

# PIERCE COUNTY IN-LIEU FEE PROGRAM FINAL INSTRUMENT

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## EXHIBITS

February 2015

Pierce County Public Works

Surface Water Management Division



# EXHIBIT 1

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## PCILF SERVICE AREAS MAP

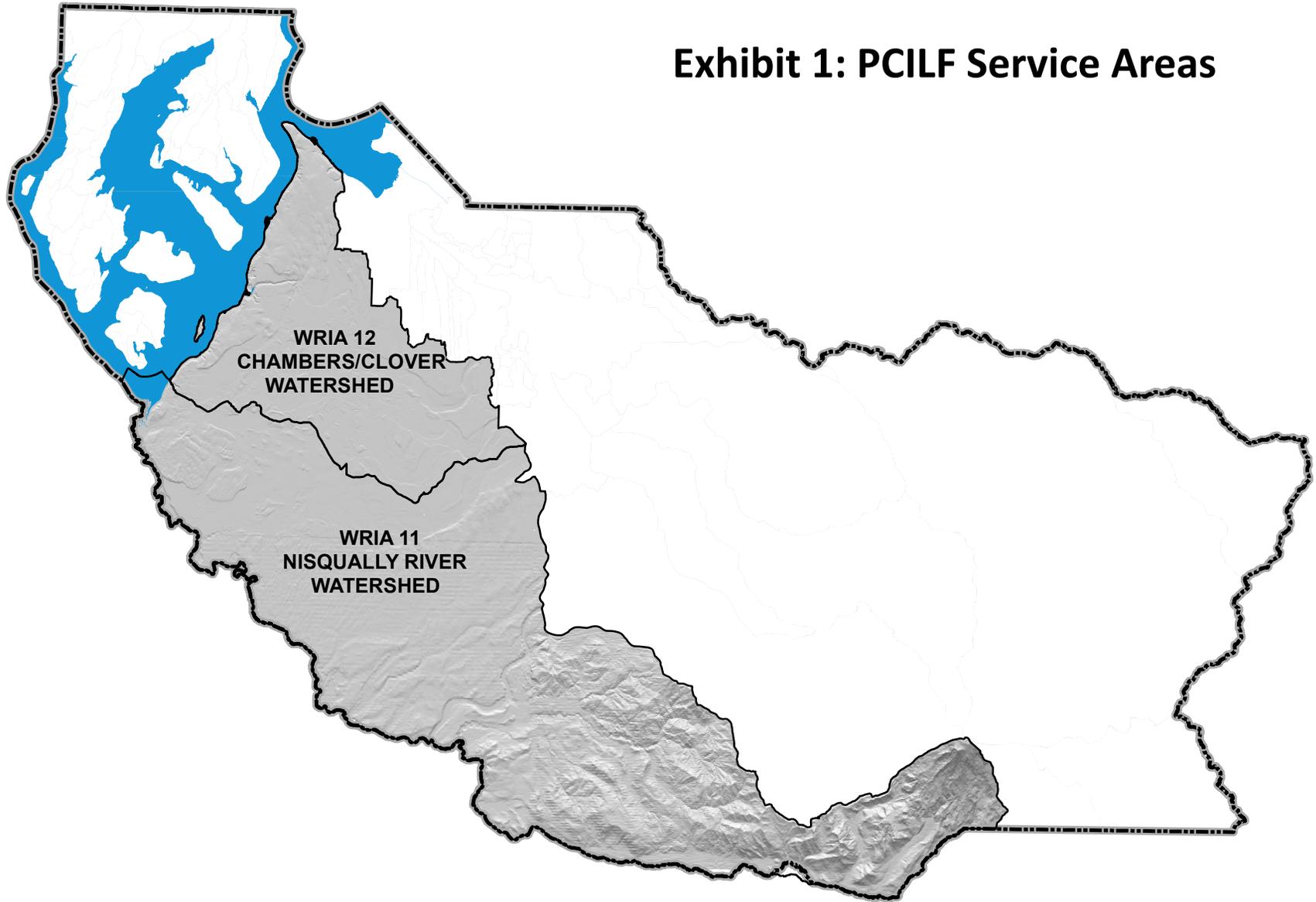
February 2015

Pierce County Public Works

Surface Water Management Division



# Exhibit 1: PCILF Service Areas



**Pierce County**

Public Works  
Surface Water Management February 2015



0 1.75 3.5 7 10.5  
Miles

The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose.

# EXHIBIT 2

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## MAPS OF WRIA 12 SERVICE AREA

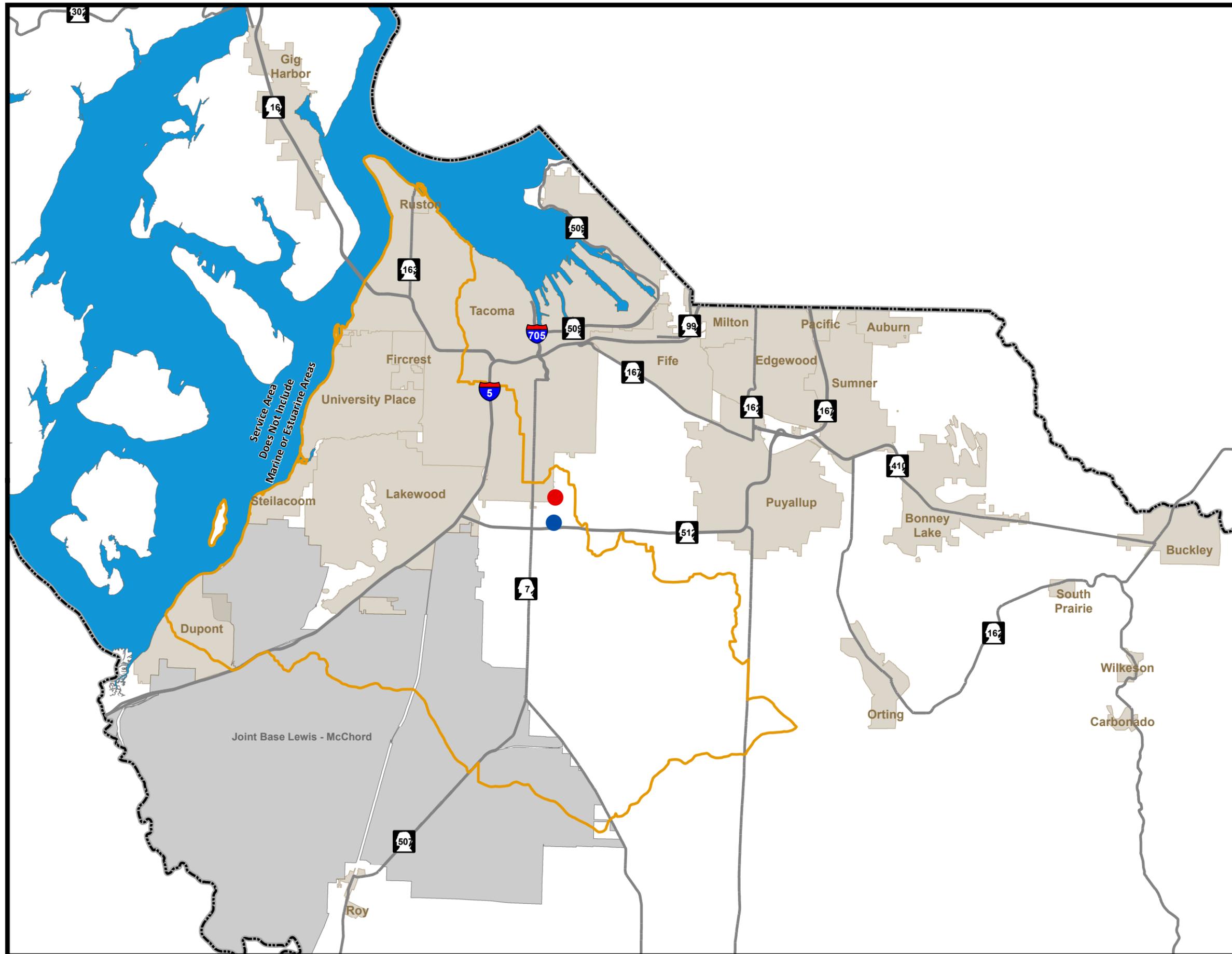
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# Exhibit 2A: WRIA 12 Chambers/Clover Watershed Service Area (Political Area)



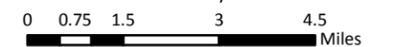
## Legend

- Larchmont Wetland Reserve
- South Midland Wetland Reserve
- Watershed Service Area Boundary
- Major Roads
- Cities in Pierce County
- Military Base
- Pierce County Boundary
- Puget Sound

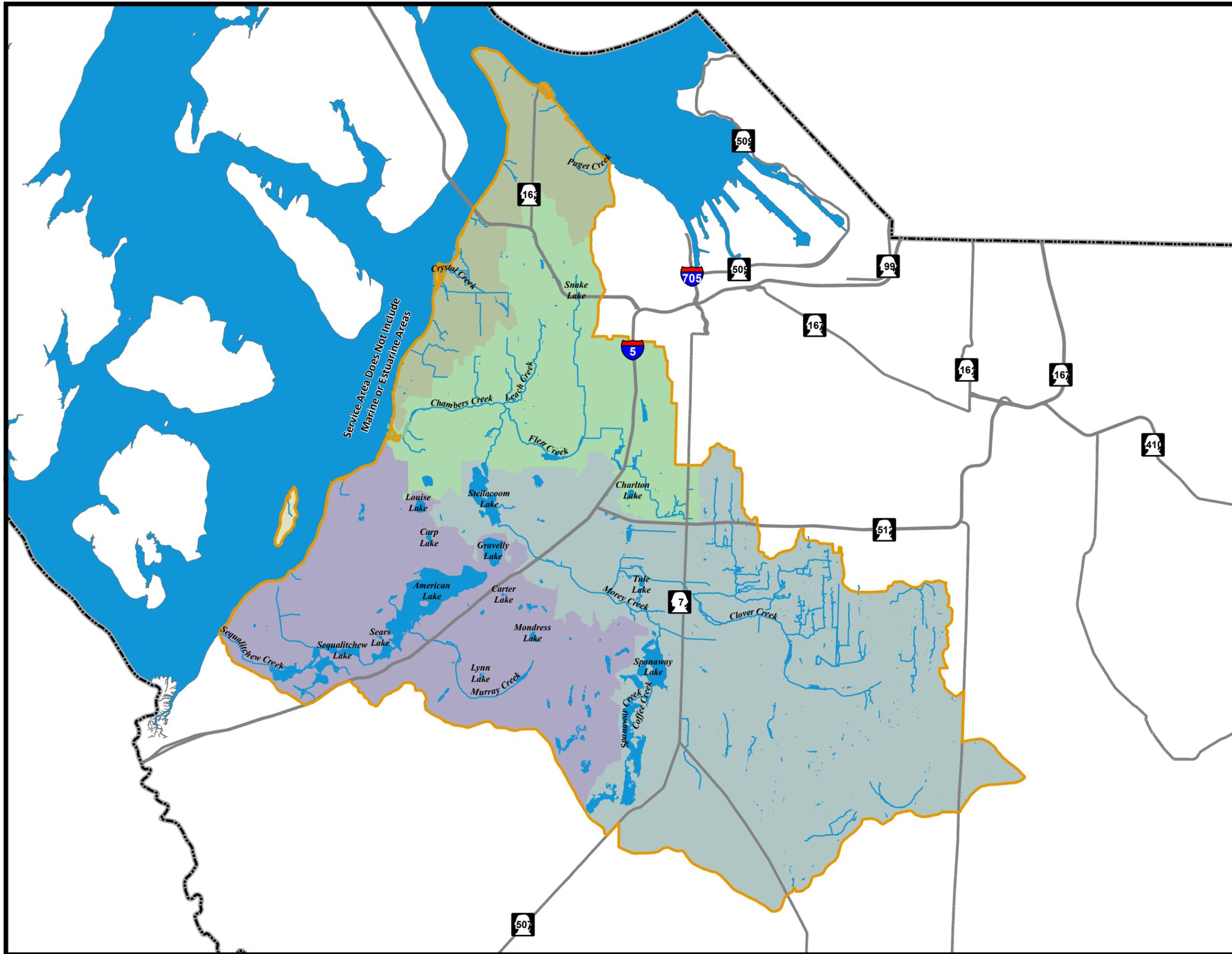


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# Exhibit 2B: WRIA 12 Chambers/Clover Watershed Service Area (Hydrologic Area)



## Legend

### WRIA 12 Sub-basins

- American Lake
- Chambers Bay
- Clover Creek/Steilacoom
- Islands (Ketrion Island)
- Tacoma West
- Watershed Service Area Boundary
- Major Roads
- Creeks & Rivers
- Waterbodies
- Pierce County Boundary



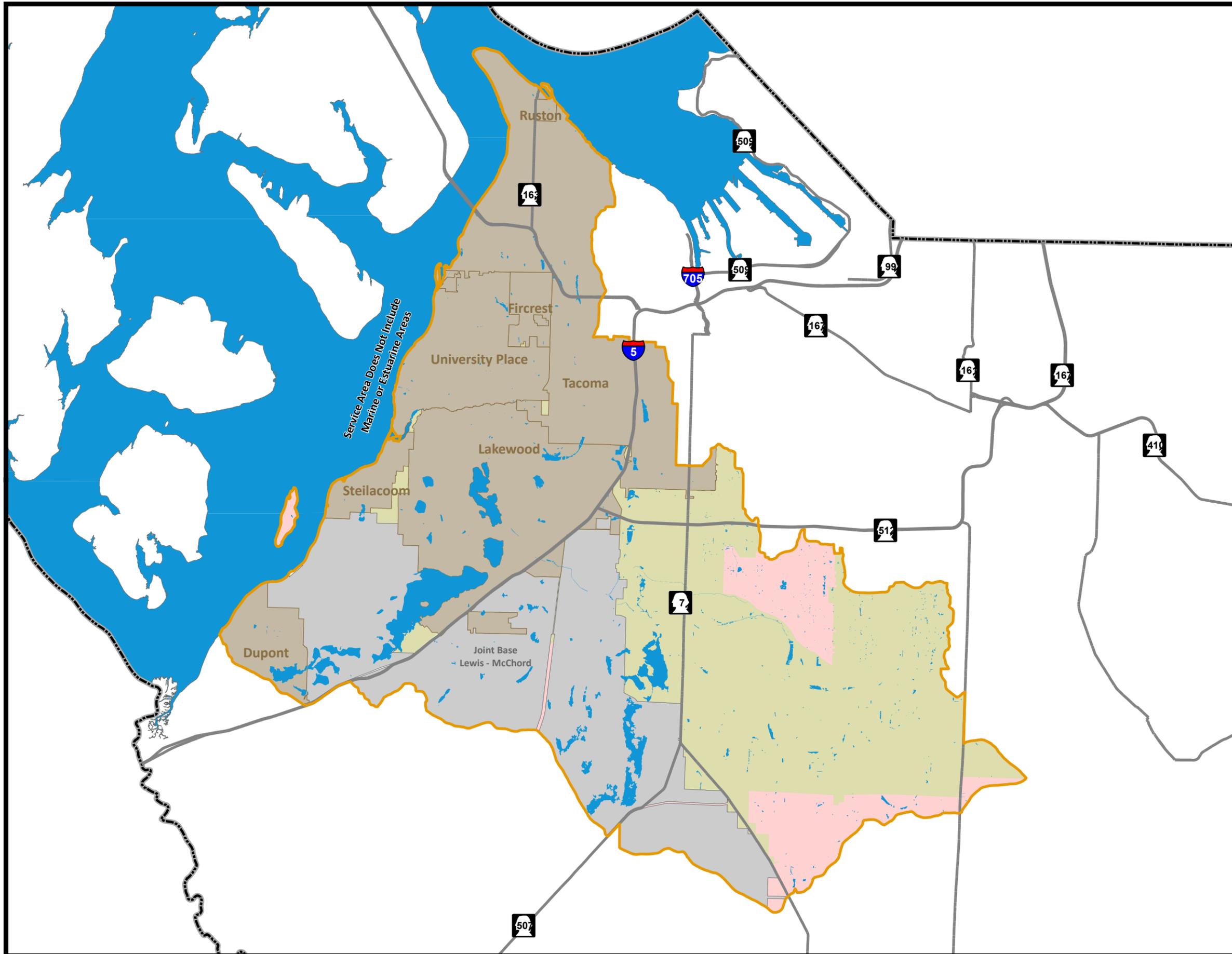
The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose.

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0 0.5 1 2 3 Miles



# Exhibit 2C: WRIA 12 Chambers/Clover Watershed Service Area (Urban Growth Area)



### Legend

- Watershed Service Area Boundary
- Urban Growth Area (County)
- Not in Urban Growth Area (County)
- Major Roads
- Cities in Pierce County
- Military Base
- Waterbodies
- Pierce County Boundary



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0 0.5 1 2 3 Miles



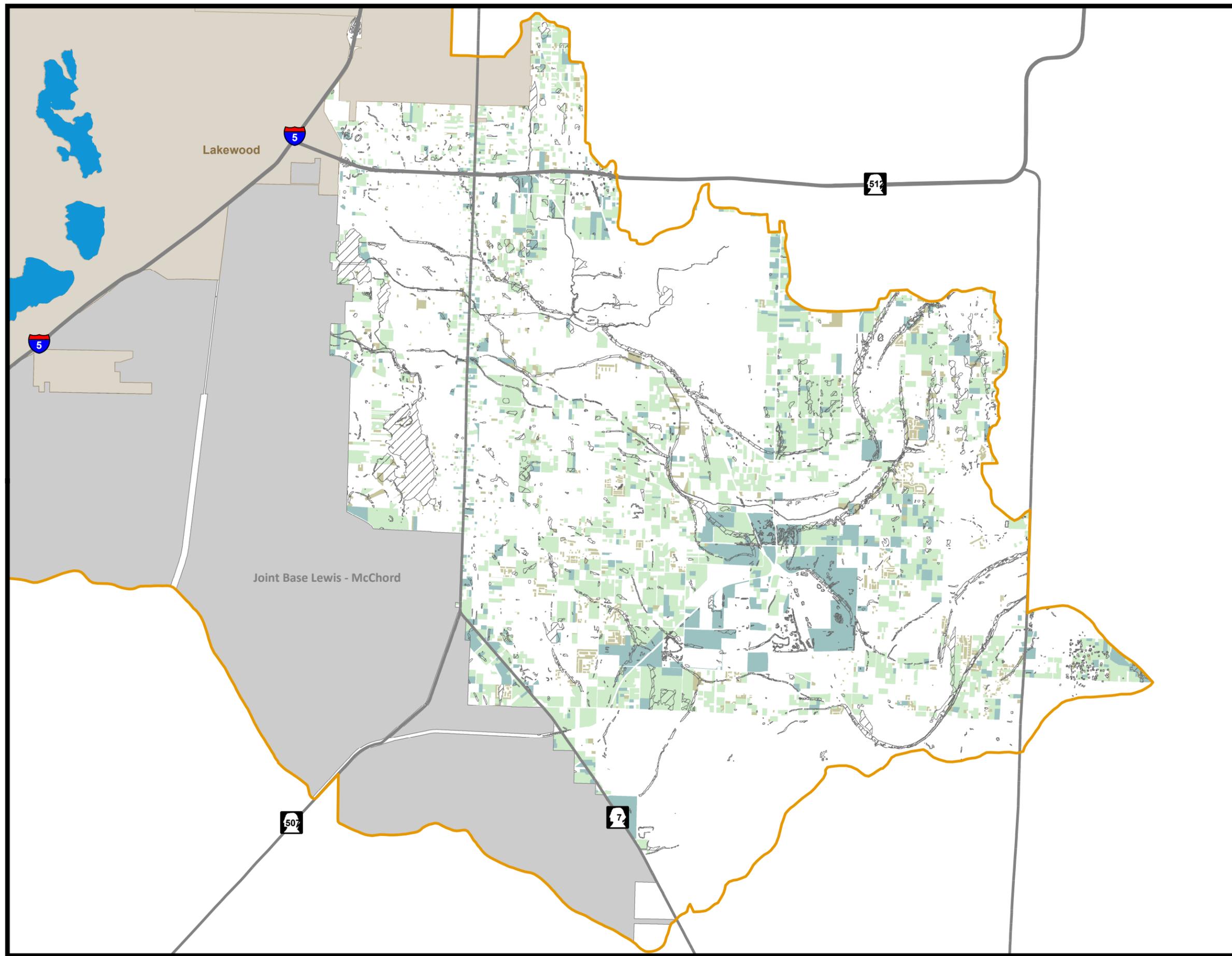
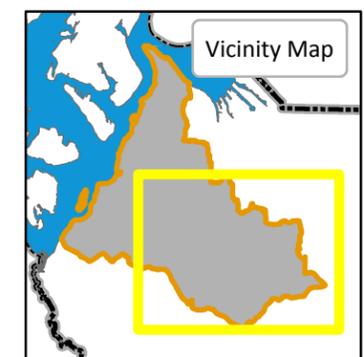
# Exhibit 2D: Eastern Portion of WRIA 12 Chambers/Clover Watershed Service Area (Buildable Lands)

## Legend

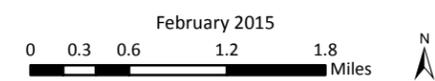
 Mapped Critical Areas: *Only County Wetland Inventory, Supplemental Wetland Inventory, Floodways, and Steep Slopes are included in this analysis.*

## Buildable Lands Inventory

-  Underutilized
-  Vacant
-  Vacant Single Unit
-  Major Roads
-  Watershed Service Area Boundary
-  Cities in Pierce County
-  Military Base
-  Pierce County Boundary



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# EXHIBIT 3

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## MAPS OF WRIA 11 SERVICE AREA

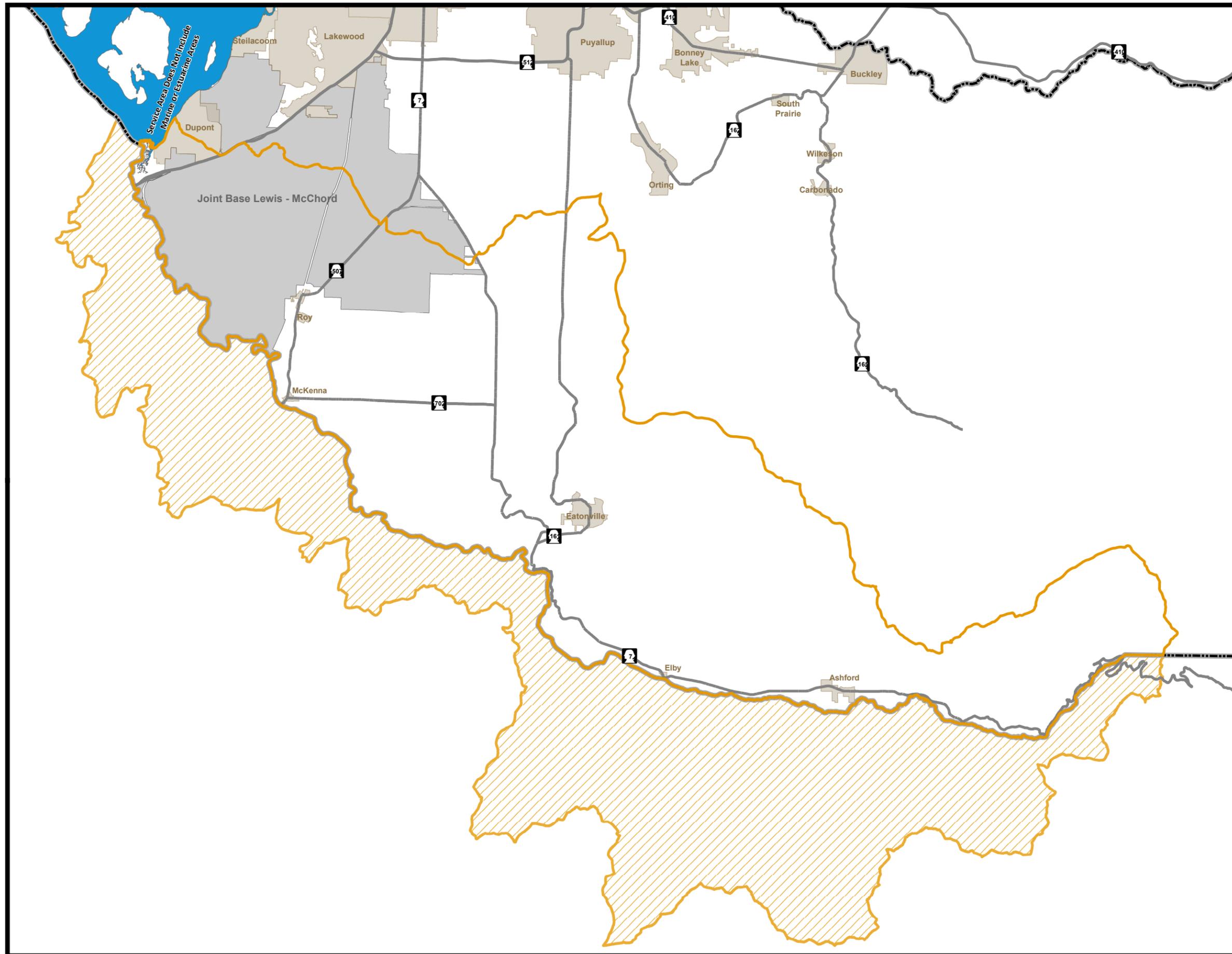
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# Exhibit 3A: WRIA 11 Nisqually River Watershed Service Area (Political Area)



## Legend

-  Watershed Service Area Boundary
-  Portion of WRIA11 NOT in Pierce County
-  Major Roads
-  Cities & Communities in Pierce County
-  Military Base
-  Pierce County Boundary
-  Puget Sound

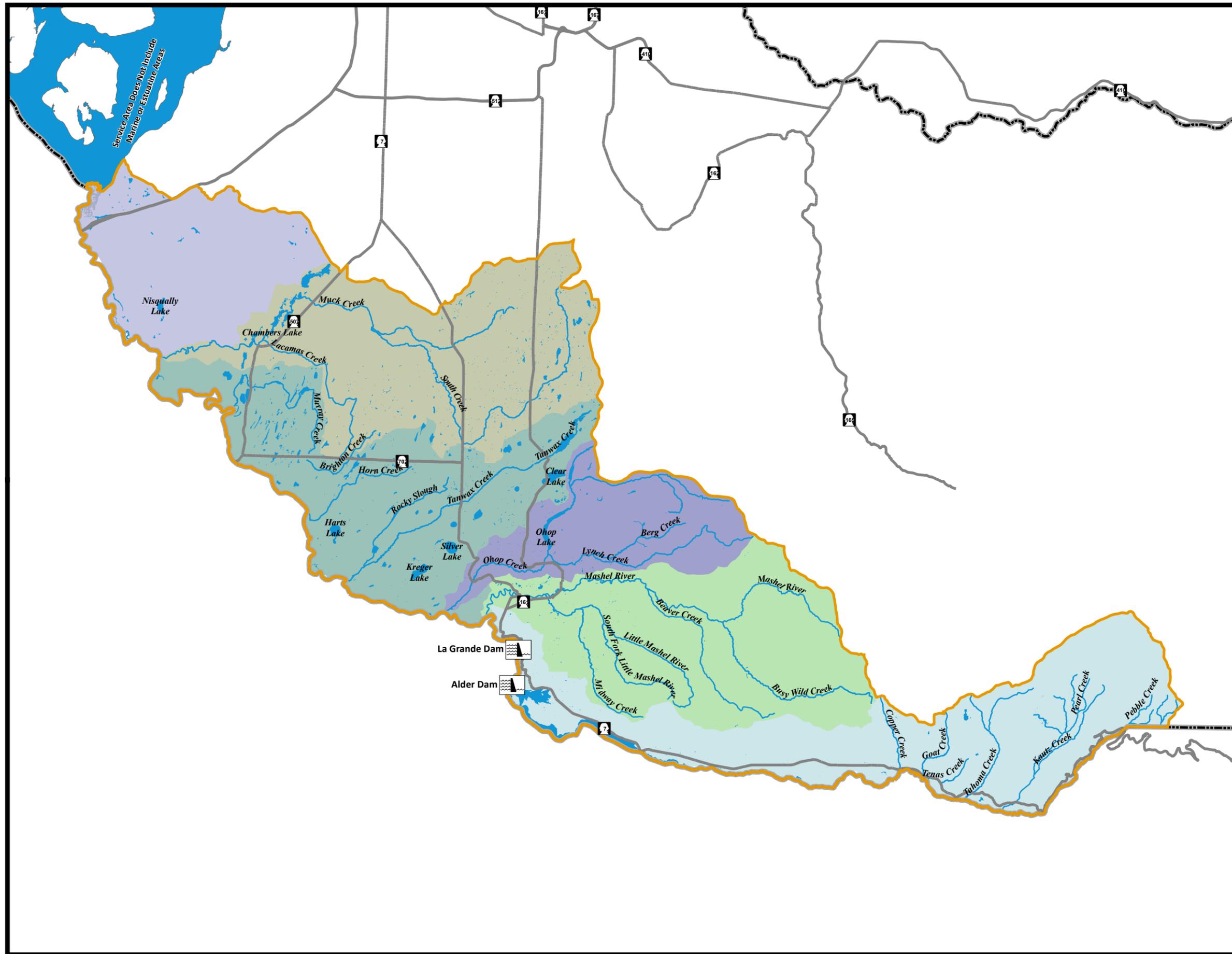


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# Exhibit 3B: WRIA 11 Nisqually River Watershed Service Area (Hydrologic Area)



## Legend

-  Dams
- WRIA 11 Sub-basins**
-  Lower Nisqually River
-  Mashel River
-  Mid Nisqually River
-  Muck Creek
-  Ohop Creek
-  Upper Nisqually River
-  Watershed Service Area Boundary
-  Major Roads
-  Creeks & Rivers
-  Waterbodies
-  Pierce County Boundary



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# EXHIBIT 4

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## CREDIT/DEBIT TOOL FOCUS SHEET

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# The Credit/Debit Method for Estimating Needs in Compensatory Wetland Mitigation

The Credit/Debit Method (*Calculating Credits and Debits for Compensatory Mitigation in Western Washington*, Ecology Publication #10-06-011) calculates if mitigation actions will replace the functions and value lost at a wetland that is filled or damaged. It is based on the Washington State Wetland Rating System for western Washington (Ecology publication #04-06-025). It also includes new concepts in managing our wetlands that have emerged in the six years since the rating system was published.

Although the rating system provides numeric scores for wetland functions, the scores are not directly usable in estimating how much mitigation is needed (<http://www.ecy.wa.gov/biblio/0806009.html>). The Credit/Debit Method was developed to overcome this shortcoming. Over half of the questions used in the Credit/Debit Method are the same as those in the Rating System, and it provides the same level of scientific rigor.

## Scoring

The Credit/Debit Method generates a score for a wetland ranging from 1-9 for each of three wetland functions that are valuable to society. These are:

- Improving water quality
- Flood storage and flow reductions
- Habitat for plants and animals

This score is based on three aspects of each function. These are:

- The potential of the site to provide the function,
- The potential of the landscape to maintain each function at the site scale, and
- The value each function has for society.

The ‘currency’ for comparing the functions lost when a wetland is impacted to the functions gained through mitigation is called an ‘acre-point.’ You calculate the loss of functions at the site that will be impacted by multiplying its score for a function by the size of the

The Credit/Debit Method provides the same level of scientific rigor as the Wetland Rating System.

The Method provides three scores for a wetland for each of three functions valuable to society (Habitat, Improving Water Quality, and Reducing Flooding and Erosion).

The ‘currency’ for comparing the functions lost to the functions gained is called an ‘acre-point.’

## MORE INFORMATION

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### Special accommodations:

If you need this publication in an alternate format, call the Shorelands and Environmental Assistance Program at 360-407-6096. Persons with hearing loss, call 711 for Washington Relay Service. Persons with a speech disability, call 877-833-6341.

impact. This is called a Debit. You calculate the gain in functions at a mitigation site by multiplying the increase in a function score that can be expected when the mitigation site is finished by the area of the mitigation. This is called a Credit.

For example, someone proposed to fill two acres of a wetland that scores 6 points for habitat. This generates a Debit of 12 acre-points for habitat (2 acres impacted x 6 points for habitat function). The mitigation proposed will create a 6 acre wetland with a habitat score of 3 points. This generates 18 acre-points of Credit (6 acres created x 3 points for habitat function).

These basic Credit and Debit calculations, however, need to be modified to account for the loss of functions during the time it takes a mitigation site to fully develop its functions (called temporal loss), and for the possible risk that the mitigation project will not fully succeed. Thus, in the example above the 6 acres of mitigation may still not be enough to fully replace the functions lost.

### Addressing Temporal Loss

Scientific studies have shown that it may take many decades to fully develop the functions at a mitigation site. Thus, there is a net loss of function between the time an impact occurs and when a mitigation site becomes fully functional. The temporal loss of functions is included in the calculations as a multiplier and increases the number of Debits that need to be replaced. If, however, mitigation is done in advance, and the functions already exist before impacts occur, the temporal loss factor is not included in the calculation of Debits.

### Addressing the Risk of Failure

All studies of compensatory mitigation indicate that some projects fail completely or are only partially successful. Thus, the risk of failure needs to be factored into the calculation of how much mitigation is needed to achieve the “No-net-loss Policy.” Earlier studies by Ecology and the National Academy of Sciences have shown 1/2 of mitigation projects failed. This risk was incorporated into permits by requiring a basic mitigation ratio of 2:1. Two acres of mitigation were required for every acre of impacts. In the last three years new data suggest that mitigation is improving. As a result, the risk of failure has been reduced in the calculations. The ratio used to account for the risk of failure is 1.5:1 instead of 2:1 when calculating the Credits. This ratio, can be further reduced to 1.2:1 if the mitigation plan follows the recent guidance from the Department of Ecology, the U.S. Army Corps of Engineers, and the U.S. Environmental Protection Agency of choosing mitigation sites using a watershed approach (Ecology publication #09-06-032 <http://www.ecy.wa.gov/biblio/0906032.html> ).

**A mitigation project is usually deemed adequate when its Credit scores for the three functions are higher than the Debit scores for the impacts.**

**The acre-points of the functions lost in the wetland being impacted are called ‘Debits. The gains in acre-points for functions that result from the mitigation activities are called ‘Credits.’**

**The calculations of Debits are corrected to account for the losses in functions during the time it takes a mitigation site to fully develop its functions.**

**The calculations of Credits are corrected to account for the risk that a mitigation project will fail. The risk factor however, has been reduced from the ratio of 2:1 used in previous guidance to 1.5:1.**

# EXHIBIT 5

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## ECOLOGY'S CREDIT/DEBIT TOOL

### ***Calculating Credits and Debits for Compensatory Mitigation in Western Washington***

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Surface Water Management Division

The full text of the Credit/Debit tool can be found on the Department of Ecology's Website, at: <https://fortress.wa.gov/ecy/publications/summarypages/1006011.html>

This publication should be cited as:

Hruby, T. 1012. Calculating Credits and Debits for Compensatory Mitigation in Western Washington, Final Report, March 2012. Washington State Department of Ecology publication #10-06-11.

*This exhibit consists only of this Tab sheet*



# EXHIBIT 6

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## CREDIT PRICING ANALYSIS TABLE

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Pierce County Public Works

Surface Water Management Division



## Exhibit 6 Credit Pricing Analysis Table

Project Name	HGM	Type	Acres of Treatment	Acres Preserved	Base Acre-Points *			Risk Factor *	Proposed Acre-Points*			Additional Acre-Points *	Total Universal Acre-Points	Acre-Points / Acre	Appraised Land Value	Appraisal Date	Site Selection, Planning, Permitting & Design	Administration and Staff Time	Construction & Materials	Irrigation	Performance Period Maintenance	Monitoring for Performance Standards	Long-term M & M	10% of Site Implementation Costs	Total Project Implementation Budget (Minus Land Value)	Year Construction Complete	CPI Scaling Factor*	2014 Adjusted (Using CPI)	Cost per credit-Credit Fee*	Cost per Credit-Land Fee*	Cost per Credit-Mitigation Fee (Credit Fee plus Land Fee)*
					Wq	Hy	Ha		Wq	Hy	Ha																				
Larchmont Wetland Reserve	riverine/depressional	rehab/enhancement	16.1	0	22.44	9.28	20.12	1	22.44	9.28	20.12	15.0	66.8	4.2	\$1,175,000	2005 and 2011	\$270,000	\$163,000	\$821,000	\$0	\$15,000	\$40,000	\$253,000	\$82,100	\$1,644,100	2013	1.023	\$1,681,914	\$25,163.29	\$17,579.00	\$42,742.29
South Midland Wetland Reserve	riverine/depressional	estab/ rehab/ enhance	15.3	0	36.34	32.63	25.36	1	36.34	32.63	25.36	5.0	99.3	6.5	\$582,636	2005	\$200,000	\$317,550	\$1,829,125	\$160,000	\$15,000	\$40,000	\$253,000	\$198,912	\$3,013,587	2008	1.100	\$3,314,946	\$33,374.74	\$5,865.00	\$39,239.74
<b>TOTALS</b>			<b>31.4</b>						<b>58.8</b>	<b>41.9</b>	<b>45.5</b>		<b>166.2</b>				<b>\$470,000</b>	<b>\$480,550</b>	<b>\$2,650,125</b>	<b>\$160,000</b>	<b>\$30,000</b>	<b>\$80,000</b>	<b>\$506,000</b>	<b>\$281,012</b>	<b>\$4,657,687</b>			<b>\$4,996,860</b>	<b>\$29,269.01</b>	<b>\$11,722.00</b>	<b>\$40,991.01</b>

Irrigation cost 66% of initial planting cost for SMWR. If no other model, use this for budgeting purposes. Larchmont will not be irrigated.

**\* Notes:**

The **Base Acre-Points** and **Proposed Acre-Points** are anticipated credits expected from the two pre-capitalized receiving sites. At the time of publishing this Instrument these expected acre-points have not been reviewed or approved by the IRT. These numbers are, therefore, subject to change. However, they represent the Sponsor's best guess of anticipated credits and are therefore the best values to use to calculate the proposed Mitigation Fees.

The **"Risk Factor"** is the risk of failure of the mitigation site. If there is a chance of failure, the risk factor will be less than 1. According to the Credit/Debit tool, the risk factor is anywhere from 0.4 to 1.0. Since these sites have been implemented before any sale of credits and most likely (certainly in the case of SMWR), at least one year will pass between the time "as-built" plans are submitted to regulatory agencies and any credits are sold, a risk factor of 1.0 applies to these sites (in other words, no deduction of credit).

**Additional Acre-Points** represent extra credit beyond what was determined through application of the Credit/Debit tool. These extra acre-points may be granted by the IRT, on a case by case basis, when the Sponsor demonstrates that there has been additional ecological lift that the rapid credit/debit assessment tool simply didn't capture. Examples may be improvement of groundwater quality by the removal of contaminated fill, or significant and measurable retention of stormwater flows (but not enough to register with the robust metrics of the Credit/Debit Tool).

The **CPI Scaling Factor** is generated by dividing the latest Consumer Price Index for All Urban Consumers for the Seattle-Tacoma-Bremerton, Washington Region by the annual CPI of the year construction of the project was complete. The CPI Scaling Factor will be adjusted annually as part of the program review and review of credit pricing.

**Fees** are subject to change after IRT review, and annually thereafter. Based on the values in this table, the credit fees and land fees at the inception of the PCILF program are \$29,000 plus \$11,000, respectively, for the Chambers/Clover Creek Watershed (WRIA 12) and \$22,000 and \$8,000 for the Nisqually Watershed (WRIA 11). These prices are subject to change based on actual numbers once additional sites have been added to the program.

2005 and 2006 acquisitions totalled \$759,000. This price includes the additional \$416,000 we spent to acquire Schmidt and Lindley.

Per Grant, as of 4/30/13. Tasks 3 and 4.

\$317,550 was actual cost for SMWR Admin (staff salaries) with estimate of \$6,000 for future 8

This includes all other staff time not accounted for in previous column. This includes TASK 8. \$60,000 spent as of 4/30/13. As with SMWR, anticipate 6,000 additional administrative/staff costs over next 10 years for admin tasks beyond and above

This is based on a cost of \$500.00 per day for WCC crew and average of 10 days per year for 10 years.

ACI contract is \$705,000. Cost for fence along west side of property was an additional \$16,000. WCC is hand removing invasive plants and replanting/underplanting. Budget \$100,000 for this effort, which is ongoing as of 02/2014. Future

This is related to the contingency fund. The 10% allocation to the contingency fund is based on this calculation of 10% of the costs of site implementation (land acquisition, site assessment, design, permitting, construction, and any irrigation). This is what we budget for cost overruns, in the event of disagreement with contractor, change orders, etc. This is for cost overruns during the construction phase. Not related to performance period maintenance, monitoring, or long term M&M. By including it here, this becomes part of the credit fee. The overall credit fee is then allocated according to the allotments in the instrument. The Contingency fund ends up being 10% of everything (once administrative time, short and long term maintenance and monitoring, etc.) is figured in.

# EXHIBIT 7

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## CREDIT/DEBIT LEDGER

February 2015

Pierce County Public Works

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<b>Exhibit 7: CREDIT/DEBIT LEDGER / Part I</b>	<b>Summary Balance Sheet Service Area 12 - Chambers/Clover Creek</b>
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Current as of: XX-XX-XXXX

Credits Balance Sheet				
	Water Quality Credits	Hydrology Credits	Habitat Credits	Notes
Advance Credits	40	40	40	(Date Advanced: XX-XX-2014)
Debited Credits (sold to impacts)	17.53	15.98	19.43	
Credits pending (planned, proposed)	63.78	49.61	50.48	
Credits earned (Released)	0.00	0.00	0.00	
"No Net Loss Balance"	-17.53	-15.98	-19.43	= Credits Earned - Debited Credits
Credits available to sell	22.48	24.03	20.58	= Advance - Debited + Released

Impact Site Details	
Number of Impacts (Unique projects)	2
Acres of Impact	0.40

Mitigation Details	
Projects	2
Acres	31.4

Example Data

Notes:

1. This ledger worksheet tracks debits accrued from impact sites within the service area and the fee paid to mitigate for those debits with ILF credits. This is not, however, a financial ledger. Financial information is presented within the Fee Ledger.
2. Data for individual sites will be taken from an approved Statement of Sale.
3. For full impact site data, refer to PALS+ database (search by PALS Permit Number).

Site Data						Mitigation Debit And Fee Assessment Data									Fulfillment Data							
Impact Site Name	PALS Permit Number	Statement of Sale Date	Impact Acreage	Type	Category	Water Quality Debits	Hydrology Debits	Habitat Debits	Total Debits = (Universal Credits Purchased)	Price per Universal Credit (\$/acre)	Total Credit Fee	Per Credit Land Fee	Total Land Fee	Total Mitigation Fee Charged to Applicant	Assigned to Mitigation Project	Mitigation Site Name	Mitigation Site SWM Project Number	Land Fee Acct.	Program Admin Acct. 001	Contingency Acct 002	LTM Acct. 003	Individual Mitigation Projects Acct 004
Example-House in Cat III grazed wet pasture	58XX1	7-Nov-14	0.1	Wetland	III	1.225	0.875	0.525	2.625	\$29,000	\$76,125	\$11,000	\$28,875	\$105,000	Y	LWR	D200	\$28,875	\$11,418.75	\$7,612.50	\$3,806.25	\$53,287.50
Example Road through Cat I wetland	58XX2	4-Dec-14	0.3	Wetland	I	16.3	15.1	18.9	50.3	\$29,000	\$1,458,700	\$11,000	\$553,300	\$2,012,000	Y	SMWR	D143	\$553,300	\$218,805.00	\$145,870.00	\$72,935.00	\$1,021,090.00
TOTALS			0.40			17.53	15.98	19.43			\$1,534,825		\$582,175	\$2,117,000				\$582,175	\$230,224	\$153,483	\$76,741	\$1,074,378
						Water Quality Debits	Hydrology Debits	Habitat Debits														
						17.53	15.98	19.43														
						Water Quality Debits	Hydrology Debits	Habitat Debits														
						17.53	15.98	19.43														
						"Universal Debits" (sum of Credits)			52.93													

Allocation to Accounts (% of Credit Fee)	
Program Admin Account	15%
Contingency Account	10%
Long Term Management Account	5%
Individual Mitigation Projects Acct	70%

Example Data

Example Data

WRIA 12 ILF receiving site summary	WQ Credits	Hydrology Credits	Habitat Credits	Total
Proposed Credits	63.78	46.91	55.48	166.17
Pending Credits	63.78	46.91	55.48	166.17
Released Credits	0	0	0	0

MITIGATION SITE DETAILS - CREDITS AND ESTIMATED BUDGET							IMPACT SITE DETAILS AND BUDGET ALLOCATION												CARRY OVER							
EXAMPLES ONLY Mitigation Site Name	Proposed Project Acreage (Including Buffers)		WQ Credits	Hydrology Credits	Habitat Credits	Total	Impact Site(s)	WQ Credits Needed	Hydrology Credits Needed	Habitat Credits Needed	Total Universal Credits Needed	Total Credit Fees	Per Credit Land Fee	Total Land Fees	Total Mitigation Fee	Mitigation Site SWM Project Number	Land Fee Account	Program Admin Acct. 001	Contingency Acct 002	LTM Acct. 003	Mitigation Project Accts 004	% of Credit Fees used for this project	Credit Fees Allocated to This Project	Remaining Funds for Other Project		
P R O J E C T  1	Larchmont Wetland Reserve	16.9	Proposed	27.44	14.28	25.12	66.84	Example-House in Cat III grazed wet pasture	1.225	0.875	0.525	2.625	\$76,125	\$11,000	\$28,875	\$105,000	D200	\$28,875	\$11,419	\$7,613	\$3,806	\$53,288	100%	\$105,000	\$0	
			Pending	27.44	14.28	25.12	66.84	Example Road through Cat I wetland	16.3	15.1	18.9	50.3	\$1,458,700	\$11,000	\$553,300	\$2,012,000	D200	\$553,300	\$218,805	\$145,870	\$72,935	\$1,021,090	100%	\$2,012,000	\$0	
			Released	0	0	0	0																			
			Credits Sold (to Contributing Impact Projects):	17.525	15.975	19.425	52.925																			
			Credits Still Available at PCILF Receiving Site:	9.915	-1.695	8.015	13.915																			
			Mitigation Project Cost Estimate:																							
			Acquisition				\$1,175,000																			
			Design				\$270,000																			
			Construction				\$821,000																			
			Estimated Mitigation Project Account Budget Need:				\$2,266,000																			
		Date of Spending Agreement Authorization:				XX/XX/XXXX																				
		Funds Allocated (from Contributing Impact Projects):				\$2,117,000																				
		Remaining Budget Need:				\$149,000																				
		TOTALS				17.525	15.975	19.425	52.925	\$1,534,825			\$582,175	\$2,117,000		\$582,175	\$230,224	\$153,483	\$76,741	\$1,074,378		\$2,117,000	\$0			
P R O J E C T  2	South Midland Wetland Reserve	15.3	Proposed	36.34	32.63	30.36	99.33		0	0	0	0	\$0			D143		\$0	\$0	\$0	\$0	#DIV/0!	\$0	\$0		
			Pending	36.34	32.63	30.36	99.33		0	0	0	0	\$0			D143		\$0	\$0	\$0	\$0	100%	\$0	\$0		
			Released	0	0	0	0																			
			Credits Sold (to Contributing Impact Projects):	0	0	0	0																			
			Credits Still Available at PCILF Receiving Site:	36.34	32.63	30.36	99.33																			
			Mitigation Project Cost Estimate:																							
			Acquisition				\$582,636																			
			Design				\$517,550																			
			Construction				\$1,989,000																			
			Estimated Mitigation Project Account Budget Need:				\$3,089,186																			
		Date of Spending Agreement Authorization:				XX/XX/XXXX																				
		Funds Allocated (from Contributing Impact Projects):				\$0																				
		Remaining Budget Need:				\$3,089,186																				
		TOTALS				0	0	0	0	\$0							\$0	\$0	\$0	\$0		\$0	\$0			

Balance Sheet				
	Aquatic Area Type 1 (e.g. stream bed)	Aquatic Area Type 2 (e.g. lake shoreline)	Aquatic Area Type 3 (e.g. stream buffer)	Notes
Area of Impacts				
Mitigation Area Pending (planned, proposed)				
Mitigation Complete (credits released)				
"No Net Loss Balance"				

Impact Site Details	
Number of Impacts (Unique projects)	0
Acres of Impact	#REF!

Mitigation Details	
Projects	0
Acres	0

Example Data

# EXHIBIT 8

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## FEE LEDGER

February 2015

Pierce County Public Works

Surface Water Management Division



<b>Exhibit 8: FEE LEDGER</b>	<b>WRIA 12 Credit Fee Sub-Ledger</b>
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WRIA 12 Credit Fee Total Income		
Total Credit Fee Income	Impact Permit #	Service Area
	NWS-2013-XXX1-WRD (Example)	WRIA 12
	NWS-2013-XXX3-WRD (Example)	WRIA 12
	NWS-2013-XXX4-WRD (Example)	WRIA 12
<b>\$0.00</b>	<b>TOTAL</b>	

As of 1-Jan-15

**CONTINGENCY ACCOUNT (10% ALLOCATION)**

Contingency Balance		\$0.00
Deposits	Impact Permit #	
	NWS-2013-XXX1-WRD (Example)	
	NWS-2013-XXX3-WRD (Example)	
	NWS-2013-XXX4-WRD (Example)	
<b>\$0.00</b>	<b>TOTAL</b>	
Contingency Expenditures	Mitigation Project Name	Description of expenditures
\$		
\$		
\$		
<b>0</b>	<b>TOTAL</b>	

As of XX-XX-XXXX

**PROGRAM ADMINISTRATION ACCOUNT (15% ALLOCATION)**

<b>Program Administration Balance</b>		<b>\$0.00</b>
<b>Deposits</b>	<b>Impact Permit #</b>	
	NWS-2013-XXX1-WRD (Example)	
	NWS-2013-XXX3-WRD (Example)	
	NWS-2013-XXX4-WRD (Example)	
<b>\$0.00</b>	<b>TOTAL</b>	
<b>Administration Expenditures</b>	<b>Task or Mitigation Project Name</b>	<b>Description of expenditures</b>
\$		
\$		
\$		
<b>0</b>	<b>TOTAL</b>	

As of XX-XX-XXXX

**LONG-TERM MANAGEMENT ACCOUNT (5% ALLOCATION)**

<b>Long-term M&amp;M Balance</b>		<b>\$0.00</b>
<b>Deposits</b>	<b>Impact Permit #</b>	
	NWS-2013-XXX1-WRD (Example)	
	NWS-2013-XXX3-WRD (Example)	
	NWS-2013-XXX4-WRD (Example)	
<b>\$0.00</b>	<b>TOTAL</b>	
<b>LTM Expenditures</b>	<b>Mitigation Project Name</b>	<b>Description of expenditures</b>
<b>\$0.00</b>	<b>TOTAL</b>	

As of XX-XX-XXXX

**MITIGATION PROJECTS ACCOUNT (70% ALLOCATION)**

<b>Implementation Account Balance</b>		<b>-\$8,930.69</b>
<b>Deposits</b>	<b>Impact Permit #</b>	
	NWS-2013-XXX1-WRD (Example)	
	NWS-2013-XXX3-WRD (Example)	
	NWS-2013-XXX4-WRD (Example)	
<b>\$0.00</b>	<b>TOTAL</b>	

<b>Larchmont Wetland Reserve Expenditures</b>	<b>Additional rows as needed to provide detail</b>
<b>2013 Expenditures</b>	
<b>2014 Expenditures</b>	
	<b>1. Design and Permitting</b>
\$883.00	1.1 Stormwater Construction General Permit
	<b>2. Construction and Implementation</b>
\$37.97	2.1 Advertising
\$472.98	2.2 Printing
\$19,344.92	2.3 Construction contract
\$1,260.19	2.4 Contract Compliance
\$33,802.23	2.5 WCC work of clearing invasive plants/planting natives
\$21.87	2.6 Grass Seed for Swales
\$781.30	2.6 Plant material for WCC to Plant
\$351.02	2.7 Project Sign
\$45.47	2.8 Materials for Wood Duck Nesting Boxes
	<b>3. Establishment Phase Maintenance and Monitoring</b>
<b>\$57,000.95</b>	<b>TOTAL</b>

South Midland Wetland Reserve	Additional rows as needed to provide detail
<b>2014 Expenditures</b>	
	<b>3. Establishment Phase Maintenance and Monitoring</b>
\$991.81	3.1 Beaver Deceiver Supplies
\$6,598.21	3.2 Staff time and fleet rental for beaver monitoring and management
\$1,029.42	3.3 WCC time to install beaver deceiver
\$311.25	3.4 HPA Permits for Beaver Dam Management
<b>\$8,930.69</b>	<b>TOTAL</b>

Mitigation Project 3 Expenditures	Additional rows as needed to provide detail
	Design
	Site Assessment
	Construction
<b>\$0.00</b>	<b>TOTAL</b>

# EXHIBIT 9

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## CREDIT FULFILLMENT CHECKLIST

February 2015

Pierce County Public Works

Surface Water Management Division



**Exhibit 9: Credit Fulfillment Checklist**

**Pierce County In Lieu Fee Program: Credit Fulfillment Checklist**

Proposed Mitigation Project Details					
Impact(s) (Permit numbers, date) Proposed Receiving Site: Review _____					
process inception date _____					
_____					
_____					
	Fulfillment Step	Responsible Party	Notes/Special conditions	Date completed	IRT Signoff
1	Pierce County ILF Program selects preferred site	PCPW SWM			NA
2	IRT review and approval of proposed receiving site and conceptual mitigation plan.	IRT	<input type="checkbox"/> Legal for mitigation? <input type="checkbox"/> Appropriate functional match provided by receiving site? <input type="checkbox"/> Potential for lift at proposed receiving site?		
3	Joint Public Notice on Site Selection and Conceptual Site Plan	COE/DOE	This public notice will also serve as the notice to amend the PCILF instrument by appending the site specific mitigation plan.		
4	Site Selection Approved	IRT			
5	Data collection/site assessments, including wetland delineation, rating and credit/debit assessment (delineation and wetland assessments may be limited to off-site delineation methods until site has been aquired).	PCSWM			
6	Submit and approve Spending Agreement	PCSWM/IRT	The spending agreement submittal may vary from this order and more than one spending agreement may be necessary for an ILF mitigation project depending on site specifics and baseline data needs.		
7	Develop draft mitigation plan, cost estimate, and credit generation proposal	PCPW SWM			
8	Submit draft site protection instrument	PCPW SWM			
9	Acquisition of site or easement	PCSWM			

10	Final draft mitigation plan completed	PCSWM	Including proposed credit release schedule		
11	Append Mitigation Plan to PCILF Instrument	COE/DOE			
12	Site Protection Instrument finalized and recorded	PCSWM			
13	IRT review and approval of Mitigation Plan and Credit Release Schedule	IRT	<input type="checkbox"/> Proposed mitigation appropriate for original impacts(s)? <input type="checkbox"/> No net loss requirements met?		
14	IRT Review and approval of site protection instrument	IRT			
15	Complete Environmental Permitting necessary to implement the Mitigation Plan	PCPW SWM			
16	Begin project implementation	PCPW SWM			
17	Project achievement of performance measures	PCPW SWM			
18	Credits Released	IRT			

# EXHIBIT 10

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## MONITORING AND REPORTING REQUIREMENTS

### ***Minimum Monitoring Requirements for Compensatory Mitigation Projects Involving the Restoration, Establishment, and/or Enhancement of Aquatic Resources.***

***Corps Regulatory Guidance Letter No. 08-03.***

February 2015

Pierce County Public Works

Surface Water Management Division





US Army Corps  
of Engineers®

# REGULATORY GUIDANCE LETTER

No. 08-03

Date: 10 October 2008

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**SUBJECT:** Minimum Monitoring Requirements for Compensatory Mitigation Projects Involving the Restoration, Establishment, and/or Enhancement of Aquatic Resources.

## 1. Purpose and Applicability

**a. Purpose.** This Regulatory Guidance Letter (RGL) provides the Districts and regulated public guidance on minimum monitoring requirements for compensatory mitigation projects, including the required minimum content for monitoring reports. This RGL replaces RGL 06-03.

**b. Applicability.** The final Mitigation Rule published on April 10, 2008, states that the submission of monitoring reports to assess the development and condition of compensatory mitigation projects is required, but the content and level of detail for those reports must be commensurate with the scale and scope of the compensatory mitigation projects as well as the compensatory mitigation project type (see 33 CFR 332.6(a)(1)).

This RGL applies to all Department of the Army (DA) permit authorizations under Section 404 of the Clean Water Act and Sections 9 and 10 of the Rivers and Harbors Act that contain special conditions requiring compensatory mitigation provided through aquatic resource restoration, establishment and/or enhancement. This guidance also applies to monitoring reports that are prepared for mitigation bank sites and in-lieu-fee project sites.

This RGL supports the Program Analysis and Review Tool (PART) program goals for the Regulatory Program. Specifically, this RGL supports the PART performance measures for mitigation site compliance and mitigation bank/ in-lieu-fee compliance. These measures apply to active mitigation sites, mitigation banks, and in-lieu-fee project sites that still require monitoring.

## 2. Background

Recent studies by the Government Accountability Office (GAO) and National Research Council (NRC) indicated that the U.S. Army Corps of Engineers (Corps) was not providing adequate oversight to ensure that compensatory mitigation projects were successfully replacing the aquatic resource functions lost as a result of permitted activities. For example, the GAO study determined that many project files requiring

mitigation lacked monitoring reports despite the fact that such reports were required as a condition of the permit. Similarly, the NRC study documented that a lack of clearly stated objectives and performance standards in the approved compensatory mitigation proposals made it difficult to ascertain whether the goal of no net loss of wetland resources was achieved.

On April 10, 2008, the Corps and Environmental Protection Agency published the “Compensatory Mitigation for Losses of Aquatic Resources: Final Rule” (Mitigation Rule) which governs compensatory mitigation for activities authorized by permits issued by the Department of the Army (33 CFR Parts 325 and 332). This RGL complements and is consistent with the final Mitigation Rule.

### **3. Discussion**

Inconsistent approaches to monitoring compensatory mitigation projects are one of several factors that have affected the ability of Corps project managers (PMs) to adequately assess achievement of the performance standards of Corps-approved mitigation plans. Standardized monitoring requirements will aid PMs when reviewing compensatory mitigation sites, thereby allowing the Corps to effectively assess the status and success of compensatory mitigation projects.

This RGL addresses the minimum information needed for monitoring reports that are used to evaluate compensatory mitigation sites. Monitoring requirements are typically based on the performance standards for a particular compensatory mitigation project and may vary from one project to another.

Monitoring reports are documents intended to provide the Corps with information to determine if a compensatory mitigation project site is successfully meeting its performance standards. Remediation and/or adaptive management used to correct deficiencies in compensatory mitigation project outcomes should be based on information provided in the monitoring reports and site inspections.

### **4. Guidance**

#### **a. Monitoring guidelines for compensatory mitigation.**

**i. Performance Standards.** Performance standards, as defined in 33 CFR 332.2, and discussed in more detail at 33 CFR 332.5, will be consistent with the objectives of the compensatory mitigation project. These standards ensure that the compensatory mitigation project is objectively evaluated to determine if it is developing into the desired resource type and providing the expected functions. The objectives, performance standards, and monitoring requirements for compensatory mitigation projects required to offset unavoidable impacts to waters of the United States must be provided as special conditions of the DA permit or specified in the approved final mitigation plan (see 33 CFR 332.3(k)(2)). Performance standards may be based on functional, conditional, or other suitable assessment methods and/or criteria and may be incorporated into the

special conditions to determine if the site is achieving the desired functional capacity. Compensatory mitigation projects offset the impacts to diverse types of aquatic resources, including riverine and estuarine habitats. Special conditions of the DA permits will clearly state performance standards specific to the type and function of the ecosystem in relation to the objectives of the compensatory mitigation project.

**ii. Monitoring Timeframe.** The special conditions of the DA permit (or the mitigation plan as referenced in the special conditions) must specify the length of the monitoring period (see 33 CFR 332.6(a)(1)). For mitigation banks, the length of the monitoring period will be specified in either the DA permit, mitigation banking instrument, or approved mitigation plan. For in-lieu fee projects, the length of the monitoring period will be specified in either the DA permit or the approved in-lieu fee project plan.

The monitoring period must be sufficient to demonstrate that the compensatory mitigation project has met performance standards, but not less than five years (see 33 CFR 332.6(b)). The District determines how frequently monitoring reports are submitted, the monitoring period length, and report content. If a compensatory mitigation project has met its performance standards in less than five years, the monitoring period length can be reduced, if there are at least two consecutive monitoring reports that demonstrate that success. Permit conditions will support the specified monitoring requirement and include deadlines for monitoring report submittal. Longer monitoring timeframes are necessary for compensatory mitigation projects that take longer to develop (see 33 CFR 332.6(b)). For example, forested wetland restoration may take longer than five years to meet performance standards.

Annual monitoring and reporting to the Corps is appropriate for most types of compensatory mitigation projects, though the project sponsor may have to monitor progress more often during the project's early stages. Certain compensatory mitigation projects may require more frequent monitoring and reporting during the early stages of development to allow project managers to quickly address problems and/or concerns. Annual monitoring can resume once the project develops in accordance with the approved performance standards. In cases where monitoring is required for longer than five years, monitoring may be conducted on a less than annual timeframe (such as every other year), though yearly monitoring is recommended until the project becomes established as a successful mitigation project. In this case, off-year monitoring should include some form of screening assessment such as driving by the mitigation site, telephone conversations regarding condition of the mitigation site, etc. On-site conditions, the complexity of the approved mitigation plan, and unforeseen circumstances will ultimately determine whether the monitoring period should be extended beyond the specified monitoring time frame for a particular project. Complex and/or ecologically significant compensatory mitigation projects should have higher priority for site visits.

As discussed above, the remaining monitoring requirements may be waived upon a determination that the compensatory mitigation project has achieved its performance standards. The original monitoring period may be extended upon a determination that

performance standards have not been met or the compensatory mitigation project is not on track to meet them (e.g., high mortality rate of vegetation). Monitoring requirements may also be revised in cases where adaptive management or remediation is required.

**iii. Monitoring Reports.** Monitoring requirements, including the frequency for providing monitoring reports to the District Commander and the Interagency Review Team (IRT), will be determined on a case-by-case basis and specified in either the DA permit, mitigation banking instrument, or approved mitigation plan. The content of the monitoring reports will be specified in the special conditions of the DA permit so that the requirements are clearly identified for the permittee or third-party mitigation sponsor. In addition, the monitoring reports should comply with the timeframes specified in the special conditions of the DA permit. Monitoring reports will not be used as a substitute for on site compliance inspections. The monitoring report will provide the PM with sufficient information on the compensatory mitigation project to assess whether it is meeting performance standards, and to determine whether a compliance visit is warranted. The party responsible for monitoring can electronically submit the monitoring reports and photos for review.

Visits to mitigation sites will be documented in the administrative record and will count toward District performance goals. An enforcement action may be taken if the responsible party fails to submit complete and timely monitoring reports.

**b. Contents of Monitoring Reports.** Monitoring reports provide the PM with a convenient mechanism for assessing the status of required compensatory mitigation projects. The PM should schedule a site visit and determine potential remedial actions if problems with the compensatory mitigation project are identified in a monitoring report.

The submittal of large bulky reports that provide mostly general information should be discouraged. While often helpful as background, reiteration of the mitigation and monitoring plan content, lengthy discussions of site progress, and extensive paraphrasing of quantified data are unnecessary. Monitoring reports should be concise and effectively provide the information necessary to assess the status of the compensatory mitigation project. Reports should provide information necessary to describe the site conditions and whether the compensatory mitigation project is meeting its performance standards.

Monitoring reports will include a Monitoring Report Narrative that provides an overview of site conditions and functions. This Monitoring Report Narrative should be concise and generally less than 10 pages, but may be longer for compensatory mitigation projects with complex monitoring requirements. Monitoring Report Narratives may be posted on each District's Regulatory web site.

Monitoring reports will also include appropriate supporting data to assist District Commanders and other reviewers in determining how the compensatory mitigation project is progressing towards meeting its performance standards. Such supporting data may include plans (such as as-built plans), maps, and photographs to illustrate site

conditions, as well as the results of functional, condition, or other assessments used to provide quantitative or qualitative measures of the functions provided by the compensatory mitigation project site.

**c. Monitoring Report Narrative:**

**i. Project Overview (1 page)**

(1) Corps Permit Number or Name of the Mitigation Bank or In-Lieu Fee Project  
(2) Name of party responsible for conducting the monitoring and the date(s) the inspection was conducted.

(3) A brief paragraph describing the purpose of the approved project, acreage and type of aquatic resources impacted, and mitigation acreage and type of aquatic resources authorized to compensate for the aquatic impacts.

(4) Written description of the location, any identifiable landmarks of the compensatory mitigation project including information to locate the site perimeter(s), and coordinates of the mitigation site (expressed as latitude, longitudes, UTM's, state plane coordinate system, etc.).

(5) Dates the compensatory mitigation project commenced and/or was completed.

(6) Short statement on whether the performance standards are being met.

(7) Dates of any recent corrective or maintenance activities conducted since the previous report submission.

(8) Specific recommendations for any additional corrective or remedial actions.

**ii. Requirements (1 page)**

List the monitoring requirements and performance standards, as specified in the approved mitigation plan, mitigation banking instrument, or special conditions of the DA permit, and evaluate whether the compensatory mitigation project site is successfully achieving the approved performance standards or trending towards success. A table is a recommended option for comparing the performance standards to the conditions and status of the developing mitigation site.

**iii. Summary Data (maximum of 4 pages)**

Summary data should be provided to substantiate the success and/or potential challenges associated with the compensatory mitigation project. Photo documentation may be provided to support the findings and recommendations referenced in the monitoring report and to assist the PM in assessing whether the compensatory mitigation project is meeting applicable performance standards for that monitoring period. Submitted photos should be formatted to print on a standard 8 ½" x 11" piece of paper, dated, and clearly labeled with the direction from which the photo was taken. The photo location points should also be identified on the appropriate maps.

#### **iv. Maps and Plans (maximum of 3 pages)**

Maps should be provided to show the location of the compensatory mitigation site relative to other landscape features, habitat types, locations of photographic reference points, transects, sampling data points, and/or other features pertinent to the mitigation plan. In addition, the submitted maps and plans should clearly delineate the mitigation site perimeter(s), which will assist PMs in locating the mitigation area(s) during subsequent site inspections. Each map or diagram should be formatted to print on a standard 8 ½" x 11" piece of paper and include a legend and the location of any photos submitted for review. As-built plans may be included.

#### **v. Conclusions (1 page)**

A general statement should be included that describes the conditions of the compensatory mitigation project. If performance standards are not being met, a brief explanation of the difficulties and potential remedial actions proposed by the permittee or sponsor, including a timetable, should be provided. The District Commander will ultimately determine if the mitigation site is successful for a given monitoring period.

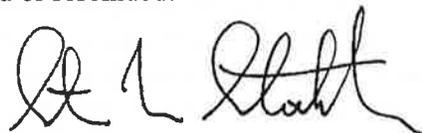
**d. Completion of Compensatory Mitigation Requirements.** For permittee-responsible mitigation projects, compensatory mitigation requirements will not be considered fulfilled until the permittee has received written concurrence from the District Commander that the compensatory mitigation project has met its objectives and no additional monitoring reports are required. PMs will review the final monitoring reports to make this determination. A final field visit should be conducted to verify that on-site conditions are consistent with information documented in the monitoring reports.

**e. Special Condition.** The following condition should be added to all DA permits that require permittee-responsible mitigation. This condition does not apply to mitigation banks or in-lieu-fee programs:

*Your responsibility to complete the required compensatory mitigation as set forth in Special Condition X will not be considered fulfilled until you have demonstrated compensatory mitigation project success and have received written verification of that success from the U.S. Army Corps of Engineers.*

#### **5. Duration**

This guidance remains in effect unless revised or rescinded.



STEVEN L. STOCKTON, P.E.  
Director of Civil Works

# EXHIBIT 11

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## STATEMENT OF SALE TEMPLATE

February 2015

Pierce County Public Works

Surface Water Management Division



# Pierce County In-Lieu Fee Program

## Statement of Sale

OFFICIAL RECORD OF SALE OF MITIGATION CREDITS PURSUANT TO THE TERMS AND CONDITIONS OF (1) THE PIERCE COUNTY IN LIEU FEE PROGRAM; (2) THE FINAL PROGRAM INSTRUMENT; AND (3) THE PROVISIONS CONTAINED IN 33 CFR PARTS 325 AND 332 AS REVISED EFFECTIVE JUNE 9, 2008 [THE FEDERAL MITIGATION RULE].

### I. PURPOSE

This Statement of Sale confirms the sale of mitigation credits from *the Pierce County In-Lieu Fee Program (PCILF)* to the Applicant listed in Article III below. This Statement of Sale does not constitute a permit or permission to proceed with any proposed action. The Applicant is responsible for obtaining all necessary permits for a proposed action.

### II. TRANSFER OF PERMIT MITIGATION RESPONSIBILITY

The PCILF Sponsor (hereinafter "Sponsor") agrees to accept full legal responsibility for satisfying the compensatory mitigation requirements for all permits granted by the United States Army Corps of Engineers, the State of Washington, and all local permits for which mitigation fees from an Applicant have been accepted under the terms of this Statement of Sale. This responsibility includes compliance with 33 CFR 332, 40 CFR 230, Pierce County Code Chapters 18E.10 through 18E.40 and 18G.20, any applicable state and other local jurisdictional laws, and the terms of the Program Instrument. In satisfaction of the compensatory mitigation requirements, the Sponsor shall provide compensatory mitigation of the type and in the amount necessary to meet applicable Federal, State, and local regulation requirements.

### III. APPLICANT AND IMPACT PROJECT DETAILS

[To be filled out by Applicant]

#### A. Applicant.

[Applicant Name](Hereinafter "Applicant")

[Address and other Contact information]

Parcel No(s)\_\_\_\_\_

[Impact Site Name/Project Name]

#### B. Impact Project.

Watershed Service Area  Chambers/Clover  Nisqually

Permitting Agency:\_\_\_\_\_



Permit Number(s): \_\_\_\_\_  
 [Add additional agencies and permits as necessary]

Description of impacts: [Provide details of project impact]

Description of debits [Wetland HGM class and category, impact acreage, functions disturbed. Please list each class and category separately if more than one wetland unit.]

Table 1. Function disturbed

	Improving Water Quality	Hydrologic	Habitat
Debits—Emergent or shrub areas	_____ Acre-points	_____ Acre-points	_____ Acre-points
Debits—Forested areas	_____ Acre-points	_____ Acre-points	_____ Acre-points
TOTAL	_____ Acre-points	_____ Acre-points	_____ Acre-points

**IV. CREDITS PURCHASED AND MITIGATION FEES PAID**  
 [To be filled out by Sponsor]

A. Credits Purchased. In exchange for the payment of mitigation fees, the Applicant receives [ # credits is equal to # of debits ] mitigation credits. These credits have been withdrawn from the [ Advance Credit pool or released credit balance ] in the [ Service Area Name ] service area.

ILF Receiving site if known: [ \_\_\_\_\_ ]

B. Allocation to the PCILF Program Account. The mitigation fees will be deposited into the following funds within the Pierce County ILF Program Account (see Basic Agreement Article IV.D and Appendix F of the Instrument):

Where the [ year ] price per credit is: \$ \_\_\_\_\_

Total Mitigation Fees Collected from Applicant: \$ \_\_\_\_\_

Land Fee Account: \$ \_\_\_\_\_ (100% of land fee)

Program Admin. Account: \$ \_\_\_\_\_ (15% of total credit fee)



Contingency Account: \$\_\_\_\_\_ (10% of total credit fee)  
Long Term Management Account: \$\_\_\_\_\_ (5% of total credit fee)  
Individual Mitigation Projects Account: \$\_\_\_\_\_ (70% of total credit fee)

C. The Sponsor Agrees to Implement Mitigation

Upon acceptance of these fees from the Applicant, the Sponsor is agreeing to implement mitigation, and assume all associated obligations and liabilities according to terms of the final *Program Instrument* for the Pierce County ILF Program as certified on \_\_\_\_\_, 2015.

**V. PROOF OF PURCHASE**

This Statement of Sale shall serve as official proof that the Applicant has purchased mitigation credits from the Sponsor.

- A. Signed Statement of Sale provided to Applicant. The Sponsor will provide a signed copy of this form to the Applicant within 15 days after receipt of funds from the Applicant. The Applicant is responsible for submitting copies of the fully executed Statement of Sale to the appropriate regulatory agencies as proof of purchase of ILF mitigation credits.
- B. Signed Statement of Sale provided to the United States Army Corps of Engineers and the Washington State Department of Ecology. The Sponsor will provide a signed copy of this form to the above identified organizations within 15 days after receipt of funds from the Applicant.
- C. Copies available to the Interagency Review Team (IRT) members. Copies of this Statement of Sale shall be made available to any member of the IRT upon the IRT member's request.

**VI. ADDITIONAL PROVISIONS**

- A. Allocation of Funds. The Sponsor will deposit the moneys listed above into the program account in the amounts listed in Article IV.B of this Statement of Sale. Record of these funds will also be added to the Program Account Ledger.
- B. Spending Authorization. Upon initial receipt of mitigation fees, the Sponsor shall be authorized to spend up to 75% of funds allocated to Administrative Accounts according to the terms of the program instrument (see Appendix F, Section 5.0). The United States Army Corps of Engineers and the Washington State Department of Ecology, after consultation with the IRT, must authorize all additional expenditures from the program account pursuant to 33 CFR 332.8(i)(2) and pursuant to the Basic Agreement Article IV.B.



- C. Reporting requirements unaffected. This agreement shall not affect reporting requirements outlined in the program instrument.
- D. Effect of Agreement. This Agreement does not in any manner affect statutory authorities and responsibilities of the Sponsor. This Statement of Sale is not intended, nor may it be relied upon, to create any rights in third parties enforceable in litigation with the United States or the State of Washington. This Statement of Sale does not authorize, nor shall it be construed to permit, the establishment of any lien, encumbrance, or other claim with respect to the ILF Program property, with the sole exception of the right on the part of the United States Army Corps of Engineers and the Washington State Department of Ecology to require the Sponsor to implement the provisions of Program Instrument, including recording conservation easements or similarly restrictive covenants, required as a condition of the issuance of permits for discharges of dredged and fill material into waters of the United States associated with construction and operation and maintenance of a Mitigation Site.
- E. Attorneys' Fees. If any action at law or equity, including any action for declaratory relief, is brought to enforce or interpret the provisions of this Statement of Sale, each party to the litigation shall bear its own attorneys' fees and costs of litigation.
- F. Headings and Captions. Any paragraph heading or caption contained in this Statement of Sale shall be for convenience of reference only and shall not affect the construction or interpretation of any provision of this Statement of Sale.
- G. Refunds. Mitigation Fees, Credit Fees, and Land Fees are not refundable.

IN WITNESS WHEREOF, the Sponsor and the Applicant confirm the information contained in this Statement of Sale to be true as written.

**SPONSOR**

\_\_\_\_\_

[Name]

\_\_\_\_\_

Date

ILF Program Manager

**APPLICANT**

\_\_\_\_\_

[Name]

Date

\_\_\_\_\_



# EXHIBIT 12

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## SPENDING AGREEMENT TEMPLATE

February 2015

Pierce County Public Works

Surface Water Management Division



# **Pierce County In-Lieu Fee Program Mitigation Spending Agreement**

**AN AGREEMENT REGARDING THE AUTHORIZATION TO SPEND MONEYS FROM THE PIERCE COUNTY IN-LIEU FEE PROGRAM ACCOUNT PURSUANT TO THE PIERCE COUNTY IN-LIEU FEE PROGRAM BASIC AGREEMENT AND PROVISIONS CONTAINED IN 33 CFR PARTS 325 AND 332, AS REVISED, EFFECTIVE JUNE 9, 2008 (FEDERAL MITIGATION RULE).**

## **I. PURPOSE**

Under this agreement, the District Engineer of the US Army Corps of Engineers, Seattle District (hereinafter the “district engineer”) and the Washington State Department of Ecology (hereinafter “Ecology”) authorize Pierce County to spend a portion of mitigation fees collected through Pierce County’s federally-certified In-Lieu Fee Mitigation Program (hereinafter “PCILF”). The federal rule governing operations of mitigation banks and in-lieu fee programs used to satisfy mitigation requirements associated with Department of the Army permits (33 CFR Part 332) requires that, “Disbursements from the program account may only be made upon receipt of written authorization from the district engineer, after the district engineer has consulted with the IRT.” [332.8(i)(2)]. This agreement pertains solely to activities conducted by the PCILF pursuant to the Final Program Instrument signed into effect on\_\_\_\_, 2015.

This spending agreement shall supplement the spending authority provisions contained in the final program instrument (see Basic Agreement Article IV.B and Appendix F).

The PCILF Sponsor (Pierce County Surface Water Management, or PCSWM) has accepted mitigation fees in the amount of \$ \_\_\_\_\_ for the unavoidable impacts to aquatic resources as described below. PCSWM has identified a mitigation site at which these fees will be used to implement mitigation as identified in Article III below.

Upon acceptance of these fees PCSWM is agreeing to implement mitigation and assume all associated obligations and liabilities according to terms of the Final Program Instrument for the PCILF Program.

**II. IMPACT PROJECTS AND MITIGATION FEES COLLECTED**

<b>Impact Site Name</b>	<b>Permit Number</b>	<b>Total Mitigation Fees Collected</b>	<b>Land Fees</b>	<b>Credit Fees</b>	<b>Mitigation Site Where Funds Will Be Used</b>
Insert rows as necessary					

Service Area: \_\_\_\_\_

Detailed descriptions of each impact are provided on attached sheets [describe attachments].

**III. ALLOCATION INTO PCILF PROGRAM ACCOUNTS**

*The following information is repeated in the fee ledger (Exhibit 8).*

A. Total Mitigation Fees Collected for impacts above: \$ \_\_\_\_\_

Land Fee Account: \$ \_\_\_\_\_ (100% of total Land Fees)

Program Administration Account: \$ \_\_\_\_\_ (15% of total Credit Fees)

Contingency Account: \$ \_\_\_\_\_ (10% of total Credit Fees)

Long Term Management Account: \$ \_\_\_\_\_ (5% of total Credit Fees)

Individual Mitigation Projects Account: \$ \_\_\_\_\_ (70% of total Credit Fees)

B. Total Mitigation Fees Collected in the Service Area\*: \$ \_\_\_\_\_

*\*from all projects*

Land Fee Account: \$ \_\_\_\_\_ (100% of total Land Fees)

Program Administration Account: \$ \_\_\_\_\_ (15% of total Credit Fees)

Contingency Account: \$ \_\_\_\_\_ (10% of total Credit Fees)

Long Term Management Account: \$ \_\_\_\_\_ (5% of total Credit Fees)

Individual Mitigation Projects Account: \$ \_\_\_\_\_ (70% of total Credit Fees)

C. Current Balance of Mitigation Fees in Service Area (Collected minus Used, plus Interest Earned): \$ \_\_\_\_\_ as of (date) \_\_\_\_\_.

Land Fee Account: \$ \_\_\_\_\_

Program Administration Account: \$ \_\_\_\_\_

Contingency Account: \$ \_\_\_\_\_

Long Term Management Account: \$ \_\_\_\_\_

Individual Mitigation Projects Account: \$ \_\_\_\_\_

### III. MITIGATION PROJECT DETAILS

Name of mitigation site: \_\_\_\_\_

Service Area: \_\_\_\_\_

Parcel Number(s): \_\_\_\_\_

Anticipated Mitigation Project Costs:

Property Rights Acquisition: \$ \_\_\_\_\_

Project Implementation: \$ \_\_\_\_\_

[Insert other details as relevant, including description of IRT review process]

The IRT has reviewed the proposed site, and has approved the site and mitigation concept design.

**IV. AUTHORIZATION FOR EXPENDITURE OF FUNDS FROM THE MITIGATION RESERVES PROGRAM ACCOUNT**

Upon execution of this agreement, PCSWM is authorized to spend the following moneys from the accounts listed below for the mitigation project described in Article III above:

- Land Fee Account: (\$ \_\_\_\_\_ )
- Program Administration Account: (\$ \_\_\_\_\_ )
- Contingency Account: (\$ \_\_\_\_\_ )
- Long Term Management Account: (\$ \_\_\_\_\_ )
- Individual Mitigation Projects Account: (\$ \_\_\_\_\_ )

**V. ADDITIONAL PROVISIONS**

- A. This Spending Agreement shall satisfy the federal rule requirement that, “Disbursements from the program account may only be made upon receipt of written authorization from the district engineer, after the district engineer has consulted with the IRT.” [332.8(i)(2)].
- B. Nothing in this agreement shall prevent PCSWM from spending up to 75% of funds allocated to Administrative Accounts as authorized in the Program Instrument Appendix F, Section 4.0.
- C. Expenditure of funds authorized by this agreement shall pertain only to those accounts under the same service areas where impacts occurred.
- D. Spending Authorization Provided: Only upon execution of this agreement is PCSWM authorized to spend moneys allocated to the Accounts within each service area as noted above (with the exception that up to 75% of funds within the Program Administration Account may be spent without further authorization).
- E. Limits: The authorization provided under this agreement shall not extend to expenditures from any other PCILF account for any other purpose.
- F. Reporting requirements unaffected: This agreement shall not affect reporting requirements outlined in the program instrument.
- G. Duration: This agreement shall remain in effect until three (3) years from the later of the two dates in the signature block below.
  - 1. For spending by PCSWM after the first 3 years, spending may be authorized by the Corps and/or Ecology’s issuance of a letter approving a subsequent agreed-to spending plan for the remainder of the Establishment phase until all credits are released and the site enters the Long Term Management.

- H. Additional Spending Authority Requests. Whether or not three years have elapsed, the Sponsor may request subsequent releases of funds. Such subsequent releases of funds will require an additional approval by the Corps and Ecology, using this template, and will supplement this agreement.
- I. Revocation: In the event of default as defined in the Basic Agreement Article V.R. and Appendix S, this spending agreement may be revoked.
- J. Effect of Agreement: This Agreement does not in any manner affect statutory authorities and responsibilities of the signatory Parties. This Agreement is not intended, nor may it be relied upon, to create any rights in third parties enforceable in litigation with the United States or the State of Washington. This Agreement does not authorize, nor shall it be construed to permit, the establishment of any lien, encumbrance, or other claim with respect to the PCILF Program property, with the sole exception of the right on the part of the Corps and Ecology to require the Sponsor to implement the provisions of this Agreement, including recording conservation easements or similarly restrictive covenants, required as a condition of the issuance of permits for discharges of dredged and fill material into waters of the United States associated with construction and operation and maintenance of a Mitigation Site.
- K. Attorneys' Fees: If any action at law or equity, including any action for declaratory relief, is brought to enforce or interpret the provisions of this Agreement, each party to the litigation shall bear its own attorneys' fees and costs of litigation.
- L. Availability of Funds: Implementation of this Agreement is subject to the requirements of the Anti-Deficiency Act, 32 U.S.C. § 1341, and the availability of appropriated funds. Nothing in this Agreement may be construed to require the obligation, appropriation, or expenditure of any money from the United States Treasury, in advance of an appropriation for that purpose.
- M. Headings and Captions: Any paragraph heading or caption contained in this Agreement shall be for convenience of reference only and shall not affect the construction or interpretation of any provision of this Agreement.
- N. Counterparts: This Agreement may be executed by the Parties in any combination, in one or more counterparts, all of which together shall constitute one and the same agreement.
- O. Binding: This Agreement, pursuant to the program instrument, shall be immediately, automatically, and irrevocably binding upon the Sponsor and its heirs, successors, assigns and legal representatives upon execution by the Sponsor, the Corps, and Ecology.

IN WITNESS WHEREOF, the Parties hereto have executed this agreement on the date herein below last written.

UNITED STATES ARMY CORPS OF ENGINEERS:

\_\_\_\_\_  
[Name] Date  
Mitigation Manager/Co-chair of the IRT

\_\_\_\_\_  
John G. Buck Date  
Colonel, Corps of Engineers, Seattle District  
  
U.S. Army Corps of Engineers, Seattle District  
Regulatory Branch  
Seattle District, Corps of Engineers  
4735 E. Marginal Way South  
P.O. Box 3755  
Seattle, WA 98124-3755

WASHINGTON STATE DEPARTMENT OF ECOLOGY:

\_\_\_\_\_  
[Name] Date  
Alternative Mitigation Lead/ Co-chair of the IRT  
Shorelands and Environmental Assistance Program  
P.O. Box 47600  
300 Desmond Drive  
Olympia, WA 98504-7600

SPONSOR:

\_\_\_\_\_  
[Name] Date  
Pierce County In-Lieu Fee Program Administrator  
Pierce County Public Works  
Division of Surface Water Management  
2702 South 42<sup>nd</sup> Street, Suite 201  
Tacoma, WA 98409-7322

# EXHIBIT 13

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## REPORTS AND PLANNING DOCUMENTS

***Annotated list of all known relevant scientific analyses, reports and other planning documents to guide a watershed approach to mitigation decision-making in each service area.***

February 2015

Pierce County Public Works

Surface Water Management Division



# Reports and Planning documents--Annotated

**Beechie, T.J., Collins, B.D., and Pess, G.R. 2001. *Holocene and recent geomorphic processes, land use, and salmonid habitat in two north Puget Sound river basins.* In *Geomorphic Processes and Riverine Habitat.* Edited by J.M. Dorava, D.R. Montgomery, B. Palcsak, and F. Fitzpatrick. American Geophysical Union, Washington, D.C. pp. 37–54.**

Examines the relationship between Holocene landscape evolution, geomorphic processes, land use, and salmonid habitat. Lahars from Glacier Peak have created a low-gradient delta. Forestry activities on upper reaches of the Skagit and Stillaguamish have removed trees from water and introduced more sediment. The removal of beaver ponds, diking, ditching, and dredging of streams has destroyed 50% of coho salmon winter rearing habitat.

**Brass, T.W. 2009. *Who Is Affected by Wetland Mitigation Banking? A Social and Geographic Evaluation of Wetland Mitigation Banking in Benton, Lane, Linn, and Polk Counties, Oregon.*** (Master's Thesis, University of Oregon). Retrieved November 3, 2011, from Scholars' Bank, University of Oregon Libraries:

[https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/9853/Brass\\_Timothy\\_William\\_mcrp2009sp.pdf?sequence=1](https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/9853/Brass_Timothy_William_mcrp2009sp.pdf?sequence=1)

Examines the process of wetland mitigation banking and the spatial and social characteristics of mitigation sites. Mitigation banking records were examined and it was discovered that mitigation bank sites were, on average, 11 miles from the removal-fill site.

**Chambers-Clover Creek Watershed Council. 2007. *Watershed Action Agenda: Priorities for Focus within the Chambers-Clover Creek Watershed 2007 through 2011.***

**Collins, B.D., Montgomery, D.R., Haas, A.D., 2002. *Historical changes in the distribution and functions of large wood in Puget Lowland Rivers.*** Canadian Journal of Fisheries and Aquatic Sciences 59, 66–76.

Wood abundance in Puget Lowland rivers has decreased one to two orders of magnitude since pre-European settlement in the Snohomish and Stillaguamish basins. The change in wood abundance and size has changed the morphology, dynamics, and habitat abundance of rivers. Wood jams within rivers are crucial for creating and maintaining an anastomosing river.

**Collins, B. D. 2008. *Source descriptions for features in a geodatabase of Puget Sound's pre-settlement river valley, estuary and nearshore habitats (September 14, 2008 version)*.** Puget Sound River History Project, Quaternary Research Center and Department of Earth and Space Sciences, University of Washington. Accessed June 5, 2014 from [http://riverhistory.ess.washington.edu/ims/source\\_narrative.pdf](http://riverhistory.ess.washington.edu/ims/source_narrative.pdf)

GIS database that depicts river changes since pre-European settlement. It consists of descriptions of mapped features. The descriptions include source materials that were used, and discussion on how they were used. Features are primarily wetlands, channels, and landforms. Intended use of the database is for restoration purposes.

**Cramer, Michelle L. (managing editor). 2012. *Stream Habitat Restoration Guidelines*.** Co-published by the Washington Departments of Fish and Wildlife, Natural Resources, Transportation and Ecology, Washington State Recreation and Conservation Office, Puget Sound Partnership, and the U.S. Fish and Wildlife Service. Olympia, Washington.

The Stream Habitat Restoration Guidelines is one of a series of guidance documents being developed by the Aquatic Habitat Guidelines (AHG) Program. AHG is a joint effort among state resource management agencies in Washington, including the Washington Departments of Fish and Wildlife, Ecology, Transportation, and Natural Resources; the Recreation and Conservation Office, and the Puget Sound Partnership.

Topics addressed in the SHRG include site, reach, and watershed assessment, problem identification, general approaches to restoring stream and riparian habitat, factors to consider in identifying and selecting an approach, approaches to solving common restoration objectives, and stream and riparian habitat restoration techniques. Watershed processes and conditions that shape stream channels, stream ecology, geomorphology, hydrology, hydraulics, planting considerations and erosion control, and construction considerations are also presented in the main text and appendices.

**Dahl, T.E. 2011. *Status and trends of wetlands in the conterminous United States 2004 to 2009*.** U.S. Department of the Interior; Fish and Wildlife Service, Washington, D.C. 108 pp.

Study examined the extent and type of wetlands in the conterminous United States. The study found that in 2009 there were 110.1 million acres of wetlands in the conterminous United States, with 95% of wetlands being freshwater wetlands and the remainder being marine or estuarine systems.

**Elzinga, C.L., D.W. Salzer, J.W. Willoughby. 1998. *Measuring and Monitoring Plant Populations*.** Bureau of Land Management (BLM) Technical Reference 1730-1. Retrieved December 29, 2011, from the BLM Library website: <http://www.blm.gov/nstc/library/techref.htm>.

Handbook established to aid government and individuals in establishing proper protocol for monitoring plants. By following the handbook and individual is less likely to make an error or suggestion that will result in unwarranted regulation or costs.

**ESA and Ross & Associates Environmental Consulting, Ltd. 2008. *Making Mitigation Work: The Report of the Mitigation that Works Forum*.** Publication No. 08-06-018. Olympia, WA: Washington State Department of Ecology. Retrieved May 24, 2011, from Ecology's Mitigation That Works Forum website: <http://www.ecy.wa.gov/programs/sea/wetlands/mitigation/forum/index.html>

Forum conducted to establish a comprehensive range of mitigation options to ensure that wetland remediation and enhancement projects are successful. Options included but were not limited to: streamlining and coordinating mitigation projects, creating a common approach for all entities to follow, and establish what management practices have worked and which management practices have failed.

**Floberg, J., M. Goering, G. Wilhere, C. MacDonald, C. Chappell, C. Rumsey, Z. Ferdana, A. Holt, P. Skidmore, T. Horsman, E. Alverson, C. Tanner, M. Bryer, P. Iachetti, A. Harcombe, B. McDonald, T. Cook, M. Summers, D. Rolph. 2004. *Willamette Valley-Puget Trough-Georgia Basin Ecoregional Assessment, Volume One: Report*.** Prepared by The Nature Conservancy with support from the Nature Conservancy of Canada, Washington Department of Fish and Wildlife, Washington Department of Natural Resources (Natural Heritage and Nearshore Habitat programs), Oregon State Natural Heritage Information Center and the British Columbia Conservation Data Centre. Retrieved January 21, 2010, from The Nature Conservancy Washington Conservation Science and Planning, Ecoregional Assessments: Willamette Valley/Puget Trough/Georgia Basin website: <http://www.waconservation.org/ecoWillamette.shtml>

The report identified 372 priority conservation areas in the Willamette Valley, Washington's Puget Trough, British Columbia's Georgia Basin, and nearshore mariner waters of Puget Sound and the Strait of Georgia, totaling 1,264,000 hectares. Nearly 80% of the land is privately owned.

**Hruby, T. 2004. *Washington State Wetland Rating System for Western Washington – Revised.***

Washington State Department of Ecology Publication No. 04-06-025. Olympia, WA: Washington State Department of Ecology.

The Washington State Wetland Rating System categorizes wetlands based on specific attributes such as rarity, sensitivity to disturbance, and functions.” Rating categories are used to develop standards for protecting and managing wetlands in Western Washington.

**Hruby, T., K. Harper, and S. Stanley. 2009. *Selecting Wetland Mitigation Sites Using a Watershed Approach.*** Publication No. 09-06-032. Olympia, WA: Washington State Department of Ecology.

Guide designed to improve mitigation success and better address ecological priorities. Specific recommendations for selecting sites and choosing on- and off-site mitigation in western Washington are provided.

**Hruby, T. 2012. *Calculating Credits and Debits for Compensatory Mitigation in Wetland of Western Washington, Final Report, March 2012.*** Washington State Department of Ecology publication #10-06-11. Retrieved from Ecology’s Publications and Forms website:

<http://www.ecy.wa.gov/biblio/1006011.html>

Tool for estimating functions and values lost when a wetland is mitigated and estimating the gain in functions and values that result from mitigation. Estimates are constructed based upon functions of hydrologic properties, water quality improvement, and habitat and food webs. Each function is scored as high, medium, or low based upon the potential for the site to provide each of the functions, the potential the landscape has to maintain each function, and the value each function has on society.

**Johnson, P., D.L. Mock, E.J. Teachout, and A. McMillan. 2000. *Washington State Wetland Mitigation Evaluation Study Phase 1: Compliance.*** Publication No. 00-06-016. Olympia, WA: Washington State Department of Ecology.

Describes results from the first phase of the Wetland Mitigation Evaluation Study, focusing on the degree of compliance with permit requirements for compensatory wetland mitigation projects. Recommendations for improving permit compliance are provided for permitting agencies and applicants.

**Johnson, P., D.L. Mock, A. McMillan, L. Driscoll, and T. Hruby. 2002. *Washington State Wetland Mitigation Evaluation Study Phase 2: Evaluating Success*.** Publication No. 02-06-009. Olympia, WA: Washington State Department of Ecology.

Examined the ecological success of a subset of projects from Phase 1 of the Washington State Wetland Mitigation Evaluation Study. Ecological success was evaluated based upon the achievement of ecologically relevant measures and adequate compensation for the loss of wetlands. The study also examined wetland resource trade-offs, ecological condition, and factors associated with project success.

**King County Dept. of Natural Resources and Parks. June 11, 2009. *Prospectus for King County Mitigation Reserves Program*.**

Details the proposed in-lieu fee program for King County for wetland restoration and enhancement. The program addresses historic inadequacies associated with compensatory mitigation and how the in-lieu fee program addresses/resolves these issues.

**King County Dept. of Natural Resources and Parks. January 18, 2011. *Final Program Instrument for the King County Mitigation Reserves Program*.**

Details the requirements, protocols, and actions to be performed by King County in order for the in-lieu fee program to be established.

**Mockler, A, L. Casey, M. Bowles, N. Gillen, and J. Hansen. 1998. *Results of Monitoring King County Wetland and Stream Mitigations*.** King County Department of Development and Environmental Services. Seattle, WA.

Twenty-nine King County mitigation sites were analyzed to establish prolonged performance. 21% of the sites analyzed were successful by the then-current performance standards while the remaining 79% of the sites were deemed unsuccessful. Proposals to increase mitigation success are included.

**National Research Council. 2001. *Compensating for Wetland Losses under the Clean Water Act*.** Washington, DC: National Academy Press.

Addresses the loss of wetlands in the United States and protocols that can be followed to re-establish and enhance our current wetlands.

**Nisqually Chinook Recovery Team. 2001. *Nisqually Chinook Recovery Plan*.** Retrieved January 11, 2010, from Puget Sound Partnership's Salmon Recovery Plan and Watershed Work Plans website: [http://www.psp.wa.gov/SR\\_map.php](http://www.psp.wa.gov/SR_map.php)

Presents the Chinook Salmon recovery plan for the Nisqually Basin, the plans long-term vision, the current state of the environment and Chinook in the Nisqually Basin, identification of restoration that is needed, and the change in management that is needed.

**Nisqually Chinook Recovery Team. 2011. *Nisqually 2011 Three-Year Work Program*.** Retrieved November, 3, 2011, from the Puget Sound Partnership Salmon Recovery Plan and Watershed Work Plans website: [http://www.psp.wa.gov/SR\\_threeyearworkplan.php](http://www.psp.wa.gov/SR_threeyearworkplan.php)

Examines the Chinook Salmon recovery plan to establish if the plan is on track after three years. The report addresses questions pertaining to time-frame, challenges, and consistency.

**Nisqually Indian Tribe. 2003. *Nisqually Watershed Management Plan*.** Retrieved March 30, 2010, from Washington State Department of Ecology website: <http://www.ecy.wa.gov/biblio/0306030.html>

Addresses the Nisqually Watershed at a watershed-wide scale and sub-basin scale. The article provided an overview of the entire basin before breaking the basin into sub-basins and recommending goals and actions for each sub-basin.

**Nisqually River Council. 2005. *Nisqually Watershed Stewardship Plan*.**

Outlines goals and actions to be taken in the future to establish community awareness and involvement.

**Pierce County Lead Entity. 2009. *Narrative to the WRIA 10/12 3-Year Watershed Implementation Priorities Project List*.** Retrieved February 8, 2010, from Puget Sound Partnership, Salmon Recovery, Three Year Work Plans website: [http://www.psp.wa.gov/SR\\_threeyearworkplan.php](http://www.psp.wa.gov/SR_threeyearworkplan.php)

**Pierce County Public Works and Utilities, Surface Water Management. 2002. *Clover Creek Basin Characterization Report*.**

**Pierce County Public Works and Utilities, Water Program Division. 2006. *Nisqually River Basin Characterization Report*.**

**Pierce County Public Works and Utilities, Water Programs Division. October 1997. *Chambers-Clover Creek Watershed Action Plan, A water quality plan for reducing nonpoint pollution.***

**Puget Sound Partnership. 2009. *Puget Sound Action Agenda, Protecting and Restoring the Puget Sound Ecosystem by 2020.***

This action agenda details what a healthy Puget Sound entails, how does the Puget Sound compare to what a healthy Puget Sound should be and what are the threats associated with the current Puget Sound, what actions should be taken to achieve a healthy Puget Sound, and where to start to achieve a goal of a healthy Puget Sound.

**Runge, J., M. Marcantonio, M. Mahan. 2003. *Salmonid Habitat Limiting Factors Analysis Chambers-Clover Creek Watershed (Including Sequelitchew Creek and Independent Tributaries) Water Resource Inventory Area 12.*** Retrieved February 10, 2010, from Puget Sound Partnership Salmon Recovery Plan website: [http://www.psp.wa.gov/SR\\_map.php](http://www.psp.wa.gov/SR_map.php)

**Shared Strategy for Puget Sound. 2007. *Watershed Profile: Salmon and the Puyallup/White and Chambers/Clover Creek Watersheds.***

**Sheldon, D., T. Hruby, P. Johnson, K. Harper, A. McMillan, T. Granger, S. Stanley, and E. Stockdale. 2005. *Wetlands in Washington State - Volume 1: A Synthesis of the Science.*** Washington State Department of Ecology. Publication #05-06-006. Olympia, WA.

**Stanley, S., J. Brown, and S. Grigsby. 2005. *Protecting Aquatic Ecosystems: A Guide for Puget Sound Planners to Understand Watershed Processes.*** [Ecology Publication # 05-06-027]

Provides a useful framework for considering watershed processes when making mitigation decisions.

**Tetra Tech, Inc/KCM. 2000. *Clover Creek Basin Plan Stream Reconnaissance Appendix Data Collection and Results (Appendix C in the Clover Creek Basin Plan).***

**Thomas, J. 2005. *Pierce County Water Programs, Wetland Mitigation Banking Program Prospectus.***

**Tobias, F.L. 2003. *Historic Flows, Flow Problems and Fish Presence in Clover Creek 1924-1942: Interviews with Early Residents.***

**U.S. Census Bureau. 2011. *State & County Quick Facts, Pierce County, Washington.*** Retrieved September 28, 2011 from U.S. Census Bureau's website:  
<http://quickfacts.census.gov/qfd/states/53/53053.html>

Government census on population, ethnicities, etc. in Pierce County, Washington.

**Washington State Department of Ecology, *Urban Waters Initiative, Commencement Bay website.*** <<http://www.ecy.wa.gov/urbanwaters/commencementbay.html>>. accessed on February 2, 2010.

Commencement Bay, located in the heart of the city of Tacoma, houses the port of Tacoma. Until the 1980's, untreated waste was discharged directly into the bay. Since the 1980's cleaning up Commencement Bay has been a priority.

**Washington State Department of Ecology. "Wetland Change Analysis: Ecology's Wetland Status and Trends Inventory."** <http://www.ecy.wa.gov/programs/sea/wetlands/StatusAndTrends.html> accessed on June 13, 2013.

The Department of Ecology established a more accurate method of mapping wetlands that aids in determining if the goal of No Net Loss of wetland is being achieved in Washington State.

**Washington State Department of Ecology. 2014. *Puget Sound Watershed Characterization Project.*** Accessed January 20, 2015 at:  
<http://www.ecy.wa.gov/services/gis/data/inlandwaters/pugetsound/characterization.htm>

This project, funded by an EPA grant, is a collaborative effort between Ecology, the state Department of Fish and Wildlife, and the Puget Sound Partnership. The goal of the project is to create a relatively complete watershed characterization for all of Puget Sound. This is important because it can provide scientific information about which landscape areas and processes are the most important to protect and restore. The results can be used by local planners and decision-makers to inform land use planning and policy decisions while helping minimize negative environmental impacts from land use changes.

**Washington State Department of Ecology, U.S. Army Corps of Engineers Seattle District, and U.S. Environmental Protection Agency Region 10. 2006. *Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance (Version 1)*.** Washington State Department of Ecology Publication #06-06-011a. Olympia, WA. <https://fortress.wa.gov/ecy/publications/publications/0606011a.pdf>

Provides guidance to improve the quality and effectiveness of compensatory mitigation in Washington State. The article stresses that the land make ecological sense in the context of the landscape in which it is conducted.

**Washington State Office of Financial Management, Forecasting Division. 2011. *Small Area Estimate Program: Water Resource Inventory Area [Data file]*.** Retrieved November 10, 2011, from Office of Financial Management’s Small Area Estimates Population website: <http://www.ofm.wa.gov/pop/smallarea/default.asp>

Provides census data in tabular form or as GIS layers to aid in building informative maps about land use.

# EXHIBIT 14

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## GUIDANCE ON SUBMITTAL CONTENTS FOR IN-LIEU FEE USE PLANS

### ***Washington State Interagency Review Team Guidance Paper***

February 2015

Pierce County Public Works

Surface Water Management Division



## Washington State Interagency Review Team Guidance Paper

### **Using Credits from In-Lieu Fee Programs: Guidance to Applicants on Submittal Contents for In-Lieu Fee Use Plans**

The Interagency Review Team (IRT) for Washington State includes standing members representing the U.S. Army Corps of Engineers (Corps), U.S. Environmental Protection Agency (EPA), and Washington State Department of Ecology (Ecology). The IRT is issuing this paper to provide guidance to permit applicants who wish to use in-lieu fee (ILF) credits to compensate for unavoidable impacts to wetlands and other aquatic resources, including buffers, associated with their projects. Aquatic resources include but are not limited to freshwater wetlands, rivers, streams, lakes, estuaries, marine environments, and their buffers. The types of impacts to aquatic resources that are eligible to meet mitigation needs through the purchase (or transfer) of ILF credits will vary depending on the ILF program. This paper does not replace or modify any of the existing laws and policies enforced by the IRT member agencies. The IRT reserves the right to make exceptions to or modify this guidance when doing so would benefit the public interest, the aquatic environment, and/or authorized ILF programs operating in Washington State.

This paper consists of an annotated outline for a report that would serve as the mitigation plan for projects proposing to use an ILF program. Since the applicant is proposing to use ILF credits as mitigation, standard mitigation plans are not appropriate, nor are they required. However, some of the same components occur in both. For the purposes of this guidance, we will refer to this submittal as an *ILF Use Plan*.

The purpose of the ILF Use Plan is to provide permit decision-makers at the regulatory agencies with sufficient information to decide whether project applicants have:

- 1) Avoided and minimized aquatic resource impacts to the maximum extent practicable,
- 2) Considered all available mitigation opportunities,
- 3) Provided sufficient compensation for unavoidable impacts to aquatic resources, and
- 4) Demonstrated how purchasing credits from a certified ILF program meets compensatory mitigation requirements.

The ILF Use Plan has two parts: Part A asks applicants to describe impacts as completely as possible. Part B asks applicants to explain why the use of credits from an ILF program is the best choice for mitigating the proposed impacts.

Project managers and wetland specialists at the Corps, Ecology, EPA, and other regulatory agencies typically have general knowledge of ILF programs in the regions they cover. However, it is up to permit applicants to provide enough information in their application package to demonstrate how the use of an ILF program adequately compensates for their specific project's impacts. Following this outline will help applicants to do so.

The following outline summarizes the type of information the IRT recommends for inclusion in an ILF Use Plan. If applicants have questions about what to include in the plan or on the process of

permitting mitigation using ILF credits, they should contact the project manager designated for their region (see [http://www.nws.usace.army.mil/PublicMenu/documents/REG/PM\\_county\\_assignment\\_list.pdf](http://www.nws.usace.army.mil/PublicMenu/documents/REG/PM_county_assignment_list.pdf) for a list of Corps project managers and <http://www.ecy.wa.gov/programs/sea/wetlands/contacts.htm> for Ecology wetland specialists). General guidance on wetland mitigation is available online in *Wetland Mitigation in Washington State* (Part 1: <http://www.ecy.wa.gov/biblio/0606011a.html>, Part 2: <http://www.ecy.wa.gov/biblio/0606011b.html>).

*Important Notes to Applicants:*

- *For information on authorized ILF programs in Washington State, refer to the Corps' RIBITS website at: <https://rsgis.crrel.usace.army.mil/ribits/f?p=107:2:136943704396553> or Ecology's website at: <http://www.ecy.wa.gov/mitigation/ilf.html>. Permit applicants should contact the ILF program sponsor (sponsor) directly for information on the functions targeted by the ILF program, credit availability, and the process for purchasing credits.*
- *Location of an impact project within an ILF program's service area does not guarantee that federal, state, or local regulatory agencies will approve use of ILF credits as mitigation. As with all mitigation, approval of a specific mitigation plan is decided on a case-by-case basis. The permit application should demonstrate that potential impacts to aquatic resources have been avoided and minimized to the maximum extent practicable and that the ILF program proposed for use has the ability to target appropriate compensation for project impacts. In some cases, agencies may decide that impacts would be better mitigated on or closer to the project site. One agency may require that more ILF credits be used, or one or more agencies may determine that the ILF program will not compensate for the loss of certain functions, and therefore, mitigation for those functions must be provided separately. Applicants should communicate with all permitting agencies early in the permit process and show due caution when considering early purchase of ILF credits. Agencies cannot guarantee that an applicant will be approved to use ILF credits prior to review of the complete application package and a permit decision.*
- *If other mitigation for aquatic resource impacts is proposed for a project in addition to purchasing ILF credits, this should be described in detail in a separate standard mitigation plan. Please note: brief mention of the additional mitigation and the citation for the mitigation plan should be included in Part B, Section 1 of the ILF Use Plan.*
- *Be aware that sponsors are not authorized to sell credits that have not yet been advanced or released by the IRT. Before deciding on a mitigation path, check with Corps or Ecology project managers to confirm that a particular ILF program will likely have adequate credit available at the time your project is expected to be permitted. It is reasonable for prospective buyers to request an updated credit ledger from the sponsor prior to committing to credit purchase.*

## In-Lieu Fee Use Plan Outline

### **PART A: IMPACT PROJECT DESCRIPTION**

#### **1. Project Description**

Provide a brief description of the development project and the types of activities that will impact aquatic resources including buffers. If a more detailed project description is available in other documents in the application package, this section should just summarize the project description and cite the more detailed document(s).

#### **2. Existing Conditions of Aquatic Resources**

Provide a brief description of the aquatic resources and buffers on the development site. Include the location, landscape position, size, vegetation, soils, hydroperiod, source of water, surrounding land uses, and functions. Also include the hydrogeomorphic (HGM) classification and wetland rating as determined by the eastern or western Washington State rating systems (documents are located at: <http://www.ecy.wa.gov/programs/sea/wetlands/ratingsystems/index.html>). Information should also be summarized in a table format as shown in Example Tables 1 and 2 below. This section is intended to be a summary of existing conditions and the more detailed documents cited here, such as any wetland delineation or other aquatic resource assessment reports. Cite corresponding drawings and maps showing the existing conditions and aquatic resource boundaries including buffers.

**Example Table 1  
Existing Conditions of Wetlands and Buffers**

<b>Resource Identifier</b>	<b>Wetland area (acres)</b>	<b>Buffer area (acres)</b>	<b>Ecology rating</b>	<b>Local jurisdiction rating</b>	<b>Cowardin classification</b>	<b>HGM classification</b>
Wetland A	1.01	2.25	IV	4	PEM	Depressional
Wetland B	0.53	1.2	III	3	PSS	Slope
<b>TOTALS</b>	<b>1.54 ac</b>	<b>3.45 ac</b>				

**Example Table 2  
Existing Conditions of Rivers, Streams, and Buffers**

<b>Resource Identifier</b>	<b>Water course area (linear feet)</b>	<b>Buffer area (acres)</b>	<b>Classification System Used</b>	<b>Water Type</b>	<b>Local Jurisdiction Rating</b>	<b>State Water Quality Standards</b>
Stream A	300	0.7	WDNR	Non-fish perennial	4	Good
Stream B	500	1.72	WDNR	Fish	2	Fair
<b>TOTALS</b>	<b>800 lf</b>	<b>2.42 ac</b>				

### 3. Avoidance and Minimization of Impacts to Aquatic Resources

Describe how adverse impacts from the project, both direct and indirect, to aquatic resources will be avoided and minimized to the maximum extent practicable. This should include consideration of project location, surrounding land uses, design, construction practices, monitoring efforts and/or other relevant factors. If other sites were considered and rejected based on aquatic resource impacts, mention that information in this section. If a Clean Water Act section 404(b)(1) Alternatives Analysis was prepared for the project, cite that document here. Further information is available online at: <http://www.epa.gov/owow/wetlands/regs/mitigate.html>.

Describe the type and expected acreage of unavoidable impacts. Cite corresponding drawings showing the impact area boundaries including buffers.

Provide the avoidance, minimization, and expected impact information using a table format as in Example Tables 3 and 4 below.

**Example Table 3  
Avoided, Minimized, and Expected Impacts to Wetlands and Buffers**

<b>Resource identifier</b>	<b>Impact area before* (acres)</b>	<b>Impact area after** (acres)</b>	<b>Temporarily impacted area (acres)</b>	<b>Buffer impact area (acres)</b>	<b>Indirect impact area (acres)</b>	<b>Avoidance and minimization steps taken</b>
Wetland A	0.08	0.01	0.02	0.05	0	Stormwater outfall designed to minimize impacts to wetland and buffer.
Wetland B	0.53	0.08	0.1	0.07	0	Access road rerouted and retaining wall used to minimize footprint
<b>TOTALS</b>	<b>0.61</b>	<b>0.09</b>	<b>0.12</b>	<b>0.12</b>	<b>0</b>	

\*before = prior to any avoidance and minimization measures implemented.

\*\*after = expected impact after avoidance and minimization measures implemented.

**Example Table 4  
Avoided, Minimized, and Expected Impacts to Rivers, Streams, and Buffers**

<b>Resource Identifier</b>	<b>Impact area before*</b> (acres/linear ft)	<b>Impact area after**</b> (acres/linear ft)	<b>Temporarily Impacted Area</b> (acres/linear ft)	<b>Buffer Impact Area</b> (acres/linear ft)	<b>Indirect Impact Area</b> (acres/linear ft)	<b>Avoidance and Minimization Steps Taken</b>
Stream A	0.07 ac	0.02 ac	0	0.1 ac	0	Bridge used for crossing, bridge abutments in stream
Stream B	0.06 ac	0	0	0.5 ac	0	Design altered to avoid stream altogether. Road path chosen to minimize need for clearing large conifers. Temporary road will be decommissioned and replanted at end of project.
<b>Totals</b>	<b>0.13 ac</b>	<b>0.02 ac</b>	<b>0 ac</b>	<b>0.6 ac</b>	<b>0 ac</b>	

\*before = prior to any avoidance and minimization measures implemented.

\*\*after = expected impact after avoidance and minimization measures implemented.

*Note: Examples of impact avoidance and minimization for several types of development include:*

- *Commercial Facility: Minimizing new impervious surface, using pervious surfaces for parking lots, using infiltration to treat stormwater, enhancing buffers, providing appropriate water quality treatment, reducing the project footprint from the original proposal, using native landscape plants, using integrated pest management techniques, using other low-impact development measures.*
- *Road Widening: Widening asymmetrically to avoid wetlands or streams, widening toward the road median, using retaining walls to reduce side slopes, minimizing new impervious surface by lane re-striping, using road shoulder-installed filters for water quality treatment, locating stormwater treatment facilities outside of aquatic resources.*
- *Residential Development: Retaining native vegetation where possible, infiltrating roof runoff, using pervious surfaces for driveways, using other low-impact development measures, enhancing buffers. Required Best Management Practices (BMPs) will not count as avoidance measures, but implementation of additional voluntary BMPs may result in reduced mitigation requirements.*

#### **4. Impacts to Aquatic Resource Functions**

Describe how the functions below are expected to be lost or altered due to your project. Also, include a discussion of the potential indirect and/or temporary impacts to the remaining aquatic resource(s).

- **Water quality:** briefly describe characteristics of aquatic resources relative to water movement, extent of vegetation as it relates to potential for slowing and filtering water (e.g., extent of grazing), extent and duration of ponding, opportunity to improve water quality, and so on.

- Hydrologic: briefly describe characteristics of aquatic resources relative to the ability and opportunity of the aquatic resource to store water.
- Habitat: briefly describe characteristics of aquatic resources relative to habitat functions such as interspersions of habitats, corridor connectivity, plant species richness, buffer condition, and so on.

If a more detailed function description is available in other documents in the application package, this section should simply summarize the functions that will be affected and cite the more detailed document(s). If a 'Debit Worksheet' was prepared for the impact project, cite that document here. (See western and eastern versions of *Calculating Credits and Debits for Compensatory Mitigation in Wetlands* at <http://www.ecy.wa.gov/mitigation/creditdebit-comments.html>.)

*Notes:*

*All applicants should use the Washington State Wetland Rating System or equivalent and submit the rating forms and accompanying maps/drawings for all wetlands. Rating methods for both western and eastern WA are available at <http://www.ecy.wa.gov/programs/sea/wetlands/ratingsystems/index.html>. Ecology's Focus Sheet Using the Wetland Rating System in Compensatory Mitigation (Ecology Publication 08-06-009, found at <http://www.ecy.wa.gov/biblio/0806009.html>) provides a method for using the rating system to compare wetland functions under existing conditions with those after impacts or mitigation. Applicants may use other wetland function assessments, at their discretion, but they do not substitute for the rating system.*

*For freshwater wetland impacts proposed to be mitigated using ILF credits, Ecology recommends that applicants calculate "debits" of impact using the method *Calculating Credits and Debits for Compensatory Mitigation in Wetlands*, available online at <http://www.ecy.wa.gov/mitigation/creditdebit-comments.html>.*

*It is essential that an applicant use the method described in the ILF Instrument to determine debits and credits, but debits and credits for some types of impacts (e.g., impacts to streams) will be determined on a case-by-case basis.*

*Fill or clearing in a buffer may result in indirect impacts to aquatic resources that may also require mitigation. Even temporary clearing of forested or shrub areas in aquatic resources or buffers may have long-term indirect impacts that may require mitigation. The mitigation required depends on the nature of the impacts and the regulatory agencies involved.*

## **PART B: JUSTIFICATION FOR USING AN IN-LIEU FEE PROGRAM**

### **1. Description of Compensatory Mitigation Options Considered**

Provide a brief description of the potential (or lack thereof) for each type of compensation listed below. The type of compensation proposed to mitigate for the project impact should be ecologically appropriate. In addition, the federal rule titled *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule* (Federal Rule) 33 CFR Section 332.3(b) specifies that when considering options for successfully providing the required compensatory mitigation for federal permits, the Corps district engineer shall consider the type and location options in the following order:

- a. Wetland mitigation banks,
- b. In-lieu fee programs,
- c. Permittee-responsible mitigation under a watershed approach,
- d. Permittee-responsible mitigation through on-site and in-kind mitigation, and lastly
- e. Permittee-responsible mitigation through off-site and/or out-of-kind mitigation.

If the impact project is within the service area of an approved wetland mitigation bank, document why the bank is not being used. Include information on whether bank use was discussed with agency project managers, and why the bank was determined to be inappropriate compensation. If the impact project will affect critical aquatic resource functions that should be replaced on site, describe the on-site mitigation opportunities that have been considered. If some on-site mitigation will also occur, cite the mitigation plan and explain why the full mitigation requirements cannot be met on site.

### **2. In-Lieu Fee Program Selection Rationale**

Provide rationale for proposing the ILF program as mitigation. This section should provide appropriate detail to demonstrate how the ILF credits will provide adequate compensation for the aquatic resource habitat and functions impacted by the project. Identify which ILF program you intend to use, and confirm that your project is located within the service area for that ILF program and that credits are available for sale. Describe how the aquatic resource mitigation needs of the impact project correspond with the purpose, goals, and objectives of the ILF program. (A list of ILF programs is located on Ecology's website at: <http://www.ecy.wa.gov/mitigation/ilf.html> and the Corps' RIBITS website at: <https://rsgis.crrel.usace.army.mil/ribits/f?p=107:2:136943704396553>.)

### **3. Proposed Use of In-Lieu Fee Credits**

Each ILF program will specify its method for determining credits in the ILF instrument and specify the method that impact projects shall use for determining debits. If a different method is proposed, supply a rationale for this decision. Compensation for impacts to streams and Category I wetlands will be determined by the regulatory agencies on a case-by-case basis.

Applicants need to coordinate with the ILF sponsor to ensure that credits are available. Applicants should consult with agency staff early in the permitting process to discuss credit use. Factors that may affect the number of credits needed to compensate for adverse impacts to aquatic resources include:

- Whether the impact is permanent or temporary,
- The extent to which the functions of an aquatic resource are reduced or eliminated when there are indirect impacts to consider,

- Whether some of the aquatic resource functions affected by a project are mitigated elsewhere.

ILF program credits are generally calculated one of two ways:

1. Using the Credit/Debit method for freshwater wetlands: the Credit/Debit Method is based on the Washington State Wetland Rating System. It also incorporates some recent refinements and updates in characterizing functions and values.
2. Using area and ratios: if the ratios proposed for determining the amount of credits needed differ from those suggested in the ILF Instrument, provide the rationale for this.

Show the number of ILF credits that are proposed to be purchased or transferred from the ILF program. If more than one aquatic resource is impacted, it is helpful to use a table.

#### **4. Credit Purchase or Transfer Timing**

This section should note the anticipated timing of purchase or transfer of the credits and any other details regarding credit use that may be relevant to the permit process. It is not necessary to disclose credit costs or specific financial arrangements made between the applicant and ILF program sponsor. When purchasing credits, the final sale should generally not occur until regulatory agencies have issued the permits relevant to the aquatic resource impacts. Prior to impacting aquatic resources, permit applicants must submit to the regulatory agency the proof of purchase (e.g., statement of sale) or transfer of credits.

# EXHIBIT 15

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Hypothetical Credit Sales and Credit Balances

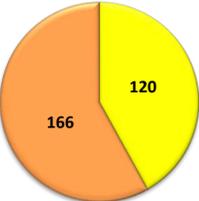
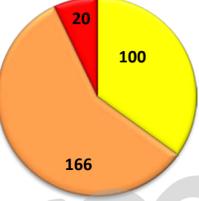
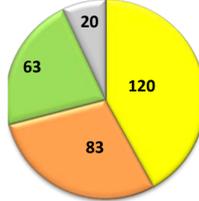
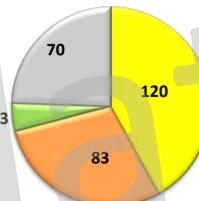
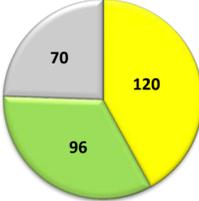
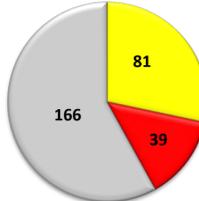
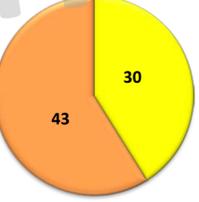
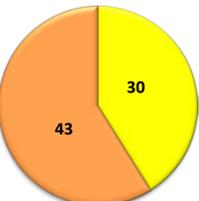
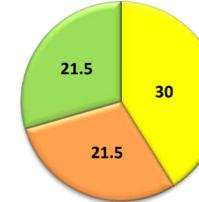
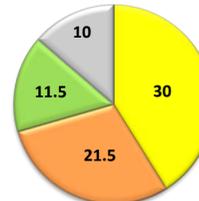
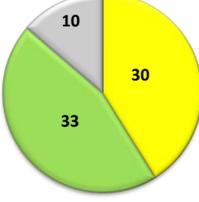
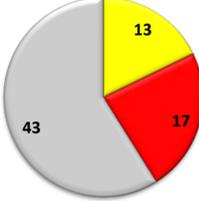
February 2015

Pierce County Public Works

Surface Water Management Division



# Exhibit 15 Hypothetical Credit Sales

Hypothetical Credit Balances Before and After Credit Release and Sale Scenarios							
Service Area	Total Advance Credits Authorized	Potential Credits to be earned at Initial Pre-capitalized sites (Pre-Capitalized Credits)	Year 2014 Credit Releases and Sales: No Pre-Capitalized Credits Released Yet; 20 credits sold in WRIA 12.	Year 2016 Credit Releases and Sales: Half of the potential pre-capitalized credits in each of the Service Areas have been released, because the first several years' performance standards have been met. No new pre-capitalized sites have been developed. Additional 50 Credits are sold in WRIA 12; 10 credits are sold in WRIA 11.	Year 2024 Credit Releases and Sales: All performance standards have been met and all potential pre-cap credits have been released. No new pre-capitalized sites have been developed. Additional 135 credits are sold in WRIA 12 ; 50 credits sold in WRIA 11.		
Chambers/Clover (WRIA 12)	120	166	20 advance credits sold. After the sale, the balances will be 100 advance credits and 166 potential pre-cap credits available (but not yet released). PCSWM is now obligated to fulfill 20 credits (which could be fulfilled when pre-cap credits are released).	With half of Pre-cap credits released, we now have 83 released credits. 20 of those are used to re-charge the ledger of advance credits -- fulfilling PCSWM's obligation to provide 20 credits from the 2014 sale. This leaves 63 released credits. 50 of these are sold. Balances become 13 released credits, 83 potential pre-capitalized credits (to be released as performance standards are met), and all 120 advance credits are once again available.	With all pre-cap credits released, there are now 96 released credits (13 from 2016 plus 83 more) and 120 advance credits available. The sale of 135 credits uses all 96 of the released credits plus 39 advance credits. The released credit balance becomes 0; the advance credit balance becomes 81; and PCSWM is now obligated to fulfill 39 credits within 3 years. Those 39 credits will not be considered pre-capitalized credits since they were not developed before mitigation fees were collected. However, if the next receiving site will provide more than the 39 credits PCSWM is obligated to fulfill, those additional credits will now be considered new unreleased (until performance standards are met) pre-capitalized credits.	<p><b>INITIAL CREDIT BALANCES</b></p>  <p><b>AFTER YEAR 2014 CREDIT SALE</b></p>  <p><b>AFTER CREDIT RELEASE</b></p>  <p><b>AFTER YEAR 2016 CREDIT SALE</b></p>  <p><b>AFTER CREDIT RELEASE</b></p>  <p><b>AFTER YEAR 2024 CREDIT SALE</b></p> 	
Nisqually (WRIA 11)	30	43	Balance of 30 Advance Credits and 43 potential pre-cap credits available.	With half of Pre-cap credits released, we now have 21.5 released credits and 30 advance credits. Sale of 10 credits does not draw down advance credit ledger, because we are able to use a portion of the released credits. After the sale, we have 11.5 remaining pre-cap credits and 30 advance credits. 21.5 remaining pre-cap credits will be released as performance standards are met.	With all pre-cap credits released, there are now 33 released credits and 30 advance credits available. The sale of 50 credits uses all of the released credits and 17 of the advance credits. The released credit balance becomes 0; the advance credit balance becomes 13; and PCSWM is now obligated to fulfill 17 credits within 3 years. Those 17 credits will not be considered pre-capitalized credits since they were not developed before mitigation fees were collected. However, if the next receiving site will provide more than the 17 credits PCSWM is obligated to fulfill, those additional credits will now be considered new unreleased (until performance standards are met) pre-capitalized credits.	<p><b>INITIAL CREDIT BALANCES</b></p>  <p><b>NO SALE OF CREDITS IN 2014</b></p>  <p><b>AFTER CREDIT RELEASE</b></p>  <p><b>AFTER YEAR 2016 CREDIT SALE</b></p>  <p><b>AFTER CREDIT RELEASE</b></p>  <p><b>AFTER YEAR 2024 CREDIT SALE</b></p> 	



# EXHIBIT 16

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Pierce County Wetland Inventory Maps

February 2015

Pierce County Public Works

Surface Water Management Division



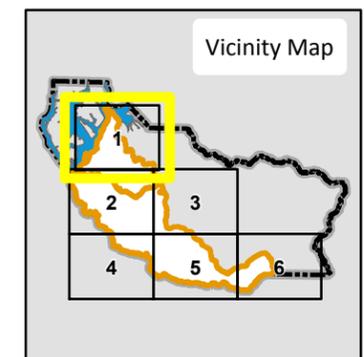
# Exhibit 16-1: WRIA 11 Nisqually River and WRIA 12 Chambers/Clover Watershed Service Areas

(Current Wetland Inventory)

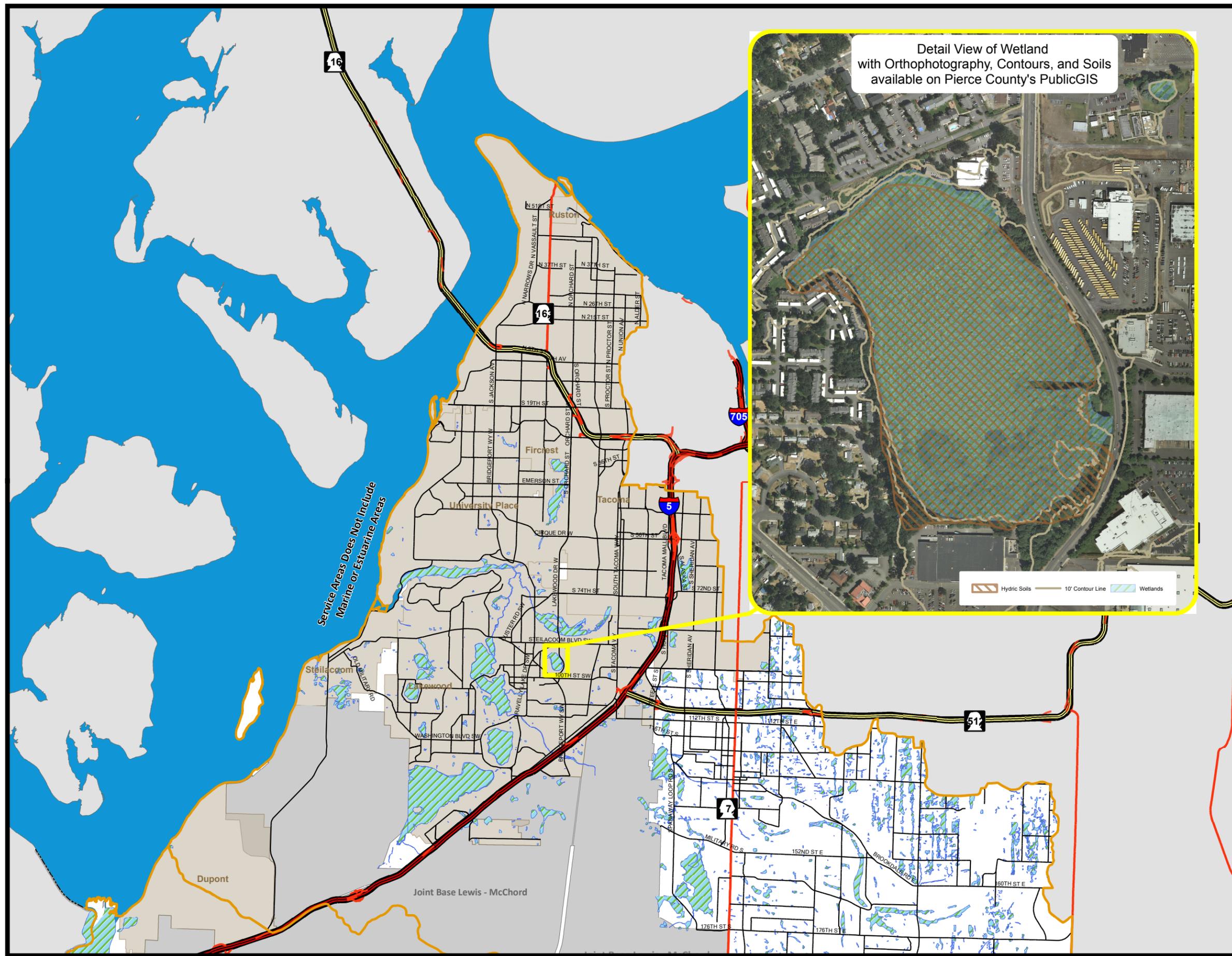
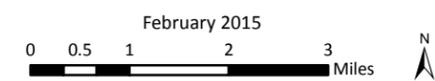
## Legend

-  Watershed Service Area Boundaries
-  Interstate Highway
-  Highway Ramp
-  Limited Access State Highway
-  Other State Highway
-  Arterial or Major Road
-  Cities in Pierce County
-  Military Base
-  Pierce County Boundary
-  Puget Sound
-  Wetlands:

The wetland inventory is showing wetlands mapped by the Pierce County Wetland Inventory (CWI) and the Supplemental Wetland Inventory (SWI). It does not include wetlands mapped by the National Wetland Inventory (NWI) that are not also in the CWI. Furthermore, publicly available wetland inventories do not include JBLM, a U.S. military base for which aerial surveillance for wetland inventory purposes has not been allowed. Federal lands (Forest Service and Mt. Rainier National Park) also do not appear on the CWI. This does not mean that wetlands are absent or scarce in these areas; this simply shows one of the limitations of the CWI. Pierce County's PublicGIS Wetlands layer includes the CWI, NWI, and SWI.



The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose.

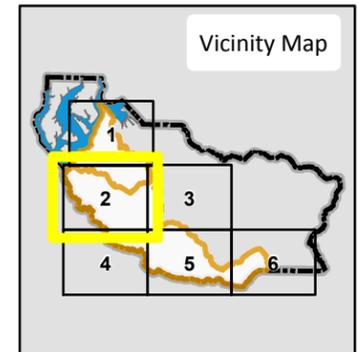


# Exhibit 16-2: WRIA 11 Nisqually River and WRIA 12 Chambers/Clover Watershed Service Areas (Current Wetland Inventory)

## Legend

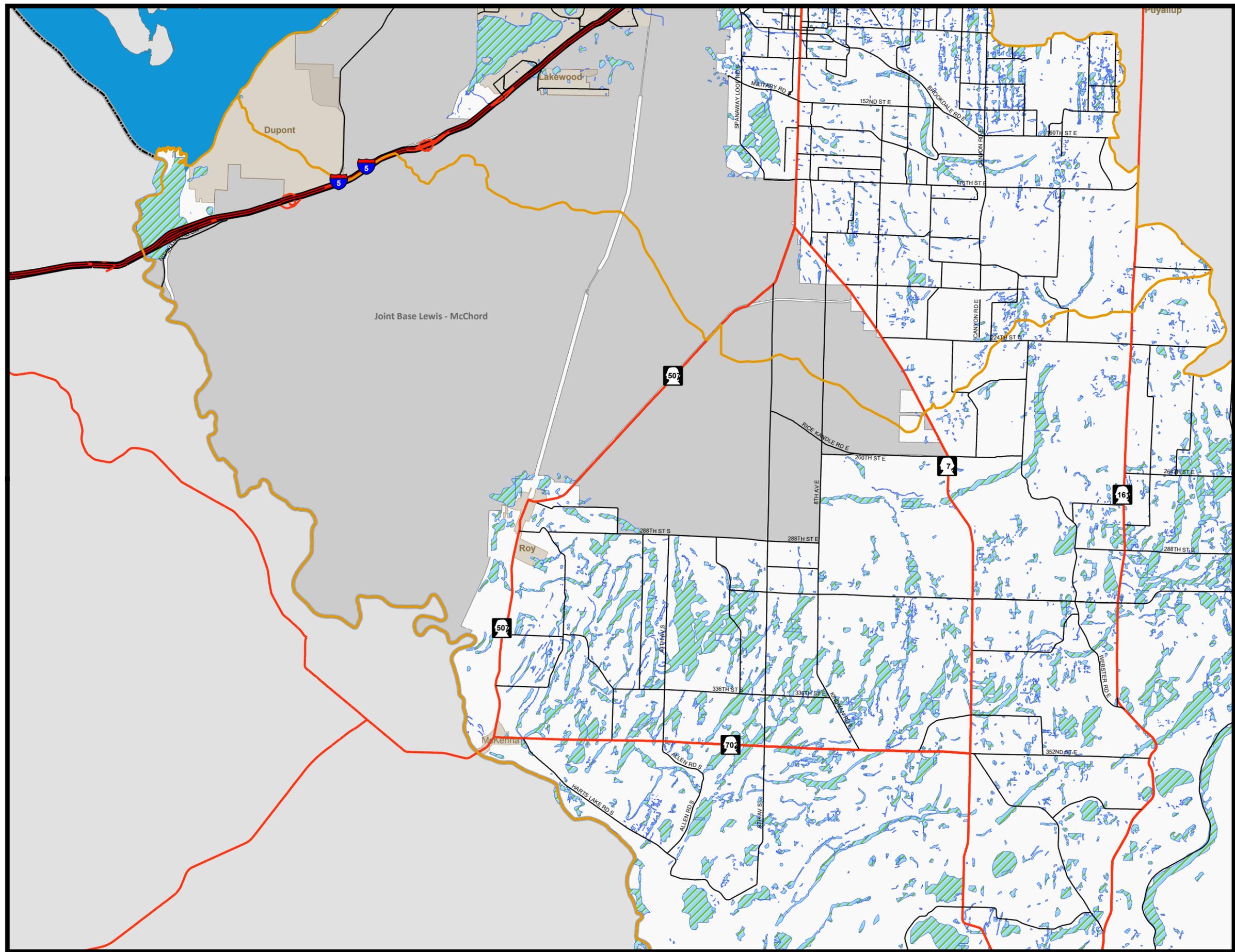
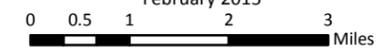
-  Watershed Service Area Boundaries
-  Interstate Highway
-  Highway Ramp
-  Limited Access State Highway
-  Other State Highway
-  Arterial or Major Road
-  Cities & Communities in Pierce County
-  Military Base
-  Federal & State Parks and Forests
-  Pierce County Boundary
-  Puget Sound
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February 2015



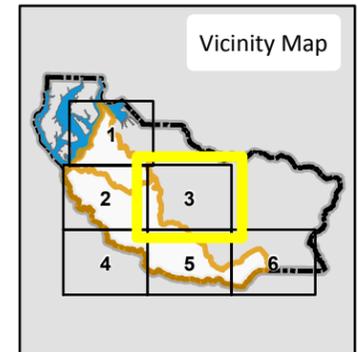
# Exhibit 16-3: WRIA 11 Nisqually River and WRIA 12 Chambers/Clover Watershed Service Areas

(Current Wetland Inventory)

## Legend

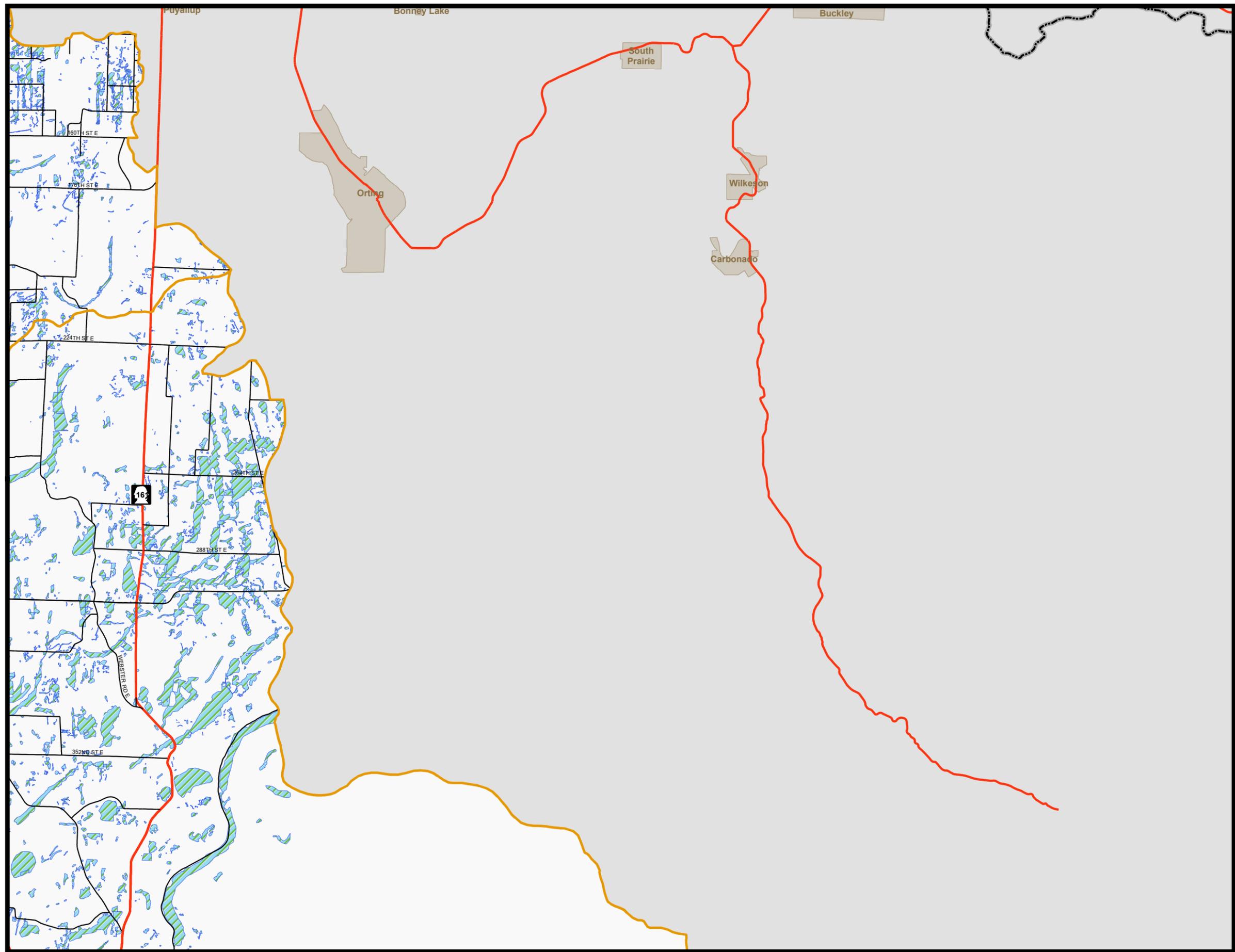
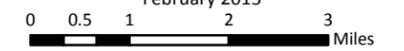
-  Watershed Service Area Boundaries
-  Interstate Highway
-  Highway Ramp
-  Limited Access State Highway
-  Other State Highway
-  Arterial or Major Road
-  Cities & Communities in Pierce County
-  Military Base
-  Federal & State Parks and Forests
-  Pierce County Boundary
-  Puget Sound
-  Wetlands:

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February 2015

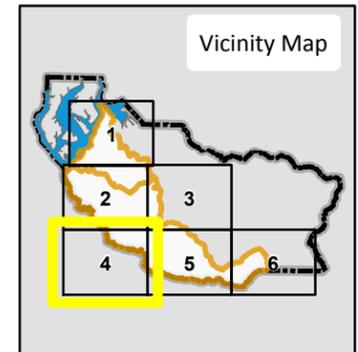


# Exhibit 16-4: WRIA 11 Nisqually River and WRIA 12 Chambers/Clover Watershed Service Areas (Current Wetland Inventory)

## Legend

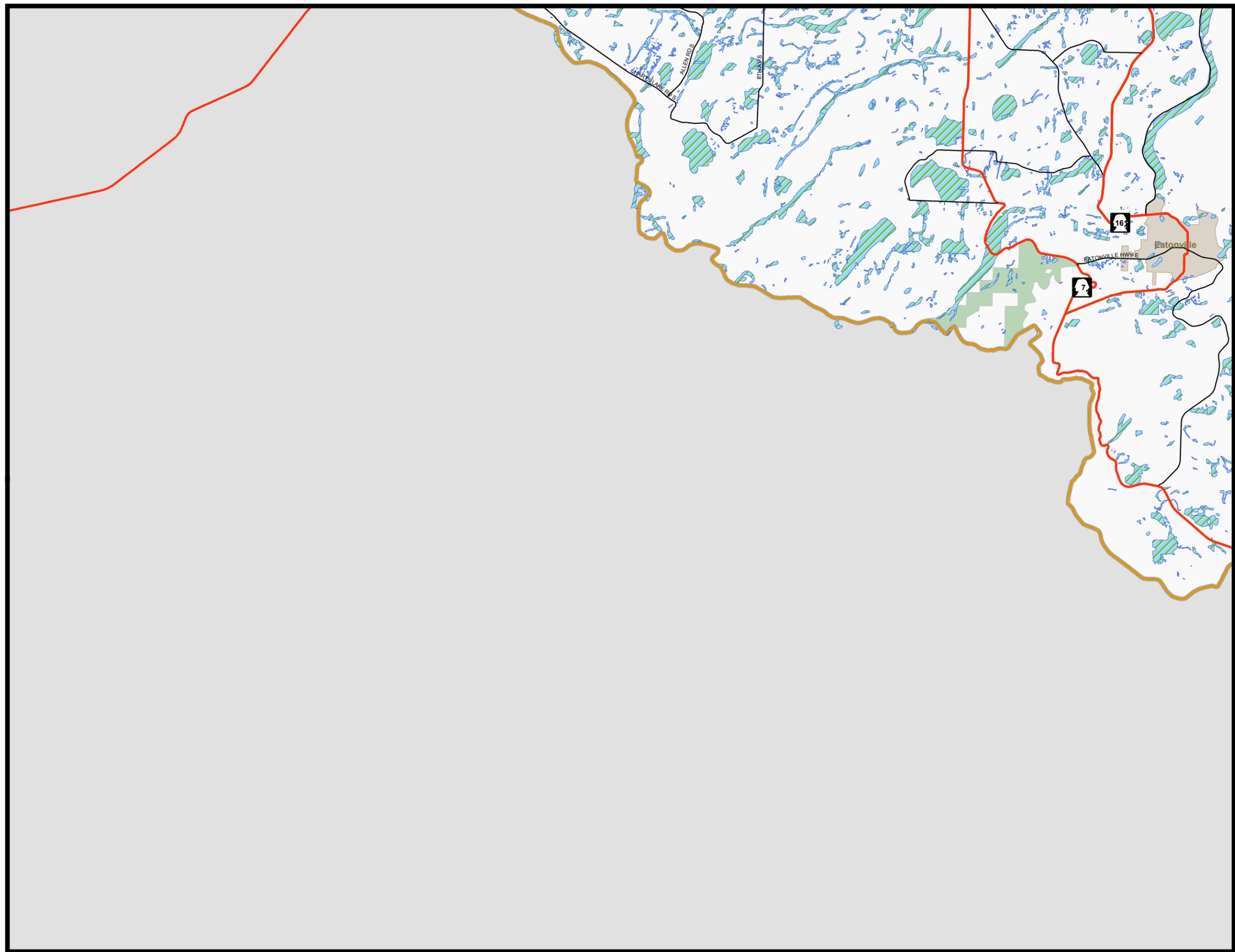
-  Watershed Service Area Boundaries
-  Interstate Highway
-  Highway Ramp
-  Limited Access State Highway
-  Other State Highway
-  Arterial or Major Road
-  Cities & Communities in Pierce County
-  Military Base
-  Federal & State Parks and Forests
-  Pierce County Boundary
-  Puget Sound
-  Wetlands:

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February 2015  
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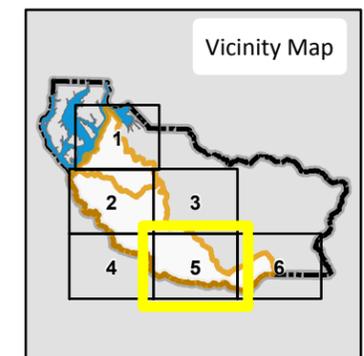
# Exhibit 16-5: WRIA 11 Nisqually River and WRIA 12 Chambers/Clover Watershed Service Areas

(Current Wetland Inventory)

## Legend

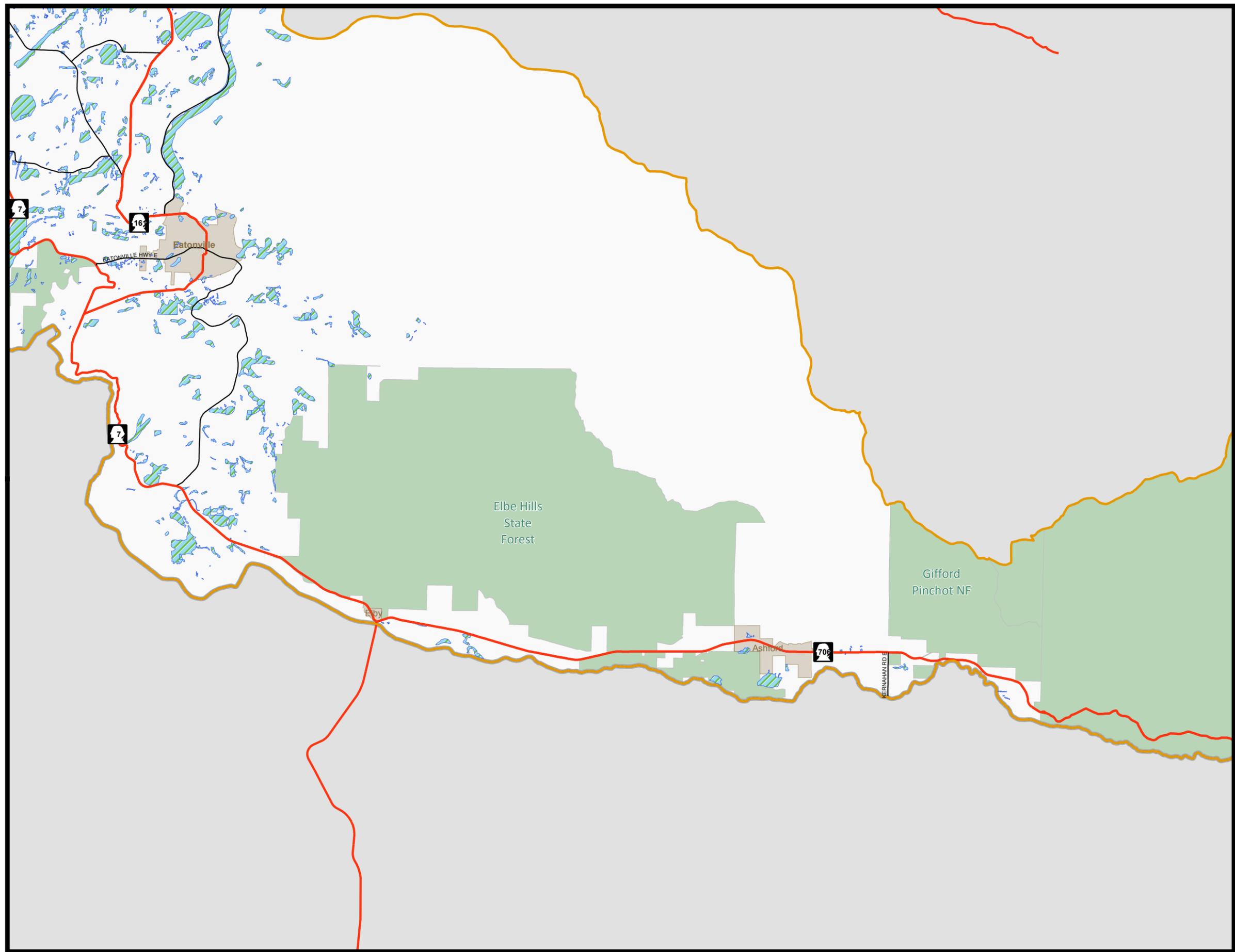
-  Watershed Service Area Boundaries
-  Interstate Highway
-  Highway Ramp
-  Limited Access State Highway
-  Other State Highway
-  Arterial or Major Road
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The wetland inventory is showing wetlands mapped by the Pierce County Wetland Inventory (CWI) and the Supplemental Wetland Inventory (SWI). It does not include wetlands mapped by the National Wetland Inventory (NWI) that are not also in the CWI. Furthermore, publicly available wetland inventories do not include JBLM, a U.S. military base for which aerial surveillance for wetland inventory purposes has not been allowed. Federal lands (Forest Service and Mt. Rainier National Park) also do not appear on the CWI. This does not mean that wetlands are absent or scarce in these areas; this simply shows one of the limitations of the CWI. Pierce County's PublicGIS Wetlands layer includes the CWI, NWI, and SWI.



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February 2015  
0 0.5 1 2 3 Miles

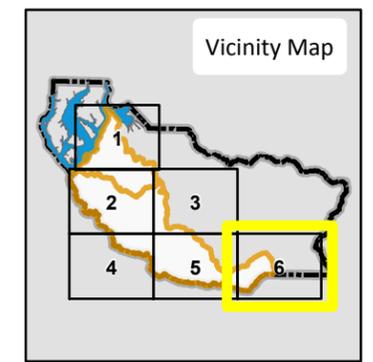


# Exhibit 16-6: WRIA 11 Nisqually River and WRIA 12 Chambers/Clover Watershed Service Areas (Current Wetland Inventory)

## Legend

-  Watershed Service Area Boundaries
-  Interstate Highway
-  Highway Ramp
-  Limited Access State Highway
-  Other State Highway
-  Arterial or Major Road
-  Cities & Communities in Pierce County
-  Military Base
-  Federal & State Parks and Forests
-  Pierce County Boundary
-  Puget Sound
-  Wetlands:

The wetland inventory is showing wetlands mapped by the Pierce County Wetland Inventory (CWI) and the Supplemental Wetland Inventory (SWI). It does not include wetlands mapped by the National Wetland Inventory (NWI) that are not also in the CWI. Furthermore, publicly available wetland inventories do not include JBLM, a U.S. military base for which aerial surveillance for wetland inventory purposes has not been allowed. Federal lands (Forest Service and Mt. Rainier National Park) also do not appear on the CWI. This does not mean that wetlands are absent or scarce in these areas; this simply shows one of the limitations of the CWI. Pierce County's PublicGIS Wetlands layer includes the CWI, NWI, and SWI.



The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose.

February 2015  
0 0.5 1 2 3 Miles

