

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

STREAM: Barn Gulch (MS-181)  
BASIN: Tenmile Lake  
SURVEY TYPE: Post-Tx  
DATE: July 28, 2004  
SURVEY CREW: Alex Dale, Kevin Cellura  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 1.7 km<sup>2</sup>  
USGS MAPS: Trail Butte  
ECOREGION: Coast Range Sitka Spruce

**GENERAL DESCRIPTION:**

The Barn Gulch habitat survey extended 504 meters. The channel was unconstrained in a broad valley floor. The average valley width index was 5.5 (range: 3.5-10.5). Land use for the reach was second growth (15-30 cm dbh) trees and timber harvest. The average unit gradient was 1.1 percent. Scour pools (62%) and riffles (27%) dominated stream habitat. Gravel (37%) and sand (36%) dominated stream substrate. Wood volume was low at 10.7 m<sup>3</sup>/100m.

**COMMENTS:**

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

The crew noted several habitat structures during the survey.

REACH 1

T23S-R12W-S13SE

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	5.5	VWI Range:	3.5 - 10.5

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0%	Single Channel	100%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	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	504	890	0
Secondary	57	86	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 4
Width: 1.8	Width: 5.2	15.7 ( 8.5 - 23 )	15.3 ( 8.7 - 20.8 )
Depth: 0.24	Height: 0.5	0.9 ( 0.7 - 1.1 )	1.5 ( 0.9 - 2.8 )

W:D ratio: 12.2

Stream Flow Type: LF

Average Unit Gradient: 1.1%

Water temperature (°C): 16.0 - 16.0

Entrenchment (ACW:FPW ratio): 3.0

Habitat Units/100m (total channel length): 8.9

Habitat Units/100m (primary channel length): 9.9

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	TH
Riparian Vegetation:	D15	P

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	6%	Reach avg: 90%
Undercut Banks:	19%	Range: 72 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	53	10.5
Volume (m <sup>3</sup> ):	54	10.7
Key pieces (>=12m x 0.60m):	1	0.2

**OREGON DEPARTMENT OF FISH AND WILDLIFE**

**BARN GULCH POST-TX (MS-181)**

**HABITAT INVENTORY**

Report Date: 10/27/2004

Survey Date:

7/28/2004

<b>REACH 1</b>		<b>T23S-R12W-S13SE</b>					<b>REACH 1</b>						
<b>HABITAT DETAIL</b>													
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	
CASCADE/BOULDERS	1	10	0.6	0.02	6	0	0	10	30	60	0	0	
DRY CHANNEL	1	17	1.4	0.00	23	0	10	40	45	5	0	0	
POOL-BACKWATER	6	25	2.0	0.31	51	0	60	34	6	0	0	0	
POOL-LATERAL SCOUR	20	283	2.0	0.39	545	0	27	43	27	3	0	0	
POOL-PLUNGE	1	7	5.3	0.51	36	0	25	40	30	5	0	0	
POOL-STRAIGHT SCOUR	1	5	5.4	0.95	24	0	40	50	10	0	0	0	
RAPID/BOULDERS	1	7	1.2	0.07	8	0	0	10	30	60	0	0	
RIFFLE	10	115	1.4	0.04	164	0	2	30	63	6	0	0	
RIFFLE W/ POCKETS	5	81	1.3	0.08	103	0	11	30	57	2	0	0	
STEP/COBBLE	4	12	1.2	0.03	16	0	9	43	46	3	0	0	
<b>Total:</b>	<b>50</b>	<b>561</b>	<b>1.8</b>	<b>0.24</b>	<b>976</b>	<b>0</b>	<b>Avg: 22</b>	<b>36</b>	<b>37</b>	<b>5</b>	<b>0</b>	<b>0</b>	

<b>HABITAT SUMMARY</b>									
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	6	25	2.0	0.31	51	5.21%	0	0.0	
Scour Pools	22	294	2.3	0.42	605	61.96%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	15	196	1.4	0.05	267	27.37%	0	0.0	
Rapids	1	7	1.2	0.07	8	0.85%	0	0.0	
Cascades	1	10	0.6	0.02	6	0.61%	0	0.0	
Step/Falls	4	12	1.2	0.03	16	1.64%	0	0.0	
Dry	1	17	1.4	0.00	23	2.37%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

<b>POOL SUMMARY</b>			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	28	50.0	55.6
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	5	8.9	9.9
Pool frequency (channel widths/pool):	3.8		
Residual pool depth (avg):	0.39		

**RIPARIAN ZONE VEGETATION SUMMARY**

REACH 1

REACH 1

**Summary of Riparian Zone (0-30m)**

3 transects

Total hardwoods/1000	1240
Total conifers/1000 ft	81
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	0.0	1.7	0.0	6.3	0.3	3.7	0.3	11.7
15-30cm	0.0	0.7	0.3	1.3	0.3	1.3	0.7	3.3
30-50cm	0.0	1.0	0.0	3.0	0.3	1.3	0.3	5.3
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	0.0	3.3	0.3	10.7	1.0	6.3	0.4	6.8

**Canopy closure and ground cover**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	88		73		65	
Shrub cover	11		26		21	
Grass/forb cover	77		55		59	

**Predominant landform in each zone**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	33		100		100	
High terrace	17		0		0	
Low terrace	0		0		0	
Floodplain	50		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		0	
Riprap	0		0		0	
Surface slope (%)	26		62		64	

**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		
13	RT	2	HS	50	50	10	25	Conifer							CLEARCUT
								Hardwood	2		2				
13	RT	3	HS	30	0	10	10	Conifer							CLEARCUT
								Hardwood							
13	RT	1	FP	2	95	0	85	Conifer							
								Hardwood	1						
13	LF	3	HS	100	95	20	75	Conifer			1				
								Hardwood	5	1					
13	LF	2	HS	40	85	65	30	Conifer							
								Hardwood	4						
13	LF	1	FP	2	70	0	85	Conifer							414135/ 4824570 2D
								Hardwood	4						
25	RT	3	HS	20	70	25	70	Conifer							CLEARCUT JUST BEYOND
								Hardwood	5						
25	RT	2	HS	100	85	15	80	Conifer							
								Hardwood	7	1	3				
25	RT	1	HS	70	85	15	70	Conifer							
								Hardwood			2				
25	LF	3	HS	60	80	10	70	Conifer	1		1				
								Hardwood	1						
25	LF	2	HS	60	50	10	75	Conifer							
								Hardwood							
25	LF	1	HT	5	90	5	70	Conifer							NO GPS SIGNAL
								Hardwood		1	1				
38	LF	2	HS	50	95	10	75	Conifer			1				3M HT
								Hardwood							
38	RT	1	HS	70	90	35	55	Conifer							
								Hardwood							
38	RT	3	HS	85	50	55	40	Conifer							
								Hardwood		2	3				
38	LF	3	HS	90	95	5	90	Conifer							
								Hardwood		1	1				
38	LF	1	FP	5	95		95	Conifer							414227/ 4824831 2D
								Hardwood		1					
38	RT	2	HS	70	70	45	45	Conifer							
								Hardwood	6	3	4				

# Comment Summary

## Oregon Plan Monitoring Sites 2002

MONITORING AREA: **3-MS**      SITE ID: **181**      **BARN GULCH POST-TX (MS-181)**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RP	00	8.9	HS		
2	LP	00	23.8	HS		FRY,, COHO
3	RP	00	50.9	HS		FRY, COHO
4	LP	00	68.7	HS		FRY, COHO
5	RI	00	75.1	HS		
6	LP	01	88.7	HS		COHO
7	BW	10	88.7	WL		COHO, ELK TRACKS
10	LP	01	118.5	HS		
11	BW	10	118.5	WL		RACCOON TRACKS
12	LP	00	127.5	HS WL		ELK TRACKS, COHO
14	LP	00	145.6	WL		RED LEGGED FROG
16	LP	00	168.7	WL		ELK TRACKS, COHO
17	LP	00	193.2			FRY, COHO
18	RP	00	211		TEMP =13 DEG C AT 9:45	FRY-COHO
19	LP	00	223.4			FRY- COHO
21	LP	01	247.5	WL, TJ/		FRY, ELK TRACKS
23	DC	11	247.5			TRIB 1
26	RI	00	268.2	WL		RED LEGGED FROGS
27	LP	00	283.6	WL	2= RED LEGGED TREE F	MAMMAL DEN
29	LP	00	305.5			FRY
38	LP	00	403.9			TROUT

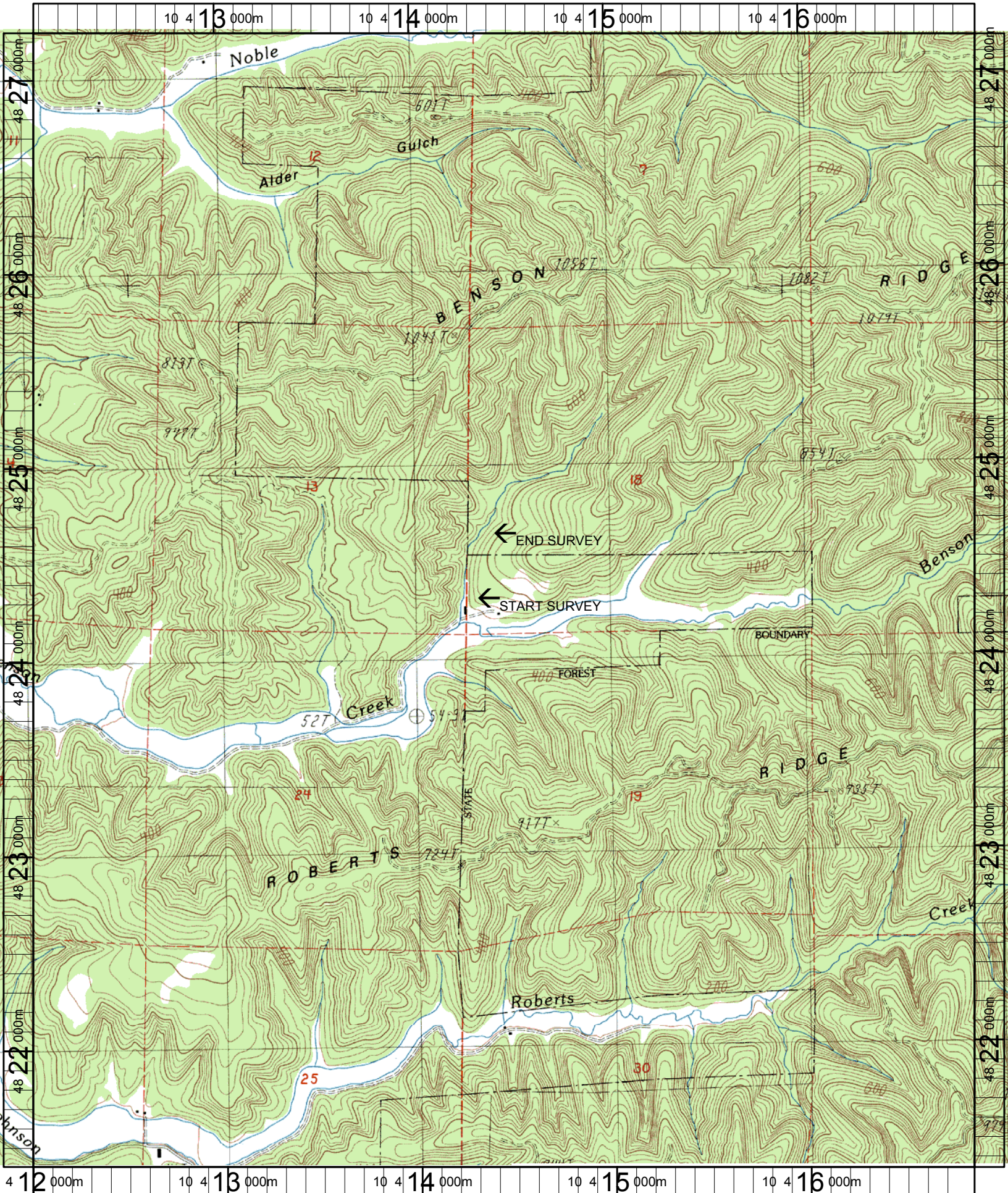
# Comment Summary

## Oregon Plan Monitoring Sites 2002

MONITORING AREA: 3-MS      SITE ID: 181      BARN GULCH POST-TX (MS-181)

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
41	RB	01	446.1	TJ/	TJ/ TEMP AT 12.5 DEG C	
42	CB	11	446.1		TEMP AT 14.5 DEG C AT 1	TRIB 2
45	LP	01	471.8	/TJ	/TJ 14.5 DEG C AT 12:00	
46	SC	11	471.8			TRIB 3





Name: TRAIL BUTTE  
 Date: 6/14/2004  
 Scale: 1 inch equals 2000 feet

Location: 10 414451 E 4824297 N  
 Caption: BARN GULCH RESTORATION SITE - TENMILE LAKE BASIN