



Oakdale Outmigration

The rotary screw trap at Oakdale sampled daily between April 13 and May 16 and no sampling occurred on April 12. A total of 4,238 Chinook were captured increasing the season total to 401,536 (Figure 1). Forklengths ranged from 36 mm to 109 mm ($\mu = 74$ mm) which is an average increase of 13.5 mm over the previous sampling period (Figure 2). Weights of Chinook sampled ranged between 0.8 g and 10.2 g ($\mu =$



Trap fishing in main flow of river channel.

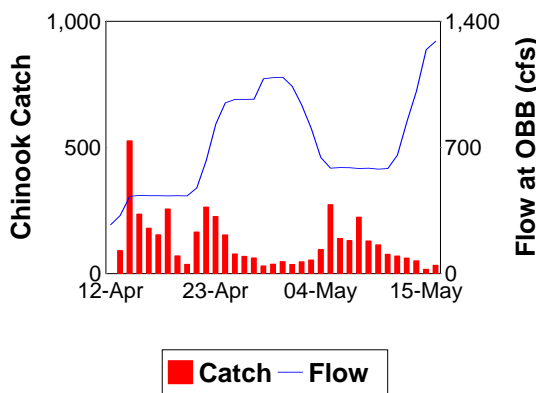


Figure 1. Daily Chinook catch at Oakdale and flow at Orange Blossom Bridge (OBB), April 12 – May 16, 2004.

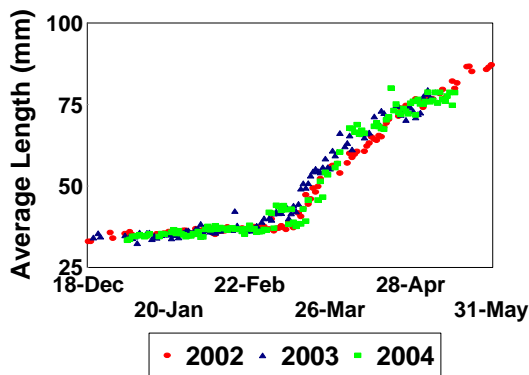


Figure 2. Daily average forklength of Chinook at Oakdale, 2002-2004.

Flows measured at Orange Blossom Bridge (OBB) ranged between 272 cfs and 1,289 cfs during the sampling period. Releases at Goodwin Dam (GDW) increased to more than 1,000 cfs between April 23 and May 2; flow was initially increased from 649 cfs on April 21 to 1,148 cfs on April 23 and was increased again to 1,252 cfs on April 24. Releases were reduced to 900 cfs on May 3, but then increased to 1,500 cfs on May 15. Flows are expected to remain at 1,500 cfs for 4-5 days. During the sampling period, instantaneous turbidity at Oakdale varied between 0.8 NTU and 4.06 NTU while instantaneous water temperature ranged from 52°F to 59°F. Decreased temperatures correlate to increased flow on April 28 to May 1 and May 14 to May 16.

In addition to Chinook salmon, twelve young-of-year *O. mykiss* were captured at Oakdale with an average forklength of 50 mm and smolt indices ranging from 2 to 3 (Table 1, Figure 6).

Twenty trap efficiency tests were conducted at Oakdale on ten different days with resulting efficiencies ranging from 0% to 15.2% (Table 2).



Pikeminnow Catch at Oakdale

The Oakdale rotary screw trap has captured more Sacramento pikeminnow this season (n= 876) than in all previous sampling years. In particular, more YOY ($\mu= 51$ mm forklength) were captured in April this year than in the previous four years (Figure 3).



Example of pikeminnow captured at Oakdale.

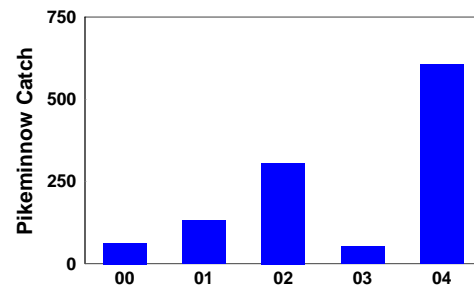


Figure 3. Sacramento pikeminnow catch at Oakdale in April during years 2000-2004.

Caswell Outmigration

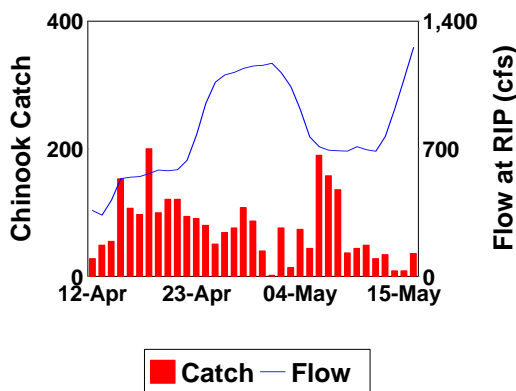


Figure 4. Daily Chinook catch at Caswell and flow at Ripon (RIP), April 12, 2004 – May 16, 2004.

Average daily flow at Ripon (RIP) varied between 337 cfs and 1,257 cfs ($\mu= 802$ cfs; Figure 4). Instantaneous turbidity at Caswell remained fairly low varying between 1.8 NTU and 5.74 NTU ($\mu= 3.27$ NTU) while instantaneous water temperatures ranged between 58°F and 64°F ($\mu= 60$ °F). Lower temperatures were correlated to higher flows from April 28 to May 1 and May 14 to May 16.

The rotary screw traps at Caswell sampled daily between April 12 and May 16. A total of 2,667 Chinook were captured increasing the season total to 39,765 (Figure 4). Forklengths ranged from 55 mm to 107 mm ($\mu= 76$ mm) which is an average increase of 16 mm over the previous sampling period (Figure 5).

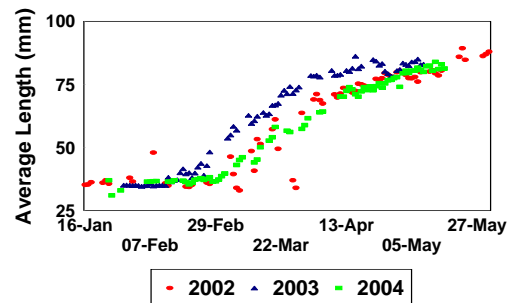


Figure 5. Daily average forklength of Chinook at Caswell, 2002-2004.

In addition to Chinook, two Age 1+ *O. mykiss* smolts were captured at Caswell with forklengths of 201 mm and 229 mm (Table 1).



Two trap efficiency tests were conducted at Caswell (April 27 and May 7) with resulting efficiencies of 3.4% and 16.8%, respectively (Table 2).

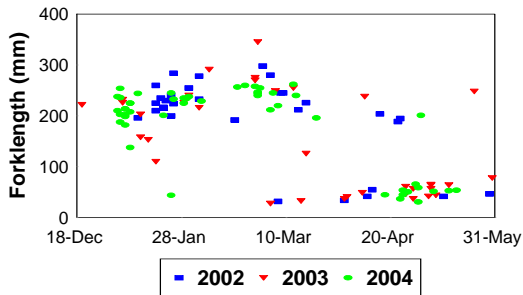


Figure 6. of individual *O. mykiss* caught in the Oakdale trap, 2002-2004.

Table 1. *O. mykiss* captured at Oakdale between April 12 and May 16, 2004.

Location	Date	Species	Forklength	Smolt Index
Oakdale	4/18	<i>O. mykiss</i>	45	3
Oakdale	4/21	<i>O. mykiss</i>	nd*	nd
Oakdale	4/24	<i>O. mykiss</i>	37	2
Oakdale	4/24	<i>O. mykiss</i>	45	2
Oakdale	4/25	<i>O. mykiss</i>	54	2
Oakdale	4/27	<i>O. mykiss</i>	51	3
Oakdale	4/30	<i>O. mykiss</i>	66	3
Oakdale	5/1	<i>O. mykiss</i>	31	2
Oakdale	5/1	<i>O. mykiss</i>	59	3
Caswell	5/2	<i>O. mykiss</i>	201	5
Oakdale	5/7	<i>O. mykiss</i>	52	3
Oakdale	5/13	<i>O. mykiss</i>	53	3
Oakdale	5/16	<i>O. mykiss</i>	54	3
Caswell	5/16	<i>O. mykiss</i>	229	5

* Fish jumped from bucket before data was collected.

Table 2. Trap efficiency tests conducted at Oakdale between April 12 and May 16, 2004.

Location	Date	Mark	Number Released	Estimated Efficiency	Flow (cfs)
Oakdale	4/14	Caudal Fin Green	26	7.7 %	429
Oakdale	4/14	Top Caudal Orange	480	9.4 %	429
Oakdale	4/14	Bottom Caudal Orange	488	15.2 %	429
Oakdale	4/15	Caudal Fin Green	72	4.2 %	434
Oakdale	4/15	Top Caudal Orange	468	12.2 %	434
Oakdale	4/15	Bottom Caudal Orange	639	9.4 %	434
Oakdale	4/21	Top Caudal Orange	442	9.3 %	476
Oakdale	4/22	Top Caudal Orange	503	3.8 %	628
Caswell	4/27	Caudal Fin Pink	58	3.4%	1120
Oakdale	4/28	Caudal Fin Green	27	0.0 %	1081
Oakdale	4/28	Top Caudal Orange	492	0.2 %	1081
Oakdale	4/28	Bottom Caudal Orange	534	0.2 %	1081
Oakdale	4/29	Bottom Caudal Orange	418	0.0 %	1088
Oakdale	4/29	Top Caudal Orange	557	0.0 %	1088
Oakdale	5/5	Top Caudal Orange	524	7.3 %	585
Oakdale	5/6	Top Caudal Orange	548	10.2 %	588
Oakdale	5/6	Caudal Fin Green	108	13.0 %	588
Caswell	5/7	Caudal Fin Pink	137	16.8%	693
Oakdale	5/12	Top Caudal Orange	510	2.5 %	658
Oakdale	5/12	Caudal Fin Green	42	0.0 %	658
Oakdale	5/13	Caudal Fin Green	54	3.7 %	842
Oakdale	5/13	Top Caudal Orange	489	1.6 %	842