

# Emergent Trout & Spawning Survey Update

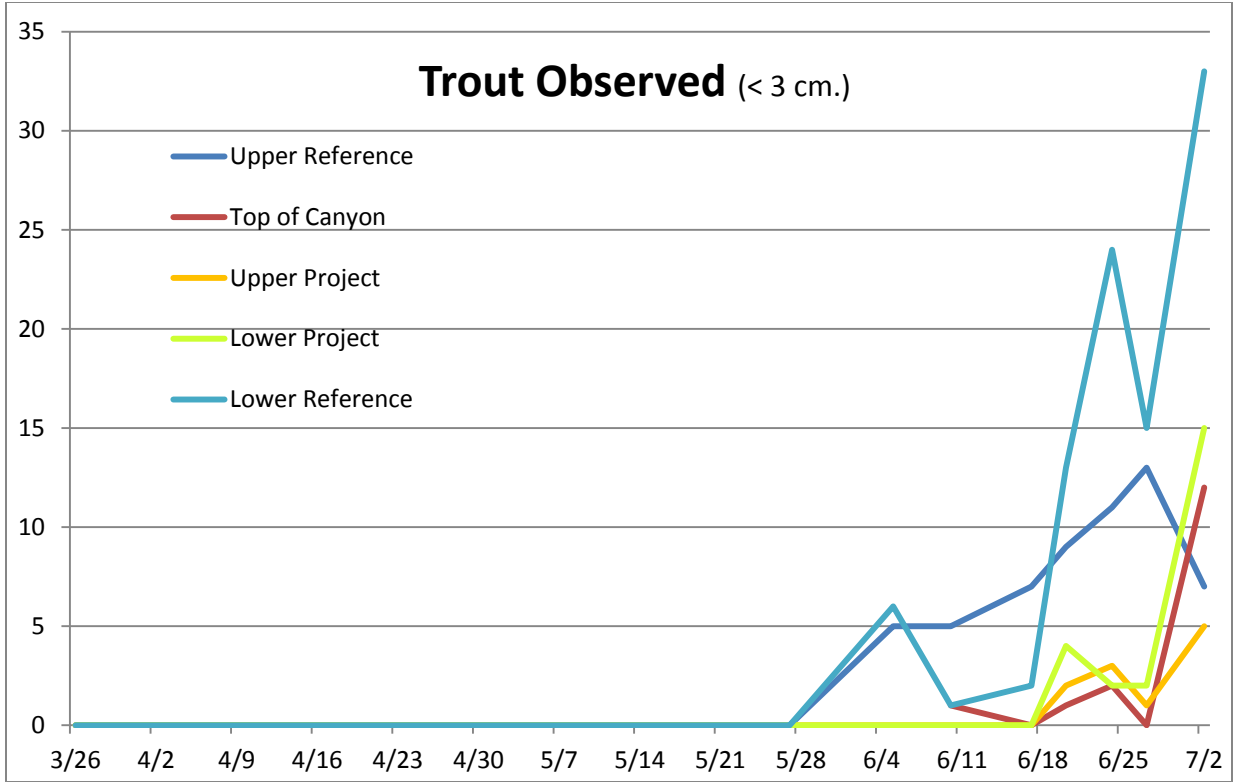
7/8/2014

**PURPOSE:** to determine when resident trout initiate spawning in the project reach and when trout emergence has been completed. This will help BCH develop a proposal for spawning flow requirements.

**BACKGROUND:** Temperature loggers were placed at the four Aquatic Resources study sites (in addition to the two stream gage locations) on March 26, 2014. Periodic visits were made to the four study sites to download temperature data and observe for spawning activity, redds and trout fry. The estimated earliest possible date that trout fry might emerge, based on the daily temperature unit data collected, was May 26, 2014. During each site visit, a minimum of two technicians waded upstream along one bank of the river for approximately 35 minutes. Observed trout fry were netted and measured as time allowed.



**FRY OBSERVATIONS:** Trout fry were first observed at the Upper Reference reach on June 5th and have been observed in that river segment on every visit so far through July 2nd. Similarly, trout fry have been observed in the Lower Reference Reach (Ernie's Grove below the tailrace return point) since June 5<sup>th</sup>. Trout fry have been observed at both the Upper Project Reach and Lower Project Reach sites beginning June 20th. However, since no trout fry had been observed at the two study sites located within the Project reach after trout fry had been observed at the two reference sites, BCH added an additional study site (see included map) on June 10th, to increase the length of the river surveyed within the Project reach. This additional site is referred to as the "Top of Canyon" segment, which ends immediately upstream of the canyon.





## Observed Trout and Length

<b>Date</b>	<b>Study Site</b>	<b>Observed</b>	<b>Measured</b>	<b>Average Length</b>
3/26	Upper Reference	0	0	0
	Upper Project	0	0	0
	Lower Project	0	0	0
	Lower Reference	0	0	0
4/7	Upper Reference	0	0	0
	Upper Project	0	0	0
	Lower Project	0	0	0
	Lower Reference	0	0	0
4/17	Upper Reference	0	0	0
	Upper Project	0	0	0
	Lower Project	0	0	0
	Lower Reference	0	0	0
4/30	Upper Reference	0	0	0
	Upper Project	0	0	0
	Lower Project	0	0	0
	Lower Reference	0	0	0
5/16	Upper Reference	0	0	0
	Upper Project	0	0	0
	Lower Project	0	0	0
	Lower Reference	0	0	0
5/27	Upper Reference	0	0	0
	Upper Project	0	0	0
	Lower Project	0	0	0
	Lower Reference	0	0	0
6/5	Upper Reference	<b>5</b>	<b>2</b>	<b>2.45</b>
	Upper Project	0	0	0
	Lower Project	0	0	0
	Lower Reference	<b>6</b>	<b>5</b>	<b>2.63</b>
6/10	Upper Reference	<b>5</b>	<b>3</b>	<b>2.73</b>
	Top of Canyon	<b>1</b>	<b>1</b>	<b>2.6</b>
	Upper Project	0	0	0
	Lower Project	0	0	0
	Lower Reference	<b>1</b>	<b>1</b>	<b>2.8</b>
6/17	Upper Reference	<b>7</b>	<b>5</b>	<b>2.74</b>
	Top of Canyon	0	0	0
	Upper Project	0	0	0
	Lower Project	<b>2</b>	<b>2</b>	<b>2.5</b>
6/20	Upper Reference	<b>9</b>	<b>7</b>	<b>2.76</b>
	Top of Canyon	<b>1</b>	<b>1</b>	<b>2.1</b>
	Upper Project	<b>2</b>	<b>2</b>	<b>2</b>
	Lower Project	<b>4</b>	<b>2</b>	<b>2.35</b>
	Lower Reference	<b>13</b>	<b>8</b>	<b>2.53</b>

6/24	Upper Reference	<b>11</b>	<b>6</b>	<b>2.22</b>
	Top of Canyon	<b>2</b>	<b>2</b>	<b>2.15</b>
	Upper Project	<b>3</b>	<b>1</b>	<b>2.4</b>
	Lower Project	<b>2</b>	<b>2</b>	<b>2.35</b>
	Lower Reference	<b>24</b>	<b>2</b>	<b>3</b>
6/27	Upper Reference	<b>13</b>	<b>4</b>	<b>2.44</b>
	Top of Canyon	<b>0</b>	<b>0</b>	<b>0</b>
	Upper Project	<b>1</b>	<b>1</b>	<b>2.4</b>
	Lower Project	<b>2</b>	<b>1</b>	<b>2.5</b>
	Lower Reference	<b>15</b>	<b>4</b>	<b>2.53</b>
7/2	Upper Reference	<b>7</b>	<b>5</b>	<b>2.22</b>
	Top of Canyon	<b>12</b>	<b>3</b>	<b>2.47</b>
	Upper Project	<b>5</b>	<b>4</b>	<b>2.4</b>
	Lower Project	<b>15</b>	<b>8</b>	<b>2.26</b>
	Lower Reference	<b>33</b>	<b>10</b>	<b>2.27</b>

**NEXT STEPS:** Unless further direction is received, BCH plans to continue carrying out the study as described in the Trout Spawning Study, distributed and reviewed by WDFW in May, and in this update. Surveys will be conducted on a weekly basis moving forward until fry 3 cm. or less are no longer observed.