

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

STREAM: SOUTH FORK LITTLE NESTUCCA RIVER
 GCG: 1-NC
 SITE ID: 410
 BASIN: NESTUCCA
 TREATMENT DATE: 2009
 SURVEY DATE: 2/10/2009
 SURVEY CREW: David Jones / Ryan Emig
 USGS MAPS: DOLPH
 ECOREGION: Mid-Coastal Sedimentary
 REPORT PREPARED BY: Matt Strickland / Sharon Tippery / Charles Stein

REACH: 1 LOCATION: T05S-R10W-S25SE

SURVEY DESCRIPTION:

Channel morphology: Constrained by high terraces
 Dominant landuse(s): Second growth timber (15-30 cm dbh)
 Dominant riparian vegetation: Conifers: size class 15-30cm dbh
 Primary channel length (meters) and area (m²): 2,623 : 23,509
 Secondary channel length (meters) and area (m²) 561 : 1,725
 VWI average: 9.5 VWI Range: 3.5 - 15 Average Gradient: 0.9%
 Pieces LWD per 100m: 10.7 Wood Volume (m³) per 100m: 17.1
 Percent pools: 52% Complex pools (LWD pieces>=3): 17 Pools >=1m deep: 26
 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	17	37	20	4	19
Pool units	3	24	33	18	4	18
Fast water units	1	9	43	21	6	21

SURVEY COMMENTS:

South Fork Little Nestucca River reach 1 is a pre-treatment, restoration site. Reach 1 started at the confluence with the Little Nestucca River and ended at an un-named tributary approximately 2650 meters upstream. The crew noted beaver activity throughout the survey reach. They also noted several winter steelhead redds and a pacific lamprey redd. A live adult winter steelhead was observed. Evidence of amphibians included rough skinned newts. There were no potential barriers to upstream fish migration observed within the survey.

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

STREAM: SOUTH FORK LITTLE NESTUCCA RIVER
 GCG: 1-NC
 SITE ID: 410
 BASIN: NESTUCCA
 TREATMENT DATE: 2009
 SURVEY DATE: 2/10/2009
 SURVEY CREW: David Jones / Ryan Emig
 USGS MAPS: DOLPH
 ECOREGION: Mid-Coastal Sedimentary
 REPORT PREPARED BY: Matt Strickland / Sharon Tippery / Charles Stein

REACH: 2 LOCATION: T05S-R10W-S36SW

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 (m²): 2,019 : 13,493

Secondary channel length (meters) and area (m²): 600 : 1,238

VWI average: 8.5 VWI Range: 7 - 10 Average Gradient: 1.7%

Pieces LWD per 100m: 15.6 Wood Volume (m³) per 100m: 16.0

Percent pools: 35% Complex pools (LWD pieces>=3): 17 Pools >=1m deep: 2

<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	3	13	39	17	4	24
Pool units	4	15	37	15	4	25
Fast water units	2	10	40	18	4	26

SURVEY COMMENTS:

South Fork Little Nestucca River reach 2 is a pre-treatment, restoration site. Reach 2 started at an un-named tributary and ended approximately 2000 meters upstream at the confluence with Kautz Creek. The crew noted observing winter steelhead redds throughout the survey reach. Evidence of amphibians included rough skinned newts. There were no potential barriers to upstream fish migration observed within the survey.

Survey Date: 2/10/2009

Report Date: 2/16/2010

T05S-R10W-S25SE

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	0%
Moderate V-shape	0%	Multiple Terraces	100%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	9.5	VWI Range:	3.5 - 15

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	100%	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	2,623	23,509	1
Secondary	561	1,725	3

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 3	<u>First Terrace</u> n = 3
Width: 7.0	Width: 11.9	18.7 (17.5 - 19.6)	24.0 (19 - 32)
Depth: 0.55	Height: 0.5	0.9 (0.7 - 1.1)	1.6 (1.3 - 2.1)

W:D ratio: 27.2

Stream Flow Type: MF

Average Unit Gradient: 0.9%

Water temperature (°C): 5.0 - 5.0

Entrenchment (ACW:FPW ratio): 1.6

Habitat Units/100m (total channel length): 4.6

Habitat Units/100m (primary channel length): 5.5

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LT
Riparian Vegetation:	C15	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):	281	10.7
Volume (m ³):	449	17.1
Key pieces (>=12m x 0.60m):	10	0.4

Survey Date: 2/10/2009

Report Date: 2/16/2010

T05S-R10W-S36SW

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	8.5	VWI Range:	7 - 10

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 (m ²)	Dry Units
Primary	2,019	13,493	0
Secondary	600	1,238	11

Channel Dimensions (m)

Wetted	Active	Floodprone	n = 2	First Terrace	n = 2
Width: 4.9	Width: 9.3	22.0	(11 - 33)	26.5	(19 - 34)
Depth: 0.43	Height: 0.4	0.8	(0.7 - 0.8)	2.2	(1.5 - 2.95)

W:D ratio: 24.5

Stream Flow Type: MF

Average Unit Gradient: 1.7%

Water temperature (°C): 6.0 - 6.0

Entrenchment (ACW:FPW ratio): 2.2

Habitat Units/100m (total channel length): 6.0

Habitat Units/100m (primary channel length): 7.8

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	ST	LT
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):	314	15.6
Volume (m ³):	322	16.0
Key pieces (>=12m x 0.60m):	11	0.5

HABITAT INVENTORY

GCG: 1-NC SITE ID: 410

Survey Date: 2/10/2009

Report Date: 2/16/2010

T05S-R10W-S25SE

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/BOULDERS	3	31	1.1	0.10	34	0	0	7	45	37	12	0
DRY UNIT	1	24	4.0	0.00	96	0	10	65	20	5	0	0
POOL-BACKWATER	1	8	3.2	0.60	26	0	5	15	20	55	5	0
POOL-BEAVER DAM	1	54	13.0	1.70	702	0	10	70	10	5	5	0
POOL-DAMMED	1	7	3.5	0.80	26	0	10	70	20	0	0	0
POOL-ISOLATED	2	20	2.4	0.55	53	0	15	38	15	30	3	0
POOL-LATERAL SCOUR	58	1,498	7.5	0.94	12,348	0	3	22	34	18	4	19
PUDDLED UNIT	3	98	2.5	0.23	244	0	5	23	40	30	2	0
RAPID/BEDROCK	3	61	7.7	0.32	499	0	0	5	22	23	7	43
RAPID/BOULDERS	4	69	4.5	0.25	354	0	0	9	44	29	10	8
RIFFLE	34	924	7.1	0.28	7,462	0	1	9	46	21	4	19
RIFFLE W/ POCKETS	7	268	8.7	0.39	2,339	0	0	9	37	7	11	36
STEP/BEAVER DAM	2	5	4.5	0.30	24	0	5	45	30	3	3	15
STEP/BEDROCK	7	39	9.9	0.30	380	0	0	6	13	5	1	75
STEP/COBBLE	16	76	7.4	0.16	643	0	2	14	49	32	1	3
STEP/LOG	2	3	3.8	0.15	7	0	3	18	35	33	5	8
Total:	145	3,184	7.0	0.55	25,234	0	Avg: 2	17	37	20	4	19

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	89	4.9	0.84	806	3.19%	0	0.0
Scour Pools	58	1,498	7.5	0.94	12,348	48.93%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	41	1,192	7.3	0.30	9,801	38.84%	0	0.0
Rapids	7	130	5.8	0.28	853	3.38%	0	0.0
Cascades	3	31	1.1	0.10	34	0.13%	0	0.0
Step/Falls	27	123	7.5	0.20	1,053	4.17%	0	0.0
Dry	4	122	2.9	0.18	340	1.35%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

HABITAT INVENTORY

GCG: 1-NC SITE ID: 410

Survey Date: 2/10/2009

Report Date: 2/16/2010

T05S-R10W-S36SW

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	Bdk
CASCADE/BEDROCK	4	63	5.4	0.26	283	0	0	5	6	5	3	81
CASCADE/BOULDERS	5	33	1.6	0.09	62	0	4	10	52	25	6	2
DRY UNIT	3	45	1.8	0.00	75	0	3	13	63	19	2	0
POOL-BACKWATER	3	42	2.6	0.50	103	0	8	18	52	17	0	5
POOL-ISOLATED	5	33	2.8	0.45	92	0	22	45	15	14	3	0
POOL-LATERAL SCOUR	51	794	5.6	0.79	4,915	0	4	15	37	15	4	24
POOL-PLUNGE	2	22	6.0	1.15	158	0	3	17	39	10	5	27
POOL-STRAIGHT SCOUR	1	16	7.0	0.70	112	0	0	10	25	5	0	60
PUDDLED UNIT	8	151	1.9	0.30	312	0	3	14	50	23	1	10
RAPID/BEDROCK	8	163	6.8	0.26	1,180	0	0	6	10	9	2	73
RAPID/BOULDERS	12	163	3.9	0.16	665	0	3	9	55	30	3	0
RIFFLE	33	875	4.8	0.23	5,158	0	2	13	48	16	4	17
RIFFLE W/ POCKETS	5	159	7.3	0.35	1,203	0	0	5	13	15	7	61
STEP/BEDROCK	6	34	8.4	0.23	301	0	0	3	5	3	2	87
STEP/COBBLE	9	22	3.3	0.14	87	0	2	11	54	31	3	0
STEP/LOG	3	4	6.7	0.16	26	0	2	10	57	30	2	0
Total:	158	2,619	4.9	0.43	14,731	0	Avg: 3	13	39	17	4	24

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	8	75	2.7	0.47	196	1.33%	0	0.0
Scour Pools	54	832	5.6	0.80	5,184	35.19%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	38	1,034	5.1	0.25	6,360	43.17%	0	0.0
Rapids	20	325	5.1	0.20	1,845	12.52%	0	0.0
Cascades	9	97	3.3	0.17	345	2.34%	0	0.0
Step/Falls	18	60	5.6	0.18	414	2.81%	0	0.0
Dry	11	196	1.9	0.22	387	2.63%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

SOUTH FORK LITTLE NESTUCCA RIVER
GCG: 1-NC SITE ID: 410

Survey Date: 2/10/2009

Report Date: 2/16/2010

T05S-R10W-S25SE

REACH 1

POOL SUMMARY

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	63	19.8	24.0
Pools >=1m deep:	26	8.2	9.9
Complex pools (LWD pieces>=3):	17	5.3	6.5
Pool frequency (channel widths/pool):	4.3		
Residual pool depth (avg):	0.66		

Survey Date: 2/10/2009

Report Date: 2/16/2010

T05S-R10W-S36SW

REACH 2

POOL SUMMARY

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	62	23.7	30.7
Pools >=1m deep:	12	4.6	5.9
Complex pools (LWD pieces>=3):	17	6.5	8.4
Pool frequency (channel widths/pool):	4.6		
Residual pool depth (avg):	0.57		

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

OREGON PLAN MONITORING SITE
SURVEY DATE: 2/10/2009

COMMENT SUMMARY

MONITORING AREA: 1-NC SITE ID: 410 STREAM: SOUTH FORK LITTLE NESTUCCA

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	2	LP	01	30.1	TJ/	
1	3	LP	11	30.1		ACW=3M, T=4C
1	7	LP	01	108.9	DJ	
1	8	SD	01	111.9	BV	H=0.80M, GOOD JUMP POOL
1	9	BP	01	165.9	BV	
1	10	RI	02	165.9		UNIT GOES UNDER ROOT WAD IN DJ FROM UNIT 6
1	13	SD	02	165.9	BV	
1	14	RI	00	215.9		FRESH REDDS IN UNIT
1	19	SR	00	349.4		GOOD POCKET BELOW FOR JUMP POOL, H=0.50M
1	23	RP	00	469.9	DJ	
1	32	LP	01	674.6	/TJ	
1	33	CB	11	674.6		ACW=1.7M, T=4.5C
1	35	LP	01	733.6	/TJ	
1	36	CB	11	733.6		ACW=2M, T=4C
1	40	RI	00	874.6	/SS	LAMPREY REDD, STEELHEAD
1	48	RI	00	1047.9	DJ	
1	52	LP	00	1114.8	SS/	
1	53	RI	00	1145.8		SALMONID REDDS IN UNIT
1	62	RI	00	1273.6	SS/	
1	68	RI	00	1566	/SS	
1	69	LP	00	1602	/SS	
1	72	LP	01	1652.8	/TJ	
1	73	CB	11	1652.8		ACW=1.6M, T=7C
1	82	LP	01	1856.6	BV	FRESH REDD IN TAILOUT
1	83	LP	01	1883.6	BV	UNCONSTRAINED WIDE ACTIVE FLOODPLAIN AREA

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

OREGON PLAN MONITORING SITE
SURVEY DATE: 2/10/2009

COMMENT SUMMARY

MONITORING AREA: 1-NC SITE ID: 410 STREAM: SOUTH FORK LITTLE NESTUCCA

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	91	LP	01	1965.9		REDD IN TAILOUT
1	103	LP	02	2040.4		COHO
1	106	LP	02	2040.4	AM,/SS	ROUGH-SKINNED NEWT
1	109	LP	02	2040.4	/SS	
1	110	PD	02	2040.4	/TJ	
1	111	RI	11	2040.4		ACW=1.3M, T=7C
1	119	LP	01	2242.2	SS,/TJ/	
1	120	RI	11	2242.2		ACW=2.1M, T=5C
1	126	PD	01	2364.6	DJ	
1	127	LP	00	2385.6	BV	
1	130	LP	00	2474.6	BV	FRESH REDD IN TAILOUT
1	131	RI	00	2488.6	DJ	
1	135	LP	01	2581.6	BV	
1	137	SC	02	2581.6		STEP OVER MUD GRAVEL AND TREE ROOTS
1	142	LP	01	2622.6	/TJ	SGS SIGN END SF NESTUCCA 25370.0 SEG 1
1	143	PD	02	2622.6	DJ	
1	145	RB	11	2622.6		ACW=5.5M, T=4.5C, TRIB >15% OF FLOW
2	146	RI	00	2645.6		START OF REACH 2
2	153	PD	02	2801.1	SS/	
2	154	SR	00	2808.1		GOOD JUMP POOL BELOW STEP
2	158	RB	01	2887.6	/TJ	
2	160	CR	11	2887.6		ACW=3.2M, T=4.5C
2	161	SP	00	2903.6	BC,CS	
2	163	RR	00	2959.3	SS/	
2	166	BW	10	2979.3	SS	VERY LOW FLOW, SMALL SEEP AT TOP, COHO

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

OREGON PLAN MONITORING SITE
SURVEY DATE: 2/10/2009

COMMENT SUMMARY

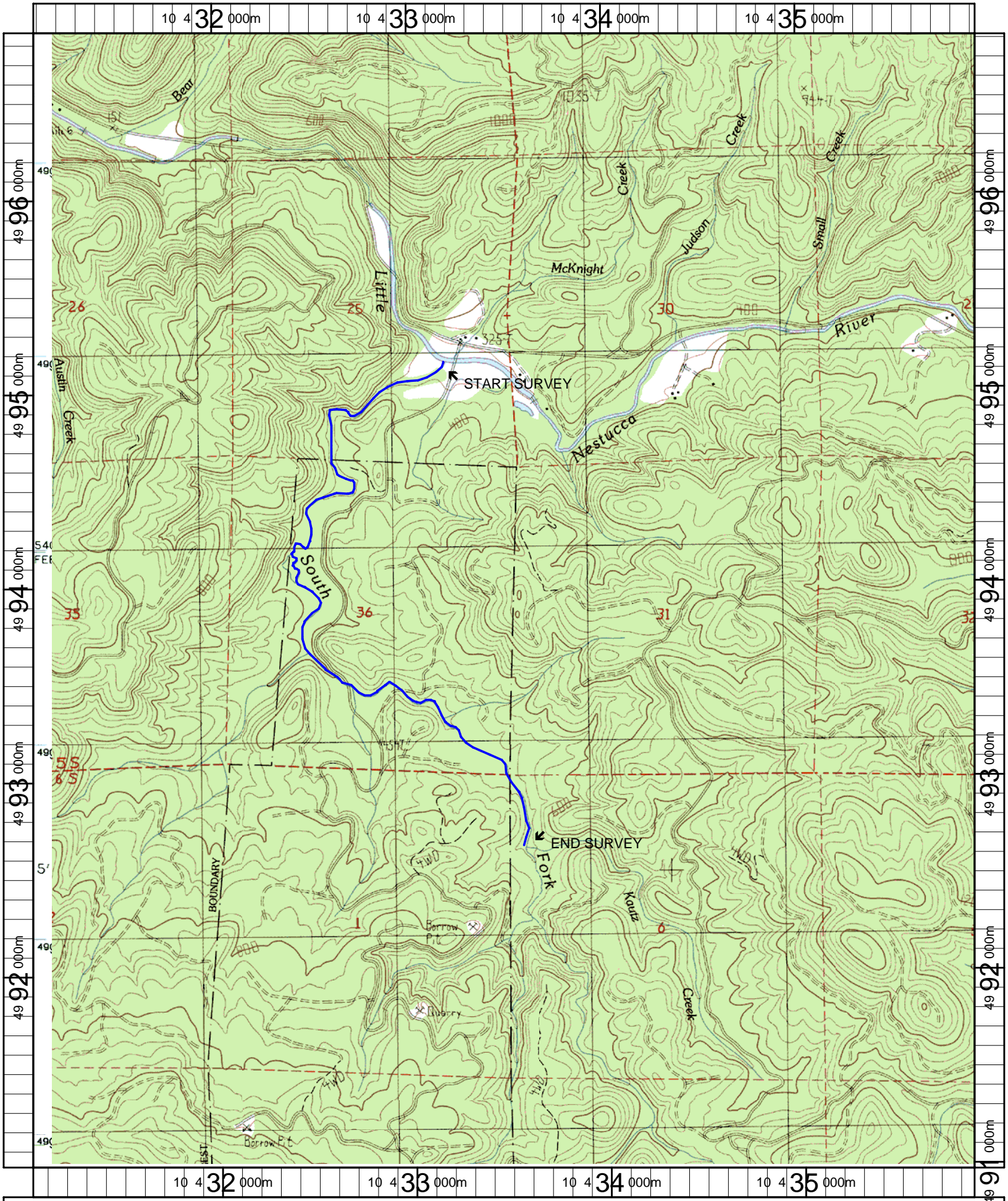
MONITORING AREA: 1-NC SITE ID: 410 STREAM: SOUTH FORK LITTLE NESTUCCA

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
2	172	LP	01	3049.5	/SS	
2	184	RI	01	3104.7	DJ,/SS	
2	191	SR	00	3194.2		GOOD JUMP POOL, 2 INTERMEDIATE POOLS FOR PASSA
2	192	LP	00	3207.9	DJ	
2	198	LP	00	3303.1	HS,DJ	
2	199	RR	00	3313.1	SS/	
2	200	RI	00	3330.6		OLD ROAD CROSSING BRIDGE REMOVED
2	203	LP	00	3395.6	DJ,HS	DIFFICULT TO SEE MUCH OF POOL DUE TO DJ
2	205	LP	00	3414.6	HS,DJ	POOL DIFFICULT TO SEE UNDER DJ
2	209	RP	00	3573.6	SS/	
2	210	LP	01	3594.6	TJ/	REDD IN TAILOUT
2	211	RI	11	3594.6		ACW=2M, T=5.5C
2	215	RI	01	3683.6	TJ/	
2	216	RB	11	3683.6		ACW=1.6M, T=6C
2	217	LP	01	3701.6	TJ/	
2	218	SC	12	3701.6		ACW=1.6M, T=6C, STEP OVER TREE ROOTS/GRAVEL
2	219	RI	12	3701.6		REDD JUST ABOVE END OF UNIT
2	221	LP	00	3732.6	/SS	
2	225	LP	00	3828.9	SS/	2 SPRING SEEPS IN UNIT
2	239	LP	01	3990.6		REDD IN TAILOUT
2	247	LP	02	3990.6	RSN /SS	
2	250	IP	10	3990.6		COHO
2	273	RB	01	4182.5	TJ/	
2	276	RI	11	4182.5		ACW=1.7M, T=6.5C
2	281	LP	00	4215.5		REDD IN TAILOUT

COMMENT SUMMARY

MONITORING AREA: 1-NC SITE ID: 410 STREAM: SOUTH FORK LITTLE NESTUCCA

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
2	284	RI	00	4324	DJ	
2	289	LP	01	4388.9	TJ/	
2	290	CB	11	4388.9		ACW=1.4M, T=6.5C
2	293	BW	10	4414.4		SUBSTRATE DIFFICULT TO SEE - LOTS OF SMALL WOOD
2	300	RI	01	4624.1	SS/TJ	
2	301	CB	11	4624.1		ACW=3.5M, T=6.5C
2	302	LP	01	4641.4	TJ/	
2	303	CB	11	4641.4		ACW=3.5M, T=6.5C



Name: DOLPH
 Date: 1/29/2009
 Scale: 1 inch equals 2000 feet

Location: 10 0433475 E 4993918 N
 Caption: SOUTH FORK LITTLE NESTUCCA RIVER RESTORATION SITE -
 NESTUCCA BASIN

South Fork Little Nestucca River (NC-410) 2009 Summer Habitat Survey Photographs



Unit 1 - A downstream view of the South Fork Little Nestucca River survey start with the Little Nestucca River in the background.



Unit 17 - Upstream view of survey.



Unit 35 - A upstream view of stream habitat and riparian.



Unit 142 - Tributary confluence.



Tributary confluence.



Units 150-154 - Bedrock step/pool habitat.

South Fork Little Nestucca River (NC-410) 2009 Summer Habitat Survey Photographs



Unit 191 - Downstream view of short cascade.



Unit 198 - Upstream view of large wood placement.



Unit 207 - Upstream view of stream habitat and riparian.



Unit 270 - Upstream view of stream habitat and riparian.



Unit 287 - Upstream view of stream near the end of the survey.