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**EDMUND G. BROWN, Jr., Governor**  
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September 14, 2011

## *Memorandum*

**To:** Files

**From:** Andrew Hill, Fishery Biologist

**Subject:** South Fork Trinity River Spring Chinook and  
 Summer Steelhead Snorkel Survey Totals

The annual South Fork Trinity River snorkel survey was completed this year on August 17 and 18, 2011 thanks to the enthusiastic volunteer efforts of all involved! All should be proud of the massive effort that was put forth to survey 82.7 river miles. Volunteers from a wide variety of agencies, mostly from within the basin, observed a total of 240 adult Chinook, 197 Chinook grilse, 186 adult steelhead, and 107 steelhead half pounders (Table 1). Additionally, 15.3 river miles of Hayfork Creek were surveyed separately this year on July 13, 2011 in hopes of better visibility due to increased turbidity over the years in Hayfork Creek (Table 2).

**Table 1. Snorkel Survey Results from August 17 and 18 survey**

| Reach | Reach description   | Adult Chinook            | Grilse | Adult Steelhead | Half pounders |
|-------|---|--------------------------|--------|-----------------|---------------|
| A     | East Fork South Fork from Dark Canyon to main South Fork    | 0                        | 0      | 0               | 0             |
| B     | Raspberry Gulch to confluence with the East Fork South Fork | 0                        | 0      | 2               | 0             |
| C     | Confluence with East Fork to confluence with Red Mntn. Cr.  | 4                        | 25     | 3               | 3             |
| D     | Red Mountain Creek to Silver Creek                          | 13                       | 19     | 8               | 0             |
| E1    | Silver Creek to Scott Flatt                                 | 53                       | 29     | 44              | 19            |
| E2    | Scott Flat to Forest Glenn Campground                       | 1                        | 0      | 5               | 11            |
| F     | Forest Glenn Campground to Hidden Valley Farms              | 94                       | 32     | 54              | 0             |
| G     | Hidden Valley Farms to River Spirit                         | 8                        | 70     | 21              | 40            |
| H     | River Spirit to Hitchcock Creek                             | 34                       | 10     | 33              | 0             |
| I     | Hitchcock Creek to Lover's Leap                             | 7                        | 2      | 2               | 11            |
| J     | Lover's Leap to Big Slide Campground                        | 3                        | 1      | 2               | 1             |
| K     | Big Slide Campground to Mule Bridge                         | 19                       | 7      | 9               | 22            |
| L     | Mule Bridge to Surprise Creek                               | No survey                |        |                 |               |
| M1    | Surprise Creek to Todd River Ranch                          | 0                        | 0      | 1               | 0             |
| M2    | Todd River Ranch to Low Bridge                              | 4                        | 2      | 2               | 0             |
| N     | Low Bridge to Trinity River                                 | No visibility, no survey |        |                 |               |

The following tables show the numbers of fish observed in this year's survey, and the numbers of fish observed in surveys since 1996. Spring Chinook are divided into the following two categories; >22" is an adult Chinook and <22" is a Jack or Grisle Chinook. Summer Steelhead are also divided into two categories; >16" is an adult Steelhead and < 16" is a half pounder. Half pounder counts carry less weight in counts of Summer Steelhead because they are easily confused with large resident, non-anadromous steelhead. Therefore, their numbers are not included in annual counts of Summer Steelhead (Tables 2,3,4,&5).

**Table2 Hayfork Creek Snorkel Survey Results from 1998 to present.**

| Year | Total Chinook | Adult Chinook | Grilse | Adult Steelhead   | Comments   | River Miles Surveyed | Total Chinook/<br>River Mile | Total Grilse/<br>River Mile |
|------|---------------|---------------|--------|---|--|----------------------|------------------------------|-----------------------------|
| 1998 | 12            | 12            | 0      | 4   | Reach X not surveyed                                     | 9.5                  | 1.26                         | 0                           |
| 1999 | 37            | 35            | 2      | 18  | all 3 reaches  | 15.3                 | 2.42                         | 0.13                        |
| 2000 | 29            | 27            | 2      | 27  |  | 15.3                 | 1.90                         | 0.13                        |
| 2001 | 13            | 13            | 0      |   | Couldn't find separate steelhead count for Hayfork Creek | 15.3                 | 0.85                         | 0.00                        |
| 2002 | 57            | 56            | 1      | 14  |  | 15.3                 | 3.73                         | 0.07                        |
| 2003 | 85            | 80            | 5      |   | Couldn't find separate steelhead count for Hayfork Creek | 15.3                 | 5.56                         | 0.33                        |
| 2004 | 7             | 7             | 0      | 5   |  | 15.3                 | 0.46                         | 0.00                        |
| 2005 | 5             | 5             | 0      | 34  |  | 15.3                 | 0.33                         | 0.00                        |
| 2006 | 9             | 8             | 1      | 24  |  | 15.3                 | 0.59                         | 0.07                        |
| 2007 | 6             | 6             | 0      | 31  |  | 15.3                 | 0.39                         | 0.00                        |
| 2008 | NS            | NS            | NS     | No survey due to wildfires  |  |                      |                              |                             |
| 2009 | NS            | NS            | NS     | Hayfork Creek polluted and major road construction on Hyampom Road. |  |                      |                              |                             |
| 2010 | 2             | 2             | 0      | 11  | Hayfork Creek Only survey in July 27.                    | 15.3                 | 0.13                         | 0.00                        |
| 2011 | 0             | 0             | 0      | 29  | Hayfork Creek Only survey on July 13.                    | 15.3                 | 0.00                         | 0.00                        |

The South Fork Trinity River snorkel survey has expanded over the years since the 1964 flood deposited massive amounts of sediment in the river. The summer survey originally consisted of one index reach and has extended downstream over the years to eventually include Hayfork Creek. A mark-recapture estimate of the 1963/64 escapement of 11,604 Chinook and 3,500 steelhead to the South Fork Trinity, was a pretty rough estimate, but local residents and fishermen talk of huge runs before the 1964 flood deposited massive amounts of sediment in the river bed, filling in many huge, deep holes. Chinook and steelhead runs since then have been much smaller, and luckily there is still enough interest to attempt to enumerate these summer fish.

**Table 3. South Fork Trinity River Survey Results, including Hayfork Creek.**

| Year | Total Chinook    | Adult Steelhead | Comments  |
|------|------------------|-----------------|---|
| 1958 |                  |                 | Aerial redd survey by USFWS on October 30 observed 101 redds  |
| 1963 |                  |                 | 7,000 to 10,000 estimated Terry Healy survey of the South Fork  |
|      |                  |                 | 3 miles down from confluence of East Fork South Fork and the South Fork surveyed yielding 93 Chinook and 48 redds                           |
| 1964 | 11,604 estimated | 3,500 estimated | La-auce spawning survey on the South Fork   |
| 1967 | 0                | *               | EastForkSouthFork(EFSE)-(up one mile) to Bierce Creek (4 mile section)  |
| 1968 | 0                | *               | EFSF to three miles downstream  |
| 1969 | 1                | *               | EFSF to three miles downstream  |
| 1970 | 36               | 2               | EFSF to Hells Gate (Forest Glen), steelhead were 1/2lbbers- approximately 14"   |
| 1971 | 98               | *               | EFSF to Hells Gate (Forest Glen)  |
| 1972 | 13               | *               | EFSF to Hells Gate (Forest Glen)  |
| 1973 | 2                | *               | Silver Creek to Hells Gate, July Survey {930,900 Chinook stocked in   |
| 1974 | 53               | 1               | EFSF to Plummer Creek, July Survey  |
| 1975 | 289-299+         | *               | EFSF to Forest Glen; 75% adults   |
| 1976 | 342              | *               | EFSF to Hitchcock Creek, September survey   |
| 1977 | NS               | NS              | Lowest water year   |
| 1978 | NS               | NS              |   |
| 1979 | 301              | 91              | September Survey by Ron Medel (USFS), surveyed by foot, not snorkeled   |
| 1980 | 25               | *               | 8 miles above Forest Glen to Forest Glen; only 25% adults, rest are jacks   |
| 1981 | NS               | NS              |   |
| 1982 | 161              | 27              |   |
| 1983 | NS               | NS              |   |
| 1984 | 27               | 8               | No USFS/DFG survey due to marijuana problems, HSU survey above Forest Glen  |
| 1985 | 26               | 3               | Two index sections-Silver Creek to Rough Creek,Ostrat Ranch to Spot Creek   |
| 1985 |                  |                 | Sandy Bar Weir on the South Fork Trinity River caught 207 steelhead, 176 Chinook, 109 coho salmon, and 3 brown trout between 9/18 and 10/24 |
| 1986 | 183              | 73              | EFSF confluence to Klondike Mine; No survey below Klondike due to manpower  |
| 1986 |                  |                 | Sandy Bar Weir on the South Fork Trinity River caught 387 steelhead, 277 Chinook, 12 coho salmon, and 1 brown trout between 8/18 and 11/10  |
| 1987 | 153              |                 | No USFS survey due to fires   |
| 1987 |                  |                 | Sandy Bar Weir on the South Fork Trinity River caught 243 steelhead, 455 Chinook, 17 coho salmon, and 1 brown trout between 9/18 and 11/23  |

**Table 4. South Fork Trinity River Survey Results, including Hayfork Creek.**

| <b>Year</b> | <b>Total Chinook</b>  | <b>Adult Steelhead</b> | <b>Comments</b>   |
|-------------|---|------------------------|---|
| <b>1988</b> | 59  | 26                     |   |
| <b>1988</b> | Sandy Bar Weir on the South Fork Trinity River caught 277 steelhead, 368 Chinook, and 3 coho salmon between 9/23 and 11/13  |                        |   |
| <b>1989</b> | 7   | 37                     |   |
| <b>1989</b> | Sandy Bar Weir on the South Fork Trinity River caught 37 steelhead, 52 Chinook, and 1 coho salmon between 9/14 and 10/23  |                        |   |
| <b>1990</b> | 82  | 66                     |   |
| <b>1990</b> | Sandy Bar Weir on the South Fork Trinity River caught 176 steelhead, 223 Chinook, 61 coho salmon, 1 brown trout, and 1 chum salmon between 9/13 and 3/1/91<br>Hayfork Creek Weir caught 82 steelhead between 2/24 and 5/23  |                        |   |
| <b>1991</b> | 66  | 8                      | DFG only  |
| <b>1991</b> | Sandy Bar Weir on the South Fork Trinity River caught 495 steelhead, 202 Chinook, and 135 coho salmon between 9/5 and 2/11/92<br>Hayfork Creek Weir caught 18 steelhead between 4/18 and 7/6<br>Gates Weir in lower Hyampom caught 67 steelhead between 4/30 and 7/18<br>Forest Glenn Weir caught 30 steelhead and 17 Chinook between 3/17 and 7/25                           |                        |   |
| <b>1992</b> | 166   | 21                     |   |
| <b>1992</b> | Sandy Bar Weir on the South Fork Trinity River caught 131 steelhead, 349 Chinook, 49 coho salmon, and 1 Chum salmon between 10/1 and 12/8<br>Hayfork Creek Weir caught 60 steelhead and 1 Chinook between 3/28 and 6/24<br>Gates Weir in lower Hyampom caught 46 steelhead between 4/28 and 7/7<br>Forest Glenn Weir caught 172 steelhead and 23 Chinook between 3/27 and 8/3 |                        |   |
| <b>1993</b> | 284   | 23                     | Surveys below Hitchcock creek impeded by turbidity  |
| <b>1993</b> | Sandy Bar Weir on the South Fork Trinity River caught 114 steelhead, 749 Chinook, and 15 coho salmon between 10/4 and 12/7<br>Forest Glenn Weir caught 48 steelhead and 45 Chinook between 5/11 and 8/31<br>Barnhart estimated 698 spring Chinook with 95%CI (518-1003)   |                        |   |
| <b>1994</b> | 235   | 22                     | August Survey, Sections M and N not surveyed; July survey yielded 243 Spring KS, 16 steelhead |
| <b>1994</b> | Sandy Bar Weir on the South Fork Trinity River caught 86 steelhead, 404 Chinook, and 2 coho salmon between 10/1 and 11/25<br>Gates Weir caught 82 steelhead and 79 Chinook between 4/29 and 6/10<br>Forest Glenn Weir caught 48 steelhead and 45 Chinook between 3/31 and 4/31<br>Hayfork Creek Weir caught 73 steelhead between 3/18 and 5/20                                |                        |   |
| <b>1995</b> | 579   | 42                     |   |
| <b>1996</b> | 1097  | 11                     |   |
| <b>1996</b> | Sandy Bar Weir on the South Fork Trinity River caught 95 steelhead, 658 Chinook, and 6 coho salmon between 9/19 and 11/16   |                        |   |

**Table 5. South Fork Trinity River Survey Results, including Hayfork Creek.**

| <b>Year</b> | <b>Total Chinook</b> | <b>Adult Steelhead</b> | <b>Comments</b>   |
|-------------|----------------------|------------------------|---|
| 1997        | 655                  | 95                     |   |
| 1998        | 172                  | 37                     |   |
| 1999        | 175                  | 38                     | 5 sections left unsurveyed below Hitchcock Creek due to turbidity                                   |
| 2000        | 256                  | 76                     |   |
| 2001        | 166                  | 76                     |   |
| 2002        | 386                  | 35                     |   |
| 2003        | 260                  | 37                     |   |
| 2004        | 59                   | 34                     |   |
| 2005        | 72                   | 73                     |   |
| 2006        | 146                  | 105                    |   |
| 2007        | 212                  | 130                    |   |
| 2008        | NS                   | NS                     | No survey due to wildfires and manpower   |
| 2009        | 118                  | 61                     | Mule to Low Bridge not surveyed. Hayfork Creek polluted and major road construction on Hyampom Road |
| 2010        | 123                  | 99                     |   |
| 2011        | 437                  | 215                    | Landslide in Lower South Fork Trinity yielding massive turbidity                                    |

/ South Fork Trinity River is snorkel surveyed from Raspberry Gulch to the main stem Trinity River, and Hayfork Creek is surveyed from Nine Mile road bridge to Hyampom.

In an effort to document numbers of spring Chinook and summer steelhead returning to the river, agencies have utilized weirs, spawning surveys, creel surveys, and snorkel surveys. Now only a volunteer snorkel survey remains to evaluate populations of spring Chinook and summer steelhead in the South Fork Trinity basin. This snorkel survey has become an annual 2 day event for all those working with fisheries in the basin, and for those who enjoy being a part of the cooperative effort between the different agencies. Survey results have been variable over the years, and logistics such as fire activity and personnel availability have occasionally prevented or limited surveys. Spring Chinook numbers have ranged from 0 to 1,097 and adult summer steelhead numbers have ranged from 1 to 215.