

**ODFW AQUATIC INVENTORY PROJECT  
RESTORATION MONITORING  
STREAM HABITAT REPORT**

STREAM: WEST FORK SMITH RIVER  
 GCG: 4-UMP  
 SITE ID: 449  
 BASIN: SMITH  
 TREATMENT DATE: 2011  
 SURVEY DATE: 3/15/2011  
 SURVEY CREW: Nick Chambers and Aaron McAlexander  
 USGS MAPS: TWIN SISTERS  
 ECOREGION: Mid-Coastal Sedimentary  
 REPORT PREPARED BY: Matt Strickland / Charles Stein

REACH: 1 LOCATION: T19S-R09W-S36SW

**SURVEY DESCRIPTION:**

Channel morphology: Constrained by hillslopes  
 Dominant landuse(s): Second growth timber (15-30 cm dbh)  
 Dominant riparian vegetation: Deciduous trees: size class 30-50cm dbh  
 Primary channel length (meters) and area (m<sup>2</sup>): 1,616 : 11,790  
 Secondary channel length (meters) and area (m<sup>2</sup>) 151 : 375  
 VWI average: 4.3 VWI Range: 1.5 - 9 Average Gradient: 1.4%  
 Pieces LWD per 100m: 11.5 Wood Volume (m<sup>3</sup>) per 100m: 16.6  
 Percent pools: 26% Complex pools (LWD pieces>=3): 7 Pools >=1m deep:9  
 Percent substrate (avg):

	<u>Silt / organics</u>	<u>Sand</u>	<u>Gravel</u>	<u>Cobble</u>	<u>Boulder</u>	<u>Bedrock</u>
All units	5	24	30	18	2	21
Pool units	5	26	26	11	2	30
Fast water units	0	19	33	26	2	20

**SURVEY COMMENTS:**

This is a pre treatment restoration survey. The crew noted beaver activity and observed several adult winter steelhead and numerous redds.

**OREGON DEPARTMENT OF FISH AND WILDLIFE  
HABITAT INVENTORY**

**WEST FORK SMITH RIVER  
GCG: 4-UMP SITE ID: 449**

**Survey Date: 3/15/2011**

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**T19S-R09W-S36SW**

**REACH 1**

**Valley and Channel Summary**

Valley Characteristics (Percent Reach Length)

<u>Narrow Valley Floor</u>		<u>Broad Valley Floor</u>	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	100%	Wide Floodplain	0%
Valley Width Index	4.3	VWI Range:	1.5 - 9

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

<u>Type</u>	<u>Length (m)</u>	<u>Area (m<sup>2</sup>)</u>	<u>Dry Units</u>
Primary	1,616	11,790	0
Secondary	151	375	3

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> <i>n</i> = 7	<u>First Terrace</u> <i>n</i> = 3
Width: 6.6	Width: 10.9	23.2 ( 12.7 - 65 )	33.6 ( 16.2 - 68 )
Depth: 0.64	Height: 0.8	1.7 ( 1.5 - 2 )	2.2 ( 1.85 - 2.7 )

W:D ratio: 12.9

Stream Flow Type: MF

Average Unit Gradient: 1.4%

Water temperature (°C): 9.0 - 9.0

Entrenchment (ACW:FPW ratio): 2.0

Habitat Units/100m (total channel length): 2.5

Habitat Units/100m (primary channel length): 2.8

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LT
Riparian Vegetation:	D30	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	1%	Reach avg: 94%
Undercut Banks:	5%	Range: 61 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	186	11.5
Volume (m <sup>3</sup> ):	267	16.6
Key pieces (>=12m x 0.60m):	9	0.6

**OREGON DEPT OF FISH AND WILDLIFE**  
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**REACH 1**

**HABITAT DETAIL**

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbl	Bldr	Bdrk
DRY CHANNEL	1	15	1.3	0.00	20	0	0	30	70	0	0	0
POOL-BACKWATER	1	6	3.5	0.70	19	0	22	67	11	0	0	0
POOL-DAMMED	1	10	7.5	1.30	75	0	10	60	30	0	0	0
POOL-ISOLATED	1	7	2.0	0.30	13	0	70	30	0	0	0	0
POOL-LATERAL SCOUR	14	387	6.4	0.89	2,567	4	6	26	23	10	2	32
POOL-PLUNGE	2	28	10.9	1.05	309	0	0	12	32	23	2	30
POOL-STRAIGHT SCOUR	1	27	7.5	1.00	203	0	0	16	53	11	0	21
PUDDLED UNIT	2	33	2.5	0.35	87	0	22	36	32	11	0	0
RAPID/BEDROCK	1	18	6.2	0.50	112	0	0	6	17	22	0	56
RAPID/BOULDERS	1	8	1.2	0.20	10	0	0	20	60	20	0	0
RIFFLE	17	1,220	7.0	0.52	8,662	21	0	19	32	27	2	19
STEP/COBBLE	1	5	11.4	0.20	60	0	0	11	28	56	6	0
STEP/LOG	2	3	12.0	0.18	29	0	3	34	43	7	0	13
<b>Total:</b>	<b>45</b>	<b>1,767</b>	<b>6.6</b>	<b>0.64</b>	<b>12,165</b>	<b>25</b>	<b>Avg: 5</b>	<b>24</b>	<b>30</b>	<b>18</b>	<b>2</b>	<b>21</b>

**HABITAT SUMMARY**

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area		Large Boulders	
					(m <sup>2</sup> )	Percent	Number	(# / 100m <sup>2</sup> )
Dammed & BW Pools	3	22	4.3	0.77	107	0.88%	0	0.0
Scour Pools	17	442	7.0	0.91	3,078	25.30%	4	0.1
Glides	0	0			0	0.00%	0	0.0
Riffles	17	1,220	7.0	0.52	8,662	71.21%	21	0.2
Rapids	2	26	3.7	0.35	121	1.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	3	8	11.8	0.18	90	0.74%	0	0.0
Dry	3	48	2.1	0.23	107	0.88%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

OREGON DEPT OF FISH AND WILDLIFE  
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WEST FORK SMITH RIVER  
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Survey Date: 3/15/2011

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T19S-R09W-S36SW

REACH 1

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**POOL SUMMARY**

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	20	11.3	12.4
Pools >=1m deep:	9	5.1	5.6
Complex pools (LWD pieces>=3):	7	4.0	4.3
Pool frequency (channel widths/pool):	8.1		
Residual pool depth (avg):	0.58		

Survey Date 3/15/2011

Report Date: 9/14/2011

**RIPARIAN ZONE  
VEGETATION SUMMARY**

REACH 1

**Summary of Riparian Zone (0-30m) 5 transects**

Total hardwoods/1000	817
Total conifers/1000 ft	146
Total conifers >20" dbh/1000 f	0
Total conifers >35" dbh/1000 f	0

**Average number of trees in a 5-meter wide band**

Diameter class (cm)	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.6	1.4	0.4	5.2	1.2	2.2	2.2	8.8
15-30cm	0.0	1.6	0.0	0.6	0.2	1.4	0.2	3.6
30-50cm	0.0	0.6	0.0	0.2	0.0	0.2	0.0	1.0
50-90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.6	3.6	0.4	6.0	1.4	3.8	0.8	4.5

**Canopy closure and ground cover**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	76		72		74	
Shrub cover	50		56		51	
Grass/forb cover	44		42		42	

**Predominant landform in each zone**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	30		70		80	
High terrace	40		30		20	
Low terrace	30		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		0	
Riprap	0		0		0	
Surface slope (%)	17		15		15	

**Summary of Riparian Zone (0-30m) for all reaches****5 transects****Summary of riparian zone (0-100 feet) extrapolated to 1,000 feet along stream**

Total hardwoods/1000	817
Total conifers/1000 ft	146
Total conifers >20" dbh/1000 f	0
Total conifers >35" dbh/1000 f	0

**Average number of trees in a 5-m wide band**

Diameter class (cm)	Zones 1-3 <u>0-30 meters</u>	
	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	2.2	8.8
15-30cm	0.2	3.6
30-50cm	0.0	1.0
50-90cm	0.0	0.0
>90cm	0.0	0.0

**RIPARIAN ZONE VEGETATION**

Reach 1

Reach 1

Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
7	LT	1	LT	0	70	70	20	Conifer							
								Hardwood	3		2				
7	LT	2	HS	3	60	80	15	Conifer							
								Hardwood	1						
7	LT	3	HS	3	50	75	20	Conifer							
								Hardwood	1						
7	RT	1	HS	80	70	20	80	Conifer	1						
								Hardwood							
7	RT	2	HS	80	65	25	75	Conifer							
								Hardwood	1						
7	RT	3	HS	80	80	15	80	Conifer	2						
								Hardwood							
18	LT	1	HT	0	60	100	0	Conifer	1						
								Hardwood							
18	LT	2	HT	0	60	85	15	Conifer							
								Hardwood	2						
18	LT	3	HS	0	80	60	20	Conifer	4						
								Hardwood							
18	RT	1	LT	0	85	30	60	Conifer	1						
								Hardwood		1					
18	RT	2	HT	0	90	40	60	Conifer	1						
								Hardwood			3				
18	RT	3	HT	0	85	40	60	Conifer							
								Hardwood			4				
27	LT	1	HT	0	95	40	60	Conifer							
								Hardwood							
27	LT	2	HT	0	75	60	40	Conifer							
								Hardwood	1		1				
27	LT	3	HT	0	80	60	40	Conifer							
								Hardwood	1	1					
27	RT	1	HT	15	60	30	45	Conifer							
								Hardwood							
27	RT	2	HS	20	90	15	75	Conifer							
								Hardwood	1						
27	RT	3	HS	40	90	10	70	Conifer			1				
								Hardwood			1				
35	LT	1	HT	10	80	45	45	Conifer							
								Hardwood			1				
35	LT	2	HS	15	40	90	5	Conifer							
								Hardwood							

**RIPARIAN ZONE VEGETATION**

Reach 1

Reach 1

Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
35	LT	3	HS	0	30	100	0	Conifer							
								Hardwood							
35	RT	1	HS	25	75	40	55	Conifer							
								Hardwood			1				
35	RT	2	HS	15	95	20	70	Conifer	1						
								Hardwood	9						
35	RT	3	HS	10	85	15	60	Conifer							LAGRGE DJ ON HILLSLOPE
								Hardwood	2						
43	LT	1	LT	0	85	65	35	Conifer							
								Hardwood	2	6					
43	LT	2	HS	6	80	70	30	Conifer							
								Hardwood	10						
43	LT	3	HS	6	80	75	25	Conifer							
								Hardwood	6	1					
43	RT	1	HS	35	75	60	40	Conifer							
								Hardwood	2						
43	RT	2	HS	10	65	70	30	Conifer							
								Hardwood	1						
43	RT	3	HS	10	80	60	40	Conifer							
								Hardwood	1		1				



OREGON DEPT OF FISH AND WILDLIFE  
HABITAT INVENTORY

OREGON PLAN MONITORING SITE  
SURVEY DATE: 3/15/2011

COMMENT SUMMARY

MONITORING AREA: 4-UMP SITE ID: 449 STREAM: WEST FORK SMITH RIVER

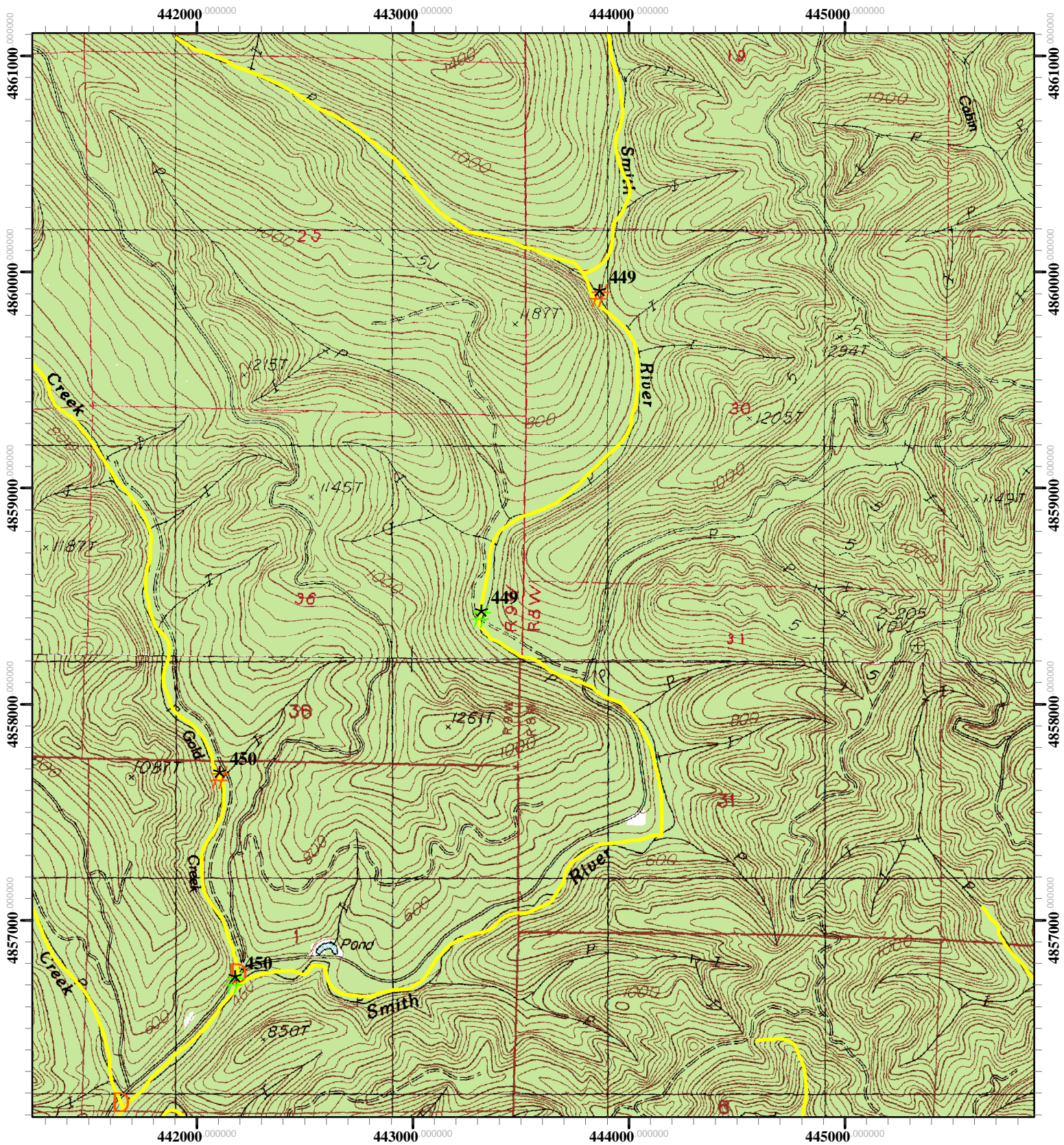
REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	1	RI	00	38.3		START UPSTREAM OF TRIB
1	3	SL	01	54.2		H=.40
1	11	PD	02	366.2		FISH IN PD AT MOUTH. POOL LNTH 7, DPTH .6, WDT 3
1	12	LP	00	411.2	SS/	
1	13	SC	00	416.5		H=.50
1	16	LP	02	468.5	SS/	FLOW FROM SS
1	21	RI	02	667.5	BW/	
1	22	BW	10	667.5		BW OFF 02
1	23	LP	02	667.5		FISH PRESENT
1	24	DC	02	667.5		DRY STARTS AT END OF 23 POOL 02
1	27	LP	00	742.5		REDD AT TAILOUT
1	30	SL	00	823.5	DJ	H=.50 DJ FORMS DP

**COMMENT SUMMARY**





MONITORING AREA: 4-UMP SITE ID: 449 STREAM: WEST FORK SMITH RIVER

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	33	LP	00	976.5		2 STHD REDDS IN TAILOUT
1	36	RI	00	1097.5		2 REDDS
1	37	SP	00	1124.5		2 STEELHEAD ON REDD AT TAILOUT
1	41	RI	00	1212.5	BV	
1	43	RI	01	1441.5	/TJ	METRIC DONE AT START OF UNIT
1	44	RB	11	1441.5		.6 ACH 2.1WIDTH





Restoration Site ID: 449  
 Stream: WF Smith River  
 T19S- R09W - S36  
 USGS Map: Twin Sisters  
 Basin: Smith/Umpqua

-  Proposed Pre-Tx REST Start Point
-  Proposed Pre-Tx REST End Point
-  Potential Barrier
-  Spawning Survey Segments

