

**ODFW AQUATIC INVENTORY PROJECT  
OREGON PLAN FOR SALMON & WATERSHEDS  
STREAM RESTORATION HABITAT REPORT**

STREAM: Elk Creek Phase 2 (MS-325)  
BASIN: Millicoma River  
SURVEY TYPE: Pre-Tx  
DATE: June 27, 2006  
SURVEY CREW: Lisa Biggs, Peter Cole  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 17.6 km<sup>2</sup>  
USGS MAPS: Elk Peak  
ECOREGION: Coast Range Sedimentary

**GENERAL DESCRIPTION:**

The Elk Creek habitat survey extended 2,921 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 3.4 (range: 1.5-5.0). Land use for the reach was mature (50-90 cm dbh) and second growth (15-30 cm dbh) trees. The average unit gradient was 1.0 percent. Scour pools (46%) dominated stream habitat. Gravel (33%) and bedrock (32%) dominated stream substrate. Wood volume was low at 10.8 m<sup>3</sup>/100m.

**COMMENTS:**

There were no potential barriers to upstream fish migration in the surveyed length.

REACH 1

T23S-R11W-S24NE

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	3.4	VWI Range:	1.5 - 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 Channel	2,921	18,809	0
Secondary Channel	0	0	0
Off-Channel Units	198	609	2

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 6	<u>First Terrace</u> n = 6
Width: 6.1	Width: 13.0	17.5 ( 14.6 - 21.2 )	18.9 ( 15.9 - 21.4 )
Depth: 0.38	Height: 0.6	1.3 ( 1.1 - 1.4 )	1.6 ( 1.25 - 2.5 )

W:D ratio: 20.3  
 Stream Flow Type: LF  
 Average Unit Gradient: 1.0%  
 Water temperature (°C): 15.0 - 15.0

Entrenchment (ACW:FPW ratio): 1.4  
 Habitat Units/100m (total channel length): 4.6  
 Habitat Units/100m (primary channel length): 4.9

**Riparian, Bank, and Wood Summary**

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	5%	Reach avg: 75%
Undercut Banks:	5%	Range: 43 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	280	9.6
Volume (m <sup>3</sup> ):	315	10.8
Key pieces (>=12m x 0.60m):	16	0.5

OREGON DEPT OF FISH AND WILDLIFE

ELK CREEK PHASE 2 PRE-TX (3-MS, 325)

HABITAT INVENTORY

Report Date: 3/6/2007

Survey Date:

6/27/2006

REACH 1

T23S-R11W-S24NE

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/BEDROCK	1	24	15.5	0.25	375	0	5	5	5	5	0	81
CASCADE/BOULDERS	3	40	5.6	0.23	220	105	0	9	29	17	44	2
DRY UNIT	1	25	1.1	0.00	28	0	0	10	35	50	5	0
GLIDE	5	139	6.3	0.19	929	80	3	6	46	7	1	37
POOL-ALCOVE	1	12	2.0	0.30	25	4	20	25	10	30	10	5
POOL-BACKWATER	9	106	4.3	0.53	502	18	23	21	27	4	2	23
POOL-BEAVER DAM	1	44	8.2	0.65	363	13	5	5	52	33	5	0
POOL-DAMMED	1	14	6.5	0.45	88	9	5	20	65	5	5	0
POOL-LATERAL SCOUR	46	1,181	7.0	0.73	8,178	355	10	16	27	7	4	36
POOL-STRAIGHT SCOUR	4	97	6.8	0.75	699	86	9	14	20	4	11	43
PUDDLED UNIT	1	25	0.5	0.08	13	0	5	25	25	20	25	0
RAPID/BEDROCK	7	311	6.8	0.07	2,133	131	0	3	3	0	0	94
RAPID/BOULDERS	10	300	6.7	0.18	1,945	603	1	3	16	20	32	28
RIFFLE	31	679	4.9	0.15	3,248	232	1	10	49	16	3	22
RIFFLE W/ POCKETS	2	51	4.9	0.23	250	31	5	8	23	18	8	40
STEP/BEDROCK	5	11	8.1	0.05	70	12	0	0	0	0	0	100
STEP/COBBLE	13	59	5.5	0.10	343	17	1	7	60	23	4	6
STEP/STRUCTURE	1	1	9.0	0.05	9	23	0	37	26	26	11	0
<b>Total:</b>	142	3,119	6.1	0.38	19,418	1,719	<b>Avg:</b> 6	12	33	12	7	32

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	12	176	4.6	0.51	979	5.04%	44	4.5
Scour Pools	50	1,278	7.0	0.74	8,877	45.72%	441	5.0
Glides	5	139	6.3	0.19	929	4.78%	80	8.6
Riffles	33	730	4.9	0.15	3,499	18.02%	263	7.5
Rapids	17	611	6.8	0.14	4,078	21.00%	734	18.0
Cascades	4	64	8.1	0.24	595	3.07%	105	17.6
Step/Falls	19	71	6.4	0.08	422	2.17%	52	12.3
Dry	2	50	0.8	0.04	40	0.21%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

REACH 1

T23S-R11W-S24NE

REACH 1

**POOL SUMMARY**

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	62	19.9	21.2
Pools >=1m deep:	5	1.6	1.7
Complex pools (LWD pieces>=3):	23	7.4	7.9
Pool frequency (channel widths/pool):	3.9		
Residual pool depth (avg):	0.65		

Survey Date 6/27/2006  
Report Date: 3/5/2007

**RIPARIAN ZONE  
VEGETATION SUMMARY**

REACH 1

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

Total hardwoods/1000	594
Total conifers/1000 ft	15
Total conifers >20" dbh/1000 ft	15
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	2.3	0.0	3.3	0.0	6.8
15-30cm	0.0	0.3	0.0	0.5	0.0	0.5	0.0	1.3
30-50cm	0.0	0.8	0.0	0.5	0.0	0.0	0.0	1.3
50-90cm	0.0	0.3	0.0	0.0	0.3	0.3	0.3	0.5
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	2.5	0.0	3.3	0.3	4.0	0.1	3.3

**Canopy closure and ground cover**

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	36	45	58
Shrub cover	71	54	55
Grass/forb cover	18	24	25

**Predominant landform in each zone**

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	25	50	75
High terrace	63	25	25
Low terrace	13	0	0
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	25	0
Riprap	0	0	0
Surface slope (%)	23	21	37

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

**4 transects**

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

Total hardwoods/1000	594
Total conifers/1000 ft	15
Total conifers >20" dbh/1000 ft	15
Total conifers >35" dbh/1000 ft	0

**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	0.0	6.8
15-30cm	0.0	1.3
30-50cm	0.0	1.3
50-90cm	0.3	0.5
>90cm	0.0	0.0



121	RT	3	HS	20	35	0	70	Conifer				
								Hardwood	2		1	
121	LF	2	RB	0	85	10	35	Conifer				RB/HS, SLOPE
								Hardwood				RB=0%, LT/HS, SLOPE
121	LF	1	LT	2	65	85	10	Conifer				LT=2%, HS=80%
								Hardwood				HS/HT, SLOPE
121	RT	2	HS	15	40	5	70	Conifer				HS=15%,
								Hardwood	2		1	
121	RT	1	HT	30	25	5	65	Conifer				
								Hardwood	2		1	
121	LF	3	HS	75	90	65	30	Conifer				HS/RB
								Hardwood	4	2		



# Comment Summary

## Restoration Monitoring Sites 2006

MONITORING AREA: **3-MS**      SITE ID: **325**      ELK CREEK PHASE 2 PRE-TX

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
1	RI	01	9.2	WL, DJ	CT-MT,D30-D,ST-LT	T=15.0C AT 10:15AM, ELK
2	BW	10	9.2	/SS	TRIB RIGHT (START)	TRIB EMPTIES INTO BW,
3	LP	00	18.2		METRICS TAKEN AT TOP OF	
5	LP	00	39.2	WL		DEER, ELK TRACKS
6	SR	00	40.2		H=0.35M	H=0.35M
8	LP	00	69.5			COHO & TROUT FRY THR
10	LP	00	90.4	BV		TRIED TO BUILD DAM
12	LP	00	132.9	WL		BEAR TRACKS, OTTER TR
14	LP	00	168.3	WL		ELK TRACKS
18	BW	10	223.3			SCOURING ON LEFT BAN
22	SR	00	275.5		H=0.40M	H=0.40M
24	LP	00	319.4			OLD BC
25	RI	00	346.2		OLD BC STRUCTURES	OLD BC
27	RB	00	381.4	WL		VERY FRESH BEAR TRAC
28	GL	00	419.8	WL		RACoon TRACKS
30	AL	10	440.1			2 SWALLOWTAIL BUTTER
31	LP	01	464.7	WL, DJ	CT-CT,M30-S,ST-LT	T=18.0C AT 2:00PM, RACO
32	BW	10	464.7	WL	5 RSN	5 RSN
34	LP	00	494.9	DJ, WL		FRESH COYOTE TRACKS
39	RI	00	579.9		1 RSN	
40	LP	00	604.9			VERY SMALL BW WITH 1

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41	RR	00	654.9			CAMPSITE WITH GARBAG
43	RR	00	754.9			BEAUTIFUL OLD HEMLOC
47	GL	00	891.2	WL		DEER & ELK TRACK
49	RB	00	932.5	DJ		
50	RR	00	971.2	DJ, WL		BLACK CURRANTS FRUITI
52	RI	00	981.3			T=14.5C AT 11:30AM
55	BW	10	1014.5	WL		OTTER OR BEAVER DEN
56	BP	00	1058.8	BV, WL	SMALL BD, WATER THROUG	H2O FLOWS THRU DAM, E
57	SC	00	1063.6	WL		ELK TRACKS, RSN
58	LP	00	1093.6	WL		LOTS OF FISH
59	SC	00	1096.5	WL		TRACKS
60	LP	01	1143.8	WL	1 RSN	RSN
61	BW	10	1143.8		METRICS AT TOP OF LP, CA-	T=15.5C AT 1:40PM
63	BW	10	1161.2	BV		
64	LP	00	1180.5	WL	RESTORATION SITE: JAN	FRESH BEAR, ELK, RACO
65	SC	00	1182.5	BV		
66	LP	00	1216.5	BV		
68	LP	00	1270.1	BV		
74	RB	00	1372.8	BV		
75	LP	00	1425.8	WL, BV	RESTORATION SITE: GREG	ELK TRACKS, BV STARTIN
78	SS	00	1480.2	BV	H=0.40M, PLACED BLDRS	H=0.40M, ROCK WEIR PLA

# Comment Summary

## Restoration Monitoring Sites 2006

MONITORING AREA: **3-MS**      SITE ID: **325**      ELK CREEK PHASE 2 PRE-TX

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
79	DP	01	1493.8	TJ/	TJ/ AT TOP	
80	RI	11	1493.8	CC	ACW=5.7M, ACH=0.55M, CC	T=13.5C, CC=6'X7' METAL
83	RI	00	1556.4	WL		ELK & BEAR TRACKS
84	LP	00	1582.2	BV, WL		VERY FRESH BEAR & BOB
87	RB	00	1663.7	WL		BEAR & RACOON TRACKS
88	LP	01	1681.4		/TJ	
89	PD	11	1681.4		ACW=1.5M, ACH=0.5M	AC SUBSTRATE, NO FISH
91	LP	00	1714.9	BV	CA-CT	T=12.5C @ 9:00AM, AI SM
93	LP	00	1750	WL		ELK, DEER TRACKS
95	LP	00	1806		RESTORATION SITE: GRUM	
96	RI	00	1821	WL		FRESH BEAR TRACKS
100	RI	00	1945.2	WL		FRESH BEAR TRACKS
102	RI	00	2015	LI		LEFT SIDE RB FALLING IN
104	RB	00	2085.1	LI		LEFT SIDE RB 8M HIGH X1
105	SP	00	2093.1	BV		
106	CB	00	2101.9	WL		RSN
107	LP	00	2117.1	BV		START OF DAM
109	BW	10	2140.7			RSN
110	LP	00	2209.9	BV, LI		RB GIVING WAY 5M HIGH
111	RI	01	2229.9	BV		
113	LP	00	2269.8	BV		

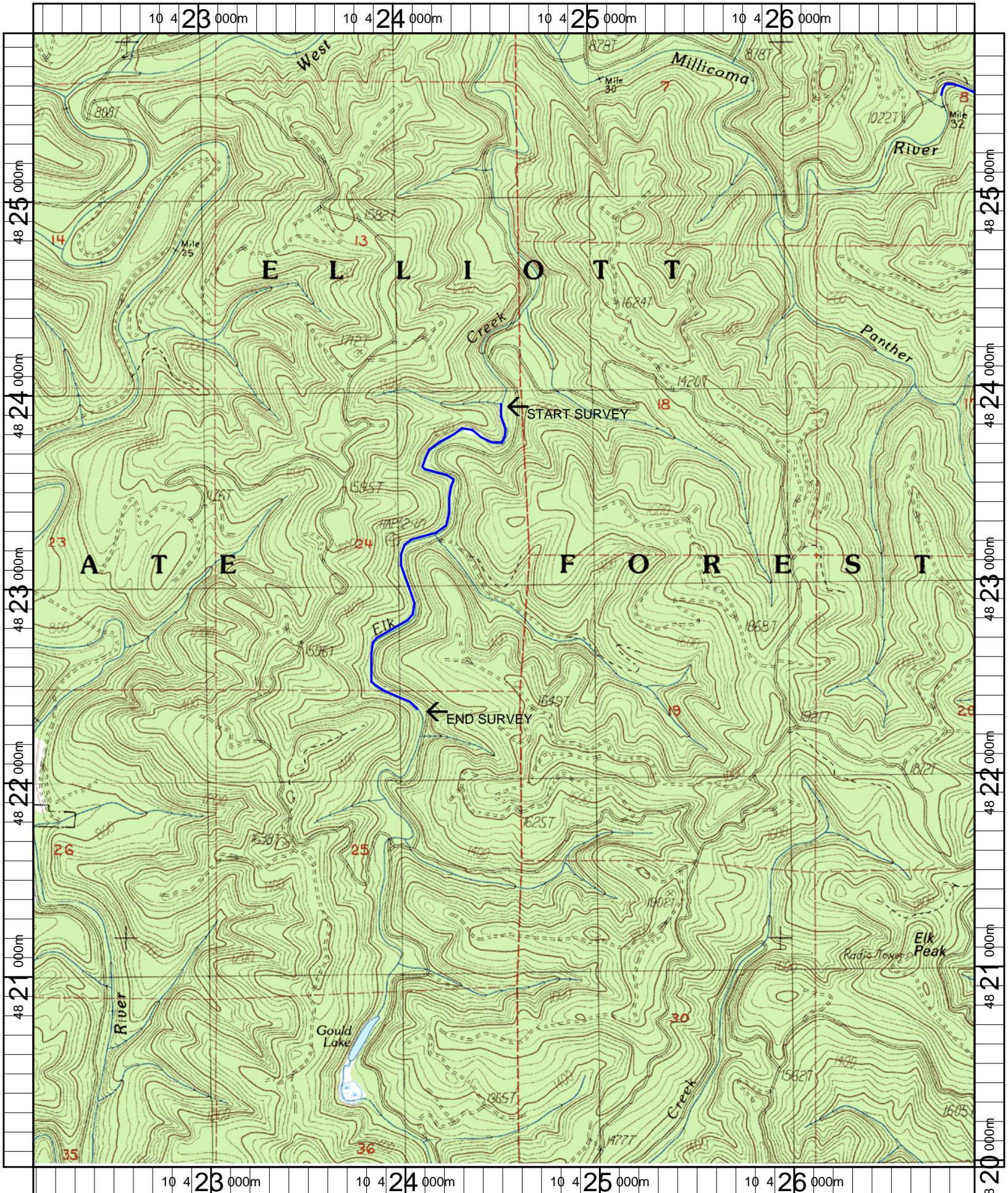
# Comment Summary

## Restoration Monitoring Sites 2006

MONITORING AREA: **3-MS**      SITE ID: **325**      ELK CREEK PHASE 2 PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
116	RP	00	2317.9	BV		
117	SC	00	2320.1	WL		ELK, RACOON TRACKS, T
120	LP	00	2410.5	WL		RSN
121	RI	00	2437.5	DJ	CH-MV	BOTH SIDES CONNECTED
123	RI	00	2511.7	WL		ELK TRACKS THROUGH
125	RI	00	2577.7			LONG GREEN ALGAE
126	LP	01	2609.2	/SS,TJ/,BV	/TJ & SS	HALF CHANNEL DAM
127	BW	10	2609.2			8' CUTTHROAT, SOME IN/
128	DU	11	2609.2		ACW=1.1M, ACH=0.3M	
131	RP	00	2666.1	BV	RESTORATION SITE: DOPEY	
132	RI	00	2690.6	WL		DEER & ELK TRAILS CRO
134	LP	00	2735.6		VERY SMALL SC BW LPS	
138	LP	00	2788.2			VERY DEEP, VERY NICE
140	RB	00	2881.4		CH-MV	
142	RI	00	2921.1	HS		START HS, END SIGN /AL





Name: ELK PEAK  
 Date: 5/22/2006  
 Scale: 1 inch equals 2000 feet

Location: 10 424539 E 4822918 N  
 Caption: ELK CREEK #325 RESTORATION SITE - MILLICOMA BASIN