

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

STREAM: BRUSH CREEK SITE B
 GCG: 5-SC
 SITE ID: 191
 BASIN: OCEAN
 TREATMENT DATE: 2003
 SURVEY DATE: 4/14/2009
 SURVEY CREW: David Jones / Ryan Emig
 USGS MAPS: PORT ORFORD
 ECOREGION: Coastal Uplands
 REPORT PREPARED BY: Matt Strickland / Sharon Tippery / Charles Stein

REACH: 1 LOCATION: T33S-R15W-S25SE

SURVEY DESCRIPTION:

Channel morphology: Constrained by high terraces
 Dominant landuse(s): Designated green way area or park
 Dominant riparian vegetation: Annual grasses, herbs, and forbs.
 Primary channel length (meters) and area (m²): 518 : 4,067
 Secondary channel length (meters) and area (m²): 248 : 866
 VWI average: 6.8 VWI Range: 3 - 12 Average Gradient: 1.3%
 Pieces LWD per 100m: 36.5 Wood Volume (m³) per 100m: 29.4
 Percent pools: 49% Complex pools (LWD pieces>=3): 12 Pools >=1m deep: 2
 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	23	65	6	2	1
Pool units	2	30	58	6	3	0
Fast water units	2	12	80	6	1	0

SURVEY COMMENTS:

The Brush Creek Site B habitat survey is a post-treatment, long term monitoring site. The crew noted an abandoned fish hatchery approximately 75 meters upstream from the start of the survey. They also made note of numerous bridge crossings, including highway 101. Habitat structures and beaver activity were noted throughout the survey. The survey overlapped with ODFW winter steelhead and lamprey spawning ground surveys. The crew noted observing resident trout and juvenile salmonids. Evidence of wildlife included a pair of adult mallards. There were no potential barriers to upstream fish migration within the survey reach. A previous post-treatment habitat survey was conducted during the winter of 2005. Comparisons were made among key coho salmon habitat attributes: total secondary channel length, pieces of LWD per 100 m, wood volume per 100 m, percent pools, and complex pools. All key attributes remained constant except secondary channel length and complex pools, which showed a significant increase.

Survey Date: 4/14/2009

Report Date: 2/16/2010

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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	6.8	VWI Range:	3 - 12

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	518	4,067	0
Secondary	248	866	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 5.4	Width: 11.3	15.2 (10 - 24.3)	19.0 (14 - 29)
Depth: 0.54	Height: 0.5	0.9 (0.8 - 1)	1.7 (1.1 - 3.5)

W:D ratio: 25.6

Stream Flow Type: MF

Average Unit Gradient: 1.3%

Water temperature (°C): 8.0 - 8.0

Entrenchment (ACW:FPW ratio): 1.3

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

Habitat Units/100m (primary channel length): 12.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	GN	MT
Riparian Vegetation:	G	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):	189	36.5
Volume (m ³):	152	29.4
Key pieces (>=12m x 0.60m):	8	1.5

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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
CULVERT CROSSING	1	8	0.8	0.15	6	0	10	10	5	0	5	70
DRY CHANNEL	1	23	1.2	0.00	28	0	10	52	38	0	0	0
POOL-BACKWATER	5	36	2.2	0.55	77	0	5	51	41	3	0	0
POOL-DAMMED	2	13	3.2	0.95	54	0	5	48	45	3	0	0
POOL-LATERAL SCOUR	16	267	6.6	0.95	2,072	0	2	31	56	7	4	0
POOL-PLUNGE	6	44	6.8	0.88	285	0	3	23	67	6	3	0
RAPID/BOULDERS	2	8	2.3	0.13	22	0	0	10	88	3	0	0
RIFFLE	18	351	5.6	0.34	2,283	0	2	13	79	6	1	0
STEP/BOULDERS	1	2	8.0	0.25	16	0	0	10	45	5	40	0
STEP/COBBLE	3	6	5.7	0.22	34	0	5	10	77	8	0	0
STEP/LOG	7	8	5.9	0.16	55	0	6	14	75	6	0	0
Total:	62	765	5.4	0.54	4,933	0	Avg: 3	23	65	6	2	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	7	49	2.5	0.66	131	2.65%	0	0.0
Scour Pools	22	310	6.7	0.93	2,357	47.78%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	18	351	5.6	0.34	2,283	46.29%	0	0.0
Rapids	2	8	2.3	0.13	22	0.45%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	11	16	6.0	0.18	106	2.15%	0	0.0
Dry	1	23	1.2	0.00	28	0.56%	0	0.0
Culverts	1	8	0.8	0.15	6	0.13%	0	0.0

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

BRUSH CREEK SITE B
GCG: 5-SC SITE ID: 191

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POOL SUMMARY

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	29	37.9	56.0
Pools >=1m deep:	12	15.7	23.2
Complex pools (LWD pieces>=3):	12	15.7	23.2
Pool frequency (channel widths/pool):	2.3		
Residual pool depth (avg):	0.62		

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

OREGON PLAN MONITORING SITE
SURVEY DATE: 4/14/2009

COMMENT SUMMARY

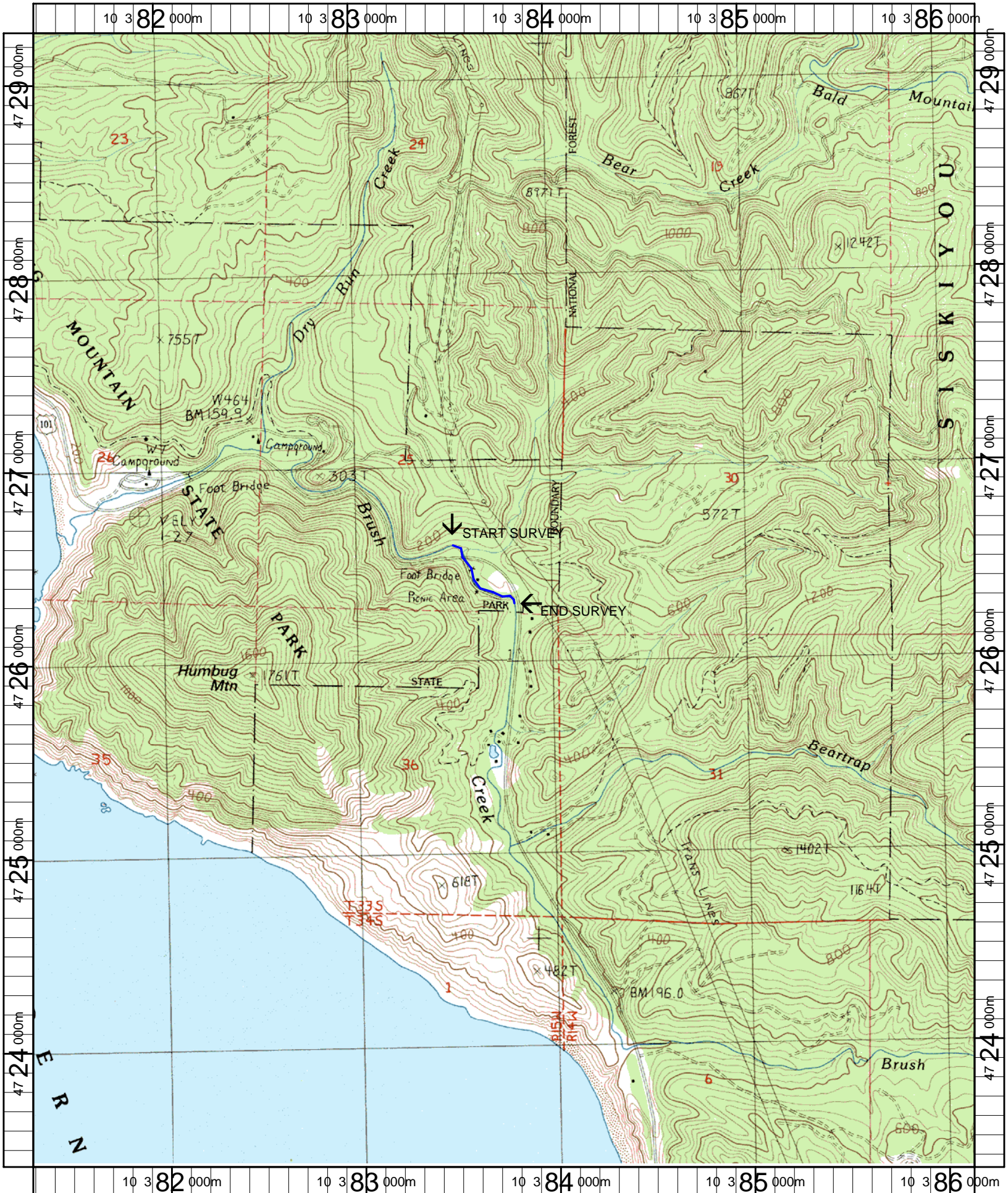
MONITORING AREA: 5-SC SITE ID: 191 STREAM: BRUSH CREEK SITE B

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	1	LP	00	14		SGS SIGN WINTER STEELHEAD & LAMPREY 21481.00 SEI
1	2	RI	01	40	TJ/	
1	3	BW	10	40	BV	
1	4	RI	11	40	BC	ACW=3.2M, T=9.25C, FOOTBRIDGE
1	5	LP	00	60	BV	SGS 21481 END SEG 3
1	6	RI	01	75	TJ/	TRIB IS DIVERSION THRU OLD HATCHERY RACEWAY
1	7	CC	12	75	CC	CC TO RACEWAY FROM OLD HATCHERY, CONCRETE
1	8	BW	10	75	BV	
1	9	LP	01	118	BC,CS,HS	HWY 101
1	10	RI	01	132	CS,DJ	
1	15	BW	10	132	BV	
1	16	RI	01	160	HS	
1	18	LP	02	160		COHO FRY
1	20	LP	00	177	HS,BC	FOOTBRIDGE CROSSING
1	21	LP	00	189	HS	
1	22	RI	01	218	/SS	
1	23	LP	01	251	/CS,HS	
1	25	RI	01	287	HS	
1	27	LP	02	287	HS	
1	29	LP	01	316	HS,WL	MALLARD PAIR FLEW OUT OF POOL
1	31	RI	00	334	HS,BV	
1	32	LP	00	347	BV	
1	33	RI	01	401	BC,HS,DJ	FOOTBRIDGE CROSSING
1	34	BW	10	401	SS,HS	
1	36	SL	00	404	HS	

COMMENT SUMMARY

MONITORING AREA: 5-SC SITE ID: 191 STREAM: BRUSH CREEK SITE B

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	37	RI	00	427	HS	
1	38	LP	01	448	DJ,HS	
1	42	SL	01	478.5	HS,DJ	
1	50	LP	02	517.5	DJ	
1	53	PP	02	517.5		RESIDENT TROUT
1	55	LP	02	517.5	CS/	RESIDENT TROUT
1	59	RI	04	517.5		CONNECTS 01 WITH 03



Name: PORT ORFORD
 Date: 5/1/2006
 Scale: 1 inch equals 2000 feet

Location: 10 383755 E 4726303 N
 Caption: BRUSH CREEK TRIBUTARY B RESTORATION SITE - OCEAN BASIN

Brush Creek Site B (SC-191) 2009 Winter Habitat Survey Photographs



Upstream view of Brush Creek Site B near the start of the survey.



Partially deconstructed Brush Creek Hatchery.



Raceways at Brush Creek Hatchery.



Upstream view of large wood placements for habitat structures.



Step over debris jam near end of survey.



Accumulated woody debris near upper end of debris jam creating multiple channels.

Brush Creek Site B (SC-191) 2009 Winter Habitat Survey Photographs



Accumulated woody debris near upper end of debris jam.



Upper end of debris jam and multiple channels near the end of the survey



Flooded riparian due to large debris jam near end of survey.