

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

STREAM: Bear Creek Lower (N-364)
BASIN: Nestucca River
SURVEY TYPE: Pre-Tx
DATE: July 30, 2007
SURVEY CREW: Kara Morris, Sharon Tippery
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 6.2 km²
USGS MAPS: Beaver
ECOREGION: Coast Range Coastal Uplands

GENERAL DESCRIPTION:

The Bear Creek habitat survey extended 578 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 20.0. Land use for the reach was rural residential and young (3-15 cm dbh) trees. The average unit gradient was 2.4 percent. Rapids (40%), riffles (29%) and scour pools (24%) dominated stream habitat. Gravel (39%) and bedrock (33%) dominated stream substrate. Wood volume was very low at 3.3 m³/100m.

COMMENTS:

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

The crew noted beaver activity during the survey.

REACH 1

T03S-R09W-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	100%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	20.0	VWI Range:	20 - 20

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	578	2,003	0
Secondary Channel	0	0	0
Off-Channel Units	7	4	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 3.5	Width: 5.6	7.8 (5.3 - 11.6)	8.6 (6.1 - 12.3)
Depth: 0.30	Height: 0.4	0.9 (0.7 - 1)	1.1 (0.9 - 1.3)

W:D ratio: 13.2
 Stream Flow Type: LF
 Average Unit Gradient: 2.4%
 Water temperature (°C): 12.0 - 12.0

Entrenchment (ACW:FPW ratio): 1.4
 Habitat Units/100m (total channel length): 6.7
 Habitat Units/100m (primary channel length): 6.7

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	RR	YT
Riparian Vegetation:	D30	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	3%	Reach avg: 98%
Undercut Banks:	5%	Range: 83 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	29	5.0
Volume (m ³):	19	3.3
Key pieces (>=12m x 0.60m):	2	0.3

OREGON DEPT OF FISH AND WILDLIFE

BEAR CREEK LOWER PRE-TX (1-NC, 364)

HABITAT INVENTORY

Report Date: 11/14/2007

Survey Date:

7/30/2007

REACH 1		T03S-R09W-S18NW					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
CULVERT CROSSING	1	15	2.8	0.20	41	1	5	16	42	26	11	0
POOL-DAMMED	2	22	5.3	0.35	109	4	8	11	61	0	0	20
POOL-LATERAL SCOUR	8	104	3.7	0.61	396	0	4	25	36	11	6	19
POOL-PLUNGE	2	9	4.5	0.80	42	0	0	5	35	8	0	53
POOL-STRAIGHT SCOUR	1	15	2.2	0.70	33	0	0	20	20	0	0	60
PUDDLED UNIT	1	6	0.5	0.02	3	0	10	0	20	10	0	60
RAPID/BEDROCK	10	259	2.9	0.13	746	24	0	3	26	15	2	55
RAPID/BOULDERS	1	11	4.5	0.07	50	0	0	10	50	25	15	0
RIFFLE	7	116	3.7	0.12	425	0	0	11	62	21	6	0
RIFFLE W/ POCKETS	1	24	6.3	0.15	148	0	0	11	56	28	6	0
STEP/BEAVER DAM	2	1	5.3	0.05	3	0	8	15	77	0	0	0
STEP/BEDROCK	3	4	2.1	0.40	9	0	0	0	0	0	0	100
Total:	39	585	3.5	0.30	2,007	29	Avg: 2	11	39	12	4	33

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	2	22	5.3	0.35	109	5.42%	4	3.7
Scour Pools	11	128	3.7	0.65	472	23.50%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	8	139	4.0	0.12	573	28.58%	0	0.0
Rapids	11	270	3.1	0.13	796	39.69%	24	3.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	5	5	3.4	0.26	12	0.61%	0	0.0
Dry	1	6	0.5	0.02	3	0.15%	0	0.0
Culverts	1	15	2.8	0.20	41	2.05%	1	2.4

POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	13	22.2	22.5
Pools >=1m deep:	1	1.7	1.7
Complex pools (LWD pieces>=3):	3	5.1	5.2
Pool frequency (channel widths/pool):	8.1		
Residual pool depth (avg):	0.52		

Survey Date 7/30/2007

RIPARIAN ZONE

Report Date: 11/7/2007

VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	508
Total conifers/1000 ft	345
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	0.3	0.3	1.3	1.0	1.3	0.3	3.0	1.7
15-30cm	0.0	1.3	1.0	0.0	1.0	0.0	2.0	1.3
30-50cm	0.3	2.0	0.0	0.3	0.3	0.0	0.7	2.3
50-90cm	0.0	1.7	0.0	0.7	0.0	0.0	0.0	2.3
>90cm	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.7
Total/100m2	0.7	5.7	2.3	2.0	2.7	0.7	1.9	2.8

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	81		64		45	
Shrub cover	73		63		38	
Grass/forb cover	23		26		58	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	0		17		17	
High terrace	100		83		83	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		0	
Riprap	0		0		0	
Surface slope (%)	4		13		13	

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	508
Total conifers/1000 ft	345
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	3.0	1.7
15-30cm	2.0	1.3
30-50cm	0.7	2.3
50-90cm	0.0	2.3
>90cm	0.0	0.7

RIPARIAN ZONE VEGETATION

Reach 1

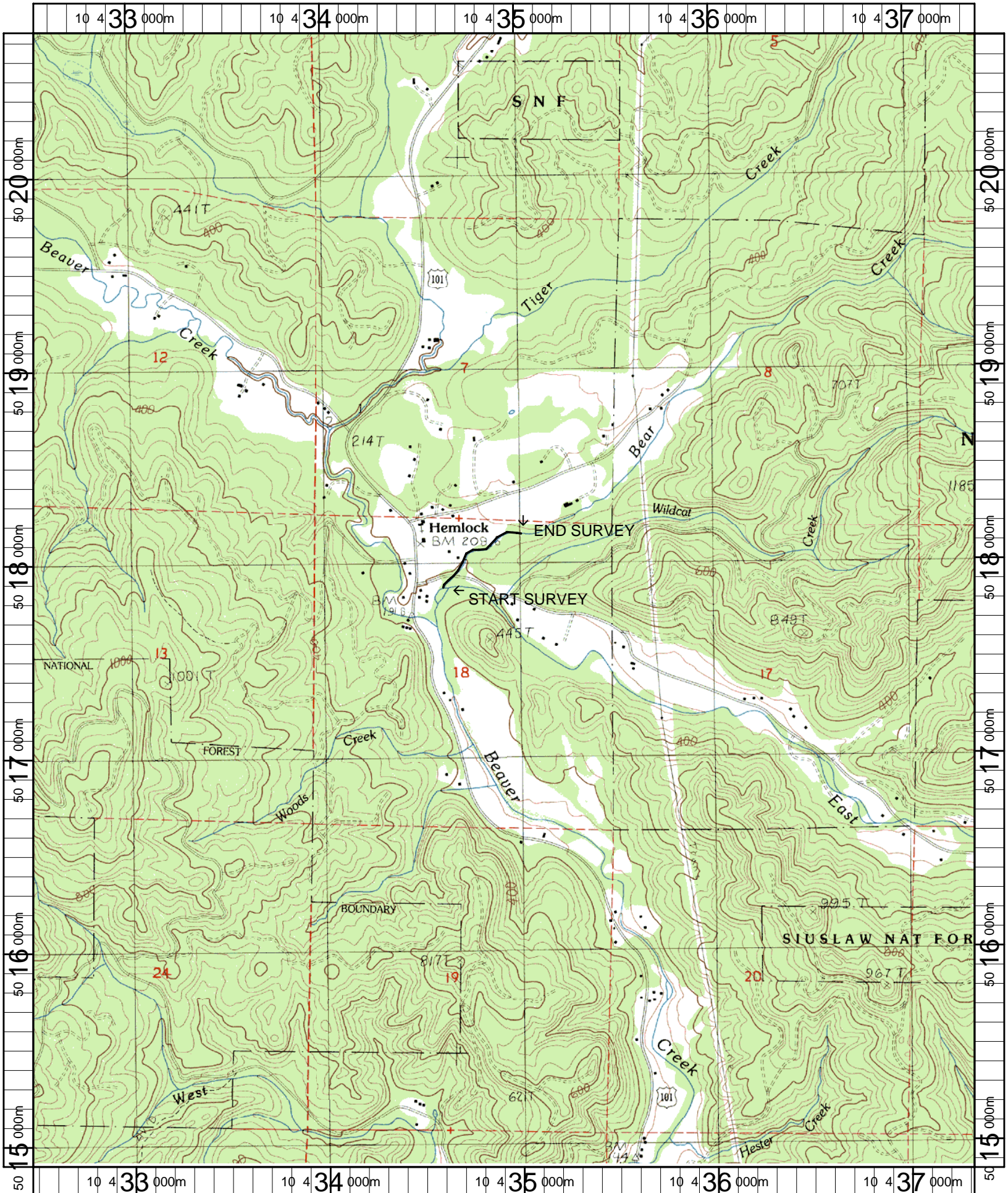
Reach 1

Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
9	LT	1	HT	25	90	40	55	Conifer	1						TRANS
								Hardwood		1		2			
9	LT	2	HT	0	20	40	55	Conifer	3						
								Hardwood							
9	LT	3	HT	0	15	0	100	Conifer	1		1				
								Hardwood	1						
9	RT	1	HT	0	90	95	5	Conifer							
								Hardwood				1			
9	RT	2	HT	0	80	80	10	Conifer	1						
								Hardwood							
9	RT	3	HT	0	30	20	70	Conifer	2						DRIVEWAY GRASS
								Hardwood							
19	LT	1	HT	0	80	90	10	Conifer							
								Hardwood	1	1	4	1			
19	LT	2	HT	0	80	85	15	Conifer							
								Hardwood	1			1			
19	LT	3	HT	0	70	65	35	Conifer							
								Hardwood							
19	RT	1	HT	0	80	80	15	Conifer							
								Hardwood				1			
19	RT	2	HS	80	70	75	20	Conifer							6M HS, 4M HT
								Hardwood	2						
19	RT	3	HS	80	60	50	40	Conifer	1	3					4M RB GRASS DRIVEWAY
								Hardwood							
30	LT	1	HT	0	65	80	15	Conifer			1				
								Hardwood		2	2				
30	LT	2	HT	0	85	75	20	Conifer		1					
								Hardwood			1	1			
30	LT	3	HT	0	85	85	10	Conifer							
								Hardwood							1
30	RT	1	HT	0	80	55	40	Conifer							
								Hardwood							1
30	RT	2	HT	0	50	25	35	Conifer		2					
								Hardwood							
30	RT	3	HT	0	10	10	90	Conifer							
								Hardwood							

COMMENT SUMMARY

MONITORING AREA: 1-NC SITE ID: 364 STREAM: BEAR CREEK LOWER PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
4	RI	00	63.7	CE	
5	CC	00	78.4	/CS,GS, CC	RIP-RAP
8	SD	00	138.7	BD	
9	DP	00	153.8	SD/	
11	SD	00	164.3	BD	
12	DP	00	171.1	SD	
13	RI	00	199.2	DJ	
14	LP	00	216.8		JUV FISH
16	RI	00	249.8		HARDPAN ON RIGHT 80%
18	RB	00	272.4	/LI	
21	LP	00	328.7	WL	DEER TRACKS
23	SP	00	375.9	/LI	
25	LP	00	407.3		JUV FISH-TROUT?
26	RR	00	435.1		REST FLAGGING =SITE 8, 4 KEY PIECES
27	LP	00	446.5	SS/	
28	RR	00	480		REST. FLAGGING=SITE 9, 5 KEY PIECES
30	SR	00	485.3		REST. FLAGGING=SITE 10, 3 KEY PIECES
31	RI	00	495.5	SS/	
34	PP	01	536	TJ/	
36	PD	11	536		ACW=1.2
38	RR	00	563		REST. FLAGGING=SITE 11, 5 KEY PIECES



Name: BEAVER
 Date: 4/25/2007
 Scale: 1 inch equals 2000 feet

Location: 10 0434922 E 5017803 N
 Caption: BEAR CREEK LOWER RESTORATION SITE - NESTUCCA BASIN