ODFW AQUATIC INVENTORY PROJECT

OREGON PLAN FOR SALMON & WATERSHEDS

STREAM RESTORATION HABITAT REPORT

STREAM:	Farmer Creek (N-30)
BASIN:	Nestucca River
SURVEY TYPE:	Post-Tx
DATE:	February 27, 2006
SURVEY CREW:	Brian Cannon, Jon Nott
REPORT PREPARED BY:	Paul Jacobsen
BASIN AREA:	6.6 km^3
USGS MAPS:	Sand Lake
ECOREGION:	Coast Range Sitka Spruce

GENERAL DESCRIPTION:

The Farmer Creek habitat survey extended 481 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 4.1 (range: 1.8-5.2). Land use for the reach was large (30-50 cm dbh) trees. The average unit gradient was 2.6 percent. Riffles (67%) and rapids (24%) dominated stream habitat. Gravel (48%) dominated stream substrate. Wood volume was high at 36.7 m^3/100m.

COMMENTS:

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

The crew noted several habitat structures during the survey.

Stream Farmer Creek (NC-30)

Basin Nestucca River

Treatment Large Wood

	ODFW Benchmark		Pre 2/28/00	Post 1/24/01	Post 2/27/06		
Habitat Variable	**Desirable**	**Undesirable**					
% Pool Area	>35%	<10%	15.8	**32.7**	**8.1**		
Number of Pools			9	**11**	**5**		
Deep Pools/km (>1.0 m)			0	0	0		
% Off-Channel			6.9	7.4	8.4		
LWD – Pieces/100m	>20	<10	7.6	**10.9**	**17.5**		
LWD – Volume/100m	>30	<20	3.4	**39.5**	**36.7**		
LWD – Key Pieces/100m	>3	<1	0	**4.9**	**2.7**		
Large Wood Jams/km			0	**6.7**	**14.6**		
% Riffle Fines	<10	>20	21	14	16		
% Riffle Gravel	>35	<15	53	32	56		
% Bedrock			8	2	3		

Bold is noticeable change

Comments: Since the treatment was large wood assembled in complex jams, it is no surprise that there was an increase in those variables. What is important is that the large wood is being retained in the treated reach and is accumulating additional wood pieces and in an increasing number of wood jams. However, the response in the channel has adopted a negative trajectory. There is a marked decrease in the number and percentage of pools. No deep pools have been created over time. This may be a symptom of geology or the location and arrangement of the large wood. Substrate remains basically unchanged.

OREGON DEPT OF FISH AND WILDLIFE **FARMER CREEK POST-TX (1-NC, 30)**

HABITAT INVENTORY Report Date: 12/6/2006 Survey Date: 2/27/2006

REACH 1 **T04S-R10W-S03NE** **REACH 1**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	100%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 4.1 VWI Range: 1.8 - 5.2

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	100%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary Channel	481	1,573	0
Secondary Channel	19	12	0
Off-Channel Units	46	133	0

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 5	First Terrace *n* = 3
Width:	3.1	Width:	5.7	12.2 (4.6 - 19.5)	19.5 (15 - 23.5)
Depth:	0.26	Height:	0.6	1.2 (1.1 - 1.3)	1.4 (1.3 - 1.5)

W:D ratio: 9.7 Entrenchment (ACW:FPW ratio): 2.2

Stream Flow Type: MF Habitat Units/100m (total channel length): 5.9

Average Unit Gradient: 2.6% Habitat Units/100m (primary channel length): 6.7

Water temperature (°C): 10.0 - 10.0

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	LT	
Riparian Vegetation:	D30	S

Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:		Reach avg:
Undercut Banks:		Range: -

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	84	17.5
Volume (m^3):	176	36.7
Key pieces (>=12m x 0.60m):	13	2.7

OREGON DEPT OF FISH AND WILDLIFE **FARMER CREEK POST-TX (1-NC, 30)**

HABITAT INVENTORY Report Date: 12/6/2006 Survey Date: 2/27/2006

REACH 1 **T04S-R10W-S03NE** **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
POOL-LATERAL SCOUR	5	41	3.2	0.59	140	0		3	13	49	15	2	18
RAPID/BOULDERS	9	186	2.1	0.22	409	0		3	16	51	23	7	0
RIFFLE	12	312	3.7	0.23	1,152	0		2	14	56	24	4	0
STEP/COBBLE	1	3	1.5	0.20	5	0		0	10	50	40	0	0
STEP/LOG	5	3	3.6	0.11	12	0		42	36	22	0	0	0
Total:	32	546	3.1	0.26	1,717	0	**Avg:**	9	18	48	19	4	3

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	0	0			0	0.00%	0	0.0
Scour Pools	5	41	3.2	0.59	140	8.12%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	12	312	3.7	0.23	1,152	67.07%	0	0.0
Rapids	9	186	2.1	0.22	409	23.80%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	6	7	3.3	0.13	17	1.01%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	5	9.2	10.4
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	1	1.8	2.1
Pool frequency (channel widths/pool):	19.3		
Residual pool depth (avg):	0.37		

Comment Summary
Restoration Monitoring Sites 2006

MONITORING AREA: **1-NC** **SITE ID:** **30** **FARMER CREEK POST-TX**

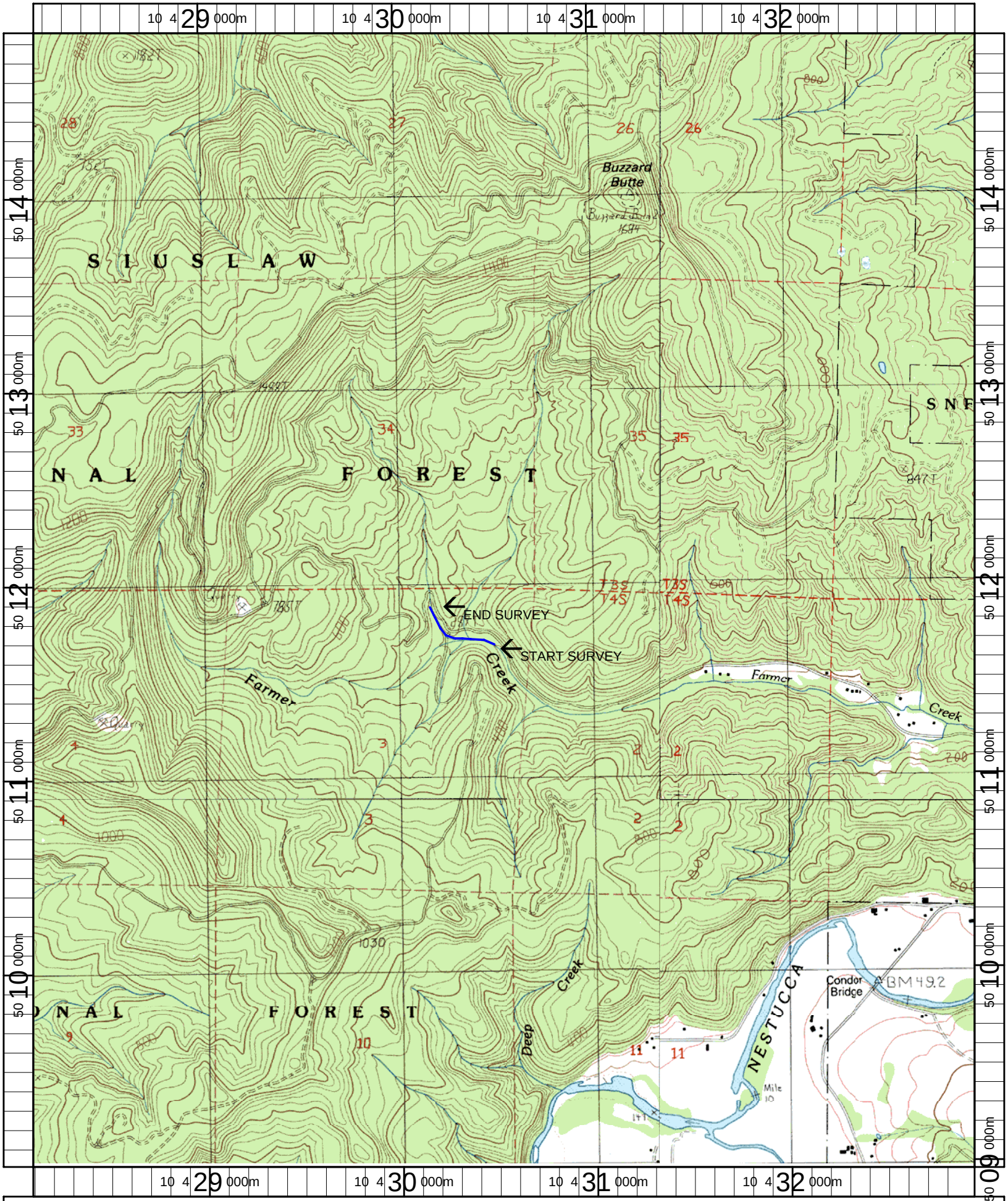
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RI	00	31.5	HS	SIX LOGS, SITE 1, T=10	
2	RI	00	58.5	HS		
3	RI	00	94.7	HS x 2	5 LOGS-SITE 2, 4 LOGS-SITE 3	
5	RI	00	128.1		FRY	
6	SL	00	128.9	HS	SITE 4 - 10 LOGS, H = 0.45	
7	RI	01	145.2	HS, /TJ	FRY	
8	RB	11	145.2	HS	TRIB A, SITE 883 WORP	
9	RI	00	176.2	SS/		
13	RI	01	223.8	HS	SITE 5 - SIX LOGS	
14	LP	01	230.8	TJ/		
15	RI	11	230.8	HS	FARMER CREEK MAINSTEM	
16	SC	01	234.2		TRIB TO FARMERS	
19	SL	02	251.9	HS	H = 0.55	
20	RB	02	251.9	HS		
21	SL	00	252.9	HS	H = 0.85	
22	RI	00	280.1	HS		
23	RI	00	305.1	BC		
25	SL	00	329.8		H = 0.5	
27	LP	00	358.8	HS	FOUR LOGS	
28	RB	00	390.2	HS	FOUR LOGS, SITE 11	
30	RB	00	439.5	HS	FIVE LOGS - SITE 12	

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **1-NC** **SITE ID:** **30** **FARMER CREEK POST-TX**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
31	SL	00	440	/LA	H = 0.8	



Name: SAND LAKE
Date: 1/25/2007
Scale: 1 inch equals 2000 feet

Location: 10 430545 E 5011911 N
Caption: FARMER CREEK #30 RESTORATION SITE NESTUCCA BASIN