

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

STREAM: BEAR CREEK
 GCG: 2-MC
 SITE ID: 382
 BASIN: SIUSLAW
 TREATMENT DATE: 2008
 SURVEY DATE: 7/1/2008
 SURVEY CREW: Gwyn Woolley-Scott / Linda Campbell
 USGS MAPS: WINDY PEAK
 ECOREGION: Mid-Coastal Sedimentary
 REPORT PREPARED BY: Matt Strickland / Sharon Tippery / Charles Stein

SURVEY DESCRIPTION:

Channel morphology: Constrained by high terraces
 Dominant landuse(s): Second growth timber (15-30 cm dbh)
 Dominant riparian vegetation: Deciduous trees: size class 30-50cm dbh
 Primary channel length (meters) and area (m²): 4,386 : 15,656
 Secondary channel length (meters) and area (m²) 382 : 654
 VWI average: 14.8 VWI Range: 7 - 20 Average Gradient: 1.2%
 Pieces LWD per 100m: 5.9 Wood Volume (m³) per 100m: 8.7
 Percent pools: 70% Complex pools (LWD pieces>=3): 19 Pools >=1m deep: 4
 Percent substrate (avg):

	<u>Silt / organics</u>	<u>Sand</u>	<u>Gravel</u>	<u>Cobble</u>	<u>Boulder</u>	<u>Bedrock</u>
All units	15	18	47	7	2	10
Pool units	19	25	39	7	2	9
Fast water units	6	12	62	8	3	9

COMMENTS:

This is a pre-treatment, restoration survey. The crew noted beaver activity throughout the surveyed length. They also noted observing juvenile salmonids of various growth stages throughout the survey. Evidence of wildlife included rough-skinned newts and otter sign.

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

**BEAR CREEK
GCG: 2-MC SITE ID: 382**

Survey Date: 7/1/2008

Report Date: 12/29/2008

T16S-R08W-S30SW

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	14.8	VWI Range:	7 - 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	4,386	15,656	0
Secondary	382	654	3

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 18	<u>First Terrace</u> n = 18
Width: 2.8	Width: 6.9	8.7 (5 - 15.3)	12.9 (7.5 - 29)
Depth: 0.28	Height: 0.5	1.0 (0.6 - 1.6)	2.4 (1.2 - 7)

W:D ratio: 14.4

Stream Flow Type: LF

Average Unit Gradient: 1.2%

Water temperature (°C): 15.0 - 15.0

Entrenchment (ACW:FPW ratio): 1.3

Habitat Units/100m (total channel length): 9.1

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

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	MT
Riparian Vegetation:	D30	G

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	47%	Reach avg: 81%
Undercut Banks:	18%	Range: 6 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	259	5.9
Volume (m ³):	382	8.7
Key pieces (>=12m x 0.60m):	2	0.0

OREGON DEPARTMENT OF FISH AND WILDLIFE

BEAR CREEK

HABITAT INVENTORY

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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	10	1.0	0.10	10	20	0	9	18	18	55	0
POOL-BACKWATER	19	126	1.8	0.36	244	9	40	21	25	7	3	3
POOL-BEAVER DAM	1	110	10.0	2.00	1,100	0	67	10	19	5	0	0
POOL-DAMMED	3	39	4.7	0.73	182	40	26	34	26	9	0	5
POOL-ISOLATED	6	25	2.3	0.34	56	5	50	39	5	2	2	0
POOL-LATERAL SCOUR	169	2,426	3.0	0.53	7,978	122	19	26	42	7	2	4
POOL-PLUNGE	2	11	8.0	0.70	85	0	19	21	47	14	0	0
POOL-STRAIGHT SCOUR	18	352	5.6	0.31	2,029	23	11	7	12	4	2	64
PUDDLED UNIT	3	43	0.8	0.03	38	5	15	20	61	3	2	0
RIFFLE	189	1,574	1.9	0.06	4,236	205	6	12	63	8	2	9
STEP/BEAVER DAM	1	1	6.0	0.01	6	0	100	0	0	0	0	0
STEP/BEDROCK	11	38	6.3	0.01	260	5	9	1	2	1	2	84
STEP/LOG	13	14	5.3	0.01	86	5	28	19	44	4	0	4
Total:	436	4,768	2.8	0.28	16,309	439	Avg: 15	18	47	7	2	10

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	29	299	2.5	0.45	1,582	9.70%	54	3.4
Scour Pools	189	2,789	3.3	0.51	10,092	61.88%	145	1.4
Glides	0	0			0	0.00%	0	0.0
Riffles	189	1,574	1.9	0.06	4,236	25.97%	205	4.8
Rapids	0	0			0	0.00%	0	0.0
Cascades	1	10	1.0	0.10	10	0.06%	20	200.0
Step/Falls	25	53	5.8	0.01	352	2.16%	10	2.8
Dry	3	43	0.8	0.03	38	0.23%	5	13.3
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	218	45.7	49.7
Pools >=1m deep:	4	0.8	0.9
Complex pools (LWD pieces>=3):	19	4.0	4.3
Pool frequency (channel widths/pool):	3.2		
Residual pool depth (avg):	0.49		

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

**BEAR CREEK
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**RIPARIAN ZONE
VEGETATION SUMMARY**

REACH 1

Summary of Riparian Zone (0-30m) 13 transects

Total hardwoods/1000	698
Total conifers/1000 ft	375
Total conifers >20" dbh/1000 ft	10
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	1.9	1.0	1.7	2.1	1.3	3.4	4.9
15-30cm	0.2	1.7	0.9	1.5	1.1	1.6	2.3	4.8
30-50cm	0.1	1.2	0.2	0.3	0.1	0.2	0.3	1.6
50-90cm	0.0	0.1	0.0	0.0	0.2	0.0	0.2	0.1
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.6	4.8	2.1	3.5	3.4	3.1	2.1	3.8

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	54		50		59	
Shrub cover	34		34		35	
Grass/forb cover	66		66		65	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	16		16		23	
High terrace	86		86		74	
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 (%)	12		8		13	

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

13 transects

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

Total hardwoods/1000	698
Total conifers/1000 ft	375
Total conifers >20" dbh/1000 ft	10
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	3.4	4.9
15-30cm	2.3	4.8
30-50cm	0.3	1.6
50-90cm	0.2	0.1
>90cm	0.0	0.0

99	LT	2	HT	0	10	40	60	Conifer											
								Hardwood											
99	LT	3	HT	0	10	40	60	Conifer											
								Hardwood											
99	RT	1	HT	7	85	40	60	Conifer											
								Hardwood											3
99	RT	2	HT	0	85	70	30	Conifer											
								Hardwood											4
99	RT	3	HS	40	80	20	80	Conifer											
								Hardwood											3
123	LT	1	HT	6	25	10	90	Conifer											
								Hardwood											
123	LT	2	HT	2	10	50	50	Conifer											
								Hardwood											1
123	LT	3	HT	0	10	60	40	Conifer											3
								Hardwood											
123	RT	1	HS	15	75	80	20	Conifer											
								Hardwood											1
123	RT	2	HS	45	100	90	10	Conifer											
								Hardwood											2
123	RT	3	HS	55	100	90	10	Conifer											
								Hardwood											2
142	LT	1	HT	9	65	20	80	Conifer											
								Hardwood											
142	LT	2	HT	0	80	80	20	Conifer											
								Hardwood											1
142	LT	3	HT	5	90	30	70	Conifer											
								Hardwood											3
142	RT	1	HS	7	80	90	10	Conifer											
								Hardwood											4
142	RT	2	HS	50	70	90	10	Conifer											
								Hardwood											2
142	RT	3	HS	75	50	90	10	Conifer											
								Hardwood											1
191	LT	1	HT	8	60	10	90	Conifer											
								Hardwood											6
191	LT	2	HT	3	80	10	90	Conifer											
								Hardwood											1
191	LT	3	HT	0	10	5	95	Conifer											
								Hardwood											
191	RT	1	HT	5	90	40	60	Conifer											
								Hardwood											2
191	RT	2	HT	2	80	10	90	Conifer											
								Hardwood											3
191	RT	2	HT	2	80	10	90	Conifer											
								Hardwood											5
191	RT	3	HT	0	90	20	80	Conifer											
								Hardwood											5
																			1

RIPS
TRANSECTS
ALMOST

216	LT	1	HT	9	85	10	90	Conifer		2		
								Hardwood	11	1	1	
216	LT	2	HT	0	70	30	70	Conifer	1	1		
								Hardwood	1	1		
216	LT	3	HT	3	55	70	30	Conifer				
								Hardwood	2			
216	RT	1	HT	7	25	5	95	Conifer				
								Hardwood	1	3		
216	RT	2	HT	3	65	5	95	Conifer				
								Hardwood	2	1		
216	RT	3	HT	0	60	20	80	Conifer				
								Hardwood			1	
256	LT	1	HT	22	65	60	40	Conifer				TRANSITION SLOPE
								Hardwood	3	1		
256	LT	2	HT	3	85	10	90	Conifer		2		
								Hardwood	9	1		
256	LT	3	HT	4	85	10	90	Conifer		3		
								Hardwood				
256	RT	1	HT	25	10	30	70	Conifer				TRANSITION SLOPE
								Hardwood				
256	RT	2	HT	2	20	15	85	Conifer				
								Hardwood		1		
256	RT	3	HT	2	80	15	85	Conifer				
								Hardwood	3	2		
306	LT	1	HT	2	5	20	80	Conifer	2			
								Hardwood				
306	LT	2	HT	2	10	20	80	Conifer		2		
								Hardwood				
306	LT	3	HT	3	30	40	60	Conifer	4			
								Hardwood	5	1		
306	RT	1	HS	45	80	20	80	Conifer				
								Hardwood			2	
306	RT	2	HS	50	20	40	60	Conifer	9			
								Hardwood	0			
306	RT	3	HS	55	20	40	60	Conifer	6	0		
								Hardwood				
347	LT	1	HT	2	5	30	70	Conifer				
								Hardwood				
347	LT	2	HT	2	20	30	70	Conifer	1	2		
								Hardwood	2			
347	LT	3	HT	2	90	10	90	Conifer	5	2		
								Hardwood				
347	RT	1	HS	27	80	60	40	Conifer				
								Hardwood				
347	RT	2	HS	30	80	30	70	Conifer				
								Hardwood		2		

347	RT	3	HS	32	85	30	70	Conifer	1		
								Hardwood		2	
370	LT	1	HT	14	10	30	70	Conifer			
								Hardwood			
370	LT	2	HT	3	25	60	40	Conifer			
								Hardwood	2		
370	LT	3	HT	3	90	80	20	Conifer	3	1	
								Hardwood	4		
370	RT	1	HT	15	30	30	70	Conifer			1
								Hardwood	2		
370	RT	2	HT	2	65	40	60	Conifer	1		
								Hardwood	2	1	
370	RT	3	HT	5	60	60	40	Conifer	3		
								Hardwood	2	1	
439	LT	1	HT	12	60	60	40	Conifer			
								Hardwood		1	
439	LT	2	HT	3	50	60	40	Conifer			
								Hardwood		1	
439	LT	3	HT	3	55	50	50	Conifer			
								Hardwood	2		
439	RT	1	HT	20	75	40	60	Conifer	1		
								Hardwood		3	
439	RT	2	HT	3	70	20	80	Conifer		2	
								Hardwood			
439	RT	3	HT	3	70	20	80	Conifer	2		
								Hardwood	1		

TRANSITION
SLOPE

COMMENT SUMMARY

MONITORING AREA: 2-MC SITE ID: 382 STREAM: BEAR CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
4	SP	00	13.5		CATTLE TRAIL BOTH SIDES
7	RI	00	36.4		SHADE FROM HIGH BANK
10	DP	01	80.4	BV,DJ,WL	OTTER SCAT; BV-CUT CASCARA IN POOL; CABLED LOG-BLDR + NAT LOGS
11	RI	02	80.4	BV	BEGINNING DAM TOP OF UNIT
12	SL	00	80.8		H=0.15M
13	LP	00	100.1		(4) UNKNOWN 3CM FISH
16	LP	02	115.1		T=12C
17	SL	00	116.1		H=0.50M
27	SL	00	172.6	HS	H=0.30M, CABLED LOG STRUCTURE
29	LP	00	209.9	BV	BEAVER CUT ALDER, (3) UNKNOWN 3CM FISH
32	RI	00	240.4		VWI APPROXIMATELY 100M
33	LP	00	275.4	RF	GRAVEL ROAD CROSSING
41	SP	00	404		(10) UNKNOWN 3-6CM FISH, DACE?
44	SR	00	439.8		H=0.30M
47	SR	00	468.8		H=0.20M
48	SP	00	518.8		MANY UNKNOWN 3-6CM FISH
49	SR	00	524.1		H=0.30M
51	SR	00	546.6		H=0.20M
52	SP	00	571.3		MANY UNKNOWN 3-10CM FISH
54	SP	01	637.3	TJ/	
58	SR	00	671.8		H=0.30M
61	RI	00	775.3	RF	

COMMENT SUMMARY

MONITORING AREA: 2-MC SITE ID: 382 STREAM: BEAR CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
62	SR	00	778.3		H=0.20M
64	SP	00	798.8		REBAR ACROSS POOL - FAILED HAB STRUCTURE?
66	SP	01	848.3	/TJ	
67	RI	11	848.3		T=12C
70	SR	00	882.8		H=0.35M
73	SR	00	915.4		H=0.35M
74	RI	00	949.4		PHOTO: DJ FROM DOWNSTREAM
75	DP	00	964.4		HAB STRUCTURE, PHOTO FROM UPSTREAM VIEW
89	LP	01	1099.6	SS/	SEEP TRICKLES THRU CULVERT UNDER SKID ROAD.
92	LP	00	1192.6		UNKNOWN 12CM TROUT
93	SR	00	1194.6		H=0.20M
107	LP	00	1357.8		UNKNOWN 3-6CM FISH
108	SL	00	1358.3		H=0.20M
121	LP	00	1481.4		RANDOM CABLES IN ACTIVE CHANNEL
131	SL	00	1620.2		H=0.20M
136	LP	00	1720.2		SEVERAL UNKNOWN 3-6CM FISH
154	SL	00	1884.2		H=0.15M
157	LP	00	1928.2		FEW UNKNOWN 3-6CM FISH
170	LP	01	2044.7	AM	ROUGH-SKINNED NEWT
184	LP	00	2172.7		(1) UNKNOWN 18CM TROUT
191	RI	01	2278.7		6M GRAVEL BAR SEPARATES MAIN AND DRY CHANNELS
192	PD	02	2278.7		MOSTLY DRY CHANNEL- 2.5M ACW APPROX

COMMENT SUMMARY

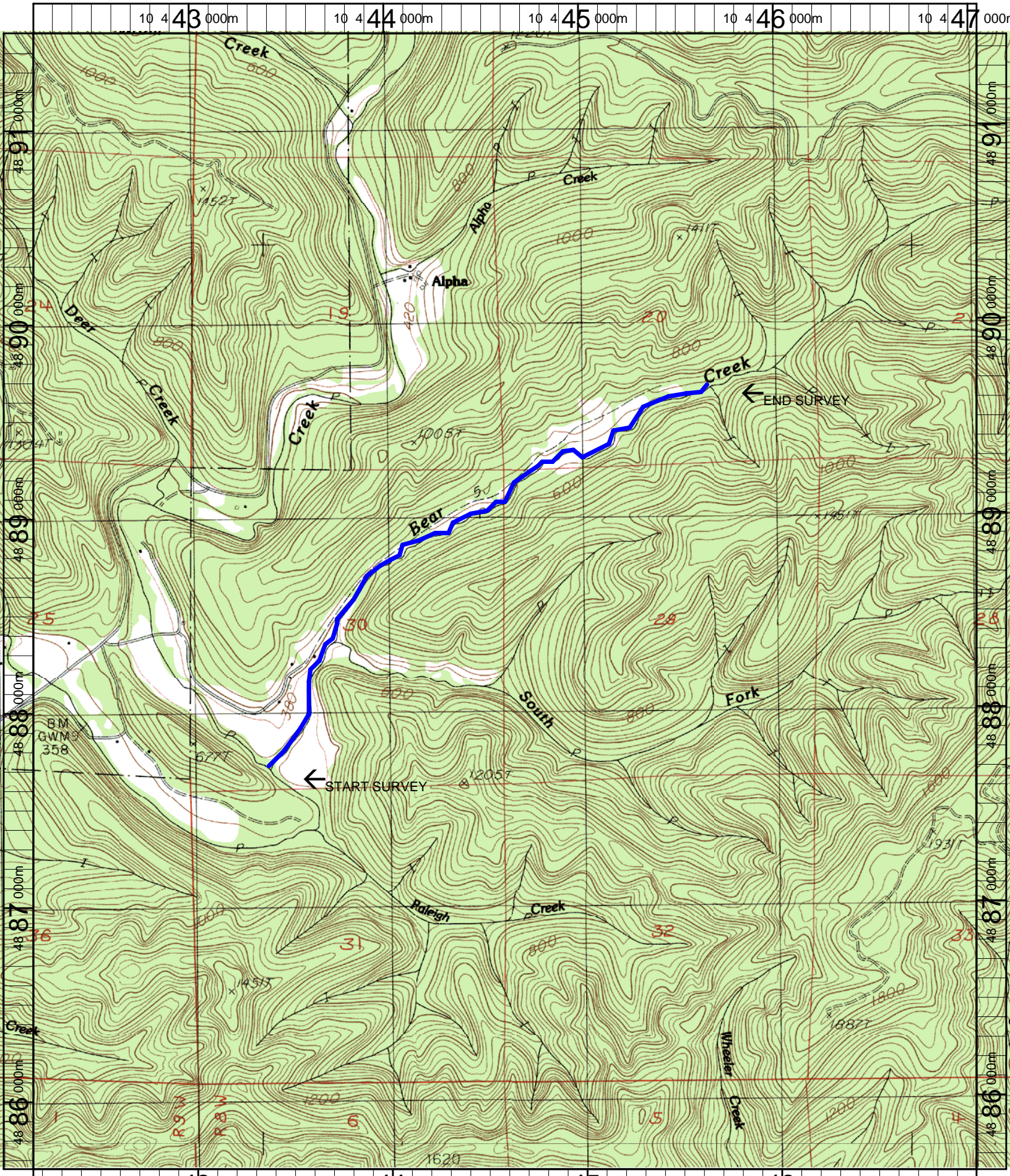
MONITORING AREA: 2-MC SITE ID: 382 STREAM: BEAR CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
202	RI	01	2402.7	TJ/	
203	RI	11	2402.7		T=12C
213	LP	00	2526		FEW UNKNOWN 15-30CM FISH, MANY FISH <15CM
221	SL	00	2607.5		H=0.40CM
222	LP	01	2627.5		(1) UNKNOWN 6CM TROUT
230	IP	10	2679.5	AM	ROUGH-SKINNED NEWT
232	PD	02	2689.5		ACW=4M
234	IP	10	2707.5		(1) UNKNOWN 8CM FISH
236	SL	00	2708.5		H=0.05M
253	PD	03	2795.5		ACW=2M
254	SL	00	2796.5		H=0.50M
257	LP	01	2828	BV	INACTIVE BEAVER DEN ON LEFT
259	LP	01	2840	SS/	
266	LP	00	2869		(12) UNKNOWN 3-6CM FISH
268	LP	00	2884.5	BV	INACTIVE BV DEN ON LEFT
272	LP	02	2900.5	WL, AM	ROUGH-SKINNED NEWT
273	LP	00	2911.5	AM	UNKNOWN 3CM FISH
274	RI	00	2914.5	BV	INACTIVE BV DEN ON LEFT
277	LP	00	2959.5	AM	ROUGH-SKINNED NEWT
278	RI	01	2966.5	TJ/	
279	RI	11	2966.5		T=12C
291	SD	00	3051.5	BD	H=1.1M, BEAVER SCAT IN POOL ABOVE DAM

COMMENT SUMMARY

MONITORING AREA: 2-MC SITE ID: 382 STREAM: BEAR CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
292	BP	00	3161.5	BV	BEAVER CUT STICKS, BEAVER CUT TREES ON BANK
300	SL	00	3242.8		H=0.15M
301	LP	00	3246.8		UNKNOWN 3CM FISH
312	SL	00	3349.8		H=0.20M
334	LP	00	3523.3		FEW UNKNOWN FISH 3CM
352	LP	01	3680.8		UNKNOWN 3CM FISH
371	LP	00	3798.8		(3) UNKNOWN 6-8CM TROUT
389	LP	00	3946.8		UNKNOWN 20CM TROUT
397	SL	00	4014.3		H=0.30M
404	IP	10	4039.3	AM	(2) ROUGH-SKINNED NEWTS
414	SL	00	4120.3		H=0.20M
422	LP	00	4172.8		(4) UNKNOWN 3-6CM TROUT
430	SR	00	4269.3		H=0.10M
440	LP	00	4386.3	/TJ	END SURVEY



Name: WINDY PEAK
 Date: 12/11/2007
 Scale: 1 inch equals 2000 feet

Location: 10 444596 E 4888563 N
 Caption: BEAR CREEK RESTORATION SURVEY - SIUSLAW BASIN