

Stanislaus River Juvenile Outmigration Summary # 15

April 21st – May 4th, 2003

Note: Data is preliminary and subject to revision.

Oakdale:

The trap resumed fishing the evening of April 21st and continued to sample through May 4th. A total of 904 Chinook were captured during the two-week sampling period increasing the season total to 90,153. Total catch during the same two weeks in 2001 and 2002 ranged between 3,000 and 5,000 Chinook. Daily catch ranged between 8 and 148 Chinook. Combined mean forklength for the two weeks was 73.4 mm (range: 47 mm to 109 mm). Mean forklength only increased by 0.5 mm during the second week compared to the first week of the sampling period. However, mean forklength increased by almost 3 mm over the previous sampling period. Mean weight was 4.5 g. Four trout were captured at Oakdale increasing the season total to 28. Please refer to table below for date captured, forklength, and smolt indices of the trout.

Date	Forklength (mm)	Smolt Index
26-Apr-03	61	3
26-Apr-03	46	3
29-Apr-03	37	2
29-Apr-03	57	3

We are still observing an obvious discrepancy between the readings at the GDW and OBB gages (OBB reading up to 230 cfs less than GDW). Between April 21st and May 4th flow at Goodwin Dam (GDW) ranged between 652 cfs and 1,512 cfs. On April 23rd flow increased from 650 cfs to 1,500 cfs over a 3-day period where it remained for 8 days before decreasing to 600 cfs over a three-day period. Flow was increased to 1,500 cfs as part of the Stanislaus River smolt survival study conducted by CDFG. Turbidity fluctuated slightly throughout the two weeks (range: 0.8 NTU to 2.7 NTU) as did water temperature (range: 51 to 54.5 degrees Fahrenheit). Catch and turbidity peaked simultaneously between April 24th and 25th when flow was increased to 1,500 cfs.

The CDFG released approximately 75,000 Merced River Hatchery Chinook into the Stanislaus River on April 25th to determine smolt survival through the lower river. The fish were all coded-wire tagged (CWT) and pumped directly into the river at Knight's Ferry in three groups of 25,000. Thus far, a total of 128 CWT fish have been captured in the Oakdale trap. 117 CWT were captured between April 26th and April 27th. Between April 28th and May 4th catch ranged between 0 and 4 CWT fish. The mean length of CWT fish captured was 85.5 mm (range: 63 mm to 98 mm), which is approximately 12.0 mm larger than the natural Chinook captured during the same period.

Three trap efficiency releases were conducted during the sampling period using the traditional method (check livebox ~ 1 hour after release). A total of 64 natural Chinook marked caudal fin green (CFG) were released on April 23rd. Flow at release was 934 cfs at OBB and turbidity was 2.7 NTU at Oakdale. The estimated trap efficiency was 4.3%. Mean length at release was 74.8 mm and 63.7 mm at recapture. A total of 98 natural Chinook marked CFG were released between April 24th and 25th. Flow was 1,266 cfs at OBB and turbidity ranged between 1.4 NTU and 2.1 NTU at Oakdale. The pooled estimated trap efficiency was 4.1%. Combined mean length at release was 73.2 mm and 67.5 mm at recapture. The discrepancy between mean length at release and recapture was observed during previous releases with fish of similar size. Data suggests fish size plays an important role in capture efficiency during the parr and smolt lifestages.

Two livebox efficiency tests were conducted between April 30th and May 1st by placing a known number of natural Chinook marked caudal fin yellow (CFY) and caudal fin orange (CFO) in the livebox overnight. The percentage remaining in the morning represented livebox efficiency. The estimated livebox efficiencies were

88.9% and 96.8%, which were similar to previous tests conducted this year using fish of similar size. Combined mean length was 71.5 mm at release and 71.9 mm at recapture.

Caswell:

The traps resumed sampling the evening of April 21st and continued to sample through May 4th. A total of 1,617 Chinook were captured during the two-week sampling period increasing the season total to 12,880. Daily catch ranged between 36 and 520 Chinook. Mean forklength during the two-week sampling period was 81.4 mm (range: 57 mm to 111 mm), which was similar to the previous sampling period. Mean weight was 6.0 g. Five trout were captured at Caswell increasing the season total to 12. Please refer to table below for trout capture dates, forklengths, and smolt indices.

Date	Forklength (mm)	Smolt Index
22-Apr-03	233	5
23-Apr-03	238	5
25-Apr-03	212	5
26-Apr-03	188	5
28-Apr-03	62	3

Between April 21st and May 4th flow at Ripon (RIP) increased from 639 cfs to 1,415 cfs due to increases in discharge from GDW. Turbidity fluctuated between 1.6 NTU and 4.5 NTU during the two-week sampling period. Water temperature ranged between 56 and 58 degrees Fahrenheit. Catch and turbidity peaked simultaneously on April 26th when the initial increase in flow at RIP was observed.

A total of 81 CWT fish were captured in the Caswell traps between April 27th and May 4th. 59 CWT fish were captured between April 27th and April 28th. Between April 29th and May 4th catch ranged between 2 and 9 CWT fish. The mean length of CWT fish captured was 87.3 mm (range: 70 mm to 100 mm), which is approximately 6.0 mm larger than the natural chinook captured during the same period.

Between April 23rd and May 2nd a total of seven trap efficiency releases were conducted at Caswell under various flows using the traditional method (check livebox ~ 1 hour after release). A total of 128 natural Chinook marked caudal fin pink (CFP) were released on April 23rd. Flow at release was 720 cfs at RIP and turbidity was 2.4 NTU at Caswell. The estimated trap efficiency was 14.8%. Mean length at release was 82.6 mm and 83.9 mm at recapture. A total of 99 natural Chinook marked CFP were released on April 24th. Flow at release was 1,033 cfs at RIP and turbidity was 2.4 NTU at Caswell. The estimated trap efficiency was 5.1%. Mean length at release was 83.3 mm and 82.6 mm at recapture. A total of 47 natural Chinook marked CFP were released on April 25th. Flow at release was 1,281 cfs at RIP and turbidity was 4.2 NTU at Caswell. Four trap efficiency releases were conducted on four consecutive nights between April 29th and May 2nd. A total of 201 natural Chinook marked CFP were released at flows ranging between 1,377 cfs and 1,396 cfs at RIP and turbidity between 1.6 NTU and 3.2 NTU at Caswell. The pooled estimated trap efficiency was 2.0%. Combined mean length at release was 79.4 mm and 82.5 mm at recapture.

No livebox efficiency tests were conducted at Caswell during this sampling period.