

Caswell 2008 AR

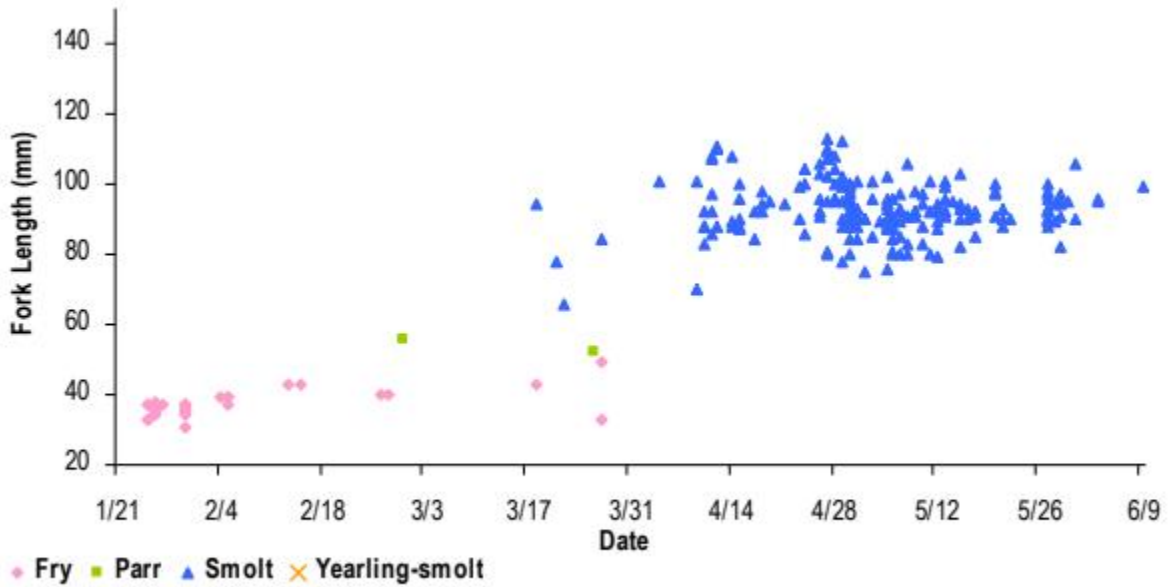


Figure 8. Fork length (mm) distributions for juvenile Chinook salmon caught at Caswell, 2008.

2007 AR

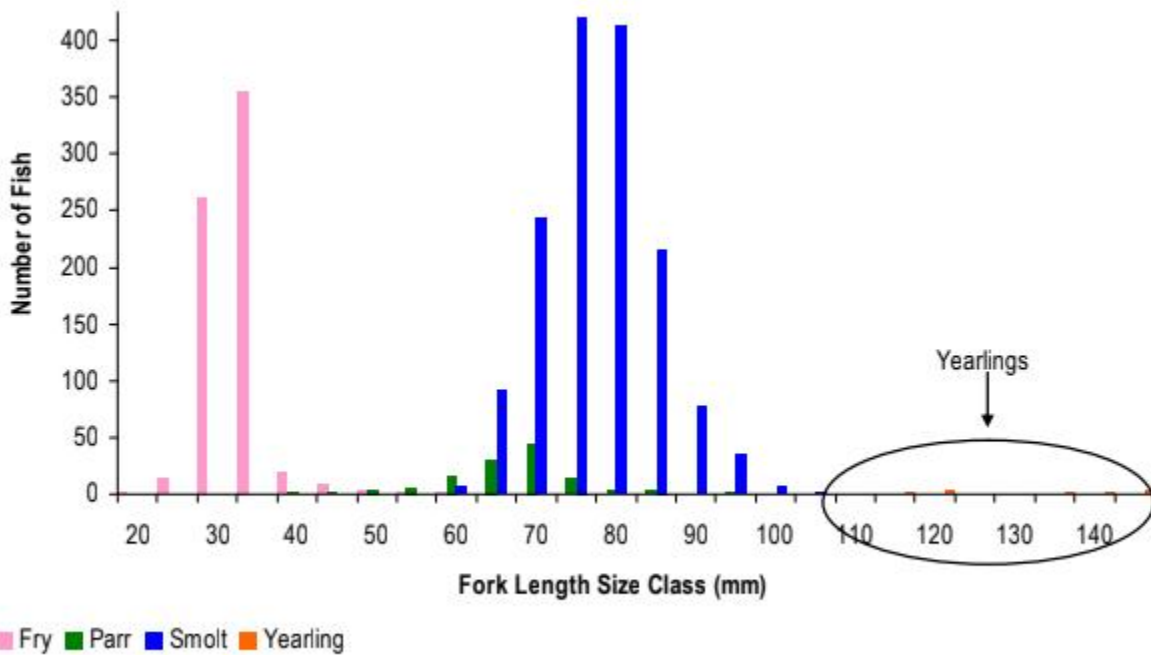


Figure 1.10. Fork length (mm) distributions for fry, parr, sub-yearling smolts, and yearling-smolts at Caswell, 2007.

## **Kennedy 2008**

Year 2005

Newly hatched **fry** (30-40 mm) were first observed March 13, 2005. Fry densities were highest in Two-Mile Bar, Lovers Leap and at Orange Blossom Bridge, and lowest at Oakdale Recreation at the lower reach of the river.

Fry were least abundant in the upper reaches especially at Goodwin and Two-Mile Bar where densities were the lowest (Figure 5). Density declined sharply in late June and gradually dropped more through the summer to low numbers (<2/100m<sup>2</sup>) throughout the rest of the year.

Year 2007

The highest densities of Chinook observed for all three years was in the spring and summer of 2007. Surveys started in early January and continued through July. Newly hatched **fry** (30-40mm) were first observed January 8, 2007. **Fry** densities were highest in Knights Ferry, Honolulu Bar and Lovers Leap, and lowest at Goodwin Dam and Two-Mile Bar at the upper most reach of the river.

Newly hatched **fry** were first observed in March and April at all sites.

## **Kennedy and Canon 2002**

Newly hatched **fry** (30-40 mm) were observed during the Week 37 (December 18). Fry densities were highest in Lovers Leap and at Orange Blossom Bridge, and lowest at Goodwin and Two-Mile Bar at the upper reaches of the river.

Surveys began in late January in year 2001. **Fry** were least abundant in the upper reaches especially at Goodwin where densities were the lowest (Figure 7). Density declined gradually after week 5 (February 25) and then dropped more sharply between week 11 (April 14-21) and 15 (May 12-19).

Fry salmon were abundant throughout the survey area by January.

Soon after emergence in winter, **fry** salmon were observed concentrated in slow-water, margin habitats of the entire study reach.

## **Kennedy and Canon 2005**

In the 2003 survey Chinook **fry** were observed as early as December 2002. In the 2004 survey Chinook **fry** were not observed in any site until the end of January.

	03' Survey	04' Survey
Goodwin Dam	1/2/2003	1/29/2004
Two-mile Bar	12/12/2002	1/30/2004
Knights Ferry	12/12/2002	1/29/2004
Lovers Leap	12/12/2002	1/30/2004
Honolulu Bar	1/3/2003	1/29/2004
Orange Blossom	1/2/2003	1/29/2004
Valley Oak	1/16/2003	2/9/2004
Oakdale Rec.	1/16/2003	2/9/2004

Salmon length frequency was consistent from year to year with **fry** (30-50mm) dominating in January and February, fingerlings (50-70mm) in March, and smolts (70mm+) by May (Appendix B-1). Some over-summering smolts were observed in the upper river of each year.

### **Movement and Factors Related to Movement**

A relatively high proportion of juvenile salmon likely emigrate from the Stanislaus River as fry during the winter of wet years as in other Central Valley rivers. This pattern is apparent in the downstream shift in fry densities over the winter that we observed in all four years of surveys as well as in screw trap surveys (<http://www.stanislausriver.com>). The relatively low densities of young salmon observed in 2000 and 2004 as compared to 2001 and 2003 is possibly due to high winter emigration during higher flows in 2000 and 2004; whereas, flows were lower through the winter of 2001 and 2003. Another explanation for the higher densities of salmon in some years is that greater escapement of adult salmon occurred in the fall of some years, which resulted in greater production of young the next spring, as available stock-recruitment data indicate a significant positive relationship between spawners and escapement two years later