

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

STREAM: STILLWELL CREEK
 GCG: 1-NC
 SITE ID: 412
 BASIN: NESTUCCA
 TREATMENT DATE: 2009
 SURVEY DATE: 2/5/2009
 SURVEY CREW: David Jones / Ryan Emig
 USGS MAPS: DOLPH
 ECOREGION: Mid-Coastal Sedimentary
 REPORT PREPARED BY: Matt Strickland / Sharon Tippery / Charles Stein

REACH: 1 LOCATION: T05S-R09W-S33SE

SURVEY DESCRIPTION:

Channel morphology: Constrained alternately by high terraces and hillslopes

Dominant landuse(s): Large timber (30-50 cm dbh)

Dominant riparian vegetation: Mixed conifer/deciduous: size class 30-50cm dbh

Primary channel length (meters) and area (m²): 686 : 2,576

Secondary channel length (meters) and area (m²): 127 : 261

VWI average: 4.5 VWI Range: 2 - 12 Average Gradient: 2.8%

Pieces LWD per 100m: 28.3 Wood Volume (m³) per 100m: 40.4

Percent pools: 19% Complex pools (LWD pieces>=3): 7 Pools >=1m deep:1

<u>Percent substrate (avg):</u>	<u>Silt / organics</u>	<u>Sand</u>	<u>Gravel</u>	<u>Cobble</u>	<u>Boulder</u>	<u>Bedrock</u>
All units	2	13	46	19	11	9
Pool units	3	17	39	17	7	17
Fast water units	0	8	51	23	12	5

SURVEY COMMENTS:

The Stillwell Creek survey is a pre-treatment, restoration site. The crew noted debris jams throughout the survey. They also noted observing beaver activity. Juvenile coho salmon and an adult coho salmon carcass were observed. There were no potential barriers to upstream fish migration observed within the survey.

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

**STILLWELL CREEK
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T05S-R09W-S33SE

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	4.5	VWI Range:	2 - 12

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	686	2,576	0
Secondary	127	261	2

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> <i>n</i> = 5	<u>First Terrace</u> <i>n</i> = 3
Width: 3.2	Width: 4.9	9.3 (6.9 - 15)	12.2 (10.1 - 13.5)
Depth: 0.33	Height: 0.4	0.7 (0.7 - 0.8)	1.3 (0.95 - 1.5)

W:D ratio: 13.5

Stream Flow Type: MF

Average Unit Gradient: 2.8%

Water temperature (°C): 5.0 - 5.0

Entrenchment (ACW:FPW ratio): 1.9

Habitat Units/100m (total channel length): 8.7

Habitat Units/100m (primary channel length): 10.3

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	LT	MT
Riparian Vegetation:	M30	S

Bank Condition and Shade

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

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	194	28.3
Volume (m ³):	278	40.4
Key pieces (>=12m x 0.60m):	11	1.6

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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	4	48	2.4	0.23	118	0	0	5	29	40	26	0
CULVERT CROSSING	1	26	4.0	0.20	102	0	0	5	57	24	14	0
DRY UNIT	2	15	1.7	0.00	24	0	0	45	48	8	0	0
POOL-ALCOVE	2	8	2.3	0.60	20	0	5	25	27	5	5	33
POOL-BACKWATER	1	4	3.0	0.40	11	0	10	30	60	0	0	0
POOL-ISOLATED	1	3	1.4	0.20	4	0	5	20	0	10	15	50
POOL-LATERAL SCOUR	17	124	3.7	0.59	485	0	3	19	39	17	6	17
POOL-PLUNGE	3	13	2.8	0.78	40	0	2	10	37	17	17	17
RAPID/BEDROCK	3	47	3.5	0.23	162	0	0	4	13	19	18	47
RAPID/BOULDERS	9	112	3.3	0.22	398	0	0	7	50	28	14	1
RIFFLE	22	409	3.4	0.20	1,458	0	0	10	61	19	9	2
STEP/BEAVER DAM	1	1	3.0	0.25	3	0	0	10	80	10	0	0
STEP/BOULDERS	2	2	2.0	0.15	4	0	3	3	10	25	61	0
STEP/COBBLE	1	1	2.5	0.15	2	0	0	10	67	19	5	0
STEP/LOG	2	2	3.8	0.10	8	0	11	11	61	6	0	11
Total:	71	814	3.2	0.33	2,838	0	Avg: 2	13	46	19	11	9

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	4	15	2.2	0.45	35	1.23%	0	0.0
Scour Pools	20	137	3.6	0.62	525	18.51%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	22	409	3.4	0.20	1,458	51.38%	0	0.0
Rapids	12	159	3.4	0.22	560	19.72%	0	0.0
Cascades	4	48	2.4	0.23	118	4.15%	0	0.0
Step/Falls	6	6	2.8	0.15	17	0.58%	0	0.0
Dry	2	15	1.7	0.00	24	0.85%	0	0.0
Culverts	1	26	4.0	0.20	102	3.59%	0	0.0

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POOL SUMMARY

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	24	29.5	35.0
Pools >=1m deep:	1	1.2	1.5
Complex pools (LWD pieces>=3):	7	8.6	10.2
Pool frequency (channel widths/pool):	6.9		
Residual pool depth (avg):	0.47		

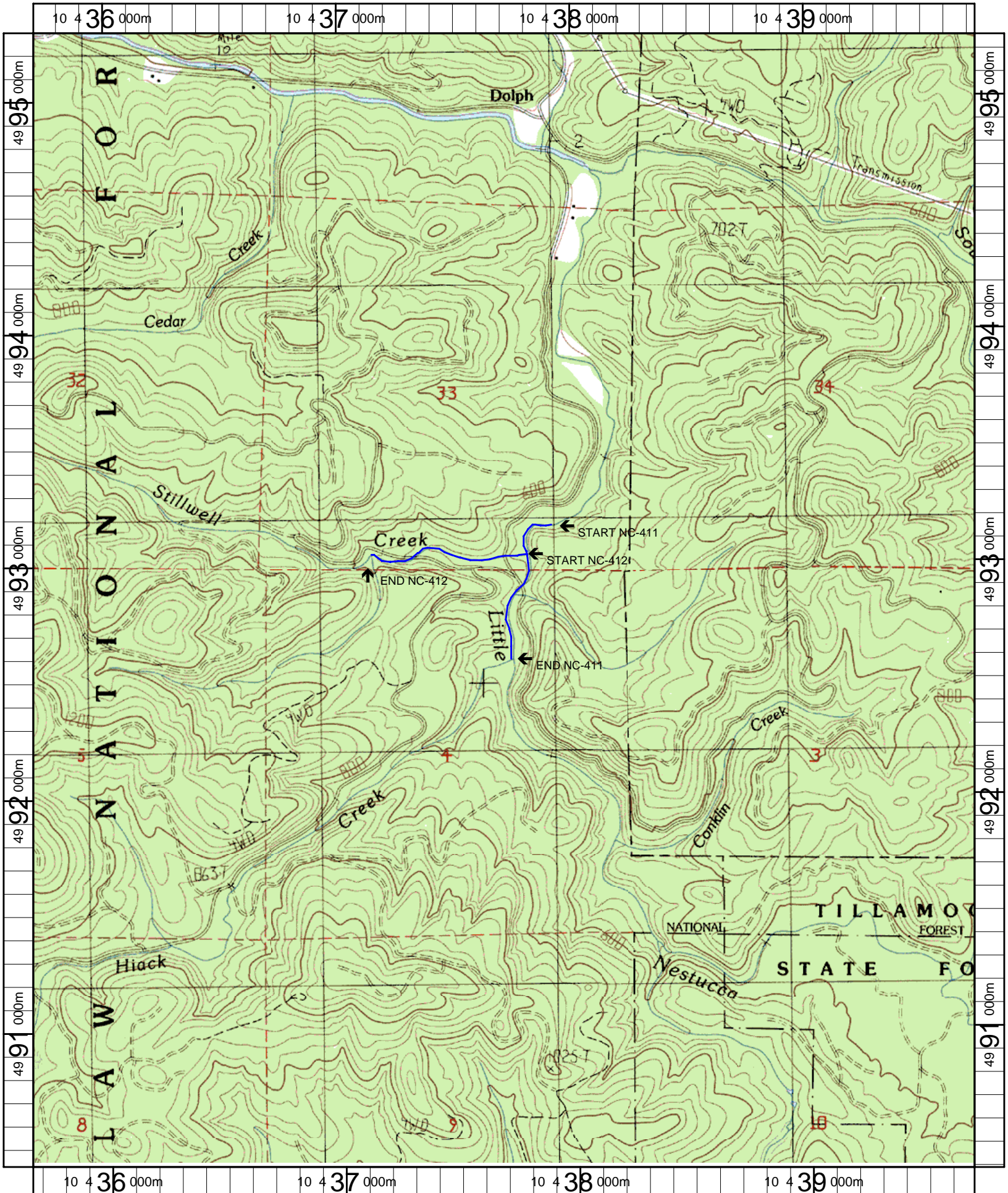
OREGON DEPT OF FISH AND WILDLIFE
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OREGON PLAN MONITORING SITE
SURVEY DATE: 2/5/2009

COMMENT SUMMARY

MONITORING AREA: 1-NC SITE ID: 412 STREAM: STILLWELL CREEK

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	1	CB	01	6		SGS START SIGN
1	8	LP	02	39.5		JUVENILE COHO PRESENT
1	9	RI	02	39.5	DJ	
1	12	LP	00	87	CC	SEMI-CIRCLE CC, NATURAL SUBSTRATE, NO STEP
1	13	RR	00	99	CS/	
1	16	RR	00	138		FIRST METRIC - OUT OF LITTLE NESTUCCA INFLUENCE
1	17	LP	00	148	DJ	
1	24	RR	00	272	DJ	
1	26	LP	00	301	DJ	
1	30	LP	00	339.8		SPAWNED OUT FEMALE COHO CARCASS
1	33	PP	00	362	DJ,LA	
1	40	SD	00	395.5	BV	
1	41	RI	00	404.5		SNOWING TODAY, MULTIPLE REDDS IN RIFFLE
1	43	RI	00	426		NO CONSTRAINING TERRACE, REDDS PRESENT
1	45	RB	01	450	DJ	
1	53	RI	01	481.3	DJ	REDD IN RIFFLE
1	56	RI	11	481.3		ACW=0.9M, T=4.5C, REDD IN TRIB
1	62	RB	02	543.3	DJ	
1	66	CC	00	609.8	CC	HALF CULVERT, NATURAL SUBSTRATE, NO STEP
1	69	CB	00	655.3	DJ	
1	70	RI	01	686.3		REDD IN RIFFLE, NO CONSTRAINING TERRACE
1	71	CB	12	686.3		ACW=3M, T=4C



Name: DOLPH
 Date: 1/29/2009
 Scale: 1 inch equals 1667 feet

Location: 10 0437694 E 4992846 N
 Caption: STILLWELL CREEK RESTORATION SITE - NESTUCCA BASIN

Stillwell Creek (NC-412) 2009 Winter Habitat Survey Photographs



Unit 1 - A upstream view of the Stillwell Creek survey start.



Unit 40 - Upstream view of an inactive beaver dam.



Unit 40 - Upstream view of an inactive beaver dam.



Upstream view at the end of the Stillwell Creek survey.
Fall in background.