Smolt Trap Surveys – 2012

South Coast Watershed Council
Curry Soil and Water Conservation District
OR Department of Fish and Wildlife

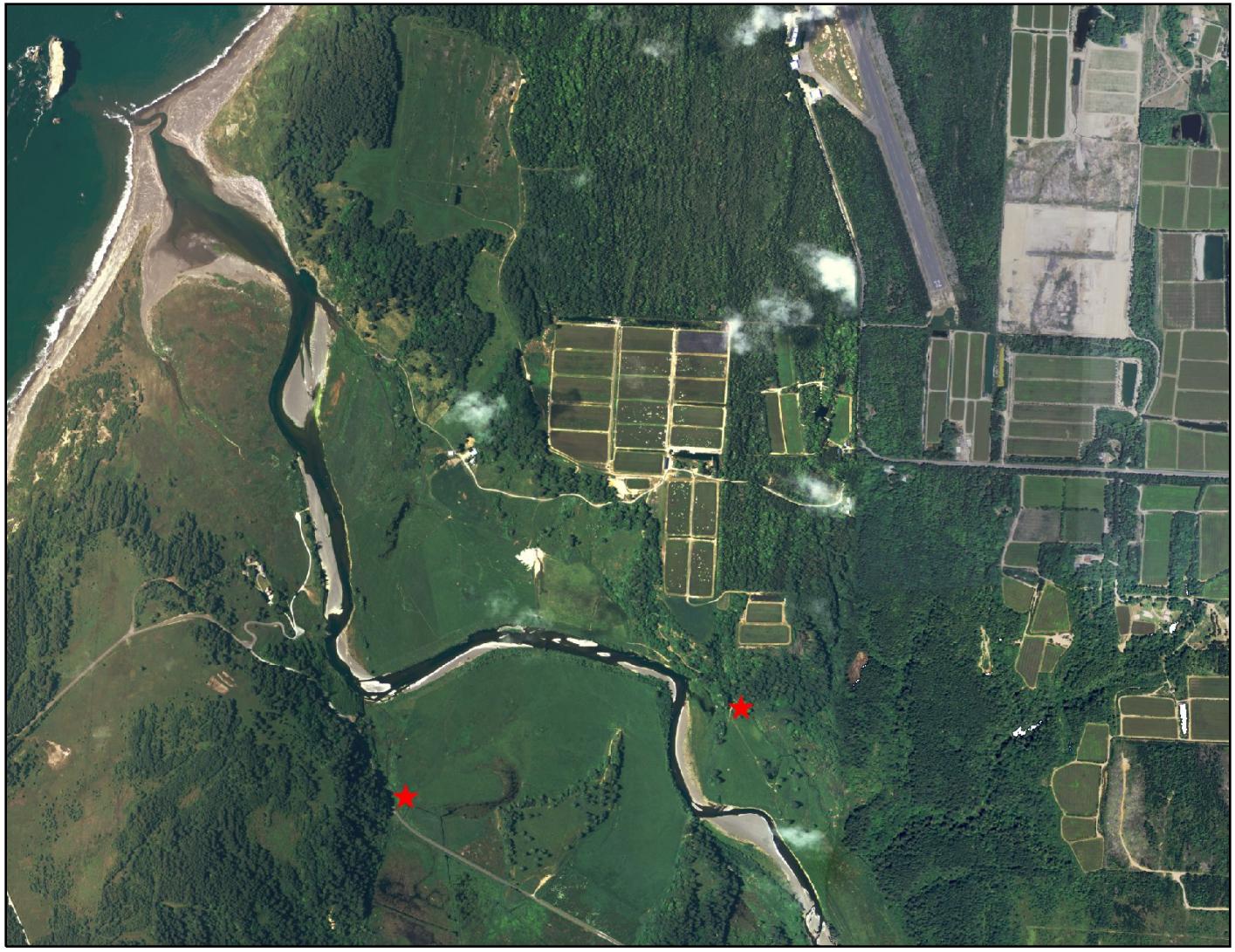
The Elk and Sixes Rivers have limited estuarine habitat and the lower mainstem channels are moderately steep and simplified. As a result rearing habitat is lacking, particularly during the winter, and it is this lack of habitat that is the primary limiting factor to coho production. Low gradient tributary streams in the lower watersheds offer some of the best opportunities to restore habitat that has been lost. In Elk River two streams that drain from the north, namely Cedar and Swamp Creeks, have been partially restored over the last 15 years. All fish passage barriers have been address (some impediments still exist); all low gradient channels have been fenced from livestock and planted with riparian vegetation; wood has been added; and off-channel ponding has been created. In Sixes River a tributary on the south side of the estuary – Sullivan Gulch – is the focus of a current proposal that would redesign and relocate the stream channel and generate approximately 5 acres of backwater habitat; on the north side of the river Greene Creek – a low gradient ditched tributary that runs along the base of the coastal terrace – has been enhanced through riparian fencing and planting, and instream wood placements.

In an effort to evaluate the effectiveness of past and future restoration projects the South Coast WC and Curry SWCD teamed up with ODFW's Gold Beach Assistant District Fish Biologist to develop a juvenile sampling plan for these tributaries that could document usage and provide insight into overall production. In January 2011 sampling took place in Sullivan Gulch using a seine net and an electro-shocker. The sampling documented coho overwintering but the methodology was difficult to employ and inefficient, and it yielded limited data. In May 2011 Cedar and Swamp Creeks were sampled using the same methodology; coho were observed but the same limits applied. Based on these experiences the decision was made to use smolt traps rather than seining or electro-shocking.

In the fall 2011 funding was secured from the US Forest Service (Powers Ranger District) and South Coast Watersheds 501c3 (Gold Beach) to design and construct two hoop traps; an existing ODFW trap was used as a template. A local fabricator was hired and the traps were constructed that winter. In April 2012 one trap was deployed to Elk River and the other trap to Sixes River; Swamp and Sullivan Gulch Creeks were sampled first, then in May the traps were moved to Cedar and Greene Creeks. Aaron McKenzie operated the traps through a subcontract with Swanson Ecological Services, LLC; USFS and BLM provided funding. The goals of the operation were to test the traps' effectiveness and ease of operation, and to develop a better understanding of outmigration patterns in the respective tributaries. The results of the 2012 trapping are provided below. In spring 2013 both traps will be deployed to the Sixes River to sample Sullivan Gulch and Greene Creek from March through May; in 2014 the traps will be deployed to Elk River to sample Cedar and Swamp Creeks.

For more information contact:
Matt Swanson – South Coast WC/Curry SWCD (541) 373-0800 or
Steve Mazur - ODFW (541) 247-7605

Sixes River Trap Sites



Legend

0 2000 4000 6000 ft.

Map center: 42° 50' 45" N, 124° 31' 33" W

N

Scale: 1:20,000

Notes: Red Stars indicate traps locations on Sullivan Gulch (south) and Greene Creek (north)

Smolt Trap

Location:	Trap Notes:	Personnel:
Sullivan Gulch (Sixes)	Hoop trap placed slightly down stream from Cape Bl	Aaron McKenzie
Cape Blanco Rd.	46 inches tapering to 5 inches	

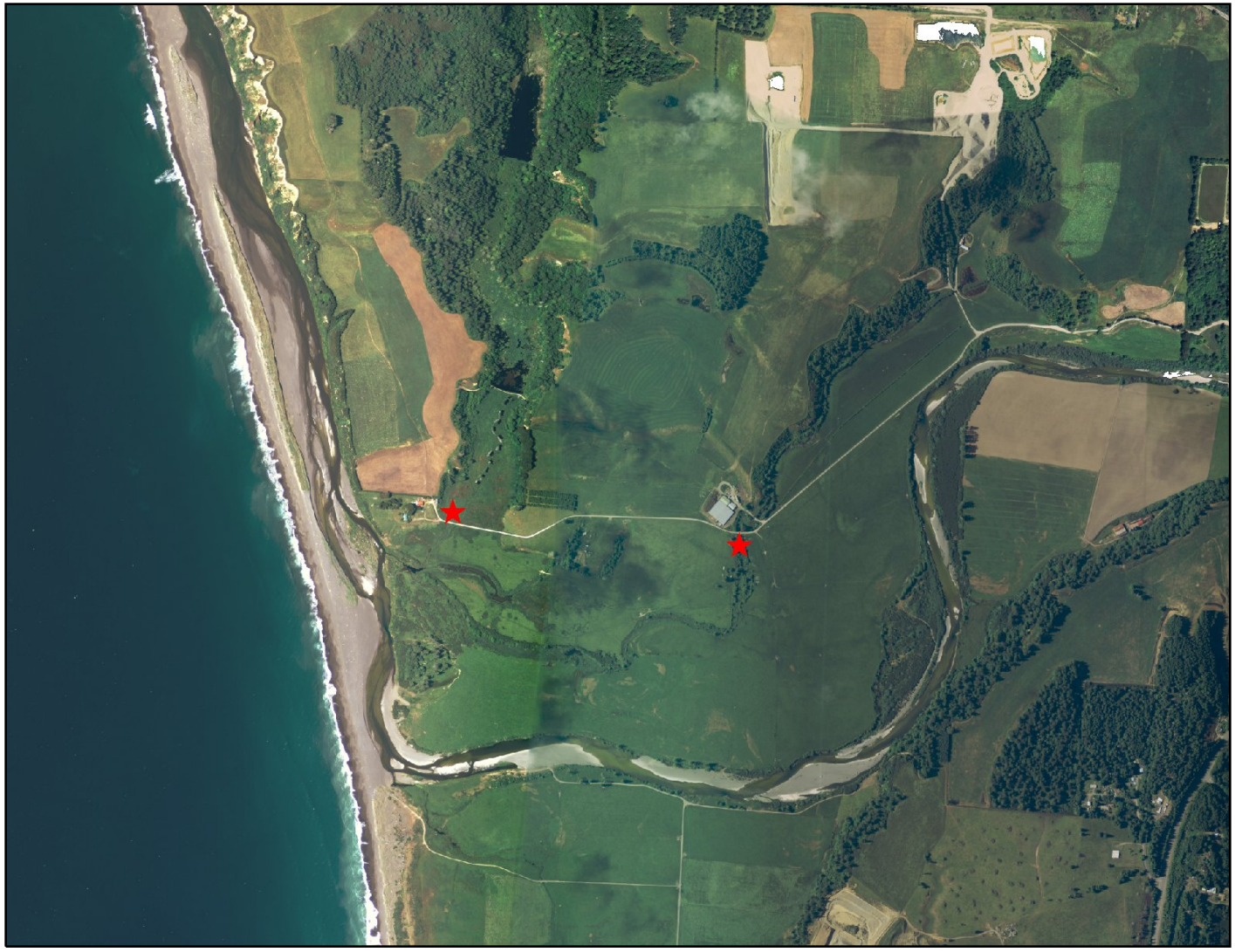
Date (2012)	Water Temp (F)	Coho 1+	Coho Fry	Ct	Chnk 1+	Sculpin	Stickle-back	Large Scale Suckers	Notes
4/27	**59**	23	1	1	0	7	20	3	
4/28	59	14	0	3	0	17	21	1	
4/29	**59**	7	0	2	0	10	7	1	Water level became too low to run trap
	Totals	**44**	**1**	**6**	**0**	**34**	**48**	**5**	

Smolt Trap

Location:	**Trap Notes:**	**Personnel:**
Greene Creek Sixes River Ranch	Hoop trap placed slightly upstream from the culvert 46 inches tapering to 5 inches	Aaron McKenzie

Date (2012)	**Water Temp (F)**	**Coho 1+**	**Coho Fry**	**Ct**	**Pacific Lamprey**	**Sculpin**	**Stickle-back**	**Large Scale Suckers**	**Notes**
5/10	**54**	4	1	6	0	55	8	19	
5/11	56	4	1	9	0	40	11	28	
5/12	**56**	1	1	5	0	12	7	14	Patched Muskrat hole in trap
5/14	57	1	4	13	0	35	20	6	
5/15	58	2	0	5	1	13	11	8	
5/17	57	2	0	0	0	5	14	4	
5/18	57	0	0	0	0	4	21	3	
	Totals	**14**	**7**	**38**	**1**	**164**	**92**	**82**	

Elk River Trap Sites



Legend

0 2000 4000 6000 ft.

Map center: 42° 47' 51" N, 124° 30' 55" W

N

Scale: 1:20,000

Notes: Red Stars denote trap locations - Swamp Creek (west) and Cedar Creek (east)

Smolt Trap

Location:	Trap Notes:	Personnel:
Swamp Creek McKenzie Rd.	Hoop trap placed directly up stream from McKenzie Rd. 46 inches tapering to 5 inches	Aaron McKenzie

Date (2012)	Water Temp (F)	Coho 1+	Ct	Sthd 1+	Chnk	Sculpin	Stickle-back	Pacific Lamprey Adults	Notes
4/3	N/A	0	1	0	1	0	0	0	
4/4	50	3	1	1	0	1	0	0	
4/5	50	2	1	0	0	24	1	0	
4/6	50	3	4	1	3	14	2	0	
4/8	51	1	1	0	0	9	1	1	Muskrat in trap
4/9	52	0	0	0	0	12	1	0	
4/10	51	0	0	1	0	7	4	0	
4/12	51	0	0	0	0	8	4	0	
4/13	50	1	2	0	0	1	2	0	Patched hole
4/16	52	6	6	3	0	38	4	0	
4/17	51	24	12	2	3	41	2	0	
4/19	52	8	1	3	5	46	0	1	
4/20	59	89	18	5	4	52	2	0	
4/21	59	28	29	7	1	149	4	0	
4/23	59	56	42	27	5	172	3	0	
4/24	59	27	17	1	0	43	4	0	Muskrat in trap
4/25	58	15	6	7	3	4	3	0	
4/27	57	23	4	0	0	126	2	0	Very high water
Totals:	**N/A**	**286**	**145**	**58**	**25**	**747**	**39**	**2**	

4/16 released 6 coho, 6 cutthroat, and 3 steelhead upstream to test the trap
4/17 recaught 1 coho, 4 cutthroat, and 2 steelhead
4/19 recaught 1 cutthroat, and 1 steelhead

4/24 released 5 coho, and 5 cutthroat upstream to test the trap
No recatches

Smolt Trap

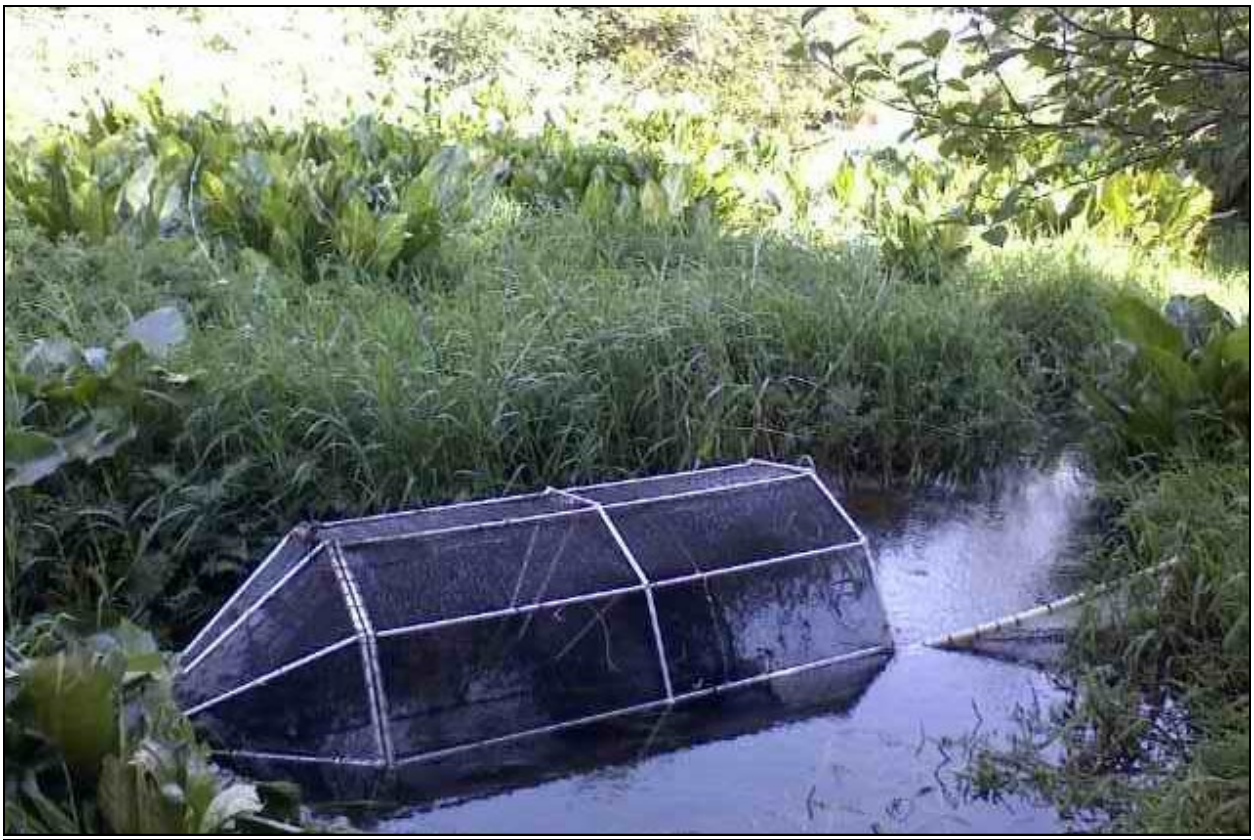
Location: Cedar Creek (Elk River) McKenzie Rd.

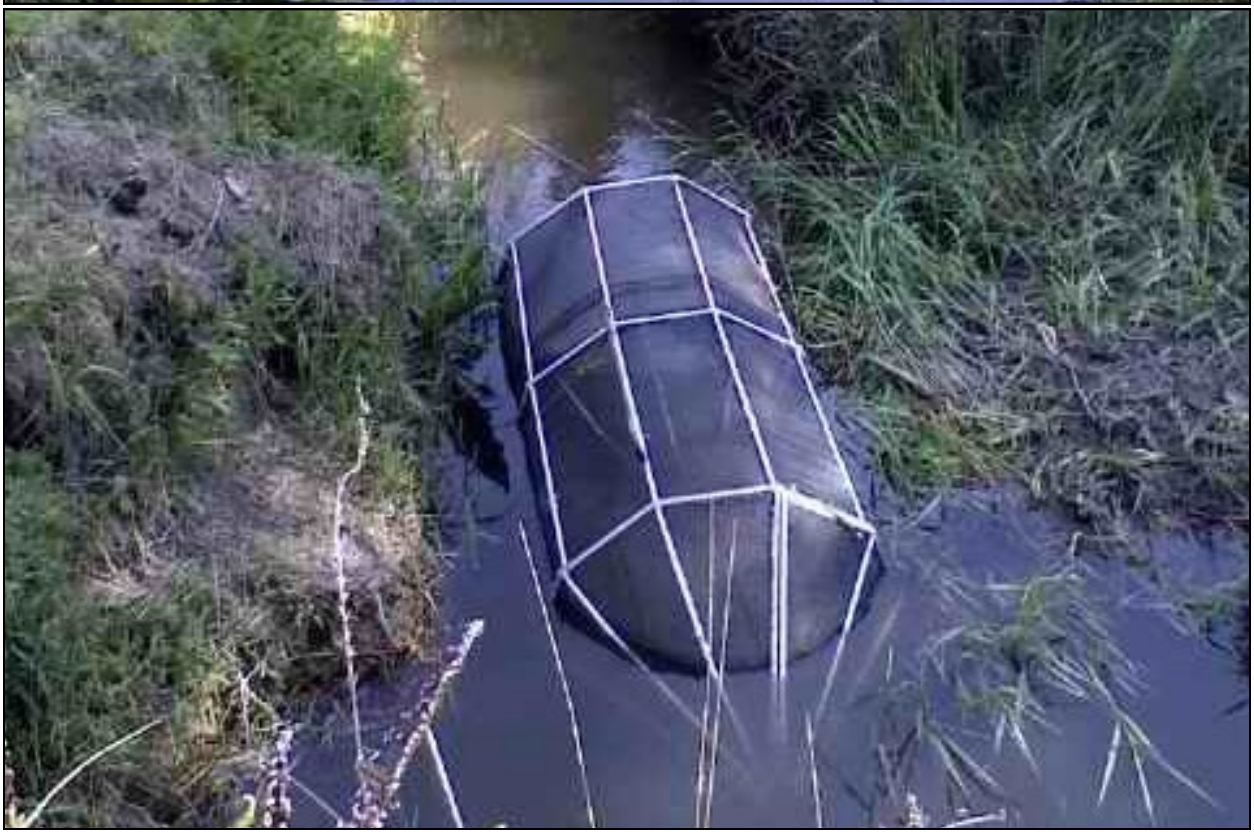
Trap Notes: Hoop trap placed 75 yards down stream from McKenzie R
46 inches tapering to 5 inches

Personnel: Aaron McKenzie

Date (2012)	Water Temp (F)	Coho 1+	Coho Fry	Sthd 1+	Ct	Sculpin	Stickle-back	Pacific Lamprey Adults	Notes
5/10	**54**	2	1	1	8	1	3	0	
5/11	56	0	0	0	5	1	7	0	recaught 2 Ct
5/12	**56**	0	0	1	9	2	3	0	1 crawdad
5/14	58	0	0	0	4	5	18	0	2 crawdad
5/15	58	1	0	0	8	1	7	1	
5/17	57	0	0	0	2	0	2	0	
5/18	56	0	0	0	1	0	0	3	2 crawdad
	Totals	**3**	**1**	**2**	**37**	**10**	**40**	**4**	

Smolt Trap Operation 2012—top photo shows a hoop trap fishing Cedar Creek (Elk River); bottom photo shows a hoop trap fishing Greene Creek (Sixes River). A local fabricator built the traps out of aluminum, using an existing ODFW trap as a template. The traps work by funneling fish through an inside cone that prevents them from swimming back upstream. To empty the catch the traps are pulled partially out of the water and the contents netted out.





Smolt Trap Operation 2012—some of the species caught in the traps include (starting in the upper left corner and going clockwise): coho smolt, large scale sucker juvenile, adult Pacific lamprey, sculpin, and crayfish. Other species caught in the traps included steelhead, cutthroat, stickleback, and a variety of crayfish.