

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

STREAM: Anthony Creek (W-67)  
BASIN: MF Willamette River  
SURVEY TYPE: Pre-Tx  
DATE: July 31, 2001  
SURVEY CREW: Loren Stucker, LaNoah Babcock  
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 682 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 6.0 (range: 2.5 – 10.0). Land use for the reach was large (30-50 cm dbh) trees. The average unit gradient was 2.9 percent. Riffles (58%) and scour pools (23%) dominated stream habitat. Bedrock (45%) and cobble (17%) dominated stream substrate. Wood volume was low at 10.1 m<sup>3</sup>/100m.

**COMMENTS:**

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

REACH 1

T19S-R1W-S30SE

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 avg: 6.0 range: 2.5-10.0

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	682	3,758	0
Secondary	16	47	0

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	4.9	Width	6.8	9.4	11.5
Depth	0.23	Height	0.5	0.9	1.1
		W:D ratio	15.2	Entrenchment	1.4

Stream Flow Type: LF Water Temp: 13.0-13.0°C  
Avg. Unit Gradient: 2.9% Habitat Units/100m: 5.3

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	LT	
Riparian Vegetation:	M3	

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding	9%	Reach avg: 60%
Undercut Banks	3%	Range: 40- 71

Large Woody Debris

	<u>Total</u>	<u>Total/100m</u>
All pieces ( $\geq 3m \times 0.15m$ )	53	7.8
Volume (m <sup>3</sup> )	69	10.1
Key pieces ( $\geq 10m \times 0.6m$ )	2	0.3

REACH 1

T19S-R1W-S30SE

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	Cbbl	Bldr	Bdrk
POOL-LATERAL SCOUR	11	166	4.9	0.54	827	16	9	15	17	15	6	37
POOL-TRENCH	1	7	5.3	0.60	35	1	5	5	5	5	5	75
RAPID/BEDROCK	2	46	3.9	0.08	237	1	5	7	14	7	5	61
RAPID/BOULDERS	5	100	4.8	0.09	470	36	2	8	27	37	16	11
RIFFLE	14	369	5.6	0.10	2,203	69	6	5	9	12	9	59
STEP/BEDROCK	2	6	1.1	0.05	7	0	8	0	0	0	0	93
STEP/COBBLE	2	4	4.3	0.06	27	2	0	3	35	48	15	0
<b>Total:</b>	<b>37</b>	<b>698</b>	<b>4.9</b>	<b>0.23</b>	<b>3,805</b>	<b>125</b>	<b>Avg: 6</b>	<b>8</b>	<b>15</b>	<b>17</b>	<b>9</b>	<b>45</b>

HABITAT SUMMARY

Habitat Group	No. Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m <sup>2</sup> )	Percent	Large Boulders Number	#/100m <sup>2</sup>
Dammed & BW Pools	0	0	-	-	0	0.00	0	0.0
Scour Pools	12	173	4.9	0.54	862	22.65	17	2.0
Glides	0	0	-	-	0	0.00	0	0.0
Riffles	14	369	5.6	0.10	2,203	57.88	69	3.1
Rapids	7	145	4.6	0.09	707	18.59	37	5.2
Cascades	0	0	-	-	0	0.00	0	0.0
Step/Falls	4	10	2.7	0.06	34	0.88	2	6.0
Dry	0	0	-	-	0	0.00	0	0.0

POOL SUMMARY

All Pools	<u>Total</u>	<u>#/Km</u>
	12	17.2
Pools ≥1m deep:	0	0.0
Complex pools (LWD pieces ≥3):	2	2.9
Pool Frequency (channel widths/pool):	8.6	
Residual pool depth (avg)	0.45m	

STREAM SUMMARY

ANTHONY CREEK PRE-TX (#67)

Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Substrate Percent Wetted Area						Total Large Boulder
					S/O	Sand	Grvl	Cbbl	Bldr	Bdrk	
37	698	4.9	0.23	3,805	6	8	15	17	9	45	125

Wetted Area

Habitat Group	(m <sup>2</sup> )	Percent
Scour Pool	862	22.6
Backwater Pools	0	0.0
Glide	0	0.0
Riffle	2,203	57.9
Rapid	707	18.6
Cascade	0	0.0
Step	34	0.9
Dry	0	0.0

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REACH 1

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000 ft	1,443
Total conifers/1000 ft	752
Total conifers >20" dbh/1000 ft	122
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	2.7	10.3	1.7	3.3	0.7	4.0	5.0	17.7
15-30cm	0.7	1.7	0.3	1.3	1.3	0.3	2.3	3.3
30-50cm	0.3	1.7	1.3	0.3	1.3	0.3	3.0	2.3
50-90cm	0.3	0.0	0.7	0.0	1.0	0.3	2.0	0.3
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m <sup>2</sup>	4.0	13.7	4.0	5.0	4.3	5.0	4.1	7.9

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10-20 meters (%)	Zone 3 20-30 meters (%)
Canopy closure	78	77	76
Shrub cover	44	30	19
Grass/forb cover	37	58	48

Predominant landform in each zone

	Zone 1 0-10 meters	Zone 2 10-20 meters	Zone 3 20-30 meters
Hillslope	0	50	33
High terrace	100	50	50
Low terrace	0	0	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 (%)	0	19	4

Summary of Riparian Zone (0-30m) for all reaches ( 3 transects)

Summary of riparian zone (0-100ft) extrapolated to 1,000 feet along stream

Total hardwoods/1000 ft	1,443
Total conifers/1000 ft	752
Total conifers >20" dbh/1000 ft	122

Average number of trees in a 5-meter wide band

<u>Diameter</u> <u>class (cm)</u>	<u>Zones 1-3</u>	
	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	5.0	17.7
15-30cm	2.3	3.3
30-50cm	3.0	2.3
50-90cm	2.0	0.3
>90cm	0.0	0.0

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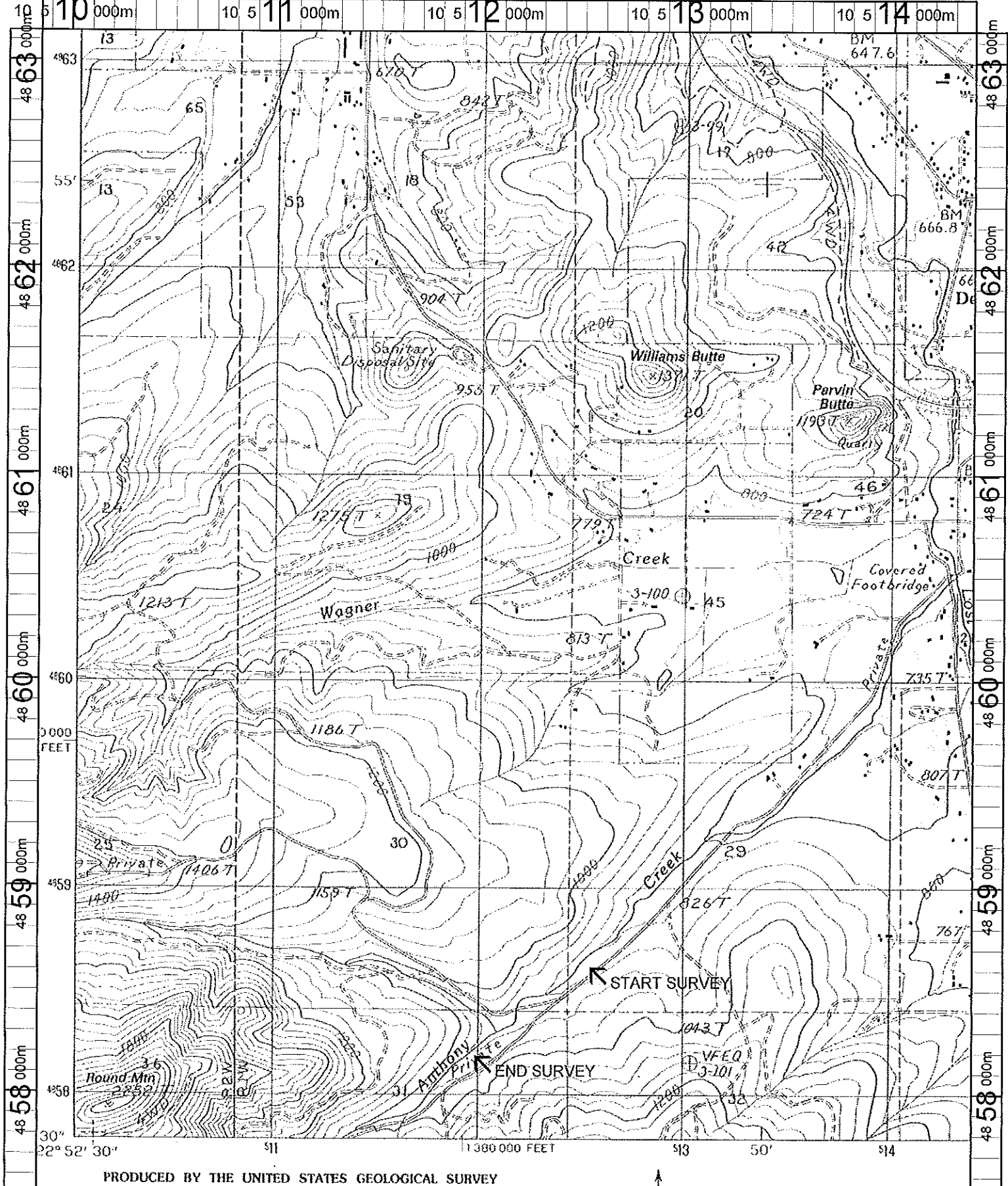
RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

VEGETATION DETAIL

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	HT	0.0	90	65	25	Conifer	0	0	0	0	0	
								Hardwood	2	2	3	0	0	SALMONBERRIES
9	LF	2	HS	80.0	90	30	60	Conifer	1	0	0	0	0	
								Hardwood	0	2	0	0	0	
9	LF	3	RB	5.0	70	10	15	Conifer	1	1	1	0	0	
								Hardwood	0	0	0	0	0	CE TO RIGHT OF ZONE
9	RT	1	HT	0.0	90	15	50	Conifer	0	0	0	0	0	
								Hardwood	2	1	2	0	0	/SS, LOTS OF FERNS
9	RT	2	HT	0.0	80	15	60	Conifer	0	0	1	1	0	
								Hardwood	3	0	0	0	0	NICE MOSSY TREES
9	RT	3	HT	0.0	85	15	50	Conifer	1	2	1	1	0	
								Hardwood	0	0	0	0	0	
15	LF	1	HT	0.0	60	45	20	Conifer	2	0	0	0	0	
								Hardwood	5	2	0	0	0	
15	LF	2	HS	25.0	55	25	50	Conifer	0	0	1	0	0	
								Hardwood	1	0	1	0	0	
15	LF	3	HS	5.0	85	10	75	Conifer	0	1	0	0	0	
								Hardwood	3	1	0	0	0	LARGE BEE HIVE
15	RT	1	HT	0.0	65	75	20	Conifer	0	0	0	0	0	
								Hardwood	12	0	0	0	0	
15	RT	2	HT	0.0	75	30	60	Conifer	0	0	0	0	0	
								Hardwood	6	0	0	0	0	
15	RT	3	HT	0.0	80	15	65	Conifer	0	0	0	0	0	
								Hardwood	5	0	1	1	0	30 METERS TO HILLSL
23	RT	1	HT	0.0	85	5	75	Conifer	6	2	1	1	0	
								Hardwood	0	0	0	0	0	
23	RT	2	HS	10.0	80	10	85	Conifer	3	1	2	0	0	
								Hardwood	0	2	0	0	0	
23	RT	3	HS	15.0	65	40	50	Conifer	0	0	1	1	0	
								Hardwood	2	0	0	0	0	
23	LF	1	HT	0.0	75	60	30	Conifer	0	0	0	0	0	
								Hardwood	10	0	0	0	0	
23	LF	2	HT	0.0	80	70	30	Conifer	1	0	0	1	0	
								Hardwood	0	0	0	0	0	
23	LF	3	HT	0.0	70	25	35	Conifer	0	0	1	1	0	
								Hardwood	2	0	0	0	0	40% BARE GROUND



PRODUCED BY THE UNITED STATES GEOLOGICAL SURVEY

Name: LOWELL  
 Date: 1/10/2002  
 Scale: 1 inch equals 2000 feet

Location: 10 512129 E 4860339 N  
 Caption: ANTHONY CREEK RESTORATION SITE - MF  
 WILLAMETTE BASIN