

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

STREAM: ELKHORN CREEK  
 GCG: 2-MC  
 SITE ID: 373  
 BASIN: OCEAN  
 TREATMENT DATE: 2007  
 SURVEY DATE: 8/12/2008  
 SURVEY CREW: Brent Coon / Ryan Lande  
 USGS MAPS: TIDEWATER  
 ECOREGION: Coastal Uplands  
 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: Shrubs (willow, salmonberry, some small alder)

Primary channel length (meters) and area (m<sup>2</sup>): 755 : 4,349

Secondary channel length (meters) and area (m<sup>2</sup>) 182 : 260

VWI average: 4.2 VWI Range: 3.5 - 5 Average Gradient: 0.7%

Pieces LWD per 100m: 31.1 Wood Volume (m<sup>3</sup>) per 100m: 65.6

Percent pools: 54% Complex pools (LWD pieces>=3): 16 Pools >=1m deep: 4

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	35	49	8	0	0
Pool units	12	53	32	3	1	0
Fast water units	1	22	63	14	0	0

**COMMENTS:**

This is a post-treatment, restoration survey. Adult spawning surveys are conducted in collaboration with this habitat survey. The crew noted habitat structures consisting of placed logs throughout the survey. They also noted beaver activity throughout the survey. Evidence of fish included steelhead fry and abundant juvenile coho, a pacific lamprey, and a residual winter steelhead redd. The crew noted observing numerous areas of bear sign near the middle of the survey. They also noted observing greater than 100 red-legged frogs within the stream riparian area throughout the survey.

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**SURVEY DESCRIPTION:**

Channel morphology: Constrained by hillslopes  
 Dominant landuse(s): Second growth timber (15-30 cm dbh)  
 Dominant riparian vegetation: Mixed conifer/deciduous: size class 30-50cm dbh  
 Primary channel length (meters) and area (m<sup>2</sup>): 1,594 : 7,647  
 Secondary channel length (meters) and area (m<sup>2</sup>) 155 : 216  
 VWI average: 2.5 VWI Range: 1 - 5 Average Gradient: 1.7%  
 Pieces LWD per 100m: 19.3 Wood Volume (m<sup>3</sup>) per 100m: 44.9  
 Percent pools: 22% Complex pools (LWD pieces>=3): 15 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	2	21	33	23	3	17
Pool units	6	34	29	19	1	11
Fast water units	0	15	39	29	5	12

**COMMENTS:**

This is a post-treatment, restoration survey. Adult spawning surveys are conducted in collaboration with this habitat survey. The crew noted habitat structures consisting of placed logs throughout the survey. They also noted beaver activity throughout the survey. Evidence of fish included steelhead fry and abundant juvenile coho, a pacific lamprey, and a residual winter steelhead redd. The crew noted observing numerous areas of bear sign near the middle of the survey. They also noted observing greater than 100 red-legged frogs within the stream riparian area throughout the survey.

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

**ELKHORN CREEK  
GCG: 2-MC SITE ID: 373**

**Survey Date: 8/12/2008**

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

**T12S-R11W-S27NE**

**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	4.2	VWI Range:	3.5 - 5

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	755	4,349	0
Secondary	182	260	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 3	<u>First Terrace</u> n = 3
Width: 4.5	Width: 8.8	15.1 ( 10.7 - 23 )	15.8 ( 11.5 - 23.6 )
Depth: 0.35	Height: 0.4	0.7 ( 0.7 - 0.7 )	1.2 ( 0.9 - 1.4 )

W:D ratio: 25.0

Stream Flow Type: MF

Average Unit Gradient: 0.7%

Water temperature (°C): 14.0 - 14.0

Entrenchment (ACW:FPW ratio): 2.0

Habitat Units/100m (total channel length): 5.2

Habitat Units/100m (primary channel length): 6.5

**Riparian, Bank, and Wood Summary**

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	6%	Reach avg: 88%
Undercut Banks:	5%	Range: 67 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	235	31.1
Volume (m <sup>3</sup> ):	495	65.6
Key pieces (>=12m x 0.60m):	34	4.5

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

**ELKHORN CREEK  
GCG: 2-MC SITE ID: 373**

**Survey Date: 8/13/2008**

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

**T12S-R11W-S26NW**

**REACH 2**

**Valley and Channel Summary**

Valley Characteristics (Percent Reach Length)

<u>Narrow Valley Floor</u>		<u>Broad Valley Floor</u>	
Steep V-shape	100%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	2.5	VWI Range:	1 - 5

Channel Morphology (Percent Reach Length)

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

Channel Characteristics

<u>Type</u>	<u>Length (m)</u>	<u>Area (m2)</u>	<u>Dry Units</u>
Primary	1,594	7,647	0
Secondary	155	216	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 8	<u>First Terrace</u> n = 4
Width: 4.3	Width: 6.5	9.1 ( 5.8 - 12.6 )	17.4 ( 13 - 25 )
Depth: 0.26	Height: 0.4	0.8 ( 0.7 - 0.9 )	1.1 ( 0.9 - 1.4 )

W:D ratio: 17.0

Stream Flow Type: MF

Average Unit Gradient: 1.7%

Water temperature (°C): 14.0 - 14.0

Entrenchment (ACW:FPW ratio): 1.4

Habitat Units/100m (total channel length): 4.7

Habitat Units/100m (primary channel length): 5.2

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	OG
Riparian Vegetation:	M30	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	3%	Reach avg: 89%
Undercut Banks:	4%	Range: 64 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	308	19.3
Volume (m <sup>3</sup> ):	716	44.9
Key pieces (>=12m x 0.60m):	38	2.4

OREGON DEPARTMENT OF FISH AND WILDLIFE

ELKHORN CREEK

HABITAT INVENTORY

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Survey Date: 8/12/2008

Report Date: 12/29/2008

T12S-R11W-S27NE

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
CASCADE/BOULDERS	2	15	0.9	0.04	13	1	0	23	38	40	0	0
DRY CHANNEL	1	36	0.7	0.00	25	0	60	35	5	0	0	0
GLIDE	3	42	6.8	0.23	288	4	3	25	68	3	0	0
POOL-BACKWATER	1	6	1.5	0.40	8	0	30	70	0	0	0	0
POOL-LATERAL SCOUR	19	393	5.7	0.69	2,481	5	12	53	32	3	1	0
RAPID/BOULDERS	3	22	0.6	0.02	13	0	2	55	40	3	0	0
RIFFLE	15	409	4.3	0.15	1,703	26	1	16	71	12	0	0
STEP/COBBLE	3	14	5.3	0.12	76	7	0	7	75	18	0	0
STEP/LOG	2	1	3.2	0.02	2	0	0	43	58	0	0	0
<b>Total:</b>	<b>49</b>	<b>936</b>	<b>4.5</b>	<b>0.35</b>	<b>4,609</b>	<b>43</b>	<b>Avg: 7</b>	<b>35</b>	<b>49</b>	<b>8</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	1	6	1.5	0.40	8	0.18%	0	0.0
Scour Pools	19	393	5.7	0.69	2,481	53.83%	5	0.2
Glides	3	42	6.8	0.23	288	6.25%	4	1.4
Riffles	15	409	4.3	0.15	1,703	36.95%	26	1.5
Rapids	3	22	0.6	0.02	13	0.29%	0	0.0
Cascades	2	15	0.9	0.04	13	0.28%	1	7.8
Step/Falls	5	15	4.4	0.08	77	1.68%	7	9.1
Dry	1	36	0.7	0.00	25	0.55%	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:	20	21.4	26.5
Pools >=1m deep:	4	4.3	5.3
Complex pools (LWD pieces>=3):	16	17.1	21.2
Pool frequency (channel widths/pool):	5.3		
Residual pool depth (avg):	0.58		

OREGON DEPARTMENT OF FISH AND WILDLIFE

ELKHORN CREEK

HABITAT INVENTORY

GCG: 2-MC SITE ID: 373

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Report Date: 12/29/2008

T12S-R11W-S26NW

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
CASCADE/BOULDERS	5	64	1.9	0.08	161	46	0	12	26	31	27	4
DRY UNIT	1	2	0.8	0.00	1	0	0	5	40	55	0	0
GLIDE	1	18	6.6	0.25	119	4	0	25	30	15	0	30
POOL-BACKWATER	1	8	1.8	0.40	14	0	15	55	30	0	0	0
POOL-LATERAL SCOUR	23	309	5.4	0.58	1,625	57	7	36	27	21	1	9
POOL-PLUNGE	2	12	4.6	0.55	50	1	0	23	45	0	0	33
POOL-STRAIGHT SCOUR	1	12	6.4	0.60	77	0	5	15	60	20	0	0
RAPID/BEDROCK	3	110	3.8	0.15	422	17	0	7	25	17	0	52
RAPID/BOULDERS	5	51	2.2	0.05	115	10	1	34	44	18	2	1
RIFFLE	33	1,147	4.2	0.14	5,212	410	0	14	42	31	2	11
STEP/BEDROCK	6	12	4.9	0.06	57	1	0	0	0	0	0	100
STEP/COBBLE	1	5	2.2	0.15	11	0	0	5	35	60	0	0
STEP/LOG	1	0	1.2	0.02	0	0	0	50	50	0	0	0
<b>Total:</b>	<b>83</b>	<b>1,749</b>	<b>4.3</b>	<b>0.26</b>	<b>7,863</b>	<b>546</b>	<b>Avg: 2</b>	<b>21</b>	<b>33</b>	<b>23</b>	<b>3</b>	<b>17</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	1	8	1.8	0.40	14	0.18%	0	0.0
Scour Pools	26	333	5.4	0.58	1,752	22.28%	58	3.3
Glides	1	18	6.6	0.25	119	1.51%	4	3.4
Riffles	33	1,147	4.2	0.14	5,212	66.28%	410	7.9
Rapids	8	161	2.8	0.09	536	6.82%	27	5.0
Cascades	5	64	1.9	0.08	161	2.05%	46	28.5
Step/Falls	8	17	4.1	0.07	68	0.86%	1	1.5
Dry	1	2	0.8	0.00	1	0.01%	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:	27	15.4	16.9
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	15	8.6	9.4
Pool frequency (channel widths/pool):	10.0		
Residual pool depth (avg):	0.45		

OREGON DEPARTMENT OF FISH AND WILDLIFE  
HABITAT INVENTORY

ELKHORN CREEK  
GCG: 2-MC SITE ID: 373

Survey Date 8/12/2008

RIPARIAN ZONE

Report Date: 12/29/2008

VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	1036
Total conifers/1000 ft	81
Total conifers >20" dbh/1000 ft	20
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	0.3	0.0	0.3	0.3	1.3	0.3	2.0
15-30cm	0.0	1.0	0.0	3.3	0.7	2.7	0.7	7.0
30-50cm	0.0	2.0	0.0	2.7	0.0	1.3	0.0	6.0
50-90cm	0.0	1.3	0.3	0.7	0.0	0.0	0.3	2.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	4.7	0.3	7.0	1.0	5.3	0.4	5.7

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	80	89	87
Shrub cover	68	93	93
Grass/forb cover	32	8	7

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	0	83	83
High terrace	83	17	17
Low terrace	0	0	0
Floodplain	17	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	0
Riprap	0	0	0
Surface slope (%)	0	42	42

OREGON DEPARTMENT OF FISH AND WILDLIFE  
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ELKHORN CREEK  
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Survey Date 8/13/2008  
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RIPARIAN ZONE  
VEGETATION SUMMARY

REACH 2

Summary of Riparian Zone (0-30m) 8 transects

Total hardwoods/1000	602
Total conifers/1000 ft	160
Total conifers >20" dbh/1000 ft	53
Total conifers >35" dbh/1000 ft	8

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	0.1	0.5	0.1	0.8	0.4	1.3	0.6	2.5
15-30cm	0.0	1.8	0.1	0.6	0.3	1.5	0.4	3.9
30-50cm	0.0	2.1	0.0	0.4	0.8	0.5	0.8	3.0
50-90cm	0.1	0.3	0.3	0.1	0.4	0.1	0.8	0.5
>90cm	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
Total/100m2	0.3	4.6	0.5	1.9	1.9	3.4	0.9	3.3

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	80	82	87
Shrub cover	90	90	99
Grass/forb cover	10	10	1

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	81	69	94
High terrace	19	0	0
Low terrace	0	0	0
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	31	6
Riprap	0	0	0
Surface slope (%)	45	40	85



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

**11 transects**

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

Total hardwoods/1000	991
Total conifers/1000 ft	191
Total conifers >20" dbh/1000 ft	61
Total conifers >35" dbh/1000 ft	8

**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	0.8	3.3
15-30cm	0.6	6.5
30-50cm	0.8	5.3
50-90cm	0.9	1.3
>90cm	0.1	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		
1	LT	1	HT	0	80	75	25	Conifer							
								Hardwood				1			
1	LT	2	HS	30	90	95	5	Conifer							
								Hardwood		3					
1	LT	3	HS	40	90	95	5	Conifer		1					
								Hardwood		4					
1	RT	1	HT	0	85	85	15	Conifer							
								Hardwood			2	1			
1	RT	2	HS	40	85	100	0	Conifer					1		
								Hardwood		2	1				
1	RT	3	HS	40	80	90	10	Conifer		1					
								Hardwood		1	3				
22	LT	1	HT	0	90	80	20	Conifer							
								Hardwood			3				
22	LT	2	HT	0	90	90	10	Conifer							
								Hardwood		1	4				
22	LT	3	HT	0	85	90	10	Conifer	1						
								Hardwood		1	1				
22	RT	1	HT	0	95	70	30	Conifer							
								Hardwood	1	3	1				
22	RT	2	HS	60	95	90	10	Conifer							
								Hardwood			2	1			
22	RT	3	HS	70	90	90	10	Conifer							
								Hardwood							
33	LT	1	FP	0	60	25	75	Conifer							
								Hardwood							
33	LT	2	HS	60	90	90	10	Conifer							
								Hardwood	1	4					
33	LT	3	HS	40	90	100	0	Conifer							
								Hardwood	3	1					
33	RT	1	HT	0	70	75	25	Conifer							
								Hardwood				2			
33	RT	2	HS	60	85	90	10	Conifer							
								Hardwood			1	1			
33	RT	3	HS	60	85	95	5	Conifer							
								Hardwood	1	1					

**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		
50	LT	1	HS	35	85	85	15	Conifer							
								Hardwood		2	2				
50	LT	2	HS	50	95	90	10	Conifer		1			1		
								Hardwood		1					
50	LT	3	HS	50	100	100	0	Conifer		2	3				
								Hardwood							
50	RT	1	HT	0	80	70	30	Conifer							
								Hardwood			1				
50	RT	2	HS	80	85	90	10	Conifer							
								Hardwood							
50	RT	3	HS	70	90	95	5	Conifer							
								Hardwood					1		
63	LT	1	HT	0	90	80	20	Conifer							
								Hardwood	2		3		1		
63	LT	2	RB	0	90	90	10	Conifer							
								Hardwood							
63	LT	3	HS	90	95	100	0	Conifer	1						
								Hardwood	2						
63	RT	1	HS	100	90	90	10	Conifer							
								Hardwood							
63	RT	2	HS	75	75	90	10	Conifer							
								Hardwood	2						
63	RT	3	HS	40	60	100	0	Conifer				1			
								Hardwood							
82	LT	1	HS	30	95	90	10	Conifer							
								Hardwood	1	3		1			
82	LT	2	RB	0	80	70	30	Conifer							
								Hardwood							
82	LT	3	HS	60	90	100	0	Conifer	1			1			
								Hardwood	5						
82	RT	1	HS	100	90	95	5	Conifer	1						
								Hardwood							
82	RT	2	HS	90	90	100	0	Conifer						1	
								Hardwood	1						
82	RT	3	HS	90	95	100	0	Conifer						1	
								Hardwood							

91	LT	1	HS	40	90	90	10	Conifer			
								Hardwood	1	3	
91	LT	2	RB	0	90	80	20	Conifer			
								Hardwood	2		
91	LT	3	HS	509	100	100	0	Conifer	1		1
								Hardwood	1		
91	RT	1	HS	85	80	95	5	Conifer			
								Hardwood			
91	RT	2	HS	70	70	100	0	Conifer	1		
								Hardwood	1		
91	RT	3	HS	70	75	100	0	Conifer			1
								Hardwood			
105	LT	1	HS	40	85	95	5	Conifer			
								Hardwood	1	1	
105	LT	2	RB	0	95	90	10	Conifer			
								Hardwood	1		
105	LT	3	HS	50	90	100	0	Conifer			
								Hardwood	1	3	
105	RT	1	HS	100	40	95	5	Conifer			
								Hardwood			
105	RT	2	HS	80	55	100	0	Conifer			
								Hardwood			1
105	RT	3	HS	80	70	100	0	Conifer			1
								Hardwood			
120	LT	1	HS	35	80	95	5	Conifer			1
								Hardwood			
120	LT	2	HS	40	90	100	0	Conifer			
								Hardwood	1		
120	LT	3	RB	0	90	95	5	Conifer			
								Hardwood	2	1	
120	RT	1	HS	35	70	95	5	Conifer			
								Hardwood			
120	RT	2	HS	40	90	100	0	Conifer			
								Hardwood			2
120	RT	3	HS	45	95	100	0	Conifer			
								Hardwood	2	2	
128	LT	1	HS	35	90	95	5	Conifer			
								Hardwood	1	3	
128	LT	2	HS	40	90	100	0	Conifer			
								Hardwood	1		
128	LT	3	HS	40	95	100	0	Conifer			
								Hardwood	1		
128	RT	1	HS	60	90	95	5	Conifer			
								Hardwood	2	2	
128	RT	2	HS	35	100	100	0	Conifer			
								Hardwood	1	1	

128	RT	3	HS	35	100	100	0	Conifer				
								Hardwood	3	2		
132	LT	1	HT	0	40	80	20	Conifer				
								Hardwood	1		1	
132	LT	2	RB	0	35	40	60	Conifer				
								Hardwood				
132	LT	3	HS	80	60	90	10	Conifer				
								Hardwood		1		
132	RT	1	HS	25	80	95	5	Conifer				
								Hardwood	1	3	1	
132	RT	2	HS	35	85	100	0	Conifer				
								Hardwood				
132	RT	3	HS	45	85	100	0	Conifer				1
								Hardwood				

**COMMENT SUMMARY**

MONITORING AREA: 2-MC      SITE ID: 373      STREAM: ELKHORN CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	RI	00	17	HS	PLACED LOGS
2	LP	00	52	HS, BV	PLACED LOGS
3	RI	01	99	HS	PLACED LOGS
4	LP	02	99	HS	POOL FLOWS INTO DEEP POCKET ON RIFFLE, PLACED LOGS
5	LP	02	99	HS	MANY STEELHEAD FRY, PLACED LOGS
6	RI	03	99	HS	PLACED LOGS
7	LP	01	127	DJ,BV,HS	COHO FRY, PLACED LOGS
9	RI	00	139	HS	PLACED LOGS
10	LP	00	167	HS	PLACED LOGS
12	LP	01	188	TJ/, HS	PLACED LOGS
14	RI	00	238	HS	PLACED LOGS
15	LP	01	266	HS, /TJ	PLACED LOGS
17	SL	01	266.3		H=0.10M
18	LP	01	293.3	HS, BV	PLACED LOGS
20	LP	03	293.3	SS/	
22	RI	01	329.3	HS,DJ,/TJ	PLACED LOGS
24	LP	00	352.3	BV, WL	LOTS OF BEAR ACTIVITY
25	RI	00	402.3	HS, DJ	PLACED LOGS
27	SL	00	411.55		H=0.15M
32	LP	00	506.55	HS, BV,DJ	PLACED LOGS
33	RI	01	519.55	HS	PLACED LOGS
34	LP	01	551.55	TJ/, HS	PLACED LOGS

COMMENT SUMMARY

MONITORING AREA: 2-MC      SITE ID: 373      STREAM: ELKHORN CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
36	RI	01	565.55	HS,DJ	PLACED LOGS
38	DC	02	565.55	HS	PLACED LOGS
39	LP	00	578.55	HS	PLACED LOGS
47	RI	00	722.55	HS	PLACED LOGS
48	LP	01	754.55	TJ/,HS	PLACED LOGS
50	RI	01	804.55	BV	
51	BW	10	804.55		LOTS OF COHO IN POOL
52	LP	01	826.55	HS	PLACED LOGS
53	RI	11	826.55	AM	UNKNOWN FROGS IN TRIB, SEE PHOTOS
54	RI	00	839.55	HS	PLACED LOGS
55	LP	00	852.55	HS	PLACED LOGS
56	RI	00	871.55	HS	PLACED LOGS. BOULDERS FROM OLD CHANNEL STABILIZATON
57	LP	00	880.55		DEAD PACIFIC LAMPREY 45CM, SEE PHOTOS
58	RI	00	930.55		SALMON SPAWNING SURVEY SIGN - NO INFO ON IT
59	LP	00	940.55		OLD STEELHEAD REDD
60	LP	00	954.55	HS	PLACED LOGS
61	RI	00	978.55	HS	PLACED LOGS
62	LP	00	990.55	HS	PLACED LOGS
63	RI	01	1030.55	HS, /TJ	PLACED LOGS
65	LP	00	1046.05	HS, BV	PLACED LOGS
67	DU	02	1078.55		DRY BUT UNDERGROUND FLOW DUE TO SLOPE ENTERING MAIN CHANNEL
68	LP	02	1078.55		LOTS OF COHO FRY

COMMENT SUMMARY

MONITORING AREA: 2-MC      SITE ID: 373      STREAM: ELKHORN CREEK

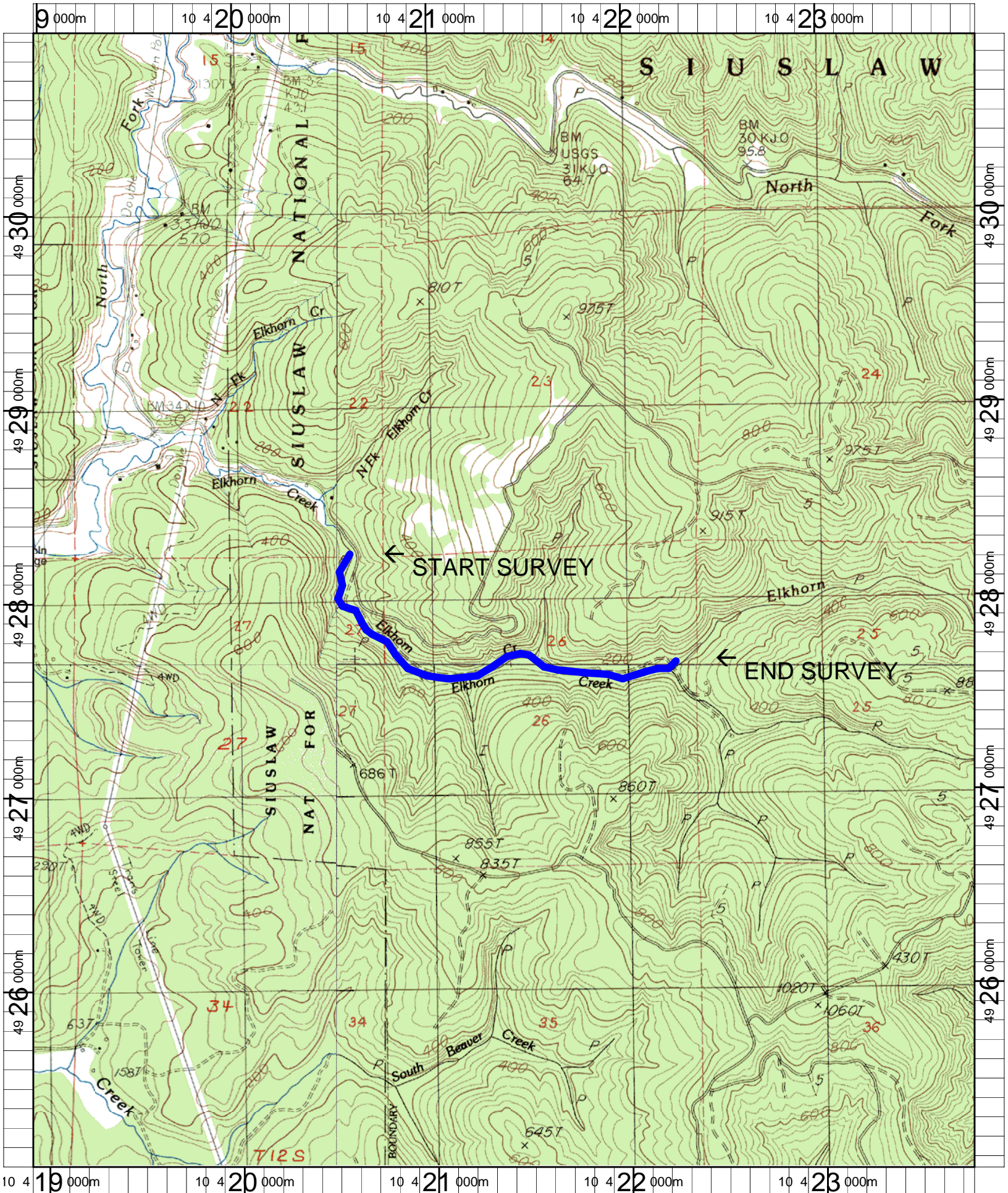
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
69	RI	02	1078.55	AM	RED-LEGGED FROGS EVERYWHERE, AT LEAST (3) CONFIRMED
70	LP	00	1100.55	HS	PLACED LOGS
71	SC	00	1105.55	BV, HS	PLACED LOGS
72	LP	01	1120.55	BV	
73	LP	02	1120.55	HS	COHO ON POOL, PLACED LOGS
74	RI	00	1153.55	BV,HS,DJ	PLACED LOGS, LOTS OF BEAR ACTIVITY
75	LP	00	1167.55	BV,HS	PLACED LOGS
76	RI	01	1186.55	HS,BV,/TJ	PLACED LOGS
77	SL	11	1186.55		H=0.45M
78	RB	11	1186.55		T=11.5C
80	RI	01	1249.55	/TJ	
81	RB	11	1249.55		T=13C
84	RI	00	1344.05	/SS,BV	
85	RI	00	1391.05	BV	
87	RI	00	1439.05	AM	RED-LEGGED FROG
88	LP	00	1450.05	HS	PLACED LOGS
89	RB	00	1459.05	HS	PLACED LOGS
90	LP	00	1466.05	HS,DJ	PLACED LOGS
91	RI	00	1516.05	HS	PLACED LOGS
92	RR	00	1535.05	DJ, HS	PLACED LOGS
93	PP	00	1541.55		SPAWN SIGN START SEG.3 6/21/06
94	SR	01	1542.25	HS, TJ/	H=0.40M, PLACED LOG



COMMENT SUMMARY

MONITORING AREA: 2-MC      SITE ID: 373      STREAM: ELKHORN CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
95	CB	11	1542.25		T=12C
96	RI	00	1592.25	HS	PLACED LOGS
97	RI	00	1626.25	HS,DJ,BV	PLACED LOGS
99	RR	01	1681.25	BV	
102	SR	00	1709.35		H=0.15M
105	RR	01	1795.35	HS	PLACED LOGS, HAB LOG #160
106	RB	02	1795.35	HS	PLACED LOG
107	LP	00	1811.35	HS	PLACED LOGS
111	LP	01	1892.35	/TJ	
112	CB	11	1892.35		T=12C
120	RI	01	2063.85	/TJ	
121	CB	11	2063.85		T=12C
122	RI	00	2113.85	DJ	
124	RI	00	2208.85	HS,DJ	OLD HAB LOG. TWO DIFFERENT DEBRIS JAMS
127	SR	00	2232.85		H=0.40M
128	RI	01	2282.85	TJ/, SS/	
129	RB	11	2282.85		T=13C
130	RI	00	2332.85	HS	PLACED LOGS
131	RI	00	2344.35	HS	PLACED LOGS



Name: TOLEDO SOUTH (OR)  
 Date: 12/27/2007  
 Scale: 1 inch equals 2000 feet

Location: 10 0421364 E 4927998 N NAD 27  
 Caption: ELKHORN CREEK RESTORATION SITE - OCEAN BASIN



MC-373 Elkhorn Creek (Post-Treatment) 2008 Summer Habitat Survey Photographs



Large wood habitat structure



Pacific Lamprey



Pacific Lamprey mort