsap County** does not have an issue with some committee members continuing to meet but concerned by "meet as needed" language. What would be covered in an "as needed" meeting.
    - **Squaxin Island Tribe** noted the Plan does not need to be prescriptive. Leave self-organization and schedule-setting up to committee. Convene at least annually.
    - No changes will be made at this time.
- *6.3 – 1. Assurance of Plan Implementation*
    - Entities can provide language they want included in this section at any time, but anticipate many entities will provide language as complete the local review.
- *Proposed Drought Response Policy:*
    - **Squaxin Island Tribe**: *Limit withdrawal of groundwater exempt from permitting under RCW 90.44.050 to no more than three hundred fifty gallons per day per connection for indoor use only. A limited exemption to outdoor water use is allowed for growing food, maintaining a fire control buffer, or supporting an environmental restoration project. Support for drought response will be provided by a water conservation program (separate proposal). This education and outreach program will educate the public about water conservation practices. Ecology will include these requirements in a package for rule-making. Propose legislation to apply this program to all PE wells statewide.*
    - Possible way forward: No mention of law. Acknowledge Ecology's role in addressing drought declarations and requirements in the law. Recommend that local governments develop drought response plans, including education and outreach. Encourage partnerships for this effort that could include Ecology, Counties, Health Districts, Conservation Districts, and others.
    - **Port Gamble S'Klallam Tribe** supports drought response action.

    - **Mason County** think this policy conflicts with WAC. Mason County has an Emergency Management Planning Department with drought response plans already in place that address Group A/B water use systems.
        - **Squaxin Island Tribe** thinks this policy is worth including because other jurisdictions do not have a drought response plan in place. Some discussion of drought is important to the Plan, especially with projected impacts of climate change (need a margin of protection for dry years). Aspect's study conducted for Skokomish Tribe shows dry years are likely to use much more water and have lower streamflows.
        - **Mason County** has no major objections; if other jurisdictions do not already have a drought response plan, good to include.
        - Susan will draft language based on this discussion to ensure that the initial blocks have been removed; if so, we will add the recommendation to chapter 6 of the plan.
- *Proposed South Sound Planning Study:*
        - Paul believes that the concerns were addressed in the policy open house.
        - Susan will draft language based on this discussion to ensure that the initial blocks have been removed; if so, we will add the recommendation to chapter 6 of the plan.
- **Next Steps**: Susan will work on revisions to Chapter 6 based on the input from today's meeting.

Public Comment

No public comment.

Upcoming Meetings

- Next meeting—Thursday, December 3, 2020, 9:30-2:00 (anticipated) WebEx

Action Items for Committee Members

- Review revised project summaries.
- Review project inventory.
- Review revised Chapter 6.
- Possible review of first draft of Chapter 7 prior to December meeting.

Action Items for Ecology and Consultants

- Stacy and Bob will continue to update project inventory and project descriptions.
- Continue to refine Consumptive Use language for Committee approval; Stacy will work on revisions to Chapter 4.
- Continue to refine Chapter 6.
- Prepare updated Draft Plan for Committee red flag review.

Discussion Guide: Proposed Revisions to WRIA 15 Watershed Restoration and Enhancement Plan Draft Compiled Plan

WRIA 15 Committee Meeting December 3, 2020

Purpose of Discussion

Ecology is preparing a final draft of the WRIA 15 watershed restoration and enhancement plan (watershed plan) for committee review in December. Because the law requires that all members of the committee approve the plan, Ecology requests that committees collectively determine how to address proposed revisions. Today's discussion will focus on comments that Ecology has highlighted for committee discussion as they are more than a correction or clarification. If the committee does not complete review of these comments today, the committee will continue the discussion on the proposed revision at the January meeting.

Background

The streamflow restoration law states, "By June 30, 2021, the department shall prepare and adopt a watershed restoration and enhancement plan for each watershed listed under subsection (2)(a) of this section, in collaboration with the watershed restoration and enhancement committee. Except as described in (h) of this subsection, all members of a watershed restoration and enhancement committee must approve the plan prior to adoption" (RCW 90.94.030(3). Ecology prepared draft Chapters 1, 2 and 3 and distributed to the WRIA 15 committee in July for review. Ecology prepared draft Chapter 4 and distributed to the committee in August for review. Ecology prepared a draft compiled plan (Chapters 1-7) and distributed to the committee in August for review. Ecology and the consultants are working on refinements to Chapters 5-7 based on committee conversations. Several committee members provided comments on the draft compiled plan: **we received a combined 209 comments from Squaxin Island Tribe, Skokomish Tribe, Pierce County, Kitsap County, Suquamish Tribe, Port Gamble S'Klallam Tribe, Mason County, and WDFW**. Select comments propose the addition of information or a change in the original content and are identified here for discussion. Ecology is committed to sharing all comments received on the draft plan with the committee prior to making the revision. (See compiled comment tracker with all comments received to date and notes on how the comment has been addressed or whether the comment is being brought forward for discussion.)

Considerations for the Committee

As all committee members must approve the plan, the committee must be comfortable with any revisions proposed by entities. The committee will have another opportunity to review a full draft of the plan in the winter of 2020-2021. All current plan content for the WRIA 15 plan, including draft chapters and compiled comments from committee members, is available on Box: https://ecy.box.com/v/WRIA15WREPlan. The

direct link to the August compiled plan and comments is available on Box: https://ecy.box.com/v/WRIA15Aug2020CompiledDraftPlan. Below we present the outstanding comments for committee discussion and decision on revisions.

Questions for the Committee

How does the committee wish to address the proposed revisions?

Proposed revision	Associated content	Entity	Options for Consideration
GENERAL COMMENTS			
Multiple comments on different interpretations of the law. The specific sections where concerns are raised include: • Overall plan content • Introduction to the plan purpose. Chapter 1, Lines 8-10. Chapter 1, Lines 80 - 83 • Requirements of the plan. Chapter 1, Lines 99-101 • Requirements of the plan. Chapter 1, Lines 115-117 • Requirements of the plan. Chapter 1, Lines 118-121 • Chapter 4, Lines 642-649 • Chapter 4, Introduction to projections for new wells.	See "proposed revision" cell	Squaxin Island Tribe	Under discussion by entities for inclusion of signing statements along with submission of the plan to Ecology. Is additional reference to different interpretations of the law needed in the body of the plan?
Insert quotations from the law.	Introduction to the plan purpose. Chapter 1, Lines 8-10.	Squaxin Island Tribe	Ecology's goal is to plain talk the plan and summarize the law to the extent possible. However, the committee may consider some limited quotations or other options: 1. Address through signing statements. 2. Insert text boxes within the plan with direct quotes (note limitations with this approach). 3. Retain summary of the law/plain talk.
WATERSHED OVERVIEW			
Please discuss the limitations of the Climate Toolbox due to the small size of our watersheds. The UW is developing modeled future stream flows and temperatures for Chico Creek under future climate scenarios which might have relevance for other small adjacent watersheds.	Chapter 2, Watershed Overview, Line 555	Suquamish Tribe	We discussed in the summer including information on the Toolbox per the Squaxin Island Tribe's request. What review is recommended?

			Does the committee want to include a footnote about the limitations and future projections being developed?
Note that the 2020 Water Quality Assessment does not include all of the up to date information. Suquamish has submitted updated stream temperature data several years ago that is still not reflected. Specifically, Salmonberry Creek is not listed for temperature and it regularly exceeds the 7DADmax of 16C throughout the summer.	Chapter 2, Watershed Overview – Water Quality, Line 592	Suquamish Tribe	If the committee supports a revision, Suquamish Tribe to provide specific language to discuss with the committee in December.
GROWTH PROJECTIONS AND CONSUMPTIVE USE			
Several comments from initial draft of Chapter 4 regarding assumptions, uncertainties and limitations.	Chapter 4	Multiple	Stacy is working on some reframing of the language for the next draft that will document assumptions without undermining the planning process. Recognize additional comments submitted on this topic with compiled plan review.
Add the following sentence: It should be noted that the estimates for outdoor water use included in the plan are based on average years in terms of precipitation. Outdoor water use rates will generally be larger during dry or drought years. This will make the estimates included in the plan less conservative during these critical periods.	Chapter 4, consumptive use estimate methods, Line 825	Suquamish Tribe	Does the Committee have any concerns with adding this revision?
Reducing Uncertainty: Include (or similar): In order to help reduce uncertainty for the Committee when considering both the USGS Groundwater Model and the Irrigation Area Methods regarding consumptive use, the Skokomish Tribe and Aspect Consulting conducted an assessment of how, or if, precipitation variability across geography and time would affect outdoor irrigation consumptive use estimates in WRIA 15. The study used up to date climatological data from Ag Weather Net and Prism to compare to values using the Irrigation Area Method. This was undertaken to address concerns that these methodologies may be not conservative enough or too conservative (respectively) and whether or not a "safety factor" needed to be factored in. This assessment can be found in ____. The analysis provided similar results to the Irrigated Area method. The study also suggests that water use in dry years is substantially higher, pointing to the likelihood	Chapter 4, consumptive use estimate methods Line 886	Skokomish Tribe	Does the committee have any concerns in adding this note as a footnote or in the body of the plan? Recognize that the committee has not reviewed or comments on the analysis. Note: we will be working with the committee on where to put background information developed during the planning process.

of increased water use as climate change makes the dry season longer, hotter, and drier.			
Add another subsection to 4.3.2 that discusses climate change. Describe some of the climate projections from UW CIG and the Climate Toolbox, highlighting that the dry season in WRIA 15 is expected to get longer, hotter, and drier. My calculation of increased evapotranspiration (and therefore water use) due to temperature increases suggested 8% more water demand in 20 years.	Chapter 4, consumptive use estimate methods Line 886	Squaxin Island Tribe	Note other concerns about limitations of the Toolbox. What additional information does the committee want to provide? If the committee supports a revision, Squaxin Island Tribe to provide specific language to discuss with the committee in December.
Add another subsection to section about climate change, and the likelihood that demand for outdoor water use (under any estimation method) will likely increase over the next 20 years due to increasing summer temperatures and evapotranspiration.	This section is discussing uncertainties and assumptions of consumptive use.	Squaxin Island Tribe	Note other concerns about limitations of the Toolbox. What additional information does the committee want to provide? If the committee supports a revision, Squaxin Island Tribe to provide specific language to discuss with the committee in December.
Lines 895-901, and globally throughout the plan: do not use the terms "medium-growth", "low-growth", and "high-growth" in the Plan. For 2 counties the numbers used are the same, and the Kitsap County numbers are not based on growth. Using "lower estimate", "moderate estimate", and "higher estimate" would be acceptable.	Chapter 4, consumptive use and growth projections, Lines 895-901	Squaxin Island Tribe	Does the committee want to frame the projections as proposed?
PROJECTS AND ACTIONS			
Defining the term “actions”.	Chapter 5	Pierce Co and ECY	Stacy needs input to complete revisions to Chapter 5. NEB Guidance lumps “projects and actions” into a single definition. Options: 1. Does the committee want to continue to lump projects and actions into a single category throughout this chapter? 2. Does the committee want to develop its own definition of projects or actions? 3. Does the committee want to remove reference to “actions”?
Add a paragraph about assessing the climate change and how it may affect project effectiveness, and which projects create resilience. Cite Beechie, et al (2013) RESTORING SALMON HABITAT FOR A CHANGING	Chapter 5, Projects, Line 950	Squaxin Island Tribe	Does the committee want to include general language about climate change resilience; specific to projects; or a general statement?

CLIMATE, River Res. Applic. 29: 939–960 (2013). Pertinet quotes to include: (from the abstract) "On the basis of our literature review, we found that restoring floodplain connectivity, restoring stream flow regimes, and re-aggrading incised channels are most likely to ameliorate stream flow and temperature changes and increase habitat diversity and population resilience. By contrast, most restoration actions focused on in-stream rehabilitation are unlikely to ameliorate climate change effects. Finally, we illustrate how the decision support process can be used to evaluate whether climate change should alter the types or priority of restoration actions in a salmon habitat restoration plan." (From the Summary and Conclusions): "Key elements of adapting any restoration strategy to climate change include (1) understanding the current recovery needs, (2) evaluating whether climate change effects will likely alter those needs, (3) determining whether restoration actions can ameliorate climate change effects, and (4) determining whether restoration actions can increase ecosystem resilience." (and): "The key questions that must be answered for any adaptation strategy are as follows: Does climate change alter restoration needs in the future? And can restoration actions increase ecosystem resilience by reducing climate change effects or increasing habitat diversity?"			Note other concerns about limitations of the Toolbox. What additional information does the committee want to provide? If the committee supports a revision, Squaxin Island Tribe to provide specific language to discuss with the committee in December. The committee could also discuss including a separate section on climate change that covers projections and projects.
Lines 24-26: this sentence appears to combine different issues. Revise: "The WRIA 13 Committee recommended a lower priority for technical consultant resources in further developing projects that primarily benefit fish and wildlife habitat. Top priority were the projects that were more certain and could be reasonably quantified for offset volumes."	Chapter 5, Projects, Line 952	Squaxin Island Tribe	Is this comment relevant for WRIA 15? If so, does the committee support the revision?
For each project description, add a sentence or two describing how the project will be resilient to climate change, and how it will add resilience to the aquatic ecosystem.	Chapter 5, Projects, Line 959	Squaxin Island Tribe	Options for committee consideration: 1. Add information for each project if available. 2. Add general statement at the beginning of the project section 3. Address through grants program (criteria for streamflow grants).
GLOSSARY			

Instream Flows and Instream Flow Rule (IFR). Revise: "...the Department of Ecology may not issue water rights or change existing water rights that would..."	Appendix B: Glossary	Squaxin Island Tribe	Glossary developed by Ecology communications team with management review. Consistent across all plans. Stacy can discuss with management but unlikely to change.
RCW 90.44 (Groundwater Regulations). Revise : "RCW 90.44 (Groundwater Code): …"			
RCW 90.54 (Groundwater permit exemption). Add a note that this RCW codifies the 1971 Water Resources Act, which also continues to apply.			
RCW 90.54 (Groundwater permit exemption). Revise: "...provisions of this section and does not need a permit or water right."			
RCW 90.94 (Streamflow Restoration). Revise: "This chapter of the Revised Code of Washington codifies parts of ESSB 6091, …"			
RCW 90.94 (Streamflow Restoration). Add to this definition: "Other laws codify other parts of ESSB 6091."			
Reasonable Assurance. This definition should note that this is not a term found in the statute. Including it may be in appropriate. A different term should be used that more strongly supports the legislative purpose that these plans are actually implemented in order for permit exempt wells to be constructed.			
Section 203 or Section 030. Revise: "...in ensuring the protection and restoration of instream resources…"			
Watershed Restoration and Enhancement Plan (WRE Plan). This definition should mention the other mandatory requirements of these plans and Ecology's findings before it can approve these plans.			

Chapter Four: New Consumptive Water Use Impacts

Commented [VMSJ(1]: Please ignore formatting and table/figure labels. Will be updated in full draft plan.

4.1 Introduction to Consumptive Use

The Final NEB Guidance states that, "Watershed plans must include a new consumptive water use estimate for each subbasin, and the technical basis for such estimate" (Ecology, 2019b, page 7).[1] This chapter provides the WRIA 15 Committee's projections of new domestic permit-exempt well connections (hereafter referred to as PE wells) and their associated consumptive use (CU) for the 20-year planning horizon. This chapter summarizes information from the technical memorandums prepared for and approved by the WRIA 15 Committee on June 4, 2020.

4.2 Projection of Permit-Exempt Well Connections (2018–2038)

The watershed plan addresses new consumptive water use from projected new homes connected to PE wells. Generally, new homes are associated with wells drilled during the planning horizon. However, new uses can occur where new homes are added to existing wells serving group systems under RCW 90.44.050. The well use addressed in this plan refers to both these types of new well use. PE wells are used to supply houses and, in some cases, other equivalent residential units (ERUs) such as small apartments. For the purposes of this document, the terms "house" or "home" refer to any permit-exempt domestic groundwater use, including other ERUs.

Addressing Uncertainties, Assumptions and Limitations Associated with Projections for Growth and Consumptive Use. Uncertainties and limitations are inherent with any planning process. Understanding the limitations of the available data and analyses that use that data are important, as well as acknowledging the uncertainties associated with the analysis. The WRIA 15 Committee recognized and discussed uncertainties associated with projecting new PE well connections, models and methods used to calculate consumptive use associated with the PE well connections, as well with project implementation. Chapter 4 presents projections based on the best information available at the time. The WRIA 15 Committee recommends that if new information, modeling or data becomes available, adjustments are made through adaptive management to provide greater certainty that this plan continues to meet NEB. This chapter does not describe uncertainty in detail, but instead identifies the assumptions used in making the projections to better inform adaptive management in the future.

Commented [VMSJ(2]: New text box added to address concerns about too much emphasis on uncertainty that it discounts our work.

[1] Though the statute requires the offset of "consumptive impacts to instream flows associated with permit-exempt domestic water use" (RCW 90.94.020(4)(b)) and 90.94.030(3)(b)), watershed plans should address the consumptive use of new permit exempt domestic withdrawals. Ecology recommends consumptive use as a surrogate for consumptive impact to eliminate the need for detailed hydrogeologic modeling, which is costly and unlikely feasible to complete within the limited planning timeframes provided in chapter 90.94 RCW. RCW 90.94.020 and 90.94.030 have various references to how watershed plans are to project, offset, or account for "water use." Ecology interprets these subsections of the law (RCW 90.94.020(4)(b), 90.94.020(4)(c), 90.94.030(3)(b), 90.94.030(3)(c), 90.94.030(3)(d), and 90.94.030(3)(e)) to relate to the consumptive water use of new permit-exempt domestic withdrawals that come online during the planning horizon. (Ecology, 2019a, page 7)

To estimate new consumptive water use, the counties or technical consultants (depending on the county) developed projections for the number of new PE wells over the planning horizon in WRIA 15. The methods for projections were based on recommendations from Appendix A of the Final NEB Guidance. The committee accepted the recommendations for projections from the counties or technical consultants. The WRIA 15 Committee chose to include projections for low, medium, and high numbers of PE wells, for select counties. WRIA 15 is predominantly rural and projections demonstrate a wide distribution of PE wells throughout the watershed.

The following sections provide the 20-year projections of new PE wells for each subbasin within WRIA 15, the methods used to develop the projections, and the uncertainties associated with the projections.

4.2.1 Projections of Permit-Exempt Well Connections by Subbasin

The WRIA 15 watershed plan compiles the growth projection data both at the WRIA scale and by subbasin. This section presents WRIA 15 growth projection data for Kitsap, King, Mason, and Pierce counties. Table x and Figure x show the projected number of new PE wells per subbasin and their distribution across WRIA 15.

The medium projection for the number of new PE wells in unincorporated areas of the four counties:

- 2,921 new PE wells are projected in the unincorporated portions of Kitsap County in WRIA 15 over the planning horizon.
- 368 new PE wells are projected in the unincorporated portions of King County in WRIA 15 over the planning horizon.
- 1,301 new PE wells are projected in the unincorporated portions of Mason County in WRIA 15 over the planning horizon.
- 978 new PE wells are projected in the unincorporated portions of Pierce County in WRIA 15 over the planning horizon.

The total medium projection is 5,568 PE wells over the planning horizon, the low projection is 4,861 PE wells, and the high projection is 6,152 PE wells.

4.2.2 Methodology

The WRIA 15 Committee gave deference to each county for identifying the most appropriate method of projecting PE wells. Projections were calculated using different methods for each county:

- Kitsap County's method is based upon a land capacity analysis, using the OFM 2040 moderate growth projections, and historical wells. Kitsap County and Kitsap Public Utility District developed the projections. The high and low projections are based on a 5% estimated margin of error.

Commented [VMSJ(3]: Outstanding Comment: Need to determine consistent and appropriate terminology for "medium growth". Potential options:
-medium growth
-moderate growth
-baseline
Once agreed to by committee, make revisions throughout the chapter.

From Squaxin Island Tribe: do not use the terms "medium-growth", "low-growth", and "high-growth" in the Plan. For 2 counties the numbers used are the same, and the Kitsap County numbers are not based on growth. Using "lower estimate", "moderate estimate", and "higher estimate" would be acceptable.

- King County's method is based upon historical building permit data. King County developed the projections.
- Mason County's method is based upon Office of Financial Management (OFM) 2040 moderate growth population forecasts. The technical consultant developed the projections.
- Pierce County's method is based on historical well permit data. The technical consultant developed the projections. The high and low projections are based on different historical periods.

The WRIA 15 Permit-Exempt Growth and Consumptive Use Summary (HDR 2020) provides more detail on each of the growth projection methods.

[Comment x: Note that the Squaxin Island Tribe has requested consideration for a high growth scenario for Mason County. We will revise this section and add that information if the committee decides to proceed with this request.]

Table 1: Number of Permit-Exempt Connections Projected between 2018 and 2038

Subbasin	Medium Growth					High Growth Scenario					Low Growth Scenario				
	Kitsap	Pierce	Mason	King	Total	Kitsap	Pierce	Mason	King	Total	Kitsap	Pierce	Mason	King	Total
West Sound	1,336				1,336	1,403				1,403	1,142				1,142
North Hood Canal	656				656	689				689	561				561
South Hood Canal	49		1,077		1126	52		1077		1,128	42		1077		1,119
Bainbridge Island	491				491	516				516	491				491
South Sound	389	940	224		1,553	406	1,360	224		1,992	332	602	224		1,158
Vashon-Maury Island				368	368				368	368				368	368
South Sound Islands		38			38		56			56		22			22
Total	**2,921**	**978**	**1,301**	**368**	**5,568**	**3,066**	**1,416**	**1,301**	**368**	**6,152**	**2,568**	**624**	**1,301**	**368**	**4,861**

4.2.3 Distribution of New PE Wells

The WRIA 15 Committee mapped potential locations of new PE wells in the watershed based on parcels available for residential development dependent on PE wells. The resulting heat map (Figure x) shows the most likely areas where new residential development dependent on PE wells will occur.

4.2.4 Summary of Assumptions

The methods described in Appendix A of the Final NEB Guidance for projecting new PE wells include several assumptions. The assumptions shared here provide transparency in the planning process and deliberations of the committee to support any future adaptive management undertaken by entities implementing the plan. The WRIA 15 Permit-Exempt Growth and Consumptive Use Summary (HDR 2020) provides a detailed listing of the assumptions used to project new PE wells.

Kitsap, King, and Pierce counties relied on historical data, and assumed that these historical trends will continue into the future. To provide greater certainty in the assumption, this watershed plan includes additional PE well scenarios using different periods in the historical Tacoma-Pierce County Health Department (TPCHD) well database. The high-growth scenario uses the 1999–2008 data, which was a time of relatively healthy economic growth resulting in more rapid rural development. The low-growth scenario uses the 2009–2018 data, which was a time of relatively slower rural development and corresponds with the recession and housing downturn. The technical consultants applied a plus or minus 5 percent to calculate the high- and low-growth scenarios for Kitsap County. Five percent is the assumed margin of error in the County's land capacity analysis. Mason and King County requested no high- or low-growth scenarios calculations. The various growth scenarios were used in the deliberations by the committee to determine the most likely consumptive use estimate for the planning horizon.

To estimate the distribution of PE wells in Kitsap County, it was assumed growth in each subbasin is based upon the proportion of the historical number of building permits for each subbasin for the period of 2002-2019. Assumptions were made as to the developable parcels that would use PE wells by only counting parcels greater than 0.75 acre that are outside a 200-foot water or sewerline buffer. Within King County, the percentage of houses with PE wells was assumed to be equal to the time period of 2000-2017. Within Mason County it was assumed the proportion of houses with PE wells is equal to the proportion of buildout capacity in rural areas compared to urban growth areas. In Pierce County, an assumption was used that the same historic growth rate in PE wells by subbasin would occur in the future. Below are figures representing the distribution of new PE wells under the medium growth scenario (Figure x).

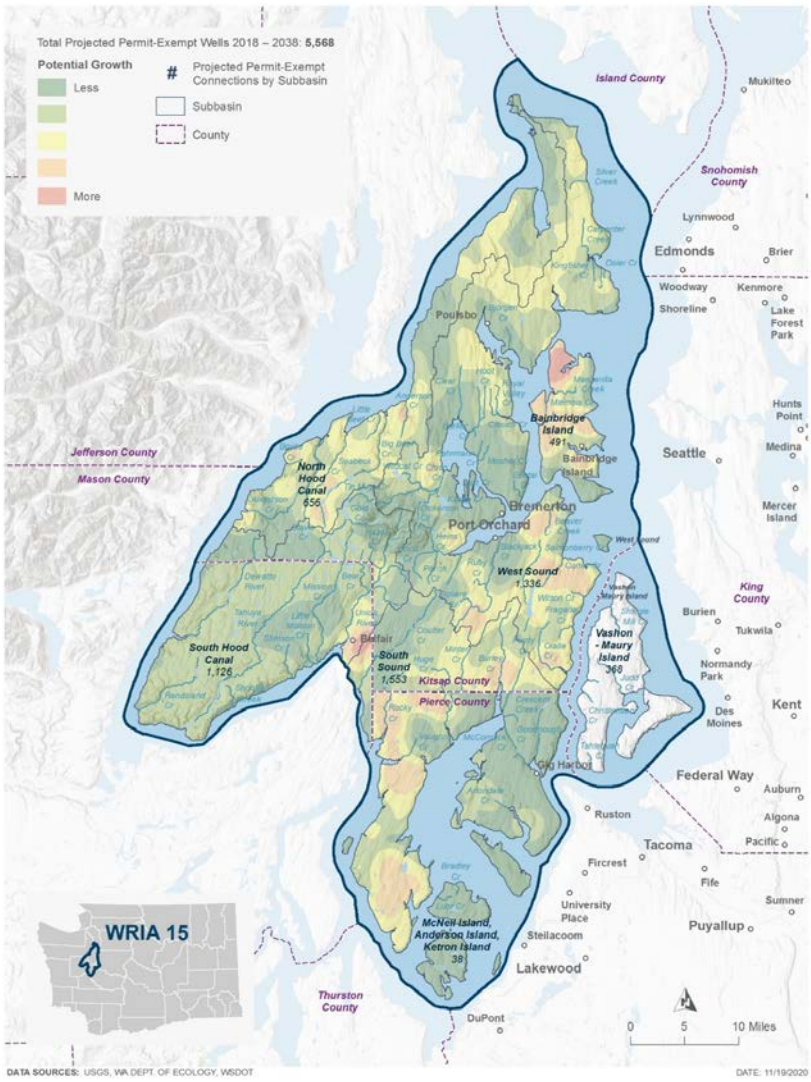

Figure 1. WRIA 15 Projected New Permit-Exempt Wells (number and likely area) Under the Medium Growth Scenario 2018-2038. REVISION TO MAP: STRONGER COLORS; DASHED LINE FOR NORTHERN KITSAP

4.3 Impacts of New Consumptive Water Use

The watershed plan used the 20-year projections of new PE wells to estimate the consumptive water use that this watershed plan must address and offset. As above, this section uses "new PE wells" as a shorthand for new domestic permit-exempt well connections unless otherwise described. This section includes an overview of the methods to estimate new consumptive water use (consumptive use), an overview of the anticipated impacts of new consumptive use in WRIA 15 over the planning horizon, and other considerations by the WRIA 15 Committee, such as assumptions. The WRIA 15 Permit-Exempt Growth and Consumptive Use Summary provides a more detailed description of the analysis and alternative scenarios considered (Appendix F).

The committee considered all three growth scenarios (low, medium and high) as well as three methods for estimating consumptive use. Based on the deliberations of the committee, this watershed plan recommends a consumptive use estimate of 766.4 acre feet per year (684,150 gallons per day [gpd]). This estimate is based on the medium growth projection for the irrigated area method and is viewed as the most likely consumptive use. Based on data presented, some members of the committee supported a lower consumptive use estimate and others supported a higher number, but the committee ultimately agreed that 766.4 acre-feet per year (AF/yr) should be the consumptive use estimate. Section 4.3.4 provides additional information on the consumptive use estimate as well as considerations for a higher offset goal of 1,218 acre feet per year (1.087 million gpd) to achieve through project implementation. This section provides an overview and results from the various methods used to estimate consumptive use.

Commented [VMSJ(4]: Please provide feedback on the framing of the CU estimate and the higher target.

4.3.1 Methodology to Estimate Indoor and Outdoor Consumptive Water Use

To calculate indoor and outdoor consumptive use, the technical consultants presented three different methods to the committee for consideration: Metered Data Method, USGS Groundwater Model Method and the Irrigated Area Method. This section presents an overview and results on the three methods. While the consumptive use estimate presented in this plan relies on the irrigated area method, some members of the committee preferred the alternative methods. All three methods are presented here to provide transparency and for future considerations around adaptive management. Additional information is available in Appendix F.

Commented [VMSJ(5]: If we are going to take space in the body of the plan to summarize the methods (as opposed to point people to the Tech Memo) we should describe why we are doing so. Please provide suggested edits.

Metered Data Method

Commented [VMSJ(6]: Metered Data Method Added

HDR estimated consumptive use using metered connections from water systems. HDR requested data from committee members for water systems that use (or have used) a flat rate billing structure and were similar in character to the rural environments in which households may connect to PE wells. In WRIA 15, Kitsap PUD provided consumption data for all Kitsap PUD water systems for years 2017 and 2018.

This method assumed that average daily use in December, January, and February is representative of year-round daily indoor use. Average daily system-wide use was divided by the number of connections (assuming all connections are residential), to estimate average daily indoor use per connection. It was also assumed that 10 percent of the indoor use is consumptively used. That factor was applied to the average daily use in the winter months to determine the consumptive portion of indoor water use per connection.

Average daily indoor use was multiplied by the number of days in a year to estimate total annual indoor use. Total annual indoor use was subtracted from total annual use by a water system to estimate total annual outdoor use. It was assumed 80 percent of the outdoor use is consumptively used. That factor was applied to estimate the consumptive portion of outdoor use.

Outdoor consumptive use was also estimated on a seasonal basis. The Washington Irrigation Guide reports irrigation requirements between the months of April and September for representative weather stations in WRIA 15. Therefore, seasonal outdoor water use was assumed to occur over a period of six months. Average daily indoor use was multiplied by the number of days in the irrigation season to calculate total indoor use for the irrigation season. Total irrigation season indoor use was then subtracted from total season use to determine total outdoor use for the irrigation season. The value was proportionally allocated to each month in the irrigation season using the requirements from the Washington Irrigation Guide.

The annual average consumptive use values are 0.0138 acre-foot (AF) (0.000019 cubic foot per second [cfs]) for indoor use per well and 0.0233 AF (0. 000032 cfs) for outdoor use per well. The corresponding values in gallons are 4,470 gallons for indoor consumptive use and 7,590 gallons for outdoor consumptive use per well per year.

USGS Groundwater Model Method

The USGS Groundwater Model method refers to water use data collected for a groundwater-flow model of the Kitsap Peninsula.[2] A report prepared by the USGS (Welch, Frans, and Olsen, 2014) provides a survey of consumption from select water utilities serving more than 221,700 people with more than 88,500 residential connections on the Kitsap Peninsula. The USGS study differentiated between the indoor and outdoor portions of use. Estimated indoor use (based on November–April pumping values) was 66 gallons per person per day. Outdoor use was estimated for the outdoor growing season and varied by month from 4 gallons per person per day in May to 97 gallons per person per day in September. Estimates for average annual outdoor use are 26 gallons per person per day. For the purposes of groundwater modeling USGS assumed the consumptive use rate for indoor domestic use is 10 percent in non-sewered areas, and the consumptive use rate for outdoor use is 90 percent.

[2] Note that the water use data is from water system data which is metered with a fee structure based on water use. PE wells in WRIA 15 are not metered and have no associated fee structure.

The annual average consumptive use values are 0.0185 AF [3](0.000026 cfs[4]) for indoor use per well and 0.0262 AF (0.000036 cfs) for outdoor use per well. The corresponding values in gallons are 6,023 gallons for indoor consumptive use and 8,540 gallons for outdoor consumptive use per well. These are annual averages and the committee expects that outdoor use will occur mainly in summer.

Irrigated Area Method

Appendix A of the Final NEB Guidance describes the Irrigated Area method that assumes average indoor use per person per day, and reviews aerial imagery to provide a basis to estimate irrigated area of outdoor lawn and garden areas. Use patterns for indoor uses versus outdoor uses are different. Indoor use is generally constant throughout the year, while outdoor use occurs primarily in the summer months. In addition, the portion of water use that is consumptive varies for indoor and outdoor water uses. The Irrigated Area method accounts for indoor and outdoor consumptive use variances by using separate approaches to estimate indoor and outdoor consumptive use.

To develop the consumptive use estimate, the WRIA 15 Committee used the Irrigated Area method and relied on assumptions for indoor use and outdoor use from Appendix A of the Final NEB Guidance. This chapter provides a summary of the technical memo, which is available in Appendix F of the watershed plan.

Consistent with the Final NEB Guidance (page 8, Final NEB Guidance Appendix B), the committee assumed that impacts from consumptive use on surface water are steady-state, meaning impacts to the stream from pumping do not change over time. The wide distribution of future well locations and depths across varying hydrogeological conditions led to this assumption.

New Indoor Consumptive Water Use

Indoor water use refers to the water that households use (such as in kitchens, bathrooms, and laundry) and that leave the house as wastewater (USGS, 2012). The Technical Consultants used Ecology's recommended assumptions for indoor daily water use per person and local data to estimate the average number of people per household, and applied Ecology's recommended consumptive use factor (CUF) to estimate new indoor consumptive water use (Ecology, 2019b):

- 60 gpd per person, as recommended by Ecology.
- 2.5 persons per household assumed for rural portions of WRIA 15 (cite OFM data).
- 10 percent of indoor use is consumptively used (or a CUF of 0.10), based on the assumption that homes on PE wells are served by onsite sewage systems. Onsite sewage

[3] Acre-foot (AF) is a unit of volume for water equal to a sheet of water 1 acre in area and 1 foot in depth. It is equal to 325,851 gallons of water. One acre-foot per year (AF/yr) is equal to 893 gallons per day (gpd).
[4] Cubic feet per second (cfs) is a rate of the flow in streams and rivers. It is equal to a volume of water 1 foot high and 1 foot wide flowing a distance of 1 foot in 1 second. One cubic foot per second is equal to 646,317 gallons per day.

systems percolate back to groundwater; a fraction of that water is lost to the atmosphere through evaporation in the drain field.

The equation used to estimate household consumptive indoor water use is:

60 gpd × 2.5 people per house × 365 days × 0.10 CUF

This results in an annual average of 0.0168 AF (0.000023 cfs, 5,475 gallons) indoor consumptive water use per year per well.

New Outdoor Consumptive Water Uses

Most outdoor water is used to irrigate lawns, gardens, and landscaping. To a lesser extent, households use outdoor water for car and pet washing, exterior home maintenance, pools, and other water-based activities. Water from outdoor use does not enter onsite sewage systems, but instead infiltrates into the ground or is lost to the atmosphere through evapotranspiration (Ecology, 2019b, page 19).

The WRIA 15 Committee used aerial imagery to measure the irrigated areas of 80 randomly selected parcels served by PE wells to develop an average outdoor irrigated area. This analysis returned more than one-half of the parcels with no visible irrigation, resulting in irrigated area values of zero. The average irrigated area for the 80 randomly selected parcels was 0.08 acre. The committee believes that 0.08 acre represents the irrigated areas for PE wells in WRIA 15 and adopted that value for consumptive use calculations. This decision is based on the understanding that the consumptive use calculation likely overestimates water use and the independent analyses performed to confirm the measurements of irrigated acreage.

The WRIA 15 Committee used the following assumptions, recommended in Appendix A of the Final NEB Guidance, to estimate outdoor consumptive water use:

- Crop irrigation requirements (IR) for turf grass according to Washington Irrigation Guide (WAIG) (NRCS-USDA 1997): 16.84 inches per year for the Bremerton WAIG station. This value was rounded up to 17 inches (1.42 feet) per year and used to estimate the amount of water needed for outdoor irrigation.
- An irrigation application efficiency (AE) to account for water that does not reach the turf: 75 percent. This increases the amount of water used to meet the crop's IR by 25 percent.
- CUF of 0.8, reflecting 80 percent consumption for outdoor use. This means a return of 20 percent of outdoor water to the immediate water environment.
- Outdoor irrigated area based on existing homes using PE wells: 0.08 acre.

The equation used to estimate household consumptive outdoor water use is:

$$Household\ Outdoor\ CU = \left(\frac{1.42\ feet}{0.75\ AE}\right) x\ 0.08\ acre\ x\ 0.8\ CUF$$

First, water loss is accounted for by dividing the IR by the AE. Next, the total water volume used to maintain turf is multiplied by the area that is irrigated. Finally, the volume of water is multiplied by 80 percent to produce the outdoor consumptive water use.

This results in 0.121 AF/yr (0.00017 cfs, 39,400 gallons) average outdoor consumptive water use per PE well for the WRIA. This is an average for the year; however, the committee expects that more water use will occur in the summer and less in winter as outdoor water use will occur mainly in summer. The outdoor consumptive use will vary by subbasin because of differences in temperature and precipitation across the watershed. The same IR for turf grass is used to simplify the calculations.

4.3.2 Assumptions with Calculating Consumptive Use

The law calls for an estimate of "consumptive water use impacts" (RCW 90.94.030(3)(e). However, the process of estimating impacts is complex, and therefore the committee agreed to use the estimated amount of new consumptive use for the offset amount, and consider the new consumptive use to be the same as the impacts of that use. This approach is consistent with Appendix A of the Final NEB Guidance (Ecology 2019).

Below is a discussion of assumptions for each method. An assumption used in all three methods is an average household size of 2.5 people. The household size may vary across the WRIA and may change over time. More information on uncertainties and limitations is presented in the technical memo available in Appendix F.

Metered Data Method

This method uses data collected by Kitsap PUD for all connections (about 15,700) within their service area in Kitsap County. Use of this method in calculating consumptive use for PE wells assumes that water use data for metered connections is comparable to PE wells with no meter. As the KPUD data covers Kitsap County, it is assumed the data are applicable to Pierce and Mason County areas in WRIA 15. The Metered Data Method uses an assumption that the indoor water use is consistent throughout the year in order to estimate outdoor water use. Assumptions on the consumptive portion of water use (10% for indoor, 80% for outdoor) are also used.

USGS Groundwater Model Method

USGS collected data from select water utilities serving more than 221,700 people with more than 88,500 residential connections on the Kitsap Peninsula. Use of this method in calculating consumptive use for PE wells assumes that water use data for metered connections is comparable to PE wells with no meter. As the USGS study did not include the Key Peninsula or the islands of Vashon Maury, Fox, Anderson, McNeil and Ketron, this method also assumes the data from Kitsap Peninsula is relevant to those areas. Assumptions on the consumptive portion of water use (10% for indoor, 90% for outdoor) are also used.

Irrigated Area Method

The average outdoor irrigated area analysis relies on a sample size of 80 parcels distributed by location and property values. The WRIA 15 Committee recognized the small sample size and to further test the assumption that the 80 parcels was fairly representative of outdoor irrigation in

Commented [VMSJ(7]: Outstanding Comment:

Add to end of this section: "In addition, the statement that "estimates of average annual outdoor use are 26 gallons per person per day" appears to be a low number compared to other metered data. A survey of 7 data sets of metered water use averaged 32.4 gpdpp for outdoor use, ranging as high as 70.4 gpdpp for one system. The outdoor irrigation method found 43.2 gpdpp for outdoor use."

Commented [VMSJ(8]: Outstanding comment – proposed new section on climate change:
Add another subsection to 4.3.2 that discusses climate change. Describe some of the climate projections from UW CIG and the Climate Toolbox, highlighting that the dry season in WRIA 15 is expected to get longer, hotter, and drier. My calculation of increased evapotranspiration (and therefore water use) due to temperature increases suggested 8% more water demand in 20 years.
Add another subsection to section about climate change, and the likelihood that demand for outdoor water use (under any estimation method) will likely increase over the next 20 years due to increasing summer temperatures and evapotranspiration.

Commented [VMSJ(9]: Outstanding comment:
Reducing Uncertainty: Include (or similar): In order to help reduce uncertainty for the Committee when considering both the USGS Groundwater Model and the Irrigation Area Methods regarding consumptive use, the Skokomish Tribe and Aspect Consulting conducted an assessment of how, or if, precipitation variability across geography and time would affect outdoor irrigation consumptive use estimates in WRIA 15. The study used up to date climatological data from Ag Weather Net and Prism to compare to values using the Irrigation Area Method. This was undertaken to address concerns that these methodologies may be not conservative enough or too conservative (respectively) and whether or not a"safety factor" needed to be factored in. This assessment can be found in____.The analysis provided similar results to the Irrigated Area ...

Commented [VMSJ(10]: Outstanding comment: Add the following sentence: It should be noted that the estimates for outdoor water use included in the plan are based on average years in terms of precipitation. Outdoor water use rates will generally be larger during dry or drought years. This will make the estimates included in the plan less conservative during these critical periods.

Commented [VMSJ(11]: Outstanding comment as we've reframed as assumptions as opposed to calling out all uncertainties and these 7 factors are address here. Can also reference spreadsheet.:
"The Irrigated Area method relies on 7 factors, each of which is an estimate from literature or research values. These estimates each introduce some uncertainty."

add to this sentence: "The outdoor consumptive use calculation contains more uncertainty than indoor ...

WRIA 15, Kitsap PUD and the Suquamish Tribe performed independent analyses on the list of parcels to confirm the findings of the irrigated area analysis. In addition, HDR compared the results of the analysis with similar analyses undertaken by other watershed restoration and enhancement committees (GeoEngineers and HDR, 2020). While the results showed that on average, HDR's methods resulted in a lower outdoor irrigation estimate, the committee concluded that the results were in line with its knowledge of water use in the WRIA.

The outdoor consumptive use calculation also uses assumptions about irrigation amounts and irrigation efficiencies. The outdoor consumptive use calculation for the Irrigated Area method assumes that homeowners water their lawns and gardens at the rate needed for commercial turf grass (i.e., watering at rates that meet crop IR per the WAIG). This assumption likely results in an overestimate, as the irrigated area analysis demonstrated that many people irrigate their lawns enough to keep the grass alive through the dry summers, but not at the levels that commercial turf grass requires. The method also assumes that residential pop-up sprinkler systems irrigate lawns with an efficiency of 75 percent. In reality, households apply water to their lawns and gardens in many different ways, some more efficient than a 25 percent water loss, and some less efficient. Members of the WRIA 15 Committee conducted their own analysis to evaluate assumptions and uncertainties with the consumptive use methods.[5] Assumptions on the consumptive portion of water use (10% for indoor, 80% for outdoor) are also used.

4.3.3 Summary of Consumptive Use Estimates

Below is a summary of consumptive use estimates by method.

Metered Data Method

The total consumptive use estimate for WRIA 15 is the number of PE wells projected (see Section 4.2) multiplied by the total indoor and outdoor consumptive use per PE well. The combined indoor and outdoor consumptive use per PE well for the baseline growth projection is .072 AF/yr (.0001 cfs, 64 gpd). The total consumptive use estimate for WRIA 15 for the medium-growth projection using the Metered Data Method is 401 AF/yr (0.55 cfs, 357,700 gpd). The total consumptive use for the low-growth projection is 350 AF/yr (0.48 cfs, 312,300 gpd) and for the high-growth projection is 443 AF/yr (0.61 cfs, 395,300 gpd). Table x summarizes the estimated indoor and outdoor consumptive use by subbasin for the baseline-growth projection. Table x

[5] [Placeholder if committee agrees to insert] In order to help reduce consumptive use uncertainty for the Committee when considering both the USGS Groundwater Model and the Irrigated Area Methods, the Skokomish Tribe and Aspect Consulting conducted an assessment of how, or if, precipitation variability across geography and time would affect outdoor irrigation consumptive use estimates in WRIA 15. The study used up to date climatological data from AgWeatherNet and PRISM to compare to values using the Irrigated Area Method. This was undertaken to address concerns that these methodologies may be not conservative enough or too conservative (respectively) and whether or not a "safety factor" needed to be factored in. This assessment can be found in the Compendium to the WRIA 15 Watershed Plan. The analysis provided similar results to the Irrigated Area method. The study also suggests that water use in dry years is substantially higher, pointing to the likelihood of increased water use as climate change makes the dry season longer, hotter, and drier.

summarizes the consumptive use by subbasin for the low- and high-growth projections. The committee expects the highest consumptive use to occur in the South Sound subbasin, which has the most projected new PE wells, as presented in Table x.

Table 2. Indoor and Outdoor Consumptive Use Estimates by Subbasin for 2038: Medium-Growth Projection and Metered Data Method

Subbasin	**Projected PE wells**	**Indoor CU**		**Outdoor CU**		**Total CU in 2038**	
		AF/yr	**GPD**	**AF/yr**	**GPD**	**AF/yr**	**GPD**
West Sound	1,336	18.3	16,366	77.8	69,472	96.2	85,838
North Hood Canal	656	9.0	8,036	38.2	34,112	47.2	42,148
South Hood Canal	1,126	15.5	13,794	65.6	58,552	81.0	72,346
Bainbridge Island	491	6.7	6,015	28.6	25,532	35.3	31,547
South Sound	1,553	21.3	19,024	90.5	80,756	111.8	99,780
Vashon-Maury Island	368	5.0	4,508	21.4	19,136	26.5	23,644
South Sound Islands	38	0.5	466	2.2	1,976	2.7	2,442
Total	**5,568**	76.4	68,208	324.3	289,536	400.8	357,744

Table 3.Indoor and Outdoor Consumptive Use Estimates by Subbasin for 2038: Low- and High-Growth Projections and Metered Data Method.

Subbasin	Low-Growth Projection					High-Growth Projection				
	Projected PE wells	Indoor CU (AF/yr)	Outdoor CU (AF/yr)	Total CU in 2038		Projected PE wells	Indoor CU (AF/yr)	Outdoor CU (AF/yr)	Total CU in 2038	
				(AF/yr)	GPD				(AF/yr)	GPD
West Sound	1,142	15.7	66.5	82.2	73,374	1,403	19.3	81.7	101.0	90,143
North Hood Canal	561	7.7	32.7	40.4	36,044	689	9.5	40.1	49.6	44,268
South Hood Canal	1,119	15.4	65.2	80.5	71,896	1,128	15.5	65.7	81.2	72,474
Bainbridge Island	491	6.7	28.6	35.3	31,547	516	7.1	30.1	37.1	33,153
South Sound	1,158	15.9	67.5	83.3	74,402	1,992	27.3	116.0	143.4	127,986
Vashon-Maury Island	368	5.0	21.4	26.5	23,644	368	5.0	21.4	26.5	23,644
South Sound Islands	22	0.3	1.3	1.6	1,414	56	0.8	3.3	4.0	3,598
Total	4,861	66.7	283.2	349.9	312,319	6,152	84.4	358.4	442.8	395,266

USGS Groundwater Model Method

The total consumptive use estimate for WRIA 15 is the number of PE wells projected (see Section 4.2) multiplied by the total indoor and outdoor consumptive use per PE well. The combined indoor and outdoor consumptive use per PE well is .084 AF/yr (.000116 cfs, 75 gpd). The total consumptive use estimate for WRIA 15 for the medium-growth projection using the USGS Groundwater Model Method is 468 AF/yr (0.65 cfs, 417,600 gpd). The total consumptive use for the low-growth projection is 408 AF/year (0.57 cfs, 364,600 gpd) and for the high-growth projection is 517 AF/yr (0.72 cfs, 461,400 gpd). Table x summarizes the estimated indoor and outdoor consumptive use by subbasin for the medium-growth projection. Table x summarizes the consumptive use by subbasin for the low- and high-growth projections. The committee expects the highest consumptive use to occur in the South Sound subbasin, which has the most projected new PE wells, as presented in Table x.

Table 4: Indoor and Outdoor Consumptive Use Estimates by Subbasin for 2038: Medium-Growth Projection and USGS Groundwater Model Method

Subbasin	**Projected PE wells**	**Indoor CU**		**Outdoor CU**		**Total CU in 2038**	
		(AF/yr	**GPD**	**AF/yr**	**GPD**	**AF/yr**	**GPD**
West Sound	1,336	24.7	22,044	87.6	78,156	112.2	100,200
North Hood Canal	656	12.1	10,824	43.0	38,376	55.1	49,200
South Hood Canal	1,126	20.8	18,579	73.8	65,871	94.6	84,450
Bainbridge Island	491	9.1	8,102	32.2	28,724	41.3	36,825
South Sound	1,553	28.7	25,625	101.8	90,851	130.5	116,475
Vashon-Maury Island	368	6.8	6,072	24.1	21,528	30.9	27,600
South Sound Islands	38	0.7	627	2.5	2,223	3.2	2,850
Total	**5,568**	102.9	91,872	364.9	325,728	467.8	417,600

Table 5: Indoor and Outdoor Consumptive Use Estimates by Subbasin for 2038: Low- and High-Growth Projections and USGS Groundwater Model Method

Subbasin	Low-Growth Projection					High-Growth Projection				
	Projected PE wells	Indoor CU (AF/yr)	Outdoor CU (AF/yr)	Total CU in 2038		Projected PE wells	Indoor CU (AF/yr)	Outdoor CU (AF/yr)	Total CU in 2038	
				(AF/yr)	GPD				(AF/yr)	GPD
West Sound	1,142	21.1	74.8	95.9	85,650	1,403	25.9	91.9	117.9	105,225
North Hood Canal	561	10.4	36.8	47.1	42,075	689	12.7	45.2	57.9	51,675
South Hood Canal	1,119	20.7	73.3	94.0	83,925	1,128	20.8	73.9	94.8	84,600
Bainbridge Island	491	9.1	32.2	41.3	36,825	516	9.5	33.8	43.4	38,700
South Sound	1,158	21.4	75.9	97.3	86,850	1,992	36.8	130.5	167.4	149,400
Vashon-Maury Island	368	6.8	24.1	30.9	27,600	368	6.8	24.1	30.9	27,600
South Sound Islands	22	0.4	1.4	1.8	1,650	56	1.0	3.7	4.7	4,200
Total	4,861	89.8	318.6	408.4	364,575	6,152	113.7	403.2	516.9	461,400

Irrigated Area Method

The total consumptive use estimate for WRIA 15 is the number of PE wells projected (see Section 4.2) multiplied by the total indoor and outdoor consumptive use per PE well. The combined total indoor and outdoor consumptive use is 0.138 AF/yr (.00019 cfs, 123 gpd). The total consumptive use estimate for WRIA 15 for the medium-growth projection is 766 AF/yr (1.06 cfs, 684,200 gpd). The total consumptive use for the low-growth projection is 669 AF/yr (0.93 cfs, 597,300 gpd) and for the high-growth projection is 847 AF/yr (1.17 cfs, 755,900 gpd). Table 10 summarizes the estimated indoor and outdoor consumptive use by subbasin for the medium-growth projection. Table x summarizes the consumptive use by subbasin for the low- and high-growth projections. The committee expects that highest consumptive use to occur in the South Sound subbasin, which has the most projected new PE wells, as presented in Table x.

Table 6: Indoor and Outdoor Consumptive Use Estimates by Subbasin for 2038: Medium-Growth Projection and Irrigated Area Method

Subbasin	Projected PE wells	Indoor CU		Outdoor CU		Total CU in 2038	
		AF/yr	GPD	AF/yr	GPD	AF/yr	GPD
West Sound	1,336	22.4	19,987	161.5	144,175	183.9	164,161
North Hood Canal	656	11.0	9,814	79.3	70,792	90.3	80,606
South Hood Canal	1,126	18.9	16,845	136.1	121,513	155.0	138,358
Bainbridge Island	491	8.2	7,345	59.4	52,986	67.6	60,332
South Sound	1,553	26.0	23,233	187.7	167,592	213.8	190,825
Vashon-Maury Island	368	6.2	5,505	44.5	39,713	50.7	45,218
South Sound Islands	38	0.6	568	4.6	4,101	5.2	4,669
Total	**5,568**	93.3	83,297	673.1	600,872	766.4	684,170

Commented [VMSJ(12]: Confirm all numbers in tables below with final spreadsheets. Numbers were rounded for some tables.

Table 7: Indoor and Outdoor Consumptive Use Estimates by Subbasin for 2038: Low- and High-Growth Projections and Irrigated Area Method

Subbasin	Low-Growth Projection					High-Growth Projection				
	Projected PE wells	Indoor CU (AF/yr)	Outdoor CU (AF/yr)	Total CU in 2038		Projected PE wells	Indoor CU (AF/yr)	Outdoor CU (AF/yr)	Total CU in 2038	
				(AF/yr)	GPD				(AF/yr)	GPD
West Sound	1,142	19.1	138.1	157.2	140,324	1,403	23.5	169.6	193.1	172,394
North Hood Canal	561	9.4	67.8	77.2	68,933	689	11.5	83.3	94.8	84,661
South Hood Canal	1,119	18.8	135.3	154.0	137,497	1,128	18.9	136.4	155.3	138,603
Bainbridge Island	491	8.2	59.4	67.6	60,332	516	8.6	62.4	71.0	63,404
South Sound	1,158	19.4	140.0	159.4	142,290	1,992	33.4	240.8	274.2	244,768
Vashon-Maury Island	368	6.2	44.5	50.7	45,218	368	6.2	44.5	50.7	45,218
South Sound Islands	22	0.4	2.7	3.0	2,703	56	0.9	6.8	7.7	6,881
Total	4,861	81.5	587.6	669.1	597,297	6,152	103.1	743.7	846.8	755,929

4.3.4 Summary of Consumptive Use Estimate

Commented [VMSJ(13]: Please review framing of the 766.4 CU estimate and the higher target of 1218.

This watershed plan uses a consumptive use estimate of 766.4 AF/yr. This is based on the medium growth projection for the irrigated area method and is viewed as the most likely consumptive use. Figure Four shows the distribution of consumptive use across the WRIA. Based on data presented, some members of the committee supported a lower consumptive use estimate and others supported a higher number, but the committee ultimately agreed that 766.4 AF/yr should be the consumptive use estimate.

Some members of the WRIA 15 Committee believed that a higher consumptive use estimate of 1,218 AF/yr is necessary to ensure that offsets are met and streams are benefited. While there was not consensus on using the higher number for the consumptive use estimate, the committee did agree that reaching an offset target of 1,218 AF/yr would be beneficial to streams. To obtain the consumptive use estimate of 766.4 AF/yr, HDR used the measured average of 0.08 acres for the outdoor irrigated area along with the medium growth estimate. The area appears low due to a high number of non-irrigated parcels. The higher number of 1,218 AF/yr is based on a high growth projection and a substitution of 0.12 acres for the average irrigated area under the irrigated area method. HDR performed statistical analyses of the irrigated acreage to characterize the potential range in the irrigated area measurements. The 0.12 acre number was obtained by substituting 0.05 acre for every parcel with no irrigated acreage measured and recalculating the mean and upper confidence limits (95%). The 0.12 acre number is the upper confidence limit. The substitution of 0.05 acre for parcels with no irrigated acreage measured was made to account for a minimum amount of outdoor irrigation that might occur but not be observable on aerial photos.

As actual growth, water use, project implementation and other new information is collected over time, adaptive management of plan implementation will need to support adjustments of the proposed approach in order to meet NEB.

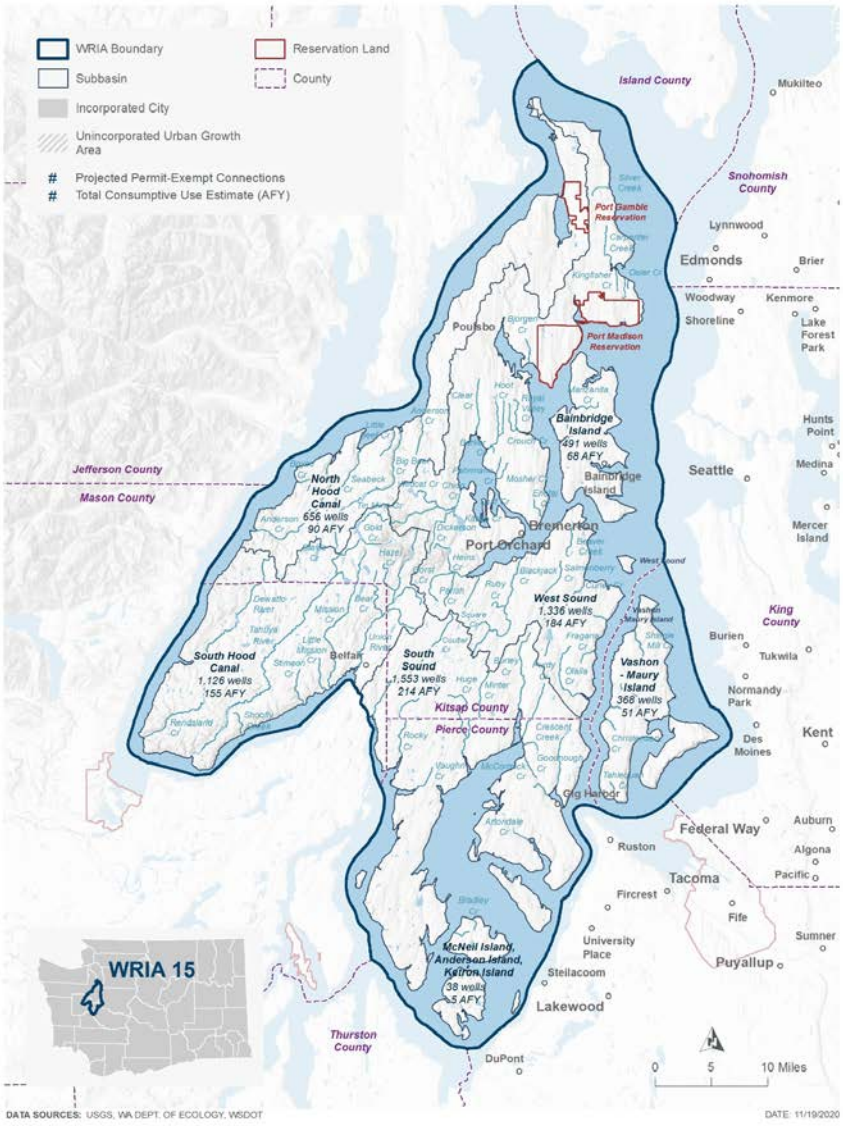

Figure 2. WRIA 15 Estimated Consumptive Use based on Medium Growth Projections and Irrigated Area Method, 2018-2038

Chapter Five: Projects and Actions

Commented [VMSJ(14]: Outstanding comment: Keep "projects and actions"; define actions; or just refer to projects.

5.1 Description and assessment

Commented [VMSJ(15]: Expanded to provide more introduction to the projects and process used to develop.

Watershed plans must identify projects and actions that offset the potential impacts future PE wells will have on streamflows, and provide a net ecological benefit to the WRIA. This chapter provides recommendations for projects and actions to offset consumptive use and meet NEB. This chapter describes projects and actions as water offset projects and habitat projects. Water offset projects have a quantified streamflow benefit and contribute to offsetting consumptive use. Habitat projects contribute toward achieving NEB by improving the ecosystem function and resilience of aquatic systems, supporting the recovery of threatened or endangered salmonids, and protecting instream resources including important native aquatic species. Habitat projects may also result in an increase in streamflow, but the water offset benefits for these projects is difficult to quantify. Therefore, this watershed plan does not rely on habitat projects to contribute toward offsetting consumptive use.

To identify the projects and actions summarized in this chapter, as well as the complete project inventory in Appendix G, committee members and WRIA 15 partners brought project suggestions forward to the workgroup and committee for discussion. Ecology and the technical consultants also identified projects with potential streamflow benefit from the Puget Sound Action Agenda near term actions, salmon recovery lead entity four-year workplans, streamflow restoration grant applications, and public works programs. The committee used a project inventory to capture and track all project ideas, no matter their phase of development, throughout the planning process. To receive feedback on project alignment with other planning processes and identify any projects of concern for inclusion in the watershed plan, Ecology distributed the project inventory to conservation districts, LIOs and salmon recovery lead entities in WRIA 15. At any point in the process, committee members or WRIA 15 partners could identify projects of concern for inclusion in the watershed plan and recommend removal of the project from the project inventory. Ecology and the technical consultants reached out to all identified project sponsors prior to including the project and actions in the watershed plan.

Based on initial information available on projects, the committee identified a subset of offset projects that showed promise for quantitative streamflow benefits. The technical consultants developed detailed analysis on the subset of projects and the committee determined the offset value to attribute to each project. This chapter presents summaries of those projects.

In a separate effort, Ecology contracted with Pacific Groundwater Group (PGG) to support identification of water right acquisition opportunities for WRIA 15. In coordination with the committee, PGG narrowed down the list of opportunities based on input from the committee. The committee provided input on the revised list of projects for PGG to develop detailed project descriptions for water right acquisition opportunities that appeared the most valid. For each water right acquisition project, the committee used the estimate generated by PGG for their consumptive use portion of the right. Before these rights are acquired and put into Trust, they will go through a full extent and validity analysis to determine the consumptive use offset component. As this analysis cannot happen until the owner of the right has agreed to sell, the

committee is relying on the PGG evaluations to estimate the offset volumes described in section 5.2.

For projects that did not provide a measureable streamflow benefit, the WRIA 15 Committee chose not to invest technical consultant resources in further developing projects that primarily benefit fish and wildlife habitat, and chose to present the projects the committee identified as most implementable for reaching NEB (based on availability of detailed description, project sponsor, and cost estimate). Project proponents provided the information presented in this watershed plan for those projects.

The projects identified in this plan are consistent with the project type examples listed in the Final NEB Guidance: (a) water right acquisition offset projects; (b) non-acquisition water offset projects; and (c) habitat and other related projects (Ecology, 2019b). This watershed plan presents projects in the following four categories:

I. Water right acquisition offset projects and non-acquisition water offset projects that are ready to proceed. These projects provide a quantitative streamflow benefit.

II. Projects that provide habitat and streamflow benefits, but streamflow benefits are difficult to quantify.

III. Projects that primarily benefit habitat.

IV. Projects that currently are not implementable (e.g. legal restriction) or are highly conceptual.

Projects in Category I are presented in this chapter. All other projects are presented in the project inventory in Appendix G. The WRIA 15 Committee recommends implementation of projects in this chapter as well as in Appendix G in order to meet the offset need and NEB for WRIA 15.

5.2 Category I Projects

The WRIA 15 Committee set a goal of meeting the offset target by subbasin. The projects presented below have quantifiable streamflow benefit and the committee identified these projects as having the greatest potential for implementation and achieving the required offset need. Detailed descriptions of each of the projects presented in Section 5.2. are available in Appendix H. A summary of projects and offset benefits by subbasin are presented at the end of this section in Tables x-y.

5.2.1 Managed Aquifer Recharge Package

Managed Aquifer Recharge (MAR) projects are being considered in WRIA 15 as a method to increase infiltration to aquifers to improve streamflow and to offset the water use from future permit exempt (PE) wells in the watershed. A detailed description of the project is available in Appendix H.

Commented [VMSJ(16]: Outstanding comment: This sentence appears to combine different issues. Revise: "The WRIA 13 Committee recommended a lower priority for technical consultant resources in further developing projects that primarily benefit fish and wildlife habitat. Top priority were the projects that were more certain and could be reasonably quantified for offset volumes."

Commented [AP17]: WDFW: Could slightly more detailed descriptions of fish and wildlife habitat projects be added to this section or included as an appendix? At the moment, the example table (17) describing project information provides extremely sparse details. A brief narrative description and location information would be helpful.

Incorporate more information on the habitat benefits of the projects in the body of the plan and detailed project descriptions (per Jim Pacheco as well). We are also working to identify an additional set of projects with habitat benefits to incorporate.

Commented [AP18]: Suquamish Tribe: Need to be consistent with project categories in table, text and definitions.

Commented [VMSJ(19]: Outstanding Comment: for each project, add description on climate resiliency.

Commented [VMSJ(20]: Below are examples of how to present the "packages" of projects.

There are different types of MAR projects.[6] Aquifer Storage and Recovery (ASR) projects are a type of MAR project that actively injects water into aquifers for storage and recovery by pumping later. Passive MAR projects infiltrate water into shallow aquifers, with the intent that water discharges from the shallow aquifer into streams on a delayed basis and improves streamflow during low-flow periods (see Figure 5). For WRIA 15, only passive MAR projects are being considered. The source of water for the passive MAR projects in WRIA 15 may be recycled water (highly treated wastewater), stormwater or diverted surface water.

Commented [VMSJ(21]: Placeholder graphic. Working with John to get new one.

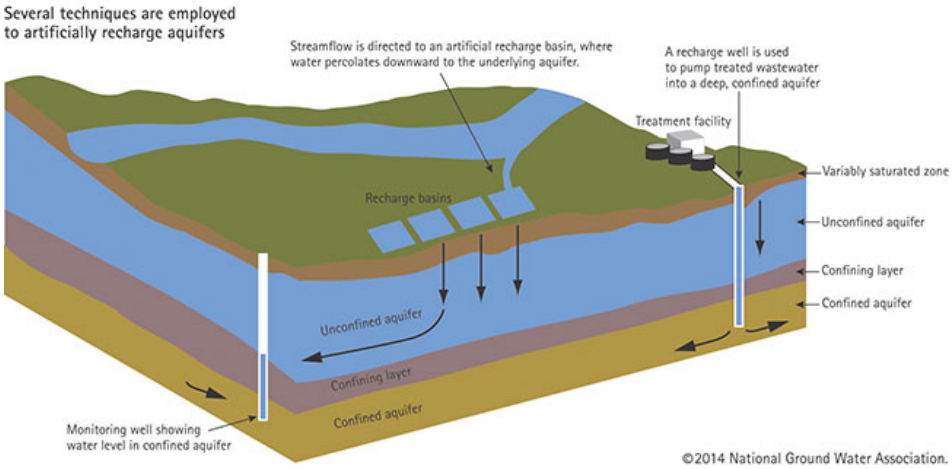

Figure 3. Place holder for MAR diagram.

The planning, implementation and operations and maintenance of MAR projects is complex, leading to uncertainty as to their potential use as water offset projects and inclusion in the watershed plan. This watershed plan addresses uncertainty by including a portfolio of MAR projects that have different locations, project sponsors, water sources, and size. Uncertainty is also addressed by qualitatively assessing the potential for implementation on a high, medium, and low basis and then assigning a probability to the potential offset from each project. The overall potential for MAR in WRIA 15 is the sum of the potential offsets multiplied by their probability. MAR projects in WRIA 15 have been identified through different sources and are estimated to have a total potential water offset of 1,424 AF/yr. The overall potential, accounting for likelihood of implementation, is estimated to be 578 AF/yr. Considering MAR projects that can be implemented within the next 10 years, the estimated potential offset is 520 AF/yr. The remaining MAR projects would likely take longer than 10 years to implement. Table x provides a summary of the MAR projects identified in WRIA 15 and Table 13 a summary of water offsets adjusted by probability of implementation. More detailed descriptions of the projects are available in Appendix H. A description of the work required to implement a MAR project is provided in the detailed project descriptions.

[6] More information on these project types is available from Ecology: https://ecology.wa.gov/Water-Shorelines/Water-supply/Water-recovery-solutions/Aquifer-storage-recovery-recharge

514

515 Table 8. Managed Aquifer Recharge Package

Commented [VMSJ(22]: Need to make sure none of the tables break across pages.

Subbasin	**MAR Project Name** (sponsor, if identified)	**Potential Offset** (AF/yr)	**Estimated Timeframe for Implementation**	**Relative Certainty of Implementation** (High, Medium, Low)
West Sound	Kingston Treatment Plant Recycled Water (Kitsap County)	328	5 years	High
	Grovers Creek MAR	20[1]	>10 years	Low
	Central Kitsap Treatment Plant [2] (Silverdale Water District)	167	5 years	Medium
North Hood Canal	Central Kitsap Treatment Plant , includes Asbury Parcel [2] (Silverdale Water District)	333	5 years	Medium
South Hood Canal	Tahuya River MAR	200	5-10 years	Low
Bainbridge Island	M & E Farms Storage, MAR	17	5-10 years	Medium
	Johnson Farms Storage, MAR	90	>10 years	Low
	Miller Rd MAR	19	>10 years	Low
South Sound	Port Orchard Airport MAR	100	>10 years	Low
	Belfair WWTP MAR	70	>10 years	Low
	Coulter Creek Heritage Park MAR (may be multiple projects)	20[1]	>10 years	Low
	Minter Creek MAR	20[1]	>10 years	Low
	Rocky Creek between Wye and Koeneman Lakes MAR	20[1]	>10 years	Low
Vashon – Maury Island	Judd Creek MAR	20[1]	>10 years	Low
South Sound Islands	-	-	-	-
Totals		**328**		High Relative Certainty
		517		Medium Relative Certainty
		579		Low Relative Certainty

Table 9. Water Offsets from MAR Package

Relative Certainty of Implementation (High, Medium, Low)	Total Estimated Offset (AF/yr)	Probability	Adjusted Offset (AF/yr)
High Relative Certainty	328	80%	262
Medium Relative Certainty	517	50%	258
Low Relative Certainty	579	10%	58
Totals			**578**

5.2.2 Community Forest Package

Community Forest projects entail the acquisition of forestlands or change in forest management practices to preserve stands or emphasize a longer harvest interval. Preserving or maintaining forests with stand ages more than 40 years can increase dry-season low flows.

To meet the consumptive use offset for the entire WRIA, Community Forest of about 5,500 to 8,700 acres would need to be acquired or managed to emphasize a longer harvest interval. Since there are other projects that will provide water offsets, that area of community forest is not required for the plan. Table x presents the acreage of potential community forest projects identified by sponsors by subbasin, as well as a target acreage in each subbasin that will provide water offsets to help meet the Watershed Plan goal of offsetting future consumptive use within each subbasin. The total target acreage is 1,723 acres, which will provide an estimated 241 acre-feet of water offset. More detailed descriptions of the projects are available in Appendix H. The projects identified by sponsors need further confirmation to determine whether the projects would meet the criteria of having forest stands greater than 40 years old and subject to harvest.

Table 10. Package of Community Forest Type Projects in WRIA 15

Subbasin	Project Name (Sponsor, if known)	Acreage	Potential Streamflow Restoration Increase (AF/yr)
Bainbridge Island	Springbrook Creek Protection and Restoration (Bainbridge Island Land Trust)	22.85	3.2
North Hood Canal	Community Forest Projects, including: • Crabapple Creek Habitat Acquisition and Restoration • Little Anderson Creek Habitat Protection • Divide Block Habitat Acquisition and Restoration • West Port Gamble Block Habitat Protection • Port Gamble Heritage Park Timber Rights Acquisition	Approx. 2100 acres has been identified as potential projects by sponsors, target for	70

Subbasin	Project Name (Sponsor, if known)	Acreage	Potential Streamflow Restoration Increase (AF/yr)
	• Gamble Creek Parcel • Boyce Anderson DNR Parcel • Seabeck DNR Parcel • Grovers Creek Mainstem protection and restoration (Sponsors may be Great Peninsula Conservancy and Port Gamble S'Klallam Tribe)	Community Forest in this subbasin is 500 acres	
South Hood Canal	Community Forest Projects, including: • Bear Creek Protection • Tahuya Headwaters (Sponsors may be Great Peninsula Conservancy and others)	Target is 500 acres in South Hood Canal Subbasin	70
South Sound	Community Forest Projects, including: • Rocky Creek Preserve • Coulter Creek Overton Lands • Key Peninsula Forest Lands (Sponsors may be Great Peninsula Conservancy and others)	Target is 500 acres in South Sound Subbasin	70
Vashon Maury	Community Forest Projects, including: • Judd Creek Headwaters • Shinglemill Creek Headwaters • Mileta Creek Headwaters • Christiansen Creek Headwaters • Fisher Creek Headwaters • Tahlequah Creek Headwaters (Sponsors may be Vashon-Maury Island Land Trust or King County)	Target is 100 acres in Vashon Maury Subbasin	14
West Sound	Community Forest Projects, including: • East Branch Ostrich Bay Creek along Skylark Drive W. • Strawberry and L. Anderson Creek Parcel (Sponsors may be Great Peninsula Conservancy and others)	Target is 50 acres in West Sound Subbasin	7
South Sound Islands	Anderson Island Community Forest Projects • Near Idie Ulsh Park (40 acres total) • Near Saint Anne's Park (6.68 acres) • Other areas (Sponsors may include Anderson Island Parks District, Great Peninsula Conservancy, Nisqually Land Trust)	Target is 50 acres in South Sound Islands Subbasin	7
Totals		Overall Target is 1,723 acres	241

5.2.3 Rain Garden and Low Impact Development Package

Commented [VMSJ(23]: PLACEHOLDER TEXT. WE ARE CONTINUING TO WORK ON REVISIONS TO THE ANALYSIS AND POTENTIAL OFFSET BENEFIT.

This project entails installing Rain Garden and Low Impact Development (LID) projects at existing homes and driveways, roadways, parking lots and other impervious areas that generate stormwater. A detailed project description is available in Appendix H. The projects would focus on critical WRIA 15 stream basins in which permit exempt well (PEW) numbers are projected to be high. The techniques include rain gardens and other low impact development practices such

as bio-infiltration swales, permeable pavement and reductions in the footprint of roadways and replacement with permeable surfaces.

Kitsap Conservation District (KCD) has a Rain Garden and Low Impact Development (LID) Program that works cooperatively with county services, landowners, and local communities to expand knowledge and use of LID practices throughout Kitsap County. Since 2010, the KCD Rain Garden and LID cost-share program has helped landowners fund and install 320 rain gardens. Pierce Conservation District (PCD) and Mason Conservation District (MCD) have similar programs but do not implement as many projects per year as KCD.

KCD can implement 50 projects a year with existing staff resources provided funding for the program is obtained. The capacity of PCD and MCD is less, but with funding is assumed to be 25 per year per district. The total number of projects that can be implemented per year would be 100, if sufficient funding is available. The average offset will vary with precipitation, soils and other factors but is likely about 0.10 acre-foot per residential rain garden. Other LID practices can infiltrate more water, depending on the impervious surface treated.

Table x presents a recommended target and distribution of rain garden projects per year and potential range of water offsets over the life of the plan (18 years).

Table 11. [Placeholder] Target Number of Raingarden and LID Projects

Subbasin	Number of Projects over 18 years	Estimated Total Water Offset, AF/yr
North Hood Canal	180	18
West Sound	360	36
Bainbridge Island	90	9
South Sound	720	72
South Hood Canal	450	45
Totals	1,800	180

Commented [VMSJ(24]: We are still working on calculations, this is a placeholder but do note the reduction in potential benefit.

5.2.4 Vashon-Maury Island Water Right Acquisition Package

This project is the acquisition (fee and conservation easements) of sensitive habitats and water rights in the Vashon-Maury Island sub-basin with the intent of enhancing instream flows and mitigating out of stream uses (i.e., reductions in flows associated with permit-exempt wells). Assuming property acquisition is coupled with water right acquisition, associated habitat benefits could include removal of structures and impervious surfaces, wetland and riparian protection and restoration, and decommissioning permit exempt wells. A description of this project is included in Appendix H.

The range of potential offset benefit from the water right acquisition opportunities on Vashon Maury is approximately 56 to 279 AF/yr. The Committee accounts for 10% of the total potentially available water rights as the offset benefit, or 27.9 AF/yr (10% was applied for the water right acquisition opportunities in the Nisqually plan).

5.2.5 Beall Creek Restoration

The Beall Creek project is located on Vashon Island, in the Vashon-Maury Island Subbasin. The outcome of this project will a more accurate measurement of the Water District 19 water requirements at their diversion on Beall Creek. To accomplish that the existing diversion, which is a fish passage barrier, will be replaced. This project will improve bypass flow at the diversion, resulting in flow improvements to Beall Creek at a rate of an estimated 26 AF/yr. A more detailed project description is provided in Appendix H.

5.2.6 Bainbridge Island Water Right Acquisitions

This project is the acquisition of two water rights on Bainbridge Island. The water rights identified as targets for acquisition total 75 acre-feet. This watershed plan accounts for 10% of the total potentially available water rights as the offset benefit, or 7.5 AF/yr. This watershed plan does not present the details of the potential water rights in order to protect the privacy of the water right holders.

Table 12. West Sound Subbasin Category I Projects.

Project Number/ Priority?	Project Name	Project Type and Description	Estimated Water Offset (AF/yr)	Project Sponsor	Estimated Project Cost	Readiness to Proceed
	Kingston Treatment Plant Recycled Water	Use recycled water for irrigation on a golf course and infiltrate groundwater to improve streamflow. Benefits Grovers Creek.	262.4	Kitsap County/Suquamish Tribe	$13.65M	Funding and agreement on O&M needed.
	Central Kitsap Water Treatment Plant	Use recycled water to infiltrate near Newberry Road. Could benefit West Sound and North Hood Canal subbasins. Possible benefits to Johnson, Wildcat, and Chico creeks.	83.5	Silverdale Water District		Funding needed and Water Quality issues need resolution.
	Raingarden and LID Projects	Install residential raingardens and LID projects to infiltrate water from existing impervious surfaces	36	Kitsap Conservation District		Ready to proceed; some additional funding may be necessary.
	Community Forest Package	Acquire forest lands or change forest management practices to preserve stands or emphasize a longer harvest interval. Target is 50 acres.	7	Great Peninsula Conservancy and others		Funding needed.
WRIA 15 Total Water Offset for West Sound Subbasin			**388.9**			
WRIA 15 Consumptive Use Estimate for West Sound Subbasin			**183.9**			

Commented [VMSJ(25]: Is this detail sufficient for committee? How much info desired for readiness to proceed?

Commented [VMSJ(26]: Will ensure tables do not break across pages

591

592 Table 13. Bainbridge Island Subbasin Category I Projects.

Project Number/ Priority?	Project Name	Project Type and Description	Estimated Water Offset	Project Sponsor	Estimated Project Cost	Readiness to Proceed
	M&E Farms Storage	MAR, will benefit Manzanita Creek	9	Friends of the Farm	$270,000	Funding needed.
	Miller Road	MAR, will benefit Manzanita Creek	10	City of Bainbridge Island	$270,000	Funding needed.
	Raingarden and LID Projects	Install residential raingardens and LID projects to infiltrate water from existing impervious surfaces	9	Kitsap Conservation District		Ready to proceed; some additional funding may be needed.
	Water Right	Acquire water right	60	Washington Water Trust		Further analysis and water right holder agreement needed.
	Community Forest Package	Acquire forest lands to preserve stands. 22.85 acres identified.	3.2	Bainbridge Island Land Trust		Funding needed.
WRIA 15 Total Water Offset for Bainbridge Island Subbasin			**91.2**			
WRIA 15 Consumptive Use Estimate for Bainbridge Island Subbasin			**67.6**			

593

Table 14. North Hood Canal Subbasin Category I Projects.

Project Number/ Priority?	Project Name	Project Type and Description	Estimated Water Offset	Project Sponsor	Estimated Project Cost	Readiness to Proceed
	Community Forest Package	Acquire forest lands or change forest management practices to preserve stands or emphasize a longer harvest interval. Target is 500 acres.	70	Great Peninsula Conservancy, Jamestown S'Klallam Tribe and others		Funding needed.
	Central Kitsap Water Treatment Plant	Use recycled water to infiltrate near Newberry Road. Could benefit West Sound and North Hood Canal subbasins. Possible benefits to Little Anderson, Anderson and Big Beef creeks.	167	Silverdale Water District		Funding needed and Water Quality issues need resolution.
	Raingarden and LID Projects	Install residential raingardens and LID projects to infiltrate water from existing impervious surfaces	36	Kitsap Conservation District		Ready to proceed; some additional funding may be necessary.
WRIA 15 Total Water Offset for North Hood Canal Subbasin			**273**			
WRIA 15 Consumptive Use Estimate for North Hood Canal Subbasin			**90.3**			

596 Table 15. South Hood Canal Subbasin Category I Projects.

Project Number/ Priority?	Project Name	Project Type and Description	Estimated Water Offset	Project Sponsor	Estimated Project Cost	Readiness to Proceed
	Raingarden and LID Projects	Install residential raingardens and LID projects to infiltrate water from existing impervious surfaces	36	Mason Conservation District		Ready to proceed; some additional funding may be necessary.
	Community Forest Package	Acquire forest lands or change forest management practices to preserve stands or emphasize a longer harvest interval. Target is 500 acres.	70	Great Peninsula Conservancy and others		Funding Needed.
	Tahuya River MAR	MAR, will benefit Tayuha River	20			Conceptual.
WRIA 15 Total Water Offset for South Hood Canal Subbasin			**126**			
WRIA 15 Consumptive Use Estimate for South Hood Canal Subbasin			**155.0**			

Table 16. Vashon Maury Subbasin Category I Projects.

Project Number/ Priority?	Project Name	Project Type and Description	Estimated Water Offset	Project Sponsor	Estimated Project Cost	Readiness to Proceed
	Beall Creek	Water management to improve streamflow in Beall Creek	26	Water District 19		Funding needed.
	Judd Creek MAR	MAR, could benefit Judd Creek and other streams	2			Conceptual
	Water Right Acquisition Package	Acquire property and water rights, could benefit multiple streams	28	Vashon Maury Island Land Trust, King County, others		Funding needed
WRIA 15 Total Water Offset for Vashon Maury Subbasin			**56**			
WRIA 15 Consumptive Use Estimate for Vashon Maury Subbasin			**50.7**			

603 Table 17. South Sound Subbasin Category I Projects.

Project Number/ Priority?	Project Name	Project Type and Description	Estimated Water Offset	Project Sponsor	Estimated Project Cost	Readiness to Proceed
	MAR Package including • Port Orchard Airport MAR • Belfair WWTP MAR • Coulter Creek Heritage Park MAR (may be multiple projects) • Minter Creek MAR • Rocky Creek between Wye and Koeneman Lakes MAR	MAR, could benefit multiple streams	23			Conceptual
	Community Forest Package	Acquire forest lands or change forest management practices to preserve stands or emphasize a longer harvest interval. Target is 500 acres.	70	Great Peninsula Conservancy and others		Funding needed.
	Raingarden and LID Projects	Install residential raingardens and LID projects to infiltrate water from existing impervious surfaces	36	Kitsap Conservation District, Pierce Conservation District		Ready to proceed; some additional funding may be necessary.
WRIA 15 Total Water Offset for South Sound Subbasin			**129**			
WRIA 15 Consumptive Use Estimate for South Sound Subbasin			**213.8**			

Table 18. South Sound Islands Subbasin Category I Projects.

Project Number/ Priority?	Project Name	Project Type and Description	Estimated Water Offset	Project Sponsor	Estimated Project Cost	Readiness to Proceed
	Community Forest Package	Acquire forest lands or change forest management practices to preserve stands or emphasize a longer harvest interval. Target is 50 acres.	7	Nisqually Land Trust, Great Peninsula Conservancy and others		Funding needed.
WRIA 15 Total Water Offset for South Sound Islands Subbasin			**7**			
WRIA 15 Consumptive Use Estimate for South Sound Islands Subbasin			**5.2**			

5.3 Category II-IV Projects

The WRIA 15 watershed plan includes an inventory of additional projects to meet the offset needs and NEB for the watershed. The remaining categories include the following:

II. Projects that provide habitat and streamflow benefits, but streamflow benefits are difficult to quantify.

III. Projects that primarily benefit habitat.

IV. Projects that currently are not implementable (e.g. legal restriction) or are highly conceptual.

The projects include habitat restoration and protection, stream augmentation, riparian restoration, reclaimed water expansion, storage, and other project types.

Table x provides a summary of the number of projects per category by subbasin and a summary of the quantitative benefits provided by projects by subbasin.

Commented [VMSJ(27]: This is an example table. Stacy work on after okay'd by committee

Table 19. Summary of habitat benefits from Category II-IV projects.

Subbasin	Number of Category II-IV Projects	Category II-IV Projects with Anticipated Streamflow Benefits	Anticipated Stream Miles Restored	Anticipated Acreage Protected	Anticipated Acreage Restored
		Y/N	Number miles	Number acres	Number acres
Total			< > xx	< > xx	< > xx

5.2.3 Prospective Projects and Actions

In addition to the projects described in this chapter and the project inventory in Appendix G, the WRIA 15 Committee supports future projects and actions in the following categories:

Climate Adaptation and Resiliency. The WRIA 15 Committee recognizes the potential impacts of climate change on streamflow. The WRIA 15 Committee recommends that projects and actions themselves are resilient to the impacts of climate change and that projects include components that help improve the resiliency of our stream systems. [**insert citation to Beechie and others**]

Water Right Acquisitions. The WRIA 15 Committee supports the full and partial acquisition of water rights to increase streamflows and offset the impacts of PE wells. Water rights should be permanently and legally held by Ecology in the Trust Water Rights Program to ensure that the benefits to instream resources are permanent. The WRIA 15 Committee acknowledges that all water right transactions rely on willing sellers and willing buyers. The WRIA 15 Committee recognizes the importance of water availability for producers and the limited available water supply.

Land Acquisitions and Conservation Easements. The WRIA 15 Committee supports acquisitions and conservation easements of land to increase streamflows and offset the impacts of PE wells. The WRIA 15 Committee recommends focusing acquisitions and easements in areas with wetlands and headwaters, for the purposes of preventing new permit exempt wells, decommissioning old permit exempt wells, and for extending time between harvest of timber.

Managed Aquifer Recharge and Other Storage Projects. The WRIA 15 Committee supports projects such as managed aquifer recharge that re-time flood-level flows to provide streamflow benefits during low-flow periods. The WRIA 15 Committee encourages storage projects in the headwaters or high in the system, as well as those that provide multiple benefits (e.g. flood reduction, habitat benefits). See section 5.2.1 above on more information regarding MAR projects.

Commented [VMSJ(28]: Committee asked for more details and diagram. Included in project description above.

5.3 Project Implementation Summary

[Comment 8. This section will include a general summary of the projects and actions, as required by the legislation and recommended by the NEB guidance. Overall evaluation of the costs for implementation is called out in 90.94.030.3.d. "The watershed restoration and enhancement plan must include an evaluation or estimation of the cost of offsetting new domestic water uses over the subsequent twenty years."]

5.3.1 Summary of Projects and Benefits

Commented [VMSJ(29]: Pulled from WRIA 8; Bob edit once project list complete - December

As specified in Chapter 4, this watershed plan estimates 766.4 AF/yr of new consumptive use from new PE wells over the planning horizon. The projects included in Table x provide an estimated offset of XX AF/yr and exceed the offset need.

A total of xx projects with quantified streamflow benefit, unquantified streamflow benefit, and habitat improvement, have been identified by the committee and are included in Appendix G. The ecological and streamflow benefits from habitat projects are supplemental to the quantified water offsets required by RCW.90.94.030.

Commented [RM30]: We don't have those in appendix that shows categories ii-iv?

5.3.2 Cost Estimate for offsetting new domestic water use over 20 Year Planning Horizon

Per RCW 90.94.030(3)(d), this watershed plan must include an evaluation or estimation of the cost of offsetting new domestic water uses over the subsequent twenty years. To satisfy this requirement, the Committee developed planning-level cost estimates for each of the water offset projects listed in Tables x-y. The Committee also included costs estimates for habitat projects in Table x, when that information was readily available.

The estimated cost for implementing individual water offset projects range from XXX for YYY project to AAA for BBB project. The total estimated cost for implementing the water offset projects listed and described in this chapter is $XXXX. Assuming xx AF/yr of water offset is achieved through implementation of these projects, the average cost per AF per year is $XXX.

The estimated cost for implementing individual habitat projects range from XXX for YYY project to AAA for BBB project. The total estimated cost for implementing the habitat projects listed and described in this chapter is $XXX. No metric has been established by the Committee to derive a relative cost for implementing habitat projects.

5.3.3 Certainty of Implementation

The watershed plan also provides adaptive management recommendations (see Chapter 6) to increase reasonable assurance that the projects and actions in the plan will be implemented.

Chapter 6. Additional Plan Recommendations

6.1 Policy and Regulatory Recommendations

[Comment xx. Note that based on the final recommendations, we can change the title of this section to "Non-Capital Recommendations" or whatever term best encompasses the set of recommendations.]

The Streamflow Restoration law lists optional elements committees may consider including in the plan to manage water resources for the WRIA or a portion of the WRIA (RCW 90.94.030(3)(f)). The WRIA 15 Committee included "policy and regulatory recommendations" in the watershed plan to show support for programs, policies, and regulatory actions that would contribute to the goals of this watershed plan, including streamflow restoration and meeting NEB. When similar concepts arose from multiple Watershed Restoration and Enhancement Committees, the WRIA 15 Committee coordinated with those other committees to put forward common language for inclusion in the watershed plans, when appropriate. Coordination also occurred for jurisdictions that cross multiple watersheds. All projects and actions the WRIA 15 Committee intended to count toward the required consumptive use offset or NEB are included in Chapter 5: Projects and Actions and Appendix G Project Inventory.[7]

Commented [AP31]: Pierce County: Edit the language to state "policy and regulatory recommendations do not contribute to the calculated consumptive use estimate." rather than stating the projects and actions are used to calculate the offset. While earlier text states that the policy recommendations "shows support" for streamflow restoration...what is the benefit of including these policy recommendations?

As required by the NEB Guidance, the WRIA 15 Committee prepared the plan with implementation in mind. However, as articulated in the Streamflow Restoration Policy and Interpretive Statement (POL-2094), "RCW 90.94.020 and 90.94.030 do not create an obligation on any party to ensure that plans, or projects and actions in those plans or associated with rulemaking, are implemented" (Ecology 2019a). The identification and listing of these policy and regulatory recommendations is directly from the WRIA 15 Committee members and is not endorsed or opposed by Ecology.

The WRIA 15 Committee initially identified a list of potential recommendations based on proposals brought forward by members of the committee. After iterative rounds of discussion and feedback during committee meetings, in one on one conversations, and using a survey tool, the committee narrowed the recommendations to those presented below. Unless otherwise specified, the proposed implementing entity is not obligated by this plan to implement the recommendation; however, the WRIA 15 Committee requests consideration of each recommendation by the identified implementing entity.

The WRIA 15 Committee provides the following recommendations. Please note that these are not listed in order of priority:

1. Track the number and location of permit-exempt wells

[7] "New regulations or amendments to existing regulations adopted after January 19, 2018, enacted to contribute to the restoration or enhancement of streamflows may count towards the required consumptive use offset and/or providing NEB." Streamflow Restoration Policy and Interpretive Statement, POL-2094

Proposed implementing entity: Department of Ecology

Recommendation: Change Department of Ecology's well tracking system in the following ways, in order to track the number and location of permit-exempt wells in use:

- Collect latitude and longitude of wells on well report forms;
- Identify permit-exempt wells on well log form; and
- Provide Well ID Tag numbers to older wells, and associate well decommissioning, replacement, or other well activities with the Well ID Tag.

Purpose: Accurate tracking of the locations and features of permit-exempt wells will support the WRIA 15 Committee's desire to engage in monitoring and adaptive management after plan adoption.

Funding source: If Ecology does not have capacity do this work with existing staffing and resources, the committee recommends the legislature provide additional funding.

2. Monitoring and Research

Proposed implementing entity: Multiple agencies would likely be involved in monitoring. Ecology would coordinate the development of the strategy.

Recommendation: Develop a research and monitoring strategy for WRIA 15 that addresses the following:

- Streamflow monitoring
- Groundwater monitoring
- Precipitation and drought conditions
- Water usage and water supply data

Given the cost and effort involved in developing a comprehensive strategy, this effort may need to be phased and prioritized to address most urgent needs first.

Purpose: The WRIA 15 Committee desires comprehensive monitoring data on the overall health of the watershed, including status and trends.

Funding source: Funding is needed either through legislative appropriations, grants, pooling of resources by committee members and other stakeholders, or other means.

3. Annual Report on Monitoring

Proposed implementing entity: Department of Ecology, with support from Kitsap Public Utility District, Squaxin Island Tribe, and any other jurisdictions collecting flow data under an approved Quality Assurance Project Plan.

Recommendation: Annually compile monitoring data on the status of water resources and water quality in the basin over the past year that has been collected by Ecology or provided by

Partner jurisdictions. Partner jurisdictions are encouraged to provide relevant data to Ecology for inclusion. Monitoring of streamflows, groundwater, precipitation and drought conditions, water usage, and water supply could be included. This information should be provided to the WRIA 15 Committee or a new implementation group if established.

Purpose: This provides additional information on water resources that will provide context for addressing adaptive management.

Funding source: It is assumed this can be completed with existing resources.

4. Report on Additional Water Resource Information

Proposed implementing entity: Department of Ecology

Recommendation: By September of 2026, Ecology reports the following information with the support of the State Department of Health and local jurisdictions:

- Estimates of:
  - The total number of connections to PE wells currently in use, as described in RCW 90.94.030(3)(b).
  - The number domestic and municipal water rights in use and their current quantity of use, including estimates of inchoate water remaining in municipal water rights, and categorized by whether they are mitigated or not and which subbasin they are in, as described in RCW 90.94.030(3)(c).
  - The cumulative consumptive water use impacts on instream flows from all pre-2018 PE wells and unmitigated municipal water rights, as described in RCW 90.94.030(3)(d)(e).
- An evaluation of the costs of offsetting all new domestic water uses over the next 20 years, as described in RCW 90.94.030(3)(d). The initiation of adjudication would be considered an acceptable substitute for this study.

Purpose: This provides additional information on water resources that will provide context for addressing adaptive management.

Funding source: Grant funding or a legislative appropriation will be necessary to hire consultant assistance to Ecology for this effort.

5. South Sound Planning Study

Proposed implementing entity: State, local and tribal governments in WRIA 15

Recommendation: Prepare a study of how planning and permitting by Counties and local governments influences water management within WIRA 15, and potential opportunities to improve:

1) Water management outcomes that support aquatic habitat and human needs.
2) Efficiencies and potential cost savings. and
3) Information sharing among the various governmental entities.

The study should focus on how management can protect and enhance streamflows, groundwater recharge, and other water resource management efforts that support aquatic habitat and water supply.

Purpose: This study could identify opportunities for improved outcomes at potentially lower costs.

Funding source: Grant funding or a legislative appropriation will be necessary to hire consultants to complete this study.

6. Drought Response Planning

Proposed implementing entity: Local governments

Recommendation: Local governments develop and implement a drought response plan if they don't already have one. Local governments review existing drought response plans for potential updates.

- Ecology and Department of Health provide technical assistance
- The plans should include an education and outreach program to educate and notify the public about water conservation and drought water use limitations and practices.

Purpose: Drought response will be an important component of protecting streamflows. Clear plans and education by all local governments will better prepare the watershed for droughts.

Funding source: Grant funding or other funding may be needed by some local governments.

Commented [VMSJ(32]: These proposals are new, as discussed at Nov committee mtg. Issues raised during survey resolved.

7. Recycled Water

Proposed implementing entity: Washington State Legislature and/or Department of Ecology

Recommendation: Enact state policies that encourage the development and use of reclaimed water.

Purpose: Using reclaimed water will:

- Offset water that would otherwise be diverted from rivers and streams, thus preserving natural high-quality instream flow;
- Reduce the amount of treated wastewater that is discharged into receiving water bodies; and
- Create water supply options, which makes the water supply system more resilient against drought and climate change.

Funding source: Funding is needed either through legislative appropriations, grants, pooling of resources by committee members and other stakeholders, or other means. Individual projects and construction components will have to be funded with a market-based approach.

8. Water Conservation Education

Proposed implementing entity: Ecology and counties; with support from conservation districts and non-governmental organizations.

Recommendation: Ecology should partner with counties and conservation districts to develop and implement outreach and incentives programs that encourage rural landowners with PE wells to (1) reduce their indoor and outdoor water use through water conservation best practices; and (2) comply with drought and other water use restrictions.

Purpose: Raise awareness of the impacts PE well water usage has on (1) groundwater levels and (2) the connection to streams and rivers. Supplement water offset and restoration projects.

Funding source: Funding is needed either through legislative appropriations, grants, pooling of resources by committee members and other stakeholders, or other means.

9. Water Conservation Statewide Policy

Proposed implementing entity: Ecology and/or local governments

Recommendation: Implement mandatory water conservation measures in unincorporated areas of the state during drought events. Measures would focus on limiting outdoor water use, with exemptions for growing food.

Purpose: Reduce water usage in key sub-basins, especially during drought; reduce impacts on stream flows; and increase climate change resilience.

Funding source: Funding is needed either through legislative appropriations, grants, pooling of resources by committee members and other stakeholders, or other means.

10. Beaver Habitat and Streamflow

Proposed implementing entity: Varies; see details below.

Recommendation: The Committee recommends three elements:

1. **Map and protect likely beaver habitat:** The Committee recommends a pilot project with Kitsap County and Great Peninsula Conservancy to identify potential easements to purchase and protect as beaver habitat. The Committee recommends combining mapping and modeling to understand both the water holding potential and beaver habitat suitability of selected areas. The Committee recognizes that easements would be purchased on a voluntary basis and that certain areas of the WRIA need to be protected for drinking water.
2. **Education & outreach:** The Committee recommends a partnership between local organizations to develop and implement an education and outreach program to landowners regarding beavers and beaver management. The partners could also reach out to entities to address known concerns (e.g., tree loss, hazard trees, encroaching on farmland, change of vegetation, flooding) associated with beavers and discuss management options.
3. **Monitoring & research:** The Committee recommends developing a monitoring program for beaver habitats which may including collecting information on fish passage, groundwater levels, vegetation types, permits, BDA vs natural beaver habitat. Streamflow and habitat

benefits should be quantified where possible to help define the benefit from a surface water / habitat perspective (e.g, temperature, streamflows, salmon, riparian vegetation, etc.). Implementing entities could include local jurisdictions, Tribes, federal or state agencies.

Purpose: Beaver habitat can provide benefits to streamflows. A multi-faceted approach would provide additional tools for jurisdictions and landowners to help manage beavers.

Funding source: Funding is needed either through legislative appropriations, grants, pooling of resources by committee members and other stakeholders, or other means.

11. Financing

Proposed implementing entity: Legislature and/or Committee Members or other stakeholders

Recommendation: The WRIA 15 Committee recommends the Legislature provides funding for plan implementation, monitoring and adaptive management of the plan, including:

- Annual tracking of new PE wells and project implementation by subbasin.
- Staffing for the ongoing committee.
- Ongoing committee member participation; and
- Developing a process to adaptively manage implementation if NEB is not being met as envisioned by the watershed plan (e.g. identification and development of alternative projects, etc.).

If necessary, the Committee may also recommend additional funding, including grants, fees, shared contributions from members and other stakeholders, and other sources that may emerge.

Purpose: Plan implementation is key to success and it will take ongoing funding.

Funding source: Legislature or others.

6.2 Adaptive Management Recommendations

The WRIA 15 Committee recommends an adaptive management process for implementation of the WRIA 15 watershed plan. Adaptive Management is defined in the Final NEB Guidance as "*an interactive and systematic decision-making process that aims to reduce uncertainty over time and help meet project, action, and plan performance goals by learning from the implementation and outcomes of projects and actions"* (Ecology, 2019b).

Adaptive management will:

- Help address uncertainty.
- Ensure that the goals of this plan are being met.
- Provide more reasonable assurance for plan implementation.

- Provide information to improve implementation of streamflow restoration projects and actions.
- Track implementation costs and developing grant funding opportunities; and
- Adaptively manage emerging plan implementation needs.

To support implementation of the watershed plan, RCW 90.94 includes a statement on the legislatures intent. RCW 90.94 Intent—2018 c 1: "The legislature intends to appropriate three hundred million dollars for projects to achieve the goals of this act until June 30, 2033. The department of ecology is directed to implement a program to restore and enhance streamflows by fulfilling obligations under this act to develop and implement plans to restore streamflows to levels necessary to support robust, healthy, and sustainable salmon populations." [2018 c 1 § 304.]"

Commented [VMSJ(33]: This section of the law included at the request of Skokomish Tribe, with support from the committee. Included in AM section as opposed to introduction. Please let me know if appropriate.

1. Project, Policy, and Permit-Exempt Well Tracking

The WRIA 15 Committee recommends tracking the growth of permit-exempt (PE) wells in the watershed as well as the projects and policies that were planned to offset the impacts of these PE wells. This data will allow the Committee to determine whether planning assumptions were accurate and whether adjustments to plan implementation are needed.

A. The WRIA 15 Committee recommends tracking the following information on an ongoing basis:
   - New building permits issued that include permit-exempt wells.
   - Status of implementation for each project included in the plan.
   - Status of policy recommendations included in the plan.
   - An ongoing list of new PE wells in the WRIA since the enactment of RCW 90.94.
     - The lists of building permits and projects will be organized by subbasin, and if feasible represented on a map that includes subbasin delineations. Counties are encouraged to provide parcel or other geographic information in their reports to Ecology to support mapping by subbasin.

B. To assess the status of project implementation, the Committee recommends using the Salmon Recovery Portal (https://srp.rco.wa.gov/about), managed by the Washington State Recreation and Conservation Office (RCO), to support project tracking.
   - The Washington Department of Fish & Wildlife (WDFW), in collaboration with the Washington Department of Ecology and RCO, will coordinate the implementation of project tracking through the Salmon Recovery Portal.
   - Project sponsors are expected to support project tracking efforts and data sharing.
   - Local salmon recovery Lead Entity Coordinators will not be expected to provide ongoing support for project entry, maintenance, or reporting. To improve harmonization of streamflow restoration with ongoing salmon recovery efforts, local salmon recovery Lead Entity Coordinators will be consulted prior to initial data uploads.

- University of Washington data stewards, contracted by WDFW, will conduct data entry, quality assurance, and quality control. If this approach changes, WDFW will propose an alternative method for completing this task.
- Entities with representation in the WRIA 15 Committee (or an implementation group, if created) are encouraged to assist as needed with coordination, data gathering and input, and tracking.

Table x summarizes the entities responsible for implementing the tracking and monitoring recommendation and associated funding needs.

Table 20. Implementation of Tracking and Monitoring Recommendation

Action	Entity or Entities Responsible	Funding Considerations
Track building permits issued with PE wells.	Ecology (via reporting from counties and cities).	The number of building permits and associated fees are transmitted to Ecology annually. No additional funding is needed.
Maintain an ongoing list and map of new PE wells within each sub-basin.	Ecology	Information included with data on new PE wells, provided by local governments. No additional funding is needed.
Maintain a summary of the status of implementation for each project.	Ecology via the Salmon Recovery Portal, with support from WDFW, RCO, and project sponsors	WDFW may need additional funding to support maintaining the Salmon Recovery Portal.
Maintain a summary of the status of each policy recommendation.	*[to be completed after policy recommendations are finalized]*	*[to be completed after policy recommendations are finalized]*

2. Reporting and Adaptation

The Committee recommends that Ecology provides the data collected above to all entities represented on the committee and other interested parties through annual reporting and a self-assessment as described below. These reports and assessments will help determine whether the plan's recommendations are being implemented and whether they are having the intended impacts.

A. The WRIA 15 Committee recommends annual reporting as follows:
   - By September of each year, Ecology will prepare an annual report that includes:
     - A list of total building permits issued in the prior calendar year along with the total number of associated new domestic PE wells, using the information provided to Ecology by the local jurisdictions.

957 - A brief description of the status of WRIA 15 projects and actions included in
958 this plan (descriptions may be drawn from the Salmon Recovery Portal, if
959 available).
960 - If the project as implemented differs significantly from the original
961 description and assumptions included in the plan, the annual report
962 will also include an estimate of changes to the offset benefit.
963 - Other implementation actions to date, including any changes in approach
964 since the last report and any challenges identified that
965 may require adaptation in plan implementation.
966 - The lists of building permits and projects will be organized by subbasin, and if
967 feasible represented on a map that includes subbasin delineations. Counties
968 are encouraged to provide parcel or other geographic information in their
969 reports to Ecology to support mapping by subbasin.
970 • The first annual report should include an estimate of expenses necessary for plan
971 implementation and associated funding options. Funding options could include:
972 - Local or state fees, including PE well fees
973 - Grants
974 - State funding
975 - Other options
976 • Ecology will share the report with Committee members and other interested
977 parties.
978
979 B. The WRIA 15 Committee recommends preparing a self-assessment every five years as
980 follows:
981 • By September of 2026, and every five years thereafter during the planning
982 horizon period, Ecology will compile and report based on available information
983 from previous reports and partners:
984 - All cumulative information required in the annual report.
985 - Estimated water offset quantities, consumptive use, and instream flow
986 benefits, realized through implementation of projects and
987 actions identified in this plan.
988 - A comparison of each item above to the original assumptions included in
989 the plan and a summation of overall ecological benefit (i.e., greater than
990 expected, less than expected, or about the same as expected).
991
992 C. The WRIA 15 Committee believes a group of engaged stakeholders and tribal
993 representatives are needed to continue collaboration on the implementation of this
994 plan. The Committee recommends continuing to meet as needed, with participation
995 from all interested WRIA 15 representatives.
996 • Interested WRIA 15 Committee members, or a new implementation group if
997 established, will convene annually via telephone to:
998 - Review and discuss the annual report.
999 - Share updates on project and policy implementation.

  - Discuss or develop recommendations for revisions, additions, or deletions to planned projects or actions.
- Every five years interested WRIA 15 Committee members, or a new implementation group if established, will hold a series of meetings to conduct the self-assessment, which includes:
  - Reviewing the five-year assessment report from Ecology.
  - Developing recommendations to adapt projects and actions to meet NEB.
  - Updating data and assumptions.
  - Other items identified by Committee members.
- Additional meetings may be scheduled as needed.
- Members should consider:
  - Self-organizing and identifying an organization to coordinate and facilitate meetings.
  - Redefining the WRIA 15 Committee, which could include a new name, charter, and supporting interlocal agreement.
  - Identifying funding mechanisms to provide capacity for the Committee members and facilitator.

Table x summarizes the entities responsible for carrying out the reporting and adaptation recommendation and associated funding needs.

Table 21. Implementation of Reporting and Adaptation Recommendation

Action	Entity or Entities Responsible	Funding Considerations
Annual Reports	• Local jurisdictions provide building permit information to Ecology. • Ecology compiles information on project status, drawn from the Salmon Recovery Portal. • Entities provide monitoring data to Ecology for inclusion in reports. • Ecology combines monitoring data from within the agency with data provided by other entities. • Ecology compiles information into a single report for distribution to the Committee and other interested parties.	• Local jurisdictions are already required to provide building permit information to Ecology (no additional funding needed). • Ecology staff would compile reports using existing resources. • WDFW may need additional funds to manage the Salmon Recovery Portal.
Five-Year Self-Assessment:	• Local jurisdictions provide building permit information to Ecology.	• Local jurisdictions are already required to provide building permit

Action	Entity or Entities Responsible	Funding Considerations
	• Ecology compiles information on project status, drawn from the Salmon Recovery Portal. • Entities provide monitoring data to Ecology for inclusion in reports. • Ecology combines monitoring data from within the agency with data provided by other entities. • Ecology prepares estimates of the quantity of water, instream flow, and habitat benefits realized through implementation of projects and actions identified in this plan. • Ecology compiles information into a single report for distribution to Committee and other interested parties. • WRIA 15 Committee convenes to prepare adaptation recommendations on changes to planned projects or actions.	information to Ecology (no additional funding needed). • Ecology may need funding to complete the estimate of realized benefits. • State funding or staff support will be needed to reconvene a group to prepare recommendations. • Committee members who cannot participate in meetings using existing resources will need additional funding.

3. Funding

The WRIA 15 Committee recommends ongoing implementation oversight and a process to adaptively manage the plan as new information emerges. The Committee recommends the Legislature provides funding for monitoring and adaptively managing the plan, including:

- Annual tracking of new PE wells and project implementation by subbasin.
- Staffing for the ongoing committee.
- Ongoing committee member participation; and
- Developing a process to adaptively manage implementation if NEB is not being met as envisioned by the watershed plan (e.g. identification and development of alternative projects, etc.).

Table x summarizes the entities responsible for carrying out this recommendation and associated funding needs.

Table 22. Summary of WRIA 15 Adaptive Management Funding Recommendation.

Action	Entity or Entities Responsible	Funding Considerations

Funding of Adaptive Management	Legislature	The legislature should provide funding and authorize plan implementation to adaptively manage implementation if NEB is not being met as envisioned by the watershed plan.

1037

6.3 Other Issues and Recommendations

1. Assurance of Plan Implementation

Commented [VMSJ(34]: For discussion with committee.

By approving this plan, WRIA 15 Committee members commit to the following actions to support watershed plan implementation:

Department of Ecology

WA Dept of Fish & Wildlife

King County

Kitsap County

Pierce County

Mason County

City of Bremerton

City of Port Orchard

City of Bainbridge Island

City of Gig Harbor

Kitsap Public Utility District

Kitsap Conservation District

Kitsap Building Association

Great Peninsula Conservancy

Skokomish Tribe

Squaxin Island Tribe

Suquamish Tribe

Puyallup Tribe

Port Gamble S'Klallam Tribe

2. Summary of Ecology Rulemaking

[Insert cross reference to any recommendation in the plan that will require rulemaking.]

3. Summary of Legislative Requests

[Insert cross reference to any recommendation in the plan that will require legislative action.]

Chapter Seven: Net Ecological Benefit Evaluation

7.1 Water Offsets

The WRIA 15 Committee projects that a total of 5,568 new PE wells will be installed within WRIA 15 during the planning horizon resulting in an estimated 766.4 AF/yr of new consumptive water use in WRIA 15. However, the Committee sought projects to offset at least 1,218 AF/yr, a conservative offset target that reflects use of the high growth projection combined with the 95% upper confidence limit of the average measured irrigated area with adjustments for parcels with no discernable irrigated acreage in aerial photos (results in an average irrigated area of 0.12 acres per well). This additional factor of safety ensures offsets are met and streams are benefited. Although there was not consensus around the higher number, the committee agreed that reaching an offset target of 1218 AF/yr would be beneficial to streams.

The projects identified in this plan are consistent with the project type examples listed in the Final NEB Guidance: (a) water right acquisition offset projects; (b) non-acquisition water offset projects; and (c) habitat and other related projects (Ecology, 2019b). Chapter 5 presents projects in the following four categories:

I. Water right acquisition offset projects and non-acquisition water offset projects that are ready to proceed. These projects provide a quantitative streamflow benefit.

II. Projects that provide habitat and streamflow benefits, but streamflow benefits are difficult to quantify.

III. Projects that primarily benefit habitat.

IV. Projects that currently are not implementable (e.g. legal restriction) or are highly conceptual.

Projects in Category I are described in Chapter 5 and used to estimate a total water offset For WRIA 15. Projects in Categories II-IV are presented in the project inventory in Appendix G. The WRIA 15 Committee recommends implementation of projects in Chapter 5 as well as in Appendix G in order to meet the offset need and NEB for WRIA 15.

The WRIA 15 Committee projects a total water offset of 1071 AF/year from Category I water offset projects (described in Chapter 5 and listed in Table x), a surplus offset of 304.7 AF/yr above the consumptive use estimate and 146.9 AF/yr below the higher offset target. [Through this comparison, the WRIA 15 Committee has determined that this plan succeeds in offsetting consumptive use impacts at the WRIA scale.]

Commented [VMSJ(35]: DRAFT placeholder text. Will need further development once projects are finalized.

Commented [VMSJ(36]: Is this an appropriate framing of the numbers for the NEB chapter?

Commented [VMSJ(37]: We will revise these numbers and statements as project list is finalized. Is this the appropriate way to frame meeting the 1218 higher goal?

Commented [LDW38]: Assuming you find a few more projects to meet the 1218 number in order to meet the higher target.

Table x. Summary of WRIA 15 Water Offset Projects (Category I) included in NEB analysis [1]

Subbasin	Project Name	Project Short Description	Tributary Benefit	Estimated Offset Benefits (AF/YR)
West Sound	Kingston WTP Recycled Water	Use recycled water for irrigation on a golf course and infiltrate groundwater to improve streamflow.	Grovers Creek	262.4
West Sound	Community Forest Package	Acquire forest lands or change forest management practices to preserve stands or emphasize a longer harvest interval. Target is 50 acres.	Varies	7
West Sound	Central Kitsap Water Treatment Plant Recycled Water	Use recycled water to infiltrate near Newberry Road. Could benefit West Sound and North Hood Canal subbasins.	Possible benefits to Johnson, Wildcat, and Chico creeks	83.5
West Sound	KCD Rain Gardens and LID Applications	Install residential raingardens and LID projects to infiltrate water from existing impervious surfaces	Varies	36
North Hood Canal	Silverdale Water District Recycled Water (includes Asbury Parcel)	Use recycled water to infiltrate near Newberry Road. Could benefit West Sound and North Hood Canal subbasins.	Possible benefits to Little Anderson, Anderson and Big Beef creeks.	167
North Hood Canal	Community Forest Package	Acquire forest lands or change forest management practices to preserve stands or emphasize a longer harvest interval. Target is 500 acres.	Varies	70
North Hood Canal	KCD Rain Gardens and LID Applications	Install residential raingardens and LID projects to infiltrate water from existing impervious surfaces.	County-wide: Kitsap County	36

South Hood Canal	Raingarden and LID Projects	Install residential raingardens and LID projects to infiltrate water from existing impervious surfaces	County-wide: Mason County	36
South Hood Canal	Tahuya River MAR	Managed Aquifer Recharge	Tahuya	20
South Hood Canal	Community Forest Package	Acquire forest lands or change forest management practices to preserve stands or emphasize a longer harvest interval. Target is 500 acres.	Bear Creek and Others	70
Bainbridge Island	M & E Farms Storage	Managed Aquifer Recharge	Manzanita Creek	9
Bainbridge Island	Miller Rd	Managed Aquifer Recharge	Manzanita Creek	10
Bainbridge Island	Water Right Acquisition Package	Acquire water rights	Manzanita Creek	75
Bainbridge Island	Community Forest Package	Acquire forest lands to preserve stands. 22.85 acres identified.	Springbrook Creek	3.2
Bainbridge Island	KCD Raingarden and LID Projects	Install residential raingardens and LID projects to infiltrate water from existing impervious surfaces	County-wide: Kitsap County	9
South Sound	MAR Package including: • Port Orchard Airport MAR • Belfair WWTP MAR • Coulter Creek Heritage Park MAR • Minter Creek MAR	Managed Aquifer Recharge	Multiple Streams and Creeks	23

	• Rocky Creek between Wye and Koeneman Lakes MAR			
South Sound	Raingarden and LID Projects	Install residential raingardens and LID projects to infiltrate water from existing impervious surfaces	County wide: Pierce , Kitsap Counties	36
South Sound	Community Forest Package	Acquire forest lands or change forest management practices to preserve stands or emphasize a longer harvest interval. Target is 500 acres.		70
Vashon-Maury	Beall Creek Stream Restoration	Water management to improve streamflow in Beall Creek	Beall Creek	26
Vashon-Maury	Water Right Acquisition Package	Acquire property and water rights, could benefit multiple streams	Island Wide	28
Vashon-Maury	Judd Creek MAR	Managed Aquifer Recharge	Judd Creek	2
South Sound Islands	Community Forest Package	Acquire forest lands or change forest management practices to preserve stands or emphasize a longer harvest interval. Target is 50 acres.		7
		TOTAL Project Offsets for WRIA 15		1071.1
		Consumptive Use Estimate for WRIA 15		766.4
		Higher Offset Target for WRIA 15		1218

[1]All projects in Table 1 have a high certainty of implementation – Category I

Commented [VMSJ(39)]: Is this the appropriate way to refer to this number?

Consumptive use and the higher offset target are compared to project offsets at the subbasin scale in Table x. Surplus water offset is achieved in a total of 2 subbasins (North Hood Canal and West Sound). When looking at the higher offset target, a deficit in water offset occurs in a total

of 5 subbasins (Bainbridge Island, South Sound Islands, South Hood Canal, South Sound and Vashon-Maury Island). See Figure __ in Chapter 5 for a map of water offset projects by subbasin.

Commented [VMSJ(40]: Will be in Exec Summary – do we want to include in Chapter 5 as well?

Table x. Subbasin Water Offset Totals from Category I Projects Compared to Permit-Exempt Well Consumptive Use Estimates and Offset Targets

Subbasin	Offset Project Totals (AF/YR)	Permit-Exempt Well Consumptive Use (AF/YR)[1]	CU Estimate Surplus/ Deficit (AF/YR) [3]	Higher Offset Target – (AF/YR) [2]	Higher Target Surplus/ Deficit (AF/YR)[3]	Coun
Bainbridge Island	91.2	67.9	23.3	107.9	-16.7	Kitsa
South Sound Islands	7	5.2	2.8	8.3	-1.3	Pierce
North Hood Canal	273	90.3	182.7	143.5	+129.5	Kitsap
South Hood Canal	126	155.0	-29	246.3	-120.3	Kitsap and Mason
South Sound	129	213.8	-84.8	339.8	-210.8	Pierce and Kitsap
Vashon - Maury Island	56	50.7	5.3	80.6	-24.6	King
West Sound	388.9	183.9	205	292.3	+96.6	Kitsap
WRIA 15 Total	**1071**	**766**	**305**	**1218**	**-147**	

Commented [RM41]: Are these numbers calculated directly from the high growth projection – eg., the high growth projection and .12 acres/well irrigated area?? I calculated these numbers as a direct ratio from the totals: PE Consumptive use * 1.6 = offset target. I don't know if the high growth projections are linear so please review

Notes:

[1] Values in table have been rounded, which is why totals may differ. AF/Yr in 2038

[2] Offset Target is equivalent to PE consumptive use associated with high growth scenario and increased irrigated acreage to reflect uncertainty in estimates

[3] Surplus water offset is associated with a positive value and a deficit in water offset is associated with a negative value. Surplus and Deficit equal to Offset Project Totals less Offset Target.

The water offset projects listed in Table x provide additional benefits to instream resources beyond those necessary to offset the impacts from new consumptive water use within the

WRIA. For the project types planned in WRIA 15, additional benefits could include the following:

- Water right acquisition projects: Aquatic habitat improvements during key seasonal periods; reduction in groundwater withdrawals and associated benefit to aquifer resources; and/or beneficial use of reclaimed water.
- MAR projects: Aquatic habitat improvements during key seasonal periods; increased groundwater recharge; reduction in summer/fall stream temperature; increased groundwater availability to riparian and near-shore plants; and/or contribution to flood control.
- Community Forests Projects: - (add potential habitat benefits)
- Recycled water infiltration projects: – (add potential habitat benefits)
- Raingarden and LID, projects: - (add potential habitat benefits)

Commented [LDW42]: Bob/Stacy, please address from project descriptions

7.2 Habitat Benefits

The WRIA 15 watershed plan includes an inventory of additional projects to meet the offset needs and NEB for the watershed. The remaining categories include the following:

II. Projects that provide habitat and streamflow benefits, but streamflow benefits are difficult to quantify.

III. Projects that primarily benefit habitat.

IV. Projects that currently are not implementable (e.g. legal restriction) or are highly conceptual.

The projects include habitat restoration and protection, stream augmentation, riparian restoration, reclaimed water expansion, storage, and other project types. Table x summarizes the habitat benefits of Category II and III projects that are described in further detail in Chapter 5 and Appendix G. The number and distribution of habitat improvement projects by subbasin is also shown in Table x in Chapter 5.

A total of 23 Category II and III habitat improvement projects are included within the plan, as summarized in Table 4 and shown in Figure __ in Chapter 5. Habitat improvement attributes associated with these projects include a combination of aquatic habitat restoration and protection, stream augmentation, riparian restoration, reclaimed water expansion, managed aquifer recharge, stormwater management and other types of projects.

These projects provide additional benefits to instream resources that, together with direct water offsets, are beyond those necessary to offset the impacts from new consumptive water use within the WRIA. These additional benefits include increased hydraulic/aquatic habitat diversity, restored native vegetation, restored water temperature, erosion abatement,

improved spawning and rearing habitat, improved passage, and water quality benefits, among others.

Add Additional Text to Further Addressing Limiting factors here

Highest priority for freshwater areas such as Chico, Minter, Rocky Creeks is to protect and/or restore hydrologic and riparian functional integrity. In Hood Canal subbasins, the loss of channel complexity, lack of riparian forest and high water temperatures in Union and Tahuya Creeks are of most concern. While in Creeks such as Dewatto, Anderson and Big Beef, loss of floodplain habitat and channel complexity, hydrologic regime, and channel instability and erosion are the most limiting for species recovery.

Commented [LDW43]: Please review in context of projects in Table 4

Commented [LDW44]: Limiting factors include:
- Channel and streambed degradation
- Increased peak flows
- Low streamflow
- Loss of upland forest cover
- Loss of riparian forest
- Loss of floodplain connectivity and habitats
- Degradation of wetland and shoreline habitats
- Conversion of wetlands to open water habitats
- Fish passage barriers
- Lack of large wood
- Fine sediment

Commented [VMSJ(45]: Tables below- need to populate final column then will further develop limiting factors section.

Table x Summary of Category II and III WRIA 15 Habitat Improvement Projects included in NEB Analysis

Category	Subbasin	Project Name	Project Short Description	Project Location/ River Reach Benefitted	Benefits with Quantifiable Metric	Limiting Factor(s) Addressed
III	Bainbridge Island	Fletcher Stream Restoration	Reconnect side channel habitat and minor flood plain restoration. (Part of a larger barrier removal project.)	47°38'35.0" N 122°34'02.5 "W	Floodplain/Wetland Habitat no Offset	
II	North Hood Canal	Big Beef Creek Restoration	Restore wetlands, floodplain, and riparian along this ditched segment of upper Big Beef Creek. Acquisition likely needed.	Upper Big Beef Creek - Multiple Parcels (hidden for privacy)	Habitat with Offset	

Category	Subbasin	Project Name	Project Short Description	Project Location/ River Reach Benefitted	Benefits with Quantifiable Metric	Limiting Factor(s) Addressed
II	North Hood Canal	Grovers Creek and Leyman Wetland Restoration	Stream channel and wetland restoration are proposed on 1,600 feet of Grovers Creek and 10 acres of wetlands. Two parcels owned by the Robinson and Duncans were historically farmed, reed canary grass established and stream channel ditched. Funding for final design and construction are needed.	Robinson and Duncans parcels	Floodplain/Wetl and Habitat with Offset 1600 ft of stream restoration; 10 acres wetland	The project will improve fish passage, establish wetland and riparian vegetation, enhance water infiltration and improve floodplain function. BENEFITs Coho, Chum, steelhead and cutthroat habitat.
II	North Hood Canal	Hansville Wetland Enhancement	Degraded wetland could be restored.	Hansville	Floodplain/ Wetland Habitat with Offset	

Category	Subbasin	Project Name	Project Short Description	Project Location/ River Reach Benefitted	Benefits with Quantifiable Metric	Limiting Factor(s) Addressed
II	South Hood Canal	Tahuya Headwaters	Purchase of fee and/or easment of up to 3 miles of riparian corridor in the upper Tahuya River and tributaries. Floodplain restoration including potential for LWD placement and BDA. Currently under one timberland owner.	Tahuya River (South Kitsap) and tributaries	Conservation Habitat with Offset Up to 3 miles of protection Floodplain restoration – potential for LWD placement	
II	South Sound	Coulter Creek Protection	Coulter Creek. Protection (acquisition of fee or easement) of riparian buffer and floodplain restoration of 3-5 mile riparian corridor owned by single landowner.	Coulter Creek	Preservation Habitat with Offset	

Category	Subbasin	Project Name	Project Short Description	Project Location/ River Reach Benefitted	Benefits with Quantifiable Metric	Limiting Factor(s) Addressed
III	South Sound	Gig Harbor Golf Club Artondale Creek Habitat Improvement	A portion of Artondale Creek and approximately 2 acres of the floodplain would be restored by replacing two existing bridges to open up the floodplain and plantings to increase shade, improve instream habitat, reduce stream temperature, and improve riparian buffers and upland habitat conditions. The restoration project may also be extended downstream if needed to improve fish passage to the project site. The project is located in the South Sound subbasin of WRIA 15 on the Gig Harbor Peninsula.	Artondale Creek	Habitat with Offset	
III	South Sound	Rocky Creek Protection and Riparian Buffer	Rocky Creek. Protection (acquisition of fee or easement) of riparian buffer and floodplain restoration of ~4 mile riparian corridor owned by single landowner.	Rocky Creek	Habitat no Offset	

Category	Subbasin	Project Name	Project Short Description	Project Location/ River Reach Benefitted	Benefits with Quantifiable Metric	Limiting Factor(s) Addressed
II	South Sound Islands	Schoolhouse Creek Restoration	The Anderson Island Parks District and Pierce County has been working on this Creek for many years. The County replaced two culverts in 2013. There are two remaining barriers on County road that the County is seeking funding from the fish barrier removal board for and one partial barrier on a private road. The Parks District has also been looking for funding to creek meandering and wetland restoration on a section of creek that was previously ditched and used for agriculture.	Anderson Island, Schoolhouse Creek	Habitat with Offset	
II	South Sound Islands	East Oro Bay Barrier Removal	There is an earthen dam that impounds the top of the estuary in East Oro Bay.	Anderson Island, East Oro Bay near Jacobs Point Park	Habitat with Offset	
II	West Sound	Mid Olalla Creek Floodplain/Wetland restoration	Restore wetlands, floodplain, and riparian along this segment of Olalla Creek that has been ditched and drained. Acquisition likely needed also.		Habitat with Offset	

Category	Subbasin	Project Name	Project Short Description	Project Location/ River Reach Benefitted	Benefits with Quantifiable Metric	Limiting Factor(s) Addressed
II	West Sound	Ruby Creek Restoration	Approximately .44 miles of stream will be enhanced by excavating reed canary grass from the channel which is also inhibiting fish passage in this stream section. Installation of LWD, excavation of planting mounds and riparian planting are also proposed. The overall project involves restoration and enhancement of 11.7 acres of stream and wetland habitat. Chum, Coho, cutthroat trout and steelhead are documented in this reach of Ruby Creek. Design is complete and funding is needed for construction. Part of a larger fish barrier removal project.		Habitat with Offset	

Category	Subbasin	Project Name	Project Short Description	Project Location/ River Reach Benefitted	Benefits with Quantifiable Metric	Limiting Factor(s) Addressed
II	West Sound	Dogfish Creek Wetland Restoration	This project involves enhancement of 2,832 feet of Dogfish Creek and enhancement of 24 acres of mapped wetland. The 80 acres owned by Malone was historically farmed, reed canary grass established and stream channel ditched. The project will enhanced beaver activity and establish wetland and riparian vegetation. This project will also improve stream flow and floodplain function. This project will benefit Coho, Chum, steelhead and cutthroat habitat. Funding for restoration design has been obtained and preliminary design is in progress. Funding for final design and construction are needed. Part of a larger fish barrier removal project.		Habitat no Offset	

Category	Subbasin	Project Name	Project Short Description	Project Location/ River Reach Benefitted	Benefits with Quantifiable Metric	Limiting Factor(s) Addressed
II	West Sound	Lower Blackjack Creek Subbasin Restoration and Remediation Actions	This project proposes restoration and remediation of stream corridor habitat within the lower Blackjack Creek Subbasin as a subset of the Foster Pilot program within WRIA 15. Each restoration and remediation action has been identified and vetted by the Suquamish Tribe in their Blackjack Creek Watershed Protection and Restoration Plan composed in December, 2017.		Habitat with Offset	
II	West Sound	Clear Creek Wetland and Floodplain Restoration			Habitat with Offset	

Category	Subbasin	Project Name	Project Short Description	Project Location/ River Reach Benefitted	Benefits with Quantifiable Metric	Limiting Factor(s) Addressed
II	West Sound	Lower Blackjack Creek Infrastructure Removal and Habitat Remediation	Assess the feasibility, perform due diligence, then construction/remediation of infrastructure in Blackjack Creek. This is part of the WRIA 15 Foster Pilot program. Projects include: 1. Rehabilitating an existing water main crossing over the creek by directionally drilling the water main to cross underneath the creek and removing the old infrastructure 2. Cleaning up debris from abandoned transient camps and replanting 3. Update old storm drainage to creek/tributary with LID principles		Habitat with Offset	

Category	Subbasin	Project Name	Project Short Description	Project Location/ River Reach Benefitted	Benefits with Quantifiable Metric	Limiting Factor(s) Addressed
II	West Sound	Blackjack Watershed Protection & Restoration Feasibility Plan	This project will build on the 2017 "Blackjack Creek Watershed Assessment, Protection, and Restoration Plan", and identify the highest priority tax parcels for protection or restoration based on a systematic evaluation of their value to salmon recovery. This evaluation will include a literature review of existing studies and GIS desktop analysis to identify the riparian and wetland habitats with the most value to salmon, highest connectivity to other salmon habitat, and greatest threat of development. The project will use this evaluation to rank parcels, and conduct outreach to landowners of the highest ranked parcels.		Habitat with Offset	
III	West Sound	Salmonberry Creek and Wetland Protection Project	Great Peninsula Conservancy (GPC) will protect 90 acres of riparian, wetland, and fish habitat through purchasing a conservation easement on property on Salmonberry Creek in Kitsap County. Salmonberry Creek is located in an ESSB 6091 prioritized basin (WRIA 15), and contains Endangered Species Act-listed steelhead trout.		Habitat no Offset	

Category	Subbasin	Project Name	Project Short Description	Project Location/ River Reach Benefitted	Benefits with Quantifiable Metric	Limiting Factor(s) Addressed
III	West Sound	Floodplain Restoration Upstream of Navy RR Trestle	This action will aim to restore floodplain connectivity, riparian processes, and instream habitat conditions. Restoration actions should focus on removal of artificial fill along the abandoned road grade constricting the channel at RS 11100, restoring riparian forest conditions, and targeted wood placements to increase channel complexity and restore natural stream grade. Restoration of riparian processes will require negotiation of conservation easements or acquisition of the streamside parcel along the northern (left) bank. The parcel totals 6 acres and has an assessed value of $240,000 per 2012 tax records. This action is constrained, in part, by channel confinement at the Navy RR trestle. The channel reach upstream of this segment flows through parcels that are part of the Mountaineers Foundation Rhododendron Preserve, where riparian conditions are more intact, instream wood is more abundant, and a broader floodplain exists due to the lack of bank protection.		Habitat with Offset	

Category	Subbasin	Project Name	Project Short Description	Project Location/ River Reach Benefitted	Benefits with Quantifiable Metric	Limiting Factor(s) Addressed
III	West Sound	Curley Creek Acquisition	This project will build upon work done through the SRFB Curley Creek Estuary Acquisition and Curley Creel Feasibility study. Project will acquire highest quality remaining Chinook and steelhead habitat available on lower Curley Creek.		Habitat no Offset	
III	West Sound	Instream Habitat Enhancement at the Confluence with Chico Creek	Large wood placements to create additional complexity near the tributary confluence will improve habitat conditions in the near term while concurrent efforts to set back constraints to floodplain processes can be implemented.		Habitat no Offset	

Category	Subbasin	Project Name	Project Short Description	Project Location/ River Reach Benefitted	Benefits with Quantifiable Metric	Limiting Factor(s) Addressed
III	West Sound	Grovers Creek Protection Phase II	Great Peninsula Conservancy's Lower Grovers Creek Habitat Protection Project aims to protect and restore 10.5 acres of riparian and wetland habitat along Grovers Creek and Miller bay in north Kitsap County for the benefit of people, salmon, and other wildlife. This project includes two properties in the Grovers Creek Watershed of north Kitsap County, including the 1.5-acre Tucker property and 9-acre Grovers Creek Durham Preserve Project owned by GPC. The Puget Sound Nearshore Ecosystem Restoration Project has prioritized the Grovers Creek Watershed as a "Protect High" watershed under its Coastal Inlet Strategy due to the fact that it remains relatively undeveloped.		Habitat no Offset	

Category	Subbasin	Project Name	Project Short Description	Project Location/ River Reach Benefitted	Benefits with Quantifiable Metric	Limiting Factor(s) Addressed
III	West Sound	Curley Creek prioritized restoration	In November 2017 the Suquamish Tribe released a completed watershed assessment and protection and restoration plan for Curley Creek, one of the three high priority freshwater streams in the East Kitsap shoreline. This Near Term Action proposes to use this plan to work with partners to identify which of the high priority protection and restoration actions are feasible to move forward to implementation and then to carry out that work.		Habitat no Offset	

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7.3 Adaptive Management

The WRIA 15 Committee has recommended adaptive management measures in the plan for the purpose of addressing uncertainty in plan implementation (See Chapter 6.2). Adaptive management measures include annual PE well tracking and reporting, recommended monitoring and research, project implementation tracking, and watershed plan implementation reporting. These measures, in addition to the surplus water offset, policy and regulatory measures, and supplemental habitat improvement projects described above, provide reasonable assurance that the plan will adequately offset new consumptive use from PE wells anticipated during the planning horizon.

7.4 NEB Evaluation Findings

The WRIA 15 watershed plan is intended to provide a path forward for offsetting both an estimated 766.4 AF/year of new consumptive water use and a more conservative offset target of 1218 AF/yr developed to account for uncertainties in the consumptive use estimate in WRIA 15. The plan primarily achieves this offset through a total of __ water offset projects with a cumulative offset projection of ____ AF/year. This projected total water offset yields a surplus offset of ____ AF/YR above the consumptive use estimate of 766 AF/yr and a surplus/deficit of ___ above/below the more conservative offset target of 1218 AF/yr in WRIA 15.

Within this plan, water offset projects are complimented by a total of 23 habitat improvement projects, which provide numerous additional benefits to aquatic and nearshore habitat. While many of these habitat improvement projects have potential streamflow benefits, the WRIA 15 Committee chose to exclude any associated water offset from the plan's accounting due to uncertainty in quantifying the benefit. Water offset projects are further complimented by the policy and regulatory recommendations addressed in Chapter 6.

The WRIA 15 Committee has additionally recommended adaptive management measures to provide reasonable assurance that the plan will adequately address new consumptive use impacts anticipated during the planning horizon, despite inevitable challenges that will arise during project implementation, operation, and maintenance.

Based on the information and analyses summarized in this plan and the assumption that projects in the plan will be implemented, the WRIA 15 Committee finds that this plan achieves a net ecological benefit, as required by RCW 90.94.030 and defined by the Final NEB Guidance (Ecology, 2019b).