ODFW AQUATIC INVENTORY PROJECT
RESTORATION MONITORING
STREAM HABITAT REPORT

STREAM:	NORTH FORK GALES CREEK
GCG:	8-W
SITE ID:	406
BASIN:	TUALATIN
TREATMENT DATE:	2009
SURVEY DATE:	3/23/2009
SURVEY CREW:	David Jones / Ryan Emig
USGS MAPS:	NEHALEM RIVER
ECOREGION:	Prairie Terraces
REPORT PREPARED BY:	Matt Strickland / Sharon Tippery / Charles Stein

REACH: 1 LOCATION: T02N-R05W-S20NW

SURVEY DESCRIPTION:

Channel morphology: Constrained by high terraces

Dominant landuse(s): Mature timber (50-90 cm dbh)

Dominant riparian vegetation: Deciduous trees: size class 30-50cm dbh

Primary channel length (meters) and area (m^2): 1,922 : 8,395

Secondary channel length (meters) and area (m^2) 633 : 969

VWI average: 11.6 VWI Range: 8 - 20 Average Gradient: 3.7%

Pieces LWD per 100m: 17.7 Wood Volume (m^3) per 100m: 15.9

Percent pools: 8% Complex pools (LWD pieces>=3): 9 Pools >=1m deep: 1

Percent substrate (avg):	Silt / organics	Sand	Gravel	Cobble	Boulder	Bedrock
All units	5	19	47	21	7	1
Pool units	7	27	39	19	5	2
Fast water units	2	10	57	23	7	0

SURVEY COMMENTS:

The North Fork Gales Creek survey is a pre-treatment, restoration site. The crew noted two bridges near the beginning of the survey had been washed out, but they are planned to be replaced in the summer of 2009. The crew also noted several pre-existing habitat structures already in place. Debris jams were observed throughout the survey reach. Several active landslides were noted approximately 1400 meters upstream from the start of the survey. The crew noted a massive debris jam creating several different channels and influencing a pre-existing beaver pond approximately 1900 meters upstream from the start of the survey. There were no potential barriers to upstream fish migration observed within the survey.

OREGON DEPARTMENT OF FISH AND WILDLIFE **NORTH FORK GALES CREEK**

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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 11.6 VWI Range: 8 - 20

Channel Morphology (Percent Reach Length)

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

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	1,922	8,395	0
Secondary	633	969	5

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 8	First Terrace *n* = 8
Width:	3.0	Width:	6.1	11.1 (7.7 - 18)	14.0 (9.6 - 28.5)
Depth:	0.33	Height:	0.4	0.9 (0.7 - 1.1)	3.3 (1.25 - 14)

W:D ratio: 13.9
Stream Flow Type: MF
Average Unit Gradient: 3.7%
Water temperature (°C): 7.0 - 7.0

Entrenchment (ACW:FPW ratio): 1.8
Habitat Units/100m (total channel length): 6.2
Habitat Units/100m (primary channel length): 8.3

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	MT	YT
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):	341	17.7
Volume (m^3):	305	15.9
Key pieces (>=12m x 0.60m):	3	0.2

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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/BEDROCK	1	10	1.3	0.05	13	0		0	19	48	5	0	29
CASCADE/BOULDERS	15	155	2.6	0.23	443	0		1	9	43	33	14	0
DRY CHANNEL	2	35	1.5	0.00	53	0		0	8	71	18	3	0
DRY UNIT	1	13	2.0	0.00	26	0		0	15	35	35	15	0
POOL-BACKWATER	10	54	2.1	0.56	104	0		14	63	15	8	1	0
POOL-ISOLATED	3	9	1.8	0.40	15	0		13	50	23	8	5	0
POOL-LATERAL SCOUR	24	155	3.1	0.57	487	0		7	31	40	16	4	2
POOL-PLUNGE	10	36	4.1	0.56	175	0		10	21	33	28	8	0
POOL-STRAIGHT SCOUR	2	14	4.3	0.65	58	0		0	24	66	8	3	0
POOL-TRENCH	1	5	2.0	0.90	10	0		0	0	20	20	10	50
PUDDLED UNIT	2	35	1.2	0.14	31	0		3	27	65	5	0	0
RAPID/BOULDERS	52	1,609	3.5	0.27	6,542	0		0	9	58	26	7	0
RIFFLE	23	405	2.9	0.21	1,339	0		8	15	63	12	3	0
STEP/BEDROCK	2	3	1.5	0.03	5	0		45	45	10	0	0	0
STEP/BOULDERS	3	5	2.8	0.25	13	0		0	2	18	38	43	0
STEP/COBBLE	3	6	2.3	0.15	20	0		16	19	44	20	2	0
STEP/LOG	5	9	3.3	0.16	31	0		6	18	42	25	6	3
Total:	159	2,555	3.0	0.33	9,363	0	**Avg:**	5	19	47	21	7	1

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	13	62	2.0	0.52	119	1.27%	0	0.0
Scour Pools	37	209	3.4	0.58	729	7.79%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	23	405	2.9	0.21	1,339	14.30%	0	0.0
Rapids	52	1,609	3.5	0.27	6,542	69.87%	0	0.0
Cascades	16	165	2.5	0.22	456	4.87%	0	0.0
Step/Falls	13	22	2.7	0.16	68	0.73%	0	0.0
Dry	5	83	1.5	0.05	109	1.17%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

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POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	50	19.6	26.0
Pools >=1m deep:	1	0.4	0.5
Complex pools (LWD pieces>=3):	9	3.5	4.7
Pool frequency (channel widths/pool):	8.4		
Residual pool depth (avg):	0.34		

OREGON DEPT OF FISH AND WILDLIFE **OREGON PLAN MONITORING SITE**
HABITAT INVENTORY **SURVEY DATE: 3/23/2009**

COMMENT SUMMARY

MONITORING AREA: 8-W SITE ID: 406 STREAM: NORTH FORK GALES CREEK

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	1	RB	01	45	BC,CS/CS	BRIDGE WASHED OUT, TO BE REPLACED SUMMER 2009
1	5	RI	00	54	BC,CS/CS	BRIDGE WASHED OUT, TO BE REPLACED SUMMER 2009
1	7	RB	01	126	SS/	VWI=21.5
1	10	SP	00	133	SS/	
1	26	RB	01	407	\TJ	
1	27	CB	11	407	TJ	
1	28	SC	11	407	TJ	
1	29	RI	11	407	TJ	ACW=2M, T=6.75C
1	38	RB	11	495.6	TJ	ACW=1.5M, T=6C
1	39	LP	00	502.1	DJ	
1	40	RB	00	525.1	DJ,HS	
1	51	RB	01	698.4	DJ,/SS	
1	59	RB	01	806.9	SS/	
1	60	LP	01	815.9	SS/	
1	70	PP	02	876.4	TJ\	
1	71	RB	11	876.4	SS\	T=6.5C, ACW=1.9M
1	72	SR	02	876.4		STEP IS OVER HARDPAN
1	76	RB	04	876.4	/SS	
1	78	SR	04	876.4		STEP IS OVER HARDPAN
1	80	RB	01	923.9	SS/	
1	82	RB	01	977.9	DJ	
1	92	RB	03	977.9		NO BOULDER BUT IS A RAPID
1	93	DC	02	977.9		THIS 02 STARTS A NEW SERIES OF SIDE CHANNELS
1	94	RB	03	977.9		SECOND 03 IN THE SAME 01 UNIT
1	97	LP	00	1037.9	DJ	

OREGON DEPT OF FISH AND WILDLIFE **OREGON PLAN MONITORING SITE**
HABITAT INVENTORY **SURVEY DATE: 3/23/2009**

COMMENT SUMMARY

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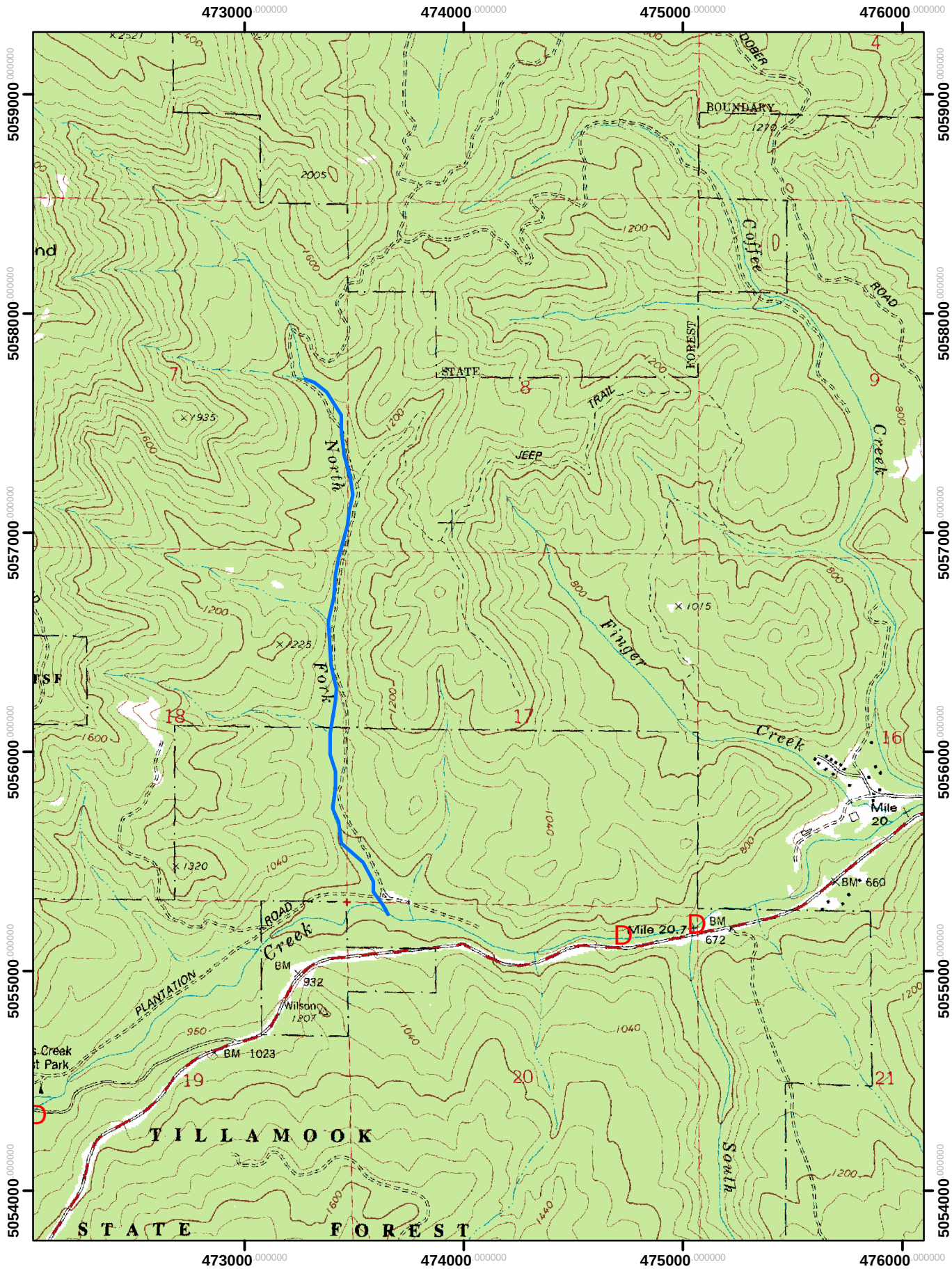
REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	99	BW	10	1048.9	DJ,HS	
1	102	RB	01	1167.9	TJ\TJ	
1	103	CB	11	1167.9		ACW=1.8M, T=8.5C
1	104	RI	11	1167.9		RIGHT TRIB, T=9.5C, ACW=1.7M
1	111	RB	00	1378.9	BC,CS/CS	EROSION UNDER BC, CS WASHING INTO CREEK
1	113	PP	01	1391.5	DJ	
1	116	PP	01	1402.3	DJ,LA	LARGE DEBRIS JAM AND LANDSLIDE
1	117	CB	01	1410.3	/LA	LANDSLIDE ON RIVER RIGHT
1	121	SL	01	1412.3		STEP LOG PART OF DJ IN UNIT 116
1	122	TP	00	1417.3	/LA	
1	123	CB	00	1426.3	/LA,DJ,/SS	
1	126	RB	01	1486.3	TJ/	
1	127	CB	11	1486.3		T=6.75C, ACW=3.5M
1	130	RB	01	1533.3	DJ,/TJ	
1	131	CR	11	1533.3		ACW=1.6M, T=6.75C
1	132	RI	01	1587.3	/SS	
1	135	RB	01	1619.3	/TJ	ANOTHER BRANCH OF TRIB FROM UNIT 127
1	136	RI	12	1619.3		ACW=2.5M, T=6.75C, BRANCH OFF OF TRIB IN UNIT 127
1	144	CB	02	1679.3	SS/	NO COBBLE JUST GRAVEL/SAND/SILT
1	145	PD	02	1679.3	DJ	
1	151	RB	03	1679.3	BV	SECOND 03 CHANNEL
1	152	RI	01	1730.3	BV	
1	155	RB	01	1881.8	DJ,/SS	LAST YEARS 02, BV POND (~50M) / DU (~90M), MASSIVE D
1	158	PP	01	1922.1	DJ,TJ/,SS/	
1	160	RI	11	1922.1		ACW=1.5M, T=8C



Restoration Pre-TX
W - 407
Stream: N FK Gales Creek
T 2N - R 5W - S 20

0 0.25 0.5 1 Kilometers

Approximate location of survey

D Potential Barrier - get photo & coordinates

North Fork Gales Creek (W-406) 2009 Winter Habitat Survey Photographs

Upstream view of stream habitat and riparian near start of survey.

Downstream view of secondary channel and active erosion.

Debris jam creating secondary channels.

North Fork Gales Creek reach photo showing wide active channel and floodplain.

Upstream view of actively eroding bank near the end of the survey.