

**ODFW AQUATIC INVENTORY PROJECT**  
**OREGON PLAN FOR SALMON & WATERSHEDS**  
**STREAM RESTORATION HABITAT REPORT**

STREAM: Anthony Creek (W-67)  
BASIN: MF Willamette River  
SURVEY TYPE: Post-Tx  
DATE: July 11, 2002  
SURVEY CREW: Sara Belden, Carmen Vandyke  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 18.9 km<sup>2</sup>  
USGS MAPS: Lowell  
ECOREGION: Willamette Valley Foothills

**GENERAL DESCRIPTION:**

The Anthony Creek habitat survey extended 700 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 20.0. Land use for the reach was large (30-50 cm dbh) trees. The average unit gradient was 2.8 percent. Rapids (42%) and scour pools (23%) dominated stream habitat. Bedrock (57%) and cobble (12%) dominated stream substrate. Wood volume was moderate at 21.0 m<sup>3</sup>/100m.

**COMMENTS:**

There were no potential barriers to upstream fish migration in the surveyed length.

The crew noted several habitat structures during the survey.

REACH 1

T19S-R01W-S29SW

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	100%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	20.0	VWI Range:	20 - 20

Channel Morphology (Percent Reach Length)

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

Channel Characteristics

<u>Type</u>	<u>Length (m)</u>	<u>Area (m2)</u>	<u>Dry Units</u>
Primary	700	3,268	0
Secondary	10	30	0

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	4.4	Width	8.6	19.3	22.5
Depth	0.25	Height	0.7	1.3	1.8
		W:D ratio	13.6	Entrenchment	2.4
Stream Flow Type:	LF	Water temp (C):		16.0 - 16.0	
Avg. Unit Gradient:	2.8%	Habitat Units/100m:		6.4	

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	LT	
Riparian Vegetation:	M30	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:		Reach avg: 88%
Undercut Banks:	4%	Range: 53 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m</u>
All pieces (>=3m x 0.15m):	47	6.7
Volume (m <sup>3</sup> ):	147	21.0
Key pieces (>=10m x 0.60m):	11	1.6

OREGON DEPARTMENT OF FISH AND WILDLIFE

ANTHONY CREEK POST-TX (W-67)

HABITAT INVENTORY

Report Date: 3/17/03

Survey Date:

7/11/02

REACH 1		T19S-R01W-S29SW					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	
CASCADE/BEDROCK	2	32	3.0	0.10	106	6	3	5	3	10	8	73	
GLIDE	4	67	6.7	0.16	437	9	9	17	10	3	1	60	
POOL-LATERAL SCOUR	7	86	3.5	0.53	299	14	7	12	12	14	6	49	
POOL-PLUNGE	1	6	5.1	0.50	30	0	5	0	0	5	0	90	
POOL-STRAIGHT SCOUR	1	8	4.1	0.55	33	1	5	5	15	10	5	60	
POOL-TRENCH	5	74	5.3	0.60	394	6	5	10	12	5	4	64	
RAPID/BEDROCK	7	158	5.4	0.06	916	38	1	4	5	5	1	83	
RAPID/BOULDERS	6	118	4.0	0.14	474	68	2	10	14	29	37	7	
RIFFLE	7	131	4.1	0.13	508	23	2	8	11	15	9	54	
STEP/BEDROCK	4	26	2.7	0.07	75	2	0	2	4	6	1	86	
STEP/COBBLE	1	6	4.4	0.10	24	4	0	10	10	45	35	0	
<b>Total:</b>	<b>45</b>	<b>711</b>	<b>4.4</b>	<b>0.25</b>	<b>3,298</b>	<b>171</b>	<b>Avg</b>	<b>4</b>	<b>9</b>	<b>9</b>	<b>12</b>	<b>9</b>	<b>57</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	0	0			0	0.00%	0	0.0
Scour Pools	14	174	4.3	0.55	756	22.93%	21	2.8
Glides	4	67	6.7	0.16	437	13.25%	9	2.1
Riffles	7	131	4.1	0.13	508	15.41%	23	4.5
Rapids	13	276	4.7	0.10	1,391	42.18%	106	7.6
Cascades	2	32	3.0	0.10	106	3.23%	6	5.6
Step/Falls	5	32	3.0	0.07	99	3.00%	6	6.1
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY		
	<u>Total</u>	<u># / Km</u>
All Pools:	14	20.0
Pools >=1m deep:	0	0.0
Complex pools (LWD pieces>=3):	3	4.3
Pool frequency (channel widths/pool):	5.9	
Residual pool depth (avg):	0.49	

**RIPARIAN ZONE VEGETATION SUMMARY**

**REACH 1** **REACH 1**

**Summary of Riparian Zone (0-30m) 3 transects**

Total hardwoods/1000	1158
Total conifers/1000 ft	406
Total conifers >20" dbh/1000 ft	81
Total conifers >35" dbh/1000 ft	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	0.0	10.0	0.0	0.0	1.0	2.0	1.0	12.0
15-30cm	0.0	2.3	0.3	1.7	1.3	0.7	1.7	4.7
30-50cm	0.0	1.3	1.3	0.0	1.3	0.3	2.7	1.7
50-90cm	0.0	0.3	1.0	0.3	0.3	0.0	1.3	0.7
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	14.0	2.7	2.0	4.0	3.0	2.2	6.3

**Canopy closure and ground cover**

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	63	66	53
Shrub cover	41	32	28
Grass/forb cover	38	50	63

**Predominant landform in each zone**

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	0	17	33
High terrace	50	67	50
Low terrace	50	17	0
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	17
Riprap	0	0	0
Surface slope (%)	5	30	16

**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		
9	LF	1	LT	10	70	70	20	Conifer							
								Hardwood	1	1	3	1			
9	LF	2	HS	150	80	60	30	Conifer							PARTIAL HT
								Hardwood		1					
9	LF	3	RB	0	20	30	45	Conifer	1						ANTHONY CREEK
								Hardwood	1	2					
9	RT	1	LT	5	60	20	75	Conifer							VINEMAPLE
								Hardwood	12	2	1				
9	RT	2	HT	7	40	35	60	Conifer			1	2			
								Hardwood							
9	RT	3	HT	5	65	10	80	Conifer	1	1	2				LARGE DOWN WOOD
								Hardwood							
16	LF	1	LT	5	45	60	20	Conifer							
								Hardwood							
16	LF	2	LT	3	60	10	85	Conifer							PARTIAL HT
								Hardwood		3					
16	LF	3	HS	60	70	15	85	Conifer							
								Hardwood	3		1				
16	RT	1	HT	3	85	20	70	Conifer							
								Hardwood		4					
16	RT	2	HT	3	80	35	60	Conifer				1			
								Hardwood							
16	RT	3	HT	3	35	80	20	Conifer							VMAPLE
								Hardwood	2						
30	LF	1	HT	5	85	70	25	Conifer							VMAPLE
								Hardwood	17						
30	LF	2	HT	15	65	45	55	Conifer			1				COTTONWOOD
								Hardwood			1		1		
30	LF	3	HS	25	55	30	70	Conifer			1	2			
								Hardwood							
30	RT	1	HT	2	30	5	15	Conifer							
								Hardwood							
30	RT	2	HT	2	70	5	10	Conifer				3			
								Hardwood							
30	RT	3	HT	2	75	0	80	Conifer	1	2			1		
								Hardwood							

# Comment Summary

## Oregon Plan Monitoring Sites 2002

MONITORING AREA: 8-W      SITE ID: 67      ANTHONY CREEK POST-TX (W-67)

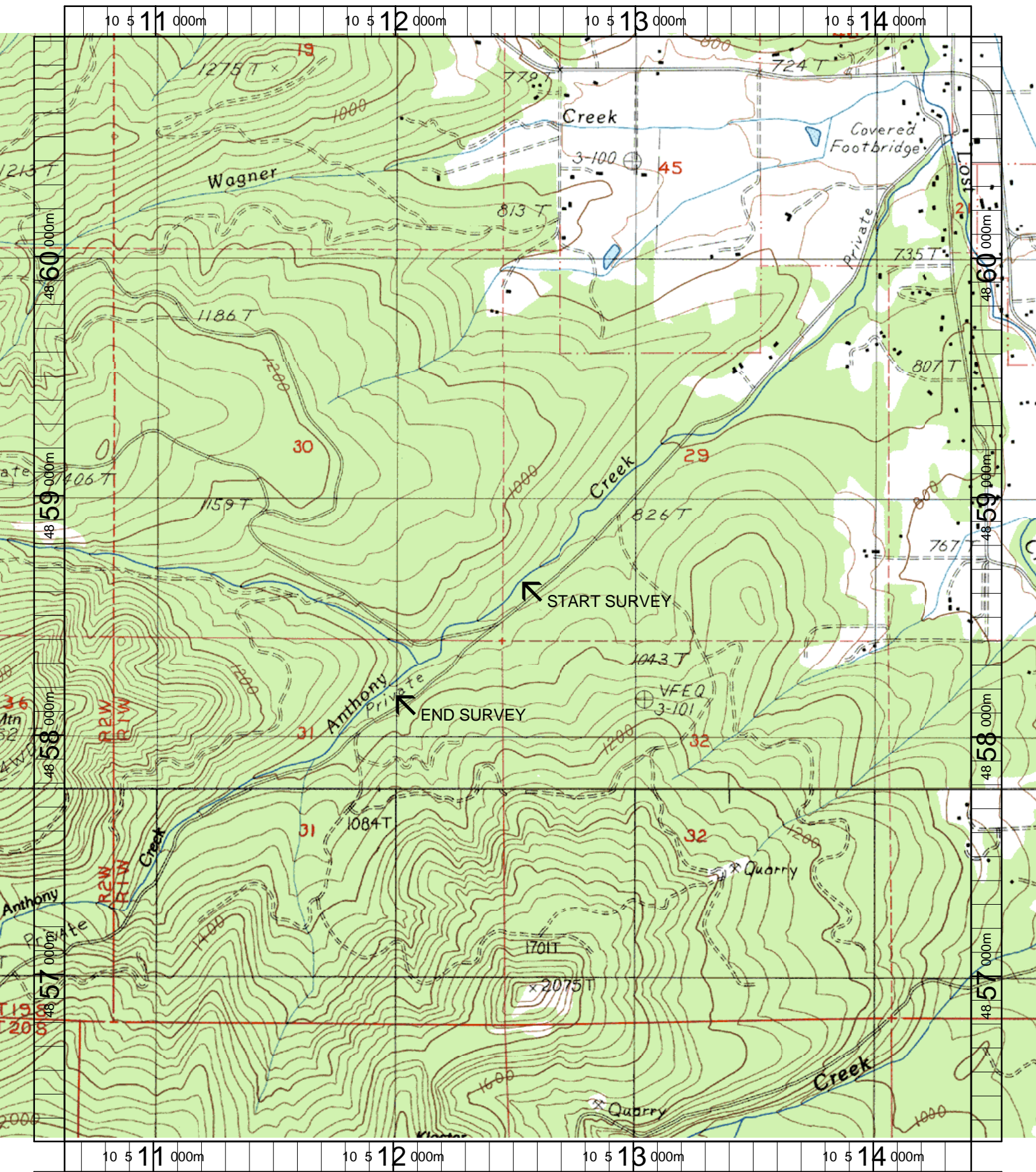
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RI	00	27.2		START 10M BELOW SIGN	START SIGN IN MIDDLE
2	LP	00	37.5		T=16C@1000	
3	SR	00	39.9		H=.6	
4	RI	00	54.4			FISH
5	RB	00	70	WL		DEER TRACKS
6	LP	00	84.8	DJ	PINK FLAG "SITE 9"	SITE #9
7	RB	00	97.2			CRAYFISH
8	TP	00	114.9	SS/		SCULPIN
9	RB	00	144.3			RIP#1
10	RB	00	166.7	/SS		
11	LP	00	183			SITE #8
12	SR	00	191.1		H=.3, FLAG "SITE 8"	WIDE AC
14	RI	00	221.1		CABLE OVER STREAM	FISH
15	TP	00	234.4			FISH
16	RR	00	263.6		SITE 7	SITE #7
18	RR	00	298.6		SITE 6	SITE #6
20	SR	00	324.4		H=.7	
22	SR	00	356		H=.5	
23	GL	00	368.5			FISH, CADDIS FLY
24	RR	00	390.7	RF,BC,CS		OLD ROAD CROSSING, RIP
25	RI	00	406			TROUT FRY

# Comment Summary

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MONITORING AREA: 8-W      SITE ID: 67      ANTHONY CREEK POST-TX (W-67)

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
26	PP	00	411.9	SS/		UNDER STEP
27	RI	00	434.8		VERY ENTRENCHED BED	TRENCHED
28	TP	00	444.4			TROUT, SCULPIN
29	RR	00	471.3	SS/		
30	RR	00	504.5	HS, DJ		SITE #5, 6 LARGE PIECES
33	SC	00	539.9		H=.3	
34	LP	00	552.7	HS		
35	RR	01	569.3	/TJ, DJ,HS	/TJ	TROUT, CUTTHROAT
36	RR	11	569.3			TRIB UNIT, COHO, UT
39	RB	00	622.3	DJ		
40	GL	00	638.3	WL		RSN, FISH
41	RI	00	652.3			FISH
42	CR	00	673.6			SAND IN SMALL POCKETS
43	SP	00	681.6	WL		RSN, CUTT, SCULPIN
45	LP	00	700.4	WL	END SURVEY	RSN, HUGE SLUG, END SUR



Name: LOWELL  
 Date: 3/20/2003  
 Scale: 1 inch equals 1666 feet

Location: 10 512510 E 4858618 N  
 Caption: ANTHONY CREEK RESTORATION SITE - MF WILLAMETTE BASIN