

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

STREAM: PREACHER CREEK
 GCG: 2-MC
 SITE ID: 375
 BASIN: ALSEA
 TREATMENT DATE: 2007
 SURVEY DATE: 7/1/2008
 SURVEY CREW: Roslyn Overstake / Kellie Scofield
 USGS MAPS: DIGGER MOUNTAIN
 ECOREGION: Mid-Coastal Sedimentary
 REPORT PREPARED BY: Matt Strickland / Sharon Tippery / Charles Stein

SURVEY DESCRIPTION:

Channel morphology: Constrained alternately by high terraces and hillslopes

Dominant landuse(s): Second growth timber (15-30 cm dbh)

Dominant riparian vegetation: Deciduous trees: size class 15-30cm dbh

Primary channel length (meters) and area (m²): 3,163 : 30,410

Secondary channel length (meters) and area (m²) 290 : 798

VWI average: 8.2 VWI Range: 1 - 15 Average Gradient: 0.6%

Pieces LWD per 100m: 9.8 Wood Volume (m³) per 100m: 19.3

Percent pools: 88% Complex pools (LWD pieces>=3): 35 Pools >=1m deep: 17

Percent substrate (avg):	<u>Silt / organics</u>	<u>Sand</u>	<u>Gravel</u>	<u>Cobble</u>	<u>Boulder</u>	<u>Bedrock</u>
All units	1	28	31	35	0	4
Pool units	2	45	27	21	1	4
Fast water units	0	10	37	50	0	3

COMMENTS:

This is a post-treatment, restoration survey. The crew noted habitat structures consisting of placed logs and boulders, beaver activity, and fish throughout the entire survey. They also noted a large beaver dam acting as a potential barrier to upstream migration approximately 365 meters from the start of the survey. Evidence of amphibians during the survey included rough-skinned newts, frogs, and a pacific giant salamander. The crew also noted observing a ground squirrel.

**OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY**

**PREACHER CREEK
GCG: 2-MC SITE ID: 375**

Survey Date: 7/1/2008

Report Date: 12/29/2008

T15S-R09W-S12SE

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	8.2	VWI Range:	1 - 15

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	3,163	30,410	0
Secondary	290	798	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 13	<u>First Terrace</u> n = 12
Width: 4.3	Width: 15.7	20.2 (8 - 120)	14.0 (9.3 - 25)
Depth: 0.38	Height: 0.5	1.0 (0.8 - 1.4)	1.3 (1.1 - 1.8)

W:D ratio: 31.8

Stream Flow Type: MF

Average Unit Gradient: 0.6%

Water temperature (°C): 15.0 - 15.0

Entrenchment (ACW:FPW ratio): 1.4

Habitat Units/100m (total channel length): 6.1

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

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	43%	Reach avg: 70%
Undercut Banks:	5%	Range: 19 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	311	9.8
Volume (m ³):	610	19.3
Key pieces (>=12m x 0.60m):	56	1.8

OREGON DEPARTMENT OF FISH AND WILDLIFE

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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
POOL-BACKWATER	3	95	2.9	0.41	252	0	12	78	7	3	0	0
POOL-BEAVER DAM	7	377	15.1	0.91	18,747	0	9	64	12	3	0	12
POOL-ISOLATED	3	40	5.0	0.73	194	0	10	70	13	7	0	0
POOL-LATERAL SCOUR	94	1,882	4.1	0.67	8,722	22	2	44	28	22	1	3
PUDDLED UNIT	1	16	3.0	0.01	48	0	0	10	65	25	0	0
RIFFLE	58	874	2.6	0.09	2,471	21	0	10	37	50	0	3
STEP/BEAVER DAM	8	10	13.9	0.05	233	0	1	20	41	38	0	0
STEP/BEDROCK	3	7	3.7	0.05	28	0	0	0	0	0	0	100
STEP/COBBLE	35	152	3.6	0.07	514	0	0	4	36	59	0	1
Total:	212	3,453	4.3	0.38	31,208	43	Avg: 1	28	31	35	0	4

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	13	512	10.0	0.76	19,193	61.50%	0	0.0
Scour Pools	94	1,882	4.1	0.67	8,722	27.95%	22	0.3
Glides	0	0			0	0.00%	0	0.0
Riffles	58	874	2.6	0.09	2,471	7.92%	21	0.8
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	46	170	5.4	0.06	774	2.48%	0	0.0
Dry	1	16	3.0	0.01	48	0.15%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total of all Channel Lengths		Primary Channel Length
	<u>Total</u>	<u># / Km</u>	<u># / Km</u>
All Pools:	107	31.0	33.8
Pools >=1m deep:	17	4.9	5.4
Complex pools (LWD pieces>=3):	35	10.1	11.1
Pool frequency (channel widths/pool):	2.1		
Residual pool depth (avg):	0.59		

OREGON DEPARTMENT OF FISH AND WILDLIFE
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RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) 11 transects

Total hardwoods/1000	1203
Total conifers/1000 ft	671
Total conifers >20" dbh/1000 ft	0
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	1.5	4.4	4.2	2.8	3.9	3.9	9.6	11.1
15-30cm	0.3	4.4	0.5	1.6	0.5	1.7	1.4	7.7
30-50cm	0.0	0.6	0.0	0.3	0.0	0.0	0.0	0.9
50-90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	1.8	9.4	4.7	4.7	4.5	5.6	3.7	6.6

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	66		56		55	
Shrub cover	65		52		37	
Grass/forb cover	34		45		53	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	32		36		32	
High terrace	50		59		59	
Low terrace	18		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		9	
Riprap	0		0		0	
Surface slope (%)	7		10		10	

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

11 transects

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

Total hardwoods/1000	1203
Total conifers/1000 ft	671
Total conifers >20" dbh/1000 ft	0
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	9.6	11.1
15-30cm	1.4	7.7
30-50cm	0.0	0.9
50-90cm	0.0	0.0
>90cm	0.0	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		
16	LT	1	LT	0	70	70	30	Conifer							
								Hardwood	2						
16	LT	2	IP	0	80	20	20	Conifer							
								Hardwood							
16	LT	3	HS	15	60	80	20	Conifer							
								Hardwood	5						
16	RT	1	HT	0	70	80	20	Conifer							
								Hardwood	2	1					
16	RT	2	HS	15	40	60	30	Conifer	5						
								Hardwood							
16	RT	3	HS	20	30	30	70	Conifer	6						
								Hardwood							
24	LT	1	HS	30	75	40	60	Conifer	3	1					
								Hardwood	1						
24	LT	2	HS	30	75	40	60	Conifer	2	3					
								Hardwood	1						
24	LT	3	HS	30	75	40	60	Conifer	5						
								Hardwood							
24	RT	1	HS	30	80	90	10	Conifer		2					
								Hardwood	1	2					
24	RT	2	HS	30	90	80	20	Conifer	1	3					
								Hardwood	1						
24	RT	3	RB	10	85	25	30	Conifer	1	1					
								Hardwood	2	2					
31	LT	1	HT	0	60	40	60	Conifer	4						
								Hardwood	5	4					
31	LT	2	HT	0	20	40	60	Conifer	7						
								Hardwood							
31	LT	3	HT	0	20	40	60	Conifer	5						
								Hardwood							
31	RT	1	HS	15	80	75	25	Conifer							
								Hardwood	3	4					
31	RT	2	HS	25	80	45	55	Conifer	3						
								Hardwood	2	1					
31	RT	3	HS	25	80	30	70	Conifer	1	2					
								Hardwood	2						

53	LT	1	HT	0	90	85	15	Conifer					
								Hardwood	8	3			
53	LT	2	HT	0	90	75	25	Conifer					
								Hardwood	5	3			
53	LT	3	HT	0	95	60	40	Conifer					
								Hardwood	3	4			
53	RT	1	LT	0	90	30	70	Conifer					
								Hardwood	6	4			
53	RT	2	HT	0	10	30	70	Conifer	8				
								Hardwood	2				
53	RT	3	HT	0	5	30	70	Conifer	11				
								Hardwood	1				
64	LT	1	HS	20	95	60	40	Conifer					
								Hardwood			1		
64	LT	2	HS	40	90	40	60	Conifer	2				
								Hardwood	3				
64	LT	3	HS	45	60	30	70	Conifer	3				
								Hardwood	1				
64	RT	1	LT	0	75	80	20	Conifer					
								Hardwood	1	4	3		
64	RT	2	HT	0	50	45	55	Conifer	2				
								Hardwood	3	2			
64	RT	3	HT	0	55	40	60	Conifer	4				
								Hardwood	1	1			
89	LT	1	HT	0	60	90	10	Conifer					
								Hardwood	1	3			
89	LT	2	HT	0	60	80	20	Conifer					
								Hardwood	3	1			
89	LT	3	HT	0	75	20	30	Conifer					
								Hardwood	3				
89	RT	1	HT	0	40	80	20	Conifer					
								Hardwood	2	3			
89	RT	2	HT	0	30	75	25	Conifer					
								Hardwood	2	2			
89	RT	3	HT	0	55	45	55	Conifer					
								Hardwood	3				
110	LT	1	HT	0	70	75	25	Conifer					
								Hardwood	14				
110	LT	2	HT	0	40	40	60	Conifer					
								Hardwood	1	2			
110	LT	3	HT	0	30	25	25	Conifer					
								Hardwood	2	1			
110	RT	1	HT	0	20	40	60	Conifer	7				
								Hardwood					
110	RT	2	HT	0	10	30	70	Conifer	7				
								Hardwood					

CURVATURE
ZONE 3
INCLUDED

ZONE 3
INCLUDES
PART OF

110	RT	3	HT	0	10	25	75	Conifer	5		
								Hardwood			
127	LT	1	HT	0	80	80	20	Conifer			
								Hardwood		2	
127	LT	2	HT	0	80	60	40	Conifer			
								Hardwood	1		1
127	LT	3	HT	0	85	45	55	Conifer			
								Hardwood	1	2	
127	RT	1	HT	0	25	90	10	Conifer			
								Hardwood			
127	RT	2	HT	0	35	60	40	Conifer	4		
								Hardwood	1	1	
127	RT	3	HT	0	20	25	75	Conifer			
								Hardwood	6		
139	LT	1	HS	30	75	85	15	Conifer			
								Hardwood		2	2
139	LT	2	HS	30	75	75	25	Conifer			
								Hardwood		1	1
139	LT	3	HS	35	85	35	65	Conifer	1	2	
								Hardwood	1		
139	RT	1	HT	0	85	85	15	Conifer			
								Hardwood	2	4	
139	RT	2	HT	0	90	75	25	Conifer			
								Hardwood	1	2	
139	RT	3	HT	0	90	60	40	Conifer			
								Hardwood	4	2	
153	LT	1	HS	15	80	80	20	Conifer			
								Hardwood		4	1
153	LT	2	HS	30	90	60	40	Conifer			
								Hardwood		2	
153	LT	3	HS	35	90	30	70	Conifer			
								Hardwood	1	3	
153	RT	1	HT	0	60	40	60	Conifer			
								Hardwood		7	
153	RT	2	HT	0	40	60	40	Conifer			
								Hardwood	1	1	
153	RT	3	HT	0	60	45	55	Conifer			
								Hardwood	5	2	
177	LT	1	LT	5	50	10	70	Conifer			
								Hardwood		1	
177	LT	2	HT	0	40	40	60	Conifer			
								Hardwood	4		1
177	LT	3	HT	0	30	40	60	Conifer			
								Hardwood	1	2	
177	RT	1	HS	10	30	20	80	Conifer	3		
								Hardwood			

177	RT	2	HS	10	20	15	85	Conifer	5	
								Hardwood		
177	RT	3	RB	5	10	20	10	Conifer	1	1
								Hardwood	1	

COMMENT SUMMARY

MONITORING AREA: 2-MC SITE ID: 375 STREAM: PREACHER CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
4	LP	00	77.6		FISH OBSERVED
6	LP	00	111.9	DJ	PHOTO #83 AT 10:00
8	LP	00	159.9		FISH OBSERVED
11	SC	01	191.9	TJ/	
12	RI	11	191.9		ACW=1M, T=14C
21	SD	00	304.7	BD	H=0.65M
22	BP	00	361.2	BV	FISH OBSERVED
23	SD	00	363.7	BD, PN	H=1.5M, VERY WIDE, RANDOM BRAIDED CHANNELS, MARSHY FLOODPLAIN
24	BP	00	588.7	BV, WL	PHOTO 85-86 SOME OF DAM, EST DEPTH, SURV FROM BANK, EST METRIC, MICE
25	LP	00	664.2	BA	FISH. START OF BEAVER DAM
28	LP	00	743.1		FISH OBSERVED
33	LP	00	785.1	HS	FISH OBSERVED
36	SD	00	794.1	BD	
37	BP	00	823.6	BV, HS	MOST LOGS OUT OF ACTIVE CHANNEL
39	LP	00	851.9		10CM FISH
40	RI	00	876.7	HS	LOGS CREATNG POOL
45	LP	01	924.3	/TJ	
46	RI	11	924.3		ACW=2.5M, T=13C
59	LP	00	1123.1		FISH OBSERVED
63	LP	00	1251.7		FISH OBSERVED
68	LP	00	1326.7	HS	LOGS CREATING POOL, FISH
69	RI	01	1353.4	HS	

COMMENT SUMMARY

MONITORING AREA: 2-MC SITE ID: 375 STREAM: PREACHER CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
70	LP	01	1361.2	DJ	
83	LP	01	1451.3	HS	LOGS CREATING POOL, FISH
84	RI	11	1451.3		ACW=3.8M, T=11C
86	LP	00	1506.3	HS	LOGS TRAPPING SOME DEBRIS, CREATING DEEPER POOL
90	LP	00	1558.1		FISH OBSERVED
94	LP	01	1619.1		FISH OBSERVED
95	IP	10	1619.1	AM	ROUGH-SKINNED NEWT, UNKNOWN FROG
96	BW	10	1619.1		FISH OBSERVED
98	LP	00	1632.8	HS	LOGS SCOURING DEEPER POOLS
106	LP	01	1723.9	HS	LOGS HELPING TO CREATE POOL
107	BW	10	1723.9	HS	LOGS HELPING TO CREATE BW
110	RI	00	1767.8		POCKET POOL L=4M, W=2M, D=0.70M
111	LP	00	1777.3		FISH OBSERVED
113	LP	00	1794.4		FISH OBSERVED
122	LP	00	1946	HS	FISH, HS CREATING POOL ON RIGHT BANK
123	RI	00	1968.7		POCKET POOL D=0.50M, L=7M, W=3M
124	LP	00	1982.5		FISH OBSERVED
125	SC	00	1991.2		LOTS OF DOWNED TREES
126	LP	00	2025.4	DJ	TRIB MIGHT COME IN HERE, BUT OBSCURED BY DOWNED TREES AND LIMBS
127	RI	01	2065.6		POCKET POOL W=2.5M, L=2.5M, D=0.50M
130	LP	00	2094.1		FISH, UNDERCUT IS DEEP
134	LP	00	2177.3	DJ, HS	HS TRAPPING SOME DEBRIS

COMMENT SUMMARY

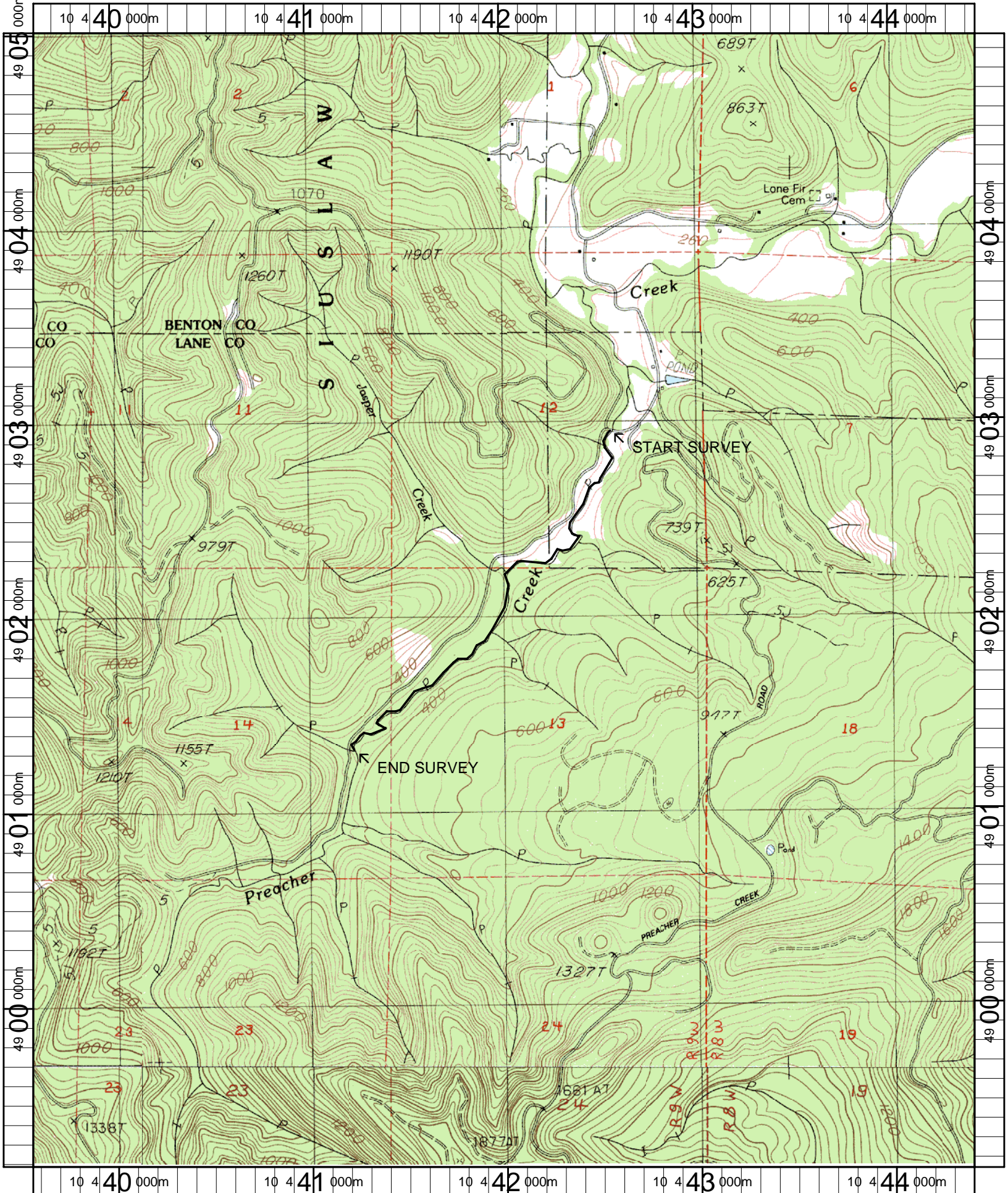
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UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
135	RI	00	2189.3	HS	LOGS
140	LP	00	2310		FISH OBSERVED
146	LP	00	2390.3		FISH OBSERVED
150	LP	00	2474.5	HS	LOGS, FISH
157	LP	00	2529.1	HS, WL	LOGS CREATING DEEPER SPOTS, GROUND SQUIRREL, FISH
158	RI	00	2534.6	AM	ROUGH-SKINNED NEWT
172	LP	00	2732.3	HS	LOGS TRAPPING DEBRIS, CREATING POOL
180	LP	00	2852.5		FISH OBSERVED
181	SR	00	2854.5		H=0.10M
183	SR	00	2874.2		H=0.35M
185	SD	01	2881	BD	H=0.20M
186	BP	01	2912.2	BV	
187	RI	02	2912.2		START OF BEAVER DAM
189	SD	02	2912.2	BD	H=0.20M, CONNECTS TO BP IN 01 CHANNEL
191	LP	00	2938.1	HS	LOGS ENHANCING POOL, FISH
192	RI	00	2947.8	BV	SMALL BEAVER DAM IN HALF OF WIDTH
194	SD	00	2956.5	BD	H=0.10M
195	BP	00	2977	BV	
197	SD	01	2999.1	BD	H=0.40M
199	SD	02	2999.1	BD	H=0.25M
200	BP	02	2999.1	BV	
201	BP	00	3008.1	BV, HS	

COMMENT SUMMARY

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UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
202	LP	00	3020.3	HS	FISH OBSERVED
212	LP	00	3163.2	HS	FISH OBSERVED



Name: DIGGER MT (OR)
 Date: 4/25/2007
 Scale: 1 inch equals 2000 feet

Location: 10 0442004 E 4902080 N
 Caption: PREACHER CREEK RESTORATION SITE - ALSEA BASIN

MC-375 Preacher Creek (Post-Treatment) 2008 Summer Habitat Survey Photographs



Beaver dam



Beaver pond



Active erosion