

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

STREAM: CRUISER CREEK TRIBUTARY
 GCG: 1-NC
 SITE ID: 389
 BASIN: TRASK
 TREATMENT DATE: 2008
 SURVEY DATE: 4/16/2009
 SURVEY CREW: Ryan Jacobsen / Miles Johnson
 USGS MAPS: GOBBLERS KNOB
 ECOREGION: Volcanics
 REPORT PREPARED BY: Matt Strickland / Sharon Tippery / Charles Stein

REACH: 1 LOCATION: T02S-R06W-S06SW

SURVEY DESCRIPTION:

Channel morphology: Constrained alternately by high terraces and hillslopes

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

Dominant riparian vegetation: Conifers: size class 30-50cm dbh

Primary channel length (meters) and area (m²): 234 : 968

Secondary channel length (meters) and area (m²) 22 : 31

VWI average: 4.0 VWI Range: 4 - 4 Average Gradient: 3.3%

Pieces LWD per 100m: 23.1 Wood Volume (m³) per 100m: 37.9

Percent pools: 36% Complex pools (LWD pieces>=3): 2 Pools >=1m deep:0

<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	6	19	46	23	1	4
Pool units	7	22	46	25	1	0
Fast water units	3	12	47	27	2	9

SURVEY COMMENTS:

Cruiser Creek Tributary reach 1 is a post-treatment, restoration site. Reach 1 ended at a tributary junction approximately 230 meters upstream from the start of the survey. The crew noted habitat structures throughout the survey reach. They also noted recent beaver activity. There were no potential barriers to upstream fish migration observed within the survey reach.

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REACH: 2 LOCATION: T02S-R06W-S06SW

SURVEY DESCRIPTION:

Channel morphology: Constrained alternately by high terraces and hillslopes

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

Dominant riparian vegetation: Conifers: size class 30-50cm dbh

Primary channel length (meters) and area (m²): 236 : 955

Secondary channel length (meters) and area (m²): 10 : 20

VWI average: 3.0 VWI Range: 3 - 3 Average Gradient: 2.8%

Pieces LWD per 100m: 36.9 Wood Volume (m³) per 100m: 38.2

Percent pools: 18% Complex pools (LWD pieces>=3): 2 Pools >=1m deep:0

<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	14	40	30	8	6
Pool units	6	17	36	30	7	4
Fast water units	0	12	37	34	7	10

SURVEY COMMENTS:

Cruiser Creek Tributary reach 2 is a post-treatment, restoration site. Reach 2 started at a tributary junction and ended approximately 230 meters upstream at another tributary junction. The crew noted habitat structures throughout the survey reach. They also noted observing resident trout. There were no potential barriers to upstream fish migration observed within the survey reach.

**ODFW AQUATIC INVENTORY PROJECT
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STREAM HABITAT REPORT**

STREAM: CRUISER CREEK TRIBUTARY
 GCG: 1-NC
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 SURVEY DATE: 4/16/2009
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 ECOREGION: Volcanics
 REPORT PREPARED BY: Matt Strickland / Sharon Tippery / Charles Stein

REACH: 3 LOCATION: T02S-R06W-S06SW

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 (m²): 556 : 1,749
 Secondary channel length (meters) and area (m²): 33 : 85
 VWI average: 2.3 VWI Range: 2 - 3 Average Gradient: 3.3%
 Pieces LWD per 100m: 25.4 Wood Volume (m³) per 100m: 21.5
 Percent pools: 31% Complex pools (LWD pieces>=3): 12 Pools >=1m deep:0
Percent substrate (avg): Silt / organics Sand Gravel Cobble Boulder Bedrock
 All units 5 23 46 22 3 1
 Pool units 5 23 50 19 2 0
 Fast water units 3 19 44 26 5 3

SURVEY COMMENTS:

Cruiser Creek Tributary reach 3 is a post-treatment, restoration site. Reach 3 started at a tributary junction and ended approximately 575 meters upstream at the end of the survey. The crew noted observing resident trout. There were no potential barriers to upstream fish migration observed within the survey reach.

Survey Date: 4/16/2009

Report Date: 2/16/2010

T02S-R06W-S06SW

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	4.0	VWI Range:	4 - 4

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	234	968	0
Secondary	22	31	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 1	<u>First Terrace</u> n = 1
Width: 4.0	Width: 6.7	9.7 (9.7 - 9.7)	13.2 (13.2 - 13.2)
Depth: 0.36	Height: 0.6	1.1 (1.1 - 1.1)	1.4 (1.4 - 1.4)

W:D ratio: 12.2

Stream Flow Type: MF

Average Unit Gradient: 3.3%

Water temperature (°C): 5.0 - 5.0

Entrenchment (ACW:FPW ratio): 1.4

Habitat Units/100m (total channel length): 7.4

Habitat Units/100m (primary channel length): 8.1

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LT
Riparian Vegetation:	C30	D15

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):	54	23.1
Volume (m ³):	88	37.9
Key pieces (>=12m x 0.60m):	5	2.1

Survey Date: 4/16/2009

Report Date: 2/16/2010

T02S-R06W-S06SW

REACH 2

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	3.0	VWI Range:	3 - 3

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	236	955	0
Secondary	10	20	0

Channel Dimensions (m)

Wetted	Active	Floodprone	n = 1	First Terrace	n = 1
Width: 4.2	Width: 5.5	7.0	(7 - 7)	9.0	(9 - 9)
Depth: 0.36	Height: 0.4	0.8	(0.8 - 0.8)	1.1	(1.1 - 1.1)

W:D ratio: 13.8

Stream Flow Type: MF

Average Unit Gradient: 2.8%

Water temperature (°C): 5.0 - 5.0

Entrenchment (ACW:FPW ratio): 1.3

Habitat Units/100m (total channel length): 7.3

Habitat Units/100m (primary channel length): 7.6

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	ST	LT
Riparian Vegetation:	C30	D15

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):	87	36.9
Volume (m ³):	90	38.2
Key pieces (>=12m x 0.60m):	1	0.4

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

**CRUISER CREEK TRIBUTARY
GCG: 1-NC SITE ID: 389**

Survey Date: 4/16/2009

Report Date: 2/16/2010

T02S-R06W-S06SW

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	0%
Moderate V-shape	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	2.3	VWI Range:	2 - 3

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	556	1,749	0
Secondary	33	85	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 3	<u>First Terrace</u> n = 1
Width: 3.4	Width: 4.1	4.8 (4.1 - 5.4)	8.5 (8.5 - 8.5)
Depth: 0.35	Height: 0.4	0.8 (0.8 - 0.9)	1.2 (1.2 - 1.2)

W:D ratio: 9.8

Stream Flow Type: MF

Average Unit Gradient: 3.3%

Water temperature (°C): 5.0 - 5.0

Entrenchment (ACW:FPW ratio): 1.2

Habitat Units/100m (total channel length): 10.2

Habitat Units/100m (primary channel length): 10.8

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	TH
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):	141	25.4
Volume (m ³):	120	21.5
Key pieces (>=12m x 0.60m):	0	0.0

OREGON DEPT OF FISH AND WILDLIFE

CRUISER CREEK TRIBUTARY

HABITAT INVENTORY

GCG: 1-NC SITE ID: 389

Survey Date: 4/16/2009

Report Date: 2/16/2010

T02S-R06W-S06SW

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
CASCADE/BEDROCK	1	5	0.7	0.02	4	0	14	9	5	9	0	64
POOL-BACKWATER	1	4	1.5	0.40	5	0	20	40	40	0	0	0
POOL-ISOLATED	1	6	2.5	0.30	15	0	20	40	40	0	0	0
POOL-LATERAL SCOUR	8	84	4.4	0.54	364	0	7	22	46	25	1	0
RAPID/BOULDERS	2	45	2.1	0.20	120	0	5	20	45	25	5	0
RIFFLE	5	106	4.2	0.24	431	0	0	9	56	32	1	2
STEP/COBBLE	1	6	10.0	0.15	60	0	0	20	60	20	0	0
Total:	19	255	4.0	0.36	999	0	Avg: 6	19	46	23	1	4

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	2	10	2.0	0.35	20	2.03%	0	0.0
Scour Pools	8	84	4.4	0.54	364	36.45%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	5	106	4.2	0.24	431	43.18%	0	0.0
Rapids	2	45	2.1	0.20	120	11.98%	0	0.0
Cascades	1	5	0.7	0.02	4	0.35%	0	0.0
Step/Falls	1	6	10.0	0.15	60	6.01%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

Survey Date: 4/16/2009

Report Date: 2/16/2010

T02S-R06W-S06SW

REACH 2

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	7	48	3.4	0.59	171	0	6	17	36	30	7	4
RAPID/BOULDERS	5	125	3.7	0.24	455	0	0	13	29	35	7	16
RIFFLE	3	59	4.7	0.18	263	0	0	10	50	33	7	0
STEP/COBBLE	2	11	5.0	0.20	57	0	0	15	45	24	17	0
STEP/LOG	1	3	10.0	0.20	28	0	0	10	80	10	0	0
Total:	18	246	4.2	0.36	975	0	Avg: 2	14	40	30	8	6

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	0	0			0	0.00%	0	0.0
Scour Pools	7	48	3.4	0.59	171	17.58%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	3	59	4.7	0.18	263	26.97%	0	0.0
Rapids	5	125	3.7	0.24	455	46.69%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	3	13	6.6	0.20	85	8.76%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

HABITAT INVENTORY

GCG: 1-NC SITE ID: 389

Survey Date: 4/16/2009

Report Date: 2/16/2010

T02S-R06W-S06SW

REACH 3

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	1	10	4.4	0.07	44	0	20	30	20	30	0	0
CULVERT CROSSING	1	24	3.0	0.20	72	0	0	20	50	30	0	0
POOL-BACKWATER	1	2	1.0	0.20	2	0	30	20	30	20	0	0
POOL-DAMMED	2	18	4.0	0.53	72	0	5	25	45	25	0	0
POOL-ISOLATED	2	9	1.7	0.30	15	0	29	28	29	15	0	0
POOL-LATERAL SCOUR	14	104	3.8	0.59	388	0	6	23	50	20	1	0
POOL-PLUNGE	7	28	4.1	0.74	110	0	3	23	52	16	5	2
RAPID/BEDROCK	1	9	2.1	0.15	19	0	0	10	30	20	0	40
RAPID/BOULDERS	5	156	2.8	0.20	457	0	2	13	45	34	6	0
RIFFLE	12	197	2.9	0.23	547	0	2	21	48	23	5	2
STEP/COBBLE	4	18	3.1	0.14	55	0	3	15	48	33	3	0
STEP/LOG	10	14	3.8	0.13	54	0	6	32	44	15	3	0
Total:	60	589	3.4	0.35	1,835	0	Avg: 5	23	46	22	3	1

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	5	29	2.5	0.37	89	4.87%	0	0.0
Scour Pools	21	132	3.9	0.64	498	27.12%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	12	197	2.9	0.23	547	29.80%	0	0.0
Rapids	6	165	2.7	0.19	476	25.94%	0	0.0
Cascades	1	10	4.4	0.07	44	2.40%	0	0.0
Step/Falls	14	32	3.6	0.13	109	5.94%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	1	24	3.0	0.20	72	3.92%	0	0.0

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

CRUISER CREEK TRIBUTARY
GCG: 1-NC SITE ID: 389

Survey Date: 4/16/2009

Report Date: 2/16/2010

T02S-R06W-S06SW

REACH 1

POOL SUMMARY

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	10	39.2	42.8
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	2	7.8	8.6
Pool frequency (channel widths/pool):	3.8		
Residual pool depth (avg):	0.32		

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

CRUISER CREEK TRIBUTARY
GCG: 1-NC SITE ID: 389

Survey Date: 4/16/2009

Report Date: 2/16/2010

T02S-R06W-S06SW

REACH 2

POOL SUMMARY

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	7	28.5	29.7
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	2	8.1	8.5
Pool frequency (channel widths/pool):	6.4		
Residual pool depth (avg):	0.39		

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

CRUISER CREEK TRIBUTARY
GCG: 1-NC SITE ID: 389

Survey Date: 4/16/2009

Report Date: 2/16/2010

T02S-R06W-S06SW

REACH 3

POOL SUMMARY

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	26	44.2	46.8
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	12	20.4	21.6
Pool frequency (channel widths/pool):	5.5		
Residual pool depth (avg):	0.45		

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

OREGON PLAN MONITORING SITE
SURVEY DATE: 4/16/2009

COMMENT SUMMARY

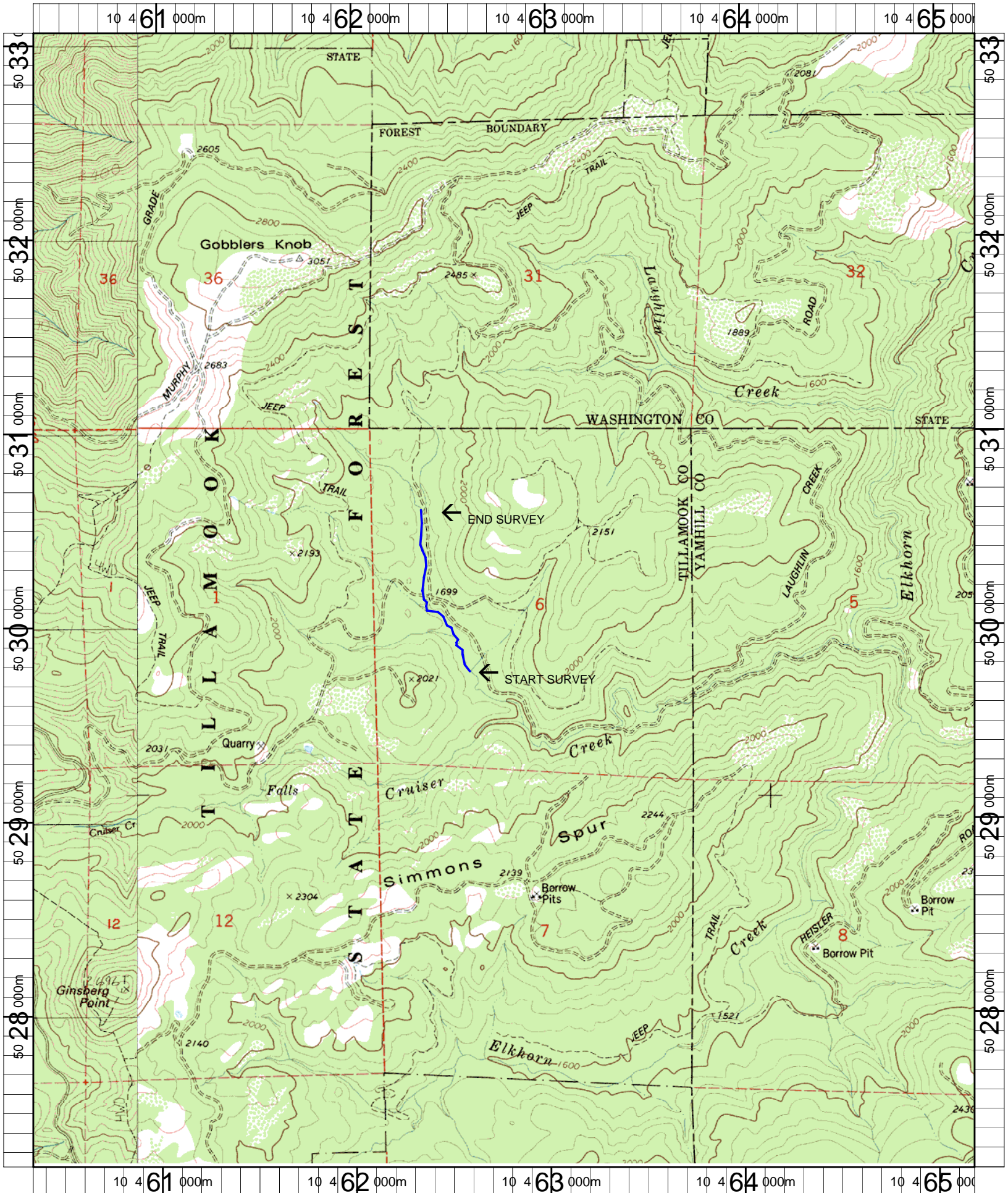
MONITORING AREA: 1-NC SITE ID: 389 STREAM: CRUISER CREEK TRIBUTARY

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	1	RI	01	5.5	\TJ	CA\CT C30\D15 ST\
1	2	RB	11	5.5		ACW=1.5M, T=5C
1	9	RI	00	96.5	HS	
1	10	LP	00	106.5	BV	NEW BV STICKS
1	11	RI	00	127.5	HS	
1	13	RB	01	169.5	HS	
1	16	RI	01	212.7	SS\TJ	
1	17	CR	00	217.7		ACW=1.1M, T=5.5C
1	18	LP	00	227.7	HS	
1	19	LP	01	233.7	TJ\	END REACH 1
2	20	RB	11	233.7		ACW=2.8M, T=5C
2	24	LP	00	289.4		TROUT=120MM
2	25	RI	00	300.4	HS	CA\CT C30\D15 ST\
2	30	LP	00	388.6	HS	
2	34	SL	00	405.6	HS	
2	37	RB	01	469.6	TJ\	END REACH 2
3	38	RB	11	469.6		ACW=2.8M, T=5.5C
3	41	RB	01	519.4		CA\CT C30\D15 ST\
3	44	CC	00	543.4	CC	CULVERT=3.2M WIDE
3	61	LP	00	715.2		TROUT=120MM
3	64	RI	00	762.6		CHMV M30\S ST\TH
3	71	RI	00	852.2	SS\	
3	72	PP	01	857.2	TJ\	
3	73	CB	11	857.2		ACW=2.1M, T=5C
3	90	RR	01	980.4	\IP	

COMMENT SUMMARY

MONITORING AREA: 1-NC SITE ID: 389 STREAM: CRUISER CREEK TRIBUTARY

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
3	98	LP	00	1025.5		CHMV M30\S ST\TH



Name: GOBBLERS KNOB
 Date: 12/18/2007
 Scale: 1 inch equals 2000 feet

Location: 10 0462772 E 5030132 N NAD 27
 Caption: CRUISER CREEK TRIBUTARY RESTORATION SURVEY -
 TRASK BASIN

Cruiser Creek Tributary (NC-389) 2009 Winter Habitat Survey Photographs



Unit 2 - A limited view of the Cruiser Creek Tributary survey start.



Unit 20 - Upstream view of large wood placement.
Limited view of a right bank tributary confluence.



Unit 33 - Upstream view of large wood placement and debris accumulation.



Unit 42 - Culvert crossing at Cruiser Creek Rd.



Unit 56 - Debris jam with sediment and gravel recruitment.



Unit 98 - Upstream view at the end of the Cruiser Creek Tributary survey.