

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

STREAM: Wolfe Creek (N-367)
BASIN: Nestucca River
SURVEY TYPE: Pre-Tx
DATE: August 14, 2007
SURVEY CREW: Lanoah Babcock, Kara Morris
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 7.1 km²
USGS MAPS: Beaver
ECOREGION: Coast Range Volcanic

GENERAL DESCRIPTION:

The Wolfe Creek habitat survey extended 3,259 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 8.0 (range: 2.0-20.0). Land use for the reach was light grazing and rural residential. The average unit gradient was 2.9 percent. Riffles (59%) and rapids (21%) dominated stream habitat. Gravel (47%) dominated stream substrate. Wood volume was very low at 7.7m³/100m.

COMMENTS:

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

REACH 1

T03S-R09W-S28NE

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	8.0	VWI Range:	2 - 20

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 Channel	3,259	11,967	0
Secondary Channel	239	305	1
Off-Channel Units	60	79	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 14	<u>First Terrace</u> n = 13
Width: 3.5	Width: 6.2	8.7 (4.3 - 17.7)	10.2 (4.7 - 19.5)
Depth: 0.27	Height: 0.3	0.7 (0.5 - 0.8)	1.2 (0.7 - 2.3)

W:D ratio: 18.6
 Stream Flow Type: LF
 Average Unit Gradient: 2.9%
 Water temperature (°C): 14.0 - 14.0

Entrenchment (ACW:FPW ratio): 1.4
 Habitat Units/100m (total channel length): 4.4
 Habitat Units/100m (primary channel length): 4.8

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	LG	RR
Riparian Vegetation:	D15	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	12%	Reach avg: 67%
Undercut Banks:	6%	Range: 25 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	222	6.8
Volume (m ³):	250	7.7
Key pieces (>=12m x 0.60m):	3	0.1

OREGON DEPT OF FISH AND WILDLIFE

WOLFE CREEK PRE-TX (1-NC, 367)

HABITAT INVENTORY

Report Date: 11/14/2007

Survey Date:

8/14/2007

REACH 1

T03S-R09W-S28NE

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	2	0.5	0.05	1	0	0	20	80	0	0	0
CULVERT CROSSING	2	28	0.9	0.48	28	0	0	0	56	35	9	0
POOL-ALCOVE	1	9	1.5	0.50	14	0	30	45	25	0	0	0
POOL-BEAVER DAM	1	8	5.3	0.40	43	0	25	44	25	6	0	0
POOL-DAMMED	2	14	5.8	0.45	82	0	5	10	5	0	0	80
POOL-ISOLATED	2	7	1.5	0.25	12	0	75	17	7	0	0	0
POOL-LATERAL SCOUR	32	403	4.2	0.59	1,712	3	16	33	37	12	0	2
POOL-PLUNGE	3	28	4.1	0.63	117	2	9	34	39	12	5	2
POOL-STRAIGHT SCOUR	5	47	4.1	0.66	194	0	16	33	15	12	2	22
PUDDLED UNIT	2	32	0.6	0.04	19	0	0	5	26	66	3	0
RAPID/BEDROCK	2	13	4.1	0.08	56	0	0	8	0	0	48	45
RAPID/BOULDERS	18	732	3.5	0.18	2,544	44	1	11	42	38	4	3
RIFFLE	60	1,933	3.1	0.14	6,481	41	3	16	60	17	2	2
RIFFLE W/ POCKETS	6	245	3.4	0.24	819	8	8	20	47	23	2	1
STEP/BEAVER DAM	1	1	6.0	0.02	3	0	27	20	53	0	0	0
STEP/BEDROCK	4	14	2.8	0.06	50	0	0	0	9	3	0	88
STEP/COBBLE	12	39	4.8	0.06	172	0	0	7	69	24	1	0
STEP/LOG	2	1	2.6	0.06	3	0	0	18	68	15	0	0
STEP/STRUCTURE	1	1	3.0	0.07	2	0	13	44	44	0	0	0
Total:	157	3,557	3.5	0.27	12,351	98	Avg: 7	19	47	18	2	6

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	6	39	3.5	0.38	151	1.22%	0	0.0
Scour Pools	40	478	4.2	0.60	2,023	16.38%	5	0.2
Glides	0	0			0	0.00%	0	0.0
Riffles	66	2,178	3.1	0.15	7,300	59.10%	49	0.7
Rapids	20	745	3.6	0.17	2,599	21.05%	44	1.7
Cascades	1	2	0.5	0.05	1	0.01%	0	0.0
Step/Falls	20	55	4.2	0.06	230	1.86%	0	0.0
Dry	2	32	0.6	0.04	19	0.15%	0	0.0
Culverts	2	28	0.9	0.48	28	0.23%	0	0.0

REACH 1

T03S-R09W-S28NE

REACH 1

POOL SUMMARY

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	46	12.9	14.1
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	5	1.4	1.5
Pool frequency (channel widths/pool):	12.4		
Residual pool depth (avg):	0.48		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

WOLFE CREEK PRE-TX
GCG: 1-NC SITE ID: 367

Survey Date 8/8/2007
Report Date: 11/7/2007

RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	499
Total conifers/1000 ft	155
Total conifers >20" dbh/1000 ft	17
Total conifers >35" dbh/1000 ft	11

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	0.2	1.0	0.0	1.4	1.0	1.3	1.2	3.6
15-30cm	0.2	0.7	0.3	0.4	0.5	1.0	0.9	2.1
30-50cm	0.0	0.5	0.0	0.6	0.2	0.5	0.2	1.6
50-90cm	0.0	0.5	0.0	0.2	0.1	0.1	0.1	0.7
>90cm	0.1	0.1	0.0	0.0	0.1	0.0	0.2	0.1
Total/100m2	0.5	2.7	0.3	2.5	1.8	2.9	0.8	2.7

Canopy closure and ground cover

	Zone 1 0-10 meters (%)		Zone 2 10 - 20 meters (%)		Zone 3 20 - 30 meters (%)	
Canopy closure	39		48		50	
Shrub cover	42		40		33	
Grass/forb cover	49		48		46	

Predominant landform in each zone

	Zone 1 0-10 meters (%)		Zone 2 10 - 20 meters (%)		Zone 3 20 - 30 meters (%)	
Hillslope	14		45		59	
High terrace	77		55		36	
Low terrace	0		0		0	
Floodplain	9		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		5	
Riprap	0		0		0	
Surface slope (%)	4		15		23	

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	499
Total conifers/1000 ft	155
Total conifers >20" dbh/1000 ft	17
Total conifers >35" dbh/1000 ft	11

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	1.2	3.6
15-30cm	0.9	2.1
30-50cm	0.2	1.6
50-90cm	0.1	0.7
>90cm	0.2	0.1

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		
15	LT	1	HT	0	0	20	80	Conifer							
								Hardwood							
15	LT	2	HT	0	0	0	100	Conifer							
								Hardwood							
15	LT	3	HT	0	0	0	100	Conifer							
								Hardwood							
15	RT	1	HT	0	80	95	5	Conifer							
								Hardwood		3					
15	RT	2	HT	0	90	90	10	Conifer							
								Hardwood	2		1				
15	RT	3	HT	0	80	90	10	Conifer							
								Hardwood	4						
34	LT	1	HT	0	55	15	85	Conifer							
								Hardwood		1	1	1			
34	LT	2	HT	0	85	25	45	Conifer							
								Hardwood	2		2				
34	LT	3	HT	0	30	0	100	Conifer							COW PASTURE
								Hardwood							
34	RT	1	HT	0	65	35	25	Conifer							
								Hardwood	2	1					
34	RT	2	HT	0	75	80	10	Conifer							
								Hardwood		3	1				
34	RT	3	RB	0	10	20	5	Conifer							ROADBED THEN COW PASTURE
								Hardwood		2					
48	LT	1	HT	0	35	20	80	Conifer							
								Hardwood	2	1	2	1			
48	LT	2	HT	0	0	0	80	Conifer							ROADBED LEADING TO HOUSE IN TH
								Hardwood							
48	LT	3	HT	0	0	0	100	Conifer							
								Hardwood							
48	RT	1	HS	35	70	100	0	Conifer							BLACKBERRIES
								Hardwood					1		
48	RT	2	HS	10	0	0	100	Conifer							NO TREES
								Hardwood							
48	RT	3	HS	15	20	60	40	Conifer							NO TREES
								Hardwood							

60	LT	1	HT	0	0	0	100	Conifer Hardwood		1-1.5M HIGH TREES PLANTED TO VINEMAPLE	
60	LT	2	HS	30	55	15	50	Conifer Hardwood	3		
60	LT	2	HT	0	0	0	100	Conifer Hardwood		PASTURE	
60	LT	3	HT	0	0	0	0	Conifer Hardwood			
60	RT	1	HT	0	0	0	100	Conifer Hardwood		SAPLING TREES PLANTED ESTIMATED BECAUSE THICK WITH S	
60	RT	3	HS	55	100	10	0	Conifer Hardwood	10		
67	LT	1	HT	0	0	0	100	Conifer Hardwood			
67	LT	2	HT	0	0	0	100	Conifer Hardwood		COW PASTURE	
67	LT	3	HT	0	0	0	100	Conifer Hardwood			
67	RT	1	HT	0	40	70	10	Conifer Hardwood	2		
67	RT	2	HT	0	65	0	40	Conifer Hardwood	3	ESTIMATED DUE TO BARBED TREES PLANTED FOR TIMBER 3M IS HILLSLOPE	
67	RT	3	HT	0	60	0	60	Conifer Hardwood	4		
77	LT	1	FP	0	20	35	40	Conifer Hardwood		90 PLUS HARDWOOD AND	
77	LT	2	HS	17	60	5	95	Conifer Hardwood			
77	LT	3	HS	8	80	15	80	Conifer Hardwood	3		
77	RT	1	HT	0	70	10	85	Conifer Hardwood		SITE 22= 7 KEY PCS, SITE 23 =	
77	RT	2	HS	15	75	5	85	Conifer Hardwood			
77	RT	3	HS	35	85	0	95	Conifer Hardwood	1	1	WET HILLSLOPE
88	LT	1	HT	0	55	90	5	Conifer Hardwood			
88	LT	2	HT	0	45	90	5	Conifer Hardwood		1	
88	LT	3	HS	17	60	95	5	Conifer Hardwood			
88	RT	1	HT	0	80	0	100	Conifer Hardwood		1	
88	RT	2	HS	30	75	35	65	Conifer Hardwood		2	1

142	RT	2	HT	0	60	45	35	Conifer				SOME HILLSLOPE IN THIS ZONE
								Hardwood				
142	RT	3	HS	38	90	25	65	Conifer				
								Hardwood	2	1		

COMMENT SUMMARY

MONITORING AREA: 1-NC SITE ID: 367 STREAM: WOLFE CREEK PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
3	SP	00	21.7		POOL FROM CULVERT NO STEP
4	CC	00	39.1	CC	2.6 X 3.2
6	CC	00	59.9	CE, CC	1X1
7	RI	00	70.5		LINING COVERING 3 M OF SUBSTRATE
9	DP	00	88		DAMMED BY SANDBAGS AND PLASTIC
10	RR	00	92.2		SITE 1=3 KEY PIECES
11	DP	00	97.8		DAMMED BY SANDBAGS, SCREEN
12	RB	00	153.8		SITE 2=2 KEY
13	RI	00	211.8	BV	JUV FISH
14	LP	00	223	BV	BEAVER STARTING DAM
16	SD	00	235.7	BD	
17	BP	00	243.9	BV	
19	SC	00	300.4		SITE 5 = 2 KEY PIECES
21	LP	00	326	BV	
25	LP	00	389.6		SITE 8- 4 KEY PIECES
26	SC	10	389.6	CS	
27	LP	00	410.6		JUV FISH
28	RI	00	444.8	BV, WL	COW PIE
30	LP	00	454.1	BV, DJ	DJ WITH LP AND BV
33	RP	00	495.6	DJ	NO COUNTABLE PIECES
34	SC	00	498.8		SITE 11 = 3 KEY PIECES
43	RI	00	624.8		JUV FISH

COMMENT SUMMARY

MONITORING AREA: 1-NC SITE ID: 367 STREAM: WOLFE CREEK PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
44	LP	00	637.9		JUV FISH
45	RI	00	691.9	CS, BV	
46	LP	00	704.9	BV, WL	SITE 13 = 2 KEY PIECES
48	RP	00	750.1	BC, CS	RIPRAP-BOULDERS
49	RI	01	800.1	WL	TURKEYS
53	SP	00	820.4		JUV FISH
54	SS	00	821.2	SS	RIPRAP-COBBLE IN CAGE
55	LP	00	835.5	SD	DIVERSION FOR DRINKING WATER FOR COWS-SEE PICTURE
58	RI	00	917.3	CS	RIPRAP-BLOCKS OF COBBLE IN WIRE CAGES
59	RI	00	967.3	BC	FARM ROAD
62	RI	00	1089.6	SD	SD=DRINKING WATER FOR COWS
64	RI	01	1157.6	/TJ	SWAB CREEK
66	RI	00	1207.6		SITE 19= 3 KEY PIECES
67	LP	00	1220.8		SITE 20 = 2 KEY PIECES
68	RI	00	1275.8	BV	DAY 2- 8/9/07. T=11.5 C
70	RI	00	1315.5	WL	TRAIL
72	RI	01	1384.3		OLD CAR BODY
73	RI	01	1434.3	WL	TRAIL
74	RI	01	1480.1	UD, BV	UD=0.2 DIAMETER- MOSTLY FILLED WITH GRAVEL
76	RI	02	1480.1		UNDERGROUND FLOW DURING LOW WATER LAST 4 M
77	RI	01	1518.1	EA/ AM	FROG IN RIP.- LEFT
80	RI	03	1518.1	/AI, SS	03 CONNECTS W/ 01 FOR 4 M DUE TO UPROOTED TREE

COMMENT SUMMARY

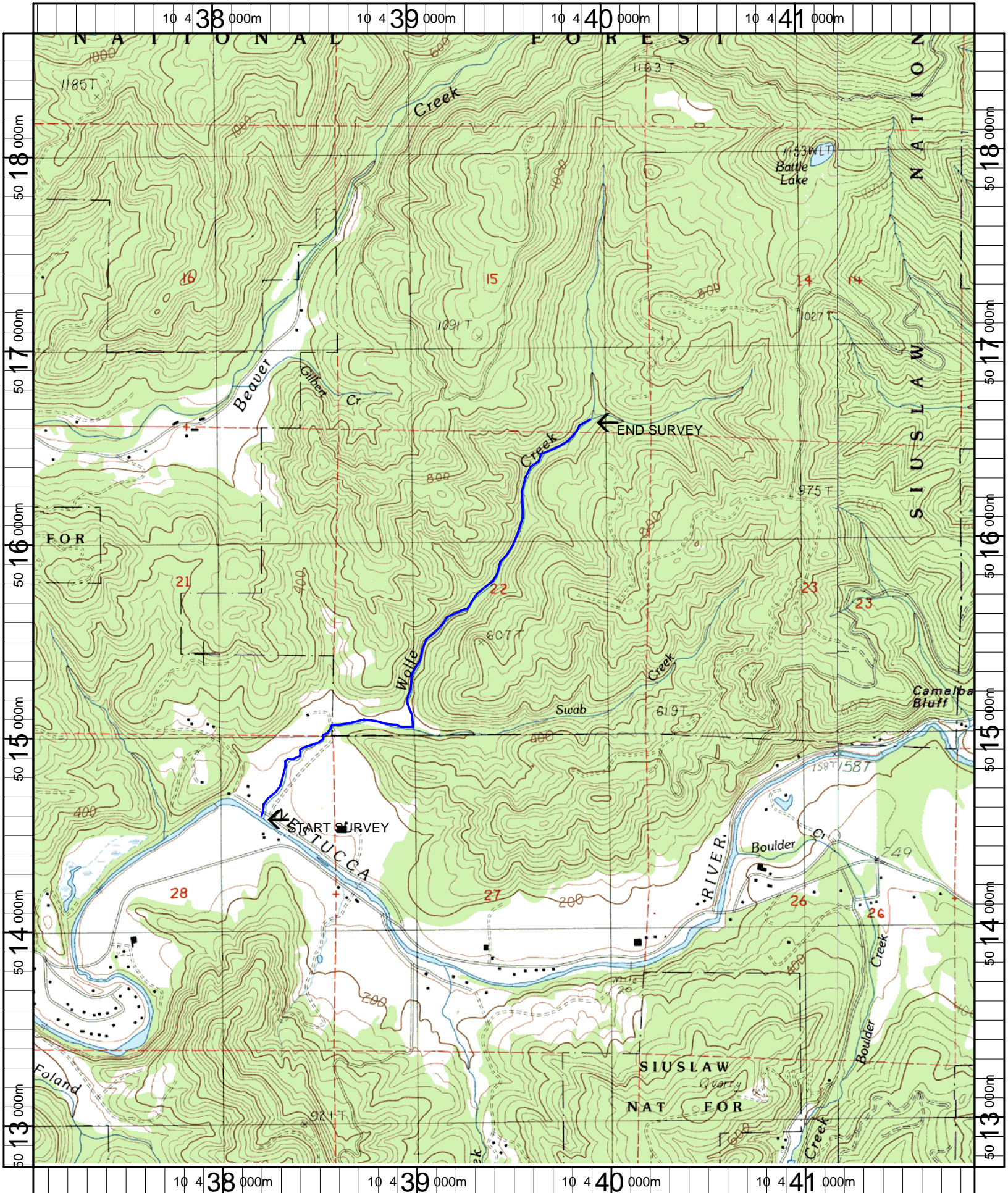
MONITORING AREA: 1-NC SITE ID: 367 STREAM: WOLFE CREEK PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
81	RI	03	1518.1	BV	SITE 22 = 7 KEY PIECES
82	LP	00	1547.6	WL	ELK RUBBING
84	RI	00	1647.6		SITE 25 = 5 KEY PIECES
85	RB	00	1697.6		SITE 26 = 6 KEY PIECES
88	RB	00	1770.4	/EI, WL	TRAILS
90	LP	00	1797.6		JUV FISH
92	RB	00	1850.8		SITE 27= 6 KEY PIECES
96	RB	00	1946.4	/EI	SITE 28 = 4 KEY PIECES
98	RI	00	1962.1	EA	
102	LP	00	2025.4		CHANNEL METRICS ON NEXT UNIT
103	RB	00	2033.4		SITE 29 =6 KEY PIECES
107	RP	01	2137.1	TJ/ DJ	NO GPS COVERAGE
111	SL	00	2169.3	WL	TRAILS
112	RP	00	2219.3		JUV FISH ABOUT 3 INCHES
115	RI	01	2311.5	/TJ	
117	LP	00	2324.1		JUV FISH-COHO?
119	RI	00	2411.3		SITE 31 = 2 KEY PIECES
123	SP	00	2451.6		JUV FISH
125	RP	00	2488.6	DJ	
126	PP	00	2502.1		JUV FISH
136	LP	00	2654.9		SITE 34 = 8 KEY PIECES
137	RI	00	2696.9	/SS, /EI	

COMMENT SUMMARY

MONITORING AREA: 1-NC SITE ID: 367 STREAM: WOLFE CREEK PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
140	LP	01	2746	/TJ	
142	RI	00	2801	TJ/	
147	LP	01	2866.1		JUV FISH
149	RB	00	2916.1	WL	TRAILS
150	RI	00	2938.1		SITE 38 = 4 KEY PIECES
158	RB	00	3258.9		END-3D



Name: BEAVER
 Date: 1/9/2007
 Scale: 1 inch equals 2000 feet

Location: 10 439474 E 5015692 N
 Caption: WOLFE CREEK RESTORATION SITE - NESTUCCA BASIN