

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

STREAM: SWAB CREEK
 GCG: 1-NC
 SITE ID: 368
 BASIN: NESTUCCA
 TREATMENT DATE: 2007
 SURVEY DATE: 7/1/2008
 SURVEY CREW: Gwyn Woolley-Scott / Linda Campbell
 USGS MAPS: BEAVER
 ECOREGION: Volcanics
 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): 1,421 : 2,390

Secondary channel length (meters) and area (m²) 26 : 12

VWI average: 5.9 VWI Range: 1 - 20 Average Gradient: 2.2%

Pieces LWD per 100m: 12.3 Wood Volume (m³) per 100m: 11.5

Percent pools: 45% Complex pools (LWD pieces>=3): 11 Pools >=1m deep: 0

Percent substrate (avg):	<u>Silt / organics</u>	<u>Sand</u>	<u>Gravel</u>	<u>Cobble</u>	<u>Boulder</u>	<u>Bedrock</u>
All units	11	27	50	8	2	2
Pool units	19	41	36	2	0	1
Fast water units	2	15	67	14	1	0

COMMENTS:

This is a post-treatment, restoration survey. The crew noted observing fish near the beginning of the survey. Evidence of wildlife included pileated woodpeckers, bear sign, and bobcat sign. The crew also noted pacific treefrogs during the survey.

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

**SWAB CREEK
GCG: 1-NC SITE ID: 368**

Survey Date: 7/1/2008

Report Date: 12/29/2008

T03S-R09W-S22SW

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	5.9	VWI Range:	1 - 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	1,421	2,390	0
Secondary	26	12	2

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 7	<u>First Terrace</u> n = 5
Width: 1.8	Width: 3.2	4.9 (3.2 - 9.5)	6.6 (3.5 - 9.5)
Depth: 0.18	Height: 0.4	0.8 (0.6 - 1)	1.3 (0.8 - 2)

W:D ratio: 8.0 Entrenchment (ACW:FPW ratio): 1.5
 Stream Flow Type: LF Habitat Units/100m (total channel length): 12.5
 Average Unit Gradient: 2.2% Habitat Units/100m (primary channel length): 12.7
 Water temperature (°C): -

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	35%	Reach avg: 90%
Undercut Banks:	14%	Range: 33 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	175	12.3
Volume (m ³):	163	11.5
Key pieces (>=12m x 0.60m):	1	0.1

OREGON DEPARTMENT OF FISH AND WILDLIFE

SWAB CREEK

HABITAT INVENTORY

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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
CASCADE/BOULDERS	1	17	1.5	0.20	26	15	0	5	45	5	45	0
DRY UNIT	2	14	0.5	0.00	7	0	50	0	35	15	0	0
POOL-LATERAL SCOUR	76	435	2.2	0.30	949	11	19	40	38	2	0	0
POOL-PLUNGE	10	35	2.9	0.40	107	17	17	48	32	0	1	1
POOL-STRAIGHT SCOUR	2	8	2.5	0.30	20	0	25	53	20	2	0	0
RIFFLE	61	792	1.4	0.06	1,102	13	2	15	68	14	0	0
RIFFLE W/ POCKETS	3	81	1.2	0.08	94	9	0	10	63	21	6	0
STEP/BEDROCK	3	4	0.9	0.11	4	5	0	3	6	0	15	75
STEP/BOULDERS	3	4	1.0	0.07	4	6	7	8	23	0	62	0
STEP/COBBLE	16	49	1.7	0.03	78	3	0	10	68	20	1	0
STEP/LOG	4	9	1.3	0.05	13	0	14	29	56	1	0	0
Total:	181	1,447	1.8	0.18	2,401	79	Avg: 11	27	50	8	2	2

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	0	0			0	0.00%	0	0.0
Scour Pools	88	478	2.2	0.31	1,076	44.79%	28	2.6
Glides	0	0			0	0.00%	0	0.0
Riffles	64	873	1.4	0.06	1,196	49.78%	22	1.8
Rapids	0	0			0	0.00%	0	0.0
Cascades	1	17	1.5	0.20	26	1.06%	15	58.8
Step/Falls	26	65	1.4	0.05	98	4.08%	14	14.3
Dry	2	14	0.5	0.00	7	0.29%	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:	88	60.8	61.9
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	11	7.6	7.7
Pool frequency (channel widths/pool):	5.1		
Residual pool depth (avg):	0.28		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

SWAB CREEK
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RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) 5 transects

Total hardwoods/1000	988
Total conifers/1000 ft	61
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	0.2	1.6	0.0	3.4	0.2	6.4	0.4	11.4
15-30cm	0.0	2.0	0.6	1.2	0.0	1.0	0.6	4.2
30-50cm	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.4
50-90cm	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.2	3.8	0.6	4.8	0.2	7.6	0.3	5.4

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	57		71		78	
Shrub cover	39		39		35	
Grass/forb cover	62		61		66	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	60		100		100	
High terrace	30		0		0	
Low terrace	10		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 (%)	36		56		62	

Summary of Riparian Zone (0-30m) for all reaches**5 transects****Summary of riparian zone (0-100 feet) extrapolated to 1,000 feet along stream**

Total hardwoods/1000	988
Total conifers/1000 ft	61
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	0.4	11.4
15-30cm	0.6	4.2
30-50cm	0.0	0.4
50-90cm	0.0	0.2
>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		
33	LT	1	HS	30	60	30	70	Conifer							
								Hardwood		1					
33	LT	2	HS	18	55	10	90	Conifer							OLD ROAD BED HERE
								Hardwood							
33	LT	3	HS	42	90	15	85	Conifer							
								Hardwood	3			1			
33	RT	1	HS	14	40	10	90	Conifer							
								Hardwood							
33	RT	2	HS	42	70	90	10	Conifer							
								Hardwood	3						
33	RT	3	HS	43	85	90	10	Conifer							
								Hardwood	4						
60	LT	1	HS	61	55	40	60	Conifer							
								Hardwood		1					
60	LT	2	HS	50	65	50	50	Conifer							RD CROSSES HERE
								Hardwood		2					
60	LT	3	HS	62	40	60	40	Conifer							
								Hardwood		1					
60	RT	1	HS	50	60	35	65	Conifer							
								Hardwood				1			
60	RT	2	HS	48	80	60	40	Conifer							
								Hardwood	1	2					
60	RT	3	HS	45	85	40	60	Conifer							
								Hardwood	3						
97	LT	1	HT	0	80	20	80	Conifer							
								Hardwood	2	4					
97	LT	2	HS	82	80	10	90	Conifer							
								Hardwood				1			
97	LT	3	HS	80	85	10	90	Conifer							
								Hardwood	2	3					
97	RT	1	HT	9	80	10	90	Conifer							
								Hardwood	1	2					
97	RT	2	HS	50	90	10	90	Conifer							
								Hardwood	3	2					
97	RT	3	HS	50	90	10	90	Conifer							
								Hardwood	3	1					

164	LT	1	HS	130	60	60	40	Conifer			
								Hardwood	2		
164	LT	2	HS	120	50	80	20	Conifer			
								Hardwood	3		
164	LT	3	HS	110	50	80	20	Conifer			
								Hardwood	3		HARD TO VISUALLY SORT
164	RT	1	LT	9	85	20	80	Conifer	1		
								Hardwood	1	2	
164	RT	2	HS	32	90	10	90	Conifer		3	
								Hardwood	1		ALMOST HALF OF THIS ZONE IS HI
164	RT	3	HS	66	85	20	80	Conifer	1		
								Hardwood	5		
181	LT	1	HT	17	30	70	30	Conifer			
								Hardwood	1		
181	LT	2	HS	69	40	60	40	Conifer			
								Hardwood	3		
181	LT	3	HS	70	85	10	90	Conifer			
								Hardwood	6		
181	RT	1	HS	40	20	90	10	Conifer			
								Hardwood	1		
181	RT	2	HS	50	90	10	90	Conifer			
								Hardwood	3		
181	RT	3	HS	50	85	10	90	Conifer			
								Hardwood	3		

COMMENT SUMMARY

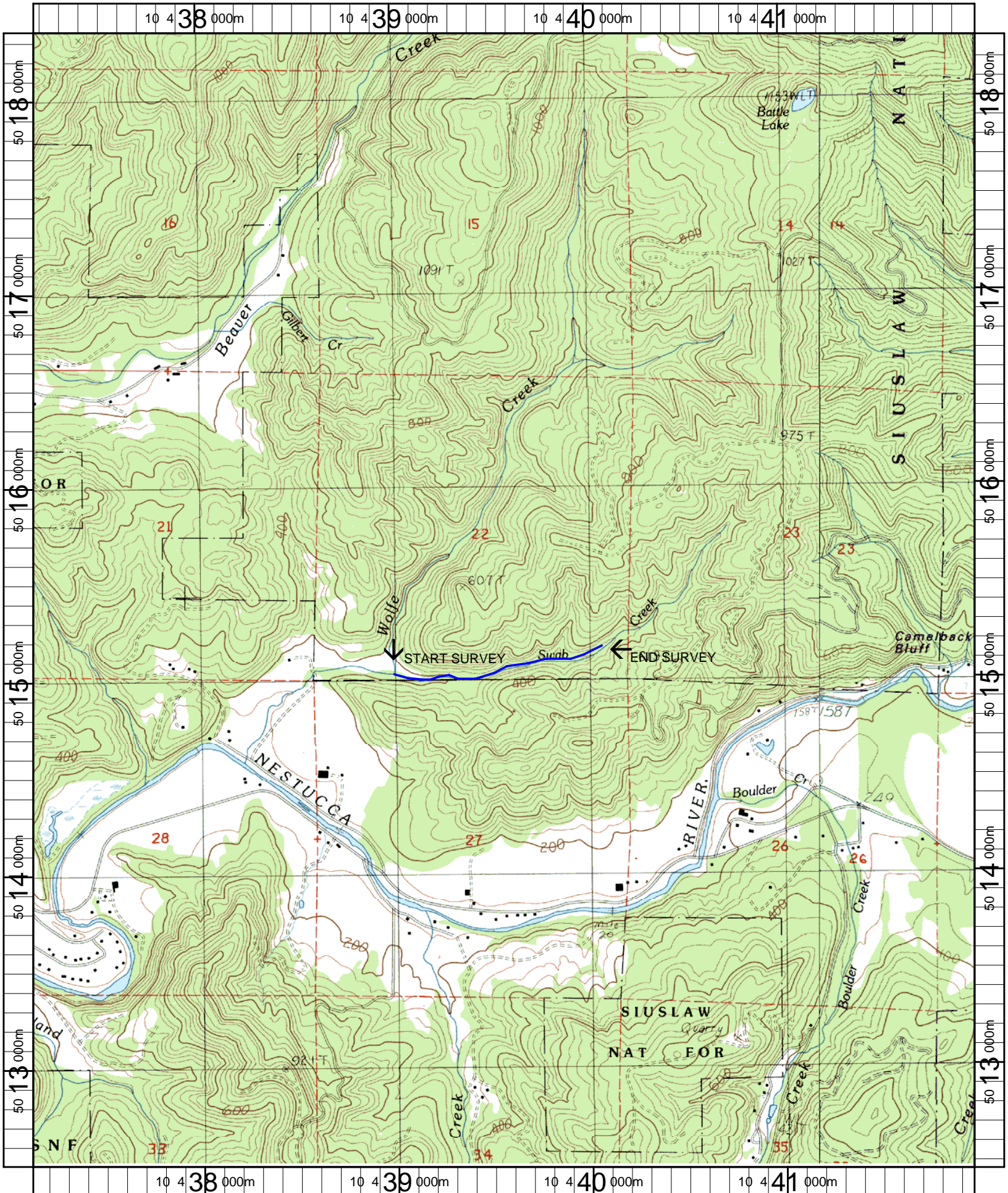
MONITORING AREA: 1-NC SITE ID: 368 STREAM: SWAB CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
32	LP	00	270.3	WL	HEAR PILEATED WOODPECKER
33	RI	00	314.3		PDA GPS NOT WORKING - USED GARMIN BACKUP ALL DAY.
40	LP	00	343.3		(2) FISH 3-6CM
47	RI	00	401.8	/EA	
50	LP	00	418.8		(2) FISH 3CM
54	RP	00	466.8	/SS	
66	SR	00	526.3		H=0.45M
67	RP	00	566.3	/SS	
70	LP	00	586.3		(3) FISH 3-6CM
71	RI	00	605.3	/EA	SEVERAL /EA NEARLY ENTIRE RIGHT SIDE
73	SR	00	610.8		H=0.80M
75	SR	00	613.3		H=0.80M
77	SB	00	617.3		H=0.90M
80	SB	00	641.3		H=0.60M
82	LP	00	655.3		(2) FISH 5CM
85	LP	00	668.3	/EA	
87	LP	00	677.3	EA/	(1) FISH 5CM
88	RI	00	685.3	EA/	
89	LP	00	689.3		(1) FISH 3CM
101	LP	00	804.3	/EA	(1) FISH 3CM
105	RI	00	844.3		(4) FISH 3CM
108	LP	00	871.3	/EA	

COMMENT SUMMARY

MONITORING AREA: 1-NC SITE ID: 368 STREAM: SWAB CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
119	RI	00	981.3	AM	HEAR FROG LEFT
121	RI	01	1001.3	TJ/	
122	DU	11	1001.3	SS/	
125	LP	00	1021.3	WL	HEAR PILEATED WOODPECKER, 3 PILES BEAR SCAT UPLAND
127	LP	00	1035.3		(2) FISH 4CM
132	RI	00	1081.3		(2) FISH 5CM
133	LP	00	1088.3	EA/	
136	SC	00	1109.8	/EA	
141	LP	01	1127.3	/TJ	
144	LP	01	1134.3	TJ/	
150	RI	00	1172.3	/EA	
164	RI	00	1274.3	WL	HEAR PILEATED WOODPECKER
168	RI	00	1352.3	WL	PHOTO=HABITAT, RECENT, OLD BOBCAT ACTIVITY, DEAD ALDER, TRAIL XING
173	SL	00	1370.8		H=0.20M
177	LP	01	1385.8	TJ/	
181	RI	00	1420.8	AM	HEAR FROG, SIGN ON 15CM MAPLE LEFT



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

Location: 10 439565 E 5015408 N
 Caption: SWAB CREEK RESTORATION SITE - NESTUCCA BASIN

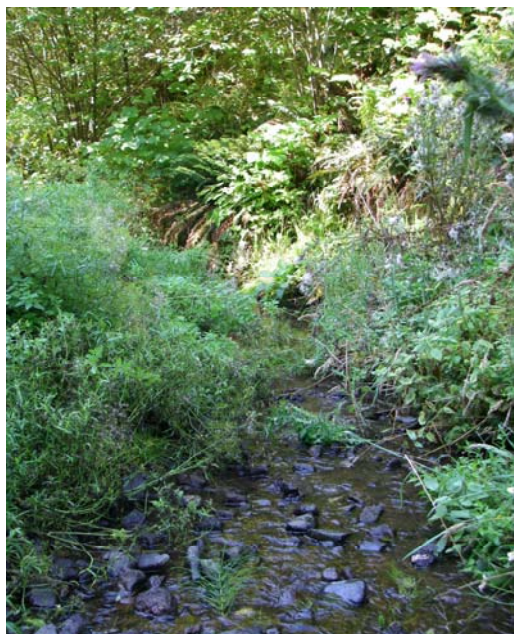
NC-368 Swab Creek (Post-Treatment) 2008 Summer Habitat Survey Photographs



Reach photo 1



Reach photo 2



Riffle