

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

STREAM: Anthony Creek (W-67)
BASIN: Middle Fork Willamette River
SURVEY TYPE: Post-Tx
DATE: March 19, 2007
SURVEY CREW: Andy Lanier, Laurel Moulton
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 18.9 km²
USGS MAPS: Lowell
ECOREGION: Willamette Valley Foothills

GENERAL DESCRIPTION:

The Anthony Creek habitat survey extended 617 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 3.4 (range: 2.5-5.0). Land use for the reach was large (30-50 cm dbh). The average unit gradient was 1.8 percent. Scour pools (32%), riffles (25%) and rapids (25%) dominated stream habitat. Bedrock (47%) dominated stream substrate. Wood volume was moderate at 27.0 m³/100m.

COMMENTS:

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

The crew noted several habitat structures during the survey.

Stream Anthony Creek (W-67)
 Basin Middle Fork Willamette River
 Treatment Large Wood

	ODFW Benchmark		Pre	Post	Post		
Habitat Variable	Desirable	Undesirable	2/12/01	2/12/02	3/19/07		
% Pool Area	>35%	<10%	23.9	22.5	32.2		
Number of Pools			12	11	21		
Deep Pools/km (>1.0 m)			1.5	3.1	2.8		
% Off-Channel			0.7	1.3	3.4		
LWD – Pieces/100m	>20	<10	3.3	9.5	15.7		
LWD – Volume/100m	>30	<20	7.6	9.2	27.0		
LWD – Key Pieces/100m	>3	<1	0.4	0.0	1.8		
Large Wood Jams/km			1.5	3.1			
% Riffle Fines	<10	>20	15	10	14		
% Riffle Gravel	>35	<15	15	21	24		
% Bedrock			51	47	47		

Bold is noticeable change

Comments: Pool area and the number of pools appears increased since treatment, and off channel habitat is slightly higher. The wood applied as a treatment is collecting more pieces, and both wood volume and key pieces have increased through time. Substrate has remained constant over time. It seems that the treatment has had a positive affect on the reach.

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	3.4	VWI Range:	2.5 - 5

Channel Morphology (Percent Reach Length)

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

Channel Characteristics

<u>Type</u>	<u>Length (m)</u>	<u>Area (m2)</u>	<u>Dry Units</u>
Primary Channel	617	3,714	0
Secondary Channel	80	113	2
Off-Channel Units	11	19	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 4
Width: 5.6	Width: 9.7	12.9 (8 - 15.5)	13.9 (10 - 15.5)
Depth: 0.35	Height: 0.5	1.0 (0.8 - 1.1)	1.3 (1.2 - 1.4)

W:D ratio: 20.5
 Stream Flow Type: MF
 Average Unit Gradient: 1.8%
 Water temperature (°C): 8.0 - 8.0

Entrenchment (ACW:FPW ratio): 1.3
 Habitat Units/100m (total channel length): 6.6
 Habitat Units/100m (primary channel length): 7.6

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	LT	
Riparian Vegetation:	D15	M50

Bank Condition and Shade

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

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	97	15.7
Volume (m ³):	166	27.0
Key pieces (>=12m x 0.60m):	11	1.8

HABITAT INVENTORY

Report Date: 4/25/2007

Survey Date:

3/19/2007

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 ²)	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbl	Bldr	Bdrk
CASCADE/BEDROCK	1	30	8.0	0.10	240	0	0	0	5	0	0	95
DRY UNIT	1	70	1.5	0.02	105	0	52	19	19	10	0	0
POOL-ISOLATED	1	3	0.9	0.15	3	0	35	60	5	0	0	0
POOL-LATERAL SCOUR	18	214	5.5	0.63	1,131	0	1	13	13	13	13	46
POOL-PLUNGE	2	17	7.5	0.80	104	0	0	5	10	18	10	58
PUDDLED UNIT	1	10	0.8	0.10	8	0	14	71	14	0	0	0
RAPID/BEDROCK	5	78	5.1	0.12	444	0	0	2	4	6	7	80
RAPID/BOULDERS	5	97	5.4	0.20	519	0	0	8	16	35	19	22
RIFFLE	1	24	5.5	0.25	132	0	0	14	24	29	33	0
RIFFLE W/ POCKETS	3	117	7.2	0.10	841	0	0	0	5	3	3	89
STEP/BEDROCK	3	17	6.7	0.07	104	0	0	0	0	0	0	100
STEP/COBBLE	5	32	6.4	0.15	214	0	0	3	20	36	25	15
STEP/LOG	1	0	7.0	0.10	2	0	0	5	29	24	43	0
Total:	47	708	5.6	0.35	3,846	0	Avg: 2	10	12	16	13	47

HABITAT SUMMARY									
Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area		Large Boulders		
					(m ²)	Percent	Number	(# / 100m ²)	
Dammed & BW Pools	1	3	0.9	0.15	3	0.07%	0	0.0	
Scour Pools	20	230	5.7	0.65	1,234	32.09%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	4	141	6.8	0.14	973	25.30%	0	0.0	
Rapids	10	175	5.3	0.16	963	25.04%	0	0.0	
Cascades	1	30	8.0	0.10	240	6.24%	0	0.0	
Step/Falls	9	49	6.6	0.12	320	8.32%	0	0.0	
Dry	2	80	1.2	0.06	113	2.94%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

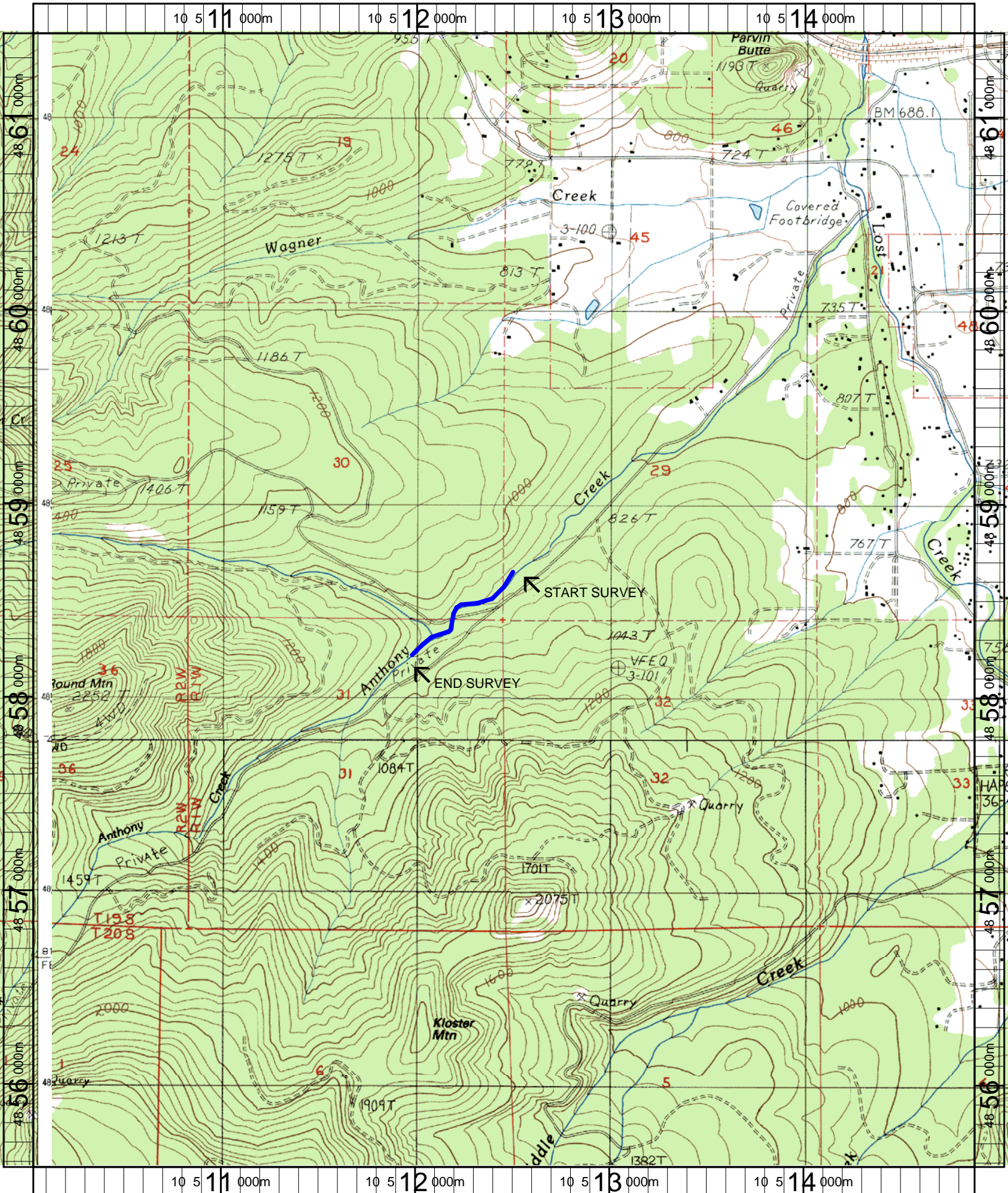
POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	21	29.7	34.0
Pools >=1m deep:	2	2.8	3.2
Complex pools (LWD pieces>=3):	4	5.7	6.5
Pool frequency (channel widths/pool):	3.5		
Residual pool depth (avg):	0.48		

Comment Summary

Restoration Monitoring Sites 2007

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

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR
1	RI	01	24		TEMPERATURE=8.5
4	PP	01	83	HS	
7	LP	00	105		0-AGE COHO
8	RB	00	116		0-AGE COHO
11	LP	00	166		OLD REDDS
13	LP	00	189		REC CHAN MET HERE
15	RR	00	199		CABLE IN STREAM
16	LP	00	212		PILE OF LOGS ON BANK HERE
20	LP	00	275		9/15/05 RIP 5 UNIT 90 FLAG
21	RP	00	315	HS	JUST ONE LOG HS
23	RP	00	362	CS/CS, BC	ANTHONY CR BRIDGE CROSSING
29	CR	00	424.5	HS	PERCHED LOGS NOT DOING MUCH
34	LP	01	490.8	/TJ, HS	LOTS OF 0-AGE COHO
35	RR	11	490.8	HS	ACW=3.0
37	LP	00	529.8	/SS	0-AGE COHO LOTS
42	LP	00	565.3		FLAG= RIP 6 UNIT 96
43	RR	00	588.3		PHOTO
47	RB	00	616.8	/SS	



Name: LOWELL
 Date: 5/8/2007
 Scale: 1 inch equals 2000 feet

Location: 10 512448 E 4858507 N
 Caption: ANTHONY CREEK RESTORATION SITE - MF WILLAMETTE BASIN