

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

STREAM: ANTHONY CREEK  
 GCG: 8-W  
 SITE ID: 67  
 BASIN: MF WILLAMETTE  
 TREATMENT DATE: 2001  
 SURVEY DATE: 3/6/2012  
 SURVEY CREW: Kim Beedle and Eric Bailey  
 USGS MAPS: LOWELL  
 ECOREGION: Valley Foothills  
 REPORT PREPARED BY: Lora Tennant

REACH: 1 LOCATION: T19S-R01W-S29SW

**SURVEY DESCRIPTION:**

Channel morphology: Constrained by high terraces  
 Dominant landuse(s): Second growth timber (15-30 cm dbh)  
 Dominant riparian vegetation: Mixed conifer/deciduous: size class 30-50cm dbh  
 Primary channel length (meters) and area (m<sup>2</sup>): 703 : 4,862  
 Secondary channel length (meters) and area (m<sup>2</sup>) 10 : 22  
 VWI average: 6.0 VWI Range: 4 - 11 Average Gradient: 2.4%  
 Pieces LWD per 100m: 20.2 Wood Volume (m<sup>3</sup>) per 100m: 17.6  
 Percent pools: 40% Complex pools (LWD pieces>=3): 6 Pools >=1m deep: 4  
Percent substrate (avg): Silt / organics Sand Gravel Cobble Boulder Bedrock  
 All units 0 8 12 15 22 43  
 Pool units 0 14 13 14 18 41  
 Fast water units 0 3 9 13 27 47

**SURVEY COMMENTS:**

This is a post-restoration habitat survey. Numerous log habitat structures were noted in the latter half of the survey site. Several debris jams were noted throughout the survey site. There was a lot of blow down in the stream and active timber harvest at survey site. The water was very green/milky -- only able to see substrate around 0.5m of units -- 50% of substrate estimated. Tried to feel around unit w/feet for substrate.

Survey Date: **3/6/2012**

Report Date: **11/13/2012**

**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	0%
Moderate V-shape	0%	Multiple Terraces	100%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	6.0	VWI Range:	4 - 11

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 (m<sup>2</sup>)</u>	<u>Dry Units</u>
Primary	703	4,862	0
Secondary	10	22	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 6.4	Width: 8.8	12.8 ( 10 - 15 )	15.8 ( 13 - 18.5 )
Depth: 0.52	Height: 0.5	1.0 ( 0.9 - 1 )	1.2 ( 1.1 - 1.3 )

W:D ratio: 18.5

Stream Flow Type: MF

Average Unit Gradient: 2.4%

Water temperature (°C): 8.0 - 8.0

Entrenchment (ACW:FPW ratio): 1.6

Habitat Units/100m (total channel length): 6.6

Habitat Units/100m (primary channel length): 6.7

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	TH
Riparian Vegetation:	M30	G

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	0%	Reach avg: 76%
Undercut Banks:	0%	Range: 14 - 89

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	142	20.2
Volume (m <sup>3</sup> ):	123	17.6
Key pieces (>=12m x 0.60m):	6	0.9

Survey Date: 3/6/2012

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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
POOL-LATERAL SCOUR	16	257	6.2	0.79	1,700	4	0	15	14	12	13	44
POOL-PLUNGE	2	3	5.0	0.85	17	0	0	3	10	30	58	0
POOL-STRAIGHT SCOUR	1	22	10.0	0.60	220	0	0	10	10	10	10	60
RAPID/BEDROCK	11	222	6.6	0.26	1,487	18	0	1	0	1	7	91
RAPID/BOULDERS	11	169	6.6	0.45	1,160	35	0	4	17	24	48	7
RIFFLE	2	28	8.1	0.35	234	0	0	10	18	20	28	25
STEP/BEDROCK	1	10	5.5	0.20	55	1	0	0	0	0	5	95
STEP/LOG	3	2	5.4	0.28	11	0	0	15	20	44	14	7
<b>Total:</b>	<b>47</b>	<b>713</b>	<b>6.4</b>	<b>0.52</b>	<b>4,884</b>	<b>58</b>	<b>Avg: 0</b>	<b>8</b>	<b>12</b>	<b>15</b>	<b>22</b>	<b>43</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	19	282	6.3	0.79	1,937	39.65%	4	0.2
Glides	0	0			0	0.00%	0	0.0
Riffles	2	28	8.1	0.35	234	4.80%	0	0.0
Rapids	22	391	6.6	0.36	2,647	54.19%	53	2.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	4	12	5.4	0.26	66	1.36%	1	1.5
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

OREGON DEPT OF FISH AND WILDLIFE  
HABITAT INVENTORY

ANTHONY CREEK  
GCG: 8-W SITE ID: 67

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Survey Date: 3/6/2012

Report Date: 11/13/2012

T19S-R01W-S29SW

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:	19	26.6	27.0
Pools >=1m deep:	4	5.6	5.7
Complex pools (LWD pieces>=3):	6	8.4	8.5
Pool frequency (channel widths/pool):	4.3		
Residual pool depth (avg):	0.47		

Survey Date 3/16/2012  
Report Date: 11/13/2012

RIPARIAN ZONE  
VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) 4 transects

Total hardwoods/1000 ft	396
Total conifers/1000 ft	320
Total conifers >20" dbh/1000 ft	61
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	0.5	0.3	0.0	0.0	1.5	0.3	2.0
15-30cm	0.8	1.3	0.8	0.5	0.3	0.8	1.8	2.5
30-50cm	1.0	1.5	0.3	0.0	1.0	0.5	2.3	2.0
50-90cm	0.3	0.0	0.8	0.0	0.0	0.0	1.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m <sup>2</sup>	2.0	3.3	2.0	0.5	1.3	2.8	1.8	2.2

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	81		66		53	
Shrub cover	53		49		49	
Grass/forb cover	33		27		30	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	0		0		0	
High terrace	88		75		100	
Low terrace	13		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		25		0	
Riprap	0		0		0	
Surface slope (%)	0		0		0	

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

4 transects

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

Total hardwoods/1000 ft	396
Total conifers/1000 ft	320
Total conifers >20" dbh/1000 ft	61
Total conifers >35" dbh/1000 ft	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	0.3	2.0
15-30cm	1.8	2.5
30-50cm	2.3	2.0
50-90cm	1.0	0.0
>90cm	0.0	0.0

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**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	HT	0	95	10	80	Conifer			2			10%DUFF
								Hardwood			3			
9	LF	2	RB	0	100	5	20	Conifer			1			75%RB
								Hardwood						
9	LF	3	HT	0	95	15	80	Conifer				1		5%DUFF
								Hardwood	2					
9	RT	1	HT	0	70	60	30	Conifer				1		10%DUFF
								Hardwood		1	2			
9	RT	2	HT	0	20	30	20	Conifer		1			1	30%DUFF 20%BARE TIMBER
								Hardwood						90%BARE TIMBER
9	RT	3	HT	0	0	5	5	Conifer						TIMBER HARVEST
								Hardwood				1		
18	LF	1	LT	0	50	90	10	Conifer					1	
								Hardwood				1		
18	LF	2	RB	0	60	30	40	Conifer						TRANSITION, 30% RB
								Hardwood		2				
18	LF	3	HT	0	60	35	55	Conifer						30%RB
								Hardwood		3				
18	RT	1	HT	0	90	5	80	Conifer						15%DUFF
								Hardwood						
18	RT	2	HT	0	40	20	60	Conifer					1	20%DUFF
								Hardwood						
18	RT	3	HT	0	0	30	40	Conifer						10%BARE 20%DUFF
								Hardwood				1		
29	LF	1	HT	0	95	80	10	Conifer						10%DUFF
								Hardwood		3				
29	LF	2	HT	0	90	85	10	Conifer	1					5%DUFF
								Hardwood						
29	LF	3	HT	0	90	70	10	Conifer				2		20%DUFF
								Hardwood						
29	RT	1	HT	0	80	10	20	Conifer						70%DUFF
								Hardwood	1					
29	RT	2	HT	0	70	75	25	Conifer					1	BLACKBERRY
								Hardwood						
29	RT	3	HT	0	30	70	30	Conifer						BLACKBERRY
								Hardwood	3					
42	LF	1	HT	0	80	80	20	Conifer			1	1		
								Hardwood			1			
42	LF	2	HT	0	90	60	30	Conifer			2			10%DUFF
								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		
42	LF	3	HT	0	70	90	10	Conifer		1					
								Hardwood	1						
42	RT	1	HT	0	90	90	10	Conifer		2					
								Hardwood	1						
42	RT	2	HT	0	60	90	10	Conifer							
								Hardwood							
42	RT	3	HT	0	80	80	10	Conifer			1			10%DUFF	
								Hardwood							



OREGON DEPT OF FISH AND WILDLIFE  
HABITAT INVENTORY

OREGON PLAN MONITORING SITE  
SURVEY DATE: 3/6/2012

COMMENT SUMMARY

MONITORING AREA: 8-W SITE ID: 67 STREAM: ANTHONY CREEK

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	1	RB	00	17		512373/4858787, CA/MT M30/S ST/TH, TEMP 8
1	2	PP	00	19	DJ	
1	3	SL	00	20	DJ	
1	4	LP	00	49	DJ	LOTS OF BLOWDOWN FRM RECENT TH
1	9	RB	00	128		0512295/4858712, CA/MT M30/S ST/TH
1	10	RB	00	145	DJ	
1	11	PP	00	146.1	DJ	
1	12	SL	00	146.6	DJ	
1	16	RB	00	225.6	/DJ	
1	18	RR	00	265.6		0512162/4858679, CT/MT M30/G ST/TH

**COMMENT SUMMARY**

MONITORING AREA: 8-W SITE ID: 67 STREAM: ANTHONY CREEK

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	24	LP	00	371.6	HS	WOOD
1	27	SL	00	399	DJ	BC
1	28	SP	00	421	HS, BC, CS	DEXTER CR ROAD
1	29	RR	00	447	CS	
1	32	RR	00	510	HS	WOOD
1	37	LP	01	589	HS, /TJ	
1	38	RR	11	589	HS	ACW 4.5, T=9
1	39	RB	00	600	HS	WOOD
1	40	LP	00	605	HS	
1	42	RB	00	635		0511955/485848, CT/MT M30/G LT/TH

**COMMENT SUMMARY**

MONITORING AREA: 8-W SITE ID: 67 STREAM: ANTHONY CREEK

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	44	RR	00	669	HS	WOOD
1	45	LP	00	679	HS	
1	47	RB	00	703.3		0511886/4858428, CT/MT M30/S LT/TH

**W-67 Anthony Creek (Middle Fork Willamette Basin) - 2012 Winter Restoration Survey**



Start of survey looking downstream.



End of survey looking upstream.



End of survey looking downstream.