

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

STREAM: Buttermilk Creek (MC-76)
BASIN: Yaquina River
SURVEY TYPE: Post-Tx
DATE: 7/19/2006
SURVEY CREW: Paul Jacobsen, Brian Cannon
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 6.43 km²
USGS MAPS: Nortons
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Buttermilk Creek habitat survey extended 446 meters. The channel was constrained by multiple terraces in a broad valley floor. The average valley width index was 4.6 (range: 2.9-8). Land use for the reach was large timber (30-50 cm dbh) and young timber (3-15 cm dbh). The average unit gradient was 0.9 percent. Scour pools (46%) and riffles (40%) dominated stream habitat. Bedrock (30%), fines (27%) and gravel (25%) dominated stream substrate. Wood volume was low at 16.7 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.

The crew observed Coho fry, sculpin, dace, and crayfish within the surveyed reach.

The crew noted beaver activity within the surveyed reach.

REACH 1

T10S-R08W-S31NW

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	4.6	VWI Range:	2.9 - 8

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	446	1,758	0
Secondary Channel	11	26	1
Off-Channel Units	9	6	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 3.6	Width: 7.0	10.0 (8.1 - 13.1)	12.4 (9.4 - 17)
Depth: 0.21	Height: 0.4	0.9 (0.8 - 0.9)	1.4 (1.1 - 1.9)

W:D ratio: 15.8

Entrenchment (ACW:FPW ratio): 1.4

Stream Flow Type: LF

Habitat Units/100m (total channel length): 7.3

Average Unit Gradient: 0.9%

Habitat Units/100m (primary channel length): 7.6

Water temperature (°C): 13.0 - 13.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	LT	YT
Riparian Vegetation:	D30	G

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	6%	Reach avg: 95%
Undercut Banks:	12%	Range: 69 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	65	14.6
Volume (m ³):	74	16.7
Key pieces (>=12m x 0.60m):	7	1.6

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

7/19/2006

REACH 1		T10S-R08W-S31NW					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/BOULDERS	1	7	0.5	0.02	4	0	2	15	49	34	0	0
DRY CHANNEL	1	11	2.3	0.00	26	12	5	15	20	30	30	0
POOL-ISOLATED	1	2	1.2	0.05	3	0	10	40	30	20	0	0
POOL-LATERAL SCOUR	16	184	4.1	0.37	821	44	10	26	17	11	5	31
RAPID/BEDROCK	3	48	3.9	0.07	177	0	2	3	3	0	0	92
RIFFLE	9	200	3.6	0.09	717	70	4	19	37	12	6	22
STEP/BEDROCK	1	4	1.7	0.05	7	0	0	15	39	5	2	39
STEP/COBBLE	2	11	3.4	0.07	36	11	3	15	49	27	5	0
Total:	34	466	3.6	0.21	1,789	137	Avg: 6	21	25	13	5	30

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	2	1.2	0.05	3	0.14%	0	0.0	
Scour Pools	16	184	4.1	0.37	821	45.90%	44	5.4	
Glides	0	0			0	0.00%	0	0.0	
Riffles	9	200	3.6	0.09	717	40.06%	70	9.8	
Rapids	3	48	3.9	0.07	177	9.87%	0	0.0	
Cascades	1	7	0.5	0.02	4	0.20%	0	0.0	
Step/Falls	3	15	2.8	0.06	43	2.40%	11	25.6	
Dry	1	11	2.3	0.00	26	1.43%	12	47.0	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY			
	<u>Total</u>	Total of all Channel Lengths	Primary Channel Length
		<u># / Km</u>	<u># / Km</u>
All Pools:	17	36.4	38.1
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	7	15.0	15.7
Pool frequency (channel widths/pool):	3.9		
Residual pool depth (avg):	0.30		

Survey Date 7/19/2006
Report Date: 3/5/2007

**RIPARIAN ZONE
VEGETATION SUMMARY**

REACH 1

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

Total hardwoods/1000	1179
Total conifers/1000 ft	81
Total conifers >20" dbh/1000 ft	81
Total conifers >35" dbh/1000 ft	20

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	3.7	0.0	5.0	0.0	4.7	0.0	13.3
15-30cm	0.0	0.3	0.0	0.3	0.0	0.0	0.0	0.7
30-50cm	0.0	1.7	0.0	1.0	0.0	0.7	0.0	3.3
50-90cm	0.3	1.3	0.0	0.0	0.7	0.7	1.0	2.0
>90cm	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.0
Total/100m2	0.3	7.0	0.3	6.3	0.7	6.0	0.4	6.4

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	89		86		72	
Shrub cover	14		23		22	
Grass/forb cover	86		75		65	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	33		67		67	
High terrace	67		17		0	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		17		0	
Roadbed/Railroad	0		0		33	
Riprap	0		0		0	
Surface slope (%)	21		24		20	

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	1179
Total conifers/1000 ft	81
Total conifers >20" dbh/1000 ft	81
Total conifers >35" dbh/1000 ft	20

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	0.0	13.3
15-30cm	0.0	0.7
30-50cm	0.0	3.3
50-90cm	1.0	2.0
>90cm	0.3	0.0

RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

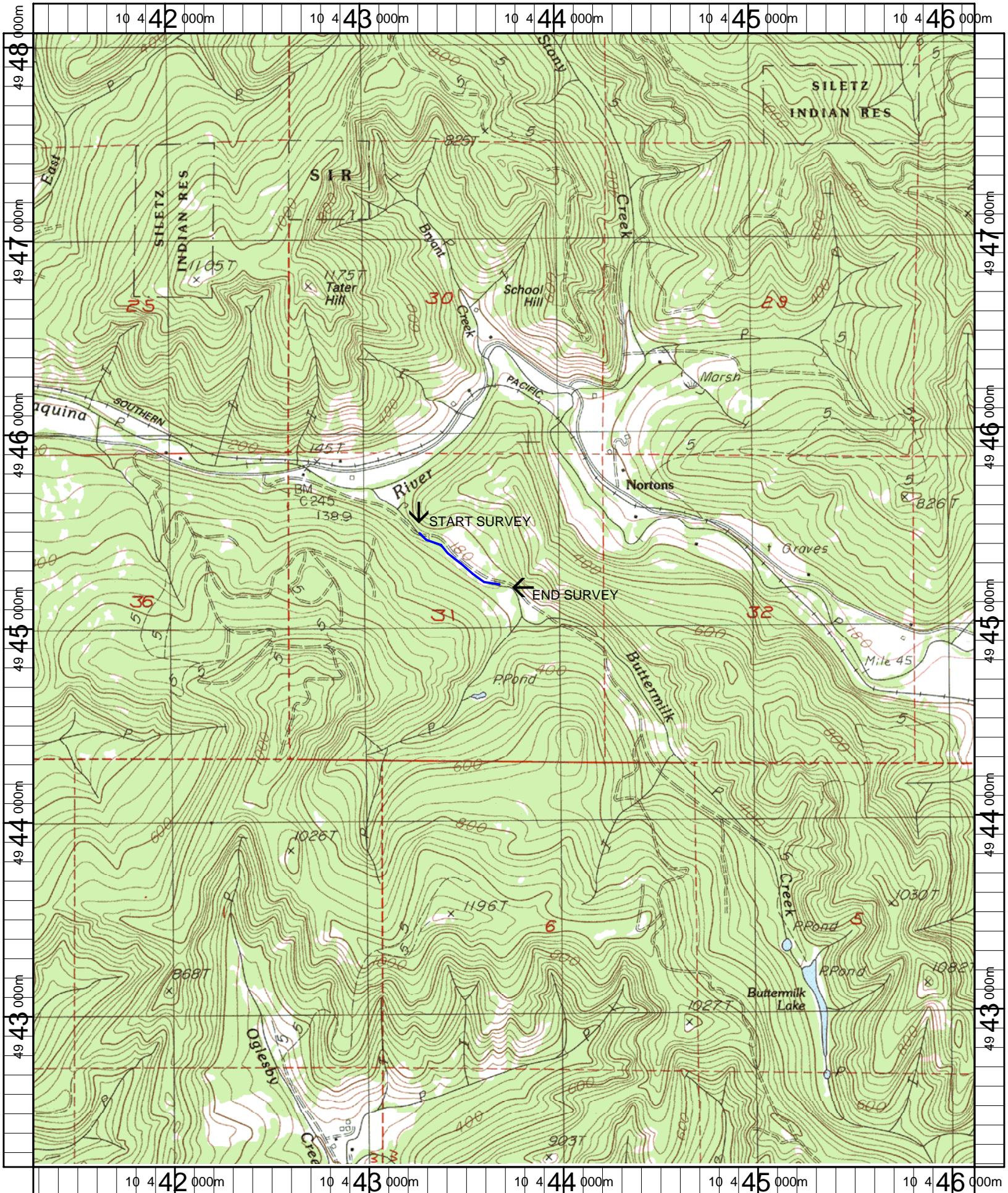
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
12	LF	2	HS	25	100	30	70	Conifer							3 MAPLE, 1 D30 ALDER
								Hardwood		1	3				
12	RT	1	HS	35	95	20	80	Conifer							VINE MAPLE
								Hardwood	2						
12	RT	2	TC	15	100	15	70	Conifer						1	DOUGLAS FIR, VINE MAPLE
								Hardwood	4						20% DUFF
12	RT	3	HS	25	95	10	70	Conifer							
								Hardwood	4						
12	LF	1	HT	8	90	1	99	Conifer							ALDER
								Hardwood			1				
12	LF	3	HS	25	95	0	100	Conifer							MAPLE
								Hardwood	1		2				
22	LF	2	HS	6	80	10	90	Conifer							NO TREES
								Hardwood							
22	LF	3	HS	6	70	40	60	Conifer					2		DOUGLAS FIR
								Hardwood							
22	RT	1	HS	70	90	30	70	Conifer							ELDERBERRY
								Hardwood	3						
22	RT	2	HS	60	80	50	50	Conifer							ELDERBERRY
								Hardwood	4						
22	RT	3	HS	50	80	40	60	Conifer							
								Hardwood	5				2		
22	LF	1	HT	3	90	0	100	Conifer							D3=ELDERBERRY, ALDER
								Hardwood	1	1			1		
31	RT	2	HT	8	70	30	70	Conifer							ELDERBERRY
								Hardwood	2						
31	LF	1	HT	5	95	15	85	Conifer							D30=MAPLE, D50=ALDER
								Hardwood	4		2		3		
31	LF	2	HS	30	85	0	100	Conifer							ALDER
								Hardwood	5						
31	RT	1	HT	5	75	20	80	Conifer						1	
								Hardwood	1		2				
31	RT	3	RB	8	30	40	60	Conifer							ALDER
								Hardwood	4						
31	LF	3	RB	5	60	0	40	Conifer							NO TREES
								Hardwood							

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC** SITE ID: **76** BUTTERMILK CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	SC	00	5.3		CT-MT,LT/ST,D15/G	START UPSTREAM OF CC
3	LP	00	35.1		FRY	
10	LP	01	129.3	/TJ, HS	FRY, /TJ	
11	CB	11	129.3		ACW=1.30M, RIGHT TRIB	
12	RI	00	140.8		CT-MT,LT/YT,D30/G	
13	LP	00	164.6		CRAYFISH, FRY	CF, DACE
14	RR	01	177.9		KINGFISHER	
15	DC	02	177.9		WINTER WREN, FLYCATCHE	
18	LP	00	206.9		WESTERN TANAGER	
20	LP	00	244.9	HS, /LS		3 LOGS
21	RI	00	265.9	/SS		
22	LP	00	273.4		CA-MT,LT/YT,D30/G	
23	LP	00	282	HS	DJ, HS	
25	LP	00	312.3		FRY, POSSIBLE BROOK LAM	
31	LP	00	388		CT-MT,LT/YT,D30/S	COHO FRY
32	RR	00	411.1		SCULPIN, COHO FRY	
34	LP	00	446.2	BC	BV	



Name: NORTONS
 Date: 5/22/2006
 Scale: 1 inch equals 2000 feet

Location: 10 443717 E 4945130 N
 Caption: BUTTERMILK CREEK RESTORATION SITE - YAQUINA BASIN