

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

STREAM: Bachelor Creek (U-233)
BASIN: Umpqua River
SURVEY TYPE: Post-Tx
DATE: July 20, 2005
SURVEY CREW: Kevin Drake, Erin Coleman
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 41.1 km²
USGS MAPS: Non Pareil
ECOREGION: Coast Range Umpqua Valleys

GENERAL DESCRIPTION:

The Bachelor Creek habitat survey extended 558 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 29.9 (range: 15.0-60.0). Land use for the reach was undetermined. The average unit gradient was 1.4 percent. Scour pools (55%) and riffles (26%) dominated stream habitat. Gravel (43%) and sand (27%) dominated stream substrate. Wood volume was very low at 1.7 m³/100m.

COMMENTS:

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

OREGON DEPT OF FISH AND WILDLIFE BACHELOR CREEK TRIBUTARY POST-TX (4-UJP, 233)

HABITAT INVENTORY

Report Date: 4/26/2006

Survey Date: 7/20/2005

REACH 1

T24S-R04W-S18NW

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	29.9	VWI Range:	15 - 60

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 Channel	558	697	2
Secondary Channel	15	16	2
Off-Channel Units	7	7	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 1.1	Width: 2.1	3.5 (1.8 - 8.1)	5.6 (2.5 - 9.9)
Depth: 0.19	Height: 0.4	0.8 (0.7 - 0.8)	1.3 (1 - 1.55)

W:D ratio: 5.6

Entrenchment (ACW:FPW ratio): 1.6

Stream Flow Type: LF

Habitat Units/100m (total channel length): 14.7

Average Unit Gradient: 1.4%

Habitat Units/100m (primary channel length): 15.2

Water temperature (°C): -

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	NU	
Riparian Vegetation:	D15	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	20%	Reach avg: 76%
Undercut Banks:	1%	Range: 33 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	36	6.5
Volume (m ³):	9	1.7
Key pieces (>=12m x 0.60m):	0	0.0

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REACH 1		T24S-R04W-S18NW					REACH 1					
HABITAT DETAIL												
Habitat Type	Number	Total	Avg	Avg	Total	Large	Substrate					
	Units	Length	Width	Depth	Area	Boulders	Percent Wetted Area					
		(m)	(m)	(m)	(m ²)	(#>0.5m)	S/O	Snd	Grvl	Cbl	Bldr	Bdrk
CASCADE/BOULDERS	3	15	1.2	0.08	17	0	0	10	30	30	0	30
CULVERT CROSSING	1	18	3.5	0.00	63	23	0	10	25	40	25	0
DRY UNIT	5	24	0.9	0.00	26	0	12	34	24	0	0	30
GLIDE	1	4	1.1	0.10	4	0	0	20	80	0	0	0
POOL-LATERAL SCOUR	32	275	1.4	0.38	382	0	12	31	36	3	1	17
POOL-PLUNGE	2	8	1.6	0.65	13	8	15	10	10	20	0	45
RAPID/BOULDERS	2	17	1.1	0.08	18	14	0	21	43	28	8	0
RIFFLE	26	202	0.9	0.06	186	8	6	28	54	4	2	6
STEP/BEDROCK	1	2	0.2	0.01	0	0	0	0	0	0	0	100
STEP/BOULDERS	1	1	0.9	0.01	1	4	0	0	5	5	90	0
STEP/COBBLE	9	12	0.7	0.02	8	0	7	27	67	0	0	0
STEP/STRUCTURE	2	1	1.4	0.03	2	0	45	20	35	0	0	0
Total:	85	579	1.1	0.19	720	57	Avg: 9	27	43	5	2	13

HABITAT SUMMARY								
Habitat Group	Number	Total	Avg	Avg	Wetted Area		Large Boulders	
	Units	Length	Width	Depth	(m ²)	Percent	Number	(# / 100m ²)
		(m)	(m)	(m)				
Dammed & BW Pools	0	0			0	0.00%	0	0.0
Scour Pools	34	283	1.4	0.40	396	54.95%	8	2.0
Glides	1	4	1.1	0.10	4	0.53%	0	0.0
Riffles	26	202	0.9	0.06	186	25.85%	8	4.3
Rapids	2	17	1.1	0.08	18	2.51%	14	77.3
Cascades	3	15	1.2	0.08	17	2.34%	0	0.0
Step/Falls	13	17	0.8	0.02	11	1.49%	4	37.3
Dry	5	24	0.9	0.00	26	3.56%	0	0.0
Culverts	1	18	3.5	0.00	63	8.75%	23	36.5

POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	34	58.7	61.0
Pools >=1m deep:	1	1.7	1.8
Complex pools (LWD pieces>=3):	2	3.5	3.6
Pool frequency (channel widths/pool):	8.1		
Residual pool depth (avg):	0.37		

Survey Date 7/20/2005
Report Date: 4/26/2006

**RIPARIAN ZONE
VEGETATION SUMMARY**

REACH 1

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

Total hardwoods/1000	264
Total conifers/1000 ft	122
Total conifers >20" dbh/1000 ft	20
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	0.3	1.7	0.3	0.0	0.0	0.0	0.7	1.7
15-30cm	0.3	1.0	0.3	0.0	0.0	0.0	0.7	1.0
30-50cm	0.3	0.3	0.0	0.0	0.0	0.3	0.3	0.7
50-90cm	0.3	0.0	0.0	1.0	0.0	0.0	0.3	1.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	1.3	3.0	0.7	1.0	0.0	0.3	0.7	1.4

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	49		14		5	
Shrub cover	36		23		39	
Grass/forb cover	52		35		20	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	0		33		33	
High terrace	83		33		33	
Low terrace	17		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		33		33	
Riprap	0		0		0	
Surface slope (%)	0		6		6	

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

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

Total hardwoods/1000	264
Total conifers/1000 ft	122
Total conifers >20" dbh/1000 ft	20
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	0.7	1.7
15-30cm	0.7	1.0
30-50cm	0.3	0.7
50-90cm	0.3	1.0
>90cm	0.0	0.0

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HABITAT INVENTORY Report Date: 4/27/2006

Survey Date: 7/20/2005

GCG: 4-UM SITE ID: 233

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		
22	LF	2	HS	10	0	35	65	Conifer							ALSO HT
								Hardwood							
22	LF	3	HS	15	0	70	25	Conifer							
								Hardwood							
22	RT	1	LT	0	50	70	30	Conifer	1						ALSO HT
								Hardwood							
22	RT	2	HT	0	0	45	55	Conifer							
								Hardwood							
22	RT	3	HT	0	0	70	30	Conifer							FENCE CROSSING, NEAR ROAD
								Hardwood							482401, 4815034
22	LF	1	HT	0	50	15	75	Conifer							
								Hardwood							
43	LF	1	HT	0	30	45	50	Conifer							
								Hardwood	1	1					
43	RT	3	RB	0	0	0	0	Conifer							
								Hardwood							
43	RT	2	RB	0	15	5	10	Conifer							ALSO HS
								Hardwood							
43	RT	1	HT	0	55	10	30	Conifer			1				
								Hardwood	3		1				
43	LF	2	HT	0	35	0	30	Conifer	1	1					
								Hardwood							
43	LF	3	RB	0	0	0	30	Conifer							ALSO HT
								Hardwood							
58	LF	1	HT	0	60	15	85	Conifer							482575, 481538, POISON OAK
								Hardwood					3		POISON OAK
58	LF	2	HS	26	35	50	50	Conifer							
								Hardwood							
58	RT	1	HT	0	50	60	40	Conifer			1	1			FENCE CROSSING
								Hardwood	1	2					
58	RT	3	HT	0	30	15	15	Conifer							ALSO ROAD BED
								Hardwood							
58	LF	3	HS	20	0	80	20	Conifer							POISON OAK
								Hardwood			1				
58	RT	2	RB	0	0	0	0	Conifer							
								Hardwood							

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: **4-UMP** SITE ID: **233** **BACHELOR CREEK TRIBUTARY POS**

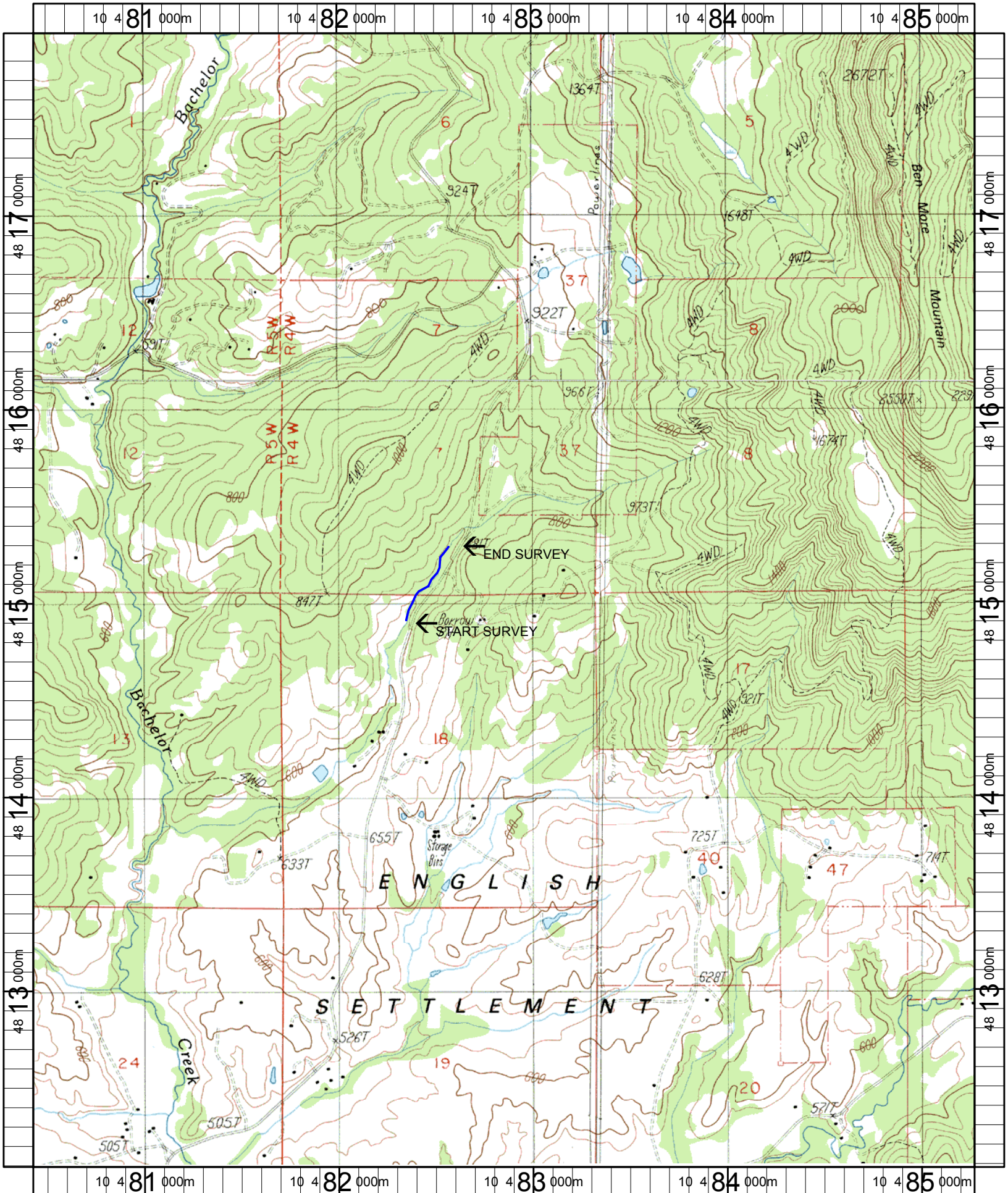
<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
4	PP	01	25.2			BEDROCK = HARDPAN CLAY
5	SR	01	27.6		H = .8 M	BEDROCK = HARDPAN
6	DU	02	27.6			BEDROCK = HARDPAN
7	LP	00	30.6			BEDROCK = HARDPAN
10	DU	00	37.5		H = .4 M	
14	LP	00	67			BEDROCK = HARDPAN
15	RI	00	69.3			BEDROCK = HARDPAN
18	LP	00	83.8	DJ	DJ	BEDROCK = HARDPAN
23	LP	00	136.6			BEDROCK = HARDPAN
24	SC	00	137.6			BEDROCK = HARDPAN
26	SC	00	145.6	FC	FENCE CROSSING OVER	
27	LP	00	153.1			BEDROCK = HARDPAN
29	LP	01	171.2			BEDROCK = HARDPAN
30	DU	02	171.2			BEDROCK = HARDPAN
31	RI	00	179.7		BV	BEDROCK = HARDPAN
32	LP	00	185.2			BEDROCK = HARDPAN
33	RI	00	187.8		BV	
34	LP	00	199.3		4 FRY, GAME TRAIL	BEDROCK = HARDPAN
35	SC	00	201.3	WL		GAME TRAIL
36	LP	00	206.3		DJ	BEDROCK = HARDPAN
37	RI	00	220.3			BEDROCK = HARDPAN

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: **4-UMP** SITE ID: **233** **BACHELOR CREEK TRIBUTARY POS**

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
39	LP	00	227.3		BV	BEDROCK = HARDPAN
42	SB	00	234.4		H = .4 M	
44	CC	00	258.4	CC	NO STEP, CULV= 2M TAL	NO STEP
45	LP	00	279.4		U 44 = 3.4 M WIDE, 10 FR	
46	SC	01	282.1		/TJ	
50	LP	00	299.1		7 FRY	
51	RI	00	313.1	CS		
52	LP	00	320.1		5 FRY	
56	LP	00	340.8		DJ	
57	SS	00	341.5		H = .4 M	
60	LP	00	366.1			UNIT ESTIMATED
66	LP	00	405.1		1 FRY	
72	LP	00	451.4		THICK POISION OAK U 72	
78	LP	00	506.9			BEDROCK = HARDPAN
79	LP	00	516.6		FRY	BEDROCK = HARDPAN
80	CB	00	523.7			BEDROCK = HARDPAN
81	LP	00	530.7			BEDROCK = HARDPAN
82	SS	00	531.2		H = .4 M	
85	LP	00	557.5			BEDROCK = HARDPAN



Name: NONPAREIL
 Date: 6/13/2005
 Scale: 1 inch equals 2000 feet

Location: 10 482854 E 4815012 N
 Caption: BACHELOR CREEK TRIBUTARY RESTORATION SITE -
 UMPQUA (CALAPOOYA) BASIN