



Top: Oakdale trap.

Right: Fry in the live-box.

Outmigration Activity Increasing



Oakdale Outmigration

From January 29 through February 18, the trap sampled continuously and captured 187,726 Chinook bringing the season total to 195,488 (Figure 1). On February 5, there were 74,192 Chinook captured. Following this peak in catch, daily catch remained elevated between 9,830 and 14,519 fish for about a week, then began to taper off. This migration event appeared to be triggered by increases in turbidity, and/or flow associated with a precipitation event that occurred February 2 and 3 (see Environmental Report section). Forklengths ranged between 29 mm and 79 mm ($\mu = 36.4$ mm).



Chinook captured at Oakdale .

Five trap efficiency tests were conducted during the three-week monitoring period and individual trap efficiencies varied from 28.6% to 41.7% (Table 1). Two releases were conducted during each week for Weeks 1 and 2, but only one release was conducted during Week 3 due to technical constraints. Average weekly trap efficiencies during Weeks 1, 2, and 3 were 31.7%, 33.3%, and 31.5%, respectively (Table 1).

In addition to Chinook, five *O. mykiss* (Age 1+) were captured, increasing the season total to 24. Forklengths ranged from 225 mm to 238 mm ($\mu = 232$ mm).

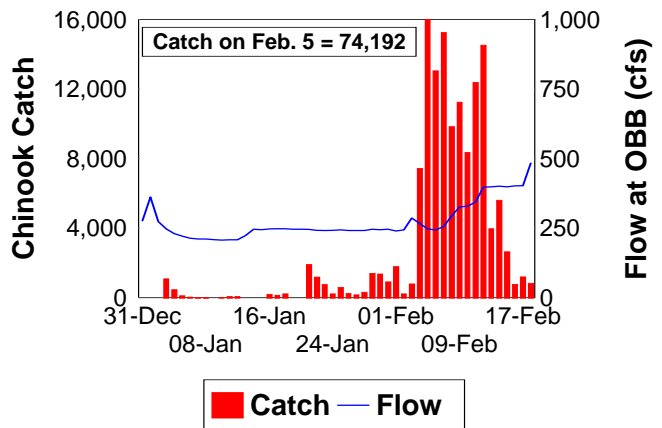


Figure 1. Catch at Oakdale trap and flow at Orange Blossom (OBB).



Release Date	Total Marked	Efficiency
29-Jan	269	28.60%
30-Jan	521	36.50%
6-Feb	463	41.70%
10-Feb	526	22.90%
11-Feb	513	31.50%
Wk 1 Avg. Efficiency		33.30%
Wk 2 Avg. Efficiency		31.70%
Wk 3 Avg. Efficiency		31.50%

Table 1. Trap efficiency results.

Environmental Data

During the three-week sampling period, flow at Orange Blossom Bridge (OBB) ranged between 240 cfs to 484 cfs while instantaneous turbidity varied from 0.7 NTU to 3.7 NTU. Instantaneous water temperatures ranged between 47°F and 51°F.

As mentioned previously, a rain event occurred February 2 and 3 which resulted in an increase in flow and turbidity. Flows initially increased from 244 cfs on the 2nd to 286 cfs on the 3rd, but dropped back down to 248 cfs on the 5th. Turbidity increased from 0.8 NTU on the 2nd to 3.6 NTU on the 4th, and dropped down to 1.4 NTU on the 6th. Since fish catch began increasing on the 4th and peaked on the 5th, it appears that the increased flow and/or turbidity resulting from this precipitation event provided a migratory stimulus for juvenile Chinook salmon. Artificial flow increases of similar magnitude occurred on the 8th (40 cfs) and 9th (30 cfs), however, turbidity remained about the same (~ 1NTU) and there was no increase in the number of fish captured. Although these additional flow increases did not result in another peak in catch, it is unknown whether these increased flows may have influenced the duration of the migration event.

Caswell Outmigration

The Caswell rotary screw traps were raised on January 29 and sampling resumed February 6. Three sampling events occurred: February 6-9, 13-16, and 17-18. The traps captured 52 Chinook (94.5% of season catch) bringing the seasonal total to 55 captured (Figure 2). Forklength ranged from 33 mm to 39 mm ($\mu = 36.3$ mm).

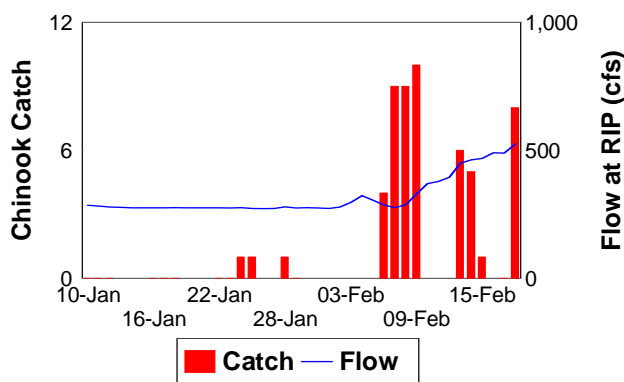


Figure 2. Catch at Caswell and flow at Ripon (RIP).

Flow at Ripon ranged from 273 cfs to 378 cfs while instantaneous turbidity varied from 2.0 NTU to 9.18 NTU. A slight increase in flow (286 cfs to 331 cfs) and turbidity (4.53 NTU to 9.18 NTU) occurred following a rain event and corresponded with catches during the February 6 to February 9 sampling event. Instantaneous water temperature ranged between 48°F to 51°F.



Unusual Finding

When sorting through thousands of captured Chinook, technicians occasionally come across conjoined juveniles. These sightings generally occur under five times a year. They are not seen larger than 50mm.



Conjoined salmon captured at Oakdale.