U.S. Fish & Wildlife Service

Arcata Fish & Wildlife Office Fisheries Program

Trinity River Mainstem Redd Survey Update 12/11/2015

The Arcata Fish and Wildlife Office along with the California Department of Fish and Wildlife, Yurok Tribal Fisheries Program, Hoopa Valley Tribal Fisheries Department, and Shasta-Trinity National Forest survey the mainstem Trinity River to recover salmonid carcasses and count and map Chinook Salmon (*Oncorhynchus tshawytscha*) redds. The distribution of Chinook Salmon spawning is expected to change in response to rehabilitation efforts of the Trinity River Restoration Program and to the relative run size of natural vs. Trinity River Hatchery origin fish. Spawning surveys are attempted weekly between Lewiston Dam and the North Fork Trinity River (reaches 1 through 7) and every other week on the survey reaches downstream of the North Fork Trinity River (Figure 1, Table 1).

This update provides preliminary data on 2015 redd observations encountered and entered into our database as of 12/11/2015 (Table 1). Figure 2 compares preliminary 2015 cumulative redd counts for Reaches 1-10 with the previous 12 years (2002-2014). At this point, redds constructed by Chinook and Coho salmon are not differentiated. After the end of the season, redds are apportioned by association with hatchery or natural origin Chinook Salmon using carcass data.

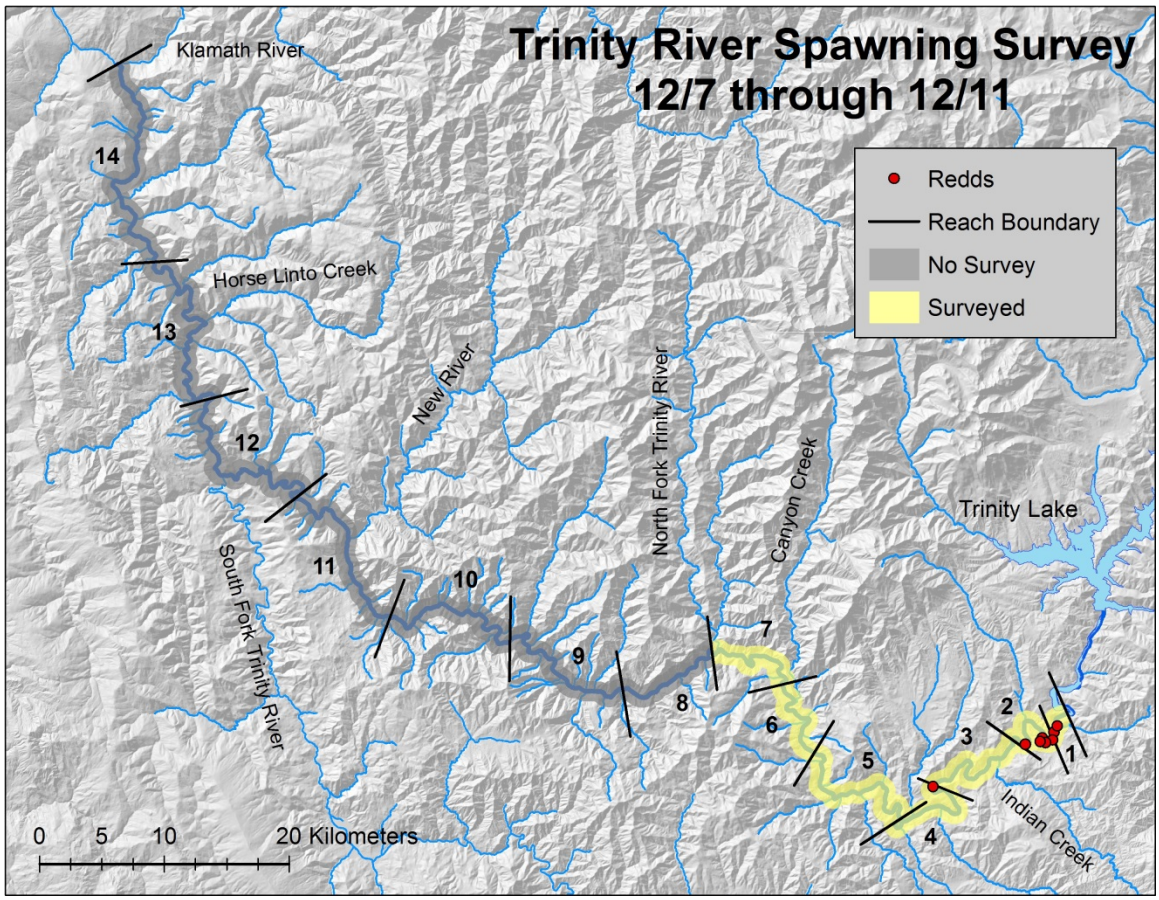

Figure 1. Mainstem Trinity River salmon spawn survey area for this week's update.

Table 1. Preliminary count of redds by reach for the fall 2015 mainstem Trinity River redd survey. Reach 8 (Pigeon Point Run) and Reach 11 (Burnt Ranch Gorge) are not surveyed due to abundant whitewater.

Week start	Reach														
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	Total
08/31	0														0
09/07	0	0	0	NS	NS	0	0								0
09/14	0	0	0	0	0	0	0		1	0					1
09/21	12	24	9	9	25	19	15								113
09/28	13	34	13	30	28	37	39		24	13					231
10/05	19	42	67	34	49	30	39					5	0	0	285
10/12	10	45	19	15	32	43	30		115	64					373
10/19	26	24	31	11	14	44	28					24	7	1	210
10/26	43	27	6	5	28	24	25		74	61					293
11/02	43	17	2	0	10	6	4					52	37	15	186
11/09	20	9	5	NS	2	5	2		38	20					101
11/16	23	13	3	0	3	1	1					49	52	41	186
11/23	18	NS	NS	NS	NS	1	0		7	NS					26
11/30	24	18	12	4	2	2	0					57	7*	NS	119
12/07	2	9	0	1	0	0	0		NS	NS					12
12/14															0
Total	253	262	167	109	193	212	183		259	158		187	96	57	2,136

These data are preliminary and subject to revision.
"NS" = no survey
*** = partial count due to technical difficulties**

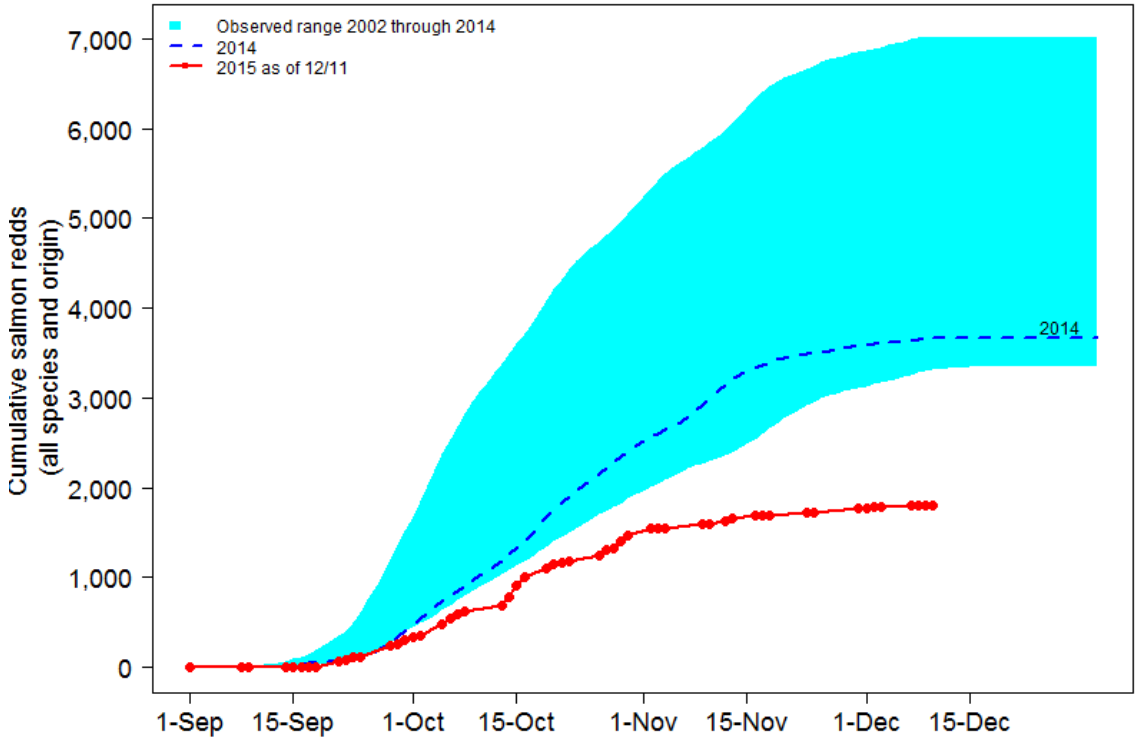

Figure 2. Fall 2015 cumulative Trinity River mainstem redd counts, Reaches 1 to 10 (Reach 8 excluded), as of 12/11/2015 compared to 2014 (dashed line) and the range of counts from 2002-2014 (blue polygon).

To access the latest version of this report on-line, see http://www.fws.gov/arcata/fisheries/projectUpdates.html and click on "Trinity River Redd survey update"

We annually track spawning success rates (i.e., pre-spawn mortality versus partially or fully spawned) of female salmon throughout the Trinity River spawning survey season. Figure 3 shows the cumulative percent of female salmon carcasses found pre-spawn compared to recent years. Pre-spawn mortality data is reported only when 10 female salmon carcasses are recovered. As of 12/11 there has been 6 female salmon that died before spawning, out of a total of 454 female carcasses.

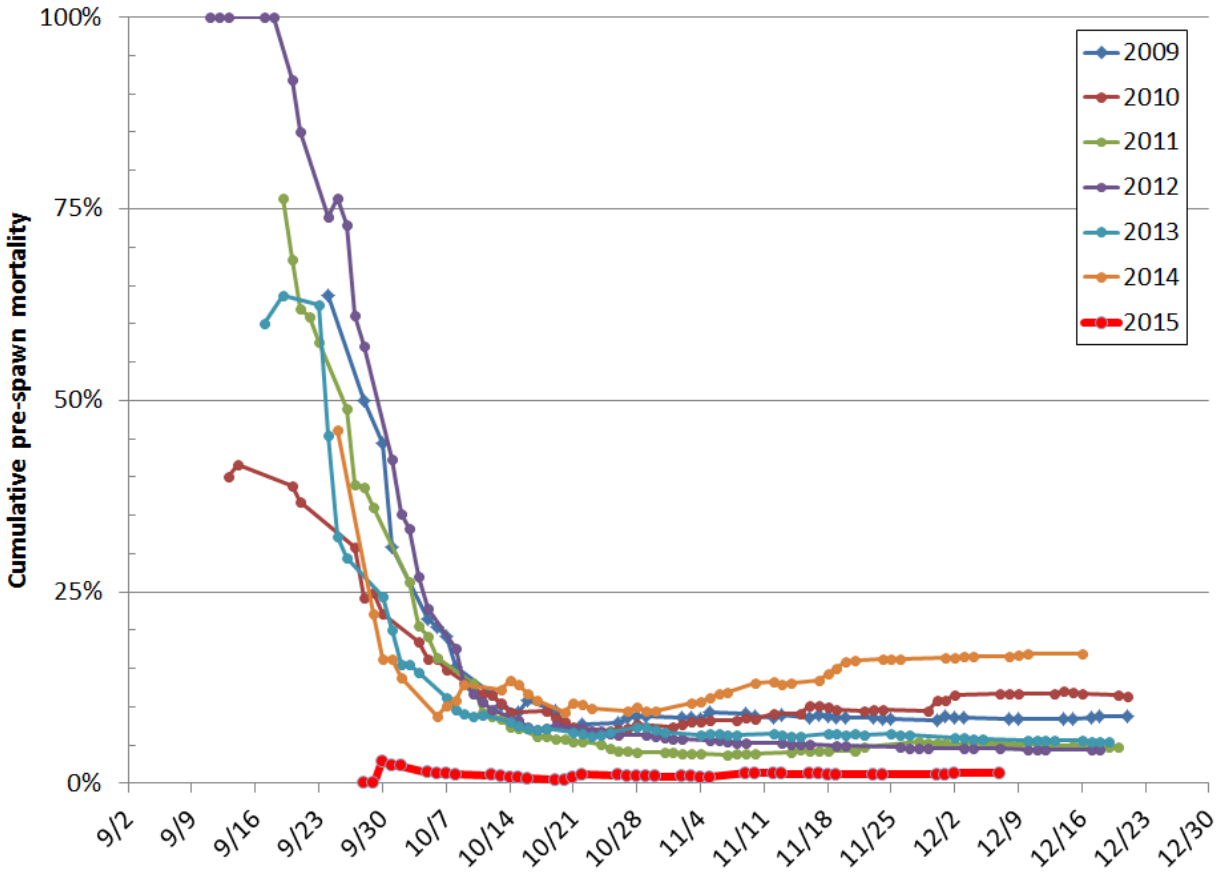

Figure 3. Comparison of fall 2015 cumulative observed pre-spawn mortality as of 12/11/2015 compared to that observed recent years 2009-2014. Plots begin for each year when at least 10 female salmon carcasses have been encountered.

A Keyhole Markup Language file has been created to view redd distribution data with Google Earth. This data is created directly from the data collected by our field crews. Each point is attributed with the date that the redd was initially marked (i.e. "10/2" = October, 2nd).

Trinity_Redds_2015_12_11

If Google Earth fails to launch automatically, the file can be used by first saving it to your computer then launching the Google Earth application. Select the menu option **File**, **Open**, locate the downloaded file ("Trinity_Redds_2015_12_11.kml"); and click the **Open** button.

Image of the Week: With the 2015 spawning survey coming to an end, I want to thank the crews with this year-end mash up. Clockwise from the top-left: The Yurok Fisheries crew (Axle and Nick), the truck stuck in the sand, Spike (HVT) with a carcass, Keiki (DFW) enjoy the summer sun, Tom (HVT) saving a raft (the new guys pushed into the river without holding the rope), USFWS newbies working on their whitewater skills, Chris (USFWS) exploring a fish ladder. Center left: Rod (DFW) spotting redds. Center-right: Justin (USFS) pointing out salmon spawning. Thanks guys!

For more information regarding mainstem Trinity River redd surveys, please contact Steve Gough (707-825-5197; steve_gough@fws.gov) or Derek Rupert (570-419-2823; derek_rupert@fws.gov).