

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

STREAM: HORSE CREEK  
 GCG: 2-MC  
 SITE ID: 336  
 BASIN: ALSEA  
 TREATMENT DATE: 2006  
 SURVEY DATE: 7/31/2008  
 SURVEY CREW: Brent Coon / Ryan Lande  
 USGS MAPS: ELK CITY, TOLEDO SOUTH  
 ECOREGION: Mid-Coastal Sedimentary  
 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 30-50cm dbh

Primary channel length (meters) and area (m<sup>2</sup>): 1,262 : 5,344

Secondary channel length (meters) and area (m<sup>2</sup>) 159 : 343

VWI average: 8.0 VWI Range: 4 - 12 Average Gradient: 0.6%

Pieces LWD per 100m: 17.1 Wood Volume (m<sup>3</sup>) per 100m: 17.7

Percent pools: 66% Complex pools (LWD pieces>=3): 24 Pools >=1m deep: 6

Percent substrate (avg):	<u>Silt / organics</u>	<u>Sand</u>	<u>Gravel</u>	<u>Cobble</u>	<u>Boulder</u>	<u>Bedrock</u>
All units	6	39	45	9	2	0
Pool units	6	47	37	8	2	0
Fast water units	1	29	53	14	3	0

**COMMENTS:**

This is a post-treatment, restoration survey. Juvenile/snorkeling and adult spawning surveys are conducted in collaboration with this habitat survey. The crew noted habitat structures throughout the survey consisting of placed and cabled logs and boulders. They also noted observing beaver activity and juvenile coho throughout the surveyed length. Residual winter steelhead redds were observed near the beginning of the survey and evidence of wildlife included a red-legged frog, rough-skinned newts throughout, and elk trails near the end of the survey. The crew also noted multiple tributaries.

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

Primary channel length (meters) and area (m<sup>2</sup>): 570 : 2,117

Secondary channel length (meters) and area (m<sup>2</sup>) 56 : 163

VWI average: 17.3 VWI Range: 14 - 20 Average Gradient: 0.5%

Pieces LWD per 100m: 14.0 Wood Volume (m<sup>3</sup>) per 100m: 65.5

Percent pools: 66% Complex pools (LWD pieces>=3): 9 Pools >=1m deep: 1

Percent substrate (avg):	<u>Silt / organics</u>	<u>Sand</u>	<u>Gravel</u>	<u>Cobble</u>	<u>Boulder</u>	<u>Bedrock</u>
All units	3	35	56	7	0	0
Pool units	2	45	48	5	0	0
Fast water units	0	19	73	8	0	0

**COMMENTS:**

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Dominant landuse(s): Second growth timber (15-30 cm dbh)

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

Primary channel length (meters) and area (m<sup>2</sup>): 1,431 : 6,214

Secondary channel length (meters) and area (m<sup>2</sup>) 127 : 199

VWI average: 3.3 VWI Range: 1 - 6 Average Gradient: 1.2%

Pieces LWD per 100m: 15.0 Wood Volume (m<sup>3</sup>) per 100m: 20.4

Percent pools: 67% Complex pools (LWD pieces>=3): 17 Pools >=1m deep: 7

Percent substrate (avg):	<u>Silt / organics</u>	<u>Sand</u>	<u>Gravel</u>	<u>Cobble</u>	<u>Boulder</u>	<u>Bedrock</u>
All units	4	34	37	24	2	0
Pool units	5	45	34	15	2	0
Fast water units	1	19	39	36	4	0

**COMMENTS:**

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Dominant landuse(s): Second growth timber (15-30 cm dbh)

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

Primary channel length (meters) and area (m<sup>2</sup>): 1,154 : 3,344

Secondary channel length (meters) and area (m<sup>2</sup>) 295 : 420

VWI average: 7.9 VWI Range: 5.5 - 12 Average Gradient: 0.9%

Pieces LWD per 100m: 15.1 Wood Volume (m<sup>3</sup>) per 100m: 57.3

Percent pools: 71% Complex pools (LWD pieces>=3): 15 Pools >=1m deep: 5

Percent substrate (avg):	<u>Silt / organics</u>	<u>Sand</u>	<u>Gravel</u>	<u>Cobble</u>	<u>Boulder</u>	<u>Bedrock</u>
All units	7	46	37	10	0	0
Pool units	9	55	30	6	0	0
Fast water units	3	30	54	13	0	0

**COMMENTS:**

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

**HORSE CREEK  
GCG: 2-MC SITE ID: 336**

**Survey Date: 7/31/2008**

**Report Date: 12/29/2008**

**T12S-R10W-S14NE**

**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:	4 - 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	1,262	5,344	0
Secondary	159	343	3

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 3.7	Width: 7.4	9.3 ( 6.7 - 11.2 )	11.3 ( 9.2 - 13.5 )
Depth: 0.43	Height: 0.5	0.9 ( 0.9 - 0.9 )	1.3 ( 1.1 - 1.5 )

W:D ratio: 16.5

Stream Flow Type: MF

Average Unit Gradient: 0.6%

Water temperature (°C): 13.0 - 13.0

Entrenchment (ACW:FPW ratio): 1.3

Habitat Units/100m (total channel length): 5.7

Habitat Units/100m (primary channel length): 6.4

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	YT
Riparian Vegetation:	D30	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	14%	Reach avg: 89%
Undercut Banks:	6%	Range: 42 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	216	17.1
Volume (m <sup>3</sup> ):	223	17.7
Key pieces (>=12m x 0.60m):	4	0.3

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

**HORSE CREEK  
GCG: 2-MC SITE ID: 336**

**Survey Date: 8/4/2008**

**Report Date: 12/29/2008**

**T12S-R10W-S14NW**

**REACH 2**

**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	17.3	VWI Range:	14 - 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	570	2,117	0
Secondary	56	163	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 3	<u>First Terrace</u> n = 3
Width: 3.5	Width: 5.2	7.3 ( 7 - 7.8 )	11.9 ( 10.8 - 13.5 )
Depth: 0.38	Height: 0.4	0.8 ( 0.8 - 0.9 )	1.3 ( 0.95 - 1.5 )

W:D ratio: 12.7

Stream Flow Type: LF

Average Unit Gradient: 0.5%

Water temperature (°C): 14.0 - 14.0

Entrenchment (ACW:FPW ratio): 1.4

Habitat Units/100m (total channel length): 6.1

Habitat Units/100m (primary channel length): 6.7

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	YT
Riparian Vegetation:	D30	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	14%	Reach avg: 63%
Undercut Banks:	9%	Range: 39 - 97

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	80	14.0
Volume (m <sup>3</sup> ):	373	65.5
Key pieces (>=12m x 0.60m):	24	4.2

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**HORSE CREEK  
GCG: 2-MC SITE ID: 336**

**Survey Date: 8/5/2008**

**Report Date: 12/29/2008**

**T12S-R10W-S10SE**

**REACH 3**

**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	3.3	VWI Range:	1 - 6

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	1,431	6,214	0
Secondary	127	199	4

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 6	<u>First Terrace</u> n = 5
Width: 3.6	Width: 8.6	11.4 ( 7.4 - 19.7 )	13.0 ( 10.5 - 20.5 )
Depth: 0.37	Height: 0.4	0.8 ( 0.7 - 1 )	1.3 ( 0.9 - 2.2 )

W:D ratio: 21.5

Stream Flow Type: LF

Average Unit Gradient: 1.2%

Water temperature (°C): 13.0 - 13.0

Entrenchment (ACW:FPW ratio): 1.3

Habitat Units/100m (total channel length): 6.1

Habitat Units/100m (primary channel length): 6.6

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	YT
Riparian Vegetation:	D30	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	16%	Reach avg: 91%
Undercut Banks:	9%	Range: 53 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	214	15.0
Volume (m <sup>3</sup> ):	292	20.4
Key pieces (>=12m x 0.60m):	10	0.7

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

**HORSE CREEK  
GCG: 2-MC SITE ID: 336**

**Survey Date: 8/6/2008**

**Report Date: 12/29/2008**

**T12S-R10W-S10SW**

**REACH 4**

**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	7.9	VWI Range:	5.5 - 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	1,154	3,344	5
Secondary	295	420	9

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 4	<u>First Terrace</u> n = 4
Width: 2.3	Width: 4.7	13.0 ( 5.2 - 34.5 )	14.4 ( 6 - 36.5 )
Depth: 0.27	Height: 0.3	0.7 ( 0.5 - 0.8 )	0.9 ( 0.7 - 0.9 )

W:D ratio: 14.0

Stream Flow Type: LF

Average Unit Gradient: 0.9%

Water temperature (°C): 14.0 - 14.0

Entrenchment (ACW:FPW ratio): 2.4

Habitat Units/100m (total channel length): 7.7

Habitat Units/100m (primary channel length): 9.7

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	YT
Riparian Vegetation:	D30	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	16%	Reach avg: 84%
Undercut Banks:	11%	Range: 47 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	174	15.1
Volume (m <sup>3</sup> ):	661	57.3
Key pieces (>=12m x 0.60m):	34	2.9



**OREGON DEPARTMENT OF FISH AND WILDLIFE**

**HORSE CREEK**

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**SITE ID: 336**

**Survey Date: 7/31/2008**

**Report Date: 12/29/2008**

**T12S-R10W-S14NE**

**REACH 1**

**HABITAT DETAIL**

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbl	Bldr	Bdrk
CULVERT CROSSING	2	38	2.5	0.23	95	0	10	80	10	0	0	0
DRY UNIT	3	43	1.1	0.00	55	0	15	63	7	15	0	0
POOL-BACKWATER	7	54	2.1	0.41	120	0	17	55	29	0	0	0
POOL-ISOLATED	1	8	8.0	0.70	67	0	10	24	67	0	0	0
POOL-LATERAL SCOUR	38	793	4.8	0.74	3,775	159	6	47	37	8	2	0
RAPID/BOULDERS	1	26	2.8	0.20	73	45	0	0	10	70	20	0
RIFFLE	16	407	3.1	0.10	1,364	52	2	31	56	11	2	0
STEP/COBBLE	13	52	2.7	0.07	138	4	0	9	78	12	0	0
<b>Total:</b>	<b>81</b>	<b>1,421</b>	<b>3.7</b>	<b>0.43</b>	<b>5,688</b>	<b>260</b>	<b>Avg: 6</b>	<b>39</b>	<b>45</b>	<b>9</b>	<b>2</b>	<b>0</b>

**HABITAT SUMMARY**

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area		Large Boulders	
					(m <sup>2</sup> )	Percent	Number	(# / 100m <sup>2</sup> )
Dammed & BW Pools	8	62	2.8	0.44	188	3.30%	0	0.0
Scour Pools	38	793	4.8	0.74	3,775	66.37%	159	4.2
Glides	0	0			0	0.00%	0	0.0
Riffles	16	407	3.1	0.10	1,364	23.98%	52	3.8
Rapids	1	26	2.8	0.20	73	1.28%	45	61.8
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	13	52	2.7	0.07	138	2.43%	4	2.9
Dry	3	43	1.1	0.00	55	0.97%	0	0.0
Culverts	2	38	2.5	0.23	95	1.67%	0	0.0

**POOL SUMMARY**

	Total of all Channel Lengths		Primary Channel Length
	<u>Total</u>	<u># / Km</u>	<u># / Km</u>
All Pools:	46	32.4	36.5
Pools >=1m deep:	6	4.2	4.8
Complex pools (LWD pieces>=3):	24	16.9	19.0
Pool frequency (channel widths/pool):	4.2		
Residual pool depth (avg):	0.64		

OREGON DEPARTMENT OF FISH AND WILDLIFE

HORSE CREEK

HABITAT INVENTORY

GCG: 2-MC

SITE ID: 336

Survey Date: 8/4/2008

Report Date: 12/29/2008

T12S-R10W-S14NW

REACH 2

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbl	Bldr	Bdrk
POOL-BACKWATER	4	26	4.1	0.49	111	0	16	65	15	3	0	1
POOL-ISOLATED	1	3	1.4	0.20	4	0	10	14	76	0	0	0
POOL-LATERAL SCOUR	17	356	4.3	0.61	1,514	22	2	45	48	5	0	0
RIFFLE	13	227	2.7	0.12	613	6	0	19	73	8	0	0
STEP/COBBLE	2	13	2.9	0.09	38	0	0	5	90	5	0	0
STEP/LOG	1	0	3.5	0.02	1	0	0	21	47	32	0	0
<b>Total:</b>	<b>38</b>	<b>626</b>	<b>3.5</b>	<b>0.38</b>	<b>2,281</b>	<b>28</b>	<b>Avg: 3</b>	<b>35</b>	<b>56</b>	<b>7</b>	<b>0</b>	<b>0</b>

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area		Large Boulders	
					(m <sup>2</sup> )	Percent	Number	(# / 100m <sup>2</sup> )
Dammed & BW Pools	5	29	3.5	0.43	115	5.03%	0	0.0
Scour Pools	17	356	4.3	0.61	1,514	66.39%	22	1.5
Glides	0	0			0	0.00%	0	0.0
Riffles	13	227	2.7	0.12	613	26.86%	6	1.0
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	3	13	3.1	0.06	39	1.72%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total of all Channel Lengths		Primary Channel Length
	Total	# / Km	# / Km
All Pools:	22	35.2	38.6
Pools >=1m deep:	1	1.6	1.8
Complex pools (LWD pieces>=3):	9	14.4	15.8
Pool frequency (channel widths/pool):	5.4		
Residual pool depth (avg):	0.52		

**OREGON DEPARTMENT OF FISH AND WILDLIFE**

**HORSE CREEK**

**HABITAT INVENTORY**

**GCG: 2-MC**

**SITE ID: 336**

**Survey Date: 8/5/2008**

**Report Date: 12/29/2008**

**T12S-R10W-S10SE**

**REACH**

**3**

**HABITAT DETAIL**

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbl	Bldr	Bdrk
CULVERT CROSSING	2	27	2.3	0.15	64	0	0	50	45	5	0	0
DRY UNIT	4	34	1.8	0.00	57	0	6	37	32	25	0	0
GLIDE	1	10	4.8	0.15	48	0	0	5	25	70	0	0
POOL-BACKWATER	3	20	1.6	0.25	31	0	12	68	21	0	0	0
POOL-ISOLATED	1	2	0.8	0.02	2	0	40	60	0	0	0	0
POOL-LATERAL SCOUR	43	855	4.7	0.69	4,296	119	5	45	34	15	2	0
RAPID/BOULDERS	7	162	3.5	0.12	640	107	0	6	23	59	12	0
RIFFLE	20	377	2.4	0.11	1,005	53	2	24	45	28	2	0
STEP/COBBLE	13	72	3.6	0.07	270	15	0	12	50	36	2	0
STEP/LOG	1	0	0.5	0.02	0	0	5	70	25	0	0	0
<b>Total:</b>	<b>95</b>	<b>1,558</b>	<b>3.6</b>	<b>0.37</b>	<b>6,413</b>	<b>294</b>	<b>Avg: 4</b>	<b>34</b>	<b>37</b>	<b>24</b>	<b>2</b>	<b>0</b>

**HABITAT SUMMARY**

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area		Large Boulders	
					(m <sup>2</sup> )	Percent	Number	(# / 100m <sup>2</sup> )
Dammed & BW Pools	4	22	1.4	0.19	32	0.50%	0	0.0
Scour Pools	43	855	4.7	0.69	4,296	66.99%	119	2.8
Glides	1	10	4.8	0.15	48	0.75%	0	0.0
Riffles	20	377	2.4	0.11	1,005	15.68%	53	5.3
Rapids	7	162	3.5	0.12	640	9.98%	107	16.7
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	14	72	3.4	0.07	270	4.22%	15	5.5
Dry	4	34	1.8	0.00	57	0.89%	0	0.0
Culverts	2	27	2.3	0.15	64	1.00%	0	0.0

**POOL SUMMARY**

	Total of all Channel Lengths		Primary Channel Length
	<u>Total</u>	<u># / Km</u>	<u># / Km</u>
All Pools:	47	30.2	32.8
Pools >=1m deep:	7	4.5	4.9
Complex pools (LWD pieces>=3):	17	10.9	11.9
Pool frequency (channel widths/pool):	3.9		
Residual pool depth (avg):	0.60		

**OREGON DEPARTMENT OF FISH AND WILDLIFE**

**HORSE CREEK**

**HABITAT INVENTORY**

**GCG: 2-MC**

**SITE ID: 336**

**Survey Date: 8/6/2008**

**Report Date: 12/29/2008**

**T12S-R10W-S10SW**

**REACH 4**

**HABITAT DETAIL**

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbl	Bldr	Bdrk
DRY UNIT	12	126	1.8	0.00	206	0	7	66	14	13	0	0
POOL-BEAVER DAM	2	110	4.0	1.05	440	0	23	74	3	0	0	0
POOL-DAMMED	1	50	12.0	1.40	600	0	30	70	0	0	0	0
POOL-ISOLATED	1	6	4.0	1.00	24	0	15	80	5	0	0	0
POOL-LATERAL SCOUR	44	530	2.6	0.47	1,599	8	8	53	31	7	0	0
POOL-PLUNGE	2	10	3.2	0.95	28	0	5	59	31	5	0	0
PUDDLED UNIT	2	12	1.3	0.02	16	0	15	35	10	40	0	0
RAPID/BOULDERS	3	26	0.9	0.04	22	0	10	52	15	23	0	0
RIFFLE	33	558	1.4	0.06	769	0	2	28	58	12	0	0
STEP/BEAVER DAM	3	3	5.5	0.01	20	0	13	73	13	0	0	0
STEP/COBBLE	5	17	2.8	0.05	40	0	0	11	78	11	0	0
STEP/LOG	4	1	0.8	0.02	1	0	10	48	42	0	0	0
<b>Total:</b>	<b>112</b>	<b>1,450</b>	<b>2.3</b>	<b>0.27</b>	<b>3,764</b>	<b>8</b>	<b>Avg: 7</b>	<b>46</b>	<b>37</b>	<b>10</b>	<b>0</b>	<b>0</b>

**HABITAT SUMMARY**

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area		Large Boulders	
					(m <sup>2</sup> )	Percent	Number	(# / 100m <sup>2</sup> )
Dammed & BW Pools	4	166	6.0	1.13	1,064	28.27%	0	0.0
Scour Pools	46	540	2.6	0.49	1,627	43.22%	8	0.5
Glides	0	0			0	0.00%	0	0.0
Riffles	33	558	1.4	0.06	769	20.42%	0	0.0
Rapids	3	26	0.9	0.04	22	0.59%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	12	21	2.8	0.03	61	1.63%	0	0.0
Dry	14	138	1.7	0.00	221	5.87%	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:	50	34.5	43.3
Pools >=1m deep:	5	3.4	4.3
Complex pools (LWD pieces>=3):	15	10.3	13.0
Pool frequency (channel widths/pool):	6.2		
Residual pool depth (avg):	0.48		

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

**HORSE CREEK  
GCG: 2-MC SITE ID: 336**

**Survey Date 7/31/2008  
Report Date: 12/29/2008**

**RIPARIAN ZONE  
VEGETATION SUMMARY**

**REACH 1**

**Summary of Riparian Zone (0-30m) 4 transects**

Total hardwoods/1000	1219
Total conifers/1000 ft	46
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	0.0	1.3	0.0	2.0	0.5	1.0	0.5	4.3
15-30cm	0.0	1.8	0.0	4.8	0.3	3.8	0.3	10.3
30-50cm	0.0	1.3	0.0	2.5	0.0	1.3	0.0	5.0
50-90cm	0.0	0.3	0.0	0.3	0.0	0.0	0.0	0.5
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	4.5	0.0	9.5	0.8	6.0	0.3	6.7

**Canopy closure and ground cover**

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	89	93	94
Shrub cover	59	57	46
Grass/forb cover	41	41	35

**Predominant landform in each zone**

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	13	50	38
High terrace	88	38	50
Low terrace	0	0	0
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	13	13
Riprap	0	0	0
Surface slope (%)	3	16	16

OREGON DEPARTMENT OF FISH AND WILDLIFE  
HABITAT INVENTORY

HORSE CREEK  
GCG: 2-MC SITE ID: 336

Survey Date 8/4/2008  
Report Date: 12/29/2008

RIPARIAN ZONE  
VEGETATION SUMMARY

REACH 2

Summary of Riparian Zone (0-30m) 3 transects

Total hardwoods/1000	630
Total conifers/1000 ft	0
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	0.0	1.7	0.0	3.3	0.0	2.3	0.0	7.3
15-30cm	0.0	0.7	0.0	0.0	0.0	0.7	0.0	1.3
30-50cm	0.0	0.3	0.0	0.3	0.0	1.0	0.0	1.7
50-90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	2.7	0.0	3.7	0.0	4.0	0.0	3.4

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	41		57		90	
Shrub cover	48		72		61	
Grass/forb cover	48		28		32	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	0		17		17	
High terrace	100		83		83	
Low terrace	0		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 (%)	13		3		3	

Survey Date 8/5/2008  
Report Date: 12/29/2008

**RIPARIAN ZONE  
VEGETATION SUMMARY**

REACH 3

**Summary of Riparian Zone (0-30m) 6 transects**

Total hardwoods/1000	846
Total conifers/1000 ft	42
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	0.0	2.4	0.0	0.3	0.2	3.8	0.2	6.5
15-30cm	0.0	0.9	0.0	1.0	0.0	1.7	0.0	3.6
30-50cm	0.0	1.0	0.3	1.5	0.2	0.2	0.5	2.7
50-90cm	0.0	0.7	0.0	0.3	0.0	0.0	0.0	1.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	5.0	0.3	3.3	0.3	5.7	0.2	4.6

**Canopy closure and ground cover**

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	75	60	73
Shrub cover	50	37	36
Grass/forb cover	50	40	45

**Predominant landform in each zone**

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	34	60	69
High terrace	51	26	17
Low terrace	0	0	0
Floodplain	9	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	17	17
Riprap	0	0	0
Surface slope (%)	20	25	35

OREGON DEPARTMENT OF FISH AND WILDLIFE  
HABITAT INVENTORY

HORSE CREEK  
GCG: 2-MC SITE ID: 336

Survey Date 8/6/2008  
Report Date: 12/29/2008

RIPARIAN ZONE  
VEGETATION SUMMARY

REACH 4

Summary of Riparian Zone (0-30m) 4 transects

Total hardwoods/1000	853
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	0.0	2.0	0.0	1.5	0.3	3.0	0.3	6.5
15-30cm	0.0	1.3	0.0	2.0	0.5	1.3	0.5	4.5
30-50cm	0.0	0.5	0.0	1.0	0.3	1.0	0.3	2.5
50-90cm	0.0	0.0	0.0	0.3	0.0	0.3	0.0	0.5
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	3.8	0.0	4.8	1.0	5.5	0.3	4.7

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	89	93	88
Shrub cover	39	46	45
Grass/forb cover	54	43	43

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	38	38	75
High terrace	63	50	13
Low terrace	0	0	0
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	13	13
Riprap	0	0	0
Surface slope (%)	8	9	23



**Summary of Riparian Zone (0-30m) for all reaches**

**17 transects**

**Summary of riparian zone (0-100 feet) extrapolated to 1,000 feet along stream**

Total hardwoods/1000	3780
Total conifers/1000 ft	168
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

**Average number of trees in a 5-m wide band**

<u>Diameter</u> <u>class (cm)</u>	<u>Zones 1-3</u>	
	<u>0-30 meters</u>	
	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	1.0	25.8
15-30cm	0.8	21.0
30-50cm	1.0	12.8
50-90cm	0.0	2.5
>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			
16	LT	1	HT	0	90	50	50	Conifer							
								Hardwood			1				
16	LT	2	HT	0	95	90	10	Conifer							
								Hardwood		5	1				
16	LT	3	HT	0	90	90	5	Conifer							
								Hardwood		3	1				
16	RT	1	HS	20	100	50	50	Conifer							
								Hardwood		3	1				
16	RT	2	HS	60	100	30	70	Conifer							
								Hardwood	4	2	2				
16	RT	3	HS	60	100	25	75	Conifer	2						
								Hardwood	4	1					
37	LT	1	HT	0	90	60	40	Conifer							
								Hardwood							
37	LT	2	HT	0	95	30	70	Conifer							
								Hardwood		1	1				
37	LT	3	HT	0	90	80	20	Conifer							
								Hardwood		8	2				
37	RT	1	HT	0	90	75	25	Conifer							
								Hardwood							
37	RT	2	HS	20	95	60	30	Conifer							
								Hardwood		5					
37	RT	3	HS	35	100	25	50	Conifer							
								Hardwood		1	1				
54	LT	1	HT	0	80	60	40	Conifer							
								Hardwood	4	2	2				
54	LT	2	HT	0	95	60	35	Conifer							
								Hardwood	1	3	2				
54	LT	3	HT	0	90	80	20	Conifer							
								Hardwood							
54	RT	1	HT	0	95	30	70	Conifer							
								Hardwood			1				
54	RT	2	RB	0	95	50	50	Conifer							
								Hardwood		1	2				
54	RT	3	HT	0	95	30	50	Conifer							
								Hardwood			1				

71	LT	1	HT	0	65	75	25	Conifer				
								Hardwood	1	2		
71	LT	2	HS	25	75	45	55	Conifer				
								Hardwood		1		1
71	LT	3	HS	35	90	40	60	Conifer		1		
								Hardwood		2		
71	RT	1	HT	0	100	75	25	Conifer				
								Hardwood				1
71	RT	2	HS	20	95	90	10	Conifer				
								Hardwood	3	1		2
71	RT	3	RB	0	95	0	0	Conifer				
								Hardwood				

**RIPARIAN ZONE VEGETATION**

Reach 2

Reach 2

Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
82	LT	1	HT	60	80	50	50	Conifer							TRANSITION SLOPE
								Hardwood		2	1				
82	LT	2	HT	0	80	60	40	Conifer							
								Hardwood	4						
82	LT	3	HT	0	100	40	45	Conifer							
								Hardwood	5						
82	RT	1	HT	0	80	75	25	Conifer							
								Hardwood							
82	RT	2	HT	0	95	90	10	Conifer							
								Hardwood	2		1				
82	RT	3	HT	0	95	80	20	Conifer							
								Hardwood			3				
101	LT	1	HT	0	35	20	50	Conifer							
								Hardwood	1						
101	LT	2	HS	20	40	40	60	Conifer							
								Hardwood	2						
101	LT	3	HS	20	100	0	70	Conifer							
								Hardwood		2					
101	RT	1	HT	0	0	60	40	Conifer							
								Hardwood							
101	RT	2	HT	0	0	100	0	Conifer							100% WILLOW THICKET
								Hardwood							
101	RT	3	HT	0	60	100	0	Conifer							
								Hardwood							
114	LT	1	HT	0	0	20	80	Conifer							
								Hardwood	4						
114	LT	2	HT	0	50	80	20	Conifer							
								Hardwood	2						
114	LT	3	HT	0	95	95	5	Conifer							
								Hardwood							
114	RT	1	HT	20	50	60	40	Conifer							TRANSITION SLOPE
								Hardwood							
114	RT	2	HT	0	75	60	40	Conifer							
								Hardwood							
114	RT	3	HT	0	90	50	50	Conifer							
								Hardwood	2						

**RIPARIAN ZONE VEGETATION**

Reach 3

Reach 3

Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
132	LT	1	FP	0	75	10	90	Conifer							
								Hardwood	3	2	1				
132	LT	2	HS	75	60	30	70	Conifer							
								Hardwood	1	1					
132	LT	3	HS	75	50	40	60	Conifer							
								Hardwood	2	2					
132	RT	1	HT	0	10	20	80	Conifer							
								Hardwood	3						
132	RT	2	HS	15	0	0	100	Conifer							
								Hardwood							
132	RT	3	HS	20	0	15	85	Conifer							
								Hardwood	3						
150	LT	1	HT	0	85	90	10	Conifer							
								Hardwood				3			
150	LT	2	HT	0	80	80	20	Conifer							
								Hardwood			4				
150	LT	3	HS	20	85	50	50	Conifer							
								Hardwood	9	1	1				
150	RT	1	HS	70	95	10	90	Conifer							
								Hardwood	1	1	1				
150	RT	2	RB	0	25	0	10	Conifer							
								Hardwood							
150	RT	3	HS	65	90	5	50	Conifer							
								Hardwood	1	2					
166	LT	1	HS	70	100	10	90	Conifer							
								Hardwood	1						
166	LT	2	HS	70	90	30	70	Conifer							
								Hardwood			1				
166	LT	3	HS	70	80	40	60	Conifer							
								Hardwood	2	1					
166	RT	1	HS	0	70	40	60	Conifer							
								Hardwood	1						
166	RT	2	RB	0	40	0	15	Conifer							
								Hardwood							
166	RT	3	HS	75	95	10	90	Conifer							
								Hardwood		1					

177	LT	1	HT	0	95	85	15	Conifer						
								Hardwood		1				
177	LT	2	HS	35	90	90	10	Conifer						
								Hardwood		1	2			
177	LT	3	HS	35	90	90	10	Conifer						
								Hardwood	1	2				
177	RT	1	HT	15	90	75	25	Conifer						
								Hardwood	5					
177	RT	2	HT	0	20	0	0	Conifer						WIDE ROADBED
								Hardwood						
177	RT	3	HT	0	30	70	30	Conifer						
								Hardwood	2					
194	LT	2	HS	10	90	5	95	Conifer						
								Hardwood				1		
194	LT	3	RB	0	75	0	15	Conifer						
								Hardwood						
194	RT	1	HT	10	95	85	15	Conifer						
								Hardwood		1	3			
194	RT	2	HT	0	95	100	0	Conifer						TERRACE COVERED IN SALMONBERR
								Hardwood		4	2	1		
194	RT	3	HT	5	100	95	5	Conifer	1					
								Hardwood						
214	LT	1	HS	50	90	50	50	Conifer						
								Hardwood			1	1		
214	LT	2	HS	65	85	10	80	Conifer			2			
								Hardwood	1					
214	LT	3	RB	0	80	0	0	Conifer						
								Hardwood						
214	RT	1	HT	5	25	70	30	Conifer						
								Hardwood						
214	RT	2	HS	30	50	95	5	Conifer						
								Hardwood						
214	RT	3	HS	50	95	20	80	Conifer						
								Hardwood	2	1				

**RIPARIAN ZONE VEGETATION**

Reach 4

Reach 4

Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
245	LT	1	HT	0	100	0	80	Conifer							VERY HEAVY ELK GRAZING
								Hardwood	5						
245	LT	2	HT	0	95	10	80	Conifer							VERY HEAVY ELK GRAZING
								Hardwood							
245	LT	3	HS	70	85	75	25	Conifer	1	2	1				
								Hardwood	1						
245	RT	1	HT	0	90	0	100	Conifer					0		
								Hardwood	0						
245	RT	2	RB	0	100	10	75	Conifer							OLD ROADBED
								Hardwood	1	2					
245	RT	3	HS	10	95	5	85	Conifer							
								Hardwood	5	1					
265	LT	1	HS	15	95	30	70	Conifer							50% HS, 50% HT
								Hardwood		1					
265	LT	2	HS	45	95	70	30	Conifer							HIMALAYAN BLACKBERRIES
								Hardwood				1			
265	LT	3	RB	0	80	10	20	Conifer							
								Hardwood							
265	RT	1	HS	15	95	60	10	Conifer							
								Hardwood			3				
265	RT	2	HS	10	100	40	15	Conifer							
								Hardwood	5				1		
265	RT	3	HS	10	85	50	30	Conifer							
								Hardwood	1	3			1		
302	LT	1	HT	0	95	40	50	Conifer							
								Hardwood			1	1			
302	LT	2	HT	0	95	30	50	Conifer							
								Hardwood			6	3			
302	LT	3	HS	40	90	15	85	Conifer							
								Hardwood				3			
302	RT	1	HS	35	95	10	90	Conifer							
								Hardwood	3			1			
302	RT	2	HS	15	90	30	70	Conifer							
								Hardwood							
302	RT	3	HS	25	90	30	70	Conifer							
								Hardwood	3			1			

326	LT	1	HT	0	65	75	25	Conifer	WHEN RESTORATIO N TOOK
								Hardwood	
326	LT	2	HT	5	80	85	15	Conifer	
								Hardwood	
326	LT	3	HS	20	95	85	15	Conifer	
								Hardwood	
326	RT	1	HT	0	80	95	5	Conifer	
								Hardwood	
326	RT	2	HT	0	85	90	10	Conifer	
								Hardwood	
326	RT	3	HT	5	85	90	10	Conifer	
								Hardwood	2 1



**COMMENT SUMMARY**

MONITORING AREA: 2-MC      SITE ID: 336      STREAM: HORSE CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	LP	00	33		START ON D50-90 LEFT BANK 2M FROM STREAM
2	CC	01	53	CC	CULVERT IS 2.2M HIGH AND 3.5M ACROSS
3	CC	02	53	CC	
4	RI	00	65	CS/	
5	LP	00	91	CS/, SS/	
7	LP	00	154	HS	
9	LP	00	187.5	HS	PLACED BOLDERS
13	LP	00	223.5	HS	
25	LP	01	326	HS	
26	IP	10	326	HS	COHO IN ABUNDANCE
37	LP	01	503	TJ/	24646 SPAWN SURVEY SIGN ODFW
38	RI	11	503		TRIB T=11C
40	LP	01	547	BV, HS	REDD AT TAILOUT
44	LP	00	569.5	HS	
45	SC	00	570.8	BV	BEAVER DAM ATTEMPT
46	LP	00	586.5	HS, BV	
48	LP	00	699	BV, DJ	
49	LP	00	727	BV	
53	LP	00	792	BV	LOTS OF COHO
55	LP	00	807.5	BC, CS/	1000 LINE BRIDGE 2.1M OFF STREAM BED WITH CONCRETE SUPERSTRUCTURE
56	LP	00	830.5	HS	CABLED LOGS, PLACED BOULDERS
69	LP	01	1026.9	TJ/	

**COMMENT SUMMARY**

MONITORING AREA: 2-MC      SITE ID: 336      STREAM: HORSE CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
70	DU	11	1026.9		DRY TRIB
71	RI	01	1076.9	HS, TJ/	PLACED LOGS AND BOULDERS
72	DU	11	1076.9		UNDERGROUND FLOW
73	RI	11	1076.9		SAME GPS AS RIPARIAN ON TRIB
75	LP	00	1147.4	HS	PLACED LOGS
76	LP	00	1160.4	HS	ONE HAB LOG
81	LP	00	1261.9	BV	
82	RI	00	1275.4	HS	PLACED LOG #5
83	LP	00	1289.4	HS	
84	RI	01	1301.9	BV, DJ	
86	LP	00	1324.9	HS	PLACED LOG
87	RI	00	1345.4	HS	PLACED LOG #1 AND 13
88	SL	00	1345.65	HS	H=0.10M, HAB LOG #9
89	LP	01	1355.15	HS	HAB LOG
90	BW	10	1355.15	HS, BV	HAB LOG
91	RI	01	1375.15	HS	HAB LOG
92	LP	01	1400.15	HS, BV	(40-50) VISABLE FISH MOST COHO
93	LP	02	1400.15	BV, AM	ROUGH-SKINNED NEWT
94	RI	00	1421.15	AM, BV	RED-LEGGED FROG JUMPED 0.95M, FROG WAS 6CM LONG
95	LP	00	1450.15	BV	
96	RI	00	1467.15	BV	
97	LP	01	1484.15	HS	BOULDERS AND LOGS

COMMENT SUMMARY

MONITORING AREA: 2-MC      SITE ID: 336      STREAM: HORSE CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
98	BW	10	1484.15	BV, HS	BOULDERS
100	LP	00	1527.65	BV	LOTS OF BEAVER SIGN
101	RI	00	1562.65	BV	
102	LP	00	1576.65	BV	
105	LP	00	1613.15	BV	
106	RI	00	1631.15	BV,HS,DJ	PLACED LOGS
107	LP	00	1658.15	BV	
108	SC	00	1666.15	BV	.7M ALDER HAS .2M DEEP BEAVER MARKS IN IT
109	LP	01	1694.35	BV, HS	LOG #80 HAB LOG
112	RI	00	1708.85	BV, HS	HAB LOGS
113	LP	00	1733.6	BV, HS	HAB LOGS
114	RI	00	1751.6	BV, HS	HAB LOGS
115	LP	00	1787.6	BV, HS	HAB LOGS
116	RI	00	1802.1	HS	SALMON SPAWNING SURVEY SIGN: HORSE CREEK END 6/29/07 ODFW
117	LP	00	1810.8	HS, BV	HAB LOGS
118	LP	00	1822.3	BV, HS	HAB LOGS
119	RI	01	1831.6	BV, HS	HAB LOGS
120	LP	01	1865.6	BV, HS	GETTING BACK INTO TIMBER NOW
121	DU	02	1865.6	HS	PLACED LOGS IN CHANNEL
122	LP	02	1865.6	BV, HS	PLACED LOGS
123	DU	02	1865.6	HS, BV	
124	RI	00	1882.6	HS	PLACED LOGS

COMMENT SUMMARY

MONITORING AREA: 2-MC      SITE ID: 336      STREAM: HORSE CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
125	LP	00	1917.6	BV, HS	
126	LP	00	1951.8	BV, HS	LOG
127	SC	00	1956.8	BV, HS	LOGS
128	LP	00	1989.8	BV, HS	HAB LOGS
129	RI	00	2001.8	BV, HS	LOTS OF BEAVER ACTIVITY
130	LP	00	2013.8	BV	
131	LP	00	2029.8	BV	
132	RB	00	2038.5	BV	
134	RB	00	2062.5	BV	
135	LP	01	2074.1	BV	
136	RI	02	2074.1	AM	ROUGH-SKINNED NEWT
137	LP	01	2089.1	BV	
138	LP	01	2119.1	TJ/, BV	
139	SL	11	2119.1		H=0.50M
142	LP	01	2174.6	BV, HS	LOGS
144	LP	02	2174.6	HS	LOG
145	BW	10	2174.6		COHO
154	LP	00	2345.1	BV,HS,DJ	PLACED LOGS
155	SC	00	2351.6	BV	
156	LP	01	2362.6	BV, TJ/	
158	SC	00	2369.6	BV	
159	LP	00	2427.6	HS	BOULDERS

COMMENT SUMMARY

MONITORING AREA: 2-MC      SITE ID: 336      STREAM: HORSE CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
160	RI	00	2475.6	SS/,DJ,HS	LOG
169	RI	00	2684.6	SS/	
170	LP	00	2696.6	HS	HAB LOGS AND BOULDERS
171	RI	00	2709.6	SS/, BV	
172	LP	01	2718.6	BV, /TJ	
173	CC	11	2718.6	CC	DEER CREEK, OVAL CULVERT W=3M, H=1.6M, STEEL
175	LP	00	2738.9		SPAWN SURVEY SIGN ODFW
176	LP	00	2748.9		LOTS OF COHO
177	RI	00	2775.9	HS, BV	BEAVER CUT LOGS
180	RI	00	2812.9	BV	
181	LP	01	2825.4	BV	
185	LP	00	2842.4	BV,HS,DJ	HAB LOGS
186	RI	00	2856.4	BV	
187	LP	00	2869.4	BV	
188	CC	00	2885.4	CC	H=2.35M, W=3.7M, RIBBED STEEL, SEDIMENT INSIDE, 1000 LINE ROAD
189	RB	00	2908.9	/CS	
194	RB	00	3060.4	DJ	
206	LP	01	3216.4	/TJ	
214	SC	00	3262.7	BV	
215	LP	00	3272.9	BV	
216	SC	00	3276.9	BV	WATER FLOWS UNDER 0.90M LOG
217	LP	01	3333.9	BV, HS	HAB LOGS #65 AND #60

COMMENT SUMMARY

MONITORING AREA: 2-MC      SITE ID: 336      STREAM: HORSE CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
218	LP	02	3333.9	SS/	
220	SL	00	3334.2	BV, HS	H=0.30M, SOME FLOW UNDER LOG
221	LP	00	3345.7	BV	
222	LP	00	3356.2	BV, HS	HAB LOGS
223	SD	00	3356.9	BD	FLOW THROUGH BEAVER DAM, H=0.40M
224	BP	01	3388.9	BV	
226	RI	00	3395.4	BV	
227	LP	00	3403.4	BV	
228	RI	00	3429.4	BV, HS	HAB LOG
229	LP	00	3439.9	BV, HS	
230	LP	01	3463.9	BV, HS	HAB LOGS #20800 AND #13800
231	RI	01	3471.4	BV, HS	HAB LOG
232	SD	01	3472.4	BD	H=0.90M, BEAVER USED HAB LOG
233	BP	01	3550.4	BV,HS,AM	DAMMED TJ TOO, ROUGH-SKINNED NEWTS, COHO
236	PD	02	3550.4		ACW=1.3M
237	DU	01	3554.4	/TJ	
238	RI	11	3554.4	BV HS	TRIB HAS 2 BEAVER DAMS 20M & 30M UPSTREAM FROM MAINSTEM
239	DU	01	3568.4	BV	01 CHANNEL SUBS OUT - CAUSED BY BEAVER MOST LIKELY
240	DU	03	3568.4		UNDERGROUND FLOW
242	DU	03	3568.4		UNDERGROUND FLOW
243	LP	00	3576.4		NO PTC
246	SL	00	3590.5		H=0.05M, UNDER LOG FLOW AS WELL

COMMENT SUMMARY

MONITORING AREA: 2-MC      SITE ID: 336      STREAM: HORSE CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
247	LP	00	3595.5	BV	COHO
248	RI	00	3617	BV	
249	LP	01	3631.5	BV	
250	IP	10	3631.5	AM	ROUGH-SKINNED NEWT
251	SC	00	3633.2	BV	
252	LP	00	3655.2	BV, HS	HAB LOG #56
253	SC	00	3657.2	BV	
254	LP	00	3676.2	BV	
255	RI	01	3685.7	BV	
256	LP	00	3692.7	BV	
257	RI	01	3708.2	BV	
258	RI	02	3708.2	BV, HS	HAB LOG #51
259	LP	00	3737.2	BV, HS	OLD BEAVER POOL AND OLD BLOWN OUT DAM USED TO BE BIG
260	RI	00	3761.2	BV, HS	HAB LOGS #49,55,48
261	LP	01	3775.2	BV, HS	HAB LOGS
262	LP	01	3780.2	BV, HS	HAB LOG #10650
263	SC	01	3784.2	BV, HS	LOG #10650
264	LP	01	3791.2	BV, HS	HAB LOG #10650
265	RI	01	3796.7	BV	JUST DOWN FROM BEAVER DAM
267	PP	04	3796.7	BV	POOL OFF THE DAM
268	SL	04	3796.7	BV	H=0.40M
269	RI	04	3796.7	BV	

COMMENT SUMMARY

MONITORING AREA: 2-MC      SITE ID: 336      STREAM: HORSE CREEK

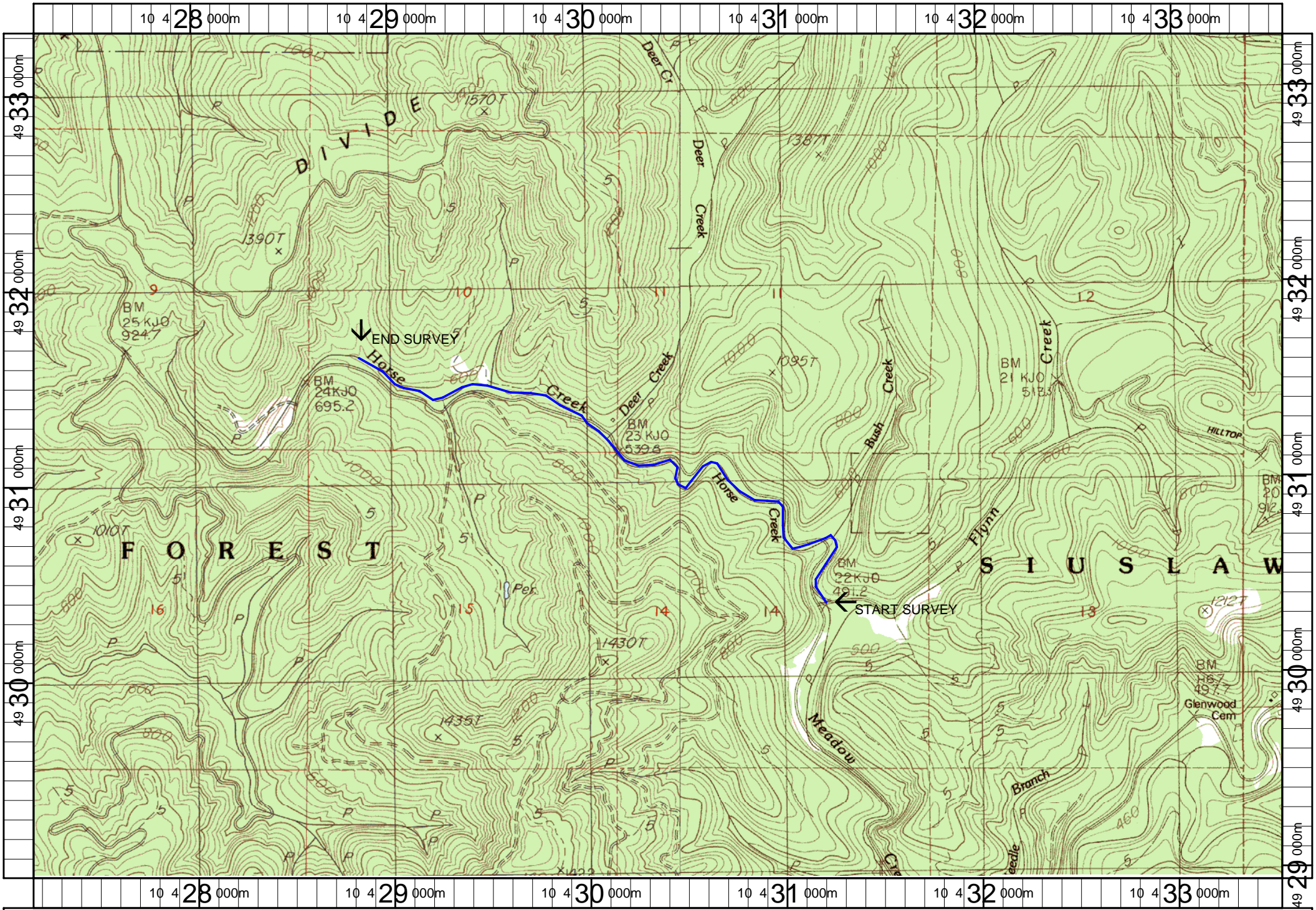
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
271	RI	02	3796.7	BV	
272	LP	02	3796.7	BV	
273	RI	02	3796.7	BV	
274	SL	03	3796.7	BV,HS,AM	H=0.15M, ROUGH-SKINNED NEWT, HAB LOG #10750
276	LP	03	3796.7	BV	
277	DU	03	3796.7	WL	HEAVY ELK USE
278	SD	01	3798.3	BD	H=0.80M, WATER GOES THROUGH DAM
279	DP	01	3848.3	HS,/TJ	COHO ABUNDANT, SS/, BV
280	RB	11	3848.3	BC, CS/CS	TRIB HAS BRIDGE ON 1000 LINE STEEL 4M HIGH
281	RI	00	3857.3	BV	
282	LP	00	3874.3	BV	
283	LP	00	3890.3	BV	
284	LP	00	3900.3	BV	
294	LP	01	4041.3	TJ/	
303	PP	00	4102.6		0.70M LOG BACKING UP GRAVEL
306	RI	01	4139.6	TJ/	
312	DU	00	4201.1		COMPLETE UNDERGROUND FLOW
313	LP	00	4205.6		COHO
315	LP	00	4231.1	HS	HAB LOGS
316	DU	00	4241.1	HS	UNDERGROUND FLOW
317	LP	00	4245.1	HS	LOGS
321	RI	00	4305.1	HS	LOGS



**COMMENT SUMMARY**

MONITORING AREA: 2-MC      SITE ID: 336      STREAM: HORSE CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
322	LP	00	4313.1	HS	LOGS
326	RI	01	4417.1	HS, /TJ	END SIGN ON CUT DOWN ALDER IN STREAM



Name: TOLEDO SOUTH  
 Date: 5/22/2006  
 Scale: 1 inch equals 2000 feet

Location: 10 430362 E 4931129 N  
 Caption: HORSE CREEK RESTORATION SITE - ALSA BASIN



MC-336 Horse Creek (Post-Treatment) 2008 Summer Habitat Survey Photographs



Large wood



Gravel bar and pools



Large wood habitat structure



Gravel substrate



Grass vegetation



Large wood habitat structure