



**CITY OF EDGEWOOD
COUNCIL STUDY SESSION AGENDA**

Tuesday, February 16, 2021 – 7:00 PM ♦ City Hall – 2224 104th Avenue East ♦ Edgewood, WA

1. CALL TO ORDER

Roll Call, Pledge of Allegiance

2. COUNCIL BUSINESS

A. Joint Commission & Board Meeting Items:

Parks and Recreation Advisory Board - 2021 Work Plan

Economic Development Advisory Board - 2021 Work Plan

Planning Commission - 2021 Work Plan

B. Discussion – Development Review

C. Discussion – Equity, Diversity and Inclusion (Trainings, Planning, etc.)

D. Discussion – Resolution - WRIA 10 Watershed Restoration and Enhancement Plan

E. Discussion – Hedden Intersection Safety Improvements

F. Discussion – 36th & Meridian Park Naming

G. Discussion – Resolution – City Logo and Usage Standards

H. Discussion – Resolution – Council Rules of Procedure Amendments to provide for Council Liaisons to COE Boards and Commissions and Virtual Meetings

I. Discussion – Resolution – External Boards, Commissions and Council Liaisons to City of Edgewood Boards and Commissions Appointments

J. Discussion - Ordinance - 2021 Budget Amendment

3. OTHER COUNCIL ITEMS

4. ADJOURN

Study Sessions are meetings for Council to review upcoming and pertinent business of the City, no action is taken by the City Council. Study Sessions are open to the public, but public input is reserved for the regular Council meetings



City Of Edgewood Council Agenda Summary Sheet

Subject: Joint Commission & Board Meeting Items:	Agenda Item #: 2.A
	For Agenda of: 2/16/2021
	Prepared by: Darren Groth, Jeremy Metzler
Attachments (list):	
Approval of Materials: Darren Groth, Jeremy Metzler	Expenditure Required:
	Amount Budgeted:
	Timeline:

Summary Statement:

The Planning Commission, Economic Development Advisory Board and Parks and Recreation Advisory Board will be presenting their 2021 Work Plans to Council.

Item History:**Recommended Action:****Fiscal Note/Consideration:**

City of Edgewood

Parks and Recreation Advisory Board 2021 Work Plan

The Parks and Recreation Advisory Board has set forth a number of goals and tasks to be addressed during the year 2021. This Work Plan is intended to highlight major activities and projects that include support and involvement of the PRAB including major course and setting future mile stones in accordance with the powers and duties listed in section 2.31.030 of Ordinance 06-0272, which established the Parks and Recreation Advisory Board.

COUNCIL PRIORITIES (est. 2019)

- ~~1. Monitor and contribute to 36th and Meridian Design and Development~~
- 2. Create a playground renovation plan for Edgemont Park**
3. Continue to pursue long term goals to use the farm house at Nelson Farm Park
4. Evaluate creating new volunteer opportunities / action days throughout the calendar year

GENERAL

1. Add promotional kiosk for parks at each location to advertise parks and activities
2. Encourage City to be a Pierce Conservation District contributor and monitor new Green Puyallup Partnership
3. Seek out potential land acquisition opportunities
4. Work on a list of available eagle scout projects, and evaluate regular outreach to volunteer organizations
5. Provide guidance to city staff for ways to improve the webpage, cross-jurisdictional communication, and update park guide map.

PARK PLANNING

- ~~1. Participate in trail planning for the Mortenson Farm property (WSDOT project to tie site up until 2035-ish)~~
- 2. Create a plan for the recently cleared area at Nelson Nature Park (trail, planting, trail resurfacing)**
- 3. Complete Interurban trail corridor feasibility and critical areas analysis**
- 4. PROS Plan Update (for grant eligibility through RCO), review levels of service, update impact fee**

EVENTS and ACTIVITIES (COVID Impacts?)

1. Plan Parks Appreciation Day event – ~~April 24th~~ (COVID Impacts? Delay to the fall...)
2. Drive-up Drop-off Food Drive (w/ another event?)
3. Help support and promote ~~monthly movie nights~~ **Zoom-based events / classes (COVID era)**
4. Participate in the planning of the Edgewood City Picnic 7/17/21 & Christmas Tree Lighting Ceremony 11/26/21
5. **English Ivy/Invasive Plant Species Eradication Education**

2021 Work Plan Items

1. Edgewood Marketplace

- a. Finalize recruitment
- b. Create directory
- c. Develop a governing structure
- d. Partner with PRAB and/or Friends of the Park regarding 2022 event

2. Business [garden] tour

- a. Ticketed event(s)
- b. Proceeds serve as a business fundraiser
- c. Different deliverable at each stop (germane to the specific Edgewood business)
- d. Annual/Semi-Annual/Quarterly event that rotates businesses

3. Create, distribute, and analyze a restaurant or other preferred business survey

- a. Optional methods of distribution include: Survey Monkey, publishing in the local paper; copies at Chamber of Commerce; a new webpage on the City's website; or a separate website or landing page.
- b. Seek [anecdotal] information to give to a targeted restaurant or eatery, e.g., "Our recent survey showed that 72% of the respondents wanted XYZ Café in Edgewood."
- c. End result may be a press release or new marketing materials.

4. Develop a SWOT Analysis

- a. Schedule economic development workshops, at least two
 - i. 1st workshop – ask for input from stakeholders
 - ii. 2nd workshop, at least a month later so the analyses can be completed – present the findings.
- b. Use SWOT Analysis to develop strategic plan, and SWOT findings to be used in business attraction.

5. Serve as Business Retention Ambassadors

- a. Visit existing businesses and conduct a survey or see if they will provide testimonials, i.e., what is it like doing business in Edgewood.
- b. Determine if they are looking to expand – if so, can you find another place for them in Edgewood?
- c. If they may be looking to leave – find out why and see what can be done to keep them in Edgewood.

6. Promote Diversity, Equity, and Inclusion in recommendations to City Council

7. Collaborate with the Planning Commission

8. Increase Public Engagement Efforts



CITY OF EDGEWOOD PLANNING COMMISSION 2021 WORK PLAN

2021 Work Plan Items

- 1. Town Center**
- 2. Street Light Standards**
- 3. Development Standards and Public Works Standards**
- 4. Sewer Connection Requirements**
- 5. Tree Preservation (Code Update and Goals)**
- 6. Public Zoning**
- 7. Create Edgewood Municipal Code Title 17– Land Development Code**
- 8. Code Updates from October 2020 meeting (Code Enforcement agenda item**
- 9. Identify possible City-initiated Comprehensive Plan amendments**
- 10. Promote Diversity, Equity, and Inclusion in recommendations to City Council**
- 11. Collaborate with the Economic Development Advisory Board (EDAB)**
- 12. Increase Public Engagement Efforts**



City Of Edgewood Council Agenda Summary Sheet

Subject: Discussion – Development Review	Agenda Item #: 2.B
	For Agenda of: 2/16/2021
	Prepared by: Emily Arteche
Attachments (list): 1. Land Division Report (Feb) 2. Monthly Projects - Council Summary - PDF_PDF Pending Projects with Chart 3. 2021 Permit Inspection Tally - Jan Numbers for Feb	
Approval of Materials: Emily Arteche Rachel Pitzel 2/11/2021 Dave Gray 2/11/2021 Daryl Eidinger 2/11/2021	Expenditure Required: N/A Amount Budgeted: N/A Timeline: Recurring

Summary Statement:

The City's Community & Economic Development (CED) Department is entrusted by City Council, Edgewood citizens, and the State of Washington to provide growth management and development review, neighborhood preservation and revitalization, property inspection and maintenance, and other programs and business development services necessary to ensure the healthy, safety, and quality of life of Edgewood residents. To carry out these responsibilities, CED staff members perform numerous customer interactions, code interpretations, permitting functions, project reviews, on-site inspections, and multiple other functions. Emily Arteche, Planning Manager will be presenting the Development Review this month.

Item History:

Development Review occurs on the 2nd Study Session of each month

Recommended Action:

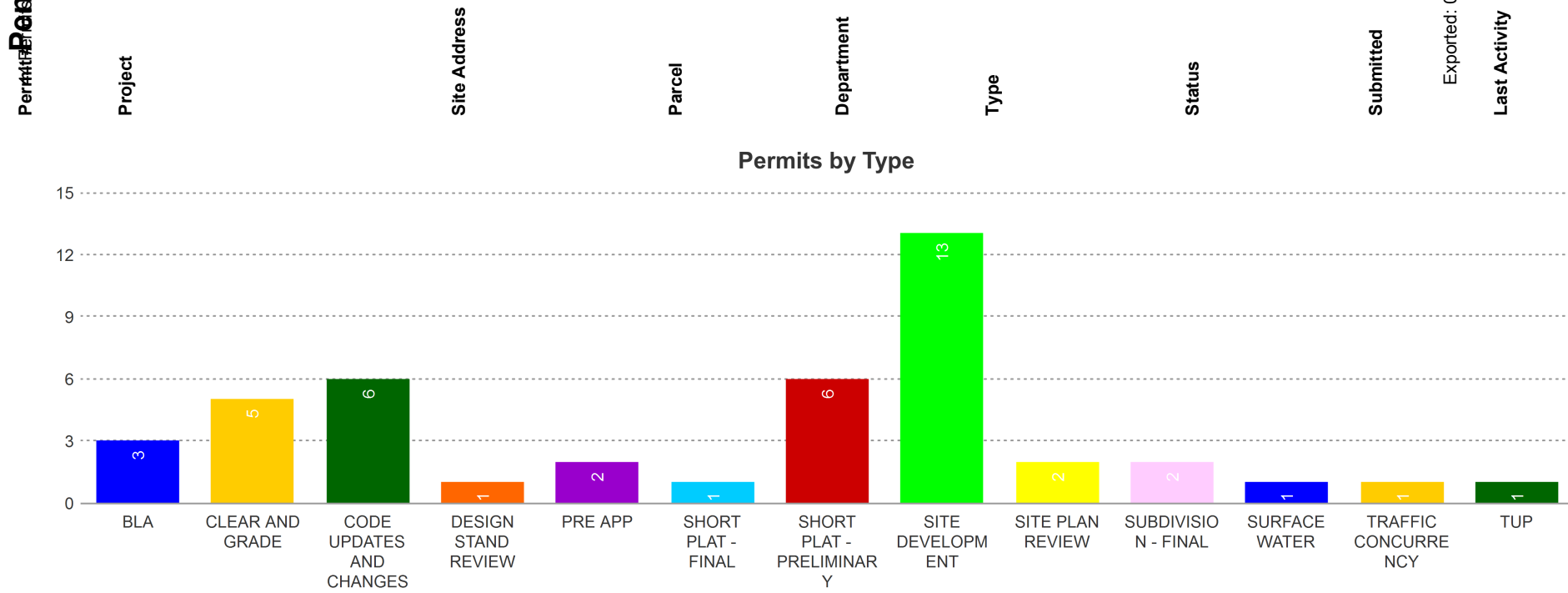
Hold a discussion and provide staff direction to Discussion – Development Review

Fiscal Note/Consideration:

N/A

Land Division Report- February 2021

Preliminary Plat						Site Development	Final Plat		
Start Year	Submitted	Project	Total Lots Proposed	Status	Approved	Status	Status	Recorded Date	Total Lots Recorded
2020	11/12/2020	HUNTINGTON SHORT PLAT	3	APPLICATION		NOT SUBMITTED	NOT SUBMITTED		
	11/6/2020	RUSEV SHORT PLAT	2	APPLICATION		NOT SUBMITTED	NOT SUBMITTED		
	10/26/2020	CONNOLLY SHORT PLAT	3	APPLICATION		NOT SUBMITTED	NOT SUBMITTED		
	8/10/2020	TEBALDI SHORT PLAT	2	APPROVED	11/12/2020	N/A	NOT SUBMITTED		
	7/17/2020	PADEN SHORT PLAT	2	APPLICATION		NOT SUBMITTED	NOT SUBMITTED		
	7/13/2020	HARRISON SHORT PLAT	2	APPLICATION		NOT SUBMITTED	NOT SUBMITTED		
	3/18/2020	PHILLIPS RIDGE SUBDIVISION	14	APPROVED	12/29/2020	NOT SUBMITTED	NOT SUBMITTED		
	2/28/2020	DODDS SHORT PLAT	2	APPROVED	9/3/2020	N/A	APPLICATION		
	1/23/2020	SMITH SHORT PLAT	2	APPLICATION		NOT SUBMITTED	NOT SUBMITTED		
2019	11/7/2019	BJERK SHORT PLAT	2	APPROVED	1/14/2020	N/A	APPROVED	11/23/2020	2
	10/18/2019	ESTATES ON CALDWELL SUBDIVISION	6	APPROVED	5/5/2020	ISSUED	NOT SUBMITTED		
	8/28/2019	JENNA ACRES SHORT PLAT	4	APPROVED	9/14/2020	APPLICATION	NOT SUBMITTED		
	4/8/2019	SELLERS SHORT PLAT	2	APPROVED	9/27/2019	NOT SUBMITTED	NOT SUBMITTED		
	3/26/2019	WAGNER SHORT PLAT	3	APPROVED	10/23/2019	APPLICATION	NOT SUBMITTED		
	3/26/2019	RAMSAUR SHORT PLAT	4	APPROVED	6/21/2019	N/A	APPROVED	8/14/2020	4
	3/18/2019	MISENAR SHORT PLAT	2	APPROVED	5/23/2019	N/A	APPROVED	6/14/2019	2
	3/12/2019	BECKER SHORT PLAT	2	APPROVED	7/1/2019	APPLICATION	APPROVED	7/27/2020	2
2018	11/26/2018	BARTH SUBDIVISION	37	APPROVED	6/4/2020	APPLICATION	NOT SUBMITTED		
	10/17/2018	T GARRETT SHORT PLAT	2	APPROVED	3/1/2019	ISSUED	APPROVED	10/4/2019	2
	7/13/2018	MAKSIMCHUK SHORT PLAT	2	APPROVED	1/25/2019	N/A	APPROVED	3/13/2019	2
	6/15/2018	GRUBB SHORT PLAT	3	APPROVED	12/29/2020	NOT SUBMITTED	NOT SUBMITTED		
	4/17/2018	HEART & SOUL SHORT PLAT	4	APPROVED	12/26/2018	FINALED	APPROVED		
	4/17/2018	MICKELSON SUBDIVISION	10	APPROVED	8/25/2020	APPLICATION	NOT SUBMITTED		
	2/15/2018	CHUMAKIN SHORT PLAT	4	APPROVED	6/22/2018	FINALED	APPROVED	5/21/2020	4
	2/8/2018	BEREZNYOV SHORT PLAT	4	APPROVED	1/10/2019	APPLICATION	NOT SUBMITTED		
	1/9/2018	ABEL SHORT PLAT	6	APPROVED	9/13/2018	ISSUED	NOT SUBMITTED		
2017	12/6/2017	CIRILIUM (RESERVE AT HILLCREST) SUBDIVISION	18	APPROVED	8/15/2018	FINALED	APPROVED	3/27/2020	18
	10/11/2017	CHAMBERLIN SHORT PLAT	2	APPROVED	4/26/2018	N/A	APPROVED	7/11/2018	2
	10/10/2017	WOLF POINT SUBDIVISION	56	APPROVED	3/20/2019	APPLICATION	NOT SUBMITTED		
	3/23/2017	YURINA-COLLINS SHORT PLAT	3	APPROVED	10/19/2017	FINALED	APPROVED	3/12/2019	3
	3/22/2017	GAGNON SHORT PLAT	2	APPROVED	11/17/2017	FINALED	APPROVED	7/27/2020	2
2016	11/3/2016	VOLENTE SUBDIVISION	15	APPROVED	6/6/2017	ISSUED	APPROVED	9/11/2020	15
	9/23/2016	DOMUS TOWNHOMES PRD (THE WOODLANDS)	55	APPROVED	1/11/2017	ISSUED	APPROVED	7/11/2018	55
	9/2/2016	EDGEWOOD VIEW ESTATES SUBDIVISION PHASE 2	92	APPROVED	12/14/2017	FINALED	APPROVED	3/25/2020	67
		EDGEWOOD VIEW ESTATES SUBDIVISION PHASE 1					APPROVED	12/5/2019	23
	7/15/2016	PETERSON SHORT PLAT	3	APPROVED	12/10/2016	N/A	APPROVED	1/23/2017	3
	7/13/2016	DAFFODIL FARMS SHORT PLAT	5	APPROVED	3/7/2017	FINALED	APPROVED	5/29/2018	5
	6/3/2016	GERVAIS SHORT PLAT	3	APPROVED	12/22/2016	APPLICATION	NOT SUBMITTED		
	5/12/2016	NORTHWOOD ESTATES WEST SUBDIVISION- PHASE 2	41	APPROVED	10/24/2017	APPLICATION	NOT SUBMITTED		
		NORTHWOOD ESTATES WEST SUBDIVISION- PHASE 1	13			FINALED	APPROVED	1/25/2018	13
2015	4/4/2016	PASCOLO ESTATES SUBDIVISION	19	APPROVED	3/21/2017	FINALED	APPROVED	12/18/2019	19
	2/16/2016	EDGEWOOD TERRACE SUBDIVISION	28	APPROVED	7/5/2017	NOT SUBMITTED	NOT SUBMITTED		
	12/10/2015	NICKLAUS (ASTER POINT) SUBDIVISION	38	APPROVED	12/15/2016	FINALED	APPROVED	6/12/2019	38
	11/13/2015	CALDWELL CREST SUBDIVISION	15	APPROVED	6/30/2016	FINALED	APPROVED	11/16/2017	15
	11/12/2015	RAINIER VISTA (RIDGE) SUBDIVISION	13	APPROVED	7/28/2016	FINALED	APPROVED	11/28/2018	13
	11/2/2015	CALIBER SHORT PLAT	6	APPROVED	9/8/2016	FINALED	APPROVED	9/6/2019	
	7/21/2015	LEEPER SHORT PLAT	3	APPROVED	9/26/2015	FINALED	APPROVED	3/5/2018	3
	7/8/2015	EDGEWOOD ESTATES SUBDIVISION	14	APPROVED	9/29/2016	ISSUED	APPLICATION		
	6/24/2015	LARSON SHORT PLAT	4	APPROVED	2/23/2016	FINALED	APPROVED	1/20/2017	4
	2/27/2015	VIEW POINTE SUBDIVISION	44	APPROVED	4/29/2016	FINALED	APPROVED	8/16/2017	44
	1/26/2015	MAPLE GROVE SUBDIVISION	8	APPROVED	9/13/2016	FINALED	APPROVED	11/13/2019	8
2014	1/23/2015	CURRAN ESTATES SUBDIVISION	9	APPROVED	12/30/2015	FINALED	APPROVED	6/12/2019	9
	10/31/2014	WAMPOLD SHORT PLAT	6	APPROVED	1/15/2015	FINALED	APPROVED	3/15/2017	6
	4/24/2014	FOREST WOOD ESTATES SHORT PLAT	4	APPROVED	7/15/2014	N/A	APPROVED	12/19/2014	4
	4/4/2014	NOLAN SHORT PLAT	2	APPROVED	7/21/2014	FINALED	APPROVED	7/17/2015	2
2013	1/27/2014	LISITSYN SHORT PLAT	6	APPROVED	7/15/2014	FINALED	APPROVED	7/15/2019	6
	6/19/2013	WESTRIDGE SUBDIVISION	360	APPROVED	9/4/2014	FINALED	APPROVED	7/20/2016	284

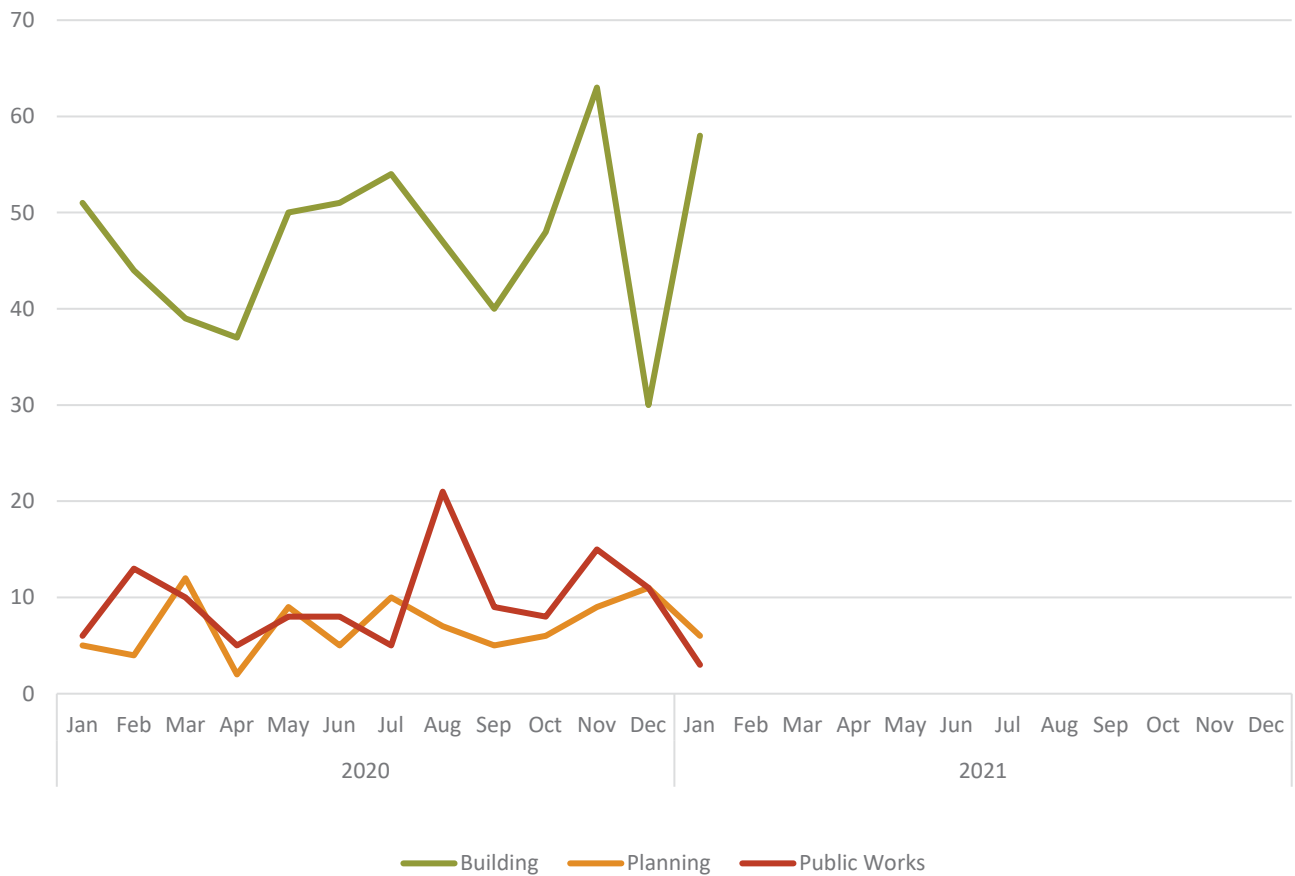


Jan 2021

City of Edgewood Monthly Development Report



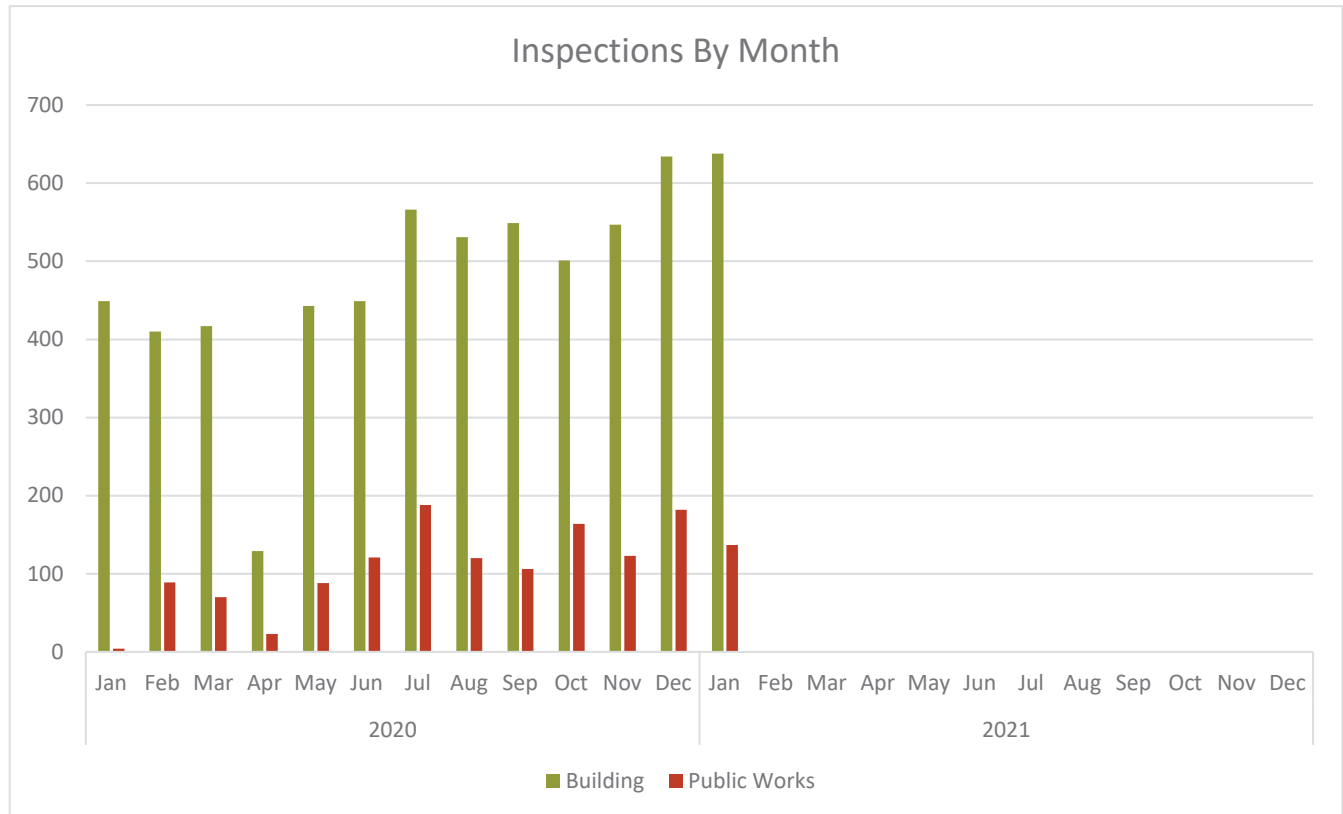
Permits Received by Month



Permits	Building		Planning		Public Works	
	Received	Issued	Received	Issued	Received	Issued
Jan 2021	58	43	6	3	3	5
Jan 2020	51	33	5	2	6	5
Average 2021	58	43	6	3	3	5
Average 2020	51	33	5	2	6	5
YTD 2021	58	43	6	3	3	5
YTD 2020	51	33	5	2	6	5
	Building		Planning		Public Works	
	Month	Received	Month	Received	Month	Received
Highest Month 2021	Jan	58	Jan	6	Jan	3
Highest Month 2020	Nov	63	Mar	12	Aug	21

Jan 2021

City of Edgewood Monthly Development Report



<i>Inspections</i>	Building		Public Works	
Jan 2021	638		137	
Jan 2020	449		4	
Average 2021	638		137	
Average 2020	469		107	
YTD 2021	638		137	
YTD 2020	449		4	
	Building		Public Works	
	Month	Insp.	Month	Insp.
Highest Month 2021	Jan	638	Jan	137
Highest Month 2020	Dec	634	Jul	188



City Of Edgewood Council Agenda Summary Sheet

Subject: Discussion – Equity, Diversity and Inclusion (Trainings, Planning, etc.)	Agenda Item #: 2.C
	For Agenda of: 2/16/2021
	Prepared by: Daryl Eiding
Attachments (list): 1. Diversity Commission	
Approval of Materials: Daryl Eiding	Expenditure Required:
	Amount Budgeted:
	Timeline: Topic to be added to all future Study Sessions (see item history below)

Summary Statement:

City Council is committed to creating a stronger and more inclusive community and believe that equity, diversity and inclusion is essential for our present and our future.

On February 8, 2021 Mayor Eiding met with Councilmember Tomy and Councilmember West on creating a Council Subcommittee focused on EDI. This subcommittee recommended that the full Council review the link <https://www.cityoffederalway.com/content/diversity-commission> (which is attached as a pdf as material). The subcommittee would like Council to consider the following questions after reviewing the Diversity Commission's information:

1. What is your main takeaway?
2. What would work in Edgewood?
3. What wouldn't work in Edgewood?

Item History:

Council has asked that this topic be a discussion item at all future study sessions for the foreseeable future. Council has discussed Equity, Diversity and Inclusion trainings and planning at the following meetings:

09/01/2020 Study Session
 09/15/2020 Study Session
 09/29/2020 Study Session
 10/06/2020 Study Session
 10/20/2020 Study Session
 11/03/2020 Study Session
 11/24/2020 Study Session
 12/05/2020 Part I - National League of Cities - REAL Action: Advancing Racial Equity in Edgewood
 12/12/2020 Part II - National League of Cities - REAL Action: Advancing Racial Equity in Edgewood
 01/05/2021 Study Session
 01/19/2021 Study Session
 02/08/2021 - Council Subcommittee Meeting

Recommended Action:

N/A

Fiscal Note/Consideration:

N/A



Published on *City of Federal Way* (<https://www.cityoffederalway.com>)

Home > Inside City Hall > Boards & Commissions > Diversity Commission

Diversity Commission



2020 MLK Event

A BIG THANK YOU from the Diversity Commission

to Thomas Jefferson HS BSU, Zari Warden, Jamarkus Springfield, Happy Dance Studio, Washington Diamonds Drill Team, Milo Cavic, Mayor Ferrell, Dr. Campbell for your support and participation!

Flavor of Federal Way ^[1]

Responsibilities

The Diversity Commission advises the City Council ^[2] on policy matters involving the community's cultural and ethnic differences, ensuring that these differences are considered in the decision-making process. Read the Commission's 2020-2021 Work Plan ^[3]. It is our aim to help Federal Way in becoming a community which is united amidst diversity, where each individual is respected, equally valued, equally needed and equally cherished. Equality is not sameness, it is equivalent value.

Diversity Commission Community Partners

*Information coming soon

Statement from the Diversity Commisison regarding the death of Mr. George Floyd

6/3/2020

The City of Federal Way's Diversity Commission exists because of the rich diversity of our city. We see it as our duty to make a statement because our black community is struggling to simply exist, and to co-exist in a nation engulfed with racial discrimination and heightened turmoil. We stand with Federal Way Mayor and City Council in condemning the actions of the Minneapolis Police Officers in the death of Mr. George Floyd and call for a complete investigation and prosecution. We also want to take this opportunity to acknowledge the unjust recent murders of Ahmaud Arbery, Breonna Taylor and others not mentioned.

We thank the organizers and the many members of the Federal Way community at the protest yesterday, and those who are advocating and combating against oppressive systems. We see you, uplift your efforts, and stand with you.

We thank the police officers protecting all, especially the most vulnerable. We also want to acknowledge that a larger enforcement presence can induce fear, provoke anxiety, and reintroduce trauma elicited by instances of police brutality across the nation. We encourage that police officers continue to grow in their knowledge of equity, criminal justice, and intrinsic biases as they continue to protect our community.

Despite gathering restrictions, the Diversity Commission will meet remotely to bring our passions for diversity, justice, and equity together to confront racism and discrimination. Although we are physically separate, we stand united for our community.

The Diversity Commission's aim is to bring our community together amidst diversity, where each individual is respected, equally valued, equally needed, and equally cherished. To do so, we collectively affirm that black lives matter. To help us in our mission, we challenge our leaders and citizens of Federal Way to lean into the discomfort and injustices happening in our nation; discover forms of allyship or solidarity for the disenfranchised; continue to educate yourselves and people around you of structural privileges; listen to those hurting and struggling to exist; and confront racism when you witness it.

OUR MISSION:

To advise City government to ensure Federal Way is a community that is united amidst diversity, where everyone is equally respected, valued, needed, and cherished. Equality is not sameness; it is equivalent value.

BRAND PROMISE:

The Diversity Commission is dedicated to helping Federal Way become a city where all people have a feeling of belonging and sharing community, where there is equal access to information and resources for all, and where there are equal opportunities for all.

Members

- Ali Hajheidari
- ShaQuina Davis
- Julian Franco, Chair
- Nichelle Curtis-McQueen, Vice Chair

- Larissa Lincoln
- Trenise Rogers
- Voting (position open)
- Stephanie Suprius
- Brandon Bruan
- Judo Garcia-Lata, Alternate

Meetings

- 5:30 pm
- Odd Months - The second Wednesday of January, March, May, July, September, November
- Hylebos Conference Room
33325 8th Ave. S.
Federal Way, WA 98003
- Current and past meeting packets and agendas [4]

Jury Diversity Committee

One of the ways we want to educate the community on jury service is by publishing articles through the newspaper. Our goal is to publish a three-part series that focuses on the history of racial disparities in jury service participation, the overall importance of jury service, and exploring solutions to the racial disparities in jury service participation.

Here is a link to the first of a three-part Op-Ed series featured in the Federal Way Mirror <http://www.federalwaymirror.com/opinion/overcoming-the-disparities-in-jury-selection/> [5]

Part 1 provides a historical perspective and focuses on racial disparities in jury service participation.

Part 2 <http://www.federalwaymirror.com/opinion/the-importance-of-participating-in-jury-service/> [6].

Source URL: <https://www.cityoffederalway.com/content/diversity-commission>

Links

- [1] <https://www.cityoffederalway.com/page/flavor-federal-way>
- [2] <http://cfwwweb1test/node/1385>
- [3] https://www.cityoffederalway.com/sites/default/files/Documents/Department/CD/ComSvc/2020-2021_Diversity_Commission_Work_Plan%20FINAL_0.pdf
- [4] <http://www.cityoffederalway.com/page/agendas-and-minutes>
- [5] <http://www.federalwaymirror.com/opinion/overcoming-the-disparities-in-jury-selection/>
- [6] <http://www.federalwaymirror.com/opinion/the-importance-of-participating-in-jury-service/>



City Of Edgewood Council Agenda Summary Sheet

Subject: Discussion – Resolution - WRIA 10 Watershed Restoration and Enhancement Plan	Agenda Item #: 2.D
	For Agenda of: 2/16/2021
	Prepared by: Jeremy Metzler
Attachments (list): 1. DRAFT Resolution 21-xxxx WRIA 10 Plan Adoption 2. WRIA10WREPlanFinalDraft20210107	
Approval of Materials: Jeremy Metzler Rachel Pitzel 2/11/2021 Dave Gray 2/11/2021 Daryl Eidinger 2/11/2021	Expenditure Required: N/A Amount Budgeted: N/A Timeline: 02/16/2021 SS 02/23/2021 RCM

Summary Statement:

In 2018 the State Legislature enacted legislation for each of the 15 watershed basins across Washington State, establishing a planning process to project rural growth and identify projects to offset consumptive use from new permit-exempt wells constructed after January 19, 2018. In the eight basins with instream flow rules that do not address permit-exempt wells and that did not complete watershed planning under RCW 90.82, the legislature established watershed restoration and enhancement committees.

RCW 90.94.030 (3) states, “By June 30, 2021, the department (of Ecology) shall prepare and adopt a watershed restoration and enhancement plan... in collaboration with the watershed restoration and enhancement committee.” The law directs each watershed restoration and enhancement committee to develop a watershed restoration and enhancement plan that includes recommendations for projects and actions that measure, protect, and enhance instream resources, and offset impacts to instream flows associated with permit-exempt domestic water uses. These recommendations are forwarded to the Washington State Department of Ecology for vetting and potential implementation.

All recommendations from each committee can only be produced when all committee participants are in agreement (unanimous). For this reason, participation by the City of Edgewood has value to the City’s residents and the region as a whole. By adopting Resolution 19-0451, the City Council expressed its support of the Statewide mission to develop watershed restoration and enhancement efforts in regionally organized cooperative efforts, authorizing the City's participation. On January 7, 2021, the Committee Chair transmitted the Final Draft Watershed Restoration and Enhancement Plan (the “Plan”), dated January 2020, to each member agency for review and approval. Attached herewith is a draft resolution authorizing approval of said Plan, also attached as Exhibit A.

Item History:

03/26/2019 RCM - Resolution 19-0451

Recommended Action:

Hold a discussion and provide staff guidance regarding Discussion – Resolution - WRIA 10 Watershed Restoration and Enhancement Plan

Fiscal Note/Consideration:

There has been no direct financial commitment for the City to participate in the WRIA 10 Watershed Restoration and Enhancement Committee, and there is no direct financial commitment or obligation by acceptance of this plan. There was an indirect cost for staff attendance, which has been managed by the Mayor or designee in the normal course of City Staff Activities. Finally, there may be grant funding opportunities for future project(s) identified by the plan within the City of Edgewood.

RESOLUTION NO. 21-0xxx

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EDGEWOOD, WASHINGTON, AUTHORIZING THE MAYOR TO APPROVE THE WRIA 10 WATERSHED RESTORATION AND ENHANCEMENT PLAN.

WHEREAS, by adopting Resolution 19-0451, the City Council expressed its support of the Statewide mission to develop watershed restoration and enhancement efforts in regionally organized cooperative efforts (Senate Bill 6091 codified as Chapter 90.94 RCW); and

WHEREAS, as stated under Resolution 19-0451, the City Council understands the authority of the WRIA 10 Watershed Restoration and Enhancement Committee (the “Committee”) is to provide recommendations to the Washington State Department of Ecology for projects and actions that measure, protect and enhance instream resources, and offset impacts to instream flows associated with permit-exempt domestic water uses; and

WHEREAS, the City has recognized the importance of having a seat at the table for this important work, which requires unanimous support of each member of the Committee, to collaborate and produce recommendations to the Department of Ecology; and

WHEREAS, on January 7, 2021, the Committee Chair transmitted the Final Draft Watershed Restoration and Enhancement Plan (the “Plan”), dated January 2020, to each member agency for review and approval; and

WHEREAS, RCW 90.94.030(3) states that “...all members of a watershed restoration and enhancement committee must approve the plan prior to adoption”; and

WHEREAS, the Council reviewed and considered the Plan for approval at their February 23, 2021, regular meeting;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF EDGEWOOD, WASHINGTON, HEREBY RESOLVES AS FOLLOWS:

Section 1. The City Council hereby authorizes the Mayor to approve the January 2020 WRIA 10 Final Draft Watershed Restoration and Enhancement Plan at the Committee’s April 7, 2021 meeting, attached hereto as Exhibit A and incorporated herein by this reference.

Section 2. This resolution will take effect immediately upon passage by the City Council.

ADOPTED THIS 23RD DAY OF FEBRUARY, 2021

Daryl Eiding, Mayor

ATTEST:

Rachel Pitzel, City Clerk

DRAFT



**Watershed Restoration and
Enhancement
Plan
WRIA 10 - Puyallup-White
Watershed**

**FINAL DRAFT
January 2020**

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Related Information

Contact Information

Water Resources Program

Southwest Regional Office
P.O. Box 47600
Olympia, WA 98504-7600
Phone: 360-407-6300

Website¹: [Washington State Department of Ecology](http://www.ecology.wa.gov)

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¹ www.ecology.wa.gov/contact

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Acknowledgements

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WRIA 10 Committee Members – Primary Representatives and Alternates

Dan Cardwell, Pierce County^
Austin Jennings, Pierce County^
Tom Kantz, Pierce County^
Carla Carlson, Muckleshoot Tribe^
Henry Martin, Muckleshoot Tribe
Char Naylor, Puyallup Tribe^
Russ Ladley, Puyallup Tribe
Lisa Tobin, City of Auburn^
Jeff Tate, City of Auburn
Ryan Johnston, City of Bonney Lake
Andrew Fonda, City of Bonney Lake
Jeremy Metzler, City of Edgewood^
Scott Woodbury, City of Enumclaw
Chris Searcy, City of Enumclaw
Russ Blount, City of Fife
Lorna Fuller, City of Fife
Ken Gill, City of Fife*^
Chris Diaz, City of Fife*
Greg Reed, City of Orting
Mark Barfield, City of Orting
Jim Morgan, City of Pacific
Paul Marrinan, City of Puyallup
Ryan Rutkosky, City of Puyallup
Michael Kosa, City of Sumner
Robert Wright, City of Sumner
Jason Van Gilder, City of Sumner
Merita Trohimovich, City of Tacoma^
Stephanie Seivert Wilson, City of Tacoma

Tim Osborne, Lakehaven Water and Sewer District
John Bowman, Lakehaven Water and Sewer District
Stan French, Lakehaven Water and Sewer District*
Jessie Gamble, Master Builder Association of Pierce County
Carrie Hernandez, Puyallup River Watershed Council
Allan Warren, Pierce County Conservation District
Ryan Mello, Pierce County Conservation District
Liz Bockstiegel, WDFW^
Tristan Weiss, WDFW
Michelle Harris (ex officio), Tacoma Pierce County Health Department^
Jeremy Bush (ex officio), Tacoma Pierce County Health Department
Lisa Spurrier (ex officio), Salmon Recovery Lead Entity

WRIA 10 Technical Consultant Team

Bob Montgomery, Anchor QEA
Jason Hatch, Washington Water Trust
Jason McCormick, McCormick Water Solutions
Burt Clothier, Pacific Groundwater Group
Chad Wiseman, HDR
Lisa Dally Wilson, Dally Environmental
HDR, PGG and Anchor QEA Support Staff

Facilitation Team

Spencer Easton, Environmental Science Associates (ESA)
Madeline Remmen, ESA

Additional support from ESA and Cascadia Consulting Staff

^Workgroup member

Department of Ecology Staff

Rebecca Brown, Chair^

Matt Rakow, Lead Technical Support

Paulina Levy, Committee and Plan Development Support

Angela Johnson, Alternate Chair

Mike Noone, Alternate Chair

Mike Gallagher, Regional Section Manager

Bennett Weinstein, Streamflow Section Manager

Streamflow Section Technical Staff

Southwest Region Water Resources Section

Austin Melcher, Plan Development Support

Mugdha Flores, Streamflow Communications Lead

Amy Moosman, Streamflow Communications Lead*

Guest Presentations

Jenn Stebbings, Port of Tacoma

Steve Hirschey, King County

Wendy Welch, USGS

Andy Long, USGS

Rusty Milholland, PCC Farmland Trust

Mark and Jacob Heckert, South Sound Beaver Recovery

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*No longer representing entity

Executive Summary

In January 2018, the Washington State Legislature passed the Streamflow Restoration law (chapter 90.94 RCW) to help support robust, healthy, and sustainable salmon populations while ensuring rural communities have access to water. The law directs the Department of Ecology to lead local planning Committees to develop Watershed Restoration and Enhancement Plans that identify projects to offset potential consumptive impacts of new permit-exempt domestic groundwater withdrawals on instream flows over the planning horizon (2018 – 2038), and provide a net ecological benefit to the watershed. This Watershed Restoration and Enhancement Plan meets the requirements of the law.

The Department of Ecology (Ecology) established the Watershed Restoration and Enhancement Committee to collaborate with tribes, counties, cities, state agencies, and special interest groups in the Puyallup-White watershed, also known as Water Resource Inventory Area (WRIA) 10. The WRIA 10 Committee met for over 2 years to develop a watershed plan.

This watershed plan projects 688 PE well connections over the 20-year planning horizon. The estimated consumptive water use associated with the new PE well connections is 277.4 acre-feet per year (0.38 cfs); equivalent to 360 gallons per day for each new PE well. The projects and actions in this watershed plan will address and offset the consumptive water use from those PE well connections.

The projects in this watershed plan include water right acquisitions, managed aquifer recharges, stormwater infiltration, and PE well decommissioning that provide an estimated offset of 788.3 acre-feet per year to benefit streamflows and enhance the watershed. Additional projects in the plan include benefits to fish and wildlife habitat, such as levee setbacks, floodplain reconnections, stream improvements, and bank stabilizations.

This watershed plan recommends an adaptive management process. The adaptive management process includes a mechanism for tracking new PE wells, tracking project implementation, periodic reporting on project status, and recommendations for response if projects implementation lags new PE well connections. These measures, in addition to the surplus water offset and supplemental habitat improvement projects, provide reasonable assurance that the plan will adequately offset new consumptive use from PE wells anticipated during the planning horizon.

Based on the information and analyses summarized in this plan, the WRIA 10 Committee finds that this plan, if implemented, achieves a net ecological benefit, as required by RCW 90.94.030 and defined by the Final NEB Guidance (Ecology 2019b).

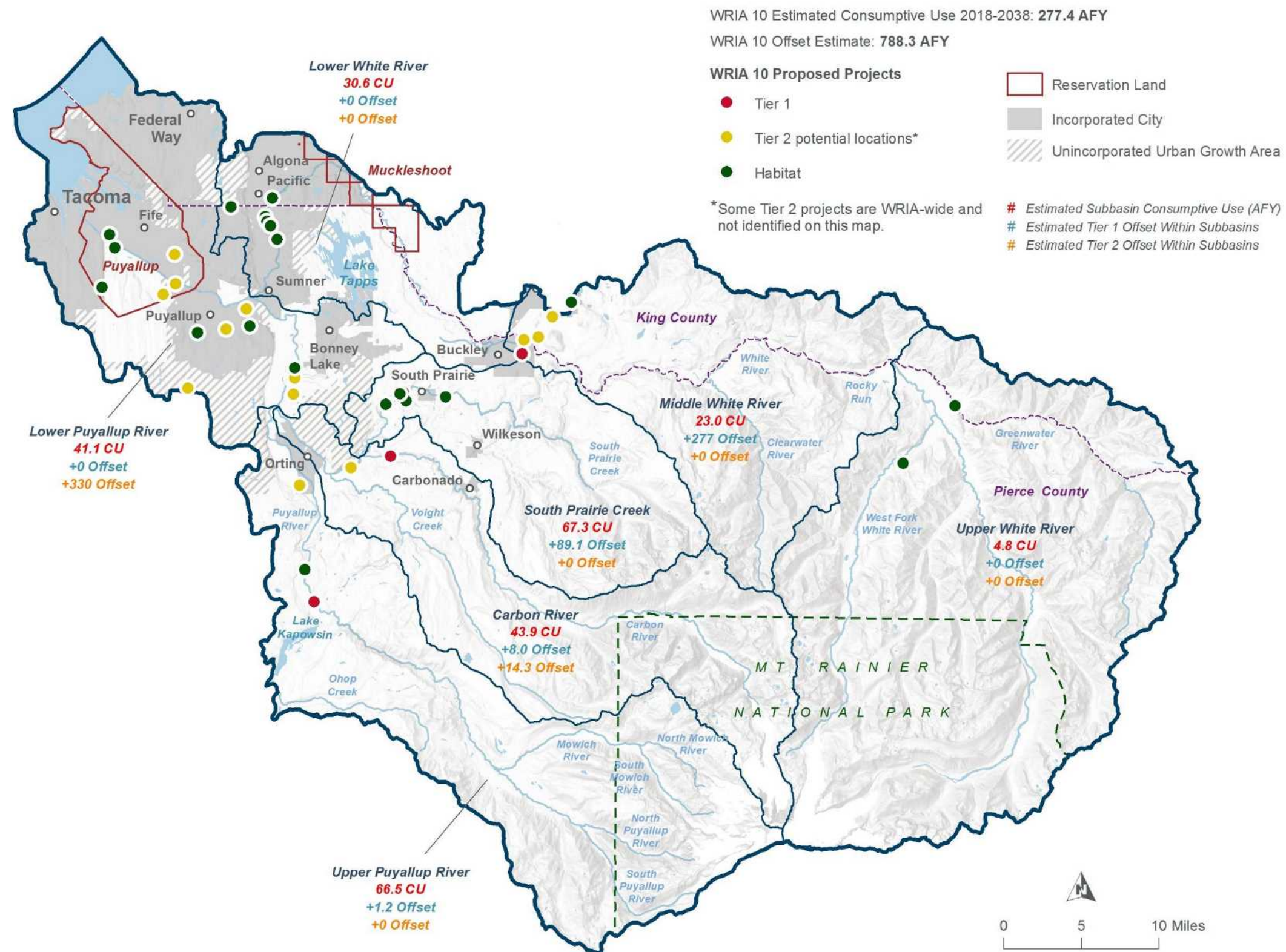


Figure 1 Summary Map of Consumptive Use, Projects, and Offsets by Subbasin.

Chapter One: Plan Overview

1.1 WRIA 10 Plan Purpose and Structure

The purpose of the Water Resource Inventory Area (WRIA) 10 Watershed Restoration and Enhancement Plan is to offset the impacts of domestic permit-exempt wells (referred to as PE wells throughout this plan) to streamflows. The watershed restoration and enhancement plan is one requirement of RCW 90.94.030. Watershed restoration and enhancement plans must identify projects and actions to offset the potential impacts of new PE wells on instream flows over 20 years (2018-2038), and provide a net ecological benefit (NEB) to the WRIA. This WRIA 10 watershed restoration and enhancement plan (watershed plan or plan) considers priorities for salmon recovery and watershed recovery, while ensuring it meets the intent of the law.

Pumping from wells can reduce groundwater discharge to springs and streams by capturing water that would otherwise have discharged naturally, reducing flows (Barlow and Leake 2012). Consumptive water use (that portion not returned to the aquifer) reduces streamflow, both seasonally and as average annual recharge. A well pumping from an aquifer connected to a surface water body can either reduce the quantity of water discharging to the river or increase the quantity of water leaking out of the river (Barlow and Leake 2012). Projects and actions that offset consumptive use associated with permit-exempt domestic water use have become a focus to minimize future impacts to instream flows and restore streamflow.

While this watershed plan is narrow in scope and not intended to address all water uses or related issues within the watershed, it may provide a path forward for future water resource planning.

This watershed plan includes seven chapters:

- Plan overview.
- Overview of the watershed.
- Summary of the subbasins.
- Growth projections and consumptive use estimates.
- Description of the recommended projects and actions identified to offset the future permit-exempt domestic water use in WRIA 10.
- Explanation of recommended implementation and adaptive management measures.
- Evaluation and consideration of the net ecological benefits.

1.1.1 Legal and Regulatory Background for the WRIA 10 Watershed Restoration and Enhancement Plan

In January 2018, the Washington State Legislature passed Engrossed Substitute Senate Bill (ESSB) 6091 (session law 2018 c 1) in response to the State Supreme Court's 2016 decision in *Whatcom County vs. Hirst, Futurewise, et al.* (commonly referred to as the "Hirst decision"). As it relates to this Committee's work, the law, now primarily codified as chapter 90.94 RCW, clarifies how local governments can issue building permits for homes intending to use a PE well for their domestic water supply. The law also requires local watershed planning in 15 different WRIAs, including WRIA 10.

1.1.2 The Local Building Permit Process and Permit-Exempt Wells

This watershed restoration and enhancement plan, the Streamflow Restoration law, and the Hirst decision are all concerned with the effects of new PE wells on streamflows. Several laws pertain to the management of PE wells in WRIA 10 and this section summarizes them to provide context for the WRIA 10 watershed plan.

First and foremost, RCW 90.44.050, commonly referred to as “the Groundwater Permit Exemption,” establishes that certain small withdrawals of groundwater are exempt from the state’s water right permitting requirements, including small indoor and outdoor water use associated with homes. Although these withdrawals do not require a state water right permit, the water right is still legally established by the beneficial use. Even though a water right permit is not required for small domestic uses under RCW 90.44.050, there is still regulatory oversight, including from local jurisdictions. Specifically, for an applicant to receive a building permit from their local government for a new home, the applicant must satisfy the provisions of RCW 19.27.097 for what constitutes evidence of an adequate water supply.

RCW 90.94.030 adds to the management regime for new homes using domestic PE well withdrawals in WRIA 10 and elsewhere. For example, local governments must, among other responsibilities relating to new PE wells, collect a \$500 fee for each building permit and record withdrawal restrictions on the title of the affected properties. Additionally, this law restricts new PE wells in WRIA 10 to a maximum annual average of 950 gallons per day per connection, subject to the 5,000 gallons per day and ½-acre outdoor irrigation of non-commercial lawn/garden limits established in RCW 90.44.050. The Washington Department of Ecology (Ecology) has published its interpretation and implementation of RCW 19.27.097 and chapter 90.94 RCW in Water Resources POL-2094 (Ecology 2019a). The WRIA 10 Committee directs readers to those laws and policy for comprehensive details and agency interpretations.

1.1.3 RCW 90.94.030’s Planning Requirements

While supplementing the local building permit requirements, RCW 90.94.030(3) goes on to establish the planning criteria for WRIA 10. In doing so, it sets the minimum standard of Ecology’s collaboration with the WRIA 10 Committee in the preparation of this watershed plan. In practice, the process of plan development was one of broad integration, collectively shared work, and a striving for consensus described in the WRIA 10 Committee’s adopted operating principles that are further discussed in Section 1.4.

Additionally, the Streamflow Restoration law requires this watershed plan to identify projects and actions that offset the anticipated impacts from new permit-exempt domestic groundwater withdrawals over the next 20 years and provide a net ecological benefit. In establishing the primary purpose of this watershed plan, RCW 90.94.030(3) also details both the required and recommended plan elements. Regarding the WRIA 10 Committee’s approach to selecting projects and actions, the law also speaks to “high and lower priority projects.” The WRIA 10 Committee understands that, as provided in the Final Guidance on Determining Net Ecological Benefit (Ecology 2019b), “use of these terms is not the sole critical factor in determining whether a plan achieves a NEB... and that plan development should be focused on developing projects that provide the most benefits... regardless of how they align with [these] labels”. It is

the perspective of the WRIA 10 Committee that this watershed plan satisfies the requirements of RCW 90.94.030.

1.2 Requirements of the Watershed Restoration and Enhancement Plan

RCW 90.94.030 of the Streamflow Restoration law directs Ecology to establish a Watershed Restoration and Enhancement Committee in the Puyallup - White watershed (referred to in this plan as the Committee) and collaborate with the Committee to develop this watershed plan. Ecology determined that collective development of the watershed plan, using an open and transparent setting and process that builds on local needs would best serve the intent of the law.

At a minimum, the watershed plan must include projects and actions necessary to offset potential impacts of new PE wells on streamflows and provide a NEB to the WRIA. The legislation requires the watershed plan to include the following elements:

- Recommendations for projects and actions that will measure and enhance instream resources and improve watershed functions that support the recovery of threatened and endangered salmonids (RCW 90.94.030(3)(a)).
- Actions the Committee determines necessary to offset potential impacts to instream flows associated with permit-exempt domestic water use (RCW 90.94.030(3)(b)).
- A cost evaluation or estimation (RCW 90.94.030(3)(d)).
- An estimate of the cumulative consumptive use impacts over the twenty year period (2018-2038) (RCW 90.94.030(3)(e)).

Ecology issued the Streamflow Restoration Policy and Interpretive Statement (POL-2094) and Final Guidance on Determining Net Ecological Benefit (GUID-2094) in July 2019 to ensure consistency, conformity with state law, and transparency in implementing chapter 90.94 RCW. The Final Guidance on Determining Net Ecological Benefit (referred to as Final NEB Guidance throughout this plan) establishes Ecology's interpretation of the term "net ecological benefit." It also informs planning groups on the standards Ecology will apply when reviewing a watershed plan completed under RCW 90.94.020 or RCW 90.94.030.

The Streamflow Restoration law requires that all members of the Committee approve the watershed plan prior to submission to Ecology for review. Ecology must then determine that the plan's recommended streamflow restoration projects and actions will result in a NEB to instream resources within the WRIA after accounting for projected use of new PE wells over the 20 year planning horizon from 2018-2038.

1.3 Overview of the WRIA 10 Committee

1.3.1 Formation

The Streamflow Restoration law instructed Ecology to chair the Committee, and invite representatives from the following entities in the watershed to participate:

- Each federally recognized tribal government with reservation land or usual and accustomed harvest area within the WRIA.
- Each county government within the WRIA.
- Each city government within the WRIA.
- Washington State Department of Fish and Wildlife.
- The largest publically-owned water purveyor providing water within the WRIA that is not a municipality.
- The largest irrigation district within the WRIA.

Ecology sent invitation letters to each of the entities named in the law² in September of 2018.

The law also required Ecology to invite local organizations representing agricultural interests, environmental interests, and the residential construction industry. Businesses, environmental groups, agricultural organizations, conservation districts, and local governments nominated interest group representatives. Local governments on the Committee voted on the nominees in order to select local organizations to represent agricultural interests, the residential construction industry, and environmental interests. Ecology invited the selected entities to participate on the Committee.

The entities represented on the WRIA 10 Committee are included in Table 1. This list includes all of the entities identified by the Legislature that agreed to participate on the Committee.³

Table 1 WRIA 10 Membership

Entity Name	Representing
Muckleshoot Tribe	Tribal government
Puyallup Tribe	Tribal government
Pierce County	County government
City of Auburn	City government
City of Bonney Lake	City government
City of Edgewood	City government
City of Enumclaw	City government
City of Fife	City government
City of Orting	City government
City of Pacific	City government
City of Puyallup	City government
City of Sumner	City government
City of Tacoma	City government

² Except the irrigation district because there are no irrigation districts in WRIA 10.

³ The law did not require invited entities to participate, and some chose not to participate on the Committee. Listed entities committed to participate in the process and designated representatives and alternates.

Entity Name	Representing
Washington Department of Fish and Wildlife	State agency
Washington Department of Ecology	State agency
Lakehaven Water and Sewer District	Water utility
Pierce County Conservation District	Agricultural interest
Master Builders Association of Pierce County	Residential building industry
Puyallup River Watershed Council	Environmental interest

Roster with names and alternates is available in Appendix C.

The Committee invited the WRIA 10/12 Salmon Recovery Entity to participate as an “ex-officio” member. Although not identified in the law, the ex-officio members provide valuable information and perspective as subject matter experts. The ex-officio members are active but non-voting participants of the Committee. The Tacoma-Pierce County Health Department (TPCHD) participated in select Committee and workgroup meetings as a technical expert on local well permitting.

1.4 Committee Structure and Decision Making

The Committee held its first meeting in October 2018. Between October 2018 and April 2021, the Committee held 27 meetings. All Committee meetings were open to the public. Some meetings were held jointly with the WRIA 12 Committee. The Committee met at least once a month, and as needed to meet deadlines.

The two and a half years of planning consisted of training, research, and developing plan components. Committee members had a range of knowledge about hydrogeology, water law, salmon recovery, and residential development. Ecology technical staff, Committee members, and partners presented on topics to provide context for components of the plan.

In addition to playing the role of Committee chair, Ecology staff provided administrative support and technical assistance, and contracted with consultants to provide facilitation and technical support for the Committee. The facilitator supported the Committee’s discussions and decision-making. The technical consultants developed products that informed Committee decisions and development of the plan. The technical consultants developed all of the technical memorandums referenced throughout this plan.

The Committee established two workgroups to support planning activities and to achieve specific tasks, a technical workgroup and a subbasin workgroup. The workgroups were open to all Committee members as well as non-Committee members that brought capacity or expertise not available on the Committee. The workgroups made no binding decisions, but presented information to the Committee as either recommendations or findings. The Committee acted on workgroup recommendations, as it deemed appropriate. The technical workgroup met each month between Committee meetings, and the subbasin workgroup met twice.

During the initial Committee meetings, members developed and agreed to operating principles (see Appendix D).⁴ The operating principles set forward a process for meeting, participation

⁴ Complete and signed operating principles are available on the WRIA 10 Committee webpage.

expectations, procedures for voting, structure of the Committee, communication, and other needs to support the Committee in reaching agreement on a final plan.

This planning process, by statutory design, brought diverse perspectives to the table. As the legislation requires that all members of the Committee approve the final plan prior to Ecology's review,⁵ it was important for the Committee to identify a clear process for making decisions. The Committee strived for consensus during foundational votes and decisions on plan development, being the best indicator of the Committee's progress toward an approved plan. When consensus could not be reached, the Committee relied on a two-thirds majority vote. The chair and facilitator documented agreement and dissenting opinions.

The WRIA 10 Committee reviewed draft plan and draft plan chapters on an iterative basis.

⁵ RCW 90.94.030[3] "...all members of a watershed restoration and enhancement Committee must approve the plan prior to adoption"

Chapter Two: Watershed Overview

2.1 Brief Introduction to WRIA 10

WRIAs are large watershed areas formalized under Washington Administrative Code (Water Resources Code of 1971) for the purpose of administrative management and planning. WRIAs encompass multiple landscapes, hydrogeological regimes, levels of development, and variable natural resources. WRIA 10, also known as the Puyallup-White, is one of the 62 designated WRIAs in Washington State. The 1,000 square mile Puyallup-White Watershed is within Pierce and King counties and includes all of the lands drained by the Puyallup, White, and Carbon rivers. The White and Carbon rivers are tributaries to the Puyallup River. These three river systems originate from glaciers on Mount Rainier.

The Puyallup River flows 46 miles, drains 490 square miles, and discharges into Commencement Bay and Puget Sound in Tacoma (Lead Entity 2018). The mean annual flow in the Puyallup River is 3,332 cubic feet per second (cfs) measured near Puyallup⁶ (USGS 2020a). The White River runs 75 miles and has a mean annual flow rate of approximately 1,400 cfs as measured near Buckley⁷ (PRWC 2014; USGS 2020b). The Carbon River runs 33 miles and has a mean annual flow of 430 cfs measured at Fairfax⁸ (PRWC 2014; USGS 2020c).

2.1.1 Land Use in WRIA 10

The Puyallup-White Watershed is one of the most heavily populated basins in western Washington. The western portion of the Puyallup-White Watershed is predominantly urban, characterized by a combination of residential, industrial, commercial, agricultural, transportation, communication, and utility land uses. The most populated cities in the watershed are Tacoma, Auburn, and Federal Way (OFM 2020). Approximately 10 percent (149.7 square miles) of the watershed is within a city or designated urban growth area, and approximately 86 percent of the WRIA is outside of the urban growth areas. The confluence of the Puyallup River with Commencement Bay occurs in the urbanized and highly industrialized Port of Tacoma.

The eastern or upland portion of the watershed generally consists of commercial forest land, Mount Rainier National Park (19 percent of the WRIA), and the Baker-Snoqualmie and Gifford Pinchot national forests (26 percent of the WRIA). Washington State agencies manage about 3% of the WRIA. Land uses shift to agriculture, suburban developments, and small urban centers in the foothills of the Cascade Mountains. Rural residential development has primarily occurred in the foothills outside of the urban centers (see Figure 2). Approximately 14% of the WRIA is within a city or designated urban growth area.

⁶ USGS stream gage 12101500

⁷ USGS stream gage 12099200

⁸ USGS stream gage 12094000

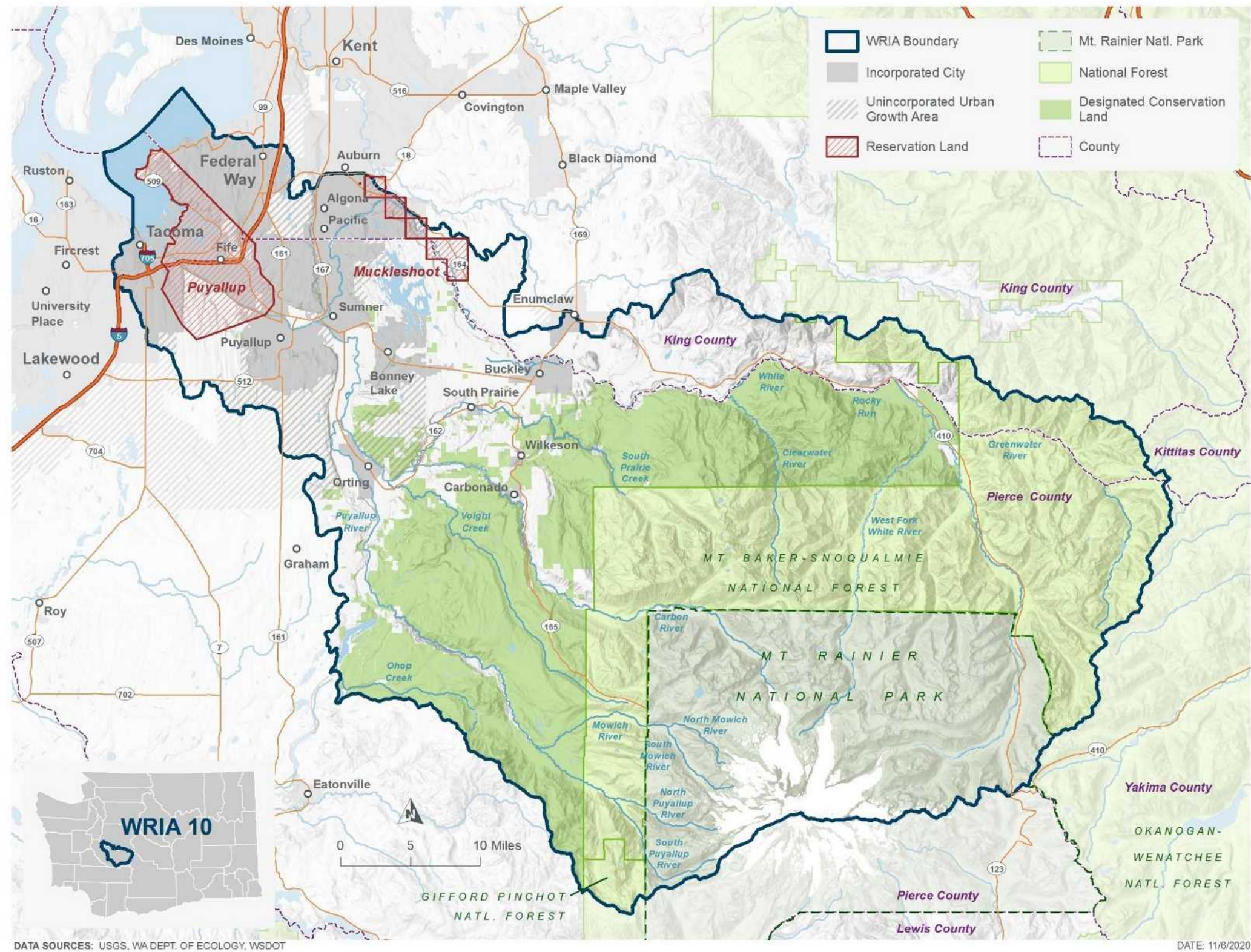


Figure 2 WRIA 10 Vicinity Map with Land Uses

2.1.2 Tribal Reservations and Usual and Accustomed Fishing Areas

The Puyallup Tribe of Indians' Reservation occupies 18,000 acres on the lower Puyallup River and Commencement Bay. The Muckleshoot Indian Reservation occupies 3,600 acres along the lower reaches of the White River. The ancestral lands and use areas of the people of the Muckleshoot Indian Tribe and the lands of the Muckleshoot Indian Reservation are partially located in WRIA 10. The Puyallup and Muckleshoot tribes are sovereign nations with rights over natural resources, including enough water to fulfill the purposes of their reservations. They possess the earliest (most senior) priority rights to water within the Puyallup-White Watershed. Those rights have been reserved by and protected in treaties, executive orders, and federal court decisions, such as U.S. v. Winters (the Winters doctrine, 1908), and the 1974 Boldt Decision. Tribal water rights extend to instream flows and minimum lake levels necessary to protect fisheries in all areas where Tribes have reserved fishing rights (U.S. v. Adair). Treaties signed with Indian tribes carry an obligation not to significantly obstruct or impair vital fish habitat upon which the exercise of treaty fishing rights depend (U.S. v. Washington (culvert case)). Treaty reserved rights have status as the Supreme Law under federal law and as such, preempt conflicting state laws. Nothing in this watershed plan can alter tribal rights.

2.1.3 Salmon in WRIA 10

The Puyallup-White Watershed is an important and productive system for salmonids listed as threatened under the Endangered Species Act (ESA). Several tributaries provide spawning and rearing habitat for Chinook, Coho, Pink, Sockeye, and Chum salmon, as well as steelhead and bull trout. The watershed supports the last spring Chinook salmon run in the South Puget Sound (Salmon Habitat Recovery 2018). Spawning tributaries often experience low streamflows during critical migration and spawning periods (PRWC 2014). Many people depend on the salmon fishery. This includes tribes with usual and accustomed fishing areas that overlap with the Puyallup-White watershed, such as the Puyallup Tribe of Indians and the Muckleshoot Indian Tribe (NWIFC 2014).

2.1.4 Water System Distribution and Impacts in WRIA 10

Communities in WRIA 10 rely on a mix of both groundwater and surface water. Water systems distribute most water in the watershed. The Washington Department of Health classifies water systems by the number of connections and the number people served each day. Group A water systems serve 15 or more connections and 25 or more people per day and require a water right from Ecology. Group B water systems serve fewer than 15 connections and 25 people per day (WA Department of Health 2020). The size of the Group B system determines whether it requires a water right. Usually Group B systems serving fewer than six connections are exempt from permitting because they can meet the requirements of RCW 90.44.050. In Pierce County, wells serving two connections are considered Group B systems. Most PE wells are located in unincorporated rural areas, where water systems are unavailable.

2.2 Watershed Planning in WRIA 10

Citizens and local, state, federal, and tribal governments have collaborated on watershed and water resource management issues in WRIA 10 for decades. This section provides a brief summary of broad watershed planning activities as they relate to the past, present, and future water availability and salmon recovery in the Puyallup-White Watershed.

2.2.1 Current Planning Efforts in WRIA 10

This watershed plan is building on many of the past and ongoing activities to further develop comprehensive plans for the entire watershed. For example, the Puyallup White River Local Integrating Organization (PWR-LIO) is developing an Ecosystem Recovery Plan, which will set local priorities and inform the next Action Agenda for Puget Sound Recovery.⁹ The planning process to develop an ecosystem recovery plan is community based with engagement by residents, nonprofits, and local, state, and federal agencies. The approach is holistic, addressing everything from salmon and orca recovery, stormwater runoff, equity, climate change, and farmland and forest conservation. The PWR-LIO has engaged the community in a collaborative planning process to develop local priorities and support the health and sustainability of the watershed.

The Salmon Recovery Lead Entity, a collaboration of local governments, state, federal, and tribal partners, and nonprofit organizations, is focused on protecting and enhancing wild salmon populations. In 2018, the Lead Entity updated the Salmon Habitat Protection and Restoration Strategy for Puyallup and Chambers Watersheds.¹⁰

The PWR-LIO and Salmon Recovery Lead Entity include many of the same organizations and individuals that participate in the Committee. This history of collaborative planning and shared priorities has supported the success of the watershed restoration and enhancement plan development in WRIA 10. This history of collaboration will also lead to successful implementation of this plan.

The Pierce County Coordinated Water System Plan (CWSP) was created for water utilities to coordinate planning and construction programs with water utilities and other local jurisdiction programs.¹¹ The plan, established in 1988, provides the foundation for how to meet public drinking water needs with consideration for future growth. A limited update was completed in 2001, but it did not address changes associated with water resources, water supply, and land use planning. The County completed a more significant update in 2020.

⁹ The PWR-LIO boundaries mirror the WRIA 10 boundaries, except for a small area in Tacoma. More information on local integrating organizations and their efforts to recovery Puget Sound is available here:

<https://www.psp.wa.gov/LIO-overview.php>.

¹⁰ Salmon recovery lead entities in Puget Sound were established under RCW 77.85.050. More information on their roles as well as links to the recovery plan and watershed chapters is available here:

<https://www.psp.wa.gov/salmon-recovery-overview.php>.

¹¹ More information on Pierce County Coordinated Water System Planning is available here:

<https://www.co.pierce.wa.us/951/Coordinated-Water-System-Planning>

This planning ensures that water system service areas are consistent with local growth management plans and development policies. The location of new homes in relation to and within designated retail water system service areas and related policies determine if homes connect to water system or rely on new PE wells. Within their designated retail service area(s), Group A water purveyors are given first right of refusal for new connections. The purveyor may allow an individual well if they are unable to provide service in a ‘reasonable and timely’ manner.

2.2.2 Coordination with Existing Plans

Throughout the development of this watershed plan, Ecology streamflow restoration staff have engaged with staff from the Salmon Recovery Lead Entity, PWR-LIO, and the Puget Sound Partnership, providing briefings on the streamflow restoration law, scope of the watershed plan, and plan development status updates. The Committee chair conducted outreach to the WRIA 10 Salmon Recovery Lead Entity to align salmon recovery priorities and the streamflow planning process. Throughout the planning process, Ecology has coordinated closely with the lead entity and PWR-LIO, including inviting lead entity to take part as an ex-officio member on the Committee, selecting priority streams based on information from the Salmon Recovery Strategy, and incorporating priority salmon recovery projects in the watershed plan.

This watershed plan incorporates assumptions that reflect the Pierce County and King County Comprehensive Plan goals and policies. The counties’ Comprehensive Plans set policy for development, housing, public services and facilities, and environmentally sensitive areas, among other topics. The Comprehensive Plans identify where and how future population, housing, and job growth is planned. The plan uses the Pierce and King county zoning districts and Group A water system service areas as the basis for estimating the likely areas of future PE wells.

As a component of a comprehensive plan, a capital facilities plan identifies public facilities that will be needed to ensure service levels keep pace with expected development. It includes projects from a range of county functions, including: airport/ferries, emergency management, general administration, parks, roads, sewer, sheriff/court/correctional facilities, and surface water management. The capital facilities plan must identify the location and cost of capital facilities, as well as the sources of revenue used to fund them. The counties update capital facilities plans annually and appropriate funding for the following year. If the costs exceed the revenue, the county must reduce its level of service, reduce costs by implementing noncapital alternatives or other methods, or modify the land use element to bring development into balance with available or affordable facilities.

Projects may also fall under the noncapital category. Noncapital alternatives include programs, strategies, and methods other than ‘brick and mortar’-type capital improvement to achieve the county’s required level of service. This category includes programs like education and outreach, improvements to existing facilities, and projects to improve natural drainage as an alternative to engineered solutions (e.g., levees and dikes).

The counties may evaluate and prioritize capital projects (structures or engineered improvements to land) identified through the watershed plan for placement into the capital

facilities plan. Most projects will fall under the category of surface water management. Pierce County's Surface Water Management Division (SWM) uses the Surface Water Improvement Plan (SWIP) as its primary basis for project implementation planning. Not all projects listed in the SWIP make it into the capital facilities plan, but the SWIP does inform which projects are incorporated. The SWIP is also a six-year plan that the County updates annually. Projects come from existing, County-approved plans and the County ranks for their ability to address flooding, water quality, habitat, and other factors. Limited available funding and new mandatory obligations also factor into capital project prioritization. If approved, the watershed plan will become one of the guiding project implementation plans for the SWIP.

2.3 Description of the Watershed – Geology, Hydrogeology, Hydrology, Streamflow, and Salmon Presence

2.3.1 Geologic Setting

The lowland geology of WRIA 10 is dominated by a broad drift plain formed from a sequence of unconsolidated glacial and interglacial deposits, intersected by several expansive river valleys. Volcanic and sedimentary rocks form the foothill and mountainous foothill terrains of the Cascade Range in the eastern watershed, but they also underlie the unconsolidated sediments to the west. Depths to bedrock in the lowlands can exceed 2,000 feet (Welch et al. 2015).

Pleistocene glaciation (2.6 million to 11,700 years ago) played an important role in sculpting the landscape of both the Puget Sound Lowlands and the Cascade Mountain Range. Reaching a maximum extent during the Vashon stage of the Fraser Glaciation approximately 16,000 years ago, an ice sheet (the Puget Lobe) advanced southward into present day Puget Sound (Pringle 2008). Multiple advances and retreats of the ice sheet formed the Puget Sound Lowlands, depositing a complex sequence of glacial and inter-glacial sediments. The advancement of the alpine glaciers from Mount Rainier carved out the characteristic U-shaped valleys that form the upper and middle reaches of the present-day White, Puyallup, and Carbon river valleys (PRWC 2014).

The geologic setting lays the foundation for surface and groundwater flow through the basin. The relationships between surface water flow and deeper groundwater are important to understanding how to manage surface water resources and can be helpful in identifying strategies to offset the impacts of pumping from PE wells.

2.3.2 Hydrogeologic Setting

The U.S. Geological Survey (USGS) described the hydrology of WRIA 10 in a hydrogeologic framework report for the Puyallup River Watershed based on previous studies and published reports for both King and Pierce counties (Welch et al. 2015). The hydrogeologic units of the area are described as being either water-bearing ("aquifer") and non-water-bearing ("aquitard" or "confining layer") sediments, without regard to geologic origin or age. Major groundwater aquifers are found in the unconsolidated glacial and interglacial sediments throughout the central and lower regions of the watershed.

Groundwater in the aquifers generally flows to the northwest towards Puget Sound, and to the north and northeast towards the Puyallup River, White River, and Green River valleys. These generalized flow patterns are complicated by the presence of low permeability confining units and bedrock that separate discontinuous bodies of aquifer material and act as local groundwater-flow barriers (Welch et al. 2015). Summer base flows in the rivers and tributaries are sustained by groundwater on most of the lower-elevation tributaries, and on glacier and snow melt on the mainstem rivers (Puyallup, Carbon, and White) that drain from Mount Rainier (PRWC 2014).

USGS breaks the hydrogeology of the watershed into 12 units, typically alternating between aquifer and non-aquifer layers. The upper seven layers of the USGS definitions include four aquifer units that are present throughout the majority of the lower and central areas of the watershed (see Appendix E). These aquifers are the most likely sources for new PE wells. They are also the main source of direct recharge or baseflow to the surface water system.

The remaining five units become thinner or are not present in large portions of the central or eastern areas of the watershed. Future PE wells are therefore unlikely to access water from these layers.

2.3.3 Hydrology and Streamflow

The Puyallup, White, and Carbon rivers are located in a snowmelt transition region where the rivers are fed by both snowmelt and rainfall. Annual precipitation near the city of Tacoma ranges from approximately 30 to 40 inches per year, while over 120 inches of precipitation can fall in the Cascades. Most precipitation occurs during the winter (PRWC 2014). During the summer, when water demands are highest, streamflows are dependent upon glacier melt and groundwater inflow (Ecology 2020).

Anticipated future climate impacts will result in continued loss of snow and glacial volumes in the Cascades, combined with rising temperatures and changes in precipitation. Earlier spring snowmelt, lower snowpack, increased evaporative losses, and warmer and drier summer conditions will intensify summer drought conditions and low flow issues in WRIA 10. These climate impacts are expected to drive changes in seasonal streamflows, increasing winter flooding, while intensifying summer low flow conditions (Whitely Binder et. al. 2019). Climate modeling predicts average minimum flows¹² to be 27 percent lower¹³ by the 2080s for a moderate warming scenario, relative to 1970-1999 (Mauger et al. 2015).

Glacial melting is a significant factor in maintaining streamflow during dry months. The lowest monthly flow normally occurs in September in most of WRIA 10. However, in higher elevations the lowest flows are often recorded in March, just prior to the beginning of peak snowmelt but before glacial melt water from the alpine areas of Mount Rainier contributes to summer flows.

¹² Average minimum flows, or 7Q10 flows, are the lowest 7-day average flow that occurs on average once every 10 years.

¹³ Range: -39 to -16 percent.

Once snowpack is depleted, usually by the end of June, streamflow is then sustained by groundwater contribution and glacial melting (Ecology 1980).

Runoff contribution for most of the basin are measured at a downstream gaging station on the Puyallup River in Puyallup, and indicate a mean annual flow of 3,332 cfs at the USGS stream gage near Puyallup.

There are three water quantity diversion/control structures in the Puyallup-White watershed:

- Mud Mountain Dam is a flood control dam on the White River at river mile (RM) 29.6 operated by the U.S. Army Corps of Engineers (USACE). The dam was constructed solely as a flood control structure, and since 1948 it has provided a mechanism for flood control on the lower Puyallup.
- The Buckley diversion dam¹⁴ is located on the White River at RM 24.3 and diverts water to Lake Tapps and also traps adult salmon to be hauled upstream of Mud Mountain Dam. The diversion dam is operated by the USACE.
- The Electron diversion dam, operated by Electron LLC, diverts water for power generation on the upper Puyallup River.

The WRIA 10 Instream Resources Protection Program (chapter 173-510 WAC) established instream flows on the Puyallup and Carbon Rivers. The rule protects the river from new permitted water rights by setting minimum flow levels, which are like water rights for the stream. Instream flows do not put water in the streams and do not affect existing (senior) water rights. The rule also creates flow limitations and year-round closures for most streams within the watershed, protecting existing flows from new appropriations.

2.3.5 Salmon Presence and Limiting Factors

The Puyallup River Basin, including the White and Carbon Rivers, have anadromous salmon runs that include four of the five Pacific salmon species (Kerwin 1999; Lead Entity 2018; SWIFD 2020; WDFW 2020). Chinook (*Oncorhynchus tshawytscha*), Coho (*Oncorhynchus kisutch*), Chum (*Oncorhynchus keta*) and Pink salmon (*Oncorhynchus gorbuscha*) migrate in and out of the Puyallup River watershed from Puget Sound. The watershed is also inhabited by Steelhead Trout (*Oncorhynchus mykiss*), Cutthroat Trout (*Oncorhynchus clarki clarki*), and Bull trout (*Salvelinus confluentus*). These Puget Sound salmonids are keystone species that provide a gauge of the health of our watersheds and Puget Sound ecosystem (Kerwin 1999; Lead Entity 2018).

Of these populations, Chinook Salmon and steelhead are federally listed as threatened under the ESA of 1973 (70 FR 37160; 72 FR 26722). Bull Trout are also federally listed by the U.S. Fish and Wildlife Service throughout their range (64 FR 58910). Spring Chinook at the Muckleshoot Tribe's White River Hatchery are also included in the listing (64 FR 14308, March 24, 1999). Table 2 below lists the species present in the Puyallup/White watershed and their regulatory status.

¹⁴ A multimillion dollar project is currently underway to improve fish passage at the Buckley diversion dam.

Table 2 Salmonid Species and Status in the Puyallup River Watershed

Common Name	Scientific Name	Evolutionary Significant Unit	Critical Habitat	Regulatory Agency Status
Chinook Salmon	<i>Oncorhynchus tshawytscha</i>	Puget Sound Chinook ¹⁵	Yes/2005	NMFS/Threatened/1999
Chum Salmon	<i>Oncorhynchus keta</i>	Puget Sound Chum	No	No listing
Coho Salmon	<i>Oncorhynchus kisutch</i>	Puget Sound/Strait of Georgia Coho	No	NMFS/Species of Concern/1997
Pink Salmon	<i>Oncorhynchus gorbuscha</i>	No listing	No listing	No listing
Steelhead Trout	<i>Oncorhynchus mykiss</i>	Puget Sound Steelhead	Yes/2016	NMFS/Threatened/2007
Bull Trout	<i>Salvelinus confluentus</i>	Puget Sound Dolly Varden/Bull Trout	Yes	USFWS/Threatened/1999
Coastal Cutthroat Trout	<i>Oncorhynchus clarki ssp.</i>	No listing	No listing	No listing

Table source: Puyallup and Chambers Watersheds Salmon Recovery Lead Entity 2018.

All anadromous salmonid species in the lower Puyallup River migrate out to Puget Sound as juveniles and return upstream as spawning adults. The subbasins within WRIA 10 have various passage and habitat conditions that distribute the species throughout subbasins and tributaries.

Table 3 lists the run timing and life stages of anadromous salmon and trout present throughout the watershed. The following sections describe the general distribution of salmonids in each of these subbasins.

¹⁵ Includes Puyallup River Fall Chinook and White River Spring Chinook.

Table 3 Salmonid Presence and Life History Timing in Puyallup Watersheds

Salmonid Life History and Habitat Utilization in Puyallup Watersheds															
Species	Freshwater Life Phase	Month												Subbasin Presence	
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Chinook (spring)	Upstream migration														Upper White River Middle White River
	Spawning														
	Incubation														
	Juvenile rearing														
	Fry outmigration														
	Juvenile outmigration														
Chinook (fall)	Upstream migration														All
	Spawning														
	Incubation														
	Juvenile rearing														
	Juvenile outmigration														
Coho	Upstream migration														All
	Spawning														
	Incubation														
	Juvenile rearing														
	Smolt outmigration														
Chum	Upstream migration														Lower White River Lower Puyallup

Salmonid Life History and Habitat Utilization in Puyallup Watersheds															
Species	Freshwater Life Phase	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Subbasin Presence	
	Spawning														Upper Puyallup Carbon South Prairie Creek
	Incubation														
	Juvenile rearing														
	Juvenile outmigration														
Pink	Upstream migration														Lower White River Lower Puyallup Upper Puyallup Carbon South Prairie Creek
	Spawning														
	Incubation														
	Juvenile rearing														
	Juvenile outmigration														
Bull Trout	Upstream migration														All
	Spawning														
	Incubation														
Coastal Cutthroat Trout	Upstream migration														All
	Spawning														
	Incubation														
	Juvenile rearing														
	Smolt outmigration														
Steelhead Trout (winter)	Upstream migration														All
	Spawning														

Salmonid Life History and Habitat Utilization in Puyallup Watersheds																
Species	Freshwater Life Phase	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Subbasin Presence		
	Incubation															
	Juvenile rearing															
	Smolt outmigration															

Limiting Factors

Development and population growth in the Puget Sound region has dramatically altered the Puyallup-White Watershed from its historic conditions and natural stream habitat forming processes. The exception is Mount Rainier National Park and the upper Puyallup, White, and Carbon rivers which are predominantly within U.S. Forest Service and private commercial timberlands and have not been developed and urbanized compared to the Puget Sound lowlands. Shoreline armoring has blocked most of the historic nearshore area, estuarine river delta, floodplain, riparian, and forested habitat in the Puyallup-White Watershed. Large expanses of development have introduced impervious surfaces, heavy industry, commercial logging, mining, agriculture, and one of the largest marine ports on the west coast to the area, resulting in habitat loss and degradation.

In general, the primary limiting factors in the Puyallup Watershed include the following:

- Loss of floodplain habitat, wetlands, and connectivity to hyporheic zone.
- Loss of off-channel and side-channel habitat.
- Loss of natural habitat-forming flow regimes.
- Loss of upstream, downstream, and lateral fish passage.
- Loss of riparian corridors, including marine riparian, and floodplain forests.
- Loss of instream habitat complexity and connectivity.
- Loss of large wood.
- Increase in river channelization.
- Loss of spawning and rearing habitat.
- Loss of estuarine and nearshore habitat, including bluffs.
- Loss of good water quality, including appropriate temperature.
- Increase in contamination of water, sediment, and prey resources.

Past and present timber harvest practices in both the upper Puyallup and upper White River watersheds have reduced the ability for riparian areas to provide wood and shade to the river and stream channels and continue to contribute fine sediments from road construction and landslides (Kerwin 1999). Loss of functioning riparian corridors combined with low flows in summer results in high water temperatures that can cause migration barriers and stress that can be lethal to adult and juvenile salmonids, as well as some of their prey resources (Lead Entity 2018).

Revetment and levee systems on portions of the White, Carbon, and Puyallup rivers have removed spawning and rearing habitat for salmon species. Other fish passage barriers including culverts, tide gates, diversion dams, and two hydroelectric facilities located throughout the watershed have further reduced available spawning and rearing habitats (Lead Entity 2018).

The watershed is crisscrossed with railroads, highways, roads, bridges, culverts, and tide gates that further impact habitat. These developments impact water quality via air-borne pollutants, industrial wastewater, stormwater runoff, and contaminated sediments from both past and current industrial activities. Altered flow regimes and extraction of groundwater, increased water temperatures, low dissolved oxygen, pH, nutrients, high turbidity and fine sediments further alter water quality (PRWC 2014).

Chapter Three: Subbasin Delineation

3.1 Introduction

WRIAs are large watershed areas formalized under Washington Administrative Code for the purpose of administrative management and planning. WRIAs encompass multiple landscapes, hydrogeologic regimes, levels of development, and variable natural resources. To allow meaningful analysis of the relationship between new consumptive use and offsets,¹⁶ the plan divides WRIA 10 into subbasins. The plan uses the subbasins to describe the location and timing of projected new consumptive water use, the location and timing of impacts to instream resources, and the necessary scope, scale, and anticipated benefits of projects. In some instances, subbasins may not correspond with hydrologic or geologic basin delineations (e.g. watershed divides) (Ecology 2019b).

3.2 Approach to Develop Subbasins

The plan divides WRIA 10 into seven subbasins to assess population growth, consumptive use, and project offsets.¹⁷ The basic considerations in delineating subbasin boundaries for this planning process were:

- Areas of anticipated rural growth.
- Areas where few PE wells are expected.
- Surface hydrology and/or hydrogeology.

Other considerations were:

- Too few subbasins reduce the understanding of relationships between where pumping effects occur and where benefits of offset projects and actions occur.
- Too many subbasins can make it unwieldy to evaluate all of the offset projects and actions needed to achieve a NEB for the WRIA.
- Existing or concurrent planning efforts may have already delineated subbasins.
- Hydrogeologic subbasins (based on groundwater divides instead of surface water divides) can be more complex to delineate, since water in different aquifer units can travel in different directions, and a complete understanding of hydrogeology is lacking.
- Priority areas for salmon recovery.
- Lake Tapps and the location of the intake on the White River.

¹⁶ “Planning groups must divide the WRIA into suitably sized subbasins to allow meaningful analysis of the relationship between new consumptive use and offsets. Subbasins will help the planning groups understand and describe location and timing of projected new consumptive water use, location and timing of impacts to instream resources, and the necessary scope, scale, and anticipated benefits of projects and actions. Planning at the subbasin scale will also allow planning groups to consider specific reaches in terms of documented presence (e.g., spawning and rearing) of salmonid species listed under the federal Endangered Species Act.” Final NEB Guidance p. 7.

¹⁷ This is consistent with Final NEB Guidance that defines subbasins as a geographic subarea within a WRIA. A subbasin is equivalent to the words “same basin or tributary” as used in RCW 90.94.020(4)(b).

The plan divides WRIA 10 into seven subbasins, as described in Section 3.3. A more detailed description of the subbasin delineation is in the technical memo available in Appendix F.

3.3 Subbasins

The WRIA 10 subbasin delineations are shown on Figure 3 and summarized below in Table 4:

Table 4 WRIA 10 Subbasins

Subbasin Name	Primary Rivers and Tributaries	County
Carbon River	Carbon River and Voight Creek	Pierce County
Lower Puyallup River	Puyallup River, Fennel Creek, Rody Creek, Clear Creek, Wapato/Simons Creek	Pierce County
Lower White River	White River	Pierce County and King County
Middle White River	White River, Clearwater River, Boise Creek	Pierce County and King County
South Prairie Creek	South Prairie Creek, Wilkeson Creek	Pierce County
Upper Puyallup River	Mowich River, North Puyallup River, South Puyallup River, Ohop Creek, Puyallup River, Kapowsin Creek	Pierce County
Upper White River	West Fork White River, Greenwater River	Pierce County and King County

The following section contains a brief description of the subbasins, salmonid presence, and limiting factors.

3.3.1 Carbon River

The Carbon River subbasin produces Chinook, Pink, Chum, and Coho Salmon and contains spawning areas for each of these species. Steelhead and Cutthroat Trout spawning, rearing, and migration are also present (SWIFD 2020; WDFW 2020). Bull Trout are present in the Carbon River subbasin; WDFW documented some spawning in the upper watershed in the mountains (Kerwin 1999; WDFW 2020).

Poorly designed and/or constructed culverts act as barriers to adult and juvenile salmonid migration on a few tributaries and act as total passage problems. Some are the result of low flows or represent partial barriers based upon water velocities (Kerwin 1999). Historical timber harvest activities have resulted in the loss of riparian old growth conifer trees that served as the source of short and long-term recruitment of functional sized wood pieces. The virtual lack of large woody debris is believed to be a limiting factor in providing channel stability and habitat necessary for successful salmonid production (Kerwin 1999; Puyallup River Watershed Council 2014).

3.3.2 Lower and Upper Puyallup

The lower and upper Puyallup River subbasins are inhabited by Chinook, Coho, Chum, and Pink salmon, as well as steelhead, Cutthroat Trout, and Bull Trout (SWIFD 2020; WDFW 2020). The Puyallup River Fall Chinook salmon and the White River Spring Chinook salmon use the Puyallup River, including the Puyallup River estuary and nearshore areas of Commencement Bay. Salmonids are present in habitat that supports their critical life history phases throughout the Puyallup-River in every month of the year (see Table 3).

The lower Puyallup River is generally contained in formal channelized banks and extensive levees with little to no bank cover or overhanging vegetation. Tidal influence extends about seven miles upstream from the mouth. Channelization and the loss of riparian and off-channel habitats have extensively altered the lower Puyallup River (Lead Entity 2018). Large woody debris is virtually absent in the lower Puyallup subbasin and river habitat lacks complexity. The extensive channelized nature of the mainstem of the Puyallup River through this reach serves as a salmonid transportation corridor with only limited rearing habitats available to salmonids (Kerwin 1999).

3.3.3 Lower, Upper, and Middle White

The White River is inhabited by Chinook, Coho, Chum, and Pink salmon, as well as steelhead, Cutthroat Trout, and Bull Trout (SWIFD 2020; WDFW 2020). The White River Spring Chinook is the only remaining spring Chinook salmon stock found in the South Puget Sound (PRWC 2014; Lead Entity 2018). The majority of documented spawning occurs in the larger clear water tributaries to the White River, including the Greenwater and Clearwater rivers, and Huckleberry and Boise creeks (PRWC 2014).

Downstream of Mount Rainier National Park boundary, the mainstem and many tributaries flow through industrial forestlands. There is a high road density in this timber production area. High road density can contribute to increased sedimentation, landslides, slope failures, changes in hydrology, and culverts preventing upstream migration in affected drainages (Marks et al. 2016). Mud Mountain Dam impedes natural habitat forming processes by blocking downstream input of large wood that starves the lower watershed of crucial habitat building materials (PRWC 2014).

3.3.4 South Prairie Creek

South Prairie Creek is one of the most important tributaries for salmon production in the Puyallup-White watershed (PRWC 2014). The South Prairie Creek subbasin contains important remaining spawning habitat for the watershed. Steelhead trout, Chinook, Pink, Coho and Chum Salmon all successfully reproduce within this subbasin (SWIFD 2020; WDFW 2020).

The lower 5 miles of South Prairie Creek and a 1-mile segment on Wilkeson Creek in the town of Wilkeson have been channelized and contained within levees (Kerwin 1999). These diked reaches have caused increased water velocities on the lower South Prairie and Wilkeson Creek channels and degraded salmonid habitat.

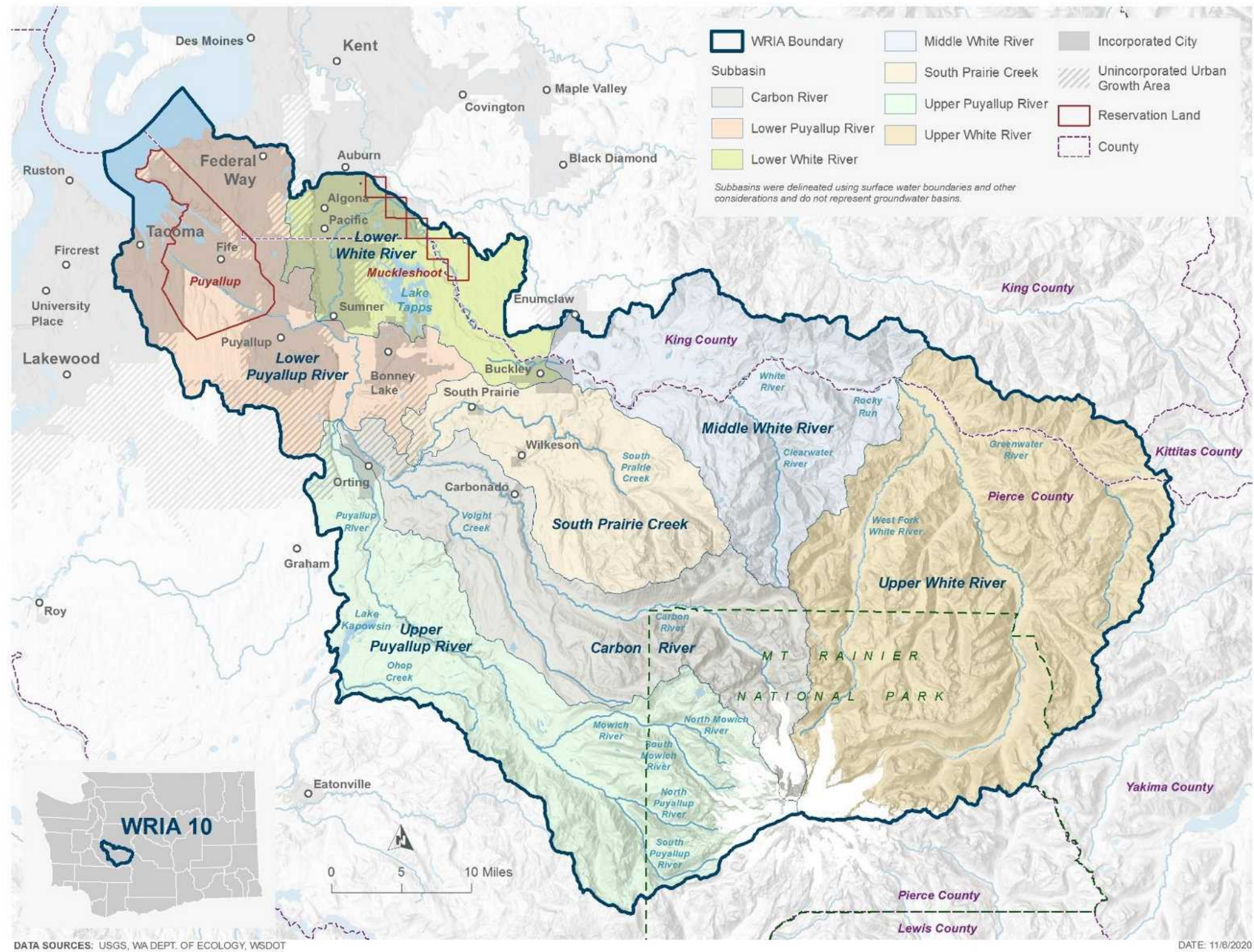


Figure 3 WRIA 10 WRE Subbasin Delineation

Chapter Four: New Consumptive Water Use Impacts

4.1 Introduction to Consumptive Use

The Streamflow Restoration law requires watershed plans to include “estimates of the cumulative consumptive water use impacts over the subsequent twenty years, including withdrawals exempt from permitting under RCW 90.44.050” (RCW 90.94.030(3)(e)). 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”. This chapter describes the s projections of new PE well connections and their associated consumptive use for the planning horizon.¹⁸ This chapter summarizes information from the technical memos (Appendices F and G) prepared for this plan.

4.2 Projection of PE Well Connections (2018–2038)

The plan projects 688 PE wells over the planning horizon. Installation of most of these wells is likely to occur in the urban fringe of the watershed between Enumclaw and Orting, and east of Lake Tapps.

The new PE wells projected over the planning horizon in WRIA 10 is part of the formula to estimate new consumptive water use. The methods were based on recommendations from Appendix A of Ecology’s Final NEB Guidance. The following sections provide the 20-year projections of new PE wells for each subbasin within WRIA 10, the methods used to develop the projections, and the uncertainties associated with the projections.

4.2.1 PE Well Connections Projection by Subbasin

This watershed plan compiles growth projection data for Pierce and King counties at both the WRIA scale and by subbasin. The projection for new PE wells in WRIA 10 by subbasin is shown in Table 5 and Figure 4.

¹⁸ New consumptive water use in this document is from projected new homes connected to PE wells associated with building permits issued during the planning horizon. Generally, new homes will be associated with wells drilled during the planning horizon. However, new uses could occur where new homes are added to existing wells serving group systems under RCW 90.44.050. In this document, the well use discussed refers to both these types of new well use. PE wells may be 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.

Table 5 Number of PE Wells Projected between 2018 and 2038 for the WRIA 10 Subbasins

Subbasin	King County	Pierce County	Total
Carbon River	--	109	109
Lower Puyallup River	--	102	102
Lower White River	24	52	76
Middle White River	57	--	57
South Prairie Creek	--	167	167
Upper Puyallup River	--	165	165
Upper White River	--	12	12
WRIA 10 Total	81	607	688

Growth projections resulted in approximately 81 new PE wells in unincorporated King County within WRIA 10 and approximately 607 PE wells within incorporated cities and unincorporated areas of WRIA 10 in Pierce County over the planning horizon. The total projection for WRIA 10 is 688 new PE wells.

4.2.2 Methodology

This plan used a different method for calculating the PE well projections within each county based on available data and county preference. The King County-based projections used historical building permit data and the Pierce County-based projections used historical well permit data. Both of these methods are summarized in this section. WRIA 10 Permit-Exempt Growth and Consumptive Use Summary (Appendix G) offers a more detailed description of the methods incorporated into this plan.

Growth Projection Methodology within King County

Historical building permit data from 2000 through 2017 were used to project the number of new PE wells for the planning horizon in unincorporated King County. This data set considers economic and building trends over an 18-year period and the methodology assumes that past trends will continue.

The number of new PE wells over the planning horizon using the following steps summarized from the King County Growth Projections Memo 2019 (Appendix G):

1. Compile 18 years (2000-2017) of building permit data for new residential structures and separate into public, private, and unknown water sources. Consider a building permit with water source listed as “private” as a PE well.
2. Calculate the annual average number of PE wells.
3. Estimate the total number of PE well connections anticipated over the 20-year planning horizon by multiplying the annual average number of PE wells by 20.
4. Allocate the new PE wells within each subbasin. Use GIS to assess potential areas for future residential development dependent on PE wells.

Growth Projection Methodology within Pierce County

The method for Pierce County used PE well installation data from the Tacoma-Pierce County Health Department (TPCHD) between 1999 and 2018 to project the number of new PE wells in the planning horizon. This method has several advantages:

- The TPCHD location data is accurate to parcel level and includes individual, shared, and Group B wells.¹⁹
- The database includes all wells in the county, including wells constructed within city limits and within Group A water service area boundaries.
- This dataset includes attributes such as the year the well was installed and the parcel on which the well was installed.

The following steps to project growth of PE well connections over the planning horizon were used:

1. Calculate historical growth rates of PE wells for each subbasin using the TPCHD well database (1999–2018).
2. Project future PE wells by subbasin for the planning horizon, based on the subbasin-specific historical growth rate.

4.2.3 Summary of Uncertainties and Scenarios

The methods described above for projected new PE wells include a number of uncertainties and limitations. The Committee discussed these uncertainties and recognized that uncertainties are inherent to the planning process. This section presents the uncertainties and limitations considered during the planning process and the steps taken to address or acknowledge the uncertainties.

One limitation is that the projection for King County does not account for PE wells installed within city limits. Although most cities require new homes to connect to water systems, they allow exceptions (for instance, if a home is more than 200 feet from a water line). This limitation is counteracted by the understanding that water lines and water service areas continue to expand. This limitation did not apply in Pierce County because PE well data included both incorporated and unincorporated areas.

The projections for both Pierce and King Counties relied on historical data. Areas that were not served by public water in 2000 might be served now or within the planning horizon, shrinking the areas where PE wells can still be installed. Since water line data is not readily available, the Committee was not able to compare actual water lines with the historical data to see where the water service has expanded in the past 20 years.

¹⁹ The TPCHD permits PE wells during the subdivision and building permit process. TPCHD imposes limits on well withdrawals that are lower than the 950 gallon limit for subdivision projects. Based on their information, average water use is 400 gallons per day. TPCHD allows up to 12 lots in a subdivision if each lot is served by an individual well. Those wells are limited to using 400 gallons per day. Subdivisions served by Group B PE wells can have up to six connections and each connection can use up to 750 gallons per day.

The methods assumed that historical growth trends would continue into the future. However, many factors play into homebuilding trends. To acknowledge this uncertainty, the Committee developed PE well growth rates using different time-periods in the historical TPCHD well database. These time periods reflected the rapid rural development from 1999-2008 and the slower rural development from 2009-2018 (Table 6). Ultimately, this plan uses the projection based on the full historical record (1999-2018) because this moderate projection captured likely variations of development trends over the planning horizon.

Table 6 Number of PE Well Connections Projected between 2018 and 2038

Subbasin	Moderate Growth (1999-2018)			High Growth Scenario (1999-2008)			Low Growth Scenario (2009-2018)		
	King	Pierce	Total	King	Pierce	Total	King	Pierce	Total
Carbon River	--	109	109	--	142	142	--	87	87
Lower Puyallup River	--	102	102	--	153	153	--	53	53
Lower White River	24	52	76	24	67	91	24	42	66
Middle White River	57	--	57	57	--	57	57	--	57
South Prairie Creek	--	167	167	--	229	229	--	122	122
Upper Puyallup River	--	165	165	--	242	242	--	104	104
Upper White River	--	12	12	--	4	4	--	20	20
Total	81	607	688	81	838	919	81	429	510

4.2.4 Spatial Distribution of New PE Wells

This plan maps potential locations of new PE wells in the watershed based on parcels available for rural residential development to validate the PE well projection. These parcels are outside of Urban Growth Areas, outside of water and wastewater system boundaries, vacant, currently zoned for residential development, and not located within a commercial or national forest. The resulting map (Figure 4) shows the most likely areas that new residential development dependent on PE wells will occur. Most opportunity for new PE wells is within the unincorporated areas adjacent to the urban growth areas.

4.2.5 Projected Growth Map

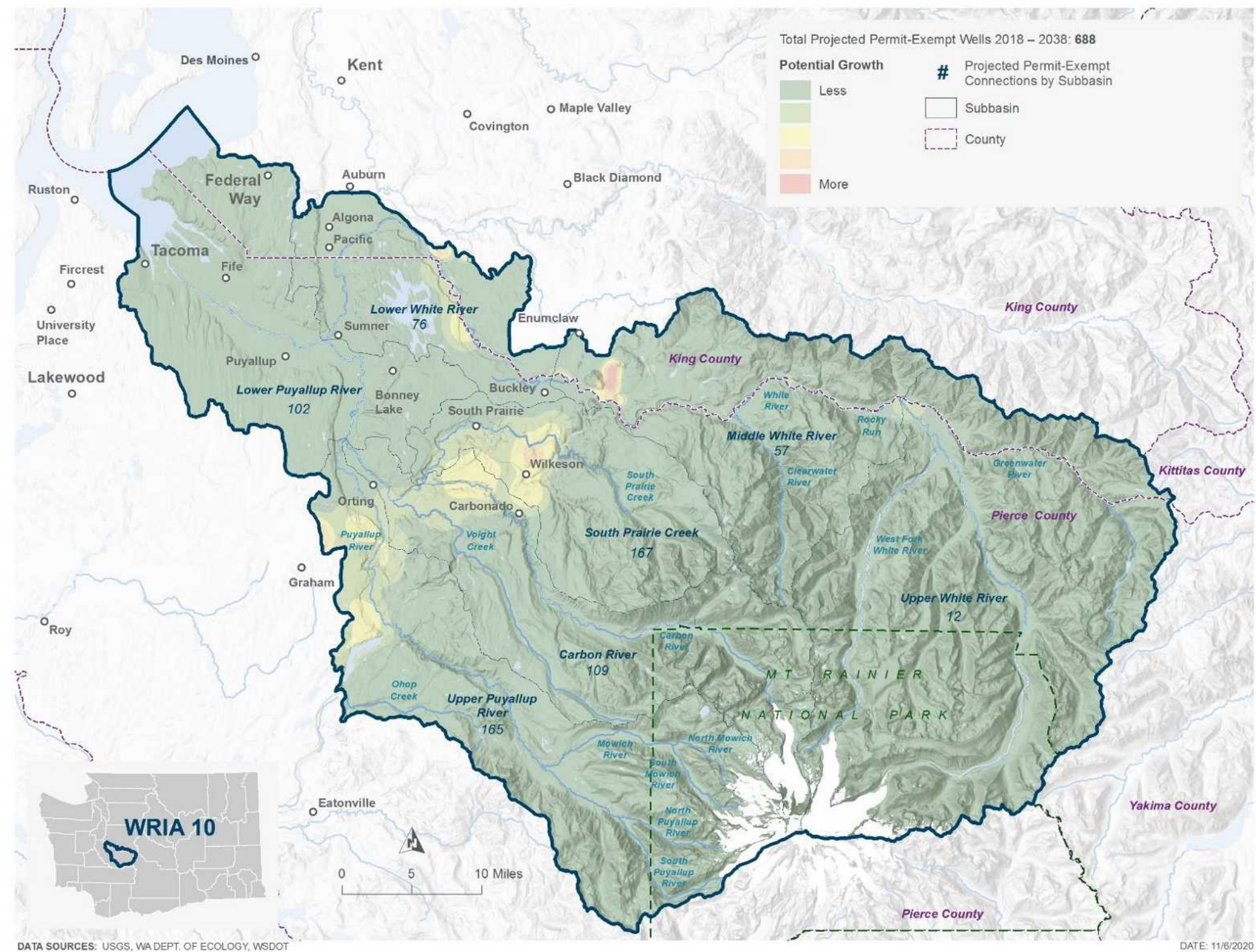


Figure 4 WRIA 10 WRE Distribution of Projected PE Wells

4.3 Impacts of New Consumptive Water Use

The plan uses the moderate projection of new PE wells (688) to estimate the consumptive water use that this watershed plan must address and offset. At the end of the planning horizon (i.e., 2038) the analysis estimated 277.4 acre-feet per year (0.38 cfs) of new consumptive water use in WRIA 10. This section includes an overview of the method used to estimate new consumptive PE well water use (consumptive use), an overview of the anticipated impacts of new consumptive PE well use in WRIA 10 over the planning horizon, and other considerations, such as assumptions and uncertainties.

Consistent with the Final NEB guidance, the plan assumes impacts from consumptive use on surface water are steady-state, meaning impacts to the stream from pumping do not change over time. This assumption is based on the wide distribution of future PE well locations and depths across varying hydrogeological conditions. As Appendix B of the Final NEB Guidance notes, the lag time between when the pumping occurs and when it impacts the stream makes estimating the temporal impacts of PE wells complicated to estimate.

The WRIA 10 Permit-Exempt Growth and Consumptive Use Summary provides a more detailed description of the analysis and alternative scenarios considered (Appendix G).

4.3.1 Methodology to Estimate Indoor and Outdoor Consumptive Water Use

Indoor water use patterns differ from outdoor water use. Indoor use is generally constant throughout the year, while outdoor use occurs primarily in the summer months. Also, the portion of water that is consumptive varies for indoor and outdoor water use. Appendix A of the Final NEB Guidance describes a method (referred to in this plan as the Irrigated Area Method) which assumes average indoor water use per person per day, and reviews aerial imagery to provide a basis to estimate irrigated area of outdoor lawns and gardens. The Irrigated Area Method accounts for indoor and outdoor consumptive use variances by using separate approaches to estimate indoor and outdoor consumptive use.

To calculate the consumptive use estimate, the analysis used the Irrigated Area Method and relied on assumptions for indoor use and outdoor use from Appendix A of the Final NEB Guidance (Ecology 2019b).

To understand the full range of potential water use in WRIA 10, the analysis includes consumptive use estimates based on water system data and the legal withdrawal limit.²⁰ Some individual homeowners use water approaching or surpassing the legal limit during irrigation season.²¹ Other homeowners do not irrigate at all. The Committee determined that these calculations did not accurately portray PE well water use in the watershed. The Committee considered the legal withdrawal limit was too much water for most homeowners to use each

²⁰ Legal withdrawal limits from PE wells in WRIA 10 are defined in RCW: “an applicant may obtain approval for a withdrawal exempt from permitting under RCW 90.44.050 for domestic use only, with a maximum annual average withdrawal of nine hundred fifty gallons per day per connection” RCW 90.94.030(4)(a)(vi)(B)

²¹ Covington Water System data shows individuals using up to 2,673 gallons per day during the irrigation season.

day. Since there are costs associated with water systems, and water systems actively employ water conservation incentives, the Committee assumed that the water system data was most likely an underestimate of PE well water use. These calculations are provided in Appendix G.

New Indoor Consumptive Water Use

Indoor water use refers to the water that households use in kitchens, bathrooms, and laundry (USGS 2012). The plan uses Ecology's recommended assumptions for indoor daily water use per person and local data to estimate the average number of people per household, and then applied Ecology's recommended consumptive use factor (CUF) to estimate new indoor consumptive water use (Ecology 2019b).

- 60 gallons per day (gpd) per person.
- 2.5 persons per household assumed for rural portions of WRIA 10 (OFM 2020).
- 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 on-site sewage systems. On-site sewage systems return most wastewater back to the immediate water environment; a fraction of that water is lost to the atmosphere through evapotranspiration in the drainfield.

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

$$60 \text{ gpd} \times 2.5 \text{ people per house} \times 365 \text{ days} \times 0.10 \text{ CUF}$$

This calculation results in an annual average of 15 gpd, or 0.017 AF²² (0.000023 cfs²³) indoor consumptive water use per PE well.

New Outdoor Consumptive Water Uses

Most outdoor water irrigates 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 on-site sewage systems, but instead infiltrates into the ground or is lost to the atmosphere through evapotranspiration (Ecology 2019b).

Aerial imagery was used to measure the irrigated areas of 80 randomly selected parcels served by PE wells to develop an average outdoor irrigated area. This analysis returned a large number of parcels with no visible irrigation; these parcels were assigned irrigated area values of zero. To account for undetected irrigation or potential outdoor water use other than irrigation, the analysis replaced the zero values with a value of 0.05 acres. An imputed value of 0.05 acres was used because that was the lower end (i.e., < 10th percentile) of measurable irrigated areas in WRIA 10. Using the replacement value of 0.05 acres, the average (sample mean) irrigated area for the 80 randomly selected parcels was 0.21 acres. The analysis then calculates the 95 percent

²² Acre-Foot is a unit of volume for water equal to a sheet of water one acre in area and one foot in depth. It is equal to 325,851 gallons of water. One acre-foot per year is equal to 893 gallons per day.

²³ Cubic feet per second (cfs) is a rate of the flow in streams and rivers. It is equal to a volume of water one foot high and one foot wide flowing a distance of one foot in one second. One cubic foot per second is equal to 646,317 gallons per day.

upper confidence limit (UCL)²⁴ of the sample mean to account for uncertainty associated with the limited survey of parcels with existing PE wells. The 95 percent UCL equaled 0.27 acre. This method is further summarized in Appendix G.

The analysis used following assumptions, recommended in the NEB Guidance, to estimate outdoor consumptive water use:

- Crop irrigation requirements (IR) for turf grass according to Washington Irrigation Guide (WAIG) (NRCS 1997): 16.01 inches per year (weighted average of Buckley and Puyallup WAIG stations). This value represents the rate of watering needed for commercial growth turf grass (see Section 4.3.2 for further discussion).
- 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 irrigation requirement by 25 percent.
- Consumptive use factor of 0.8, reflecting 80 percent consumption for outdoor use. This means 20 percent of outdoor water is returned to the immediate water environment.
- Outdoor irrigated area based on existing homes using PE wells: 0.27 acre (95 percent UCL from the statistical analysis of irrigated area of existing homes).

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

$$16.1 \text{ IR (inches)} / 12 \text{ (inches per foot)} / (0.75 \text{ AE}) \times 0.27 \text{ (acre)} \times 0.80 \text{ CUF}$$

First, water loss is accounted for by dividing the irrigation requirement by the application efficiency. 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 calculation results in an annual average of 345 gpd, or 0.386 AF (0.000535 cfs) outdoor consumptive use per PE well.

The annual average consumptive water totals 360 gpd or 0.403 AF (0.00056 cfs) per PE well for the WRIA. This is an average for the year, however the plan expects that more outdoor water use will occur in the summer than in the other months. The outdoor consumptive use varies by subbasin due to different irrigation requirements across the watershed.

4.3.2 Uncertainties and Limitations

The Irrigated Area Method contains a number of uncertainties and limitations. The Committee discussed these uncertainties and limitations and accepted that the estimates produced by the analysis were satisfactory for projecting consumptive water use in the WRIA. This section describes the uncertainties and limitations, and the actions taken to resolve, address, or acknowledge those uncertainties and limitations.

²⁴ The 95 percent UCL is the sample mean plus the 95 percent confidence error. Therefore, there is a 95 percent chance that the true mean is equal to or less than the 95 percent UCL.

To reduce uncertainty, the analysis relied on existing data to the extent possible, such as the average number of people per household and information from studies that estimate average indoor water use per person.

The outdoor consumptive use calculation contains the most uncertainty. Some Committee members voiced concern on the lack of scientific rigor in the outdoor irrigated area analysis. The average outdoor irrigated area analysis relied on a sample size of 80 parcels distributed by location and property values. This small sample size relative to the number of parcels within WRIA 10 could lower the scientific certainty of the results. To acknowledge the concern, the Committee calculated the 95 percent upper confidence limit under the assumption that the average irrigated area would likely be lower than the 95 percent upper confidence limit. Using the 95 percent upper confidence limit likely resulted in a conservative estimate of consumptive use.

Other factors of uncertainty in the outdoor consumptive use calculation are the assumptions about irrigation amounts and irrigation efficiencies. The calculation assumes that homeowners water their lawns and gardens at the rate needed for commercial turf grass (i.e., watering at rates that meet crop irrigation requirements according to the Washington Irrigation Guide). The irrigated area analysis demonstrated that many people irrigate their lawns enough to keep the grass alive through the dry summers, not at the levels that commercial turf grass requires. Therefore, this plan assumes that the analysis for outdoor consumptive use was likely an overestimate.

The analysis accounted for the uncertainties, assumptions, and limitations in this method by using outdoor irrigation values at the high end of their ranges. This included assigning an irrigated lawn size of 0.05 acres to parcels with no detected irrigation, using the upper limit of the 95 percent confidence interval for outdoor irrigated area, and assuming water use rates necessary for commercial growth of turf grass. This approach provides assurance that if projects and actions in the plan are successfully implemented, the projects will offset more than the actual water consumed.

4.3.3 Summary of Consumptive Use Estimates

The total consumptive use estimate for WRIA 10 is 277.4 acre-feet per year and 0.38 cubic feet per second. This amount is equivalent to 360 gallons per day per PE well. The total consumptive use estimate for WRIA 10 is the PE well projection (Section 4.2) multiplied by the total indoor and outdoor consumptive use per PE well. Table 7 summarizes the estimated indoor and outdoor consumptive use by subbasin. The highest consumptive use is expected to occur in the subbasin with the most projected new PE wells, as presented in Figure 5.

Table 7 Indoor and Outdoor Consumptive Use Estimates by Subbasin

Subbasin	Projected PE wells	Indoor CU		Outdoor CU		Total CU/year in 2038	
		Acre- feet per year	Gallons per day	Acre- feet per year	Gallons per day	Acre- feet per year	Gallons per day
Carbon River	109	1.83	1,634	42.11	37,593	43.9	39,191
Lower Puyallup River	102	1.71	1,527	39.41	35,183	41.1	36,692
Lower White River	76	1.28	1,143	29.36	26,211	30.6	27,318
Middle White River	57	0.96	857	22.02	19,658	23.0	20,533
South Prairie Creek	167	2.81	2,509	64.52	57,600	67.3	60,082
Upper Puyallup River	165	2.77	2,473	63.75	56,912	66.5	59,367
Upper White River	12	0.20	179	4.64	4,142	4.8	4,285
TOTAL	688	11.6	10,356	265.8	237,291	277.4	247,647

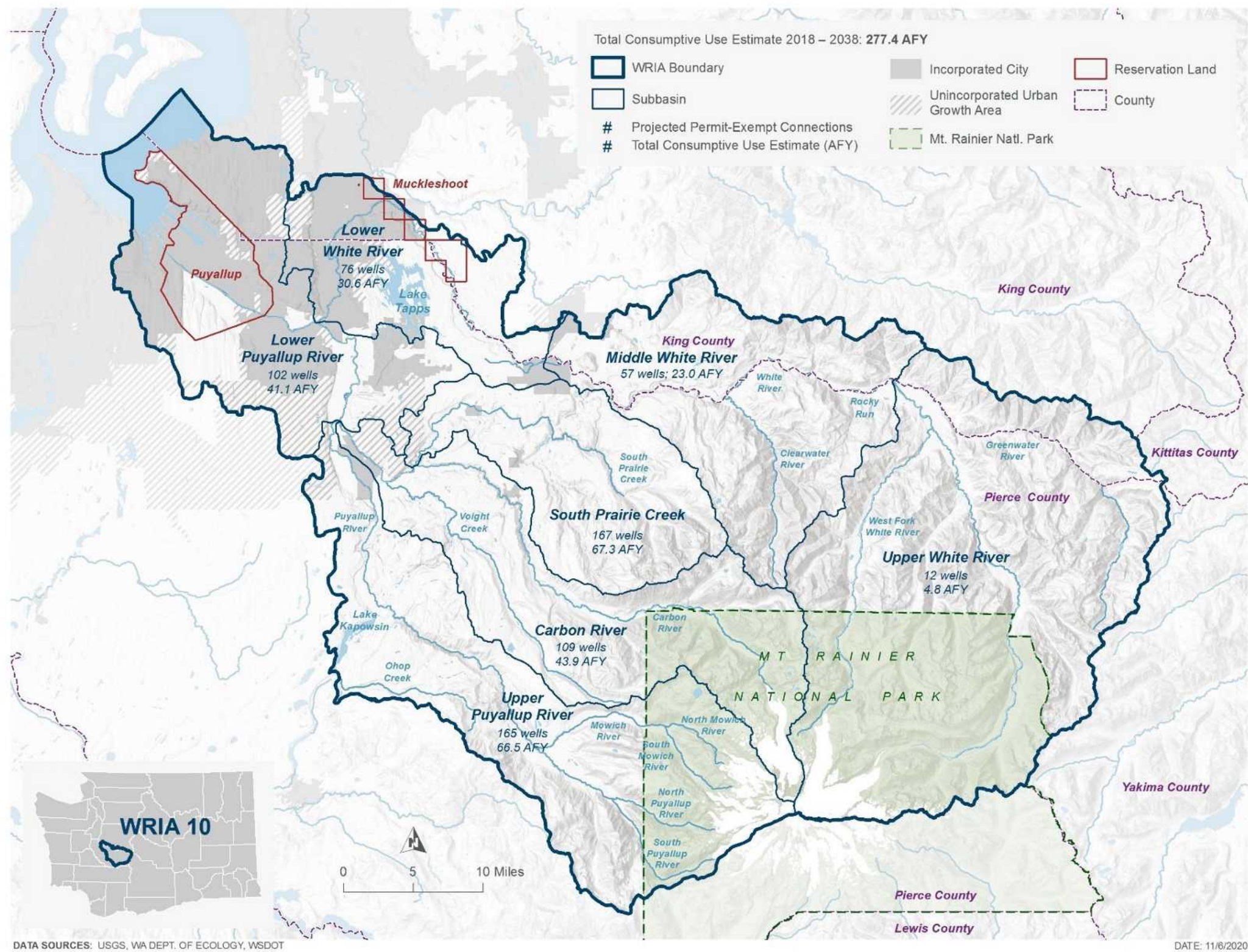


Figure 5 WRIA 10 Consumptive Use Estimate by Subbasin

Chapter Five: Projects and Actions

5.1 Description and Assessment

Watershed plans must identify projects that offset the potential impacts future PE wells will have on streamflows, and provide a NEB to WRIA 10. This chapter classifies projects as water offset projects, habitat projects, and programmatic actions. Water offset projects contribute to offsetting consumptive use. Habitat projects contribute toward achieving NEB by focusing on actions that improve the ecosystem function and resilience of aquatic systems, support the recovery of threatened or endangered salmonids, and protect 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 are difficult to quantify with a high degree of certainty. Therefore, the plan does not rely on habitat projects to contribute toward offsetting consumptive use, however recognizes they are still of value and therefore should be included in the plan. Programmatic actions are non-capital projects that are implemented at a subbasin or larger scale, increase knowledge of water use in the WRIA, and contribute to water conservation. While some of the programmatic actions may contribute to a lower overall consumptive use in the watershed, the benefits of these actions are widely dispersed and difficult to quantify. This chapter provides recommendations for projects to offset consumptive use and meet NEB.

To identify the projects summarized in this chapter, as well as the complete project inventory in Appendix H, Committee members and partners brought project suggestions forward to the workgroup and Committee for discussion. Potential projects with likely streamflow and habitat benefits came from the Puget Sound Action Agenda and salmon recovery lead entity four-year work plans. The Committee tracked all project ideas, no matter their phase of development, throughout the planning process. Ecology sought feedback on projects that align with other planning processes from Committee members that also represented the conservation district, PWR-LIO, and salmon recovery lead entity in WRIA 10.

The plan focuses on water right acquisition projects and other direct water replacement projects when available. Section 5.2.1 provides details on these water offset projects. The Committee focused on projects or project phases planned for future construction, and removed projects that did not directly contribute to water offset or NEB. The plan does not include projects that conflicted with current laws, rules, or case law. At any point in the process, Committee members or partners could identify concerns and recommend removal of specific projects from the project inventory. The Committee identified a subset of projects (at least one in each subbasin) for the technical consultants to develop detailed analysis on, including the offset value to attribute to each project as applicable.

5.2 Projects

The projects presented below have quantifiable streamflow benefit or habitat improvement and the Committee identified these projects as having the greatest potential for implementation and meeting NEB. The complete project inventory in Appendix H includes other projects that benefit streamflow and habitat in WRIA 10, but which the Committee did not have

the time and resources to further develop and assess within the given timeline. The Committee recommends implementation of all projects included in this chapter and Appendix H.

5.2.1 Water Offset Projects

This plan includes projects that the WRIA 10 Committee members support and consider feasible to accomplish within the planning horizon. Table 8 provides a summary of the water offset projects considered necessary to offset the consumptive use from PE wells over the planning horizon.

The plan focuses primarily on water right projects because water rights placed in permanent trust provide reliable, durable, and legally protected offsets. Several Committee members and partners identified potential water right acquisition opportunities throughout the watershed that would provide sufficient offset. The Tribes, WDFW, and salmon recovery lead entity developed a list of 10 priority streams to focus water right acquisition assessments (Appendix J).

Ecology contracted with Washington Water Trust (WWT) to identify opportunities for water right acquisition water offset projects within WRIA 10 and to develop information on Committee-identified water rights. In coordination with the Committee, WWT developed a water right selection criterion based on the unique local nature of water rights and water use in WRIA 10. The assessment focused on water rights within the 10 priority streams and outside of the agriculture and rural resource zoning districts. The water rights assessment consisted of four categories of potential projects: irrigation water rights in priority subbasins, irrigation water rights near existing reclaimed water infrastructure, water rights in the Trust Water Rights Program as a temporary donation, and specific water right acquisition opportunities identified by Committee members. WWT developed eleven water right acquisition project opportunity profiles for plan consideration.

Committee members conducted outreach to water right acquisition opportunities to assess the interest of the water right holder to be included in the project list. Due to the sensitive nature of water rights, only water rights with ongoing outreach are referred to by a project name. Several water rights within this list are in the process of being transferred to the project sponsor or associated with properties identified for acquisition as part of long-term planning processes.

This project list includes several levee setback and floodplain reconnection projects. While these projects may involve some additional infiltration and water storage during high flows, the Committee expressed concerns about estimating the storage and offset benefit, and opted not to count those benefits toward the project offset. However, the Committee recognized that these projects include large property acquisitions and decommissioning of existing PE wells. This plan counts the removal and decommissioning of PE wells towards the offset total.

Finally, the Committee searched for opportunities for Managed Aquifer Recharge (MAR) and other infiltration projects. MAR projects capture water from seasonal high flows and allow the water to slowly infiltrate through groundwater back to the stream, augmenting streamflows

during low flows. A search within the Carbon and Upper Puyallup subbasins²⁵ for geology favorable for MAR infiltration did not yield any suitable sites. After much consideration, the Committee looked at the possibility of using municipal water as a source for MAR projects, and basing potential locations at gravel pits along the Tacoma Water pipeline. This search yielded three potential locations for an MAR project.

The water offset projects listed in this plan are sorted into tiers. Tier 1 projects represent projects with the greatest certainty of being implemented. These projects have specific locations, project sponsors, and in some cases are already underway. Tier 2 projects have less certainty because they are less developed, lack project sponsors, or lack specific locations at this time. The Tier 1 projects will offset the consumptive use in WRIA 10. The water offset estimates from the Tier 2 projects provide reasonable assurance that the plan can meet NEB if Tier 1 offsets are not realized. The projects in this plan provide an estimated 788.3 acre-feet per year in offsets, more than double the consumptive use estimate of 277.4 acre-feet per year. Tier 1 projects provide an estimated 375.3 acre-feet per year in offsets. Figure 6 shows the locations within the watershed of the Tier 1 and Tier 2 projects.

²⁵ The Upper Puyallup and Carbon Rivers are not closed to surface water appropriation per WAC 173-510

Table 8 WRIA 10 Offset Projects

Project Number	Project Name	Project Type and Brief Description	Water Offset (AFY)	Timing of Water Offset	Additional Benefits	Project Sponsor	Tier
Carbon River (CR)							
10-CR-W4	Alward Road	Levee Setback. Property acquisition and restoration of 150 acres of floodplain. Includes decommission of 20 PE wells	8	Year-round	Restoration of 150 acres of floodplain, flood hazard reduction	Pierce County	1
10-CR-W3	Carbon River Levee Setback and Acquisition	Water Right and Levee Setback. Purchase a property as part of a larger levee setback project and acquire associated water right.	14.3	Irrigation Season	Habitat restoration.	Pierce County	2
Lower Puyallup (LP)							
10-LP-W6	Potential MAR	MAR. Construct an MAR in a gravel pit supplied with Tacoma Water. Three potential locations are identified in the Lower Puyallup.	300	Year-round		TBD	2
10-LP-W10	Bond	Water Right. Acquire water right as part of a larger property transfer and protection with the City of Puyallup	30	Irrigation Season		City of Puyallup	2
Middle White (MW)							
10-MW-W7	CWA purchase	Water Right. Acquire a portion of the Cascade Water Alliance water right to place in trust.	277	Year-round		Potential: Ecology or partners	1
South Prairie Creek (SPC)							
10-SPC-W2	Old Inglin Dairy	Water Right. Floodplain restoration of former dairy, and place water rights into trust after plants are established.	89.09	Irrigation Season	Floodplain restoration/reconnection, habitat enhancement.	Pierce Conservation District	1
Upper Puyallup (UP)							

Project Number	Project Name	Project Type and Brief Description	Water Offset (AFY)	Timing of Water Offset	Additional Benefits	Project Sponsor	Tier
10-UP-W1	Orville Road Revetment Phase 2C Year 1	Floodplain Reconnection/Levee Setback. Purchased and decommission a PE well that served 3 homes as part of this project.	1.2	Year-round	Habitat restoration. 1,500 Linear Feet of setback revetment, 19 engineered log jams.	Pierce County	1
WRIA-Wide (WW)							
10-WW-W8	Green Stormwater Infrastructure	Stormwater infiltration. Support Green Stormwater Infrastructure retrofits for both individual property owners and jurisdictions. Goal of 10 projects per year.	27	Year-round	Water quality improvements	Pierce Conservation District	2
10-W9-W17	WWT assessment	Water Right. Acquire 10% of the water rights identified through Washington Water Trust assessment. These rights are listed individually in this table.	41.71	Irrigation Season		TBD	2
WRIA 10 Total Water Offset			788.3				
WRIA 10 Consumptive Use Estimate			277.4				
Tier 1 Offsets			375.3				

Carbon River Subbasin

Project Name: Alward Road Acquisition and Restoration

Project Description: Pierce County proposes to acquire property, construct a setback levee and make other restoration improvements which will reconnect 150 acres of floodplain adjacent to the Carbon River. The acquisition area of the proposed project is located between river miles 6.8 and 8.0 of the Carbon River. Proposed actions at the site include removing approximately 8,925 linear feet of existing levee located along the left (south) bank of the Carbon River. An armored levee of approximately 9,850 linear feet would be constructed and set back from the Carbon River to the south, encompassing an area of approximately 142 acres. Engineered log jams (ELJs) would be constructed alongside Alward Road to protect it from erosion. Riparian restoration would also occur in floodplain areas. The habitat benefits of this project include reconnecting previously disconnected floodplain, increasing fish habitat diversity in the lower Carbon River, and restoring channel forming processes in the reach.

A total of 30 properties will be acquired as part of this project. Outreach has occurred and landowner agreements have been signed for 10 properties in Phase 3 of the project. Additional outreach will occur in subsequent phases. An estimated 20 residential structures will be acquired and removed, providing an estimated water offset benefit equal to 20 new PE wells, or 8 acre-feet per year. This project is Tier 1 because it is underway and expected to continue to be implemented.

Project Name: Carbon River Future Levee Setback and Acquisition.

Project Description: Pierce County is currently conducting a feasibility study to increase flood protection and improve fish habitat conditions on the Carbon River near Bridge Street and Voights Creek. Elements of this project include selecting a preferred alternative, designing the project, acquiring properties, building a setback levee, adding habitat elements in the floodplain, and removing the existing levee. The habitat benefits of this project include reconnecting previously disconnected floodplain, increasing fish habitat diversity in the lower Carbon River, and restoring channel forming processes in the reach.

As part of the project, Pierce County anticipates acquiring a property and associated water rights upstream of river mile 4.4. The property is associated with a water right certificate. WWT used irrigation delineation analysis to estimate 9.71 acres have been irrigated in recent years. Using the same calculation that estimated this plan's consumptive use, this water right would be able to offset an estimated 14.3 acre-feet per year. This is an estimate of consumptive use quantity. An extent and validity determination by Ecology is required to determine the actual quantity available for acquisition.

This project is Tier 2 because landowner outreach has lost momentum. Due to the sensitive nature of property and water right acquisition negotiations and the timing of this plan, this plan does not identify the specific location or property owner. Pierce County has expressed interest in placing the water right in permanent trust once the property is acquired.

Lower Puyallup Subbasin

Project Name: Managed Aquifer Recharge

Project Description: This project would construct a passive MAR project using source water from Tacoma Water pipeline to recharge a significant volume of water into shallow aquifers. In WRIA 10, a review of potential sites focused on gravel pit sites near the City of Tacoma pipeline. All of the potential sites are located in the Lower Puyallup River subbasin.

Preliminary calculations of the potential size and infiltration capacity if a suitable gravel pit site is located were performed. A MAR facility may only need a footprint of 2 acres to infiltrate 300 acre-feet per year. It was assumed that diversion and infiltration would occur during winter months as the City of Tacoma pipeline has excess capacity during winter. A flow rate of 1 cfs (450 gallons per minute) would be required from the City of Tacoma pipeline to infiltrate 300 acre-feet during the winter season. If several sites are feasible, the selection of how many are used and how much water is infiltrated at each would be a decision of the project sponsor. MAR facilities provide year-round benefits. A MAR project can be scaled to the desired water offset or streamflow benefit. The amount and timing of water infiltrated can also be adjusted to time streamflow benefits to maximize benefits for fish. This project is Tier 2 because it is conceptual and does not yet have a sponsor or specific location.

Project Name: Bond Water Right

Project Description: The City of Puyallup proposes to purchase a water right as part of a larger property transfer to the city for conservation and protection purposes. The property has been used in the past as a berry farm. In 1970, Ecology issued a groundwater water right certificate for 150 gallons per minute and 30 acre-feet a year from May 1 to October 1 to irrigate 25 acres.

The City of Puyallup has conducted initial outreach to the water right holder and has expressed interest in placing the water right into permanent trust once the property transfer is complete. This project is Tier 2 because the water use history is unknown. An extent and validity determination by Ecology is required to determine the actual quantity available for acquisition.

Middle White Subbasin

Project Name: CWA Water Right Acquisition

Project Description: This project would acquire and place into trust a portion of the municipal water right from the Cascade Water Alliance (CWA). CWA supplies water for several municipalities in King County. CWA has expressed willingness in working with Ecology for the purchase and transfer into permanent trust a small portion of their water right. The water is diverted from the White River at river mile 24.3, held in Lake Tapps and released at river mile 3.6.

This project is Tier 1 because the water right went through extent and validity in 2000. Ecology is currently in discussion with CWA on acquiring a small portion of the water right. The barriers to completion are negotiation of the acquisition and funding to purchase the water right. The project would have lasting benefits as the Trust Water Right would be held in perpetuity.

South Prairie Creek Subbasin

Project Name: Old Inglin Dairy Restoration and Water Right Acquisition

Project Description: The Pierce Conservation District (PCD) proposes to restore the Old Inglin Dairy property, located near the town of South Prairie, to functioning floodplain of South Prairie Creek. The restoration phase of the project includes planting and other habitat enhancements. Once the plants are established (about 3-5 years after planting), PCD proposes to place two water right certificates into permanent trust. South Prairie Creek is the source of both water rights and the purpose is irrigation. PCD currently uses the water right to irrigate plants in preparation and maintenance of riparian and floodplain plants.

WWT used irrigation delineation analysis to estimate consumptive use of 89.09 acre-feet per year. An extent and validity determination by Ecology is required to determine the actual quantity available for acquisition. This project is Tier 1 because PCD has expressed interest in selling the water rights into permanent trust once the restoration project is established, which will occur in three to five years.

Upper Puyallup Subbasin

Project Name: Orville Road Revetment Phase 2C Year 1

Project Description: Pierce County will continue a setback revetment project along left bank of the Puyallup River between river miles 27.8 and 28.2. Work under this phase will add 1,500 linear feet of setback revetment and 19 engineered log jams. This project will also decommission one PE well that served three homes, providing an offset of 1.2 acre-feet a year, or 0.4 acre-feet a year per home. This project is Tier 1 since this project is underway, the County has purchased the property, and there is high certainty that this offset will occur.

WRIA-Wide Offset Projects

Project Name: Various Water Right Acquisitions

Project Description: Acquire water rights included in the Washington Water Trust (WWT) water right assessment. WWT conducted a rapid water rights assessment on eleven rights that fit the criteria identified by the WRIA 10 Committee. The assessment estimated that these eleven water rights would provide a total offset of 417.1 acre-feet per year. This project is Tier 2 because no project sponsor or outreach has been conducted on these water rights, although some WRIA 10 Committee members have expressed willingness to sponsor a project or conduct outreach when an opportunity arose.

To account for the uncertainty and the state of outreach for these water rights, this plan only counts ten percent of the total offset estimate, or 41.7 acre-feet per year. The WWT assessment report is included in Appendix I.

Project Name: Rain Gardens and Green Stormwater Infrastructure

Project Description: Pierce Conservation District has proposed to implement a program of rain garden and Green Stormwater Infrastructure (GSI) construction. This type of project could be applied to existing roofs and driveways, roadways, parking lots and other impervious areas that generate stormwater. The techniques include rain gardens, planter boxes, bio-infiltration swales, permeable pavement and reducing the footprint of roadways and replacing with GSI (green streets).

The Pierce Conservation District is ready to proceed immediately if the program was supported and funded. The number of facilities may vary depending on finding suitable areas to retrofit, funding, and capacity of Pierce Conservation District, which is why this project is a Tier 2 project. This plan assumes 10 facilities installed per year. Assuming an offset volume of 0.15 acre-foot per rain garden, this project would provide an offset value of 27 acre-feet per year after 18 years of installing facilities.

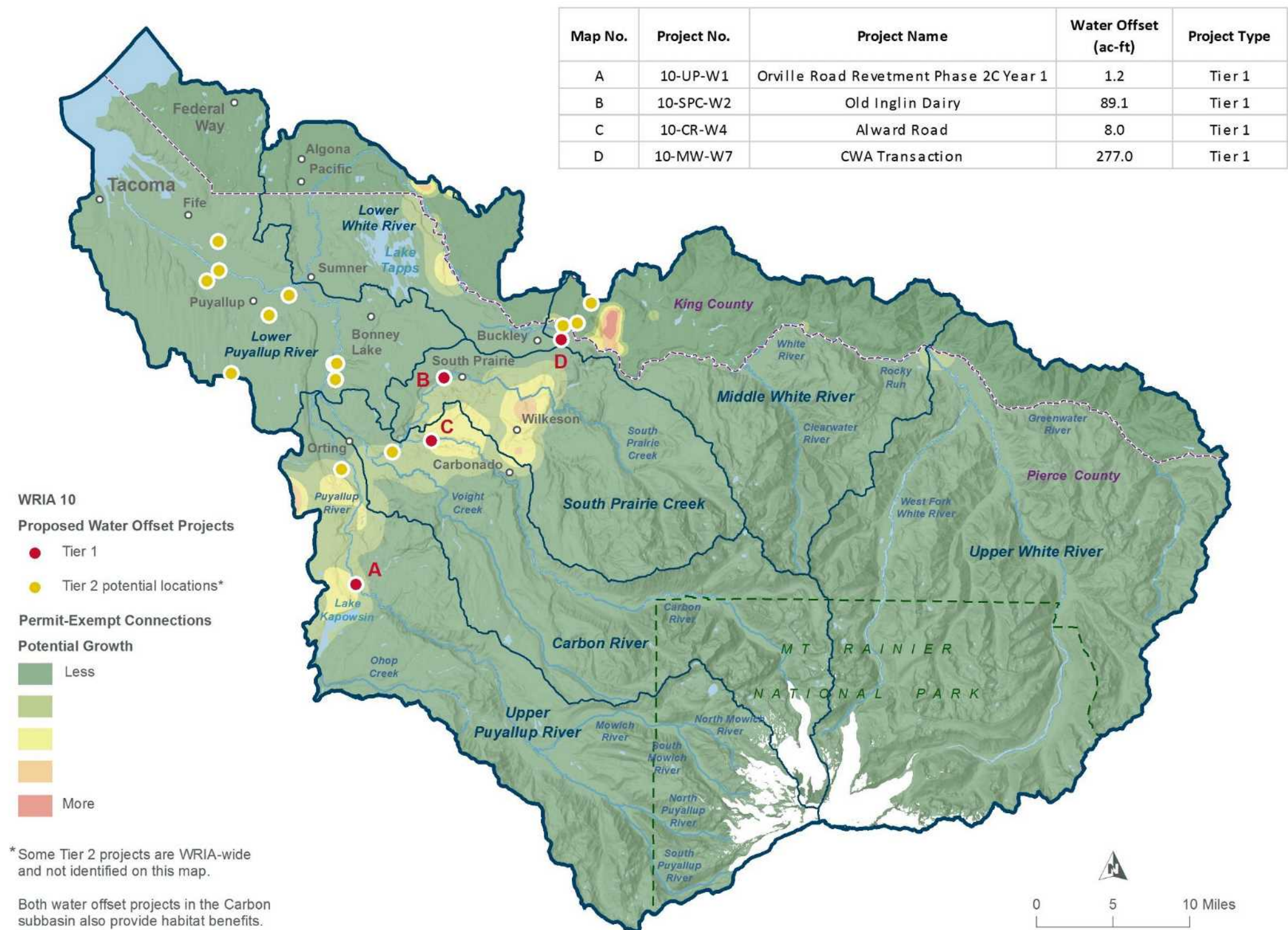


Figure 6 WRIA 10 Water Offset Projects

5.2.2 Habitat Projects

The Committee set the goal of including in the plan at least one habitat project in each subbasin. Table 9 lists the habitat projects. The Committee selected several habitat projects to provide more detail for this plan. Some of these projects were selected because they have the potential to contribute water offset, and others were selected to highlight the types of habitat projects included in this plan. This section includes a summary of those descriptions and Appendix H includes the detailed project descriptions. The Committee did not tier the habitat projects. The full project inventory is in Appendix H. Although they are not included on Table 9, the water offset projects in the South Prairie Creek, Carbon River, and Upper Puyallup subbasins include a habitat restoration component and contribute towards the goal of one habitat project per subbasin. Figure 7 shows the locations of habitat projects listed in this plan.

Most of these habitat projects are listed as Near-Term Actions by the Salmon Recovery Lead Entity. While several of these projects may produce a marginal water offset benefit by increasing seasonal storage, the benefits were too small and too complex to estimate. In general, these projects increase stream complexity, reconnect floodplains, and enhance natural processes that had been lost to the benefit of salmonids and other aquatic species.

Habitat restoration projects are durable as they restore natural processes to a stream. Given changing climate conditions that anticipates increases in winter precipitation and flood peaks and decreasing summer flow, restoration projects that increase floodplain connectivity and provide increased cover and habitat and more ways to hold and recharge water are important solutions to provide resiliency from a changing climate.

Table 9 WRIA 10 Habitat Projects

Project Number	Project Name	Project Type and Brief Description	Additional Benefits	Project Sponsor
Lower Puyallup (LP)				
10-LP-H5	Deer Creek Stream Bed Relocation	Relocate the creek bed to allow for a better connection to the floodplain, restore habitat in the adjacent areas.	Improve habitat and provide flood storage.	City of Puyallup
10-LP-H6	Swan Creek Channel and Bank Stabilization	In-channel stabilization and restoration measures including installation of woody material and streambed gravel.	Restore 2.5 miles of Swan Creek.	Pierce County and Puyallup Tribe
10-LP-H7	Silver Creek bank Stabilization	Restoration. Stabilize slopes of Silver Creek to stop channel incision.	Habitat restoration.	City of Puyallup
10-LP-H8	Puyallup River (Union Pacific) Setback Levee (RM 2.6-3.0) - Acquisition	Levee setback. Acquire up to 30 acres of floodplain and former intertidal habitat.	Habitat restoration.	Pierce County
10-LP-H9	Clear Creek RM 2.9 Acquisition and Levee	Levee setback and floodplain reconnection. Construct a new 13,600' levee along Clear Creek and remove flood gate. Reconnect up to 500 acres of floodplain.	Habitat restoration.	Pierce County
10-LP-H10	Fennel Creek Phase 3	Floodplain restoration This project will restore the Fennel Creek right bank floodplain to a more natural state. Project may include a small offset by removing existing PE wells.	Restore 14 acres of floodplain.	Pierce County
Lower White (LW)				
10-LW-H14	Jovita Creek Habitat Project	Restoration actions to address channel confinement, and that restore habitat and habitat forming processes.	Habitat restoration.	City of Edgewood

Project Number	Project Name	Project Type and Brief Description	Additional Benefits	Project Sponsor
10-LW-H15	Pacific Right Bank	Levee setback The proposed project will remove a levee and other artificial floodplain fill, allowing for off-channel habitat and floodplain restoration. The total project area available for restoration is estimated at 32 acres.	Habitat restoration, floodplain reconnection.	King County Flood Control District
10-LW-H16	White River LB RM 2.9-4.2 Restoration	Habitat restoration. White River Restoration will restore sustainable instream, floodplain, and wetland habitats within a 170 acre area along the Lower White River between river miles 2.9 and 4.2. The tailrace between RM 3 and RM 3.5 is part of the Foster Pilot Project and not included as part of the offset and NEB accounting.	Restore sustainable instream, floodplain, and wetland habitats within a 170 acre area along the Lower White River between river miles 2.9 and 4.2.	City of Sumner
10-LW-H17	White river bridge (Stewart Road) replacement RM 4.9	The project will consist of replacing the existing Stewart Road Bridge with a new bridge. The existing bridge is a restriction along the river, and a new bridge will allow the river more room to move naturally, allowing better utilization of instream habitat beneath the bridge. The current bridge also limits the flow of large woody debris, while a new bridge will let them large woody debris flow downstream and accumulate naturally through the rest of the lower White River.	Habitat restoration.	City of Sumner
10-LW-H18	White River Setback LB RM4.4-4.8 Stewart	The project consists of a levee setback on the left bank between RM 4.4 - RM 4.8. This project Improve Rearing Opportunity by creating slow water habitat, increased number/depth of pools, engaged floodplain food webs. Better High Flow Refuge with floodplain wetlands, and greater main channel roughness. Restore riparian forests. The project will reconnect about 20 acres of floodplain.	Habitat restoration. Reconnect 20 acres of floodplain.	City of Sumner

Project Number	Project Name	Project Type and Brief Description	Additional Benefits	Project Sponsor
10-LW-H19	Pacific Pointbar	The project consists of a levee setback on the left bank between RM 4.4 - RM 4.8. This project will improve rearing opportunity by creating slow water habitat, increased number/depth of pools, engaged floodplain food webs. Better High Flow Refuge with floodplain wetlands, and greater main channel roughness. Restore riparian forests. The project will reconnect about 25 acres of floodplain.	Habitat restoration. Reconnect 25 acres of floodplain.	City of Sumner
Middle White (MW)				
10-MW-H13	Enumclaw Golf Course Restoration	Stream restoration to move Boise Creek back to its historic channel adjacent to the Enumclaw Golf Course.	Increased habitat complexity and channel roughness.	City of Enumclaw and Puyallup Tribe
South Prairie Creek (SPC)				
10-SPC-H2	Implement habitat projects based on SPC study.	Habitat improvement projects. Identify and design protection and restoration actions for the lower 15.5 miles of South Prairie Creek and the lower 6 miles of Wilkeson Creek.	Habitat restoration, water quality improvements, fish passage improvements.	Pierce Conservation District, Puyallup Tribe
10-SPC-H3	Stubbs Project	In-channel stabilization and restoration measures including installation of woody material and streambed gravel. Slight chance of a water right acquisition included in this project.	Habitat restoration.	Pierce Conservation District

Project Number	Project Name	Project Type and Brief Description	Additional Benefits	Project Sponsor
10-SPC-H4	South Prairie Creek RM 4.0-4.5 Floodplain Planting	Habitat improvement. Continue planting on the South Prairie Creek Preserve property between river mile 4.0 and 4.5 to maintain and in-fill existing plantings on the property.	Habitat restoration and establishment of 50-55 acres of forested floodplain.	Pierce Conservation District, South Puget Sound Salmon Enhancement Group (SPSSEG)
10-SPC-H22	South Prairie Creek Floodplain Reconnection, RM 2.7-2.8 Phase 1	Floodplain restoration. Acquire 73 acres and implement a multi-benefit floodplain reconnection project that would reduce flood risk and maintenance costs, restore vital salmon habitat, and keep the property in agricultural production.	Habitat restoration. Water quality improvements.	Pierce Conservation District
Upper Puyallup (UP)				
10-UP-H1	Orville Road Revetment at Kapowsin Creek	This project will construct a setback revetment along the left bank Puyallup River near RM 26.3 from Kapowsin Creek confluence upstream. May allow for re-connection of approximately 25-acres of forested floodplain between Puyallup River and Orville Road.	Habitat restoration. Reconnect 25 acres of floodplain.	Pierce County
Upper White (UW)				
10-UW-H11	Greenwater Phase 4 Implementation	Reach scale restoration to restore instream complexity and floodplain connectivity.	Restore 1.2 miles of Greenwater River.	SPSSEG
10-UW-H12	West Fork White Floodplain Project	Floodplain restoration project to restore habitat and habitat-forming processes.		SPSSEG
WRIA-Wide (WW)				

Project Number	Project Name	Project Type and Brief Description	Additional Benefits	Project Sponsor
10-WW-H20	Land acquisition, water right acquisition, and restoration	Seek out opportunities for land and water right acquisitions, large scale habitat restoration (including beaver-related projects where appropriate), and floodplain reconnection/levee setbacks.	Habitat restoration, habitat protection.	Multiple
10-WW-H21	Levee setbacks	Implement projects included on the Pierce County Levee Setback Feasibility Study as opportunities arise. The study lists levees in Pierce County that may be set back to improve floodplain function and habitat. Any of these levee setback projects would contribute to NEB as well as small but difficult to calculate water offsets by allowing for additional infiltration during high flow events.	Floodplain reconnection, habitat restoration.	Pierce County

Lower Puyallup Subbasin

Project Name: Deer Creek Stream Bed Relocation

Project Description: The City of Puyallup is proposing to relocate Deer Creek from its current straightened and ditched configuration to a more natural channel that mimics historic conditions and reconnects the creek to its floodplain. This project would restore habitat in lower Deer Creek, providing opportunities for salmonids to spawn, rear, and forage in a tributary to the lower Puyallup River.

Project Name: Swan Creek Channel and Bank Stabilization

Project Description: Pierce County Surface Water Management and the Puyallup Tribe propose to implement in-channel stabilization and restoration measures along Swan Creek, within the Lower Puyallup River sub-basin (WRIA 10). In the lower reaches of Swan Creek, the channel is incised and eroding the streambanks due to increased stormwater runoff, undersized culverts, and insufficient stormwater detention and loss of flood storage. This project proposes to use a combination of woody material, streambed gravel, and plantings to stabilize streambeds and banks and provide sediment recruitment capacity within the channel. The intention is to slow erosion and allow the channel to return to a more natural state. The proposed project reach begins immediately downstream of the 64th Street East culvert crossing and extends to Pioneer Way.

Pierce County and the Puyallup Tribe are ready to implement the project as soon as funding is available. No estimate of the potential water offset was provided at this time as monitoring is proposed that would determine the offset.

Project Name: Silver Creek Bank Stabilization

Project Description: The City of Puyallup is proposing to stabilize Silver Creek. The channel is incised and eroding the streambanks due to increased stormwater runoff, undersized culverts, and insufficient stormwater detention and loss of flood storage. This project proposes to use a combination of woody material, streambed gravel, and plantings to stabilize the streambed and banks and provide sediment recruitment capacity within the channel. The intention is to slow erosion and allow the channel to return to a more natural state. The City of Puyallup constructed a similar project on Clark's Creek.

Project Name: Puyallup River (Union Pacific) Setback Levee (RM 2.6-3.0) - Acquisition

Project Description: In Pierce County's the levee report, an identified levee setback site is located at river mile 2.6 – 3.0 on the lower Puyallup River. Elements of this project include acquiring properties, designing the project, building a setback levee, and adding habitat elements in the floodplain. The potential habitat benefits of this project include reconnecting previously disconnected floodplain, increasing intertidal area in the lower River, and increasing fish habitat diversity.

Project Name: Clear Creek RM 2.9 Acquisition and Levee Setback

Project Description: The primary objective of this project is to minimize the impact of flooding related to the backwater created where Clear Creek and the Puyallup River meet. The project

also provides refuge and habitat for juvenile salmon and other associated wildlife in the lower Puyallup River system. The lower Puyallup River and Clear Creek combined floodplain is currently managed by two flood/tide gates underneath State Route 167/River Road. The project will reconnect 250-590 acres of floodplain. The project will allow the floodplain to react more naturally with the creek and the river.

This project is expected to take at least 10 years to complete. The first phase will focus on property acquisitions from willing sellers in the area. Once property acquisitions are completed, a new levee system to protect infrastructure outside of the property purchase area will be constructed.

Project Name: Fennel Creek Phase 3

Project Description: Pierce County partnered with Forterra to acquire a 14-acre property adjacent to Fennel Creek. The site is adjacent to the first two project phases. Remaining project elements include demolishing buildings and roads, removing previous fill-areas, and installing plantings and fish habitat features. Property acquisition was completed by Forterra in 2020. Demolition will be completed in 2021 and 2022. Habitat improvements and project construction planned for 2023. This project will restore fish habitat and 14 acres of floodplain in lower Fennel Creek.

Pierce County is ready to implement the restoration project as soon as funding is secured. Along Fennel Creek, upstream from its confluence with the Puyallup River, Pierce County is continuing to improve flood plain connectivity and fish habitat. Previous phases included; property acquisition, a 40+acre floodplain restoration project, and 1,900+ linear feet channel restoration project.

Lower White Subbasin

Project Name: Jovita Creek Habitat Project

Project Description: The City of Edgewood proposes to identify potential and implement multi-benefit restoration project(s) that restore habitat and habitat forming processes in Jovita Creek. An assessment will focus on evaluating geomorphic impacts from Jovita Boulevard (which is adjacent to the stream), channel bed and bank restoration in the mainstem of Jovita Creek, and replacement of a fish passage barrier (culvert at 114th street) on a tributary to Jovita Creek.

One primary issue in Jovita Creek is channel confinement due to Jovita Boulevard, causing channel erosion from high velocities. Restoration actions that address this channel confinement would function by providing space for the creek to meander, wood to stabilize the creek bed and connection to the limited amount of off-channel habitat in the floodplain. Depending on the results of the feasibility study, benefits to stream processes may occur in the project area upstream of the culvert at highway 167. Salmonids in Jovita Creek and its tributaries have the potential to benefit from restoration actions.

Project Name: Pacific Right Bank

Project Description: The King County Flood Control District proposed a levee setback project located on the right bank floodplain of the White River in the City of Pacific extending from the BNSF Railway (RM 6.3) south to the King-Pierce County boundary line (RM 5.5). The

proposed project will remove a levee and other artificial floodplain fill, allowing for off-channel habitat and floodplain restoration. The total project area available for restoration is estimated at 32 acres. The final project will restore off-channel rearing habitat for ESA-listed Chinook salmon and improve other wildlife habitat.

Project work to date has focused on property acquisitions from willing sellers, installation and maintenance of the temporary floodwater barriers, and some feasibility studies for the future levee setback project. The project is expected to take 5 years to complete.

Project Name: White River LB RM 2.9 – 4.2 Restoration

Project Description: The City of Sumner proposed a levee setback project located on the left bank floodplain of the White River on the City owned golf course property and adjacent open space (RM 2.9 – 4.2). The proposed project will create/restore side channels, lower floodplain for better connectivity, and create wetland habitats within a 170 acre area along the Lower White River. The tailrace between RM 3 and RM 3.5 is part of the Foster Pilot Project and not included as part of the offset and NEB accounting.

Project work to date has included finalizing the design for the project. The City of Sumner has submitted for permits and is ready to implement the restoration project as soon as funding is secured.

Project Name: White River Bridge (Stewart Road) Replacement RM 4.9

Project Description: The City of Sumner proposed the project to replace the existing Stewart Road Bridge with a new bridge. The existing bridge is undersized and is a constriction on the Lower White River. The new bridge will be longer, higher, and have less piers within the channel. This will allow river migration under the bridge, greater connectivity between the Countyline setback and the RM 4.4-4.8 setback, and allow for large woody debris (that currently gets stuck on existing bridge) to accumulate downstream naturally.

Project Name: White River Setback LB RM 4.4 – 4.8 Stewart

Project Description: The City of Sumner proposed a levee setback project located on the left bank floodplain of the White River at RM 4.4 – 4.8. The project will reconnect about 20 acres of floodplain. This project would improve salmonid rearing opportunities in the lower White River by creating slow water habitat, re-establishing floodplain wetlands, and restoring riparian forests. When the Stewart Road bridge is replaced, this project will also be connected to the Countyline setback project.

Project Name: Pacific Pointbar

Project Description: The project consists of a levee setback on the right bank of the White River between RM 4.4 - RM 4.6. This project will improve rearing opportunity by creating side channel, slow water habitat, increasing number/depth of pools, and engaging floodplain food webs. The project will improve high flow refuge with floodplain wetlands and greater main

channel roughness. The project will reconnect about 25 acres of floodplain and restore riparian forests.

The City of Sumner has acquired several properties within the project area and is continuing to conduct outreach with landowners.

Middle White Subbasin

Project Name: Enumclaw Golf Course Restoration

Project Description: The City of Enumclaw and the Puyallup Tribe propose reach-scale stream restoration actions in Boise Creek. This project would move Boise Creek back to its historic channel adjacent to the Enumclaw Golf Course. Additionally, large woody material would be added to increase habitat complexity and channel roughness, diversifying habitats available to fish. The project will function by restoring the natural channel and improving habitat conditions, which will allow natural processes to develop in Boise Creek. The project is proposed to occur from river miles 3.7 to 4.2.

The Puyallup Tribe is ready to implement the project as soon as funding is secured, and property owner permissions are obtained. A 30% design was completed for this project in 2010, and the proposed project would include finalizing the design and moving forward with construction.

South Prairie Creek Subbasin

Project Name: Implement habitat projects based on SPC study

Project Description: The project will use existing information from past and present assessments and evaluations to identify and design protection and restoration actions for the lower 15.5 miles of South Prairie Creek and the lower 6 miles of Wilkeson Creek. Project element will include landowner outreach to parcels identified as high priority for protection in the 2002 South Prairie Creek Action Plan that have not yet been conserved, development of preliminary designs for up to 4 reach-scale floodplain restoration projects, and detailed site specific recommendations for: other properties to be acquired, areas for improved forestry management, restoration of drainage ditches, tributary confluences, groundwater seeps, and wall based channels, fish passage improvements, beaver reintroduction and installation of beaver dam analogues. This project will design actions to create and maintain necessary habitat functionality, thermal diversity, hydrologic stability, and geomorphic structure to support adult to juvenile out-migrant survival, and productivity for the salmonid species.

South Puget Sound Salmon Enhancement Group is planning these projects.

Project Name: Stubbs Project

Project Description: Forterra and partners acquired 33.6 acres much of it floodplain along South Prairie Creek (Parcel Number 0519123054). The goal of this project is to protect the property from development, as well as to provide opportunities to restore and improve salmon habitat and floodplain. Restoration would benefit in-stream habitat, off-channel habitat, riparian function, and floodplain connectivity to increase the overall capacity of this stream reach to support salmonids. The acquisition and conceptual restoration design will integrate the

subject property restoration with restoration activities being conducted on the adjacent property South Prairie Creek Preserve property. This project would likely include in-channel stabilization and restoration measures including installation of woody material and streambed gravel.

Forterra received funding in 2019 to acquire the Stubbs property and develop a conceptual restoration design.

Project Name: South Prairie Creek RM 4.0 – 4.5 Floodplain Planting

Project Description: This project includes continuing riparian planting on the South Prairie Creek Preserve property between river miles 4.0 and 4.5 on South Prairie Creek (13518 Pioneer Way E Orting). The goal of the project is to maintain and in-fill existing riparian plantings on the property in order to ensure long term survival and establishment of 50-55 acres of forested floodplain. Planting began in 2005 and continue to the present day. Enhancing and planting the riparian area and floodplain on the property has many habitat benefits including shade, cover for juvenile fish, and increased food.

A habitat project on this property was completed in 2020 by the South Puget Sound Salmon Enhancement Group. The project included side-channel creation, woody material installation, and floodplain reconnection.

Project Name: South Prairie Creek Floodplain Reconnection RM 2.7 – 2.8 Phase 1

Project Description: The project will entail acquiring 73 acres on river mile 2.7 – 2.8 of South Prairie Creek. The goal of this project is to protect the property from development, as well as to provide opportunities to restore and improve salmon habitat and floodplain. Restoration would benefit in-stream habitat, off-channel habitat, riparian function, and floodplain connectivity to increase the overall capacity of this stream reach to support salmonids. This project would likely include in-channel stabilization and restoration measures including installation of woody material and streambed gravel.

The Pierce Conservation District is the project sponsor.

Upper White Subbasin

Project Name: West Fork White Floodplain Project

Project Description: South Puget Sound Salmon Enhancement Group (SPSSEG) proposes to implement reach-scale floodplain restoration actions in the West Fork White River. This project would complete assessment, feasibility, design, and construction of a floodplain restoration project on the lower 6 miles of the West Fork White River. Initial work would focus on a reach-scale assessment of the lower White River from river miles 2.4 to 5.7. The assessment would evaluate geomorphic threats from a road (which is adjacent to the stream) to floodplain processes, instream flow velocities, and habitat structure and the assessment would prescribe and implement restoration treatments to remove fill and armor and restore habitat and habitat forming processes.

Benefits to river processes will occur in the project area between river miles 2.4 to 5.7; side channel and other habitat features formed as a result of this project will benefit a variety of

salmonid species as described in the next paragraph. Salmonids in the West Fork White River and in the White River will benefit from increased habitat and reduced peak flow and sediment input. The potential for the project to increase groundwater recharge has not been estimated.

Project Name: Greenwater Phase 4 Implementation

Project Description: South Puget Sound Salmon Enhancement Group proposes to implement reach-scale restoration actions in the Greenwater River between river mile 2 and 4 to restore instream complexity and floodplain connectivity. This proposed phase 4 project builds upon work completed in 2010, 2011, and 2014 (phases 1-3) on upper sections of the Greenwater River between river mile 6 and 8. As part of the proposed phase 4 project, road and fill would be removed and log jams would be installed in the 2-mile project reach, increasing the functional habitat on the Greenwater River. These structures will provide relatively stable, instream structure currently lacking in the Greenwater system due to a legacy of aggressive timber harvest practices between the late 1950s to early 1970s.

The project will create large stable structures that will trap mobile debris and sediment, increase floodplain connectivity and off channel habitat, increase number of pools with overhead cover, decrease median substrate size, and overall improve spawning and rearing conditions for salmonids in the Greenwater River. The proposed structures will accelerate and maintain system-wide natural processes while providing habitat for fish. Removing roads, fill, and armor will additionally allow natural processes to develop in a large floodplain. There are no anticipated offset benefits related to the project because the potential for the project to increase groundwater recharge has not been estimated.

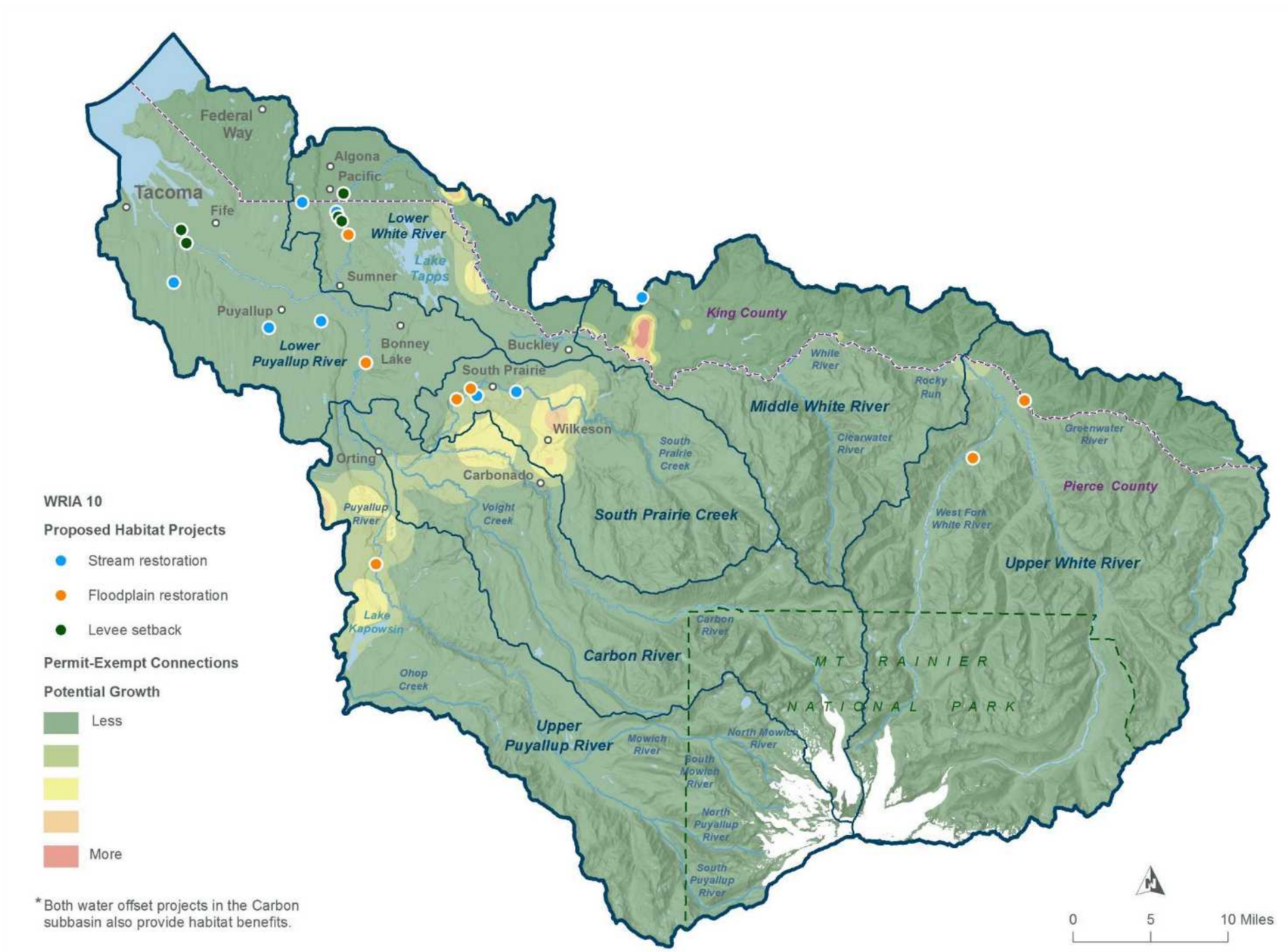


Figure 7 WRIA 10 Habitat Projects

5.2.3 Programmatic Actions

In addition to the projects described above, the plan identifies programmatic actions that will increase the knowledge of PE well water use in the watershed and increase water conservation throughout the WRIA. These programmatic actions do not have specific locations, but would improve PE well water management through voluntary actions and improved data collection:

Water Conservation Education and Incentives Program

This plan recommends Ecology partner with Pierce and King Counties, the Pierce Conservation District, and the Tacoma-Pierce County Health Department 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.

This program would raise awareness of the impacts PE well water usage has on groundwater levels and the connection to streams and rivers. This program would supplement water offset and restoration projects, especially in subbasins critical for fish and where water offsets were difficult to find.

Potential funding sources could include: new funding from Washington State Legislature; grants (e.g., Ecology's Streamflow Restoration Grant Program); allocation of Ecology resources; contributions from local governments and tribes; part of county or conservation district ongoing education, outreach, and incentive program.

Voluntary PE Well Metering Pilot Project

This plan encourages a non-profit organization, university, or government agency to pilot a voluntary five-year program in one or more WRIA 10 subbasins to meter PE wells (indoor and outdoor residential use). The voluntary metering program would be supplemented with a robust education and community engagement program about water consumption and conservation.

This program would increase confidence in assumptions made regarding the average water use of individual PE well users to inform the adaptive management process and future water management and planning activities. Data could inform (1) growth policies and patterns, (2) where to target incentives and education/outreach programs, and (3) where to place resources across subbasins to help improve streamflow, water levels, and temperature.

Update Ecology's Well Log Database

The Committee recommends that Ecology make the following changes to Ecology's well data tracking system in order to track the number and location of PE wells in use:

- Implement a web-based well report form that mimics the current well report forms, and that uploads directly to Ecology's database with Ecology verification.
- Require coordinates (latitude and longitude) of wells on well report forms, and implement an intuitive web tool for well drillers which automatically provides the Public Lands Survey (PLS) location and coordinates for a new well.

- Identify PE wells on well report forms.
- Provide Well ID Tag numbers to older wells, and associate well decommissioning, replacement, or other well activities with the Well ID Tag.

Accurate tracking of the locations and features of PE wells will support Committee’s desire to monitor plan success and respond with adaptive management measures after plan adoption.

5.3 Project Implementation Summary

5.3.1 Summary of Projects and Benefits

Per RCW 90.94.030(3), this plan must include actions necessary to offset potential impacts to instream flows associated with new PE well water use and result in a net ecological benefit to instream resources within the WRIA.

As specified in Chapter 4, the plan estimates 277.4 acre-feet per year of consumptive use from new PE wells over the planning horizon. The projects included in Table 8 provide an estimated offset of 788.3 acre-feet per year and exceed the consumptive use estimate.

Twenty-two habitat projects are included in Table 9. Ecological benefits associated with these projects include floodplain restoration, wetland reconnection, availability of off-channel habitat for juvenile salmonids, increase in groundwater levels and baseflow, and increase in channel complexity. While many of these projects have potential streamflow benefits, water offset from habitat projects are not accounted for in this plan. The ecological and streamflow benefits from habitat projects are supplemental to the quantified water offsets. A description of how the water offset and habitat projects result in a net ecological benefit to instream resources in WRIA 10 is provided in Chapter 7.

Three programmatic actions are included in section 5.2.3. These actions will measure, track, and contribute offset by reducing the amount of water used.

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, planning-level cost estimates for each of the water offset projects are listed in Table 10. Costs estimates for habitat projects, when that information was readily available, are displayed in Table 11.

The costs for water offset projects range from \$3,100 for the offset portion of the Orville Road Revetment Phase 2C Year 1 project to \$1.1 million for the MAR project. The total estimated cost for implementing the water offset projects listed and described in this chapter is \$2.6 million. Several of the water offset projects are part of larger restoration projects, such as levee setback and floodplain reconnections. The full cost of the water offset projects, including the habitat components, is over \$18.9 million.

Table 10 WRIA 10 Water Offset and Habitat Projects Cost Estimates

Project Number	Project Name	Subbasin(s)	Estimated Cost
10-CR-W3	Carbon River Future Levee Setback and Acquisition	Carbon River	\$37,000 (water offset) full project value unknown
10-CR-W4	Alward Road	Carbon River	\$21,000 (water offset) \$14 million (full project)
10-LP-W6	Potential MAR	Lower Puyallup	\$1.1 million
10-LP-W10	Bond	Lower Puyallup	\$80,000
10-MW-W7	CWA purchase	Middle White	\$750,000
10-SPC-W2	Old Inglin Dairy	South Prairie Creek	\$230,000
10-UP-W1	Orville Road Revetment Phase 2C Year 1	Upper Puyallup	\$3,100 (water offset) \$2.2 million (full project)
10-WW-W8	Green Stormwater Infrastructure	WRIA-wide	\$900,000
10-WW-W9	WWT assessment	WRIA-wide	\$110,000
Water Offset Project Costs			\$3.23 million
Full Project Costs			\$19.41 million

The costs for habitat projects range from \$250,000 for the initial study for the Jovita Creek Habitat Project to \$79 million for the Pacific Right Bank project. The total estimated cost for implementing the habitat projects listed and described in this chapter is over \$191 million.

Table 11 Habitat Project Cost Estimates

Project Number	Project Name	Project Type and Brief Description	Estimated Total Project Cost
10-LP-H5	Deer Creek Stream Bed Relocation	Lower Puyallup	TBD
10-LP-H6	Swan Creek Channel and Bank Stabilization	Lower Puyallup	\$3.7 million
10-LP-H7	Silver Creek bank Stabilization	Lower Puyallup	TBD
10-LP-H8	Puyallup River (Union Pacific) Setback Levee (RM 2.6-3.0) - Acquisition	Lower Puyallup	\$8.5 million
10-LP-H9	Clear Creek RM 2.9 Acquisition and Levee	Lower Puyallup	\$5.5 million
10-LP-H10	Fennel Creek Phase 3	Lower Puyallup	\$1.7 million
10-LW-H14	Jovita Creek Habitat Project	Lower White	\$250,000
10-LW-H15	Pacific Right Bank	Lower White	\$79 million
10-LW-H16	White River LB RM 2.9-4.2 Restoration	Lower White	\$25 million
10-LW-H17	White river bridge (Stewart Road) replacement RM 4.9	Lower White	\$30 million
10-LW-H18	White River Setback LB RM4.4-4.8 Stewart	Lower White	\$7 million
10-LW-H19	Pacific Pointbar	Lower White	\$18 million
10-MW-H13	Enumclaw Golf Course Restoration	Middle White	\$2.3 million
10-SPC-H2	Implement habitat projects based on SPC study.	South Prairie Creek	\$469,000
10-SPC-H3	Stubbs Project	South Prairie Creek	TBD
10-SPC-H4	South Prairie Creek RM 4.0-4.5 Floodplain Planting	South Prairie Creek	\$369,000
10-SPC-H22	South Prairie Creek Floodplain Reconnection, RM 2.7-2.8 Phase 1	South Prairie Creek	\$1.2 million
10-UP-H1	Oroville Road Revetment at Kapowsin Creek	Upper Puyallup	\$3.8 million
10-UW-H11	Greenwater Phase 4 Implementation	Upper White	\$1.5 million
10-UW-H12	West Fork White Floodplain Project	Upper White	\$3 million

Project Number	Project Name	Project Type and Brief Description	Estimated Total Project Cost
10-WW-H20	Land acquisition, water right acquisition, and restoration	WRIA-Wide	TBD
10-WW-H21	Levee setbacks	WRIA-Wide	TBD
Total Habitat Project Costs			\$191 million

5.3.3 Certainty of Implementation

WRIA 10 Committee members have a track record of success in working together and implementing projects. An example is the Puyallup and Chambers Salmon Recovery Lead Entity whose participants overlap with the WRIA 10 Committee. The history of successful collaboration provides certainty to implementation of projects contained in this plan. Chapter 6 describes the adaptive management recommendations that will increase reasonable assurance that the projects and actions in the plan will be implemented.

Chapter Six: Plan Implementation and Adaptive Management

6.1 Plan Implementation and Adaptive Management Recommendations

This plan recommends an adaptive management process for implementation of the watershed plan. The Final NEB Guidance defines adaptive management 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.”*

Adaptive management is intended to help address uncertainty, provide more reasonable assurance for plan implementation, and to ensure that 1) water use from new PE wells is adequately offset and 2) implementation of the watershed plan produces a net ecological benefit to the watershed. The periodic review in this adaptive management process will provide a verifiable process for plan monitoring and ensure accountability in plan implementation.

Opportunities

The following opportunities to develop more understanding of PE well water use in the watershed during the planning process were identified during the planning process. Seeking out these opportunities will improve monitoring and adaptive management of the plan:

- The watershed plan includes projected PE well water use by subbasin. Monitoring the number of new PE wells, actual PE well water use, and associated consumptive water use would provide data for comparison and adjustments.
- The watershed plans include water offset and habitat projects, and estimated benefits associated with each, by subbasin. Measuring and tracking actual water offsets by subbasin, to the extent possible, can be used to verify intended benefits.
- Many factors could influence the consumptive water use from new PE wells in the future, including water system infrastructure expansion, policies or programs to require or incentivize homes to connect to public water systems, and programs that provide education and incentives for homeowners to conserve water. Ongoing monitoring could track these related factors.
- Projects identified in the plan are expected to increase groundwater storage, augment streamflows, and provide habitat benefits. Water offset projects should be monitored in order to ensure that they continue to function as designed under a changing climate. Habitat projects should be analyzed for their resilience to changing conditions. The adaptive management recommendations in this plan will help to monitor and assess the validity of the projections identified, to determine whether projects are functioning as designed even under climate change conditions, and to allow for course corrections where needed.

To address the above challenges, this plan recommends the following adaptive management strategies.

6.1.1 Tracking and Monitoring

This plan recommends that Ecology monitor watershed plan implementation, in consultation with the WDFW, and project sponsors. Ecology, in consultation with WDFW and project sponsors, should review projects and actions in this watershed plan to ensure projects are offsetting PE water use:

- Track annual new PE wells by subbasin.
- Track project implementation by subbasin.
- Develop a process to adaptively manage implementation if NEB is not being met as envisioned by the watershed plan.

This plan recommends Ecology change the Ecology well tracking system in the following ways, in order to efficiently and transparently track the number and location of PE wells in use:

- Implement a web-based well report form that mimics the current well report forms, and that uploads directly to Ecology's database with Ecology verification.
- Require coordinates (latitude and longitude) of wells on well report forms, and implement an intuitive web tool for well drillers which automatically provides the Public Lands Survey (PLS) location and coordinates for a new well.
- Identify PE wells on well report forms.
- Provide Well ID Tag numbers to older wells, and associate well decommissioning, replacement, or other well activities with the Well ID Tag.

These updates would directly and efficiently address identified shortcomings in Ecology's existing well tracking database and reporting protocols. Accurate tracking of the locations and features of PE wells will support the Committee's desire to engage in monitoring and adaptive management after adoption of the watershed plan.

This plan recommends WDFW, in collaboration with Ecology and the Recreation and Conservation Office (RCO), pilot the Salmon Recovery Portal,²⁶ managed by RCO, for tracking streamflow restoration projects. To improve harmonization of streamflow restoration with ongoing salmon recovery actions, local salmon recovery Lead Entity Coordinators will be consulted prior to initial data uploads. University of Washington data stewards will be employed to conduct data entry, quality assurance, and quality control.²⁷

Tracking streamflow restoration projects and new domestic PE wells will:

- Improve the capacity to conduct implementation monitoring of streamflow restoration projects and actions.
- Build grant funding opportunities and track streamflow restoration associated costs.
- Provide a template for adaptively managing emergent restoration needs.

²⁶ <https://srp.rco.wa.gov/about>

²⁷ More details on the Project Tracking proposal are available on the WRIA 10 webpage: https://www.ezview.wa.gov/site/alias_1962/37323/watershed_restoration_and_enhancement_-_wria_10.aspx

Table 12 summarizes the entities responsible for carrying out this recommendation and associated funding needs.

Table 12 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 subbasin.	Ecology	Update the existing Ecology well report tracking database. No additional funding is needed.
Update well tracking system.	Ecology	Additional funding may be needed from the Washington State Legislature to increase capacity for Ecology to verify well reports.
Maintain a summary of the status of implementation for each project.	WDFW using the Salmon Recovery Portal	WDFW may need additional funding to support maintaining the Salmon Recovery Portal.

6.1.2 Oversight and Adaptation

This plan recommends Ecology leverage the 2027 report to the legislature²⁸ for adaptive management. Ecology will share the report with WRIA 10 Committee member jurisdictions and other interested parties in advance of reporting to the Legislature and allow for review and comment. This plan recommends that Ecology develop similar reports in 2032 and 2037.

The report should include:

- A list of completed projects that benefit instream resources and other directly related watershed improvements conducted in coordination with the restoration and enhancement planning process.
 - Include projects implemented in the reporting period and projects expected to be implemented in the next reporting period.
 - A detailed summary of actual project costs from completed projects.
 - Amount of Streamflow Restoration Fund grants received for projects in the WRIA.
- Total number of new PE wells each year for the reporting period (2018-2027, 2018-2032, and 2018-2037) and estimated consumptive use associated with the new PE wells.
 - Compare total number of new PE wells with PE well projections within this plan, representing the cumulative number of PE wells at the time of reporting.

²⁸ 90.94.050 requires Ecology to report to the legislature by December 31, 2027.

- A description of potential or planned projects, included projected costs and anticipated streamflow, water supply, and watershed health benefits.
- A comparison between the amount of instream benefit from completed projects and estimated consumptive use associated with new PE wells.

Ecology's report should recommend actions if water offsets and NEB are not on track to being achieved within the planning horizon. These actions may:

- Elevate Tier 2 projects to a priority status by conducting outreach, encouraging potential or likely sponsors to lead a project, and provide case studies of other similar, successful projects.
- Estimate water offsets of habitat, programmatic, or conceptual projects.
- Revise the Ecology Streamflow Restoration Grant Guidance to prioritize or give preference to projects in watersheds that have not offset PE well water use.
- Identify barriers to project completion.
- Develop a target implementation schedule for projects.

A notice of action to prioritize projects and estimate offsets should be sent to member jurisdictions of the WRIA 10 Committee for comment. Ecology may offer a webinar to collect questions and comments and WDFW may offer orientations on the project tracking system. However, members of the WRIA 10 Committee are not expected to reconvene after approving the plan. Neither Ecology nor Committee members will make changes to the plan after its adoption. Final prioritization, estimates, outreach activities, and amendments to the grant guidance shall be at the sole determination of Ecology after member jurisdiction input.

Ecology should send the report to all member jurisdictions of the WRIA 10 Committee, all local jurisdictions within the watershed, and any additional stakeholders identified at the time of reporting.

Preference for funding of new projects should be given to watersheds that have not offset PE well water use.

Table 14 summarizes the entities responsible for carrying out this recommendation and associated funding needs.

Table 13 Implementation of Oversight and Adaptation Recommendation

Action	Entity or Entities Responsible	Funding Considerations
Develop and distribute report, including any recommended adjustments to projects and actions.	Ecology	Ecology may need additional funding to support development of the 2032 and 2037 reports.
Revise Streamflow Restoration Grant Guidance to prioritize projects in watersheds that have not offset PE well water use.	Ecology	No additional funding is needed.

6.1.3 Funding

The Committee recommends funding implementation and adaptive management from a variety of sources, including the Streamflow Restoration Grant Program administered by Ecology, Washington State Legislature, and other sources of public and private funding. Funding and staffing at local, county, and state levels is likely to see continued shortfalls due to COVID-19 related impacts over the next several years.

The Committee recognizes that no single source of funding is available that could implement every project contained in this plan and multiple funding sources will be required. The funding sources may have objectives different than solely streamflow restoration, such as habitat restoration, flood reduction, water quality, open space protection, and others. The Committee also urges the legislature to fund Ecology and WDFW to ensure plan implementation and monitoring, streamflow benefits, water offsets, and NEB.

Chapter Seven: Net Ecological Benefit

7.1 Water Offsets

This plan uses a moderate growth scenario to project a total of 688 new PE wells installed within WRIA 10 during the planning horizon. This plan uses this PE well projection to estimate 277.4 acre-feet per year of new consumptive water use in WRIA 10, as described in detail in Chapter 4. This consumptive use estimate reflects the use of a moderate 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 (resulting in an average irrigated area of 0.12 acres per well). Irrigation requirements were assumed to be for that of commercial turf grass. The more conservative estimate of consumptive use from irrigation provides a water offset target that accounts for uncertainties in the planning process related to the PE well projection, consumptive use assumptions, and project implementation.

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). Offset projects focus on water right acquisition, Managed Aquifer Recharge (MAR), Green Stormwater Infrastructure (GSI), and decommissioning PE wells as part of levee setback and floodplain reconnection projects.

This plan estimates a total water offset of 788.3 acre-feet per year from nine water offset projects (described in Chapter 5 and listed in Table 14), a WRIA-wide surplus offset of 510.9 acre-feet per year above the consumptive use offset target. Four of the most highly implementable projects (Tier 1) account for 375.3 acre-feet per year of offset, a surplus offset of 97.9 acre-feet per year above the consumptive use target. These offsets will occur either year-round to offset the year-round impact of PE well consumptive use, or during the irrigation season to offset the anticipated higher consumptive use during the irrigation season. The WRIA 10 Committee has determined that this plan succeeds in offsetting consumptive use impacts at the WRIA scale from implementation of the projects listed in Table 14.

Table 14 Summary of WRIA 10 Water Offset Projects included in NEB analysis

Project Number	Project Name	Project Type and Brief Description	Water Offset (AFY)	Timing of Water Offset	Additional Benefits	Tier
Carbon River (CR)						
10-CR-W4	Alward Road	Levee Setback. Property acquisition and restoration of 150 acres of floodplain. Includes decommission of 20 PE wells	8	Year-round	Restoration of 150 acres of floodplain, flood hazard reduction	1
10-CR-W3	Carbon River Levee Setback and Acquisition	Water Right and Levee Setback. Purchase a property as part of a larger levee setback project and acquire associated water right.	14.3	Irrigation Season	Habitat restoration.	2
Lower Puyallup (LP)						
10-LP-W6	Potential MAR	MAR. Construct an MAR in a gravel pit supplied with Tacoma Water. Three potential locations are identified in the Lower Puyallup.	300	Year-round		2
10-LP-W10	Bond	Water Right. Acquire water right as part of a larger property transfer and protection with the City of Puyallup	30	Irrigation Season		2
Middle White (MW)						
10-MW-W7	CWA purchase	Water Right. Acquire a portion of the Cascade Water Alliance water right to place in trust.	277	Year-round		1
South Prairie Creek (SPC)						

Project Number	Project Name	Project Type and Brief Description	Water Offset (AFY)	Timing of Water Offset	Additional Benefits	Tier
10-SPC-W2	Old Inglin Dairy	Water Right. Floodplain restoration of former dairy, and place water rights into trust after plants are established.	89.09	Irrigation Season	Floodplain restoration/reconnection, habitat enhancement.	1
Upper Puyallup (UP)						
10-UP-W1	Orville Road Revetment Phase 2C Year 1	Floodplain Reconnection/Levee Setback. Purchased and decommission a PE well that served 3 homes as part of this project.	1.2	Year-round	Habitat restoration. 1,500 Linear Feet of setback revetment, 19 engineered log jams.	1
WRIA-Wide (WW)						
10-WW-W8	Green Stormwater Infrastructure	Stormwater infiltration. Support Green Stormwater Infrastructure retrofits for both individual property owners and jurisdictions. Goal of 10 projects per year.	27	Year-round	Water quality improvements	2
10-W9-W17	WWT assessment	Water Right. Acquire 10% of the water rights identified through Washington Water Trust assessment. These rights are listed individually in this table.	41.71	Irrigation Season		2
WRIA 10 Total Water Offset			788.3			
WRIA 10 Consumptive Use Estimate			277.4			
Tier 1 Offsets			375.3			

The WRIA 10 Committee tiered the projects to identify projects with greater implementation certainty based on information available. Tier 1 projects all have specific locations, project sponsors or champions, and in some cases are already underway. Some Tier 1 projects are components of larger projects that are high priority for the project sponsor. The Tier 1 projects will offset the consumptive use in WRIA 10. Tier 2 projects are less developed, lack project sponsors or lack specific locations at the time of plan writing. The water offset estimates from the Tier 2 projects provide reasonable assurance that the plan can meet NEB if Tier 1 offsets are not realized. The projects in this plan provide an estimated 788.3 acre-feet per year in water offsets, more than double the consumptive use estimate of 277.4 acre-feet per year. Tier 1 projects provide a water offset of 375.3 acre-feet per year.

Consumptive use and project water offset are compared at the subbasin scale in Table 15. Surplus water offset is achieved in a total of three subbasins (Lower Puyallup, Middle White, and South Prairie Creek), ranging from 21.8 acre-feet per year in the South Prairie Creek subbasin to 288.9 acre-feet per year in the Lower Puyallup subbasin. A deficit in water offset occurs in a total of four subbasins (Carbon River, Lower and Upper White, and Upper Puyallup), ranging from 4.8 acre-feet per year in the Upper White subbasin to 65.30 acre-feet per year in the Upper Puyallup subbasin. However, there are two projects that are specified as “WRIA-wide” that have not been located in a specific subbasin. Those projects would provide an additional offset of 68.7 acre-feet per year in yet to be determined locations in the watershed. The highest projected growth in PE wells is expected in the South Prairie Creek subbasin and the lower portions of the Middle White and Upper Puyallup subbasins. All of the offset projects listed in Table 14 are located within these growth areas or downstream of the growth as shown in Figure 6 in Chapter 5. Each project contributes to offsetting consumptive use in the subbasin where it is located and downstream where impacts of low streamflow are propagated. For example, the surplus offset from the Middle White subbasin will benefit the Lower White.

Table 15 Subbasin Water Offset Totals Compared to Permit-Exempt Well Consumptive Use Estimate

Subbasin	Offset Project Totals (AFY)	Tier 1 Offsets (AFY)	Tier 2 Offsets (AFY)	Permit-Exempt Well Consumptive Use (AFY) ¹	Surplus/Deficit (AFY) ²
Carbon River	22.3	8	14.3	43.9	-21.6
Lower Puyallup River	330	0	330	41.1	+288.9
Lower White River	0	0	0	30.6	-30.6
Middle White River	277	277	0	23.0	+254
South Prairie Creek	89.1	89.1	0	67.3	+21.8
Upper Puyallup River	1.2	1.2	0	66.5	-65.3

Subbasin	Offset Project Totals (AFY)	Tier 1 Offsets (AFY)	Tier 2 Offsets (AFY)	Permit-Exempt Well Consumptive Use (AFY) ¹	Surplus/Deficit (AFY) ²
Upper White River	0	0	0	4.8	-4.8
WRIA-wide projects	59.71	0	68.7	-	+59.71
WRIA 10 Total	779.3	375.3	398.7	277.4	+501.9

Notes:

¹Values in table have been rounded, which is why totals may differ.

²Surplus water offset is associated with a positive value and a deficit in water offset is associated with a negative value.

The water offset projects listed in Table 14 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 10, additional benefits could include the following:

- **Water right acquisition projects:** Aquatic habitat improvements during low-flow periods; reduction in groundwater withdrawals and associated benefit to aquifer resources; and/or beneficial use of reclaimed water; permanent offset.
- **MAR projects:** Aquatic habitat improvements during low-flow periods; increased groundwater recharge; reduction in summer/fall stream temperature; and/or increased groundwater availability to riparian and near-shore plants.
- **Levee Setback and Floodplain Reconnection projects:** Aquatic habitat improvements; reduction in stream temperature; flood hazard reduction; PE well decommissioning (permanent offset); and/or additional infiltration.
- **Green Stormwater Infrastructure (GSI) projects:** Aquatic habitat improvements during low-flow periods; increased groundwater recharge; reduction in summer/fall stream temperature; flood hazard reduction; water quality improvements.

The water right acquisition and the PE well decommissioning projects will provide permanent offsets. The infrastructure projects, such as the MAR projects and the GSI projects will likely require periodic maintenance for offset benefits to continue.

7.2 Habitat Benefits

The Committee set the goal of including in the plan at least one habitat project in each subbasin. This plan achieves that goal. Table 16 lists the habitat projects selected by the Committee. Although they are not included on Table 16, the water offset projects in the Carbon River subbasin include a habitat restoration component and contribute towards the goal of one habitat project per subbasin. Many of the habitat projects are listed as Near-Term Actions by the Salmon Recovery Lead Entity. Some may produce a marginal water offset benefit, however, benefits were too small and too complex to estimate and are not included in the offset totals.

Twenty-two habitat improvement projects are summarized in Table 16 and shown in Figure 7 in Chapter 5. In general, these habitat improvement projects increase stream complexity, reconnect floodplains and enhance natural processes, previously lost, to the benefit of salmonids and other aquatic species. These projects are varying stages of development and implementation, from conceptual to in progress. The project details in Chapter 5 and the full project inventory in Appendix H provide more information about the stage of each project at the writing of this plan.

These habitat projects address many of the salmonid limiting factors described in Chapter 2.3.5. Table 16 indicates a ‘project type’ for each habitat project, used to group the projects as the projects address many of the same limiting factors. The project types are levee setbacks, stream restoration and floodplain reconnection. Many projects fall into multiple project types, however only the primary project type is listed in Table 16. Table 17 lists the limiting factors addressed by each habitat project type.

Table 16 Summary of WRIA 10 Habitat Improvement Projects included in NEB Analysis

Project Number	Project Name	Project Type and Brief Description	Additional Benefits	Project Type
Lower Puyallup (LP)				
10-LP-H5	Deer Creek Stream Bed Relocation	Relocate the creek bed to allow for a better connection to the floodplain, restore habitat in the adjacent areas.	Improve habitat and provide flood storage.	Stream restoration
10-LP-H6	Swan Creek Channel and Bank Stabilization	In-channel stabilization and restoration measures including installation of woody material and streambed gravel.	Restore 2.5 miles of Swan Creek.	Stream restoration
10-LP-H7	Silver Creek bank Stabilization	Restoration. Stabilize slopes of Silver Creek to stop channel incision.	Habitat restoration.	Stream restoration
10-LP-H8	Puyallup River (Union Pacific) Setback Levee (RM 2.6-3.0) - Acquisition	Levee setback. Acquire up to 30 acres of floodplain and former intertidal habitat.	Habitat restoration.	Levee setback
10-LP-H9	Clear Creek RM 2.9 Acquisition and Levee	Levee setback and floodplain reconnection. Construct a new 13,600' levee along Clear Creek and remove flood gate. Reconnect up to 500 acres of floodplain.	Habitat restoration.	Levee setback
10-LP-H10	Fennel Creek Phase 3	Floodplain restoration This project will restore the Fennel Creek right bank floodplain to a more natural state. Project may include a small offset by removing existing PE wells.	Restore 14 acres of floodplain.	Floodplain restoration
Lower White (LW)				
10-LW-H14	Jovita Creek Habitat Project	Restoration actions to address channel confinement, and that restore habitat and habitat forming processes.	Habitat restoration.	Stream restoration

Project Number	Project Name	Project Type and Brief Description	Additional Benefits	Project Type
10-LW-H15	Pacific Right Bank	Levee setback The proposed project will remove a levee and other artificial floodplain fill, allowing for off-channel habitat and floodplain restoration. The total project area available for restoration is estimated at 32 acres.	Habitat restoration, floodplain reconnection.	Levee setback
10-LW-H16	White River LB RM 2.9-4.2 Restoration	Habitat restoration. White River Restoration will restore sustainable instream, floodplain, and wetland habitats within a 170 acre area along the Lower White River between river miles 2.9 and 4.2. The tailrace between RM 3 and RM 3.5 is part of the Foster Pilot Project and not included as part of the offset and NEB accounting.	Restore sustainable instream, floodplain, and wetland habitats within a 170 acre area along the Lower White River between river miles 2.9 and 4.2.	Floodplain restoration
10-LW-H17	White river bridge (Stewart Road) replacement RM 4.9	The project will consist of replacing the existing Stewart Road Bridge with a new bridge. The existing bridge is a restriction along the river, and a new bridge will allow the river more room to move naturally, allowing better utilization of instream habitat beneath the bridge. The current bridge also limits the flow of large woody debris, while a new bridge will let them large woody debris flow downstream and accumulate naturally through the rest of the lower White River.	Habitat restoration.	Stream restoration

Project Number	Project Name	Project Type and Brief Description	Additional Benefits	Project Type
10-LW-H18	White River Setback LB RM4.4-4.8 Stewart	The project consists of a levee setback on the left bank between RM 4.4 - RM 4.8. This project Improve Rearing Opportunity by creating slow water habitat, increased number/depth of pools, engaged floodplain food webs. Better High Flow Refuge with floodplain wetlands, and greater main channel roughness. Restore riparian forests. The project will reconnect about 20 acres of floodplain.	Habitat restoration. Reconnect 20 acres of floodplain.	Levee setback
10-LW-H19	Pacific Pointbar	The project consists of a levee setback on the left bank between RM 4.4 - RM 4.8. This project will improve rearing opportunity by creating slow water habitat, increasing number/depth of pools, engaging floodplain food webs, improving high flow refuge with floodplain wetlands, and greater main channel roughness. Restore riparian forests. The project will reconnect about 25 acres of floodplain.	Habitat restoration. Reconnect 25 acres of floodplain.	Levee setback
Middle White (MW)				
10-MW-H13	Enumclaw Golf Course Restoration	Stream restoration to move Boise Creek back to its historic channel adjacent to the Enumclaw Golf Course.	Increased habitat complexity and channel roughness.	Stream restoration
South Prairie Creek (SPC)				
10-SPC-H2	Implement habitat projects based on SPC study.	Habitat improvement projects. Identify and design protection and restoration actions for the lower 15.5 miles of South Prairie Creek and the lower 6 miles of Wilkeson Creek.	Habitat restoration, water quality improvements, fish passage improvements.	Stream restoration

Project Number	Project Name	Project Type and Brief Description	Additional Benefits	Project Type
10-SPC-H3	Stubbs Project	In-channel stabilization and restoration measures including installation of woody material and streambed gravel. Slight chance of a water right acquisition included in this project.	Habitat restoration.	Stream restoration
10-SPC-H4	South Prairie Creek RM 4.0-4.5 Floodplain Planting	Habitat improvement. Continue planting on the South Prairie Creek Preserve property between river mile 4.0 and 4.5 to maintain and in-fill existing plantings on the property.	Habitat restoration and establishment of 50-55 acres of forested floodplain.	Floodplain restoration
10-SPC-H22	South Prairie Creek Floodplain Reconnection, RM 2.7-2.8 Phase 1	Floodplain restoration. Acquire 73 acres and implement a multi-benefit floodplain reconnection project that would reduce flood risk and maintenance costs, restore vital salmon habitat, and keep the property in agricultural production.	Habitat restoration. Water quality improvements.	Floodplain restoration
Upper Puyallup (UP)				
10-UP-H1	Orville Road Revetment at Kapowsin Creek	This project will construct a setback revetment along the left bank Puyallup River near RM 26.3 from Kapowsin Creek confluence upstream. May allow for re-connection of approximately 25-acres of forested floodplain between Puyallup River and Orville Road.	Habitat restoration. Reconnect 25 acres of floodplain.	Floodplain restoration
Upper White (UW)				
10-UW-H11	Greenwater Phase 4 Implementation	Reach scale restoration to restore instream complexity and floodplain connectivity.	Restore 1.2 miles of Greenwater River.	Floodplain restoration
10-UW-H12	West Fork White Floodplain Project	Floodplain restoration project to restore habitat and habitat-forming processes.		Floodplain restoration

Project Number	Project Name	Project Type and Brief Description	Additional Benefits	Project Type
WRIA-Wide (WW)				
10-WW-H20	Land acquisition, water right acquisition, and restoration	Seek out opportunities for land and water right acquisitions and large scale habitat restoration and floodplain reconnection/levee setbacks.	Habitat restoration, habitat protection.	Floodplain restoration Levee setback Stream restoration
10-WW-H21	Levee setbacks	Implement projects included on the Pierce County Levee Setback Feasibility Study as opportunities arise. The study lists levees in Pierce County that may be set back to improve floodplain function and habitat. Any of these levee setback projects would contribute to NEB as well as small but difficult to calculate water offsets by allowing for additional infiltration during high flow events.	Floodplain reconnection, habitat restoration.	Levee setback

Table 17 Limiting Factors Addressed by Habitat Improvement Project Type

Project Type ¹	Limiting Factor(s) Addressed by Project Type ²
Levee Setback	• Loss of floodplain habitat, wetlands, and connectivity to hyporheic zone • Loss of riparian corridors, including marine riparian, and floodplain forests • Increase in river channelization • Loss of large wood • Loss of instream habitat complexity and connectivity due to large wood • Increase in river channelization
Floodplain Restoration	• Loss of floodplain habitat, wetlands, and connectivity to hyporheic zone • Loss off-channel and side-channel habitat • Loss of riparian corridors, including marine riparian, and floodplain forests • Increase in river channelization • Loss of large wood • Loss of instream habitat complexity and connectivity • Loss of spawning and rearing habitat • Loss of good water quality, including appropriate temperature
Stream Restoration	• Loss of off-channel and side-channel habitat • Loss of riparian corridors, including marine riparian, and floodplain forests • Increase in river channelization • Loss of large wood • Loss of instream habitat complexity and connectivity • Loss of spawning and rearing habitat

¹Note that WRIA-wide land and water right acquisition projects that provide restoration opportunities do not fall directly into one of these project type categories, however, acquisitions do address a number of limiting factors depending on location and acquisition type.

²Habitat projects of a specific project type may address all or some of the limiting factors listed in column 2.

7.3 Adaptive Management

The Committee identified a number of challenges related to plan implementation, described in Chapter 6. These challenges include uncertainty in growth projections, uncertainty in consumptive use estimates, uncertainty in offsets associated with specific project types, project implementation, climate change, and other factors. The Committee has recommended adaptive management measures in Chapter 6 of the plan for the purpose of addressing uncertainty in plan implementation. Adaptive management measures include PE well tracking, offset and habitat project implementation tracking, and periodic watershed plan implementation reporting, with recommended actions if offsets are not being achieved. These measures, in addition to the surplus water offset and supplemental habitat improvement projects and programmatic actions described above, provide reasonable assurance that the plan will offset consumptive use from new PE wells during the planning horizon.

7.4 NEB Evaluation Findings

This watershed plan provides a path forward for offsetting an estimated 277.4 acre-feet per year of new consumptive water use in WRIA 10. The plan achieves this offset through a total of four Tier 1 projects and four Tier 2 water offset projects with a cumulative offset projection of 788.3 acre-feet per year, WRIA-wide. This projected total water offset yields a surplus offset of 510.9 acre-feet per year above the consumptive use estimate of 277.4 acre-feet per year in WRIA 10. Tier 1 projects alone account for a water offset of 375.3 acre-feet per year, a surplus offset of 97.9 acre-feet per year.

Within this plan, water offset projects are complimented by a total of 22 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 Committee excluded any associated water offset from the plan's accounting. Additional programmatic actions as described in Chapter 5 include a Water Conservation Education and Incentives Program, Voluntary PE Well Metering Pilot Project, and a recommendation to update the Ecology Well Log Database.

The Committee has additionally recommended adaptive management measures, as described above and in Chapter 6, 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. WRIA 10 has demonstrated successful collaboration and project implementation through similar processes, such as the WRIA 10/12 Salmon Recovery Lead Entity. This history of successful collaboration is expected to continue.

Based on the information and analyses summarized in this plan and the assumption that projects and programmatic actions in the plan will be implemented, the WRIA 10 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).

Appendices

Appendix A – References

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Appendix B – Glossary

AE	Application Efficiency
AFY	Acre-Feet per Year
CFS	Cubic Feet per Second
CU	Consumptive Use
CUF	Consumptive Use Factor
GPD	Gallons per Day
GIS	Geographic Information System
IR	Irrigation Requirements
LID	Low Impact Development
LIO	Local Integrating Organization
MAR	Managed Aquifer Recharge
NEB	Net Ecological Benefit
PE	Permit-Exempt
RCW	Revised Code of Washington
WDFW	Washington Department of Fish and Wildlife
WRIA	Water Resource Inventory Areas

Acre-feet (AF): A unit of volume equal to the volume of a sheet of water one acre in area and one foot in depth. ([USGS](#))

Adaptive Management: An iterative 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. ([NEB](#))

Annual Average Withdrawal: [RCW 90.94.030](#) (4)(a)(vi)(B) refers to the amount of water allowed for withdrawal per connection as the annual average withdrawal. As an example, a homeowner could withdraw 4,000 gallons on a summer day, so long as they did not do so often enough that their annual average exceeds the 950 gpd.

Beaver Dam Analogue (BDA): BDAs are man-made structures designed to mimic the form and function of a natural beaver dam. They can be used to increase the probability of successful beaver translocation and function as a simple, cost-effective, non-intrusive approach to stream restoration. ([From Anabranch Solutions](#))

Critical Flow Period: The time period of low streamflow (generally described in bi-monthly or monthly time steps) that has the greatest likelihood to negatively impact the survival and recovery of threatened or endangered salmonids or other fish species targeted by the planning group. The planning group should discuss with Ecology, local tribal and WDFW biologists to determine the critical flow period in those reaches under the planning group's evaluation. ([NEB](#))

Cubic feet per second (CFS): A rate of the flow in streams and rivers. It is equal to a volume of water one foot high and one foot wide flowing a distance of one foot in one second (about the size of one archive file box or a basketball). ([USGS](#))

Domestic Use: In the context of Chapter [90.94 RCW](#), "domestic use" and the withdrawal limits from permit-exempt domestic wells include both indoor and outdoor household uses, and watering of a lawn and noncommercial garden. ([NEB](#))

ESSB 6091: In January 2018, the Legislature passed Engrossed Substitute Senate Bill (ESSB) 6091 in response to the Hirst decision. In the [Whatcom County vs. Hirst, Futurewise, et al. decision](#) (often referred to as the "Hirst decision"), the court ruled that the county failed to comply with the Growth Management Act requirements to protect water resources. The ruling required the county to make an independent decision about legal water availability. ESSB 6091 addresses the court's decision by allowing landowners to obtain a building permit for a new home relying on a permit-exempt well. ESSB 6091 is codified as Chapter [90.94 RCW](#). ([ECY](#))

Evolutionarily Significant Unit (ESU): A population of organisms that is considered distinct for purposes of conservation. For Puget Sound Chinook, the ESU includes naturally spawned Chinook salmon originating from rivers flowing into Puget Sound from the Elwha River (inclusive) eastward, including rivers in Hood Canal, South Sound, North Sound and the Strait of Georgia. Also, Chinook salmon from 26 artificial propagation programs. ([NOAA](#))

Foster Pilots and Foster Task Force: To address the impacts of the 2015 Foster decision, Chapter [90.94 RCW](#) established a Task Force on Water Resource Mitigation and authorized the Department of Ecology to issue permit decisions for up to five water mitigation pilot projects. These pilot projects will address issues such as the treatment of surface water and groundwater appropriations and include management strategies to monitor how these appropriations affect instream flows and fish habitats. The joint legislative Task Force will (1) review the treatment of surface water and groundwater appropriations as they relate to instream flows and fish habitat, (2) develop and recommend a mitigation sequencing process and scoring system to address

such appropriations, and (3) review the Washington Supreme Court decision in Foster v. Department of Ecology. The Task Force is responsible for overseeing the five pilot projects. ([ECY](#))

Four Year Work Plans: Four year plans are developed by salmon recovery lead entities in Puget Sound to describe each lead entity's accomplishments during the previous year, to identify the current status of recovery actions, any changes in recovery strategies, and to propose future actions anticipated over the next four years. Regional experts conduct technical and policy reviews of each watershed's four year work plan update to evaluate the consistency and appropriate sequencing of actions with the Puget Sound Salmon Recovery Plan. ([Partnership](#))

Gallons per day (GPD): An expression of the average rate of domestic and commercial water use. 1 million gallons per day is equivalent to 1.547 cubic feet per second.

Group A public water systems: Group A water systems have 15 or more service connections or serve 25 or more people per day. Chapter [246-290 WAC](#) (Group A Public Water Supplies), outlines the purpose, applicability, enforcement, and other policies related to Group A water systems. (WAC)

Group B public water systems: Group B public water systems serve fewer than 15 connections **and** fewer than 25 people per day. Chapter [246-291 WAC](#) (Group B Public Water Systems), outlines the purpose, applicability, enforcement, and other policies related to Group B water systems.(WAC)

Growth Management Act (GMA): Passed by the [Washington Legislature](#) and enacted in 1990, this act guides planning for growth and development in Washington State. The act requires local governments in fast growing and densely populated counties to develop, adopt, and periodically update comprehensive plans.

Home: A general term referring to any house, household, or other Equivalent Residential Unit. ([Policy and Interpretive Statement](#))

Hydrologic Unit Code (HUC): Hydrologic unit codes refer to the USGS's division and sub-division of the watersheds into successively smaller hydrologic units. The units are classified into four levels: regions, sub-regions, accounting units, and cataloging units, and are arranged within each other from the largest geographic area to the smallest. Each unit is classified by a unit code (HUC) composed of two to eight digits based on the four levels of the classification in the hydrologic unit system (two digit units are largest and eight digits are smallest). ([USGS](#))

Impact: For the purpose of streamflow restoration planning, impact is the same as new consumptive water use (see definition below). As provided in Ecology WR POL 2094 "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 well 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](#). " ([NEB](#))

Instream Flows and Instream Flow Rule (IFR): Instream flows are a specific flow level measured at a specific location in a given stream. Seasonal changes cause natural stream flows to vary throughout the year, so instream flows usually vary from month to month rather than one flow rate year-round. State law requires that enough water in streams to protect and preserve instream resources and uses. The Department of Ecology sets flow levels in administrative rules. Once instream flow levels are established in a rule, they serve as a water right for the stream and the resources that depend on it. Instream flow rules do not affect pre-existing, or senior, water rights; rather, they protect the river from future withdrawals. Once an instream flow rule is established, the Department of Ecology may not issue water rights that would impair the instream flow level. ([ECY](#))

Instream Resources Protection Program (IRPP): The IRPP was initiated by the Department of Ecology in September 1978 with the purpose of developing and adopting instream resource protection measures for Water Resource Inventory Areas (WRIAs) (see definition below) in Western Washington as authorized in the Water Resources Act of 1971 (RCW 90.54), and in accordance with the Water Resources Management Program ([WAC 175-500](#)).

Instream Resources: Fish and related aquatic resources. ([NEB](#))

Large woody debris (LWD): LWD refers to the fallen trees, logs and stumps, root wads, and piles of branches along the edges of streams, rivers, lakes and Puget Sound. Wood helps stabilize shorelines and provides vital habitat for salmon and other aquatic life. Preserving the debris along shorelines is important for keeping aquatic ecosystems healthy and improving the survival of native salmon. ([King County](#))

Lead Entities (LE): Lead Entities are local, citizen-based organizations in Puget Sound that coordinate salmon recovery strategies in their local watershed. Lead entities work with local and state agencies, tribes, citizens, and other community groups to adaptively manage their local salmon recovery chapters and ensure recovery actions are implemented. ([Partnership](#))

Listed Species: Before a species can receive the protection provided by the [Endangered Species Act](#) (ESA), it must first be added to the federal lists of endangered and threatened wildlife and plants. The [List of Endangered and Threatened Wildlife \(50 CFR 17.11\)](#) and the [List of Endangered and Threatened Plants \(50 CFR 17.12\)](#) contain the names of all species that have been determined by the U.S. Fish and Wildlife Service (Service) or the National Marine Fisheries Service (for most marine life) to be in the greatest need of federal protection. A species is added to the list when it is determined to be endangered or threatened because of any of the following factors: the present or threatened destruction, modification, or curtailment of its habitat or range; overutilization for commercial, recreational, scientific, or educational purposes; disease or predation; the inadequacy of existing regulatory mechanisms; or other natural or manmade factors affecting its survival. ([USFWS](#))

Local Integrating Organizations (LIO): Local Integrating Organizations are local forums in Puget Sound that collaboratively work to develop, coordinate, and implement strategies and actions that contribute to the protection and recovery of the local ecosystem. Funded and supported by the Puget Sound Partnership, the LIOs are recognized as the local expert bodies for ecosystem recovery in nine unique ecosystems across Puget Sound. ([Partnership](#))

Low Impact Development (LID): Low Impact Development (LID) is a stormwater and land-use management strategy that tries to mimic natural hydrologic conditions by emphasizing techniques including conservation, use of on-site natural features, site planning, and distributed stormwater best management practices (BMPs) integrated into a project design. ([ECY](#))

Managed Aquifer Recharge (MAR): Managed aquifer recharge projects involve the addition of water to an aquifer through infiltration basins, injection wells, or other methods. The stored water can then be used to benefit stream flows, especially during critical flow periods. ([NEB](#))

National Pollutant Discharge Elimination System (NPDES): The NPDES permit program addresses water pollution by regulating point sources that discharge pollutants to waters of the United States. Created by the Clean Water Act in 1972, the EPA authorizes state governments to perform many permitting, administrative, and enforcement aspects of the program. ([EPA](#))

Net Ecological Benefit (NEB): Net Ecological Benefit is a term used in ESSB 6091 as a standard that watershed plans (see below for definition) must meet. The outcome that is anticipated to occur through implementation of projects and actions in a plan to yield offsets that exceed impacts within: a) the planning horizon; and, b) the relevant WRIA boundary. See *Final Guidance for Determining Net Ecological Benefit - Guid-2094 Water Resources Program Guidance*. ([NEB](#))

Net Ecological Benefit Determination: Occurs solely upon Ecology's conclusion after its review of a watershed plan submitted to Ecology by appropriate procedures, that the plan does or does not achieve a NEB as defined in the Net Ecological Benefit guidance. The Director of Ecology will issue the results of that review and the NEB determination in the form of an order. ([NEB](#))

Net Ecological Benefit Evaluation: A planning group's demonstration, using NEB Guidance and as reflected in their watershed plan, that their plan has or has not achieved a NEB. ([NEB](#))

New Consumptive Water Use: The consumptive water use from the permit-exempt domestic groundwater withdrawals estimated to be initiated within the planning horizon. For the purpose of RCW 90.94, consumptive water use is considered water that is evaporated, transpired, consumed by humans, or otherwise removed from an immediate water environment due to the use of new permit-exempt domestic wells. ([NEB](#))

Office of Financial Management (OFM): OFM is a Washington state agency that develops official state and local population estimates and projections for use in local growth management planning. ([OFM](#))

Offset: The anticipated ability of a project or action to counterbalance some amount of the new consumptive water use over the planning horizon. Offsets need to continue beyond the planning horizon for as long as new well pumping continues. ([NEB](#))

Permit exempt wells: The Groundwater Code ([RCW 90.44](#)), identified four "small withdrawals" of groundwater as exempt from the permitting process. Permit-exempt groundwater wells often provide water where a community supply is not available, serving single homes, small developments, irrigation of small lawns and gardens, industry, and stock watering.

Permit-exempt uses: Groundwater permit exemptions allow four small uses of groundwater without a water right permit: domestic uses of less than 5,000 gallons per day, industrial uses of less than 5,000 gallons per day, irrigation of a lawn or non-commercial garden, a half-acre or less in size, or stock water. Although exempt groundwater withdrawals don't require a water right permit, they are always subject to state water law. ([ECY](#))

Planning groups: A general term that refers to either initiating governments, in consultation with the planning unit, preparing a watershed plan update required by Chapter 90.94.020 RCW, or a watershed restoration and enhancement committee preparing a plan required by Chapter 90.94.030 RCW. ([NEB](#))

Planning Horizon: The 20-year period beginning on January 19, 2018 and ending on January 18, 2038, over which new consumptive water use by permit-exempt domestic withdrawals within a WRIA must be addressed, based on the requirements set forth in Chapter 90.94 RCW. ([NEB](#))

Projects and Actions: General terms describing any activities in watershed plans to offset impacts from new consumptive water use and/or contribute to NEB. ([NEB](#))

Puget Sound Acquisition and Restoration (PSAR) fund: This fund supports projects that recover salmon and protect and recover salmon habitat in Puget Sound. The state legislature appropriates money for PSAR every 2 years in the Capital Budget. PSAR is co-managed by the Puget Sound Partnership and the Recreation and Conservation Office, and local entities identify and propose PSAR projects. ([Partnership](#))

Puget Sound Partnership (Partnership): The Puget Sound Partnership is the state agency leading the region's collective effort to restore and protect Puget Sound and its watersheds. The organization brings together hundreds of partners to mobilize partner action around a common agenda, advance Sound investments, and advance priority actions by supporting partners. ([Partnership](#))

Puget Sound Regional Council (PSRC): PSRC develops policies and coordinates decisions about regional growth, transportation and economic development planning within King, Pierce, Snohomish and Kitsap counties. ([PSRC](#))

[RCW 90.03 \(Water Code\)](#): This chapter outlines the role of the Department of Ecology in regulating and controlling the waters within the state. The code describes policies surrounding surface water and groundwater uses, the process of determining water rights, compliance measures and civil penalties, and various legal procedures.

[RCW 90.44 \(Groundwater Regulations\)](#): RCW 90.44 details regulations and policies concerning groundwater use in Washington state, and declares that public groundwaters belong to the public and are subject to appropriation for beneficial use under the terms of the chapter. The rights to appropriate surface waters of the state are not affected by the provisions of this chapter.

[RCW 90.54 \(Groundwater permit exemption\)](#): This code states that any withdrawal of public groundwaters after June 6, 1945 must have an associated water right from the Department of Ecology. However, any withdrawal of public groundwaters for stock-watering purposes, or for the watering of a lawn or of a noncommercial garden not exceeding one-half acre in area, or for

single or group domestic uses in an amount not exceeding five thousand gallons a day, or for an industrial purpose in an amount not exceeding five thousand gallons a day, is exempt from the provisions of this section and does not need a water right.

[RCW 90.82 \(Watershed Planning\)](#): Watershed Planning was passed in 1997 with the purpose of developing a more thorough and cooperative method of determining what the current water resource situation is in each water resource inventory area of the state and to provide local citizens with the maximum possible input concerning their goals and objectives for water resource management and development.

[RCW 90.94 \(Streamflow Restoration\)](#): This chapter of the Revised Code of Washington codifies ESSB 6091, including watershed planning efforts, streamflow restoration funding program and the joint legislative task force on water resource mitigation and mitigation pilot projects (Foster task force and pilot projects).

Reasonable Assurance: Explicit statement(s) in a watershed plan that the plan’s content is realistic regarding the outcomes anticipated by the plan, and that the plan content is supported with scientifically rigorous documentation of the methods, assumptions, data, and implementation considerations used by the planning group. ([NEB](#))

Revised Code of Washington (RCW): The revised code is a compilation of all permanent laws now in force for the state of Washington. The RCWs are organized by subject area into Titles, Chapters, and Sections.

Salmon Recovery Funding Board (SRFB): Pronounced “surf board”, this state and federal board provides grants to protect and restore salmon habitat. Administered by a 10-member State Board that includes five governor-appointed citizens and five natural resource agency directors, the board brings together the experiences and viewpoints of citizens and the major state natural resource agencies. For watersheds planning under Section 203, the Department of Ecology will submit final draft WRE Plans not adopted by the prescribed deadline to SRFB for a technical review ([RCO](#) and [Policy and Interpretive Statement](#)).

Section 202 or Section 020: Refers to Section 202 of ESSB 6091 or [Section 020 of RCW 90.94](#) respectively. The code provides policies and requirements for new domestic groundwater withdrawals exempt from permitting with a potential impact on a closed water body and potential impairment to an instream flow. This section includes WRIAs 1, 11, 22, 23, 49, 59 and 55, are required to update watershed plans completed under RCW 90.82 and to limit new permit-exempt withdrawals to 3000 gpd annual average.

Section 203 or Section 030: Refers to Section 203 of ESSB 6091 or [Section 030 of RCW 90.94](#) respectively. The section details the role of WRE committees and WRE plans (see definitions below) in ensuring the protection and enhancement of instream resources and watershed functions. This section includes WRIAs 7, 8, 9, 10, 12, 13, 14 and 15. New permit-exempt withdrawals are limited to 950 gpd annual average.

SEPA and SEPA Review: SEPA is the State Environmental Policy Act. SEPA identifies and analyzes environmental impacts associated with governmental decisions. These decisions may be related to issuing permits for private projects, constructing public facilities, or adopting

regulations, policies, and plans. SEPA review is a process which helps agency decision-makers, applications, and the public understand how the entire proposal will affect the environment. These reviews are necessary prior to Ecology adopting a plan or plan update and may be completed by Ecology or by a local government. ([Ecology](#))

Subbasins: A geographic subarea within a WRIA, equivalent to the words “same basin or tributary” as used in RCW 90.94.020(4)(b) and RCW 90.94.030 (3)(b). In some instances, subbasins may not correspond with hydrologic or geologic basin delineations (e.g. watershed divides). ([NEB](#))

Trust Water Right Program: The program allows the Department of Ecology to hold water rights for future uses without the risk of relinquishment. Water rights held in trust contribute to streamflows and groundwater recharge, while retaining their original priority date. Ecology uses the Trust Water Right Program to manage acquisitions and accept temporary donations. The program provides flexibility to enhance flows, bank or temporarily donate water rights. ([ECY](#))

Urban Growth Area (UGA): UGAs are unincorporated areas outside of city limits where urban growth is encouraged. Each city that is located in a GMA fully-planning county includes an urban growth area where the city can grow into through annexation. An urban growth area may include more than a single city. An urban growth area may include territory that is located outside of a city in some cases. Urban growth areas are under county jurisdiction until they are annexed or incorporated as a city. Zoning in UGAs generally reflect the city zoning, and public utilities and roads are generally built to city standards with the expectation that when annexed, the UGA will transition seamlessly into the urban fabric. Areas outside of the UGA are generally considered rural. UGA boundaries are reviewed and sometimes adjusted during periodic comprehensive plan updates. UGAs are further defined in [RCW 36.70](#).

[WAC 173-566](#) (Streamflow Restoration Funding Rule): On June 25, 2019 the Department of Ecology adopted this rule for funding projects under RCW 90.94. This rule establishes processes and criteria for prioritizing and approving grants consistent with legislative intent, thus making Ecology’s funding decision and contracting more transparent, consistent, and defensible.

Washington Administrative Code (WAC): The WAC contains the current and permanent rules and regulations of state agencies. It is arranged by agency and new editions are published every two years. ([Washington State Legislature](#))

Washington Department of Ecology (DOE/ECY): The Washington State Department of Ecology is an environmental regulatory agency for the State of Washington. The department administers laws and regulations pertaining to the areas of water quality, water rights and water resources, shoreline management, toxics clean-up, nuclear and hazardous waste, and air quality.

Washington Department of Fish and Wildlife (WDFW): An agency dedicated to preserving, protecting, and perpetuating the state’s fish, wildlife, and ecosystems while providing sustainable fish and wildlife recreational and commercial opportunities. Headquartered in Olympia, the department maintains six regional offices and manages dozens of wildlife areas around the state, offering fishing, hunting, wildlife viewing, and other recreational

opportunities for the residents of Washington. With the tribes, WDFW is a co-manager of the state salmon fishery. ([WDFW](#))

Washington Department of Natural Resources (WADNR or DNR): The department manages over 3,000,000 acres of forest, range, agricultural, and commercial lands in the U.S. state of Washington. The DNR also manages 2,600,000 acres of aquatic areas which include shorelines, tidelands, lands under Puget Sound and the coast, and navigable lakes and rivers. Part of the DNR's management responsibility includes monitoring of mining cleanup, environmental restoration, providing scientific information about earthquakes, landslides, and ecologically sensitive areas. ([WADNR](#))

Water Resources (WR): The Water Resources program at Department of Ecology supports sustainable water resources management to meet the present and future water needs of people and the natural environment, in partnership with Washington communities. ([ECY](#))

Water Resources Advisory Committee (WRAC): Established in 1996, the Water Resources Advisory Committee is a forum for issues related to water resource management in Washington State. This stakeholder group is comprised of 40 people representing state agencies, local governments, water utilities, tribes, environmental groups, consultants, law firms, and other water stakeholders. ([ECY](#))

Watershed Plan: A general term that refers to either: a watershed plan update prepared by a WRIA's initiating governments, in collaboration with the WRIA's planning unit, per RCW 90.94.020; or a watershed restoration and enhancement plan prepared by a watershed restoration and enhancement committee, per RCW 90.94.030. This term does not refer to RCW 90.82.020(6). ([NEB](#))

Watershed Restoration and Enhancement Plan (WRE Plan): The Watershed Restoration and Enhancement Plan is directed by [Section 203 of ESSB 6091](#) and requires that by June 30, 2021, the Department of Ecology will prepare and adopt a watershed restoration and enhancement plan for WRIAs 7, 8, 9, 10, 12, 13, 14 and 15, in collaboration with the watershed restoration and enhancement committee. The plan should, at a minimum, offset the consumptive impact of new permit-exempt domestic water use, but may also include recommendations for projects and actions that will measure, protect, and enhance instream resources that support the recovery of threatened and endangered salmonids. Prior to adoption of an updated plan, Department of Ecology must determine that the actions in the plan will result in a "net ecological benefit" to instream resources in the WRIA. The planning group may recommend out-of-kind projects to help achieve this standard.

WRIA: Water Resource Inventory Area. WRIAs are also called basins or watersheds. There are 62 across the state and each are assigned a number and name. They were defined in 1979 for the purpose of monitoring water availability. A complete map is available here: <https://ecology.wa.gov/Water-Shorelines/Water-supply/Water-availability/Watershed-look-up>.

Appendix C – Committee Roster

Entity	Representative
Tribes	
Muckleshoot Tribe	Henry Martin
Muckleshoot Tribe	Carla Carlson
Puyallup Tribe	Russ Ladley
Puyallup Tribe	Char Naylor
County	
Pierce County	Dan Cardwell
Pierce County	Austin Jennings
Pierce County	Tom Kantz
Cities	
City of Auburn	Lisa Tobin
City of Auburn	Jeff Tate
City of Auburn	Susan Fenhaus
City of Bonney Lake	Ryan Johnstone
City of Bonney Lake	Andrew Fonda
City of Edgewood	Jeremy Metzler
City of Enumclaw	Scott Woodbury
City of Enumclaw	Chris Searcy
City of Enumclaw	Jeff Lincoln
City of Fife	Lorna Fuller
City of Fife	Russ Blount
City of Orting	Greg Reed
City of Orting	Mark Barfield
City of Pacific	Jim Morgan
City of Puyallup	Paul Marrinan
City of Puyallup	Ryan Rutkosky
City of Sumner	Michael Kosa
City of Sumner	Robert Wright
City of Tacoma	Merita Trohimovich
City of Tacoma	Stephanie Seivert Wilson
Water Purveyor	
Lakehaven Water and Sewer District	Tim Osborne
Lakehaven Water and Sewer District	John Bowman
Building Industry Representative	
Master Builder Association of Pierce County	Jessie Gamble
Master Builder Association of Pierce County	Kurt Wilson
Master Builder Association of Pierce County	Chuck Sundsmo
Environmental Representatives	
Puyallup River Watershed Council	Carrie Hernandez

WRIA 10 WRE Plan
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Entity	Representative
Agriculture Representative	
Pierce Conservation District	Allan Warren
Pierce Conservation District	Ryan Mello
WA Department of Fish and Wildlife	
WDFW	Liz Bockstiegel
WDFW	Tristan Weiss
Department of Ecology	
Department of Ecology	Rebecca Brown
Department of Ecology	Angela Johnson
Department of Ecology	Mike Noone
Ex Officio	
WRIA 10/12 Salmon Recovery Lead Entity	Lisa Spurrier

Appendix D – Operating Principles

Operating Principles are available on the WRIA 10 webpage:

https://www.ezview.wa.gov/Portals/_1962/images/WREC/WRIA10/202005/WRIA10_OP_final.pdf

Appendix E - Aquifer Units in WRIA 10

The local hydrogeology has previously been described by the U.S. Geological Survey (USGS) in a hydrogeologic framework report for the Puyallup River Watershed (Welch and others, 2015). The USGS describes the hydrogeologic units of the area as being comprised of either water-bearing (“aquifer”) and non-water-bearing (“aquitard” or “confining layer”) sediments. The layer definition is focused solely on these hydrogeologic properties without regard to geologic origin or age. The USGS definitions are based on previous studies and published reports for both King and Pierce Counties. Major groundwater aquifers are found in the unconsolidated glacial and interglacial sediments throughout the central and lower regions of the watershed.

The USGS study breaks the hydrogeology of the watershed into 12 units, typically alternating between aquifer and non-aquifer layers. The upper seven layers of the USGS definitions are the most likely units to be encountered by new permit-exempt wells. This includes four aquifer units (Aquifers AL1, A1, A3, and C) that are present through the majority of the lower and central areas of the watershed (See Table 1: Aquifer Units within WRIA 10, below). These aquifers are the most likely to be sources for new permit-exempt wells. They will also be the main source of direct recharge or baseflow to the surface water system.

Table 18: Aquifer Units within WRIA 10

Aquifer	Description	Typical Thickness
AL1	Often present at land surface, the upper alluvial aquifer is found throughout the Puyallup River, Carbon River, and White River valleys (Qal, Qa, Qp, af). The unit primarily consists of alluvial silt, sand, gravel deposits, and local lenses of clay. Where saturated, the unit represents a water-table aquifer. However, local lenses of clay can create confined conditions.	100 feet thick and can exceed 240 feet thick where the Puyallup River meets Commencement Bay
AL2	The lower alluvial aquifer primarily consists of Holocene alluvium and deltaic deposits from estuarine margins of the ancestral Puyallup River. The unit is confined by the overlying MFL confining unit but can be unconfined when the MFL unit is not present.	110 feet
A1	Often present at land surface, this aquifer primarily consists of stratified silt, sand, and gravel deposits of Vashon recessional outwash (Qvr) of the Frasier glaciation. Locally, this unit includes very coarse outwash gravels of the Steilacoom Gravel (Qvs) in broad plains to the west and in the bottoms of outwash channels (the channels were originally described by Walters and Kimmel, 1968).	A few feet up to about 50 feet thick. Where saturated, the unit represents a water-table aquifer and is often in direct continuity with surface-water bodies.

C	Sometimes also called the “sea-level aquifer” due its coincident elevation, this system is usually sand and gravel deposits of pre-Olympia age glacial drift, but lower-permeability deposits of silt, clay, or till are sometimes encountered.	70 to 150 feet thick in most places in the area. Productive zones in this unit seem to be more discontinuous across the region than is the case with Aquifer A3 or Aquifer E.
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The remaining five units become thinner or are not present in large portions of the central or eastern areas of the watershed and are not anticipated to be the primary target supply for future permit-exempt wells. These deeper units include three aquifer sources (Aquifers E and G, plus the bedrock).

Appendix F– WRIA 10 Subbasin Delineation Memo

The Subbasin Delineation Technical Memo is available on the WRIA 10 Webpage:

https://www.ezview.wa.gov/Portals/_1962/images/WREC/WRIA10/Final Plan/Appendix F WRIA 10 Subbasin Delineation Memo.pdf.

Appendix G – WRIA 10 Permit-Exempt Growth and Consumptive Use Summary

The Permit-Exempt Connection Growth and Consumptive Use Technical Memo is available on the WRIA 10 Webpage:

[https://www.ezview.wa.gov/Portals/_1962/images/WREC/WRIA10/Final%20Plan/Appendix%20G%20WRIA%2010%20Combined%20GPandCU%20Technical%20Memo Final.pdf](https://www.ezview.wa.gov/Portals/_1962/images/WREC/WRIA10/Final%20Plan/Appendix%20G%20WRIA%2010%20Combined%20GPandCU%20Technical%20Memo%20Final.pdf).

Appendix H – Projects

Link to Appendix H materials in Box:

<https://app.box.com/s/rqh31tg712g5q426kpfbzxuxglw5uhmx>

WRIA 10 Project Inventory

Project Number	Project Name	Project Type and Brief Description	Water Offset (AFY)	Timing of Water Offset	Additional Benefits	Project Sponsor	Tier (Offset Projects Only)	Project Stage	Estimated Water Offset Cost	Estimated Total Project Cost
Carbon River (CR)										
10-CR-W4	Alward Road	Levee Setback. Property acquisition and restoration of 150 acres of floodplain. Includes decommission of 20 PE wells	8	Year-round	Restoration of 150 acres of floodplain, flood hazard reduction	Pierce County	1	Feasibility Study	\$ 21,000	\$ 14,000,000
10-CR-W3	Carbon River Levee Setback and Acquisition	Water Right and Levee Setback. Purchase a property as part of a larger levee setback project and acquire associated water right.	14.3	Irrigation Season	Habitat restoration.	Pierce County	2	Assessment	\$ 37,000	\$ 19,000,000
Lower Puyallup (LP)										
10-LP-W6	Potential MAR	MAR. Construct an MAR in a gravel pit supplied with Tacoma Water. Three potential locations are identified in the Lower Puyallup.	300	Year-round		None	2	Conceptual	\$ 1,100,000	\$ 1,100,000
10-LP-W10	Bond	Water Right. Acquire water right as part of a larger property transfer and protection with the City of Puyallup	30	Irrigation Season		City of Puyallup	2	Outreach	\$ 80,000	\$ 80,000
10-LP-H5	Deer Creek Stream Bed Relocation	Relocate the creek bed to allow for a better connection to the floodplain, restore habitat in the adjacent areas.	N/A	N/A	Improve habitat and provide flood storage.	City of Puyallup	H	Design	N/A	TBD
10-LP-H6	Swan Creek Channel and Bank Stabilization	In-channel stabilization and restoration measures including installation of woody material and streambed gravel.	N/A	N/A	Restore 2.5 miles of Swan Creek.	Pierce County and Puyallup Tribe	H	Design	N/A	\$ 3,700,000
10-LP-H7	Silver Creek bank Stabilization	Restoration. Stabilize slopes of Silver Creek to stop channel incision.	N/A	N/A	Habitat restoration.	City of Puyallup	H	Conceptual	N/A	TBD
10-LP-H8	Puyallup River (Union Pacific) Setback Levee (RM 2.6-3.0) - Acquisition	Levee setback. Acquire up to 30 acres of floodplain and former intertidal habitat.	N/A	N/A	Habitat restoration.	Pierce County	H	Conceptual		\$ 8,500,000
10-LP-H9	Clear Creek RM 2.9 Acquisition and Levee	Levee setback and floodplain reconnection. Construct a new 13,600' levee along Clear Creek and remove flood gate. Reconnect up to 500 acres of floodplain.	N/A	N/A	Habitat restoration.	Pierce County	H	Conceptual		\$ 5,473,802
10-LP-W18	Troutlodge Source Switch	Switch hatchery water right from surface diversion to groundwater.	N/A	N/A	Barrier removal	Pierce County, Puyallup Tribe	2	Conceptual	TBD	TBD
10-LP-H10	Fennel Creek Phase 3	Floodplain restoration This project will restore the Fennel Creek right bank floodplain to a more natural state. Project	N/A	N/A	Restore 14 acres of floodplain.	Pierce County	H	Design		\$ 1,662,329

Project Number	Project Name	Project Type and Brief Description	Water Offset (AFY)	Timing of Water Offset	Additional Benefits	Project Sponsor	Tier (Offset Projects Only)	Project Stage	Estimated Water Offset Cost	Estimated Total Project Cost
		may include a small offset by removing existing PE wells.								
10-LP-W9	Puyallup R. # 1	Water right acquisition would result in an additional 0.75 cfs in 10 miles of the Puyallup River.	82.82	Irrigation Season		TBD	2	Conceptual	\$ 212,930	\$ 212,930
10-LP-W10	Puyallup R. # 3	Water right acquisition would result in an additional 0.3 cfs in 6.5 miles of the Puyallup River.	36.23	Irrigation Season		TBD	2	Conceptual	\$ 93,147	\$ 93,147
10-LP-W11	Puyallup R. # 4	Water right acquisition would result in an additional 0.38 cfs in 1.5 miles of Clarks Creek and 6.7 miles of Puyallup River.	19.92	Irrigation Season		TBD	2	Conceptual	\$ 51,214	\$ 51,214
10-LP-W12	Fennel Cr - Puyallup R. #5	Water right acquisition would result in an additional 0.22 cfs in 16 miles of the Puyallup River.	23.55	Irrigation Season		TBD	2	Conceptual	\$ 60,547	\$ 60,547
10-LP-W13	Hylebos Cr - Fr Comm Bay #1	Water right acquisition would result in an additional 0.67 cfs in 6 miles of Wapato Creek.	34.35	Irrigation Season		TBD	2	Conceptual	\$ 88,314	\$ 88,314
Lower White (LW)										
10-LW-H14	Jovita Creek Habitat Project	Restoration actions to address channel confinement, and that restore habitat and habitat forming processes.	N/A	N/A	Habitat restoration.	City of Edgewood	H	Feasibility	N/A	\$ 250,000
10-LW-H15	Pacific Right Bank	Levee setback The proposed project will remove a levee and other artificial floodplain fill, allowing for off-channel habitat and floodplain restoration. The total project area available for restoration is estimated at 32 acres.	N/A	N/A	Habitat restoration, floodplain reconnection.	King County Flood Control District	H	Design	N/A	\$ 79,000,000
10-LW-H16	White River LB RM 2.9-4.2 Restoration	Habitat restoration. White River Restoration will restore sustainable instream, floodplain, and wetland habitats within a 170 acre area along the Lower White River between river miles 2.9 and 4.2. The tailrace between RM 3 and RM 3.5 is part of the Foster Pilot Project and not included as part of the offset and NEB accounting.	N/A	N/A	Restore sustainable instream, floodplain, and wetland habitats within a 170 acre area along the Lower White River between river miles 2.9 and 4.2.	City of Sumner	H	Design	N/A	\$ 25,000,000

Project Number	Project Name	Project Type and Brief Description	Water Offset (AFY)	Timing of Water Offset	Additional Benefits	Project Sponsor	Tier (Offset Projects Only)	Project Stage	Estimated Water Offset Cost	Estimated Total Project Cost
10-LW-H17	White River Bridge (Stewart Road) replacement RM 4.9	The project will consist of replacing the existing Stewart Road Bridge with a new bridge. The existing bridge is a restriction along the river, and a new bridge will allow the river more room to move naturally, allowing better utilization of instream habitat beneath the bridge. The current bridge also limits the flow of large woody debris, while a new bridge will let them large woody debris flow downstream and accumulate naturally through the rest of the lower White River.	N/A	N/A	Habitat restoration.	City of Sumner	H	Design	N/A	\$ 30,000,000
10-LW-H18	White River Setback LB RM4.4-4.8 Stewart	The project consists of a levee setback on the left bank between RM 4.4 - RM 4.8. This project Improve Rearing Opportunity by creating slow water habitat, increased number/depth of pools, engaged floodplain food webs. Better High Flow Refuge with floodplain wetlands, and greater main channel roughness. Restore riparian forests. The project will reconnect about 20 acres of floodplain.	N/A	N/A	Habitat restoration. Reconnect 20 acres of floodplain.	City of Sumner	H	Design	N/A	\$ 7,000,000
10-LW-H19	Pacific Pointbar	The project consists of a levee setback on the left bank between RM 4.4 - RM 4.8. This project will improve rearing opportunity by creating slow water habitat, increased number/depth of pools, and engaged floodplain food webs. Better High Flow Refuge with floodplain wetlands, and greater main channel roughness. Restore riparian forests. The project will reconnect about 25 acres of floodplain.	N/A	N/A	Habitat restoration. Reconnect 25 acres of floodplain.	City of Sumner	H	Design	N/A	\$ 18,000,000
Middle White (MW)										
10-MW-W7	CWA purchase	Water Right. Acquire a portion of the Cascade Water Alliance water right to place in trust.	277	Year-round		Ecology	1	Outreach/Negotiation	\$ 750,000	\$ 750,000
10-MW-H13	Enumclaw Golf Course Restoration	Stream restoration to move Boise Creek back to its historic channel adjacent to the Enumclaw Golf Course.	N/A	N/A	Increased habitat complexity and channel roughness.	City of Enumclaw and Puyallup Tribe	H	Design	N/A	\$ 2,300,000
10-MW-W14	Boise Cr - White R # 2	Water right acquisition would result in an additional 0.22 cfs in 24.7 miles of White River and 10.5 miles of Puyallup River.	53.86	Irrigation Season		TBD	2	Conceptual	\$ 138,474	\$ 138,474

Project Number	Project Name	Project Type and Brief Description	Water Offset (AFY)	Timing of Water Offset	Additional Benefits	Project Sponsor	Tier (Offset Projects Only)	Project Stage	Estimated Water Offset Cost	Estimated Total Project Cost
10-MW-W15	Boise Cr - White R # 3	Water right acquisition would result in an additional 0.3 cfs in 0.2 miles of Cyclone Creek, 24.3 miles of White River, and 10.5 miles of Puyallup River.	47.06	Irrigation Season		TBD	2	Conceptual	\$ 120,991	\$ 120,991
10-MW-W16	Boise Cr - White R # 4	Water right acquisition would result in an additional 0.3 cfs in 3 miles of Boise Creek, 23.4 miles of White River, and 10.5 miles of Puyallup River.	4.706	Irrigation Season		TBD	2	Conceptual	\$ 12,099	\$ 12,099
South Prairie Creek (SPC)										
10-SPC-W2	Old Inglin Dairy	Water Right. Floodplain restoration of former dairy, and place water rights into trust after plants are established.	89.09	Irrigation Season	Floodplain restoration/reconnection, habitat enhancement.	Pierce Conservation District	1	In progress	\$ 230,000	\$ 230,000
10-SPC-H2	Implement habitat projects based on SPC study.	Habitat improvement projects. Identify and design protection and restoration actions for the lower 15.5 miles of South Prairie Creek and the lower 6 miles of Wilkeson Creek.	N/A	N/A	Habitat restoration, water quality improvements, fish passage improvements.	Pierce Conservation District, Puyallup Tribe, South Puget Sound Salmon Enhancement Group	H	Planning study funded	N/A	\$ 469,000
10-SPC-H3	Stubbs Project	In-channel stabilization and restoration measures including installation of woody material and streambed gravel. Slight chance of a water right acquisition included in this project.	N/A	N/A	Habitat restoration.	Pierce Conservation District	H	Conceptual	TBD	TBD
10-SPC-H4	South Prairie Creek RM 4.0-4.5 Floodplain Planting	Habitat improvement. Continue planting efforts on the South Prairie Creek Preserve property between river mile 4.0 and 4.5 to maintain and in-fill existing plantings on the property.	N/A	N/A	Habitat restoration and establishment of 50-55 acres of forested floodplain.	Pierce Conservation District, South Puget Sound Salmon Enhancement Group (SPSSEG)	H	In progress	N/A	\$ 369,000
10-SPC-H22	South Prairie Creek Floodplain Reconnection, RM 2.7-2.8 Phase 1	Floodplain restoration. Acquire 73 acres and implement a multi-benefit floodplain reconnection project that would reduce flood risk and maintenance costs, restore vital salmon habitat, and keep the property in agricultural production.	N/A	N/A	Habitat restoration. Water quality improvements.	Pierce Conservation District	H	Conceptual	N/A	\$ 1,239,000
Upper Puyallup (UP)										

Project Number	Project Name	Project Type and Brief Description	Water Offset (AFY)	Timing of Water Offset	Additional Benefits	Project Sponsor	Tier (Offset Projects Only)	Project Stage	Estimated Water Offset Cost	Estimated Total Project Cost
10-UP-W1	Orville Road Revetment Phase 2C Year 1	Floodplain Reconnection/Levee Setback. Purchased and decommission a PE well that served 3 homes as part of this project.	1.2	Year-round	Habitat restoration. 1,500 Linear Feet of setback revetment, 19 engineered log jams.	Pierce County	1	In progress/complete	\$ 3,100	\$ 2,200,000
10-UP-H1	Orville Road Revetment at Kapowsin Creek	This project will construct a setback revetment along the left bank Puyallup River near RM 26.3 from Kapowsin Creek confluence upstream. May allow for re-connection of approximately 25-acres of forested floodplain between Puyallup River and Orville Road.	N/A	N/A	Habitat restoration. Reconnect 25 acres of floodplain.	Pierce County	H	Preliminary Design	N/A	\$ 3,880,306
10-UP-W17	Fiske Cr - Puyallup R. #3	Water right acquisition would result in an additional 0.45 cfs in 23 miles of the Puyallup River.	72.15	Irrigation Season		TBD	2	Conceptual	\$ 185,498	\$ 185,498
Upper White (UW)										
10-UW-H11	Greenwater Phase 4 Implementation	Reach scale restoration to restore instream complexity and floodplain connectivity.	N/A	N/A	Restore 1.2 miles of Greenwater River.	SPSSEG	H	Design	N/A	\$ 1,500,000
10-UW-H12	West Fork White Floodplain Project	Floodplain restoration project to restore habitat and habitat-forming processes.	N/A	N/A		SPSSEG	H	Conceptual	N/A	\$ 3,000,000
WRIA-Wide (WW)										
10-WW-W8	Green Stormwater Infrastructure	Stormwater infiltration. Support Green Stormwater Infrastructure retrofits for both individual property owners and jurisdictions. Goal of 10 projects per year.	27	Year-round	Water quality improvements	Pierce Conservation District	2	Planning	\$ 900,000	\$ 900,000
10-W9-W17	WWT assessment	Water Right. Acquire 10% of the water rights identified through Washington Water Trust assessment. These rights are listed individually in this table.	41.71	Irrigation Season		Unknown	2	Conceptual	\$ 110,000	\$ 110,000
10-WW-H20	Land acquisition, water right acquisition, and restoration	Seek out opportunities for land and water right acquisitions and large scale habitat restoration and floodplain reconnection/levee setbacks.	N/A	N/A	Habitat restoration, habitat protection.	Multiple	2	Conceptual	TBD	TBD
10-WW-W19	General source switches for ag producers	Ag producers switch from surface to groundwater rights. More water in the stream during the low flow periods. Individual projects would need to be evaluated for Foster impacts, and might not be legal until the Foster is addressed.	N/A	N/A	Improved water quality for agriculture producers.	PCC Farmland Trust	2	Conceptual	TBD	TBD

Project Number	Project Name	Project Type and Brief Description	Water Offset (AFY)	Timing of Water Offset	Additional Benefits	Project Sponsor	Tier (Offset Projects Only)	Project Stage	Estimated Water Offset Cost	Estimated Total Project Cost
10-WW-H21	Levee setbacks	Implement projects included on the Pierce County Levee Setback Feasibility Study as opportunities arise. The study lists levees in Pierce County that may be set back to improve floodplain function and habitat. Any of these levee setback projects would contribute to NEB as well as small but difficult to calculate water offsets by allowing for additional infiltration during high flow events.	N/A	N/A	Floodplain reconnection, habitat restoration.	Pierce County	H	Conceptual	N/A	TBD

ALWARD ROAD ACQUISITION AND RESTORATION

Narrative description, including goals and objectives.

Pierce County has been acquiring property along Alward Road near Orting since 1989, in the Carbon River sub-basin (WRIA 10). This proposal would complete the acquisition and construct a setback levee and make other restoration improvements which will reconnect 150 acres of floodplain adjacent to the Carbon River. Proposed actions at the Site include removing approximately 8,925 linear feet of existing levee located along the left (south) bank of the Carbon River. An armored levee of approximately 9,850 linear feet would be constructed and set back from the Carbon River to the south, encompassing an area of approximately 6,190,596 square feet (142 acres). Engineered log jams (ELJs) would be constructed alongside Alward Road to protect it from erosion. Riparian restoration would also occur in floodplain areas. A total of 30 properties will need to be acquired. An ongoing phase of the project (Phase 3) will purchase 10 of those properties.

The goals of the project include the following:

- Remove the existing river levee and reconnect the Carbon River left bank floodplain which will allow salmon and trout species to access an additional 150 acres of off-channel habitat.
- Allow for more natural floodplain inundation and function respective to frequency, depth and duration without obstruction.
- Facilitate the restoration of natural watershed and conserve the properties for habitat in perpetuity.

The objectives of the project are:

- Acquire thirty Carbon River Alward Road reach floodplain properties
- Remove structures on purchased property
- Remove existing levee and install setback levee
- Install ELJs alongside Alward Road
- Restore floodplain areas with riparian plantings

An estimated 20 residential structures will be acquired and removed, potentially providing a water offset benefit equal to 20 new permit-exempt wells. The water offset benefit will occur when the structures are acquired, likely within the next five years.

Qualitative assessment of how the project will function.

The project will function by allowing natural processes to develop in a large floodplain area currently isolated by a levee.

Conceptual-level map of the project and location.

The acquisition area of the proposed project is located along the north side of Alward Road between river miles 6.8 and 8.0 of the left bank side of the Carbon River. This segment of river lies between 226th AVE CT E and the end of Alward Road. Figure 1, prepared by Pierce County, shows the vicinity of the project. Figure 2 shows the parcels needing to be acquired and includes the ten parcels being acquired as part of Phase 3.

Figure 1. Alward Road Acquisition Project (from Pierce County, 2016)

The performance goal is to acquire 30 parcels between river miles 6.4 and 8.4 of the Carbon River. All existing structures will be removed, and all properties will be retained as open space in perpetuity. An existing levee will be removed and a setback levee constructed. Floodplain areas will be restored. This project builds upon SRFB project 13-1422 and other County efforts to acquire all floodplain parcels within the project reach.

Benefits to river processes will occur in the project area between river mile 6.4 and 8.4; side channel and other habitat features formed as a result of this project will benefit a variety of salmonid species as described in the next paragraph. Salmonids in the lower Carbon River and in the Puyallup River will benefit from increased habitat and reduced peak flow and sediment input.

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The Carbon River supports a variety of salmonid species including ESA threatened Chinook, Steelhead, and Bull Trout. Other salmonid species on the Carbon River that would receive benefit from this project include Coho, fall chum, and pink salmon, and Cutthroat Trout. The Carbon River fall Chinook salmon run is also listed as one of 22 unique species, or Evolutionarily Significant Units (ESUs), in Puget Sound. The salmonids and other aquatic species in the Greenwater River are subject to the current limiting factors present.

According to the Limiting Factors Report for the Puyallup Watershed by Kerwin (1999), limiting factors that may be addressed by the project include the following:

- Loss of floodplain habitat, wetlands, and connectivity to hyporheic zone
- Loss of bank stability
- Loss of off channel and side-channel habitat
- Loss of instream habitat complexity and connectivity due to large wood
- Loss of riparian habitat

Removal of the existing levee will promote the creation of a variety of habitat types including side channels, backwater channels, deep complex pools, spawning habitat and summer and winter rearing habitat by promoting the creation of a variety of habitat types and hydrologic features. ELJs would be placed strategically to promote lateral migration of the river. These complex habitats provide protection from flood events and act as riparian cover and rearing habitat, which supports juvenile salmonids and provides areas for fry to colonize. Coho salmon may also spawn in low velocity side channels. Deep complex pools would also be created. These provide cover and prey availability during migratory periods for adult salmonids and cover for juveniles when log jams are present. Deep pools are also generally colder than other in-water environments, providing appropriate temperatures and acting as a refuge. As new, sinuous channels develop, there will be a significant increase in the development of shallow edge habitat along the expanding channel system, providing shade and cover for fry and juvenile salmon during rearing. Invertebrates colonizing the edge habitat are also a prey source for juveniles. A more sinuous river will result in a slower velocity system where a greater range of sediment and substrate types are available due to the complexity of habitats present. Spawning salmonids would benefit from a range of substrate sizes. It should also be noted that habitat restoration is extremely important for Steelhead stocks due to the extended period of time they spend in freshwater. The functions and benefits of the habitat and hydrologic features that would be created by the project address many of the limiting factors currently present in the Carbon River.

Identification of anticipated support and barriers to completion.

This project builds upon other County efforts to acquire all floodplain parcels within the project reach. Prospective property owners have been contacted and Landowner Acknowledgment Forms have been signed for the Phase 3 portion of the project (acquisition of 10 parcels). All property owners in the Phase 3 project have indicated their willingness to sell their properties. The project is sponsored by Pierce County and supported by the Lead Entity.

Priority actions within the WRIA 10/12 Lead Entity Strategy include levee setbacks with highest priority to reestablish floodplain connectivity and to restore stream processes. Setbacks are identified as a Near Term Action and a High priority because they can result in re-connecting large areas of floodplain to the main river. They allow natural processes to create side-channel and off-channel habitat areas. The WRIA 10/12

Lead Entity Strategy additionally states that this type of action will provide the greatest restoration benefit to Puyallup/White River Chinook abundance. The Puget Sound Chinook Recovery Plan identified levee and dike setbacks as both a near-term and a long-term strategy to reduce further degradation of the mainstem rivers. Chapter 3 of the WRIA 10/12 Lead Entity Strategy and/or the PS Chinook Recovery Plan states, “Based on the tremendous benefits that floodplain reconnection projects will have for Chinook in WRIA 10/12, we think that our focus on freshwater habitat restoration in the lower Puyallup, lower Carbon and lower White River floodplains is an appropriate strategy.”

Potential budget and O&M costs (order of magnitude costs).

The funding requested to complete acquisitions, removal of structures, levee setback, levee construction, and restoration of floodplain habitat is approximately \$14 million. This cost estimate is based on acquisition and construction estimates that were completed in 2014. Some parcels have been acquired (RCO, 2020) which may reduce the cost; however, costs are likely higher due to inflation. A revised cost estimate will be needed.

No O&M costs have been identified for structure removal and levee removal. Levee installation and floodplain restoration may require some O&M to maintain riparian plantings and the new setback levee. These costs have not been estimated.

The costs of just decommissioning the existing wells to provide a water offset is not known; a unit cost of \$2571 per acre-foot is recommended by Washington Department of Ecology for water right acquisitions (Melcher, 2020) and was used for this project. For 20 wells with an average water offset of 0.4 acre-feet per year, the total cost would be approximately \$20,600. That cost is preliminary and is used just for purposes of estimating costs of water offset projects for the watershed plan.

Anticipated durability and resiliency.

Levee setback and floodplain restoration projects are durable as they restore natural processes to a reach of the river, allowing flooding and channel migration to occur unimpeded. Instream wood placement projects are also durable; they support natural processes and encourage accumulation of smaller debris. Given the changing climate conditions, that anticipates receding glaciers, and increases in precipitation, rain-on-snow events, and channel aggradation, setback projects that provide the river with more room to meander are important solutions to implement to restore watershed processes and to provide resiliency from a changing climate.

Project sponsor(s) (if identified) and readiness to proceed/implement.

Pierce County is the project sponsor and is ready to implement the project as property owners have indicated their willingness to sell their properties. The overall project can likely be implemented within the next five years.

Documentation of sources, methods, and assumptions.

The following references were used:

Puyallup and Chambers Watersheds Salmon Recovery Lead Entity (Lead Entity). 2018. Salmon Habitat Protection and Restoration Strategy for Puyallup and Chambers Watersheds. June.

<https://www.piercecountywa.org/ArchiveCenter/ViewFile/Item/6075>

Kerwin, J. 1999. Salmonid Habitat Limiting Factors Report for the Puyallup River Basin. Washington Conservation Commission.

GeoEngineers, 2008. Levee Setback Project Carbon River - Alward Road Site River Mile Post 8.30 To 6.40 Left Bank 30% Design Plans.

GeoEngineers, 2008. Levee Setback Feasibility Analysis Puyallup River Watershed Pierce County, Washington. Prepared for Pierce County Public Works & Utilities, June 19, 2008

Mary Ann Reinhart & Tim Abbe, December 29, 2014. Flood Plain Reconnection Feasibility Study Puyallup, Carbon, White Rivers Pierce County, Washington. Prepared for: Puyallup River and Chambers Creek Lead Entity Technical Advisory by Natural Systems Design, Inc.

Melcher, Austin (Washington Department of Ecology). Memo regarding: Water Offset Project Potential Cost Estimate Methodology. Sent to Ingria Jones, John Covert. September 17, 2020

Pierce County, Alward Road Setback Levee Fact Sheet. Undated

Washington State Recreation and Conservation Office (RCO), 2020. Alward Rd. Acquisition Phase 3. PRISM Project #17-1355. Available from:

<https://secure.rco.wa.gov/prism/search/projectsnapshot.aspx?ProjectNumber=17-1355>

Figure 2 [Attached]. Alward Road Parcels Map

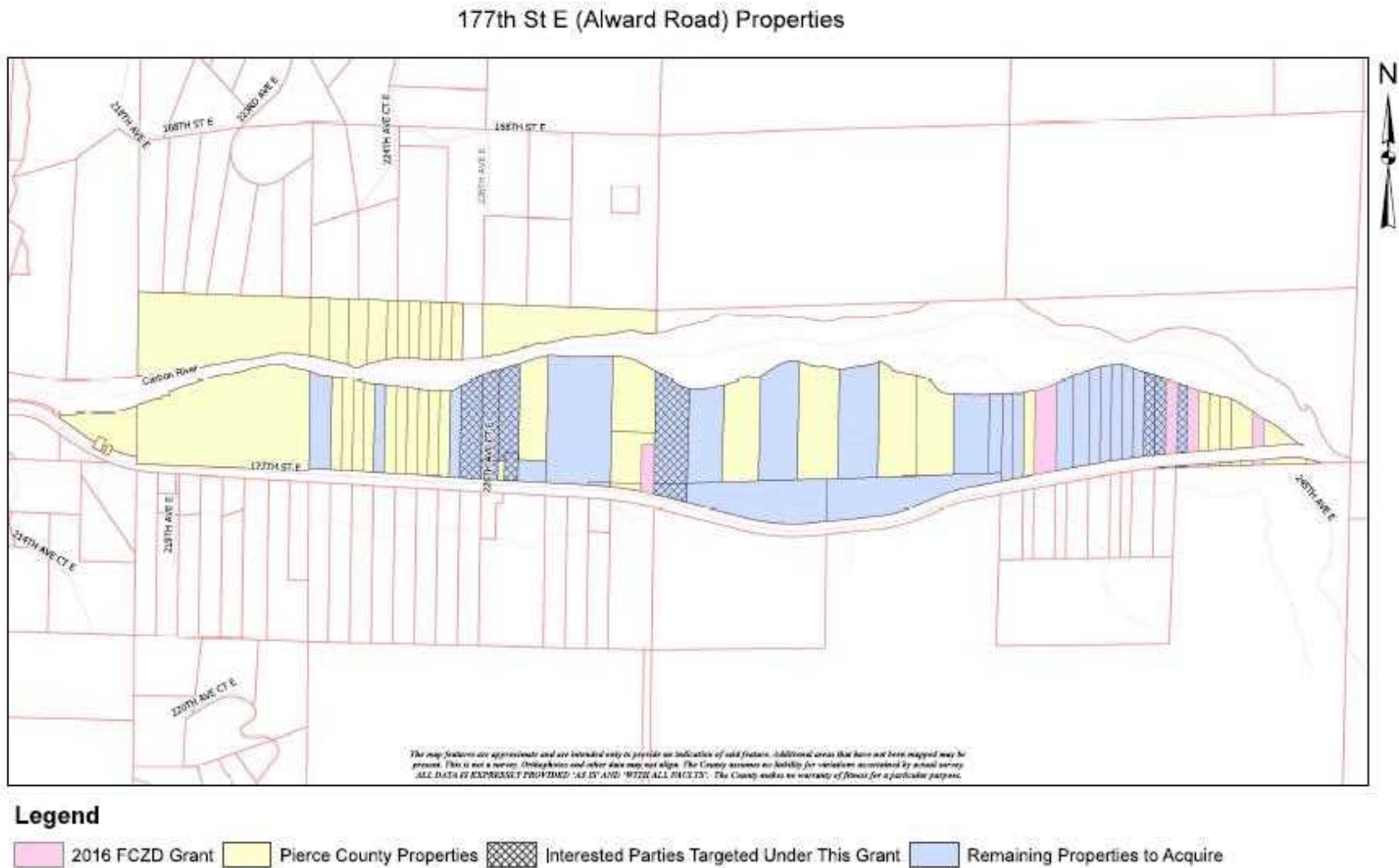
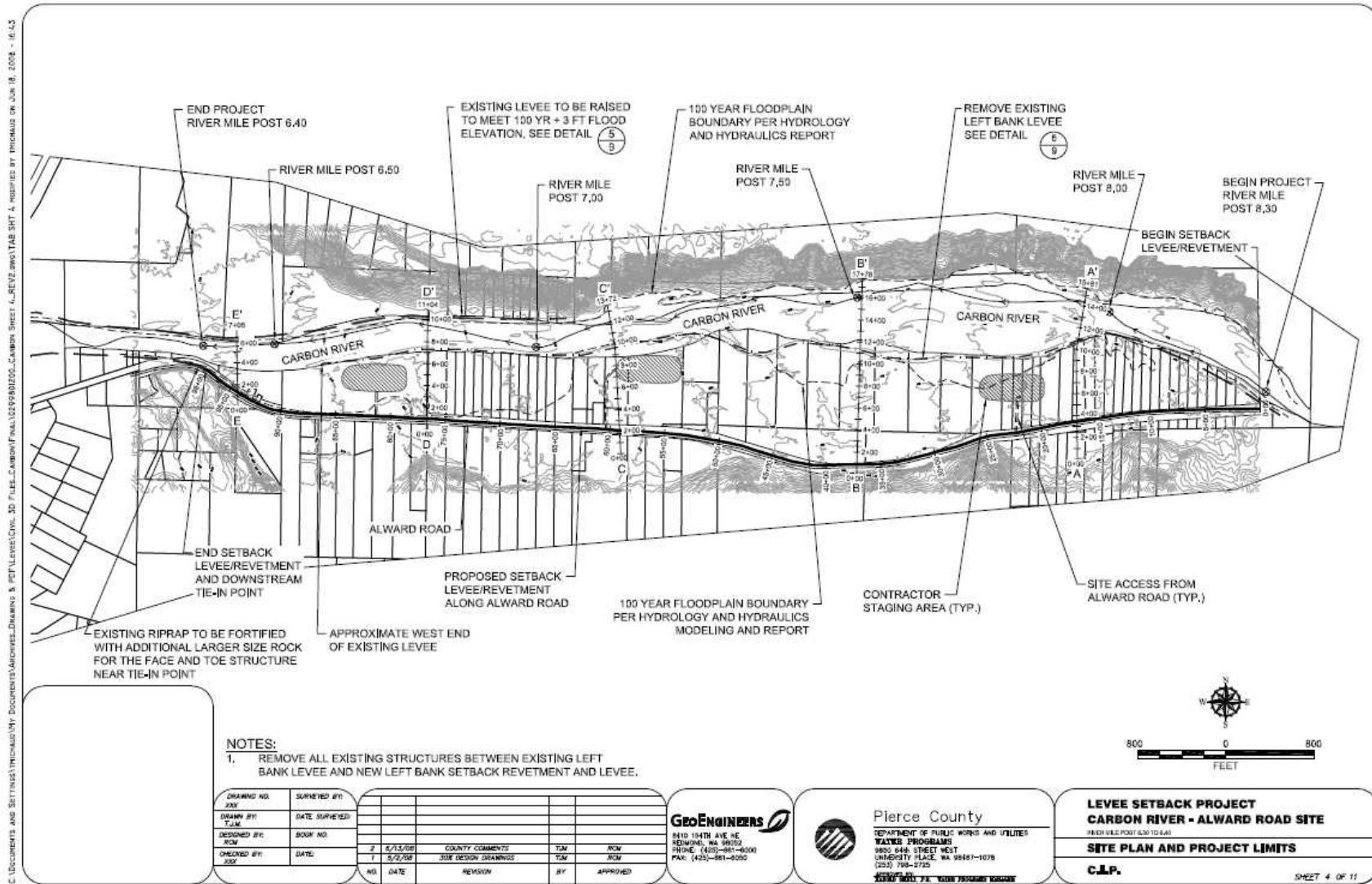


Figure 3 [Attached]. Alward Road 30% Design Drawings Overview (Page 4 from GeoEngineers, 2008)



WRIA 10 CASCADE WATER ALLIANCE WATER RIGHTS ACQUISITION PROJECT DESCRIPTION – DECEMBER 28, 2020

Description

Cascade Water Alliance (CWA) currently serves communities north of WRIA 10 in the Green River and Lake Washington Watersheds. They acquired the Lake Tapps project from Puget Sound Energy and obtained water rights for future municipal use. This project would acquire a portion of the water rights from CWA and place it in the State's Trust Water Rights Program to contribute to streamflow while protecting the water right from relinquishment.

Quantitative or qualitative assessment of how the project will function, including anticipated offset benefits, if applicable. Show how offset volume(s) were estimated.

CWA were granted water rights (Permit S2-29920(A)) with a priority date of June 20, 2000 for withdrawal of up to 1,000 cfs and 54,300 acre-feet from the White River. The purpose of use is municipal. The place of use for this water right is shown in Figure 1. This project would acquire 277 acre-feet from the municipal permit held by CWA and place that quantity in the State's Trust Water Right Program. The streamflow benefit will likely occur year-round.

Description of the anticipated spatial distribution of likely benefits

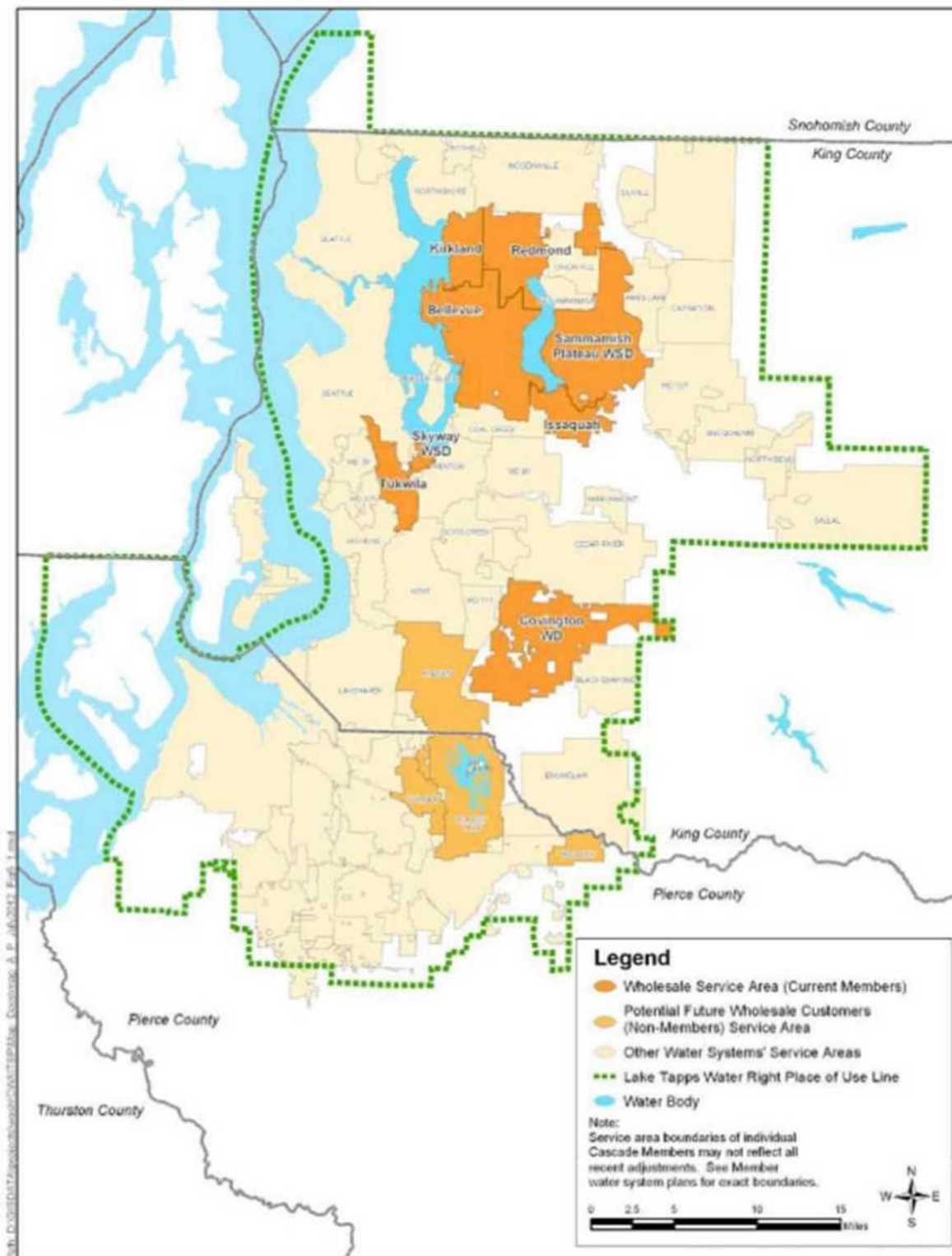
The water is currently diverted from the White River at river mile 24.3, held in Lake Tapps and released at river mile 3.6. The benefits on the White River could extend from the diversion dam at river mile 24.3 to its confluence with the Puyallup River at river mile 0.0 and on the Puyallup River from its river mile 10.4 to river mile 0.0. Those reaches of the White and Puyallup rivers are within WRIA 10. Figure 2 provides a schematic of the White and Puyallup river stream reaches.

Descriptions of the species, life stages and specific ecosystem structure, composition, or function addressed.

This project will slightly increase instream flow. The primary limiting factors in the Puyallup Watershed (Kerwin, 1999; Lead Entity, 2018) which would be addressed through this project include:

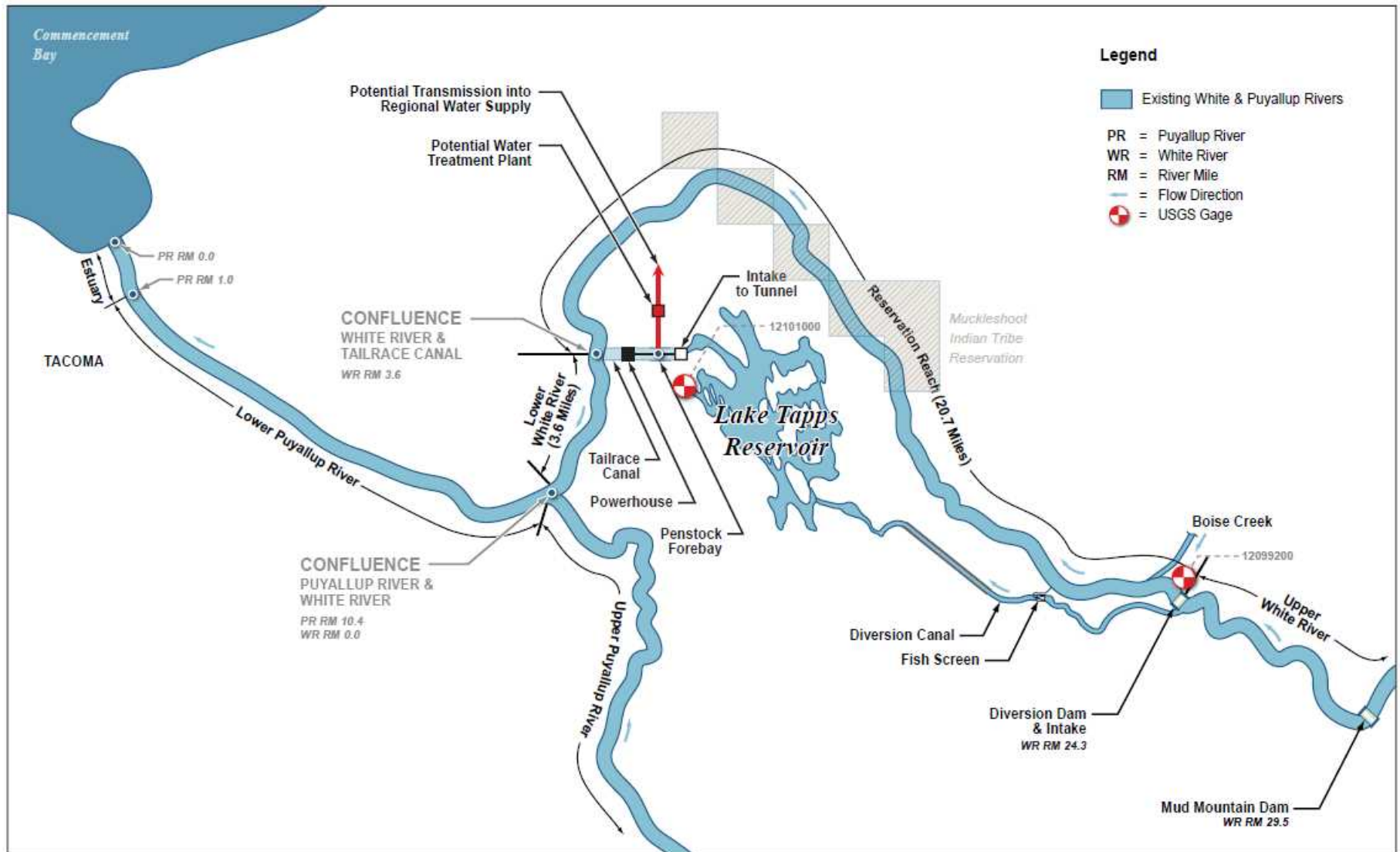
- Loss of upstream, downstream, and lateral fish passage
- Loss of spawning and rearing habitat
- Loss of good water quality, including appropriate temperature

Figure 1. Cascade Water Alliance Water Right Place of Use



Source: Cascade Water Alliance Transmission and Supply Plan, July 2012, Figure 6-1

Figure 2. Stream Reaches of the White and Puyallup Rivers



Source: Lake Tapps Reservoir Water Rights and Supply Project Draft Environmental Impact Statement January 29, 2010

Identification of anticipated support and barriers to completion.

The project is supported by the Watershed Restoration and Enhancement Committee and the barriers to completion would be negotiation of the water right acquisition from CWA and obtaining funding to purchase the water right. CWA has indicated a willingness to discuss the acquisition.

Potential budget and O&M costs.

No agreement or purchase price has been discussed with CWA. For planning purposes, a cost of \$2,571 per acre-foot was used, resulting in an estimated cost of \$750,000. The unit cost was obtained from an Ecology memo titled Water Offset Project Potential Cost Estimate Methodology (Melcher, 2020). No O&M costs would likely be incurred with this project.

Anticipated durability and resiliency.

The project would have lasting benefits as the Trust Water Right would be in perpetuity.

Project sponsor(s) (if identified) and readiness to proceed/implement.

Washington Department of Ecology would be the project sponsor and would be ready to proceed immediately if acquiring a trust water right is feasible.

Sources of Information

Kerwin. 1999. Salmon Habitat Limiting Factors Report for the Puyallup River Basin (Water Resources Inventory Area 10). Washington State Conservation Commission. Olympia, WA.

Melcher, Austin. Memo regarding: Water Offset Project Potential Cost Estimate Methodology. Sent to Ingrid Jones, John Covert. September 17, 2020

Puyallup and Chambers Watersheds Salmon Recovery Lead Entity (Lead Entity). 2018. Salmon Habitat Protection and Restoration Strategy for Puyallup and Chambers Watersheds. June.

Managed Aquifer Recharge Project Portfolio for WRIA 10 December 28, 2020

Summary

Managed Aquifer Recharge (MAR) projects are being considered in WRIA 10 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. The planning and implementation of MAR projects is complex, leading to uncertainty as to their potential use as water offset projects and inclusion in the Watershed Restoration and Enhancement Plan. A potential approach to addressing uncertainty is to include a portfolio of MAR projects that have different locations, project sponsors, water sources, and size.

Potential WRIA 10 MAR Projects

There are different types of MAR projects. 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. For WRIA 10, only passive MAR projects are being considered.

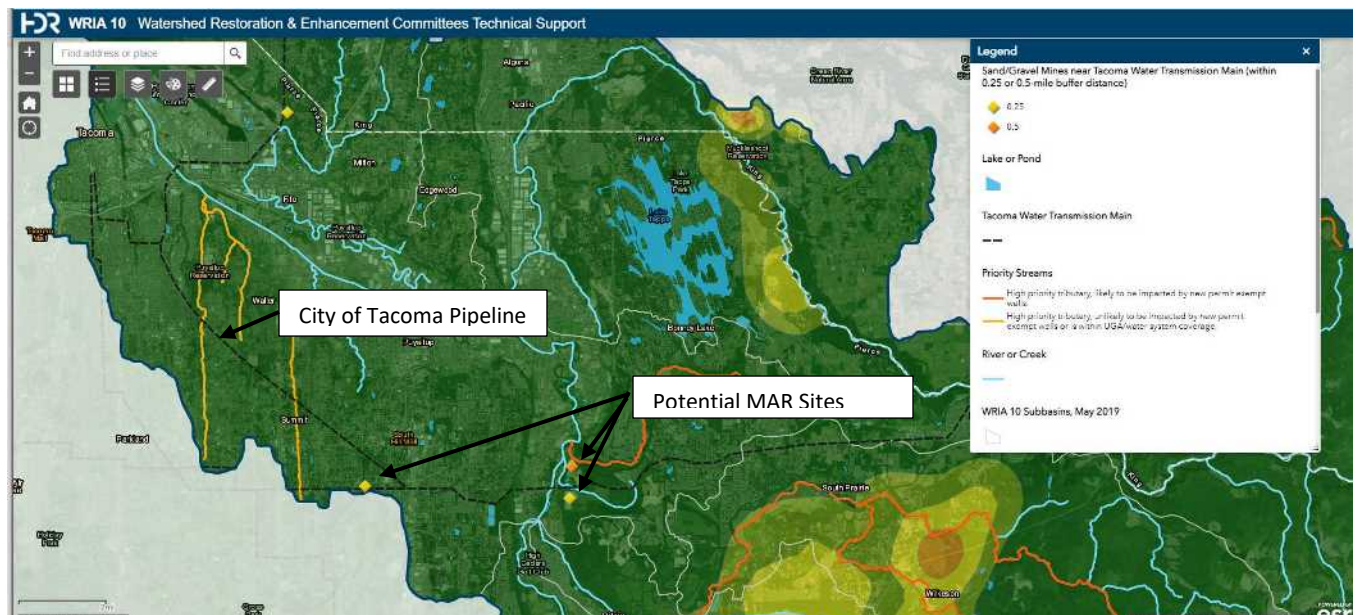
Passive MAR projects have the potential to recharge a significant volume of water into shallow aquifers, greater than the estimated consumptive use of PE wells forecast for the next 20 years in WRIA 10. The estimated consumptive use for future PE wells in WRIA 10 is 277 acre-feet per year.

The source of water for passive MAR projects in WRIA 10 may be stormwater, diverted surface water or water obtained from a City of Tacoma pipeline that delivers drinking water from the Green River watershed. Recycled water (highly treated wastewater) could be a source but at this time no source for recycled water was identified in WRIA 10 that is located outside of the Tacoma urban area.

The Watershed Restoration and Enhancement Committee expressed an interest in using City of Tacoma water supplied by their pipeline as it would be a clean and reliable source of water and may be easier to implement a project with that water source. A high-level screening of potential MAR sites was performed by PGG and HDR by searching for permitted sand and gravel mining operations located within a ½ mile distance of the pipeline. Three were found within ¼ mile and one within ½ mile. All the sites are located in the Lower Puyallup River subbasin. Three sites are included in this project description. The other site was located close to Commencement Bay and infiltration at that location would not provide a streamflow benefit. These sites have potential for MAR, however other sites not yet identified may also be suitable. A more intensive screening of sites should be performed if a MAR project is needed to provide water offsets for the Watershed Plan.

The location of the 3 sites and the City of Tacoma pipeline are shown in Figure 1.

Figure 1. Location of Potential MAR Sites



Quantitative or qualitative assessment of how the project will function, including anticipated offset benefits, if applicable. Show how offset volume(s) were estimated.

Preliminary calculations of the potential size and infiltration capacity if a suitable gravel pit site is located were performed. A MAR facility may only need a footprint of 2 acres to infiltrate 300 acre-feet per year, using a conservative assumption of 2 feet/day for the infiltration rate. It was assumed that infiltration would occur during winter months as the City of Tacoma pipeline has excess capacity during winter. A flow rate of 1 cfs (450 gallons per minute) would be required from the City of Tacoma pipeline to infiltrate 300 acre-feet during the winter season. If several sites are feasible, the selection of how many are used and how much water is infiltrated at each would be a decision of the Watershed Restoration and Enhancement Committee. A MAR project can be scaled to the desired water offset or streamflow benefit.

A preliminary review of geology was performed for the sites. Geologic maps are shown in Figures 2 and 3. All three sites are in formations that would be suitable for infiltration. However additional geologic and geotechnical analyses are required before determining whether MAR projects would be feasible at those sites. The additional analyses are also required to determine the timing of the offset benefit. Water infiltrated at the two sites located just east of the Puyallup River would likely reach the adjacent streams (Fennel Creek, Canyonfalls Creek or the Puyallup River) more quickly than the third site which is located in the headwaters of Clarks Creek and Swan Creek. At this time, assuming the MAR facilities operate all but summer time, some streamflow benefit will likely occur year-round.

Figure 2. Geology Map for MAR Sites East of Puyallup River near Bonney Lake

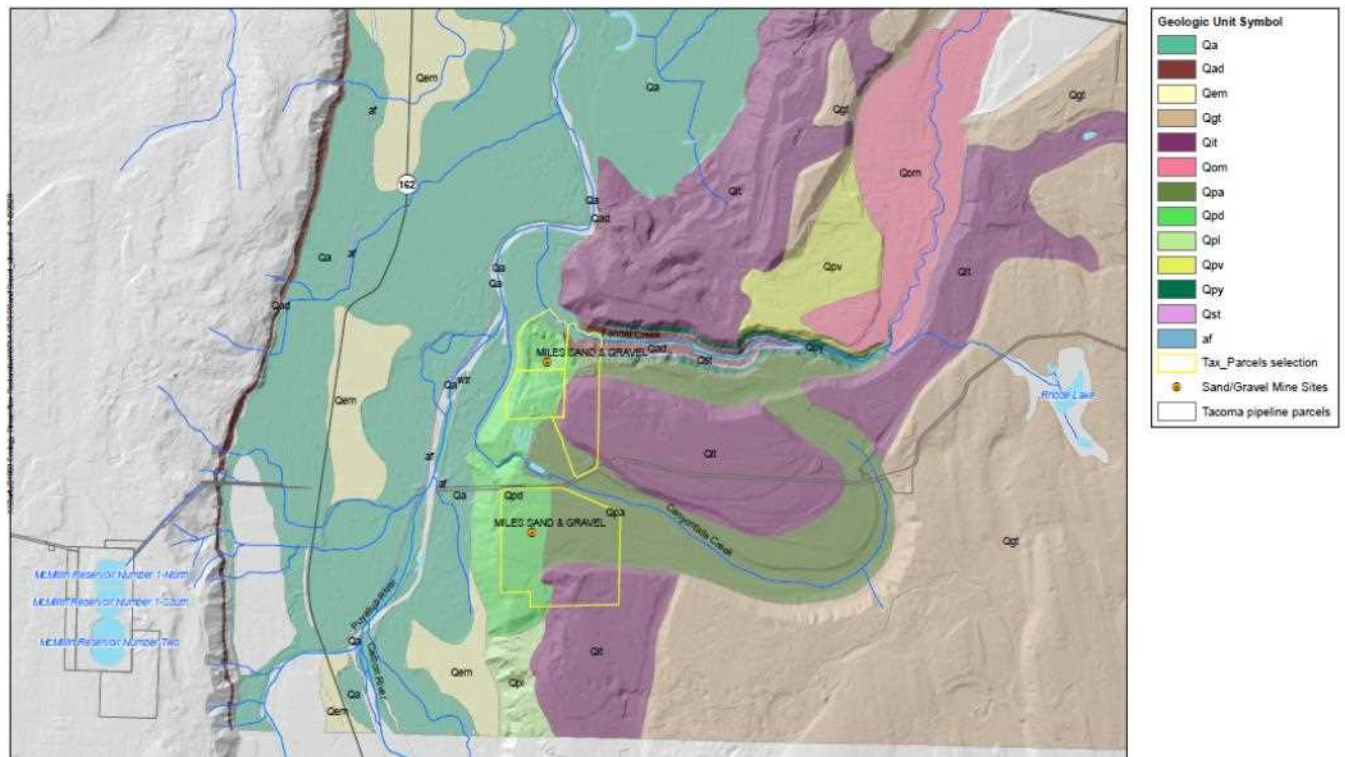
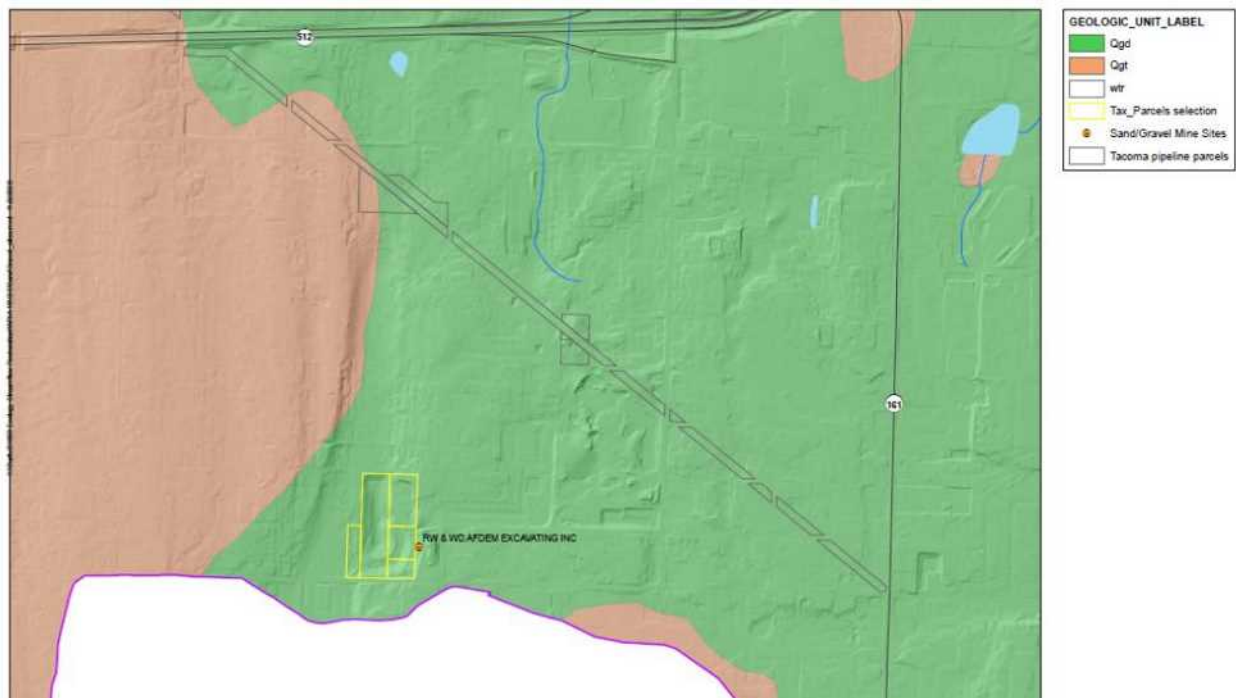


Figure 3. Geology Map for MAR Site in South Hill Area of Unincorporated Pierce County



Description of the anticipated spatial distribution of likely benefits

Two of the sites are active gravel pits located about ½ mile east of the Puyallup River near the City of Bonney Lake. Water infiltrated at those sites may improve stream flow conditions in the lower reach of Fennel Creek and Canyonfalls Creek or the Puyallup River. The length of the Puyallup River downstream of the sites is about 17 miles.

The third site is in unincorporated Pierce County in the South Hill area. Water infiltrated at that site may benefit Clarks Creek or possibly Swan Creek. Since the project is in the headwaters of those two creeks, a longer reach of the creeks may be benefitted. Clarks and Swan Creek merge together and flow into the Puyallup River approximately 5.8 miles from its mouth.

To assess the streamflow benefits of each project more detailed geologic mapping and hydrogeologic studies is needed. That work could be performed in a feasibility study of a site.

Locations relative to future PEW demand

Figure 1 also shows the heat map, with yellow to red colors indicating the geographic areas that are predicted to have the highest concentration of new permit-exempt wells. All the potential MAR sites are in locations with lower potential for growth in permit-exempt wells.

Performance goals and measures.

The volume of water purchased from the City of Tacoma will be measured and recorded using totalizing flow meters. The infiltration volume can be tracked through the amount of water purchased. A goal for infiltration can be established at the outset of the project and tracked at any time scale required. The amount and timing of water infiltrated can also be adjusted to time streamflow benefits to maximize benefits for fish.

Descriptions of the species, life stages and specific ecosystem structure, composition, or function addressed.

Projects that infiltrate water will increase groundwater recharge, provide more baseflow in summer and fall by increasing groundwater discharge, reduce summer and fall stream temperatures because of increased groundwater discharge and increase groundwater availability to riparian and near-shore plants.

The primary limiting factors in the Puyallup Watershed (Kerwin, 1999; Lead Entity, 2018) which would be addressed through this program include:

- Loss of riparian corridors, including marine riparian, and floodplain forests
- Loss of spawning and rearing habitat
- Loss of good water quality, including appropriate temperature

Two of the streams that may benefit from MAR are Fennel Creek and Swan Creek. Both were

identified by the committee as being high priority streams.

Identification of anticipated support and barriers to completion.

There is no sponsor currently. The barriers to implementing the project are finding a sponsor, landowner willingness and the availability of funding for the analysis, design and construction of a MAR project.

Potential budget and O&M costs.

The construction cost for a MAR project was preliminarily estimated using guidance from Ecology (Melcher, 2020). The cost per acre-foot for a MAR project is estimated to be \$3442, resulting in a total estimated cost of \$1.03 million. Much more analysis and design are needed to provide more certainty on the costs.

Anticipated durability and resiliency.

The projects could have lasting benefits, assuming a project sponsor is found. The City of Tacoma water supply would be a reliable source of water.

Project sponsor(s) (if identified) and readiness to proceed/implement.

No project sponsor has been identified and the projects will need additional analysis and design before being ready to proceed. The successful implementation of a MAR project is complex and involves several critical steps prior to actual construction (Covert, 2019):

- Identification of potential locations that:
- Have available aquifer capacity such that water infiltration can occur without creating overflows to the surface,
- Have soils and underlying geology with suitable hydraulic properties,
- Are located such that enough infiltrated water will discharge to surface water during low streamflow periods, and
- Are available for permanent use through acquisition or easements.
- Identification of a physically and legally available water source.
- Characterization and evaluation of site-specific hydrogeologic properties.
- Assessment of source water and aquifer compatibility, potential water quality changes during infiltration, and other water quality considerations.
- Development of preliminary MAR project designs and implementation cost estimates.
- Identification of project permitting requirements and potential hurdles.
- Assessment of ongoing operation and maintenance (O&M) costs, and identification of potential funding sources to support O&M.

Sources of Information

Covert, John. Presentation to Watershed Restoration and Enhancement Committee WRIA 15. Managed Aquifer Recharge Opportunities, January 14, 2019

Kerwin. 1999. Salmon Habitat Limiting Factors Report for the Puyallup River Basin (Water Resources Inventory Area 10). Washington State Conservation Commission. Olympia, WA.

Melcher, Austin. Memo regarding: Water Offset Project Potential Cost Estimate Methodology. Sent to Ingria Jones, John Covert. September 17, 2020

Puyallup and Chambers Watersheds Salmon Recovery Lead Entity (Lead Entity). 2018. Salmon Habitat Protection and Restoration Strategy for Puyallup and Chambers Watersheds. June.

WRIA 10 RAIN GARDEN AND GREEN STORMWATER INFRASTRUCTURE PROGRAM PROJECT DESCRIPTION DECEMBER 28, 2020

Description

Rain gardens and Green Stormwater Infrastructure (GSI) retrofit projects could be applied to existing homes and driveways, roadways, parking lots and other impervious areas that generate stormwater. The techniques include rain gardens, planter boxes, bio-infiltration swales, permeable pavement and reducing the footprint of roadways and replacing with GSI (green streets).

Rain gardens are small stormwater facilities that collect, store, and filter rainwater and stormwater runoff from lawns, rooftops, sidewalks, driveways and other impervious surfaces. Designed as shallow, sunken planting beds with rain garden soil, runoff flows into them from nearby hard surfaces and connected downspouts. The rain gardens can also be designed to infiltrate water.

Planter boxes are urban rain gardens with vertical walls and either open or closed bottoms. They collect and absorb runoff from sidewalks, parking lots, and streets and are ideal for space-limited sites in dense urban areas and as a streetscaping element.

Bioswales are vegetated, mulched, or xeriscaped channels that provide treatment and retention as they move stormwater from one place to another. Vegetated swales slow, infiltrate, and filter stormwater flows. As linear features, they are particularly well suited to being placed along streets and parking lots. Bio-infiltration swales are specifically designed to infiltrate stormwater.

Permeable pavements infiltrate, treat, and/or store rainwater where it falls. They can be made of pervious concrete, porous asphalt, or permeable interlocking pavers. Permeable pavements can be installed in sections of a parking lot and rain gardens and bioswales can be included in medians and along the parking lot perimeter.

Green streets are created by integrating green infrastructure elements into their design to store, infiltrate, and evapotranspire stormwater. Permeable pavement, bioswales, planter boxes, and trees are among the elements that can be woven into street or alley design.

In WRIA 10, Pierce Conservation District and City of Puyallup have assisted residences in rain garden design and construction and the Conservation District has indicated they would be willing to help implement a program of additional rain garden and GSI construction. Links to information on these techniques:

- <https://pierced.org/244/Rain-Gardens>

- <https://www.cityofpuyallup.org/192/Puyallup-Rain-Gardens>
- <https://www.co.pierce.wa.us/2812/Rain-Gardens>
- <https://kitsapcd.org/programs/raingarden-lid/rgbasics>
- <https://fortress.wa.gov/ecy/publications/publications/1310027.pdf>
- <http://www.seattle.gov/utilities/your-services/sewer-and-drainage/green-stormwater-infrastructure>
- <https://www.epa.gov/green-infrastructure>

The goal of this project would be to support the implementation of rain gardens and GSI across WRIA 10, with an emphasis on subbasins that will experience the most growth and/or contain priority streams, as defined by the WRIA 10 Committee.

Quantitative or qualitative assessment of how the project will function, including anticipated offset benefits, if applicable. Show how offset volume(s) were estimated.

The draft Watershed Restoration and Enhancement Committee identified rain gardens and GSI projects as having potential for implementation to help meet water offsets. The Committee set the goal for implementation at 10 projects per year.

The water offset from rain gardens and GSI projects was estimated using analyses performed for a Mason County rooftop runoff infiltration analysis. To estimate the potential water offset, the soil type, impervious area rain is collected from, the rain garden size and annual precipitation is required. For planning purposes, it is assumed Type B soils are present, a rooftop or driveway area of 2,000 square feet is directed to a rain garden, the rain garden has a 200 square feet infiltration area and the annual precipitation is between 40 and 50 inches. The estimated infiltration volume is 0.14 acre-feet per year for annual precipitation of 40 inches and 0.17 acre-feet per year for annual precipitation of 50 inches. Calculations are shown in the Appendix. The timing of the streamflow will depend on the location of the project and geologic conditions. With a number of rain garden and GSI projects implemented, it is expected there would be a range of timing of benefits and benefits would occur year-round.

The water offset benefit of adding 10 rain garden type projects per year is about 1.5 acre-feet per year, using an average of the 40- and 50-inch precipitation values. Over 18 years of plan implementation, the water offset benefit would add up to 27 acre-feet per year. If GSI projects were implemented that have greater impervious area, the water offset would be higher.

Description of the anticipated spatial distribution of likely benefits

The projects can occur in any subbasin and this program is described in the Watershed Restoration and Enhancement Plan as a WRIA-wide project. A committee goal is to focus the program on subbasins that will experience the most growth and/or contain priority streams. Figure 1 shows

WRIA 10 with the areas of highest growth in permit-exempt wells in yellow to red and priority stream in orange and yellow.

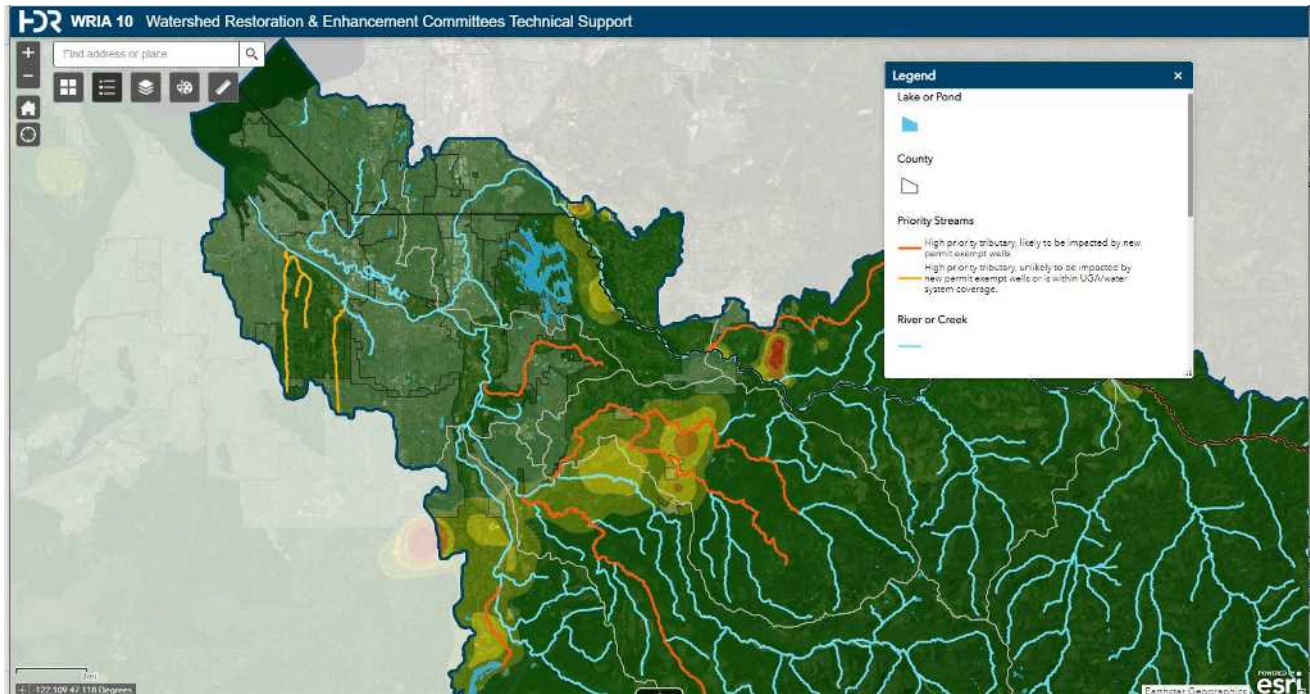


Figure 1. WRIA 10 permit exempt well potential growth and priority streams

Performance goals and measures.

This project would be measured by the number of functional raingardens or GSI projects installed within WRIA 10, which is planned to be 10 per year. The number may vary depending on factors such as finding suitable areas to retrofit, funding and capacity of project sponsors.

Descriptions of the species, life stages and specific ecosystem structure, composition, or function addressed.

Projects that infiltrate water will increase groundwater recharge, provide more baseflow in summer and fall by increasing groundwater discharge, reduce summer and fall stream temperatures because of increased groundwater discharge and increase groundwater availability to riparian and near-shore plants.

The primary limiting factors in the Puyallup Watershed (Kerwin, 1999; Lead Entity, 2018) which would be addressed through this program include:

- Loss of riparian corridors, including marine riparian, and floodplain forests
- Loss of spawning and rearing habitat
- Loss of good water quality, including appropriate temperature

Identification of anticipated support and barriers to completion.

Pierce Conservation District is primary sponsor and supports this program. The primary barrier is the availability of funding for the construction of rain gardens and GSI projects. Other barriers include private landowner willingness and potentially a limited number of projects in basins with higher estimated growth in permit-exempt wells and priority streams.

Potential budget and O&M costs.

The construction cost for a rain garden or GSI project is \$15-\$30 per square foot of infiltration trench constructed. Assuming a 200 square foot infiltration trench, the construction cost would be \$3,000 - \$4,500 each. Additional costs for program management would be incurred. For planning purposes, a cost of \$5,000 each is likely conservative. For construction of 10 per year, the annual cost would be about \$50,000.

Anticipated durability and resiliency.

The projects would have lasting benefits. Pierce Conservation District and other entities will manage the implementation of rain gardens and GSI projects.

Project sponsor(s) (if identified) and readiness to proceed/implement.

Pierce Conservation District would be the main project sponsor and would be ready to proceed immediately if the program were supported. Pierce Conservation District has been successfully installing rain gardens and GSI projects. If funding is increased, the primary barrier would be private landowner willingness to install projects

Sources of Information

Kerwin. 1999. Salmon Habitat Limiting Factors Report for the Puyallup River Basin (Water Resources Inventory Area 10). Washington State Conservation Commission. Olympia, WA.

Puyallup and Chambers Watersheds Salmon Recovery Lead Entity (Lead Entity). 2018. Salmon Habitat Protection and Restoration Strategy for Puyallup and Chambers Watersheds. June.

Appendix

Infiltration Volume Calculations

Estimated Water Offset for Typical Pierce Conservation District Raingarden Projects December 28, 2020

Introduction

The purpose of this document is to estimate the water offset for future Pierce Conservation District (Pierce CD) rain garden projects. Calculations of the annual recharge are presented that are based upon hydrologic modeling performed by HDR for the Mason County Rooftop Infiltration Project (HDR, 2020). For these calculations it is assumed rain gardens will be installed on houses that are currently connected to a storm drainage system, so that the entire infiltration volume will be counted as a water offset. A lesser infiltration volume and water offset would be realized for houses that are not currently connected to a storm drainage system as roof downspouts may splash onto the ground and partially or totally infiltrate.

Calculations

Calculations are provided using a range of potential rain garden sizes. To allow an estimate of the potential water offset, an estimate of the average infiltration trench area and impervious area captured is required. Data from the Kitsap Conservation District (KCD) shows the average rain garden they have constructed since 2010 has an infiltration trench area of 200 square feet (sf) and captures 1,900 sf of impervious surface which are roofs, driveways and other impervious surfaces. They have constructed 320 rain garden projects since 2010. That is the best information we have on rain garden installations in the Puget Sound region.

To provide a range of potential Infiltration volumes are calculated using rain garden sizes of 100, 150, and 200 sf, as well as impervious surfaces of 1,600, 2,000 and 2,800 sf. The Mason County Rooftop Infiltration Project assumed 2,800 sf as the impervious surface that would be captured, based upon an average roof and driveway size. The infiltration rate used in the calculations corresponds to Group B soils as rain gardens use amended soils which are similar to Group B. The infiltration rate used for Group B soils is 2 inches/hour.

HDR's hydrologic modeling estimated the average annual recharge for an infiltration trench that is 80 sf to be 0.14 acre-feet/year. That was part of their calculation of baseline conditions assuming a minimum trench size of 80 sf under current regulations. The modeling was performed using an annual average of 70 inches precipitation, which occurs in Mason County. The average annual recharge equates to 26 inches per year over the 2,800-sf impervious surface.

A larger infiltration trench will infiltrate more water; there is a proportional relationship between infiltration area and infiltration capacity. There is also a proportional relationship to the amount of runoff to the impervious area, assuming all the runoff is captured. A limit to the amount of infiltration is the volume of annual precipitation minus potential losses due to evaporation. To estimate the amount of water that will be infiltrated in a Pierce CD rain garden the HDR results were proportionally scaled up by the amount of infiltration area (100 – 200 sf) and scaled down by the amount of impervious area (1,600 – 2,800 sf). Those calculations are summarized in Table 1.

Table 1. Percentage Change in Infiltration Capacity and Corresponding Infiltration Volume

Impervious Surface Captured, sf	Infiltration Trench Size, sf/Infiltration Volume, acre-feet							
	80 (Mason County Study)		100		150		200	
	%	Volume	%	Volume	%	Volume	%	Volume
1,600	64%	0.090	80%	0.113	121%	0.169	161%	0.225
2,000	71%	0.100	89%	0.125	134%	0.188	179%	0.250
2,800	100%	0.140	125%	0.175	188%	0.263	250%	0.350

The equivalent values in terms of rainfall infiltrated is provided in Table 2.

Table 2. Volume of Rainfall Potentially Infiltrated

Infiltration Trench Size, sf			
80 (Mason County Study)	100	150	200
26 inches	32.7 inches	49.0 inches	65.3 inches

The calculations indicate that the rain gardens KCD is installing have, on average, the capacity to infiltrate 65.3 inches of precipitation, or 0.25 acre-ft per installation per year, based upon an infiltration trench size of 200 sf. The amount infiltrated is less than the capacity when precipitation is less than 65 inches.

The same calculation applies to Pierce County and demonstrates that the infiltration capacity of a 200 sf infiltration trench is not limited by the amount of precipitation that occurs in most areas of Pierce County, which is 40-50 inches per year. Table 3 provides infiltration volumes for varying precipitation volumes and an average impervious area of 2,000 sf. To be conservative, 10% loss due to evaporation or other losses are assumed.

Table 3. Estimate of Annual Volume Infiltrated for Pierce CD Rain Garden Projects

Average Annual Precipitation, inches	Annual Volume Infiltrated, Inches	Annual Volume Infiltrated, acre-feet
40	36	0.138
50	45	0.172
60	54	0.207

These volumes can be used as estimates of the water offset quantity for Pierce CD rain garden projects. The actual values will need to be tracked during implementation, but the quantities shown in Table 3 provide a planning-level estimate of water offsets from rain garden projects that capture 2,000 sf of impervious area and are constructed using a 200 sf infiltration trench in Group B soils. It is recommended that the average of the volume infiltrated between 40- and 50-inches annual precipitation be used for estimating water offsets in WRIA 10. That equals 0.15 acre-feet per rain garden.

References

HDR, 2020. Spreadsheet: WRIA14-Projects-Supplemental Data-RooftopRunoff_MGSFlood Results.xlsx. Accessed through Box at <https://app.box.com/s/c2858d6mjdtoo41i4ahxqj55hz66mbzf>

SWAN CREEK CHANNEL AND BANK STABILIZATION

Narrative description, including goals and objectives.

Pierce County Surface Water Management and the Puyallup Tribe propose to implement in-channel stabilization and restoration measures along Swan Creek, within the Lower Puyallup River sub-basin (WRIA 10). In the lower reaches of Swan Creek, the channel is incised and eroding the streambanks due to increased stormwater runoff, undersized culverts, and insufficient stormwater detention and loss of flood storage. This project proposes to use a combination of woody material, streambed gravel, and plantings to stabilize streambeds and banks and provide sediment recruitment capacity within the channel. The intention is to slow erosion and allow the channel to return to a more natural state. The proposed project reach begins immediately downstream of the 64th Street East culvert crossing and extends to Pioneer Way.

The goals of the project are as follows:

- Stabilize streambed and banks
- Provide sediment recruitment capacity

The objectives of the project are:

- Install woody material and riparian plantings
- Install streambed gravel

No estimate of the potential water offset was provided at this time as monitoring is proposed that would determine the offset.

Qualitative assessment of how the project will function.

The project will function by reducing stream power and streambed and streambank erosion.

Conceptual-level map of the project and location.

The proposed project is located along Swan Creek just downstream of the 64th St East culvert crossing at Pioneer Way. Figure 1 (Attached) shows the project location within the Swan Creek Watershed and Figure 2 shows an overview of the 90% design drawings. (The full set of design drawings are available on Box.)

Performance goals and measures.

Performance measures would be determined once a final design is selected.

Description of the anticipated spatial distribution of likely benefits.

Benefits to stream processes will occur in the project area downstream of the 64th street east culvert. The channel and habitat features improved as a result of this project will benefit a variety of salmonid species as described in the next paragraph. In the areas of Swan Creek downstream of this project, such as the floodplain, reduced sediment input from erosion will also improve habitat conditions and benefit salmonids.

Descriptions of the species, life stages and specific ecosystem structure, composition, or function addressed.

Salmonids in Swan Creek will benefit from decreased stream power downstream of the culvert, reduced rates of erosion, increased riparian habitats, and cool temperatures associated with groundwater recharge. The most abundant salmonids in Swan Creek are chum and coastal cutthroat trout but the stream also supports Coho and Chinook in limited quantities; and steelhead are very rarely observed (Pierce County, 2015). Lamprey and sculpin are also present in the creek. The salmonids and other aquatic species in Swan Creek are subject to the current limiting factors present.

According to the Limiting Factors Report for the Puyallup Watershed by Kerwin (1999), limiting factors that may be addressed by the project include the following:

- Loss of instream habitat complexity and connectivity
- Loss of large wood
- Increase in river channelization
- Increase in sediment load
- Loss of channel (substrate) stability
- Loss of spawning and rearing habitat
- Loss of good water quality, including appropriate temperature

Streambank stabilization, woody material addition, and replacement of streambed gravel would address these limiting factors and slow down Swan Creek, decreasing sediment load to the downstream portion of the creek and improving channel stability. Increased riparian vegetation and instream wood would improve rearing habitat for fishes by providing protection from flood events and acting as riparian cover and rearing habitat. Invertebrates colonizing the edge habitat are also a prey source for juvenile salmonids. Creating a slower velocity system would make a greater range of sediment and substrate types available as spawning habitat and as habitat for non-salmonids. While the ESA-listed Chinook and steelhead species are not as commonly observed in Swan Creek as Chum, cutthroat trout, and coho, the exceptionally cold water in Swan Creek (Pierce County, 2015) may become increasingly important for these species when temperatures in other tributaries are warmer. The functions and benefits of the habitat and hydrologic features that would be created by the project address many of the limiting factors currently present in Swan Creek. Addressing these limiting factors will help support salmonids at various life stages and increase presence, recruitment, and survival in the area of the project.

Identification of anticipated support and barriers to completion.

This project builds upon previous restoration actions in and around Swan Creek and is sponsored by the Puyallup Tribe and Pierce County and supported by the Lead Entity, Puyallup and Chambers Watersheds Salmon Recovery Lead Entity, and Metro Parks Tacoma. Swan Creek Park is one of Metro Parks Tacoma's capital improvement projects. The 2019 Master Plan for the park includes habitat restoration work, stormwater management, and public interest in salmon ecology and

restoration. Community meetings emphasize the public interest in restoration work in Swan Creek, with one park user stating, “salmon are a user group!” (Metro Parks Tacoma, 2020). This proposed project furthers restoration actions undertaken and planned by Metro Parks Tacoma in the same area.

The WRIA 10/12 Lead Entity Strategy identifies priority tributaries and actions within the Lower Puyallup and Nearshore Estuary watersheds. Clear Creek (of which Swan Creek is a tributary) is identified as a high priority system. Three of the high priority actions within this area are directly addressed by this project: “Restore normal flow regimes,” “restore riparian function,” and “restore and protect rearing, foraging, osmoregulatory habitats for juvenile salmonids, particularly Chinook salmon” (Lead Entity 2018). There are no anticipated barriers to completing this project due to its alignment with regional and basin-wide goals.

Potential budget and O&M costs (order of magnitude costs).

The funding requested to complete restoration treatments is approximately \$3.7 million. No O&M costs have been identified.

Anticipated durability and resiliency

Streambank stabilization and instream wood placement projects are durable because they help restore natural processes to a reach of the stream. Given the changing climate conditions, that anticipates increases in precipitation, rain-on-snow events, and channel aggradation, stabilization and restoration projects that provide increased cover and habitat and more ways to hold water for longer are important solutions to implement to restore watershed processes and to provide resiliency from a changing climate.

Project sponsor(s) (if identified) and readiness to proceed/implement.

Pierce County and the Puyallup Tribe are the project sponsors and are ready to implement the project as soon as funding is made available. The project could be implemented within 5 years, which accounts for design and construction.

Attachments

Figure 1. Swan Creek Bank Stabilization at 64th St Outfall Repair project location (annotated from Swan Creek Watershed Characterization and Action Plan)

Figure 2. Sheet 5 of 90% Design Drawings for Swan Creek Channel Restoration (Prepared by Natural Systems Design)

Documentation of sources, methods, and assumptions.

The following references were used:

Metro Parks Tacoma. 2020. Swan Creek Improvements. Accessed June 30, 2020.

<https://www.metroparkstacoma.org/project/swan-creek-improvements/>

Pierce County. 2015. Swan Creek Watershed Characterization and Action Plan. Prepared by: Pierce County Surface Water Management. September 2015. Available from:

<https://www.piercecountywa.gov/ArchiveCenter/ViewFile/Item/4798>

National Marine Fisheries Service (NMFS). 2007. Puget Sound Salmon Recovery Plan. Plan adopted by NMFS on January 19, 2007. Submitted by the Shared Strategy Development Committee. Available from: <https://repository.library.noaa.gov/view/noaa/16005>

Natural Systems Design. 2018. Basis of Design Report Swan Creek. Prepared for Puyallup Tribe of Indians.

Puyallup and Chambers Watersheds Salmon Recovery Lead Entity (Lead Entity). 2018. Salmon Habitat Protection and Restoration Strategy for Puyallup and Chambers Watersheds. June. <https://www.piercecountywa.org/ArchiveCenter/ViewFile/Item/6075>

Kerwin, J. 1999. Salmonid Habitat Limiting Factors Report for the Puyallup River Basin. Washington Conservation Commission.

WRIA 10 WRE Plan
Appendix H

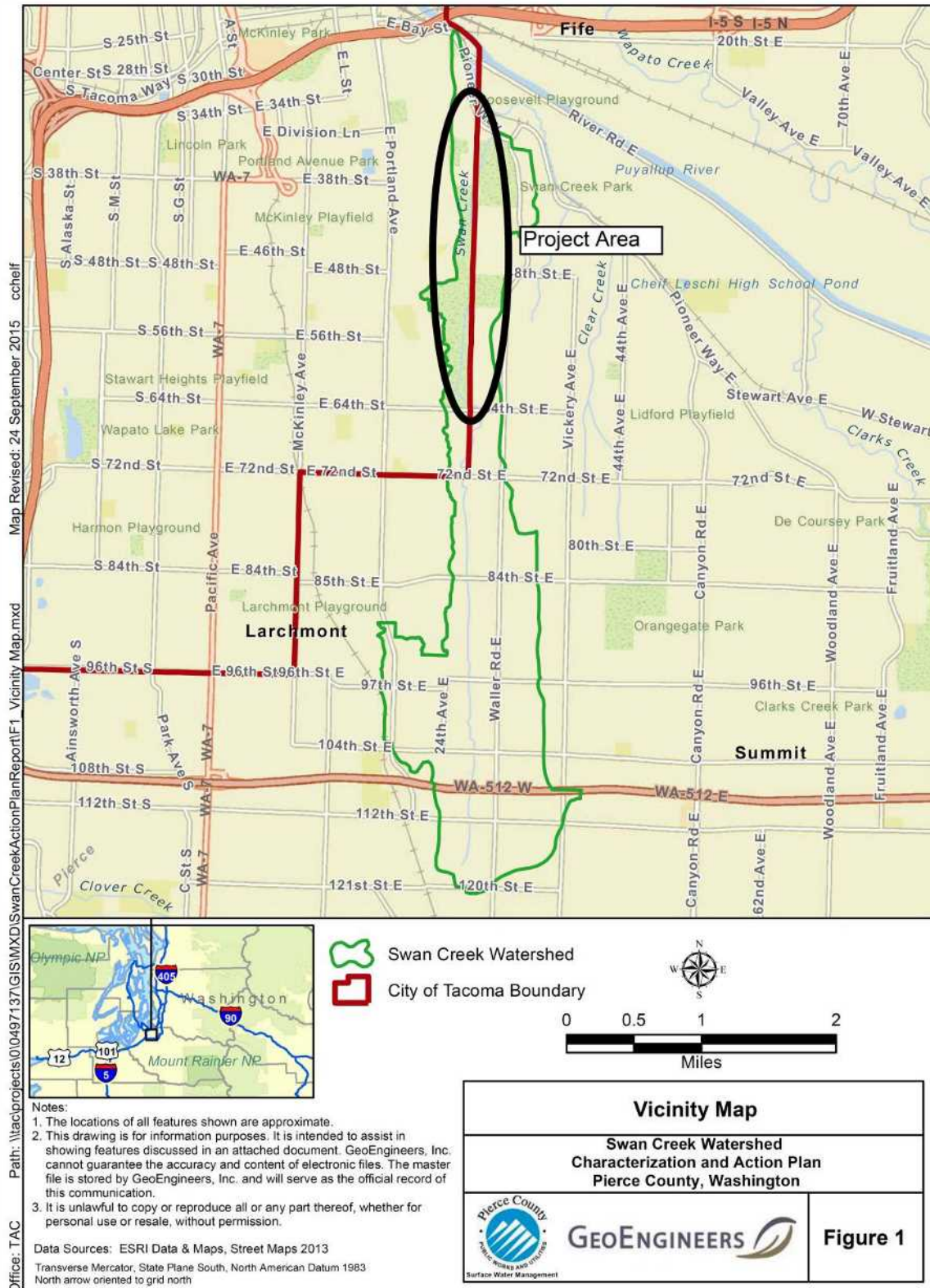


Figure 1. Swan Creek Project Vicinity Map. Source: Pierce County 2015.

JOVITA CREEK HABITAT PROJECT

Narrative description, including goals and objectives.

The City of Edgewood proposes to prepare a feasibility study to identify potential restoration actions in Jovita Creek, within the Lower White River sub-basin (WRIA 10). Recommended actions contained in the study would be implemented. This project area is Jovita Creek upstream of the culvert at Highway 167, up to 114th Ave E. Assessment efforts would focus on evaluating geomorphic impacts from Jovita Boulevard (which is adjacent to the stream), channel bed and bank restoration in the mainstem of Jovita Creek, and replacement of a fish passage barrier (culvert at 114th street) on a tributary to Jovita Creek. The feasibility study would result in identification of priority multi-benefit restoration project(s) that restore habitat and habitat forming processes while improving the flow of pedestrians and vehicles through the area by potentially changing the alignment of Jovita Blvd and completing a connection to the Interurban Trail that currently terminates at 114th Ave E.

The goal of the project is as follows:

- Evaluate stream processes in Jovita Creek and identify potential restoration actions.
- Implement restoration actions.
- Complete the Interurban Trail from 114th Ave E to West Valley Highway

The objectives of the project are:

- Complete a reach-scale feasibility study including an evaluation of the constriction caused by Jovita Boulevard and the fish passage barrier at 114th street.
- Identify and implement multi-benefit actions that would restore habitat and habitat-forming processes.

Qualitative assessment of how the project will function.

The feasibility study has no identified functions. The functions of restoration actions would depend on the type of restoration project implemented. One primary issue in Jovita Creek is channel confinement due to Jovita Boulevard, causing channel erosion from high velocities. Restoration actions that address this channel confinement would function by providing space for the creek to meander, wood to stabilize the creek bed and connection to the limited amount of off-channel habitat in the floodplain. There are no anticipated offset benefits related to the project because there are no identified permit exempt wells in the project area.

Conceptual-level map of the project and location.

The proposed project is located along Jovita Creek and its tributaries upstream of Highway 167, along approximately 1.0 stream miles of habitat. Figure 1 shows the approximate project location.



Figure 1. Jovita Creek Feasibility Study

Performance goals and measures.

The performance goals are to complete a reach-scale feasibility study of Jovita Creek and identify potential multi-benefit restoration projects. Performance measures for restoration projects would be determined once projects are identified.

Description of the anticipated spatial distribution of likely benefits.

Depending on the results of the feasibility study, benefits to stream processes may occur in the project area upstream of the culvert at highway 167. Salmonids in Jovita Creek and its tributaries have the potential to benefit from restoration actions.

Descriptions of the species, life stages and specific ecosystem structure, composition, or function addressed.

Jovita Creek supports a variety of salmonid species including chum and coho salmon, steelhead, sea run cutthroat and resident trout as identified by WSDOT (2017). SalmonScape additionally identifies fall Chinook and pink salmon as potentially present in Jovita Creek (WDFW, 2020). The salmonids and other aquatic species in the Jovita Creek are subject to degraded ecosystems due to limiting factors present at the site.

According to the Limiting Factors Report for the Puyallup Watershed by Kerwin (1999), Jovita Creek has the following limiting factors:

- Loss of floodplain connectivity
- Loss of bank stability
- Loss of instream habitat complexity and connectivity due to loss of large wood
- Loss of side-channel habitat
- Loss of riparian habitat
- Loss of pool habitat
- Loss of sediment fines

- Loss of good water quality and quantity

Restoration projects would address these limiting factors by promoting the creation of a variety of habitat types and hydrologic features. Reducing or removing constraints, streambank stabilization, woody material addition, and replacement of streambed gravel would address these limiting factors. and slow down Jovita Creek, decreasing sediment load to the downstream portion of the creek and improving channel stability. Increased riparian vegetation and instream wood would improve rearing habitat for fishes by providing protection from flood events and acting as riparian cover and rearing habitat. Invertebrates colonizing the edge habitat are also a prey source for juvenile salmonids. Creating a slower velocity system would make a greater range of sediment and substrate types available as spawning habitat and as habitat for non-salmonids.

Replacing the culvert at 114th Street E. would additionally provide more access to habitat upstream of the culvert. The functions and benefits of the habitat and hydrologic features that would be created by the project address many of the limiting factors currently present in Jovita Creek.

Along with the habitat restoration actions already undertaken in the Lower White River sub-basin, addressing these limiting factors will help support salmonids at various life stages and increase presence, recruitment, and survival in the area of the project.

Identification of anticipated support and barriers to completion.

This project builds upon previous restoration actions in the Lower White River sub-basin. The project is sponsored by the City of Edgewood and supported by the Lead Entity, Puyallup and Chambers Watersheds Salmon Recovery Lead Entity.

The WRIA 10/12 Lead Entity Strategy identifies priority tributaries and actions within the Lower Puyallup Watershed (which includes the lower White River sub-basin). Jovita Creek is a tributary to the Milwaukee Canal, which drains to the Lower White River. The White River is identified as a high priority tributary in the Lead Entity Strategy. One of the high priority actions within this area are directly addressed by this project: “restore natural geomorphic processes and riparian functions where they are compromised, degraded, or severed” (Lead Entity 2018). This habitat restoration project would build upon previous work completed by Washington State Department of Transportation—the culvert where Jovita Creek passes under Highway 167 was replaced in 2016 to allow for improved fish passage into the upper portions of Jovita Creek (WSDOT, 2017). The previous culvert presented hydraulic barriers to fish passage, and the new culvert allows unimpeded access to 2.53 miles of habitat in Jovita Creek including the proposed project area. There are no anticipated barriers to completing this project due to its alignment with regional and basin-wide goals.

Potential budget and O&M costs (order of magnitude costs).

No cost estimates for the feasibility study and projects that would be implemented are available. No O&M costs have been identified. A formal project description has not yet been written.

Anticipated durability and resiliency.

Habitat restoration projects are durable as they restore natural processes to a stream. Given changing climate conditions that are forecast to increase peak precipitation rates and erosion, channel bed restoration projects will retain sediment and reduce aggradation near the mouth of the creek where slopes are flatter.

Project sponsor(s) (if identified) and readiness to proceed/implement.

The City of Edgewood is the project sponsor and is ready to implement the study as soon as funding is made available. The assessment would also include outreach to determine landowner willingness and potential for easements in the area of the potential projects. The study could be completed within 2 years of obtaining funding; the projects recommended for implementation will take longer, likely 10 years depending on availability of funding.

Documentation of sources, methods, and assumptions.

The following references were used:

Ecology, 2003. Mt. Baker-Snoqualmie National Forest, Upper White Watershed Sediment and Temperature TMDL for Aquatic Habitat. Submittal Report, Publication No. 03-10-032. Available from: <https://fortress.wa.gov/ecy/publications/documents/0310032.pdf>

National Marine Fisheries Service (NMFS). 2007. Puget Sound Salmon Recovery Plan. Plan adopted by NMFS on January 19, 2007. Submitted by the Shared Strategy Development Committee. Available from: <https://repository.library.noaa.gov/view/noaa/16005>

Puyallup and Chambers Watersheds Salmon Recovery Lead Entity (Lead Entity). 2018. Salmon Habitat Protection and Restoration Strategy for Puyallup and Chambers Watersheds. June. <https://www.piercecountywa.org/ArchiveCenter/ViewFile/Item/6075>

WDFW, 2020. SalmonScape. Washington Geospatial Open Portal. Available from: <http://geo.wa.gov/datasets/1e56a648718543ab952e75ff9971f086?fullScreen=true>

WSDOT, 2017. Fish Passage Performance Report, 2016. June 30, 2017. Available from: <https://www.wsdot.wa.gov/publications/fulltext/projects/FishPassage/2017FishPassageAnnualReport.pdf>

Kerwin, J. 1999. Salmonid Habitat Limiting Factors Report for the Puyallup River Basin. Washington Conservation Commission.

City of Edgewood, 2020. Parks and Recreation: Interurban Trail. Available from: http://www.cityofedgewood.org/government/parks_and_recreation/interurban_trail_and_jovita_crossroads_trailhead_park.php

ENUMCLAW GOLF COURSE PROJECT

Narrative description, including goals and objectives.

The City of Enumclaw and the Puyallup Tribe propose to implement reach-scale stream restoration actions in Boise Creek, within the Middle White River sub-basin (WRIA 10). This project would move Boise Creek back to its historic channel adjacent to the Enumclaw Golf Course. Additionally, large woody material would be added to increase habitat complexity and channel roughness, diversifying habitats available to fish. The project is proposed to occur from river miles 3.7 to 4.2. A 30% design was completed for this project in 2010, and the proposed project would include finalizing the design and moving forward with construction.

The goals of the project are as follows:

- Improve habitat conditions in Boise Creek
- Address flooding on the golf course and nearby properties.

The objectives of the project are:

- Realign the creek with its historic channel.
- Restore habitat and increase channel roughness, diversifying instream fish habitat

Qualitative assessment of how the project will function.

The project will function by restoring the natural channel and improving habitat conditions, which will allow natural processes to develop in Boise Creek. A related project with water offset benefits would be the placement of water rights for a portion of the golf course in trust. Washington Water Trust estimated the offset benefits as 47 acre-feet and 0.2 cfs (90 gallons per minute).

Conceptual-level map of the project and location.

The proposed project is located along Boise Creek between river miles 3.7 and 4.2 and borders the Enumclaw Golf Course. The 30% designs (Attachment A) shows the project location and restoration plan. Figure 1 shows the vicinity of the project.



Figure 1. Enumclaw Golf Course Project Vicinity (circled in red, annotated from Watershed Restoration and Enhancement Committees Technical Support Web Map)
Performance goals and measures.

The performance goals are to complete final design of the project and implement reach-scale habitat restoration and channel realignment. Performance measures would be determined once a final design is selected.

Description of the anticipated spatial distribution of likely benefits.

Benefits to river processes will occur in the project area between river miles 3.7 to 4.2; habitat features formed as a result of this project will benefit a variety of salmonid species as described in the next paragraph.

Descriptions of the species, life stages and specific ecosystem structure, composition, or function addressed.

Boise Creek supports a variety of salmonid species and is one of the most productive salmon stream systems in the Puyallup/White River basin. No other stream in the basin, except for South Prairie Creek on the Puyallup River, is as productive in terms of both spawning density (number of spawners per mile) and total escapement size (Marks et al. 2013). Boise Creek continues to support steelhead as well as spring and fall Chinook (all ESA-listed), coho, pink, chum, sockeye and cutthroat trout. Bull trout have also been observed in the mouth of Boise Creek up to river mile (RM) 0.1 (RCO, 2020). The salmonids and other aquatic species in Boise Creek are subject to degraded ecosystems due to limiting factors present at the site.

According to the Limiting Factors Report for the Puyallup Watershed by Kerwin (1999), Boise Creek has the following limiting factors:

- Loss of floodplain connectivity

- Loss of bank stability
- Loss of instream habitat complexity and connectivity due to loss of large wood
- Loss of side-channel habitat
- Loss of riparian habitat
- Loss of pool habitat
- Loss of substrate fines
- Loss of good water quality and quantity

This project will benefit all life stages of salmonids present. Adults will have greater cover, depth and cooler fall water temperatures. Eggs and alevins will benefit through improved survival rates associated with improved channel stability and greater channel length, which reduces average velocity and therefore lessens scour losses and retains more variety in substrate size. Juveniles will benefit from the additional habitat length, cover, channel complexity and reduced summer rearing temperatures that will provide a new norm and greater overall habitat suitability. Coho and steelhead which reside for over 1 year in freshwater will be the two species most likely to benefit from these improvements. The functions and benefits of the habitat and hydrologic features that would be created by the project address many of the limiting factors currently present in Boise Creek.

Along with the habitat restoration actions already undertaken in the Middle White River sub-basin, addressing these limiting factors will help support salmonids at various life stages and increase presence, recruitment, and survival in the area of the project.

Identification of anticipated support and barriers to completion.

The project is supported by King County and the Puyallup and Chambers Watersheds Salmon Recovery Lead Entity.

The WRIA 10/12 Lead Entity Strategy identifies priority tributaries and actions within the Middle Puyallup Watershed (which includes the middle White River sub-basin). Boise Creek is identified as a high priority tributary in the Lead Entity Strategy. Two of the high priority actions within this area are directly addressed by this project: “restore natural geomorphic processes and riparian functions where they are compromised, degraded, or severed,” and “increase large wood inputs” (Lead Entity 2018). This habitat restoration project would build upon previous design work completed in 2010 (RCO, 2020; Attachment A).

There are no anticipated barriers to completing this project due to its alignment with regional and basin-wide goals.

Potential budget and O&M costs (order of magnitude costs).

The funding requested to complete final design and implement restoration treatments is approximately \$2.3 million. The project can likely be implemented within the next five years provided funding is available.

No O&M costs have been identified as the project should not pose any maintenance obligations.

Anticipated durability and resiliency.

This project is anticipated to be durable because it would restore the stream to its historic channel. Habitat improvements would increase floodplain connection. Given the changing climate conditions, that anticipates increases in peak precipitation, rain-on-snow events, and channel aggradation, floodplain reconnection projects that provide the river with more ways to hold water for longer are important solutions to implement to restore watershed processes and to provide resiliency from a changing climate.

Project sponsor(s) (if identified) and readiness to proceed/implement.

The Puyallup Tribe is the project sponsor and is ready to implement the project as soon as funding is secured, and property owner permissions are obtained. The construction season would need to be coordinated with the Enumclaw Golf Course, which is owned by the City of Enumclaw.

Attachments

Attachment A: 30% Design of Boise Creek Golf Course Restoration Plan is in the Box folder with this project description.

Documentation of sources, methods, and assumptions.

The following references were used:

Washington Water Trust. 2020. WRIA 10 Water Rights Final Report Update. Presentation to WRIA 10 Workgroup on July 1, 2020.

Washington Water Trust, McCormick Water Strategies, and BlueWater GIS. 2020. WRIA 10 Puyallup-White Priority Water Rights Projects Report. Prepared for: WRIA 10 Workgroup. June 29, 2020.

National Marine Fisheries Service (NMFS). 2007. Puget Sound Salmon Recovery Plan. Plan adopted by NMFS on January 19, 2007. Submitted by the Shared Strategy Development Committee. Available from: <https://repository.library.noaa.gov/view/noaa/16005>

Puyallup and Chambers Watersheds Salmon Recovery Lead Entity (Lead Entity). 2018. Salmon Habitat Protection and Restoration Strategy for Puyallup and Chambers Watersheds. June. <https://www.piercecountywa.org/ArchiveCenter/ViewFile/Item/6075>

Kerwin, J. 1999. Salmonid Habitat Limiting Factors Report for the Puyallup River Basin. Washington Conservation Commission.

Marks, E. L., R.C. Ladley, B.E. Smith, A.G. Berger, J.A. Paul, T.G. Sebastian and K. Williamson. 2013. 2012-2013 Annual Salmon, Steelhead, and Bull Trout Report: Puyallup/White River Watershed--Water Resource Inventory Area 10. Puyallup Tribal Fisheries, Puyallup, WA

RCO, 2020. Project Search. Middle Boise Creek Restoration. Available from: <https://secure.rco.wa.gov/prism/search/ProjectSnapshot.aspx?ProjectNumber=16-1552>

GREENWATER PHASE 4 IMPLEMENTATION

Narrative description, including goals and objectives.

South Puget Sound Salmon Enhancement Group proposes to implement reach-scale restoration actions in the Greenwater River, within the Upper White River sub-basin (WRIA 10), between river mile 2 and 4 to restore instream complexity and floodplain connectivity. This proposed phase 4 project builds upon work completed in 2010, 2011, and 2014 (phases 1-3) on upper sections of the Greenwater River between river mile 6 and 8. During these projects, 17 log jams were installed and 1 mile of road was removed from the floodplain. As part of the proposed phase 4 project, more road and fill would be removed and additional structures would be installed in the 2-mile project reach, increasing the functional habitat on the Greenwater River. These structures will provide relatively stable, instream structure currently lacking in the Greenwater system due to a legacy of aggressive timber harvest practices between the late 1950s to early 1970s.

The goal of the project is as follows:

- Rehabilitate lost processes that are provided by large instream wood accumulations, which benefits adult spawning and juvenile rearing salmon populations on the Greenwater River.

The objectives of the project are:

- Remove relic logging roads, fill, and armor restricting floodplain processes.
- Install mid-channel and floodplain structures.

Qualitative assessment of how the project will function.

The project will function by creating large stable structures that will trap mobile debris and sediment, increase floodplain connectivity and off channel habitat, increase number of pools with overhead cover, decrease median substrate size, and overall improve spawning and rearing conditions for salmonids in the Greenwater River. The proposed structures will accelerate and maintain system-wide natural processes while providing habitat for fish. Removing roads, fill, and armor will additionally allow natural processes to develop in a large floodplain. There are no anticipated offset benefits related to the project because there are no identified permit exempt wells in the project area. Additionally, the potential for the project to increase groundwater recharge has not been estimated.

Conceptual-level map of the project and location.

The proposed project is located along the Greenwater River between river miles 2 and 4. Figure 1 shows the approximate project location and the previous phases of the project.

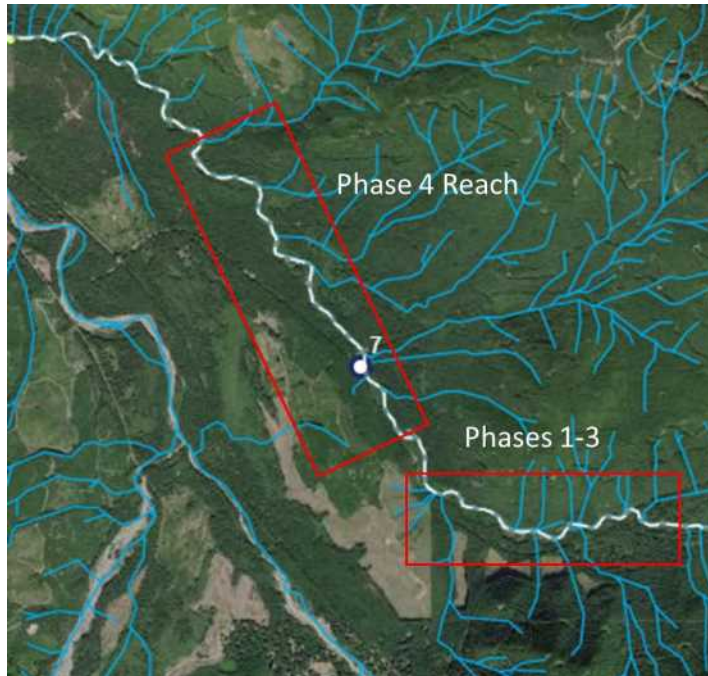


Figure 1. Greenwater Phase 4 Implementation Project (annotated from Watershed Restoration and Enhancement Committees Technical Support Web Map)

Performance goals and measures.

The performance goals are to complete a reach-scale assessment of river miles 2 to 4 of the Greenwater River and implement restoration treatments including road and fill removal and log jam installation . Performance measures would be determined once a final design is selected.

Description of the anticipated spatial distribution of likely benefits.

Benefits to river processes will occur in the project area between river mile 2 and 4; side channel and other habitat features formed as a result of this project will benefit a variety of salmonid species as described in the next paragraph. Salmonids in the Greenwater River and in the White River will benefit from increased habitat and reduced peak flow and sediment input.

Descriptions of the species, life stages and specific ecosystem structure, composition, or function addressed.

The Greenwater River supports a variety of salmonid species including Endangered Species Act-listed Chinook, Steelhead, and Bull Trout. Other anadromous salmonid species on the Greenwater River that would benefit from this project include Coho, Pink salmon, and coastal cutthroat trout. The White River supports an early returning population of White River spring Chinook which spawn in the upper and lower White River and is the most distinctive Chinook stock in central and south Puget Sound (NMFS, 2007). The USFWS has also identified five local bull trout populations within the Puyallup basin, one of which occurs in the Greenwater River. The salmonids and other aquatic species in the Greenwater River are subject to the current limiting factors present.

According to the Limiting Factors Report for the Puyallup Watershed by Kerwin (1999), limiting factors that may be addressed by the project include the following:

- Loss of floodplain habitat, wetlands, and connectivity to hyporheic zone
- Loss of off-channel and side-channel habitat
- Loss of instream habitat complexity and connectivity
- Loss of large wood
- Increase in river channelization
- Increase in sediment load
- Loss of channel (substrate) stability
- Loss of spawning and rearing habitat
- Loss of good water quality, including appropriate temperature

Removal of the existing road, fill, and armor, and installation of logjams would address these limiting factors by promoting the creation of a variety of habitat types and hydrologic features. Side channels, backwater channels, and off-channel habitat would develop because the jams would be placed strategically to promote lateral migration of the river. These habitats provide protection from flood events and act as riparian cover and rearing habitat, which supports juvenile salmonids and provides areas for fry to colonize. Coho salmon may also spawn in low velocity side channels. Deep complex pools would also be created. These provide cover and prey availability during migratory periods for adult salmonids and cover for juveniles when log jams are present. Deep pools are also generally colder than other in-water environments, providing appropriate temperatures and acting as a refuge. Shallow edge habitat would also be created when areas of fill and road are removed. These provide shade and function as cover and rearing habitat for fry and juvenile salmonids. Invertebrates colonizing the edge habitat are also a prey source for juveniles. Removal of the road and fill will also increase the sinuosity of the river, creating a slower velocity system where a greater range of sediment and substrate types are available due to the complexity of habitats present. Spawning salmonids (Chinook, steelhead, and Coho) would benefit from a range of substrate sizes. The functions and benefits of the habitat and hydrologic features that would be created by the project address many of the limiting factors currently present in the Greenwater River.

Along with the habitat restoration actions already undertaken in the Greenwater River and Upper White River sub-basin, addressing these limiting factors will help support salmonids at various life stages and increase presence, recruitment, and survival in the area of the project. And, for ESA-listed ESUs, restoring these areas would contribute to the VSP parameters of abundance, productivity, spatial structure, and diversity.

Identification of anticipated support and barriers to completion.

This project builds upon previous restoration actions in the Greenwater River and Upper White River sub-basin. The project is sponsored by South Puget Sound Salmon Enhancement Group and supported by the Lead Entity, Puyallup and Chambers Watersheds Salmon Recovery Lead Entity.

The WRIA 10/12 Lead Entity Strategy identifies priority tributaries and actions within the Upper Puyallup Watershed (which includes the upper White River sub-basin). The Greenwater River is

identified as a high priority tributary. Three of the high priority actions within this area are addressed by this project: “restore natural geomorphic processes and riparian functions where they are compromised, degraded, or severed,” “address failing roads to reduce sediment load,” and “increase large wood inputs (Lead Entity 2018). The WRIA 10/12 Lead Entity Strategy additionally states that this type of action will provide the greatest restoration benefit to Puyallup/White River Chinook abundance. In addition, The Puget Sound Salmon Recovery Plan specifically calls out the Greenwater River as a key area to increase protection and restoration. As a priority action for White River spring Chinook it identifies, “large woody debris [and] riparian restoration projects in the Upper White... including the Greenwater River and Huckleberry Creek restoration projects” (NMFS 2007). Pierce County (2012, 2018) also identifies the reach of the project as a priority area within their Flood Hazard Management Plan and completed a channel migration zone study within the reach of the project in 2017.

There are few anticipated barriers to completing this project given that three phases of the project have already been implemented.

Potential budget and O&M costs (order of magnitude costs).

The funding requested to complete reach-scale assessment efforts, inventory existing wood loading rates, assess habitat quantity and quality, map geomorphic features, assess hydraulic conditions, and implement restoration treatments based on these analyses is approximately \$1,500,000.

No O&M costs have been identified as the project should not pose any maintenance obligations. The project reach is on Muckleshoot Indian Tribe property and the entire Greenwater Valley through the project reach is protected under a riparian reserve designation.

Anticipated durability and resiliency.

Floodplain reconnection projects are durable as they restore natural processes to a reach of the river, allowing flooding and channel migration to occur unimpeded. Instream wood placement projects are also durable; they support natural processes and encourage accumulation of smaller debris. Given the changing climate conditions, that anticipates receding glaciers, and increases in precipitation, rain-on-snow events, and channel aggradation, floodplain reconnection and instream placement projects that provide the river with more room to meander and more ways to hold water for longer are important solutions to implement to restore watershed processes and to provide resiliency from a changing climate.

Project sponsor(s) (if identified) and readiness to proceed/implement.

South Puget Sound Salmon Enhancement Group is the project sponsor and is ready to implement the project as soon as funding is made available. The project can likely be implemented within the next five years provided funding is available.

Documentation of sources, methods, and assumptions.

The following references were used:

National Marine Fisheries Service (NMFS). 2007. Puget Sound Salmon Recovery Plan. Plan adopted by NMFS on January 19, 2007. Submitted by the Shared Strategy Development Committee. Available from: <https://repository.library.noaa.gov/view/noaa/16005>

Puyallup and Chambers Watersheds Salmon Recovery Lead Entity (Lead Entity). 2018. Salmon Habitat Protection and Restoration Strategy for Puyallup and Chambers Watersheds. June.

<https://www.piercecountywa.org/ArchiveCenter/ViewFile/Item/6075>

Pierce County. 2018. Rivers Flood Hazard Management Plan 2017-2018 Update. Prepared by: Pierce County Public Works and Utilities Surface Water Management Division. Available:

<https://www.piercecountywa.org/1837/Rivers-Flood-Hazard-Management-Plan>

Pierce County. 2012. Final Environmental Impact Statement for: Rivers Flood Hazard Management Plan. Prepared by: Pierce County Public Works and Utilities Surface Water Management Division.

Available: <https://www.piercecountywa.org/1837/Rivers-Flood-Hazard-Management-Plan>

Kerwin, J. 1999. Salmonid Habitat Limiting Factors Report for the Puyallup River Basin. Washington Conservation Commission.

Recreation and Conservation Office. 2020. PRISM Project Search: Greewanter River Restoration Phase 3. Accessed June 24, 2020.

<https://secure.rco.wa.gov/prism/search/ProjectSnapshot.aspx?ProjectNumber=12-1288>

WEST FORK WHITE FLOODPLAIN PROJECT

Narrative description, including goals and objectives.

South Puget Sound Salmon Enhancement Group proposes to implement reach-scale floodplain restoration actions in the West Fork White River, within the Upper White River sub-basin (WRIA 10). This project would complete assessment, feasibility, design, and construction of a floodplain restoration project on the lower 6 miles of the West Fork White River. Initial efforts would focus on a reach-scale assessment of the lower White River from river miles 2.4 to 5.7. Assessment efforts would evaluate geomorphic threats from a road (which is adjacent to the stream) to floodplain processes, instream flow velocities, and habitat structure and the assessment efforts would prescribe and implement restoration treatments to remove fill and armor and restore habitat and habitat forming processes.

The goal of the project is as follows:

- Rehabilitate lost processes that are provided by floodplain reconnection.

The objectives of the project are:

- Complete a reach-scale assessment including an evaluation of threats from an adjacent road.
- Remove fill and armor from the floodplain.
- Restore habitat and habitat-forming processes.

Qualitative assessment of how the project will function.

The project will function by removing fill and armor, which will allow natural processes to develop in a large floodplain. There are no anticipated offset benefits related to the project because there are no identified permit exempt wells in the project area. Additionally, the potential for the project to increase groundwater recharge has not been estimated.

Conceptual-level map of the project and location.

The proposed project is located along the West Fork White River between river miles 0 and 6, with an initial focus on river miles 2.4 to 5.7. Figure 1 shows the approximate initial project location.

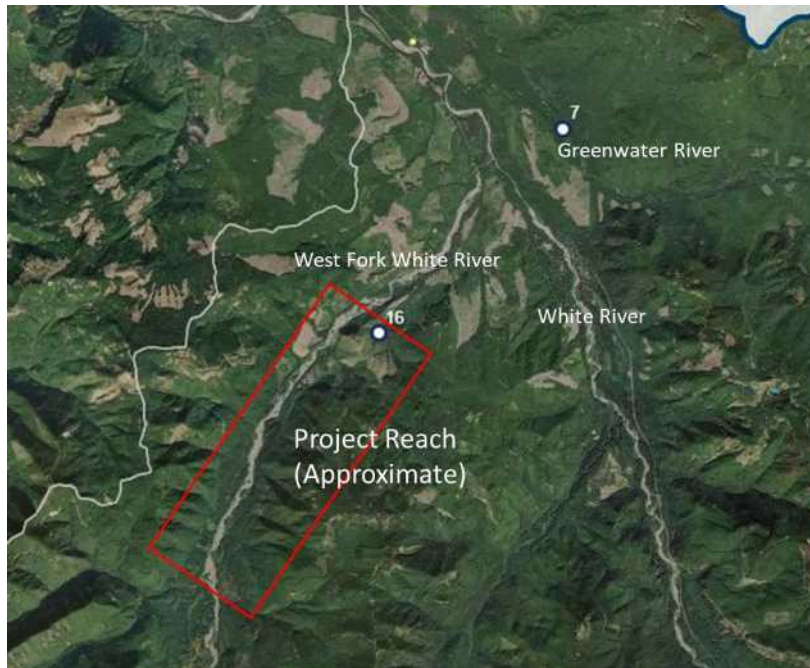


Figure 1. West Fork White Floodplain Project (annotated from Watershed Restoration and Enhancement Committees Technical Support Web Map)
Performance goals and measures.

The performance goals are to complete a reach-scale assessment of river miles 2.4 to 5.7 of the West Fork White River and implement restoration treatments including fill and armor removal. Performance measures would be determined once a final design is selected.

Description of the anticipated spatial distribution of likely benefits.

Benefits to river processes will occur in the project area between river miles 2.4 to 5.7; side channel and other habitat features formed as a result of this project will benefit a variety of salmonid species as described in the next paragraph. Salmonids in the West Fork White River and in the White River will benefit from increased habitat and reduced peak flow and sediment input.

Descriptions of the species, life stages and specific ecosystem structure, composition, or function addressed.

The West Fork White River supports a variety of salmonid species including Endangered Species Act-listed Chinook, Steelhead, and Bull Trout. Other anadromous salmonid species on the West Fork White River that would benefit from this project include Coho, Pink salmon, and coastal cutthroat trout. The White River supports an early returning population of White River spring Chinook which spawn in the upper and lower White River and is the most distinctive Chinook stock in central and south Puget Sound, and this population may spawn in the West Fork White River (NMFS, 2007). The USFWS has also identified five local bull trout populations within the Puyallup basin, one of which occurs in the West Fork White River and Upper White River (NMFS, 2007). The salmonids and other aquatic species in the West Fork White River are subject to the current limiting factors present.

According to the Limiting Factors Report for the Puyallup Watershed by Kerwin (1999), limiting factors that may be addressed by the project include the following:

- Loss of floodplain habitat, wetlands, and connectivity to hyporheic zone
- Loss of off-channel and side-channel habitat
- Loss of instream habitat complexity and connectivity
- Loss of large wood
- Increase in river channelization
- Increase in sediment load
- Loss of channel (substrate) stability
- Loss of spawning and rearing habitat
- Loss of good water quality, including appropriate temperature

Removal of the existing fill and armor would address these limiting factors by promoting the creation of a variety of habitat types and hydrologic features. Side channels, backwater channels, and off-channel habitat would develop because the river would be allowed to move laterally within the floodplain. These habitats provide protection from flood events and act as riparian cover and rearing habitat, which supports juvenile salmonids and provides areas for fry to colonize. Coho salmon may also spawn in low velocity side channels. Shallow edge habitat would also be created where areas of fill are removed. These provide shade and function as cover and rearing habitat for fry and juvenile salmonids. Invertebrates colonizing the edge habitat are also a prey source for juveniles. Removal of the armor and fill will also increase the sinuosity of the river, creating a slower velocity system where a greater range of sediment and substrate types are available due to the complexity of habitats present. Spawning salmonids (Chinook, steelhead, and Coho) would benefit from a range of substrate sizes. The functions and benefits of the habitat and hydrologic features that would be created by the project address many of the limiting factors currently present in the West Fork White River.

Along with the habitat restoration actions already undertaken in the Upper White River sub-basin, addressing these limiting factors will help support salmonids at various life stages and increase presence, recruitment, and survival in the area of the project. And, for ESA-listed ESUs, restoring these areas would contribute to the VSP parameters of abundance, productivity, spatial structure, and diversity.

Identification of anticipated support and barriers to completion.

This project builds upon previous restoration actions in the Upper White River sub-basin. The project is sponsored by South Puget Sound Salmon Enhancement Group and supported by the Lead Entity, Puyallup and Chambers Watersheds Salmon Recovery Lead Entity.

The WRIA 10/12 Lead Entity Strategy identifies priority tributaries and actions within the Upper Puyallup Watershed (which includes the upper White River sub-basin). The West Fork White River is identified as a high priority tributary. Two of the high priority actions within this area are directly

addressed by this project: “restore natural geomorphic processes and riparian functions where they are compromised, degraded, or severed,” and “address failing roads to reduce sediment load.” Additionally, lateral channel migration has the potential to recruit nearby trees and address a third high priority action: “increase large wood inputs” (Lead Entity 2018). The WRIA 10/12 Lead Entity Strategy additionally states that this type of action will provide the greatest restoration benefit to Puyallup/White River Chinook abundance. The Puget Sound Salmon Recovery Plan also calls out the Upper White River sub-basin as a priority area for White River spring Chinook and suggests actions such as “large woody debris [and] riparian restoration projects in the Upper White River” (NMFS 2007). There are no anticipated barriers to completing this project due to its alignment with regional and basin-wide goals.

Potential budget and O&M costs (order of magnitude costs).

The funding requested to complete reach-scale assessment efforts, evaluate geomorphic threats natural processes, and prescribe and implement restoration treatments based on these analyses is approximately \$3,000,000.

No O&M costs have been identified as the project should not pose any maintenance obligations. The initial project reach is on National Forest property. The entire West Fork White River through the national forest is protected under a riparian reserve designation (Ecology 2003).

Anticipated durability and resiliency.

Floodplain reconnection projects are durable as they restore natural processes to a reach of the river, allowing flooding and channel migration to occur unimpeded. Given the changing climate conditions that anticipates receding glaciers, increases in precipitation and rain-on-snow events, and channel aggradation, floodplain reconnection projects that provide the river with more room to meander and more ways to hold water for longer are important solutions to implement to restore watershed processes and to provide resiliency from a changing climate.

Project sponsor(s) (if identified) and readiness to proceed/implement.

South Puget Sound Salmon Enhancement Group is the project sponsor and is ready to implement the project as soon as funding is made available. The overall project can likely be implemented within the next five years provided funding is available.

Documentation of sources, methods, and assumptions.

The following references were used:

Ecology, 2003. Mt. Baker-Snoqualmie National Forest, Upper White Watershed Sediment and Temperature TMDL for Aquatic Habitat. Submittal Report, Publication No. 03-10-032. Available from: <https://fortress.wa.gov/ecy/publications/documents/0310032.pdf>

National Marine Fisheries Service (NMFS). 2007. Puget Sound Salmon Recovery Plan. Plan adopted by NMFS on January 19, 2007. Submitted by the Shared Strategy Development Committee. Available from: <https://repository.library.noaa.gov/view/noaa/16005>

Puyallup and Chambers Watersheds Salmon Recovery Lead Entity (Lead Entity). 2018. Salmon Habitat Protection and Restoration Strategy for Puyallup and Chambers Watersheds. June. <https://www.piercecountywa.org/ArchiveCenter/ViewFile/Item/6075>

Kerwin, J. 1999. Salmonid Habitat Limiting Factors Report for the Puyallup River Basin. Washington Conservation Commission.

Appendix I – Washington Water Trust Report

WRIA 10 Puyallup-White Priority Water Right Projects Report is available on the WRIA 10 webpage:

https://www.ezview.wa.gov/Portals/_1962/images/WREC/WRIA10/Final%20Plan/Appendix%20J%20Washington%20Water%20Trust%20Report.pdf.

Appendix J – Priority Streams for Water Right Acquisitions

Proposed Selection for WR review	STREAM NAME	Tributary to	High Priority Tributary in WRIA 10/12 Salmon Recovery Strategy	Subbasin	PE Well Projection	Spawning Reach	Fish Utilization
X	Boise Creek	White River	X	Middle White	81	Lower 4.5 miles	CH, CO, PK, ST, SK, BT (NON-SPAWNING)
X	Fennel Creek	Puyallup River	X	Lower Puyallup	102	Lower 2 miles	CH, CO, PK CM, ST, BT (NON-SPAWNING)
X	Greenwater River	White River	X	Upper White	12	throughout	CH, CO, PK, ST, BT (NON-SPAWNING)
X	South Prairie Creek - ask to combine with Wilkeson Creek	Carbon River	X	South Prairie Creek	167	Lower 15 miles	CH, CO, PK, CM, ST, BT (NON-SPAWNING)
X	Wilkeson Creek - ask to combine with South Prairie	South Prairie Creek	X	South Prairie Creek	167	Lower 6.2 miles	CH, CO, PK, CM, ST
X	Voights Creek	Carbon River	X	Carbon	109	Lower 0.5 miles	CH, CO, PK, ST
X	Kapowsin Creek/Ohop Creek	Puyallup River	X	Upper Puyallup	165	all 3.6 miles	CH, CO, PK, ST, BT (NON-SPAWNING)
X	Rody Creek	Clarks Creek	X	Lower Puyallup	102	Lower 0.6 miles	CO, PK, CM
X	Clear Creek (tribs: Canyon Creek, Squally Creek, Swan Creek)	Puyallup River	X	Lower Puyallup	102	RM 1.7 - 1.9	CH, CO, CM, PK, ST, BT (NON-SPAWNING)
	Clearwater River	White River	X	Middle White	81	Lower 3.6 miles	CH, CO, PK, ST, SK, BT (NON-SPAWNING)
	Meeker Creek	Clarks Creek	X	Lower Puyallup	102	lower 0.2 miles	CM, CO
	Salmon Creek/Salmon tributary	White River		Lower White	52	Lower 0.5 miles/Lower0.13 miles	CH, CO, PK, CM
	Hylebos Creek	Puget Sound		Commencement bay (P.S)	102		CH, CO, CM, PK
X	Wapato/Simons Creek	Puget Sound		Lower Puyallup	102		CM, CO, ST
	Canyonfalls Creek	Puyallup River		Lower Puyallup	102	Lower 0.5 miles	CH, CO, CM, PK, ST, BT (NON-SPAWNING)
	Fox Creek	Puyallup River		Upper Puyallup	165	Lower 1 miles	CH, CO, PK, ST
X	Horsehaven Creek	Puyallup River		Upper Puyallup	165	unknown	CM, ST, CO
							CH: CHINOOK, CO: COHO, CM: CHUM, SK: SOCKEYE PK: PINK, ST: STEELHEAD, BT: BULL TROUT

High Priority trib/likely to be impacted by new permit exempt wells

High priority trib, unlikely to be impacted by new permit exempt wells or within UGA/water system coverage

Not a high priority tributary in the Strategy



City Of Edgewood Council Agenda Summary Sheet

Subject: Discussion – Hedden Intersection Safety Improvements	Agenda Item #: 2.E
	For Agenda of: 2/16/2021
	Prepared by: Jeremy Metzler
Attachments (list): 1. SOLAR STOP BLINKERSIGN	
Approval of Materials: Jeremy Metzler Rachel Pitzel 2/11/2021 Dave Gray 2/11/2021 Daryl Eidinger 2/11/2021	Expenditure Required: TBD Amount Budgeted: CIP Project T-2: up to \$75,000 Timeline: 02/16/2021 SS

Summary Statement:

Traffic safety within school zones is a top priority for the City of Edgewood, most prominently demonstrated by the authorization of automated speed enforcement cameras. The intersection of 8th Street East and 114th Avenue East is somewhat unique, being the only four-way stop-controlled intersection inside a school zone in Edgewood. Staff have received citizen comments and requests over the last several months for safety improvements at this intersection, citing vehicles do not come to a complete stop at the intersection or ignore the stop signage altogether. Public Works discussed this intersection with former Police Chief Lundborg, and the conversation led to looking at flashing beacons or LED-embedded signage. The City's on-call electrical contractor recommended installing solar-powered, LED-embedded stop signs at all four corners. Following conversation at the February 2, 2021 study session, Public Works is coming back to Council with some requested additional information.

Public Works contacted the City's on-call transportation engineering consultant, Transpo, and they provided the following for Council's consideration:

Q: Why not install round beacons instead of LED-embedded signs? A: While they may be quicker to install and implement, round beacons tend to become "background noise" to drivers a lot easier than the flashing LEDs (i.e. less effective on driver behavior)

Q: Instead of beacons or LED-embedded stop signs, can we install pedestrian crossing warning lights? A: No, crosswalk warning lights are not allowed at stop, yield, or signal controlled crosswalks.

Q: Have we considered rumble buttons or another advanced warning device? A: Rumble buttons are not recommended as they have a limited impact on behavior, increase maintenance costs, and can be a nuisance to adjacent residences. "Stop Ahead" signs already exist on all sides of this intersection, but a "STOP" legend (pavement marking) could be added near the intersection for additional visibility.

One suggestion offered by Transpo is to perform a video study (a couple days long) to determine the magnitude of the problem and have a data basis for any decision. A similar complaint and study undertook in another city resulted in significantly fewer true "not stop" conditions than reported. A 48-hour study could be completed for about \$2,500.

Finally, another LED-embedded sign alternative was investigated, and it appears to be simpler to install and a lower material cost (\$1,736 each, \$6,945 total, \$1,279 lower than contractor's estimate). Attached for Council's information are the manufacturer data sheets for the alternative LED-embedded signage.

Item History:

02/02/2021 SS

Recommended Action:

Hold a discussion and provide staff direction to Discussion – Hedden Intersection Safety Improvements

Fiscal Note/Consideration:

Capital Improvement Plan Project T-2 - Citywide Traffic Safety Program (TIP No. 9) was approved by Council with an annual budget of \$75,000, for the annual review and safety assessment of existing facilities, including but not limited to improved traffic signage and flashing beacons, to be paid for with School Zone Camera Fee revenues.

Also note the labor cost herein is for twelve (12) hours of work, but the actual time spent may be eight (8) or less. The contractor will bill the City for actual time spent.

BlinkerSign® Flashing LED Stop Sign



**TRAFFIC SAFETY
SUPPLY COMPANY**



PRODUCT DESCRIPTION

TSSCO's brilliant innovation of enhancing traffic signs with LEDs (Light-Emitting Diodes) makes intersections safer, reduces accidents and saves lives! Day-Viz™ (Daylight Visible) BlinkerSigns feature an array of incredibly bright LEDs that flash in unison, per MUTCD, commanding the attention of drivers day and night.

- 52.99% reduction in blow-throughs
- Easy Installation
- Solar Powered, no AC power required
- MUTCD Compliant
- Visible up to 2 miles at night

FEATURES

- Installs easily onto any new or existing sign post
- Can be integrated into an ITS (Intelligent Transportation System)
- Day-Viz™ LEDs command attention day and night
- Proprietary circuitry automatically adjusts light output for maximum visibility and battery efficiency
- Heightened driver awareness
- Increased visibility at high incident intersections

BENEFITS

- Reduce accidents, incidents and fatalities
- Federally approved (MUTCD compliant)
- Earth-friendly
- Heightened driver awareness
- Increased visibility at high incident intersections

APPLICATIONS

- New stop signs locations
- High incident intersections
- Rural Roads

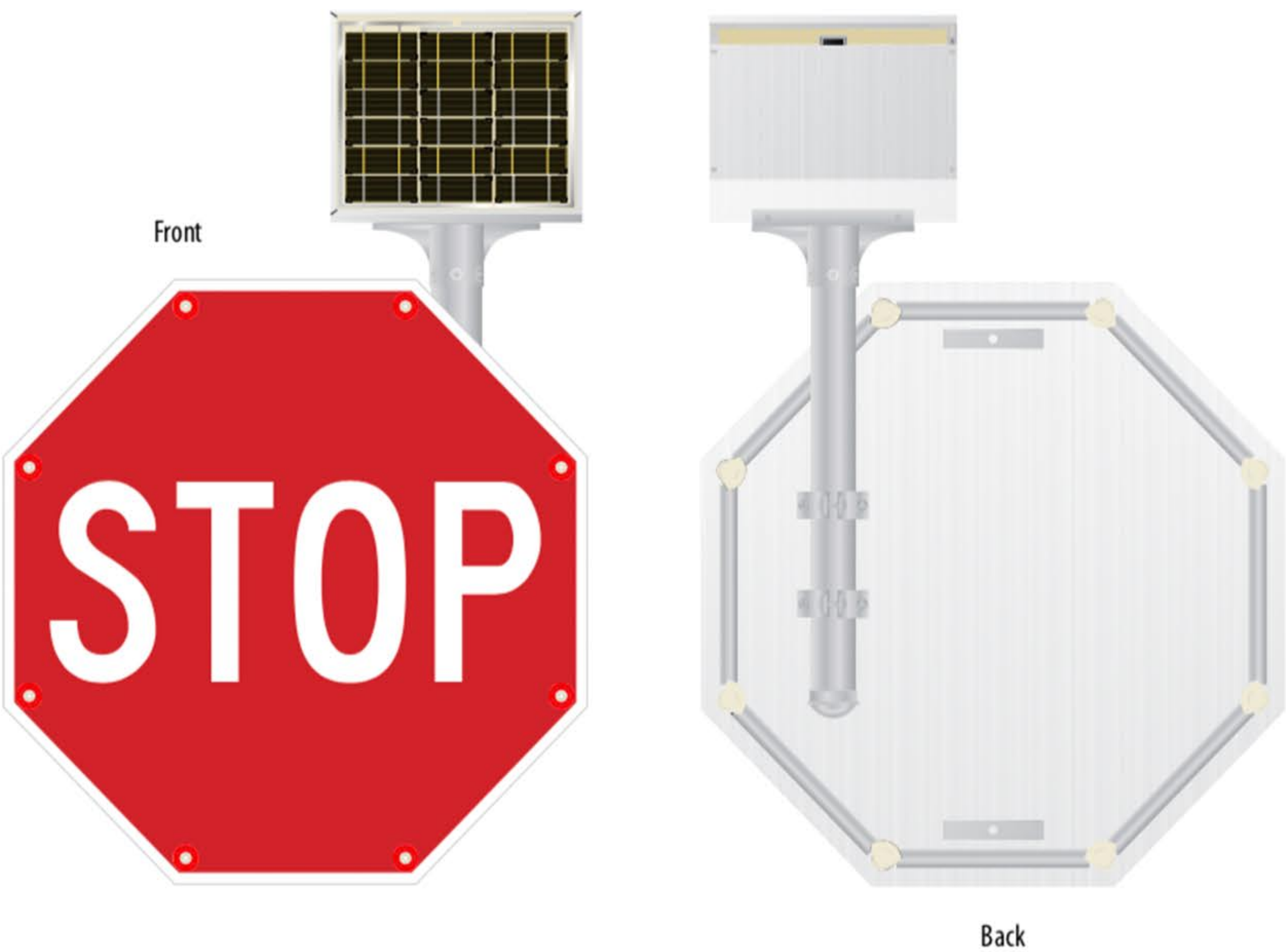
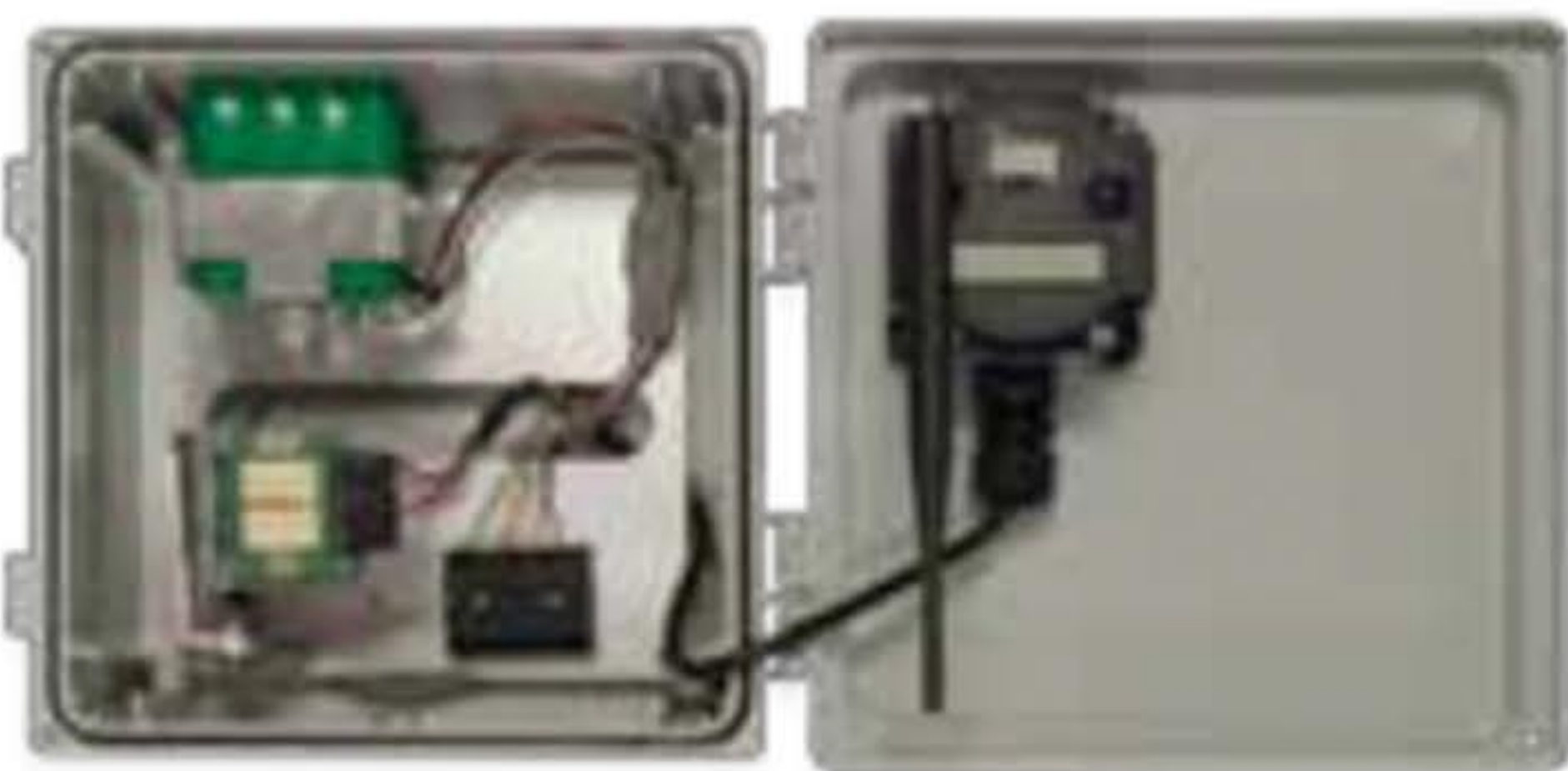
BlinkerSign® Flashing LED Stop Sign



TRAFFIC SAFETY
SUPPLY COMPANY

OPTIONAL VEHICLE SPEED SENSOR

A low power draw Digital Signal Processing (DSP) based K-band radar for ITS sign activation and traffic calming. It is the premier product in its class, the world's smallest and lowest power usage OEM K-Band Doppler radar, up to 25X lower than some other industry offerings. 300+ feet typical detective range for a compact vehicle



STANDARD SPECIFICATIONS

Sign	
Sign Substrate	.080 Highway Grade Aluminum
Reflective Sheeting	3M™ DG3- with anti-graffiti overlay
MUTCD Compliance	MUTCD Section 2A.07 Compliant
Day-Viz® Management System (patent pending)	
Battery	Nickel Metal Hydride (NiHM)- 14,000mAh
Battery Lifespan	Up to 5 years
Autonomy- Functionality without Charge	Up to 30 days in 24/7 operation
Flash Pattern	MUTCD Compliant
LED Type	High Power Luxeon- 1 watt
LED Life Expectancy	Over 100,000 hours
Warranty	
5 Years	
Smart Activation Options	
Dusk to dawn	
Vehicle detection activation (adjustable speed threshold)	





City Of Edgewood Council Agenda Summary Sheet

Subject: Discussion – 36th & Meridian Park Naming	Agenda Item #: 2.F
	For Agenda of: 2/16/2021
	Prepared by: Jeremy Metzler
Attachments (list): 1. Survey Monkey Results	
Approval of Materials: Jeremy Metzler Rachel Pitzel 2/11/2021 Dave Gray 2/11/2021 Daryl Eidinger 2/11/2021	Expenditure Required: TBD Amount Budgeted: N/A Timeline: 02/16/2021 SS 02/23/2021 RCM (Tentative)

Summary Statement:

With construction of this long-awaited community park underway, Council has been discussing the topic of naming the park. Reviewing Edgewood Municipal Code, the City's adopted Comprehensive Plan, and the City's Parks, Recreation and Open Space (PROS) Plan, Staff is unable to find any prescribed procedures for naming a new park.

The Parks and Recreation Advisory Board (PRAB) reviewed Council's list of names at their September 3, 2020 meeting, provided individual recommendations to staff following said meeting, and met again on September 30, 2020 to review and deliberate. The PRAB's recommended names were presented to Council on October 20, 2020, and based on the conversation that evening, staff posted an online survey soliciting the public's feedback. This survey was advertised on the City's website and in the quarterly magazine.

Attached are the results of the online survey. The PRAB reviewed these results at their January 7, 2021 meeting and moved to formally recommend the name of Edgewood Community Park to the City Council. Upon Council's direction, staff is prepared to bring a resolution forward for consideration and formal adoption.

Item History:

08/18/2020 SS
09/01/2020 SS
10/20/2020 SS

Recommended Action:

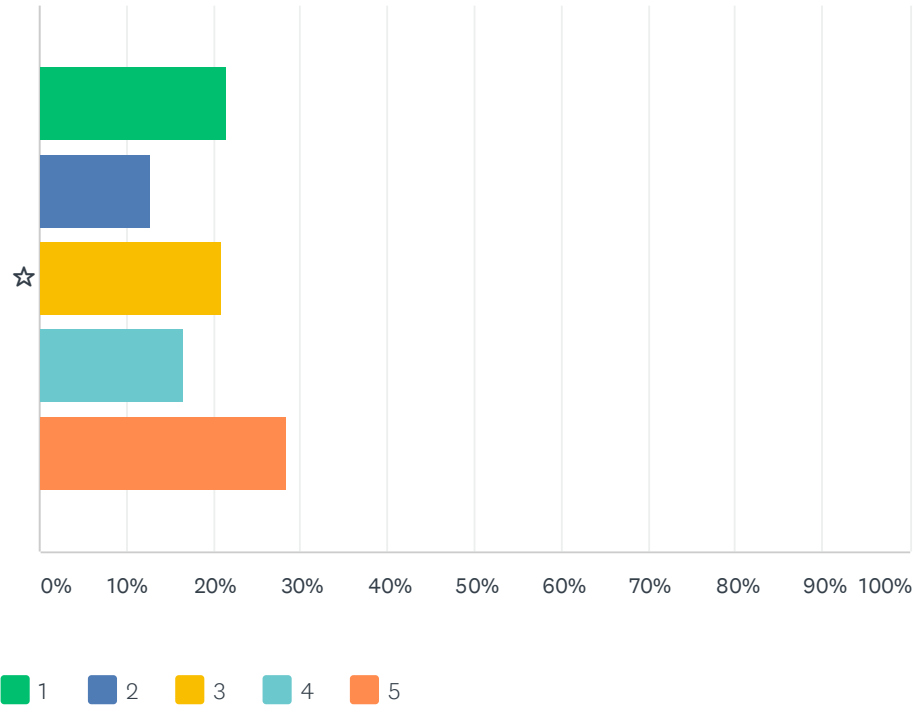
Hold a discussion and provide staff guidance regarding Discussion – 36th & Meridian Park Naming

Fiscal Note/Consideration:

Similar to other City parks, the proposed name will likely require appropriate signage. Design and pricing of said signage has not yet been prepared or investigated, and any associated costs are not included in the park construction contract.

Q1 Edgewood Community Park

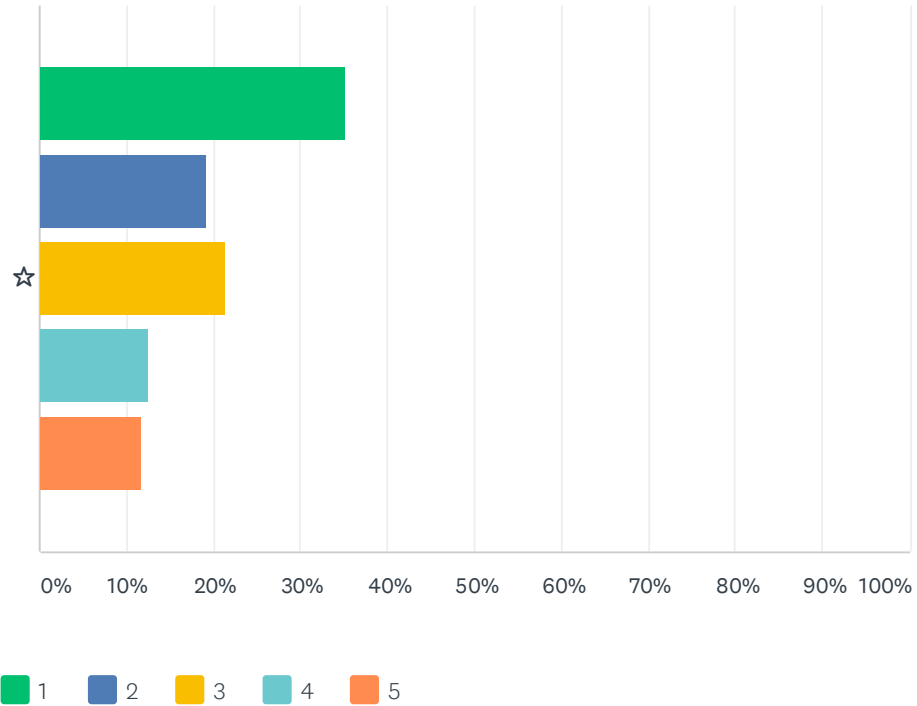
Answered: 345 Skipped: 16



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	21.45% 74	12.75% 44	20.87% 72	16.52% 57	28.41% 98	345	3.18

Q2 Edgewood Windmill Park

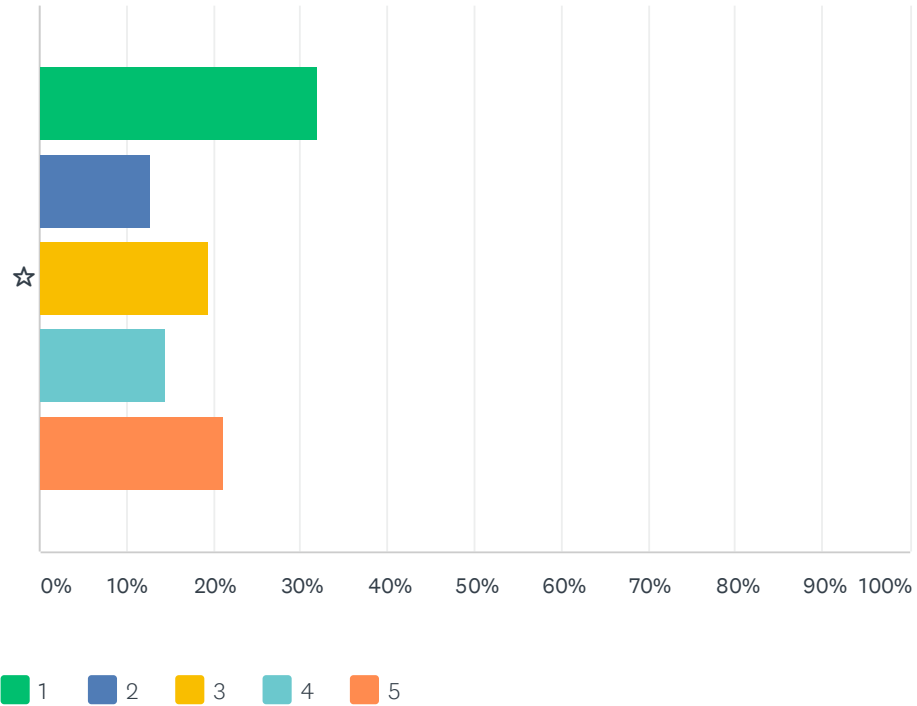
Answered: 342 Skipped: 19



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	35.09% 120	19.30% 66	21.35% 73	12.57% 43	11.70% 40	342	2.46

Q3 Windmill Park

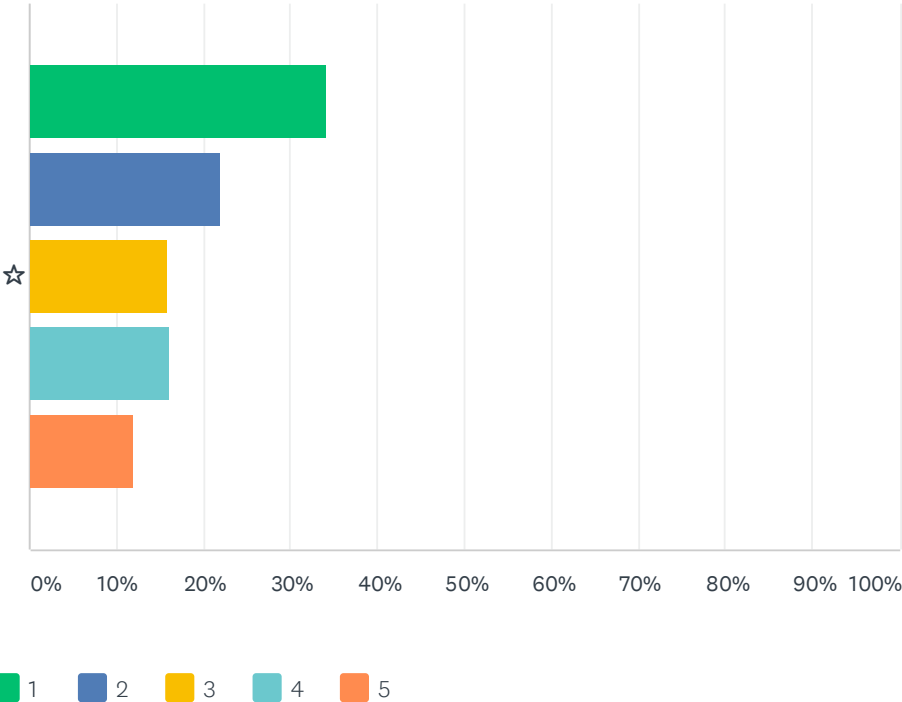
Answered: 344 Skipped: 17



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	31.98% 110	12.79% 44	19.48% 67	14.53% 50	21.22% 73	344	2.80

Q4 Mountain View Park

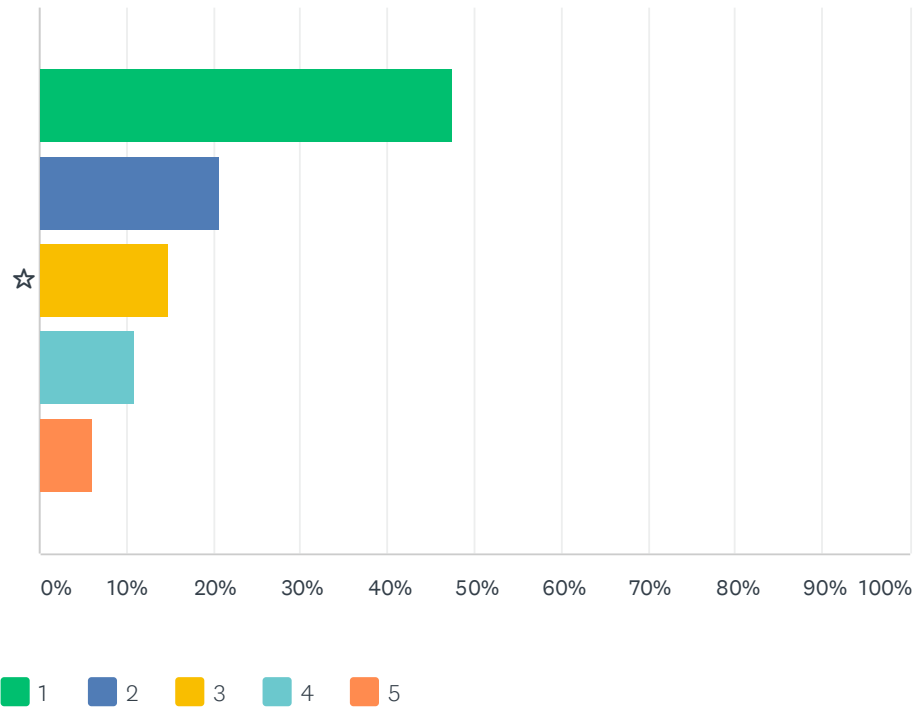
Answered: 346 Skipped: 15



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	34.10% 118	21.97% 76	15.90% 55	16.18% 56	11.85% 41	346	2.50

Q5 Mountain View Edgewood Park

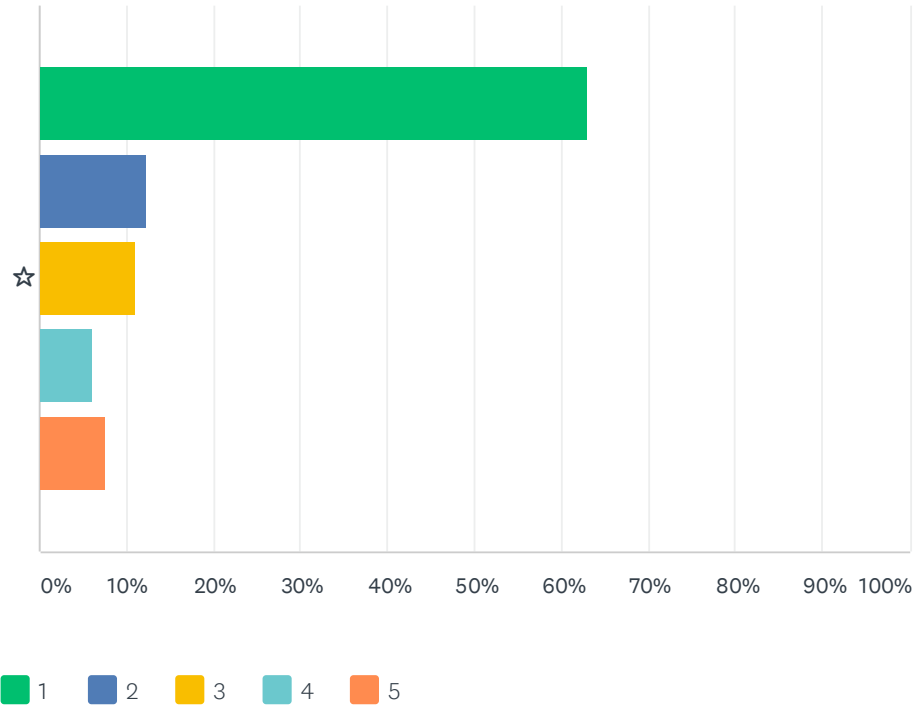
Answered: 343 Skipped: 18



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	47.52% 163	20.70% 71	14.87% 51	10.79% 37	6.12% 21	343	2.07

Q6 Hillcrest Park

Answered: 343 Skipped: 18



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	62.97% 216	12.24% 42	11.08% 38	6.12% 21	7.58% 26	343	1.83



City Of Edgewood Council Agenda Summary Sheet

Subject: Discussion – Resolution – City Logo and Usage Standards	Agenda Item #: 2.G
	For Agenda of: 2/16/2021
	Prepared by: Rachel Pitzel, Matthew Ray
Attachments (list): 1. Resolution New City Logo 2. Exhibit A_ edgewood_2020styleguide	
Approval of Materials: Rachel Pitzel, Matthew Ray Rachel Pitzel 2/11/2021 Dave Gray 2/11/2021 Daryl Eidingen 2/11/2021	Expenditure Required: N/A
	Amount Budgeted: N/A
	Timeline: 02/16/2021 - SS Discussion 02/23/2021 - RCM (Consent Agenda)

Summary Statement:

The existing city logo has been under review in recent years, and with the implementation of the new city website and the 25th Anniversary of the City of Edgewood, City Council, staff and the public have been involved in the selection of the new city logo that can serve as a unifying brand that generates a consistent identity for the future.

The adoption of the new city logo will ensure that branding and messaging of the City of Edgewood are consistent and of high quality.

Item History:

Recommended Action:

Fiscal Note/Consideration:

RESOLUTION NO. 21-XXX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EDGEWOOD, PIERCE COUNTY, WASHINGTON, ADOPTING THE NEW CITY LOGO AND USAGE STANDARDS

WHEREAS, the City logo is an identifying symbol for the City of Edgewood in various ways, such as on and in publications, letterhead, City property, official City documents; and other places; and

WHEREAS, the existing City logo has been under review in recent years, but a new official logo has not been formally selected or adopted by the governing body; and

WHEREAS, the City Council approved staff to create a positive image that can enhance communications and engage the community; and

WHEREAS, as part of that goal, a key initiative was to create a new City of Edgewood logo, a visible symbol that can serve as a unifying brand that generates a consistent identity for the future; and

WHEREAS, the City held an online design contest to solicit logo designs that incorporated characteristics or symbols of the City; and

WHEREAS, the entries were reviewed with input from the City Council, staff, and the public, and a final design was selected; and

WHEREAS, the City of Edgewood will be celebrating 25 years on February 28, 2021 and the City Council wishes to formally adopt the new City logo to commemorate this momentous occasion and to ensure that branding and messaging of the City of Edgewood are consistent and of high quality;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF EDGEWOOD, WASHINGTON, HEREBY RESOLVES AS FOLLOWS:

Section 1. City Logo and Usage Standards Adopted. The City Council hereby adopts the City of Edgewood logo and usage guidelines as depicted in Exhibit A, attached hereto and incorporated herein by this reference.

Section 2. Effective Date. This resolution will take effect immediately upon passage by the City Council.

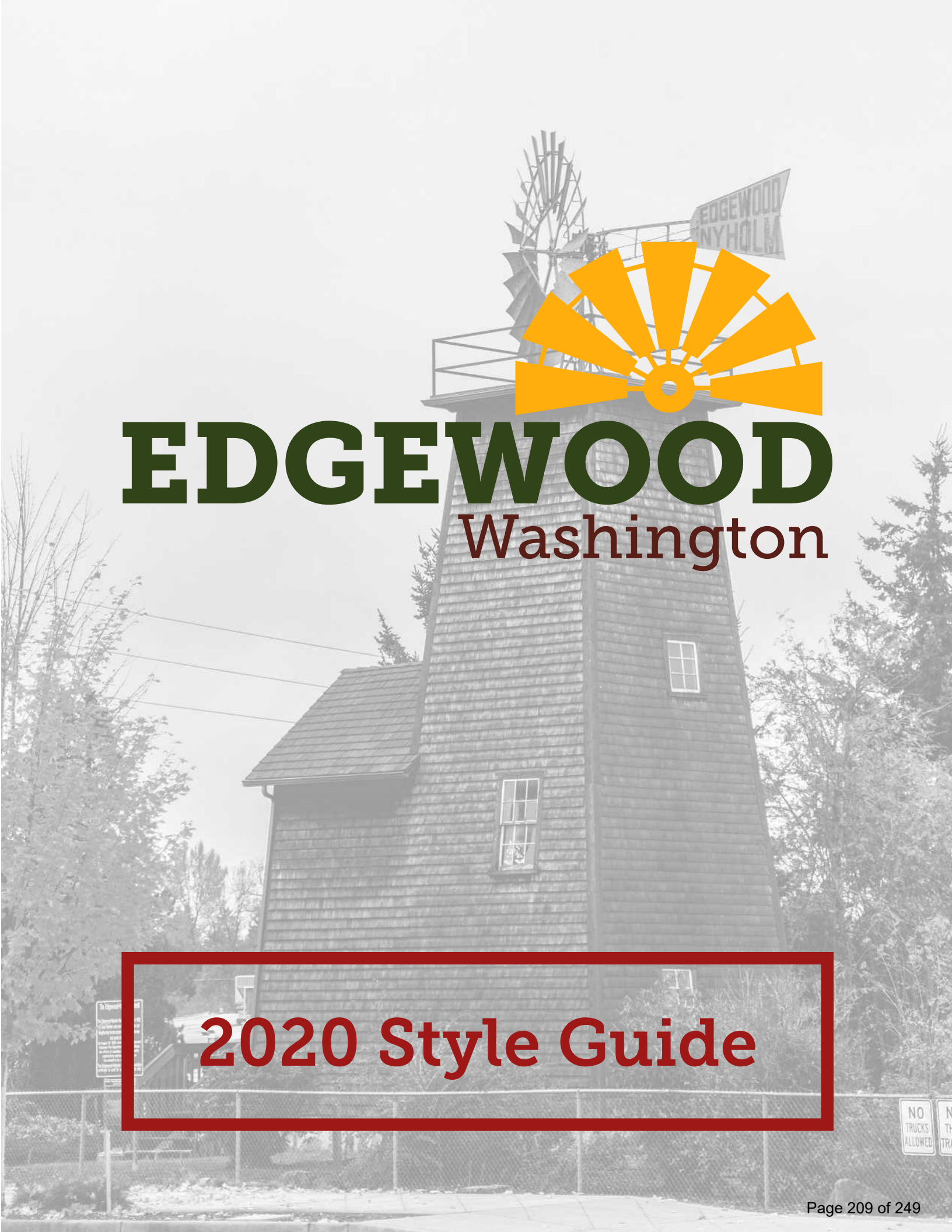
ADOPTED THIS 23RD DAY OF FEBRUARY, 2021

Daryl Eidinger, Mayor

ATTEST:

Rachel Pitzel, CMC
City Clerk

Exhibit A



EDGEWOOD

Washington

2020 Style Guide



The primary Edgewood logo colors are green, brown and yellow. These colors should be used anytime the logo is displayed on a white background. EDGEWOOD should always be written in capital letters using Museo Slab, 900 weight font. The state name underneath uses Museo Slab in 500 weight font. The logo elements should always be aligned to the right.

The Logo



When printing in multiple colors is cost prohibitive or not available (in the case of black and white printing), the logo may be printed in solid black.



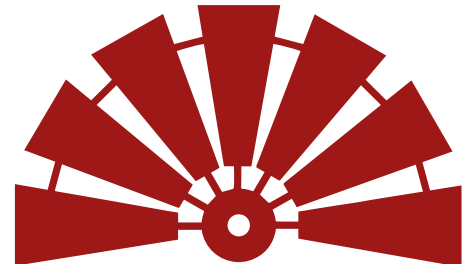
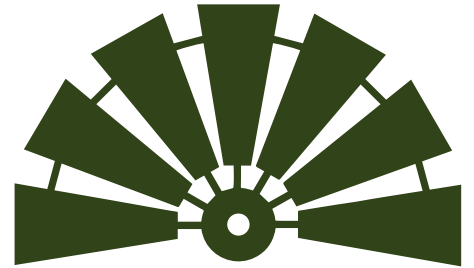
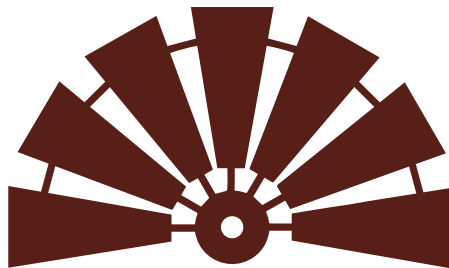
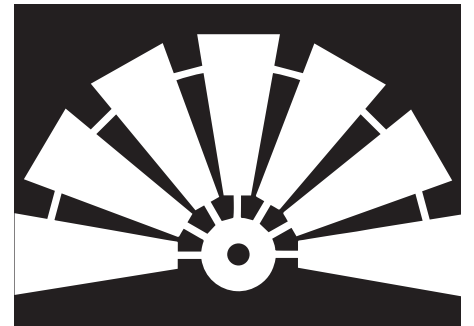
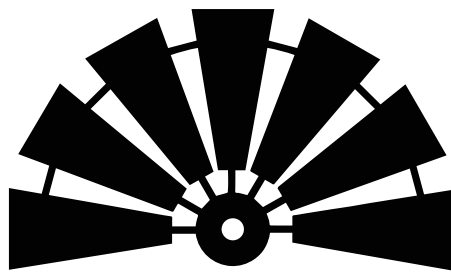
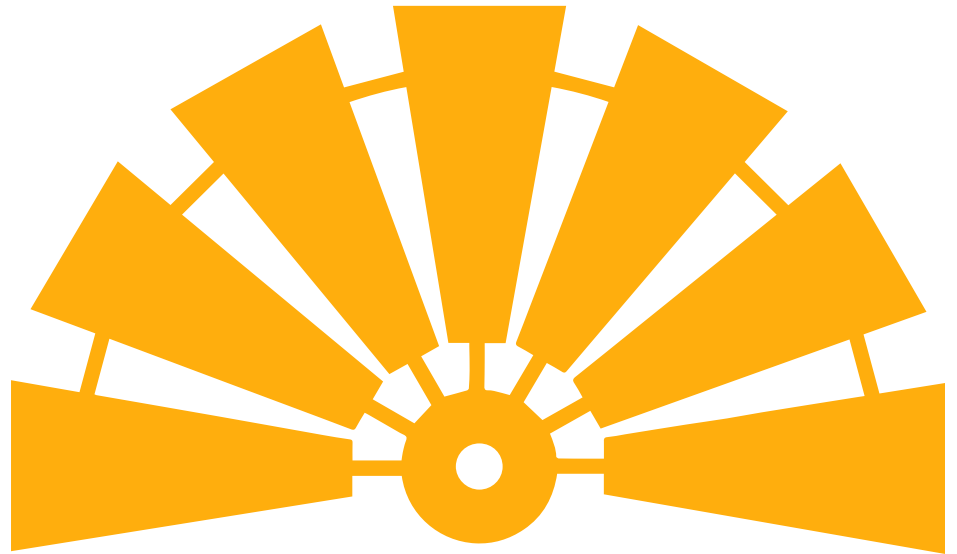
When printing on a dark or colored background, the logo should be displayed in white, with the same lettering as described above in the primary logo.



The logo should always be surrounded by one character of white space (equal to the size of one character in the Edgewood typography) to ensure optimal legibility and prominence.



When possible, the logo should be used in the original format using the correct colors. If space is an issue, or the logo is being used as a graphic element, the following variations are recommended/allowed.



Logo Variations

The Fonts

Museo Slab

for headings, titles, and logo text

100 | 300 | 500 | 700 | 900 | 1000

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
abcdefghijklm
nopqrstuvwxyz
1234567890

Aa

100 Lorem ipsum dolor sit amet, consectetur
300 Lorem ipsum dolor sit amet, consectetur
500 Lorem ipsum dolor sit amet, consectetur
700 **Lorem ipsum dolor sit amet, consectetur**
900 **Lorem ipsum dolor sit amet, consectetur**
1000 **Lorem ipsum dolor sit amet, consectetur**

Neue Haas Unica

for paragraphs, new articles, and other body text

Ultra Light | Thin | Light | Regular | Medium | Bold | Heavy | Black

ABCDEFGHIJ
KLMNOPQR
STUVWXYZ
abcdefghijklm
nopqrstuvwxyz
1234567890

Aa

Ultra Light Lorem ipsum dolor sit amet, consectetur
Thin Lorem ipsum dolor sit amet, consectetur
Light Lorem ipsum dolor sit amet, consectetur
Regular Lorem ipsum dolor sit amet, consectetur
Medium Lorem ipsum dolor sit amet, consectetur
Bold **Lorem ipsum dolor sit amet, consectetur**
Heavy **Lorem ipsum dolor sit amet, consectetur**
Black **Lorem ipsum dolor sit amet, consectetur**



Edgewood has 3 prominent style colors. These are the colors visible in our main logo.



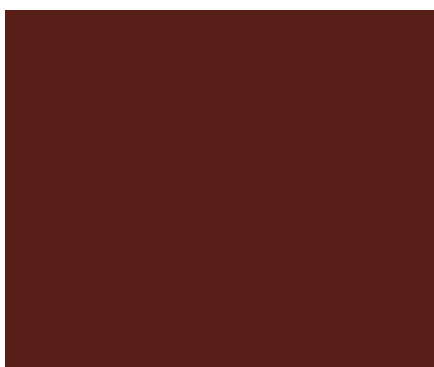
HEX: FFAE0D
RGB: 255, 174, 13
HSB: 40, 95, 100
CMYK: 0, 31, 94, 0



HEX: 314319
RGB: 49, 67, 25
HSB: 86, 63, 26
CMYK: 26, 0, 62, 73

The Colors

There are also 3 accent colors that can be used as part of the Edgewood style:



HEX: 581F18
RGB: 88, 31, 24
HSB: 7, 73, 35
CMYK: 0, 64, 72, 65



HEX: 9E1818
RGB: 158, 24, 24
HSB: 0, 85, 62
CMYK: 0, 84, 84, 38



HEX: F75C03
RGB: 247, 92, 3
HSB: 22, 99, 97
CMYK: 0, 62, 98, 3



City Of Edgewood Council Agenda Summary Sheet

Subject: Discussion – Resolution – Council Rules of Procedure Amendments to provide for Council Liaisons to COE Boards and Commissions and Virtual Meetings	Agenda Item #: 2.H
	For Agenda of: 2/16/2021
	Prepared by: Rachel Pitzel
Attachments (list): 1. Resolution Council Liaisons 2. DRAFT_CC Rules of Procedure Amendments_02162021	
Approval of Materials: Rachel Pitzel Rachel Pitzel 2/10/2021 Dave Gray 2/11/2021 Daryl Eidinger 2/11/2021	Expenditure Required: N/A Amount Budgeted: N/A Timeline: 02/16/2021 - SS Discussion 02/23/2021 - RCM (Consent Agenda)

Summary Statement:

The City has established advisory bodies, committees, and boards for various purposes, such as the Planning Commission, Economic Development and Advisory Board, and the Parks and Recreation Advisory Board, generally comprised of members of the community.

City Council finds that it would be helpful to have a Council liaison serve in an advisory capacity on these various city and regional boards and commissions and report back to the Council as a whole.

It has been determined, that to provide guidance and process, amending Council Rules of Procedures to outline a selection process and responsibilities for Council liaisons is in order.

During the modification process, it was also apparent that amendments to Section 10.3 and 10.3(a) should reflect some temporary edits to add "virtual" language to these sections. Once the legislature has adopted their amendments to the OPMA related to virtual attendance, Council may want to look at adopting other rules at that time.

Item History:

Recommended Action:

Hold a discussion and provide staff guidance regarding amending the Council Rules of Procedure to provide for Council Liaisons on City and Regional Boards, Committees, and other Bodies, and to provide for virtual attendance at Council meetings.

Fiscal Note/Consideration:

N/A

RESOLUTION NO. 21-XXX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EDGEWOOD, PIERCE COUNTY, WASHINGTON, AMENDING THE COUNCIL RULES OF PROCEDURE TO PROVIDE FOR COUNCIL LIAISONS ON CITY AND REGIONAL BOARDS, COMMITTEES, AND OTHER BODIES, AND TO PROVIDE FOR VIRTUAL ATTENDANCE AT COUNCIL MEETINGS

WHEREAS, the City has established advisory bodies, committees, and boards for various purposes, such as the Planning Commission, Economic Development and Advisory Board, and the Parks and Recreation Advisory Board, generally comprised of members of the community; and

WHEREAS, along with City-specific boards and committees, various regional bodies exist that address issues of regional significance and interest, such as the Pierce County Regional Council and WRIA 10 Watershed Restoration and Enhancement Committee; and

WHEREAS, the City Council finds that it would be helpful to have a Council liaison serve in an advisory capacity on these various city and regional boards and commissions and report back to the Council as a whole; and

WHEREAS, the Council desires to amend its Council Rules of Procedures to outline a selection process and responsibilities for Council liaisons; and

WHEREAS, in addition, as a result of the COVID-19 pandemic and the restrictions on in-person meetings, the City has a need to update its Rule and Procedures to allow for virtual attendance at Council meetings;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF EDGEWOOD, WASHINGTON, HEREBY RESOLVES AS FOLLOWS:

Section 1. Council Rules of Procedure Amended. The Council Rules of Procedure are hereby amended as shown in Exhibit A, attached hereto and incorporated herein by this reference.

Section 2. Effective Date. This resolution will take effect immediately upon passage by the City Council.

ADOPTED THIS 23RD DAY OF FEBRUARY, 2021

Daryl Eidinger, Mayor

ATTEST:

Rachel Pitzel, CMC
City Clerk

Exhibit A



**CITY OF EDGEWOOD
COUNCIL RULES OF PROCEDURE**

Amended ~~August 13, 2019~~ February 23, 2021

Commented [AMS1]: update

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Section 7.	Council Meeting Staffing
Section 8.	Council Meetings
Section 9.	Agenda Preparation
Section 10.	Council Discussion
Section 11.	Comments, Concerns and Testimony to Council
Section 12.	Motions
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Section 17.	<u>Council Committee Liaisons, Service on Regional Boards, and Representation on Behalf of the City</u>
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SECTION 1. AUTHORITY; ENFORCEMENT; CONSTRUCTION

- 1.1 The Edgewood City Council hereby establishes the following rules for the conduct of Council meetings, proceedings, and business. These rules shall be in effect upon adoption by the Council and until such time as they are amended or new rules are adopted. These rules shall be construed in accordance with applicable state law. If any provision of these rules irreconcilably conflicts with any applicable state law provision, the state law provision shall control to the extent of such conflict.
- 1.2 These rules are for the sole use and convenience of the City Council and Mayor, and may only be enforced thereby. Nothing in these rules shall be construed as creating any enforceable right, entitlement and/or cause of action in or for any third party.

SECTION 2. ORGANIZATION

- 2.1 **SWEARING IN OF NEW COUNCILMEMBERS** – New Councilmember(s) shall be sworn in, according to the requirements of State law as they currently exist or may hereafter be amended. State law currently allows new Councilmembers to be sworn in (a) Up to ten days prior to the scheduled date of assuming office, including just prior to commencing the first meeting in which the newly elected Councilmember(s) will assume office; or (b) At the last Regular Meeting of the City Council held before the beginning of the year in which Councilmember-elect is to assume office. Under current State law, the oath may be administered and certified by “any officer or notary public who administers oaths, without charge therefore.” This includes but is not limited to, the City Clerk and any judicial officer.
- 2.2 **VACANCIES OF OFFICE** - A vacancy of office will occur upon the death or resignation of the incumbent, the incumbent ceasing to be a legally registered voter of the city, the incumbent's conviction of a felony or other offense involving a violation of his or her official oath, and other events as set forth in RCW 35A.12.060 and RCW 42.12.010. If a vacancy should occur, the remaining members of the City Council shall appoint a qualified person to fill the vacant position pursuant to the provisions of 42.12.070 within ninety (90) days of the occurrence of the vacancy. Councilmember appointees under this section shall be sworn in prior to assuming their seat on the Council.

The following procedures are intended to provide guidance to the Council when a Councilmember position becomes vacant before the expiration of the official's elected term of office. Provided, the Council in its discretion may specify another lawful process for filling any vacancy.

- 2.3 **APPOINTMENT PROCESS**
 - (1) The Council shall direct staff to begin the Councilmember appointment process and establish an interview and appointment schedule so that the position is filled at the earliest opportunity.

- (2) The City Clerk's office shall prepare and submit a display advertisement to the City's official newspaper and provide courtesy copies to all other local media outlets. The advertisement will announce the vacancy consistent with the requirements necessary to hold public office; specify that the applicant must be a registered voter of the City and have a one (1) year residency in the City. This display advertisement shall be published once a each week for two (2) consecutive weeks. This display advertisement shall contain other information including, but not limited to, time to be served in the vacant position, election and salary information, Councilmember authority and duties, the deadline date and time for submitting applications, interview and appointment schedules, and such other information that the Council deems appropriate.
- (3) The City Clerk's Office shall prepare an application form, which requests appropriate information for Council consideration of the applicants. Applications will be available at the City offices and such other locations that the Council deems appropriate.
- (4) Applications received by the deadline date and time will be copied and circulated by the City Clerk's office to the Mayor and Council. Packets may also contain additional information received such as endorsements, letters of reference and other pertinent materials.
- (5) The City Clerk's office shall publish the required public notice(s) for the meeting scheduled for interviewing applicants for consideration to the vacant position. This meeting may be a regularly scheduled Council meeting, or a special session Council meeting.
- (6) The City Clerk's office shall notify applicants of the location, date and time of Council interviews.
- (7) Prior to the date and time of the interview meeting, the Mayor shall accept one interview question from each Councilmember.

2.4 INTERVIEW MEETING - Each interview of an applicant/candidate shall be no more than thirty (30) minutes in length as follows:

- (1) The applicant shall present his or her credentials to the Council. (10 minutes).
- (2) The Council shall ask the predetermined set of questions, which must be responded to by the applicant. Each applicant will be asked and will answer the same set of questions, and will have two (2) minutes to answer each question. (14 minutes).
- (3) An informal question and answer period in which Councilmembers may ask and receive answers to miscellaneous questions. (10 minutes).
- (4) The applicants' order of appearance will be determined by a random lot drawing performed by the City Clerk.
- (5) The Council may reduce the thirty (30) minute interview time if the number of applicants exceeds six (6) candidates or, alternatively, the Council may elect not to interview all of the applicants if the number exceeds six (6) candidates. The decision as to which applicants to interview will be based on the information contained in the application forms.

- 2.5 VOTING - Upon completion of the interviews, Councilmembers may convene into executive session to discuss the qualifications of the applicants. However, all interviews, nominations and votes taken by the Council shall be in open public session.
- (1) The Mayor shall ask for nominations from the Councilmembers.
 - (2) After a nomination and second has been received, the City Clerk shall proceed with a roll-call vote.
 - (3) Balloting will continue until a nominee receives a majority vote.
 - (4) At anytime during the balloting process, the Council may postpone balloting until a date certain or regular Council meeting if a majority vote has not been received.
 - (5) Nothing in this policy shall prevent the Council from reconvening into executive session to further discuss the applicant/candidate qualifications.
 - (6) The Mayor shall declare the nominee receiving the majority vote as the new Councilmember and the Clerk shall swear him/her into office at the earliest opportunity, no later than the next regularly scheduled Council meeting.
 - (7) If the Council does not give a majority vote within ninety (90) days of the declared vacancy, the RCW delegates appointment powers to Pierce County.

SECTION 3. MAYOR AND DEPUTY MAYOR

- 3.1 Presiding Officer Duties. The Mayor shall preside at all meetings of the Council, and in the absence of the Mayor, the Deputy Mayor will act in that capacity. If both the Mayor and Deputy Mayor are absent, the Councilmembers present shall elect one of its members to serve as Presiding Officer until the return of the Mayor or Deputy Mayor.

The responsibilities of the Mayor, Deputy Mayor or Presiding Officer shall be as follows:

- (1) He or she shall preserve order and decorum in the Council chambers;
- (2) He or she shall observe and enforce all procedural rules adopted by the Council;
- (3) He or she shall decide all questions on order in accordance with these rules, subject to appeal by any Councilmember;
- (4) He or she recognize Councilmembers in the order in which they request the floor (Councilmembers shall wait to be recognized before speaking);
- (5) He or she shall state the applicable public hearing procedures before each public hearing;
- (6) He or she shall announce executive sessions held during regular or special Council meetings;
- (7) He or she shall indicate the names of the Councilmembers making the motion and second;
- (8) He or she shall summarize consensus at the conclusion of discussions when the Council concurs or agrees to an item that does not require a formal motion;
- (9) He or she (or his/her designee) shall read the title of the ordinance prior to voting;
- (10) He or she shall appoint Councilmembers to serve on ad hoc committees as deemed necessary;

- (11) He or she will determine ongoing dedicated schedules for regular study sessions, special Council meetings, executive sessions;
 - (12) He or she will approve the Council agenda; and
 - (13) Mayor may send issues directly to a Council study session for review in lieu of or prior to being referred to a regular Council meeting;
- 3.2 Mayoral Tie-Breaking Authority and Veto Power. Pursuant to Chapter 35A.12 RCW, the Mayor shall have the following authority with respect to voting and the veto of ordinances:
- (1) The Mayor shall have a vote only in the case of a tie in the votes of the Councilmembers with respect to matters other than the passage of any ordinance, grant, or revocation of franchise or license, or any resolution for the payment of money.
 - (2) The Mayor shall have the power to veto ordinances passed by the Council and submitted to him or her as provided in Chapter 35A.12 RCW. Every ordinance which passes the Council in order to become valid must be presented to the Mayor; if the Mayor approves it, he or she shall sign it, but if not, the Mayor shall return it with his or her written objections to the Council and the Council shall cause his or her objections to be entered at large into the meeting minutes and proceed to a reconsideration thereof. If upon reconsideration a majority plus one of the whole Council, voting upon a call of ayes and nays, favor its passage, the ordinance shall become valid notwithstanding the Mayor's veto. If the Mayor fails for ten days to either approve or veto an ordinance, it shall become valid without his or her approval.
- 3.3 Mayor's Statutory Authority and Ceremonial Duties of Mayor.
- (1) The Mayor's duties and authority are as set forth in RCW 35A.12.100 and .090, as well as other statutes relating to Mayors in cities organized under the Optional Municipal Code (Title 35A RCW).
 - (2) The Mayor shall make an annual State of the City report during a regularly scheduled Council meeting.
 - (3) The Mayor shall represent the City at functions and meetings with other jurisdictions/organizations

SECTION 4. PRO TEMPORE AND DEPUTY MAYOR APPOINTMENTS

- 4.1 Biennially at the first meeting of the Council, or periodically thereafter, the Council may designate a Councilmember as Mayor Pro Tempore or Deputy Mayor for such period as may be specified by the Council. The Deputy Mayor shall serve in the absence or temporary disability of the Mayor.
- 4.2 Alternatively, the Council may, as the need may arise, appoint any qualified person to serve as Mayor Pro Tempore in the absence or disability of the Mayor.
- 4.3 Appointment of a Councilmember to preside over a meeting shall not in any way abridge his or her right to vote on matters coming before the Council at such meeting.

- 4.4 In the event of the extended excused absence or disability of a Councilmember, the remaining members by majority vote may appoint a Councilmember Pro Tempore to serve during the absence or disability.

SECTION 5. COUNCIL AUTHORITY AND COUNCIL RELATIONS WITH CITY STAFF

- 5.1 The authority of the City Council is set forth in RCW 35A.11.020 and other provisions in Title 35A RCW.
- 5.2 There will be mutual respect from both City staff and Councilmembers of their respective roles and responsibilities when, and if, expressing criticism in a public meeting.
- 5.3 City staff will acknowledge the Council as policy makers
- 5.4 Councilmembers will acknowledge City staff as administering the Council's policies.
- 5.5 All written informational material requested by individual Councilmembers shall be submitted by City staff, after approval of the Mayor, to all Councilmembers with a notation indicating which Councilmember requested the information.
- 5.6 Councilmembers shall not attempt to coerce or influence City staff in the selection of personnel, the awarding of contracts, the selection of consultants, the processing of development applications or the granting of City licenses or permits.
- 5.7 The Council shall not attempt to change or interfere with the operating rules and practices of any City department in derogation of the Mayor's statutory authority.
- 5.8 Mail that is addressed to the Mayor and Councilmembers shall be copied and circulated by the City Clerk as soon as practicable after it arrives.
- 5.9 The City Clerk shall not open mail addressed to individual Councilmembers if it is marked personal and/or confidential.

SECTION 6. CITY ADVISORY BODIES

- 6.1 Every advisory body, when it is formed, will have a specific statement of purpose and function, which will be re-examined periodically by the Council to determine its effectiveness. This statement of purpose is made available to all citizen members when they are appointed.
- 6.2 The Council may dissolve any advisory body that, in the Council's opinion, has completed its working function or for any other reason.
- 6.3 Citizen board, commission, committee, and task force members shall be selected in accordance with the following procedures, or at the Council's discretion, any other lawful process:
- A) The City Council, as a Committee of the Whole, shall establish an application packet including appropriate disclosure of interest forms and a prescreening questionnaire, containing questions specific to each individual

group and the charge of that group, to be used in ranking candidates prior to scheduling interviews.

- B) A citywide recruitment process shall be initiated seeking applicant(s). Vacancies are advertised so that any interested citizen may submit an application. Applicants are required to be citizens of the City. Councilmembers are encouraged to solicit applications from qualified citizens. Applications shall be available from the office of the City Clerk, the City's website and shall be required to be submitted within the advertised deadline in order to be considered for appointment during each application period.

Existing board, commission, committee and task force members wishing reappointment may be exempted from submitting a new application provided they notify the City Clerk in writing within the advertised deadline period of their desire to be considered for reappointment based on a previous application already on file with the City Clerk. They may also choose to complete a new application or letter of interest with updated information they wish to be considered by Council.

- C) The City Council, as a Committee of the Whole, shall review and rank application packets to aid the Mayor in selecting candidates to interview. Should there be four or fewer applicants for any one position, all candidates shall be interviewed by the Council and the prescreening of the candidates shall not be required.
- D) The City Council, as a Committee of the Whole, shall interview candidates in a panel format, with all candidates participating in the interview session concurrently. Councilmembers are encouraged to develop a short list of questions they would like to ask of the candidates. The Mayor shall call on each Councilmember present to ask questions from their prepared list of the candidate(s) of their choice. The same questions may or may not be asked of every candidate. Depending on the number of candidates to be interviewed and in the interest of completing the interview session(s) in a timely manner, the Mayor may limit the number of questions asked by each Councilmember. If the number of questions is to be limited, the Mayor shall announce the number of questions each Councilmember may ask prior to the commencement of the interviews.
- E) Upon completing the interviews, each Councilmember will announce his/her ranking of the candidates interviewed and the City Clerk or designee shall tally the Council rankings. The results of the rankings shall be provided to the Council and shall be used by the Mayor for consideration in the appointment process. At the Mayor's discretion, the appointment process may take place at a regularly scheduled Council meeting or a special Council meeting following the interview session.
- F) The Mayor shall appoint or reappoint and the Council shall confirm or deny the appointments proposed by the Mayor.

G) Should the Council deny any or all of the Mayoral appointments, the Mayor may submit appointments again at the next regular Council meeting or a special Council meeting scheduled for that purpose.

H) Application materials for candidates interviewed and ranked, yet not appointed, will remain in a candidate pool for six months. In the event vacancies arise during that six month period, the Mayor may appoint the next highest ranked candidate(s) from the pool to fill such vacancies. These appointments are subject to confirmation by the full Council at a regular or special Council meeting. Once this six month period has passed, a citywide recruitment process shall be initiated, as detailed above, to fill any vacancies that may occur.

SECTION 7. COUNCIL MEETING STAFFING

- 7.1 If a City Administrator has been appointed, he/she shall attend all meetings of the Council unless excused. When the City Administrator has an excused absence, the Mayor shall designate another staff member to attend the meeting.
- 7.2 The City Attorney shall attend all meetings of the Council unless excused and shall, upon request, give an opinion, either written or oral, on legal questions. The City Attorney shall act as the Council's parliamentarian.
- 7.3 The City Clerk or designee shall attend regular, special and study meetings of the Council; keep the official journal (minutes) and perform such other duties as may be needed for the orderly conduct of the meeting.

SECTION 8. COUNCIL MEETINGS

- 8.1 Council's regular meetings will be held the second and fourth Tuesday of each month in the City Council Chambers of Edgewood City Hall, located at 2224 104th Avenue East. Regular Council meetings will begin at the hour of 7:00 PM, and will adjourn no later than 10:00 PM. To continue past this time of adjournment, a majority of a quorum of the Council must concur.
- 8.2 Council's study sessions will be held every Tuesday of each month upon which a regular meeting pursuant to Section 2.1 is not scheduled. Study Sessions will be held in the City Council Chambers of Edgewood City Hall, located at 2224 104th Avenue East. Study Sessions will begin at the hour of 7:00 PM, and will adjourn no later than 9:00 PM. To continue past this time of adjournment, a majority of a quorum of the Council must concur. Council study sessions will be for the purpose of reviewing forthcoming programs, issues, and policies, receiving progress reports on current programs or projects, or receiving other similar information. Council study sessions shall be considered regular meetings for purposes of Chapter 42.30 RCW, but the Council will typically not take binding or final action on behalf of the City during a study session. Except for informal direction to staff, Council decisions and/or final actions on any matter will be scheduled for a regular or Special Council meeting.

- 8.3 If any Tuesday on which a meeting is scheduled falls on a legal holiday, the meeting shall be held on the next business day unless cancelled and/or rescheduled for a different date as a special meeting.
- 8.4 Information will be available to the public at each meeting stating a summary of the relevant content of Section 5 (audience comment).
- 8.5 The Mayor will state the applicable public hearing procedures before each public hearing.
- 8.6 Staff/consultants will provide brief information and respond to questions by Councilmembers or as requested by the Mayor.
- 8.7 Citizen comment and public hearing sign-up sheets will be available at each regular Council meeting for the use of those citizens wishing to address the Council.
- 8.8 TYPES OF MEETINGS
- (1) Regular - the Council meeting held on the second and fourth Tuesday of each month.
 - (2) Special Meetings (see, RCW 42.30.080) - any Council meeting other than the regular Council or Study Session meeting with at least 24 hours advance notice. A Special Council meeting may be scheduled by the Mayor or at the request of any four (4) Councilmembers.
 - (3) Study Session - work sessions of the Council where no final, binding action is taken.
 - (4) Emergency Meetings (see, RCW 42.30.080(4)) - a Special Council meeting called without 24-hour notice. An Emergency meeting deals with an emergency involving injury or damage to persons or property or the likelihood of such injury or damage, when time requirements of a 24-hour notice would make notice impractical and increase the likelihood of such injury or damage. Emergency meetings may be called by the Mayor. The minutes will indicate the reason for the emergency.
 - (5) Executive Session - a portion of a Council meeting that is closed except to the Council, the Mayor, staff members, consultants and/or other persons authorized by the Mayor. The public is excluded from attendance. Executive Sessions may be held during Regular or Special Council meetings and will be announced by the Mayor. Executive Session subjects are limited to considering matters authorized by applicable state law, including without limitation RCW 42.30.110 and RCW 42.30.140. Executive Sessions may be set as special meetings. Before convening an Executive Session, the Mayor shall announce the purpose of the meeting and the anticipated time when the session will be concluded. Should the Executive Session require more time, a public announcement shall be made that the Executive Session is being extended.
- 8.9 ORDER OF REGULAR COUNCIL MEETING AGENDA
- (1) Call Meeting To Order. The Mayor calls the meeting to order.

(2) Pledge of Allegiance. The Mayor designates a Councilmember or an invited guest to lead the flag salute.

(3) Roll Call. The City Clerk will call roll, announce the attendance of Councilmembers, indicate any Councilmember who is not in attendance, and indicate whether or not the absence of any Councilmember has been excused.

(4) Public Hearing. Any public hearing(s) on the agenda shall be conducted in accordance with the provisions of Section 12 and any other applicable procedures established by state law or local regulations.

(5) Audience Comment. In accordance with Section 5, members of the audience may address the City Council on any item that is not on the agenda for that meeting during the Audience Comment portion of the meeting.

(6) Proclamations and Presentations. Proclamations (official pronouncements and statements of recognition) from the Mayor and/or City Council and presentations from invited guests shall occur during this portion of the meeting.

(7) Mayor's Report. The Mayor or his/her designee(s) shall update the City Council concerning current issues and items of Council interest.

(8) Consent Agenda. The consent agenda is comprised of routine, noncontroversial items that may be approved collectively by one motion. Any Councilmember may remove any item from the consent agenda for separate discussion and action.

(9) Council Business (Old/New). Old business includes items that were continued or left unfinished from a previous agenda and second readings, if any, of ordinances. New business involves the formal introduction of items to the Council. Councilmembers shall act on the underlying proposal, direct staff to further review the proposal, refer the proposal to Council study session, or schedule the proposal for a second reading. Council discussion, debate and audience comments is allowed for both old and new business.

(10) Council Comments. Individual Councilmembers shall update the Council concerning current issues and items of Council interest.

(11) Adjournment. The meeting shall be formally closed upon adjournment.

SECTION 9. AGENDA PREPARATION

- 9.1 As required by applicable state law, the City Clerk will prepare and circulate an agenda for each Council meeting specifying the time and place of the meeting, and set forth a brief general description of each item to be considered by the Council. The agenda is subject to approval by the Mayor.

- 9.2 An item, other than a reconsideration item, may be placed on a Council meeting agenda by any of the following methods:
- (1) A majority vote of the Council;
 - (2) Council consensus;
 - (3) By any two (2) Councilmembers; and/or
 - (4) By the Mayor.
- 9.3 An item may be placed on a regular Council meeting agenda after the agenda is closed and the notice issued if the Councilmember or Mayor explains the necessity and receives a sufficient vote of the Council on a motion to suspend the Council Rules of Procedures to add the item at a meeting.
- 9.4 Some agenda items may be listed on the agenda for a time certain. Such listing will mean that an item will be heard as soon as reasonably possible after the specified time.
- 9.5 The City Clerk will endeavor to schedule sufficient time between public hearings and other scheduled items so the public is not kept unduly waiting, and so the Council will have sufficient time to hear testimony and to deliberate matters among themselves.
- 9.6 Legally required and advertised public hearings will have a higher priority over other time-scheduled agenda items, which have been scheduled for convenience rather than for statutory or other legal reasons.
- 9.7 Agenda items that are continued from one meeting to another will have preference on the subsequent agenda to the extent possible.
- 9.8 Agenda packets will be finalized by the end of the business day on the Friday preceding the regular Council meeting. Agenda submissions will be accepted until 2:00 p.m. on the Thursday preceding the Friday packet distribution day.
- 9.9 All agenda items packet reports will be in the format provided by the City Clerk's office.
- 9.10 The Council may use the agenda bill "Recommendation" language for making a motion.

SECTION 10. COUNCIL DISCUSSION

- 10.1 Councilmembers shall observe standard principles of decorum, courtesy and professionalism while addressing each other, staff members, and members of the public.
- 10.2 The Mayor has the authority to rule on questions of order. If the Mayor rules a Councilmember's comments to be out of order, the Councilmember may explain why he or she believes the comments are not out of order. The Mayor will either rescind or confirm the ruling. If confirmed, the Councilmember shall not continue comment in the manner ruled out of order.

If that Councilmember or any other Councilmember disagrees with the Mayor's ruling, they can appeal the point of order. The question is then put to the Council to confirm or deny the Mayor's ruling and whether the Councilmember shall continue comment.

- 10.3 From time to time, a Councilmember may not be able to be physically present at a regular Council meeting, but will want to be involved in the discussion and/or decision on a particular agenda item. In such circumstances, Councilmembers may attend by telephone or other virtual means, such as through web conferencing. Adequate notice must be given if special access considerations are needed to allow telephone hookup in time for the main agenda. No teleconference participation for voting purposes shall be allowed for public hearings or any quasi-judicial proceedings. The procedure and guidelines for permitting a Councilmember to attend a Council meeting via speakerphone or other virtual means are as follows:

A. VIRTUAL AND TELEPHONIC PARTICIPATION

Attendance via speakerphone/teleconferencing is allowed whenever physical attendance is restricted or impossible. Under other circumstances, virtual or telephonic attendance should be the rare exception, not the rule, and is should be limited to two times per year per Councilmember. Examples of situations where teleconferencing would be appropriate include, but are not limited to:

- Teleconferencing may only be used if a quorum of the Council is physically present for the meeting, with the exception of occasions when an agenda item is time sensitive and teleconferencing is needed for a quorum;
- An agenda item is of very high importance to the Councilmember that cannot be physically present;
- It is important for all Councilmembers to be involved in a decision, but one Councilmember is unable to be physically present;

B. ATTENDANCE; PROCEDURE

1. The Councilmember attending via speakerphone virtually or telephonically:
 - a. must be able to hear the discussion on the agenda item taking place in the Council chambers; and
 - b. must be able to be heard by all present in the Council chambers.
2. When the particular agenda item is ready to be discussed, the Mayor should state for the record: The meeting minutes should reflect whether a councilmember(s) is appearing by telephone or virtually, unless the minutes reflect that the entire meeting was held virtually.
 - a. Let the record reflect that Councilmember _____ is attending via speakerphone for Agenda Bill _____, relating to _____.

- b. ~~Councilmember _____, can you hear me? [There must be a clearly audible response in the affirmative.]~~
- c. ~~Councilmember _____, please confirm that no one else will be present in the room with you during this teleconferencing session. [There must a clearly audible response in the affirmative.]~~
- d. ~~Let the record reflect that Councilmember _____, who is teleconferencing to participate in the proceedings related to Agenda Bill _____, can be heard by all present in the Council chambers and no one else will present in the room with him/her during with this teleconferencing session.~~
- 3. ~~Upon conclusion of the particular agenda item, the Mayor, if the Mayor is not physically present) should state:~~
 - a. ~~Councilmember _____, discussion on Agenda Bill _____ has concluded. Thank you for your attendance via speakerphone. The telephone connection will now be terminated. [Connection should be terminated at this time.]~~
 - b. ~~Let the record reflect that the teleconferencing session with Councilmember _____'s has been terminated. Next on the agenda is ...~~

SECTION 11. COMMENTS, CONCERNS AND TESTIMONY TO COUNCIL

- 11.1 During the Audience Comment portion of the meeting, members of the public may comment on any subject relating to the City of Edgewood and/or the Edgewood community that is not on the agenda for that meeting, except: (i) comments related to a pending quasi-judicial matter, and (ii) comments prohibited by state law.
- 11.2 Members of the public may also comment up to three (3) minutes on individual agenda items at designated times during any regularly scheduled Council meeting prior to Council action on that item. These agenda items include, but are not limited to, ordinances, resolutions and old and new business issues.
- 11.3 Comments made on behalf of a group or organization will be limited to five (5) minutes in duration. Representation on behalf of a group or organization will be considered recognized for the purpose of Audience Comment if the group or organization notifies the City Clerk at least 24 hours in advance of the meeting.
- 11.4 Persons addressing the Council, who are not specifically scheduled on the agenda, will be requested to step up to the podium and provide their name for the record.
- 11.5 All remarks will be addressed to the Council as a whole, and shall avoid personal, impertinent or slanderous content. Any person disrupting the meeting, including a person who becomes boisterous, threatening, or personally abusive

while addressing the Council, may be requested to leave the meeting. The Mayor shall consult with the City Attorney before requesting any person to leave the meeting. Applause, boos or other public demonstrations by those attending the Council meeting are considered inappropriate behavior.

- 11.6 In addition to and/or in lieu of addressing the Council, any persons may provide written comments and other written materials to the City Clerk for distribution to the Council. A contact name, address, and phone number must be printed legibly on any such materials.
- 11.7 The Council has the authority to preserve order at all meetings of the Council, to cause the removal of any person from any meeting for disorderly conduct and to enforce the Rules of the Council. The Council shall consult with the City Attorney before causing any person to be removed from the meeting. The Council may command assistance of any peace officer of the City to enforce all lawful orders of the Council or the Mayor to restore order at any meeting. The maintenance of order shall be enforced consistent with all applicable statutory and constitutional requirements, including, but not limited to, RCW 42.30.050.
- 11.8 Citizens with complaints, concerns or questions will be encouraged to refer the matter to the Mayor or ask that the matter be placed on a future Council meeting or Council study session agenda with the appropriate background information.

SECTION 12. MOTIONS

- 12.1 A motion that does not receive a second dies. Motions that do not need a second include nominations, withdrawal of motion, agenda order, request for a roll call vote, and point of order.
- 12.2 A motion that receives a tie vote is deemed to have failed, unless the Mayor votes to break the tie.
- 12.3 Audience comment on a motion will be taken after the briefing on the motion occurs and before the motion is made by Council.
- 12.4 When making motions, Councilmembers shall be clear and concise and shall not include arguments for the motion within the motion.
- 12.5 After a motion and second (if applicable), the Mayor will indicate the names of the Councilmembers making the motion and second.
- 12.6 After a motion has been made and seconded, the Councilmember making the motion may speak to the motion and then the Council may discuss their opinions on the issue prior to the vote.
- 12.7 When the Council concurs or agrees to an item that does not require a formal motion, the Mayor will summarize the agreement at the conclusion of the discussion.
- 12.8 A motion may be withdrawn by the maker of the motion at any time without the consent of the Council. If the motion had received a second, the Councilmember

making the second must also agree to withdraw or the motion remains on the table for discussion, debate and disposition.

- 12.9 A motion to table shall preclude all amendments or debates of the issue under consideration. It requires a second, is not debatable, is not amendable, requires a majority vote and it cannot be reconsidered. A motion not taken from the table by the close of that meeting or the next regular meeting dies on the table.

If the motion to table prevails, the matter may be "taken from the table" by motion which requires a second, is not debatable and which requires a majority vote. When a motion is taken from the table, everything is in the same condition as it was when laid on the table, including any amendments to the original motion that received an affirmative vote prior to the motion to table.

- 12.10 A motion to postpone to a time certain, must be seconded, is debatable, is amendable, requires a majority vote and may be reconsidered at the same meeting. The original motion being postponed must be considered at a time certain at a future regular or special Council meeting.
- 12.11 A motion to postpone indefinitely requires a second, is debatable, is not amendable, and takes precedence over the main motion and requires a majority vote. This motion assists in disposing of the main motion. Its purpose is to reject a main motion without a vote on the main motion. Postponed indefinitely is an indirect or polite motion by which a main motion may be disposed of.
- 12.13 A motion to call for the question shall close debate on the main motion and is not debatable. This motion must receive a second and fails without a two-thirds (2/3) vote. Debate is reopened if the motion fails.
- 12.14 A motion to amend is defined as amending a motion that is on the floor and has been seconded by inserting or adding, striking out, striking out and inserting, or substituting. Motions that cannot be amended include motion to adjourn, agenda order, lay on the table, roll call vote, point of order, reconsideration and take from the table. A motion to amend an amendment is not in order. Amendments are voted on first, then the main motion as amended (if the amendment received an affirmative vote).
- 12.15 Council discussion of the motion only occurs after the motion has been moved and seconded.
- 12.16 The motion maker, Mayor, or City Clerk should repeat the motion prior to voting.
- 12.17 The City Clerk will take a roll call vote if requested by the Mayor or a Councilmember. At the conclusion of any vote, the City Clerk will announce the results of the vote.
- 12.18 When a question has been decided, any Councilmember who voted in the majority may move for reconsideration but no motion for reconsideration of a vote shall be made after the meeting has adjourned.

- 12.19 The City Attorney shall decide all questions of interpretations of these rules and other questions of a parliamentary nature which may arise at a Council meeting. All cases not provided for in these rules shall be governed by the most current version of Robert's Rules of Order Newly Revised. In the event of a conflict, these rules shall prevail.

SECTION 13. ORDINANCES

- 13.1 All ordinances shall be prepared or reviewed by the City Attorney. No ordinance shall be prepared for presentation to the Council unless requested by a majority of the Council, or requested by the Mayor or City Attorney.
- 13.2 The Mayor shall read the title of the ordinance prior to voting. Each ordinance shall carry an agenda bill number which shall be the ordinance number.
- 13.3 Upon enactment of the ordinance, the City Clerk shall obtain the signature of the Mayor and the City Attorney.
- 13.4 Ordinances or ordinance summaries shall be published in the official newspaper as a legal publication immediately following enactment in the manner prescribed by law.
- 13.5 Unless expressly prohibited by law, ordinances may be adopted by the Council upon first reading. The Council may in its discretion require a second reading of any ordinance prior to adoption.

SECTION 14. COUNCILMEMBER ATTENDANCE AT REGULAR MEETINGS

- 14.1 Councilmembers will inform the Mayor, a Councilmember, or City Clerk if they are unable to attend any regular Council meeting or if they knowingly will be late to any meeting. The minutes will show the Councilmember as having an excused absence. If notification is not given, that Councilmember will be noted as absent in the Council minutes. Pursuant to RCW 35A.12.060, a Council position shall become vacant if the Councilmember fails to attend three consecutive regular meetings of the Council without being excused.

SECTION 15. PUBLIC HEARINGS

- 15.1 Quasi-judicial hearings require a decision be made by the Council using a certain process which may include a record of evidence considered and specific findings be made.
- 15.2 Legislative or informational hearings do not require a decision be made even though information is presented.
- 15.3 Councilmembers shall comply with all applicable laws related to the Code of Ethics for Public Officers (chapter 42.23 RCW), conflict of interest requirements, and the Appearance of Fairness doctrine.

Public Hearing Types: There are two types of public hearings. The

legislative/informational public hearing is a formal opportunity for citizens to give their views for consideration in the legislative or policy-decision-making process. Quasi-judicial public hearings are hearings on quasi-judicial actions which determine the legal rights, duties, or privileges of specific parties.

A. Subject to any other applicable procedures established by state law or City ordinance, the following procedure shall be followed during public hearings on:

Legislative/Informational

- The Mayor will open the public hearing.
- Staff will make their presentation.
- Citizens comments will be limited to three (3) minutes for individuals and five (5) minutes for a person representing an official position of a recognized organization.
- Additional staff comments will be made.
- The Mayor will close public hearing.
- Council discussion will ensue.
- Council action will be taken.

Quasi-Judicial Hearings

- The Mayor will open the public hearing.
- Open for declarations of conflict of interest, appearance of fairness and other preliminary matters.
- Staff will make their presentation (15 min).
- Proponent presentation will be made. (15 min)
- Opponent presentation will be made. (15 min)
- Proponent rebuttal will be heard. (10 min)
- Staff comments will be made.
- Public hearing will be closed.
- Council discussion will ensue.
- Council action will be taken.

B. The following rules shall be observed:

Legislative/Information Gathering Public Hearings

- For an initial presentation of background information from a City department, board, commission, committee, or an organization, no more than twenty (20) minutes will be allowed unless otherwise authorized by the Mayor.
- If a speaker purports to speak for an organization, club or others so as to lead Council to believe that a number of persons support a position, then such person shall state how that position was developed by the group.
- Comments should be limited to three (3) minutes for each individual or five (5) minutes if representing the official position of a recognized organization.
- The Mayor may allow additional time for receipt of written testimony

- when needed.
- The City Clerk shall be the official timekeeper.

Quasi Judicial Public Hearings

- If a quasi-judicial hearing is on the agenda, the Council will be informed by the City Attorney as to what state law permits as to public comments.
- Quasi-judicial hearings will be conducted in conformance to procedures outlined in applicable state law, and City ordinances, resolutions and policies.
- Testimony will be limited as set forth herein, except that the Presiding Officer shall ask the rest of the Councilmembers if they have any comments or questions before the citizen is excused.
- If comments are provided in writing, they shall be filed with the City Clerk by 1:00 PM of the calendar day preceding the hearing.

Notwithstanding any other provision of these rules, the City Council may in its discretion adopt case-specific procedures to govern any public hearing before the Council. Such procedures may supplement, modify or supersede the provisions of this section. Any such procedures shall be made available to interested parties at least 14 days in advance of the Council hearing.

SECTION 16. MEDIA REPRESENTATION AT COUNCIL MEETINGS

- 16.1 All public meetings of the Council and its advisory committees shall be open to the media, freely subject to recording by radio, television and photographic services at any time, provided that such arrangements do not interfere with the orderly conduct of the meeting. Seating space shall be provided for the media at each public meeting.

SECTION 17. COUNCIL COMMITTEE LIAISONS, SERVICE ON REGIONAL BOARDS, AND REPRESENTATION ON BEHALF OF THE CITY

- 17.1 Council Committee Liaisons. The Council may designate, by motion, councilmembers to serve as liaisons to each of the City advisory bodies, boards, and commissions ("Council Committee Liaisons"). Council Committee Liaisons shall be advisory, generally participating in such committees or boards through observation, unless requested by the committee or board, and do not receive a "vote". Council Committee Liaisons should provide updates to the entire Council, generally at the next regular meeting after the committee or board meeting.
- 17.2 Service on Regional Bodies. The Council may designate, by motion, individual(s) to serve in liaison roles for regional bodies based on the desire, qualifications, and skills of those interested. Councilmembers and the Mayor should indicate their interest in being a representative prior to the time the representative is considered for eligibility. Any "votes" attributed to the City must be based on Council consensus and not the individual position of the representative serving in that role.

Regional Body Liaisons should provide updates to the entire Council, generally at the next regular meeting after the regional body's meeting.

17.3 For the purpose of commenting on an issue, Council Committee Liaisons and If a Councilmembers appearsing on behalf of the City before another govern-mental agency, a community organization, ~~or through the media, or in their capacity as a regional body representativefor the purpose of commenting on an issue, the Councilmember~~ shall state the majority position of the Council, if known, on such issue. Personal opinions and comments which differ from the Council majority may be expressed if the Councilmember clarifies that these statements do not represent the Council's position. Councilmembers need to have other Councilmember's concurrence before representing another Councilmember's view or position with the media, regional body, another governmental agency, or community organization.

SECTION 18. CONFIDENTIALITY

- 18.1 Councilmembers shall keep confidential all written materials and verbal information provided to them during executive sessions, to ensure that the City's position is not compromised. Confidentiality also includes information provided to Councilmembers outside of executive sessions when the information is considered to be exempt from disclosure under exemptions set forth in applicable state law.
- 18.2 If the Council, in executive session, has discussed any type of issue related to a third party, all contact with that party should be effectuated by the designated City staff representative handling the issue. Councilmembers should obtain the permission of the Mayor prior to discussing the information with anyone other than other Councilmembers, the City Attorney or City staff designated by the Mayor. Any Councilmember having any contact or discussion shall make full disclosure to the Mayor and/or the City Council in a timely manner.

SECTION 19. ADMINISTRATION AND HOUSEKEEPING

- 19.1 When Councilmembers register to attend an official conference requiring voting delegates such as the annual National League of Cities or Association of Washington Cities, the Council shall designate the voting delegate(s) and alternate voting delegate(s) during a public meeting by a majority vote. When possible, said selection of voting delegate(s) shall be done on a rotating basis for the purpose of allowing all Councilmembers the opportunity to be an official voting delegate.
- 19.2 Open Government Trainings Act. Effective July 1, 2014 the Open Government Trainings Act was enacted requiring all elected officials to complete training courses related to the Public Records Act (RCW 42.56.150), Open Public Meetings Act (RCW 42.30.205) and RCW 40.14 related to records retention.
- (a) Each local elected official appointed to fill a vacancy in a local or statewide office, must complete a training course regarding the provisions as indicated above.

(b) Officials required to complete training under this section may complete their training before assuming office but must:

- Complete training no later than ninety (90) calendar days after the date the official:
 - Takes the oath of office, if the official is required to take an oath to assume his or her duties; or
 - Otherwise assumes his or her duties as a public official.
- Complete refresher training at intervals of no more than four years for as long as he or she holds office.

(c) Training must be consistent with the Attorney General's model rules for compliance with the Public Records Act.

(d) Training may be completed remotely with technology including but not limited to internet-based training.

(e) Additional information and online courses are available on the Washington State Attorney General's website at <http://www.atg.wa.gov/open-government-training>.

19.3 Social Media Usage. As an elected official or employee of the City of Edgewood, your social media posts and the ensuing comment threads may qualify as public records that must be retained, disclosed, or moderated in order to comply with state and federal law and the City's rules and policies. This is true even for your personal social media accounts if you discuss City business. Inappropriate use of social media can expose you and the City to allegations of criminal and ethical wrongdoing. Please refer to our policies and procedures regarding the Public Records Act, the Open Public Meetings Act, and other policies related to the conduct and responsibilities of City of Edgewood employees and officials.

SECTION 20. SUSPENSION AND AMENDMENT OF RULES; IMPLIED WAIVER

20.1 Any provision of these rules not governed by state law or ordinance may be temporarily suspended by the entire membership of the Council.

20.2 These rules may be amended or new rules adopted by a majority vote of the quorum necessary to conduct business.

20.3 Unless identified and corrected in accordance with these rules, any action taken in violation of these rules shall be deemed an implied waiver thereof.

SECTION 21. MINUTES

21.1 Minutes Generally. Pursuant to RCW 42.32.030 and RCW 35A.12.110, the City Clerk shall keep minutes of all regular and special meetings of the City Council, which shall constitute the City's record of proceedings. Working copies or file copies of all minutes shall be kept in the City Clerk's office. The official, originally signed copies of all minutes shall be maintained and stored in a fire-proof vault. The minutes will be archived in accordance with applicable records retention requirements.

21.2 Content of Minutes. Minutes shall document the actions taken at Council meetings, and shall at a minimum include the following:

1. Date of meeting
2. Location of meeting
3. Type of meeting (regular, continued, special, etc.)
4. Time of meeting
5. Time meeting commenced
6. Officials/members present*
7. Officials/members absent or excused*
8. Topics of business
9. Actions taken on each business matter
10. Record of motions
11. Record of voting
12. Time of adjournment
13. Signature blocks for Presiding Officer and Clerk/designee

*If a Councilmember leaves during a meeting, the time of departure and time of return, if applicable, shall be noted. If a Councilmember arrives after commencement of the meeting, the time of arrival shall be noted.

21.3 Approval of Previous Minutes. Proposed minutes shall be placed on the consent agenda for approval. The Council shall approve the minutes, after consideration of the minutes and making any necessary corrections to the minutes. Upon approval by the Council, the minutes shall constitute the official record of the City Council's meeting.

21.4 Signing the Minutes. The minutes shall be signed by the City Clerk and the Mayor.

21.5 Corrections to Minutes. All authorized corrections to the approved minutes shall be recorded as a business transaction made at the meeting at which the amendment was approved. Following the meeting, the minutes shall be corrected to include the amendment(s) prior to placement of the final, executed minutes in the minute book.

If, after approval of the minutes, a correction must be made, a notation is marked in the margin opposite the correction which states: "Amended, see minutes of _____. " or "Scriber's Error, corrected by (initials of person making correction)", and shall include the date the correction was noted. Errors corrected in the official minutes shall not be corrected by white out, cross-outs or erasures.

21.6 Preservation of Minutes. Minutes shall be preserved by the City for the period specified by applicable record retention requirements of state law. Special attention, care and security measures shall be taken to protect the orderly and safe keeping of minutes.



City Of Edgewood Council Agenda Summary Sheet

Subject: Discussion – Resolution – External Boards, Commissions and Council Liaisons to City of Edgewood Boards and Commissions Appointments	Agenda Item #: 2.1
	For Agenda of: 2/16/2021
	Prepared by: Daryl Eiding
Attachments (list): 1. Resolution Appt to External Boards 2. 2020 Appt to Ext Boards. Ex A. 3. EX B 2020 Council Liasion to COE CommissionsandBoards	
Approval of Materials: Daryl Eiding Rachel Pitzel 2/11/2021 Dave Gray 2/11/2021 Daryl Eiding 2/11/2021	Expenditure Required: Amount Budgeted: Timeline: 02/16/2021- SS Discussion 02/23/2021 - RCM (Consent Agenda)

Summary Statement:

There are several opportunities for Councilmembers to serve on local and regional boards, committees, or commissions as a representative of the City of Edgewood and the City Council. Changes in the make-up of the City Council, and in some cases interests among individual members, require the need to update these council liaison assignments from time to time.

It is anticipated that City Council will discuss the list and add or remove any boards, committees or commissions, and make new assignments where applicable.

Once adopted, this list will be provided to each of the organizations designated therein to make them aware of any changes in Edgewood's representation.

Item History:

Recommended Action:

Hold a discussion and provide staff direction on External Boards, Commissions and Council Liaisons to City of Edgewood Boards and Commission appointments.

Fiscal Note/Consideration:

RESOLUTION NO. 21-0xxx

**A RESOLUTION OF THE CITY COUNCIL OF THE
CITY OF EDGEWOOD, PIERCE COUNTY,
WASHINGTON, APPOINTING COUNCIL LIAISONS TO
CITY OF EDGEWOOD AND REGIONAL EXTERNAL
BOARDS AND COMMISSIONS FOR THE YEAR 2021**

WHEREAS, the City Council adopted Resolution 20-0487 to establish a list of City Council representatives to serve on various external Boards, Commissions, Committees and other organizations in 2020, or until a replacement has been selected; and

WHEREAS, the City Council adopted Resolution No. 21-0xxx amending the Council Rules of Procedure to provide for Council Liaisons on City and Regional Boards, Committees, and other Bodies; and

WHEREAS, the City Council wishes to establish the 2021 list of appointees to serve as Council Liaisons and representatives on various City and regional boards, commissions, committees, and other organizations;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF EDGEWOOD, WASHINGTON, HEREBY RESOLVES AS FOLLOWS:

Section 1. Regional Board Representatives Appointed. City Council representatives are hereby appointed and/or reappointed to serve on the designated external Board(s), Commission(s), Committee(s) and/or other organization(s) as indicated on the list of Council representatives, attached hereto as Exhibit A and incorporated herein by this reference.

Section 2. City Council Liaisons Appointed. City Council Liaisons are hereby appointed and/or reappointed to serve on the designated City of Edgewood Board(s), Commission(s), and Committee(s), as indicated on the list of Council Liaisons, attached hereto as Exhibit B and incorporated herein by this reference.

Section 3. Appointment Term. The term for the appointments made pursuant to this resolution shall be for the calendar year 2021, or until a replacement is appointed by the City Council.

Section 4. Notice to External Organizations. The Clerk shall provide a copy of this Resolution to organizations named in Exhibit A, as necessary.

Section 5. Effective Date. This Resolution will take effect immediately upon passage by the City Council.

ADOPTED THIS 23RD DAY OF FEBRUARY, 2021

Mayor, Daryl Eiding

ATTEST:

Rachel Pitzel, CMC
City Clerk



2021 Council Representatives

Organization	Representative(s)	2020 Meeting Information
Joint City/County Open Space Taxation Determination Board	Councilmember Tyron Christopherson	Will be Announced <i>Jeff Cox (253) 798-3683</i>
Pierce County Regional Council	Councilmember Nate Lowry <i>Mayor Daryl Eiding (Alt)</i>	Meet the 3 rd Thursday of each month (no meetings in August or December) - 6:00 pm Pierce County Annex (<i>with the exception of the General Assembly meeting</i>) <i>Tiffany Ailment (253) 798-3226</i> <i>*Meeting currently via Zoom</i>
Pierce County Cities & Towns Association	Mayor Daryl Eiding <i>Deputy Mayor Tyron Christopherson (Alt)</i>	Meet the 1 st Thursday of each month – 7:00pm, 6:30pm social hour – Black Bear - Lakewood <i>Paul Loveless, paulloveless@ci.steilicoom.wa.us</i>
Puyallup River Watershed Council	Councilmember Ryan Day	Meet the 4 th Thursday 3pm-5pm at Pierce Conservation District office in Puyallup -January thru October. https://www.piercecountywa.gov/1868/Puyallup-River-Watershed-Council <i>Krystal Kyer, 253-798-2485 - krystal.kyer@piercecountywa.gov</i> <i>*Meeting currently via Zoom</i>
FME Chamber of Commerce	Mayor Daryl Eiding <i>Deputy Mayor Tyron Christopherson (Alt)</i>	Chamber Luncheon Meets the 2 nd Wednesday of each month – 11:30am at 5580 Pacific Hwy E, Fife (Emerald Queen Conf. Center. <i>Lora Butterfield (253) 922-9320 - lorab@fmechamber.org</i> <i>*These meetings are currently suspended due to COVID-19.</i>
Mt. View Edgewood Water Company	Councilmember Mark Creley <i>Councilmember Rosanne Tomyn (Alt)</i>	Meets the 2 nd Wednesday of each month – 6:00pm – as long as it falls on or after the 10 th . If so, default to the next Wednesday. Meets at the Mt. View Edgewood Water Company – <i>Mike Craig, 253-863-7348 – mikec@mtvewater.com</i> <i>*Meeting currently via Zoom</i>

Exhibit B**2020 Council Liaisons to COE Commission and Boards**

COE Boards/Commissions	Council Liaisons	Meeting Information
Planning Commission		Meets the 2 nd Monday of each month – 6:00pm Darren Groth, Emily Arteche & Evan Hietpas, Staff Liaisons
Economic Development Advisory Board		Meets the 1 st Monday of each month – 6:00pm Darren Groth, Staff Liaison
Parks & Recreation Advisory Board		Meets the 1 st Thursday of each month – 6:00pm Jeremy Metzler, Matthew Ray & Jill Schwerzler-Herrera, Staff Liaisons



City Of Edgewood Council Agenda Summary Sheet

Subject: Discussion - Ordinance - 2021 Budget Amendment	Agenda Item #: 2.J
	For Agenda of: 2/16/2021
	Prepared by: Dave Gray
Attachments (list): 1. Ord No 21-OXXX 2021 Budget Amendment No 1 2. Exhibit A 3. Exhibit B	
Approval of Materials: Dave Gray Rachel Pitzel 2/11/2021 Dave Gray 2/11/2021 Daryl Eidinger 2/11/2021	Expenditure Required: The Action Adds a Budgeted Labor Expenditure Increase to the 2021 Labor Model of approximately \$7,067 for the fiscal year.
	Amount Budgeted: N/A ie: Budget Amendment
	Timeline: SS for Job Description Discussion 2/2/21 RCM for Council Action 2/9/21 SS for Salary Schedule & Labor Model Addition of Position Discussion RCM for Council Action 2/23/21

Summary Statement:

Permit Coordinator promoted to Development Review Coordinator:

Our current Permit Coordinator has been with the City since 2015. In that time she has increased her capacity significantly, received her permitting certification credential and renewal, studied, tested and become a certified IRC & IBC Building Inspector to better understand and assist scheduling our full time inspection group as well as become a back-up for emergencies (add bandwidth to our workforce). She was instrumental in moving the City from paper to fully digital and remote applications during the Pandemic and has become one of our in-house SmartGov power users.

Code Compliance Specialist promoted to Code Compliance Manager:

Our current Code Compliance Specialist has been with us for over a year in which time he has literally stood up an entire code compliance program involving significant code rewrites in concert with our Community Development Director and City Attorney, instituted our now seated and operating Code Enforcement Board, imbedded, complete with certification for system access with the Edgewood Police Department while bringing significant resolution to a number of long outstanding troubled properties within the Edgewood jurisdiction with minimal cost beyond his salary, to the City budget. He is also one of the cities SmartGov power users.

Item History:

Recommended Action:

Discuss the merits of these two promotions, the impact on the budget and depending upon the adequacy of the information provided request the Mayor add the Ordinance to the February 23 Regular Council Meeting Agenda for potential Council action.

Fiscal Note/Consideration:

N/A Budget Amendment.

ORDINANCE NO. 21-0XXX

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF EDGEWOOD, WASHINGTON, AMENDING THE BUDGET FOR THE 2021 FISCAL YEAR, PROVIDING FOR SEVERABILITY AND ESTABLISHING AN EFFECTIVE DATE

WHEREAS, State law, Chapter 35A.33 RCW, requires the City of Edgewood adopt an annual budget and provides procedures for such; and

WHEREAS, the City of Edgewood established its 2021 Budget in Ordinance No. 20-0593; and

WHEREAS, the City Council desires to amend the 2021 Budget to reflect the addition of two newly authorized job descriptions creating a resulting amendment to the existing salary schedule and labor model requiring several minor housekeeping line item budget changes;

NOW THEREFORE THE CITY COUNCIL OF THE CITY OF EDGEWOOD, WASHINGTON, DOES ORDAIN AS FOLLOWS:

Section 1. Amending 2021 Budget. The 2021 Budget approved with Ordinance 20-0593, and as amended by Ordinance 20-0575, is amended to replace the salary schedule, attached as Exhibit A and labor model, attached as Exhibit B.

Section 2. Direction to Staff: Staff is hereby authorized and instructed to make the necessary changes to the printed form of the 2021 Budget to reflect the above amendments.

Section 3. Transmittal. The City Clerk is hereby authorized and directed to transmit a certified copy of this ordinance to the Association of Washington Cities, the Auditor of the State of Washington, and Municipal Research Services Center.

Section 4. Severability. Should any section, paragraph, sentence, clause, or phrase of this ordinance, or its application to any person or circumstance, be declared unconstitutional or otherwise invalid for any reason, or should any portion of this ordinance be preempted by state or federal law or regulation, such decision or preemption shall not affect the validity of the remaining portions of this ordinance or its application to other persons or circumstances.

Section 5. Effective Date. A summary of this ordinance shall be published in the official newspaper of the City and this ordinance shall take effect and be in full force five (5) days after the date of publication.

PASSED BY THE CITY COUNCIL THIS 23rd DAY OF FEBRUARY, 2021.

Mayor, Daryl Eidinger

Attest/Authenticated:

City Clerk, Rachel Pitzel, CMC

Approved As To Form:

City Attorney Ann Marie Soto

Date of Publication: *February XX, 2021*

Effective Date: *February XX, 2021*

EXHIBIT "A"

2021 BUDGET Amendment No. 1

CITY OF EDGEWOOD

2021 SALARY RANGE PLAN

2020 Wage Rate w/step 6 & 7 added + 1.9% CPI-U for 2021 COLA

Range	Job Title	2021 Monthly Wage Range						
		Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7
FT-21-01	Administrative Assistant	\$4,499	\$4,638	\$4,782	\$4,929	\$5,082	\$5,239	\$5,401
FT-21-02	Public Works Maintenance Tech	\$4,945	\$5,098	\$5,256	\$5,419	\$5,586	\$5,759	\$5,937
FT-21-02	Accounting/Administrative Tech	\$4,945	\$5,098	\$5,256	\$5,419	\$5,586	\$5,759	\$5,937
FT-21-03	Public Works Maintenance Tech II	\$5,156	\$5,315	\$5,480	\$5,649	\$5,824	\$6,004	\$6,190
FT-21-04	Permit Coordinator	\$5,599	\$5,772	\$5,950	\$6,134	\$6,324	\$6,520	\$6,721
FT-21-04	Planning Technician	\$5,599	\$5,772	\$5,950	\$6,134	\$6,324	\$6,520	\$6,721
FT-21-04	ROW Inspector	\$5,599	\$5,772	\$5,950	\$6,134	\$6,324	\$6,520	\$6,721
FT-21-04	Parks Maintenance Lead	\$5,599	\$5,772	\$5,950	\$6,134	\$6,324	\$6,520	\$6,721
FT-21-05	Development Review Coordinator	\$6,282	\$6,477	\$6,677	\$6,884	\$7,096	\$7,316	\$7,542
FT-21-05	Field Supervisor	\$6,282	\$6,477	\$6,677	\$6,884	\$7,096	\$7,316	\$7,542
FT-21-05	Engineering Tech	\$6,282	\$6,477	\$6,677	\$6,884	\$7,096	\$7,316	\$7,542
FT-21-05	Associate Planner	\$6,282	\$6,477	\$6,677	\$6,884	\$7,096	\$7,316	\$7,542
FT-21-05	Code Compliance Specialist	\$6,282	\$6,477	\$6,677	\$6,884	\$7,096	\$7,316	\$7,542
FT-21-06	Communications Coord./Deputy City Clerk	\$6,891	\$7,105	\$7,324	\$7,551	\$7,784	\$8,025	\$8,273
FT-21-06	Combination Inspector	\$6,891	\$7,105	\$7,324	\$7,551	\$7,784	\$8,025	\$8,273
FT-21-07	Associate Engineer	\$7,130	\$7,350	\$7,577	\$7,812	\$8,053	\$8,302	\$8,559
FT-21-08	Code Compliance Manager	\$7,185	\$7,408	\$7,637	\$7,873	\$8,117	\$8,368	\$8,626
FT-21-08	Accounting Manager	\$7,185	\$7,408	\$7,637	\$7,873	\$8,117	\$8,368	\$8,626
FT-21-08	Office Manager	\$7,185	\$7,408	\$7,637	\$7,873	\$8,117	\$8,368	\$8,626
FT-21-08	Information Technology Manager	\$7,185	\$7,408	\$7,637	\$7,873	\$8,117	\$8,368	\$8,626
FT-21-08	Building Inspector/Plans Examiner	\$7,185	\$7,408	\$7,637	\$7,873	\$8,117	\$8,368	\$8,626
FT-21-09	Senior Planner	\$7,466	\$7,697	\$7,935	\$8,180	\$8,433	\$8,694	\$8,963
FT-21-10	Planning Manager	\$8,191	\$8,445	\$8,706	\$8,975	\$9,253	\$9,539	\$9,834
FT-21-10	Building Official	\$8,191	\$8,445	\$8,706	\$8,975	\$9,253	\$9,539	\$9,834
FT-21-11	Senior Engineer	\$8,615	\$8,882	\$9,157	\$9,440	\$9,732	\$10,033	\$10,343
FT-21-11	Public Works Superintendent	\$8,615	\$8,882	\$9,157	\$9,440	\$9,732	\$10,033	\$10,343
FT-21-12	City Engineer	\$9,262	\$9,549	\$9,844	\$10,148	\$10,462	\$10,786	\$11,119
FT-21-13	Information Technology Director	\$10,215	\$10,531	\$10,856	\$11,192	\$11,538	\$11,895	\$12,263
FT-21-13	City Clerk/ HR Director	\$10,215	\$10,531	\$10,856	\$11,192	\$11,538	\$11,895	\$12,263
FT-21-13	Public Works Director, PE	\$10,215	\$10,531	\$10,856	\$11,192	\$11,538	\$11,895	\$12,263
FT-21-13	Community & Economic Dev. Director	\$10,215	\$10,531	\$10,856	\$11,192	\$11,538	\$11,895	\$12,263
FT-21-13	Finance Director	\$10,215	\$10,531	\$10,856	\$11,192	\$11,538	\$11,895	\$12,263
FT-21-14	City Attorney	\$11,122	\$11,466	\$11,821	\$12,187	\$12,564	\$12,952	\$13,353
FT-21-14	Assistant City Administrator	\$11,122	\$11,466	\$11,821	\$12,187	\$12,564	\$12,952	\$13,353

All Steps are 3% lower than the higher step. All Comparables are at step 5 (AWC averages are step 7).

All Hourly Compensation Rates are based upon the Monthly Rate Divided by 173.33 Hours.

