



## FISH PASSAGE CENTER

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September 2, 2009

Mr. John Hitron  
Carson National Fish Hatchery  
14041 Wind River Highway  
Carson, WA 98610

Dear John-

The Fish Passage Center has been marking fish from the Carson National Fish Hatchery facility over the last several years as part of the Smolt Monitoring Program (SMP) and Comparative Survival Study (CSS). For purposes of these studies data are collected on either juvenile life stage, or both the juvenile and adult life stages. The SMP provides information for in-season management of the hydrosystem and post-season analyses to the federal, state, and tribal fishery agencies. We would like to provide an update of some of the information we developed under this study for the fish used from the Carson National Fish Hatchery facility in 2009 and past years.

Under the Smolt Monitoring Program, information is collected on the timing and migration speed from the release at the hatchery to Bonneville Dam. Table 1 below provides estimates of minimum, median, and maximum travel times from each year's release to Bonneville Dam. Also provided are estimates of the 95% confidence limits around the estimated median travel time.

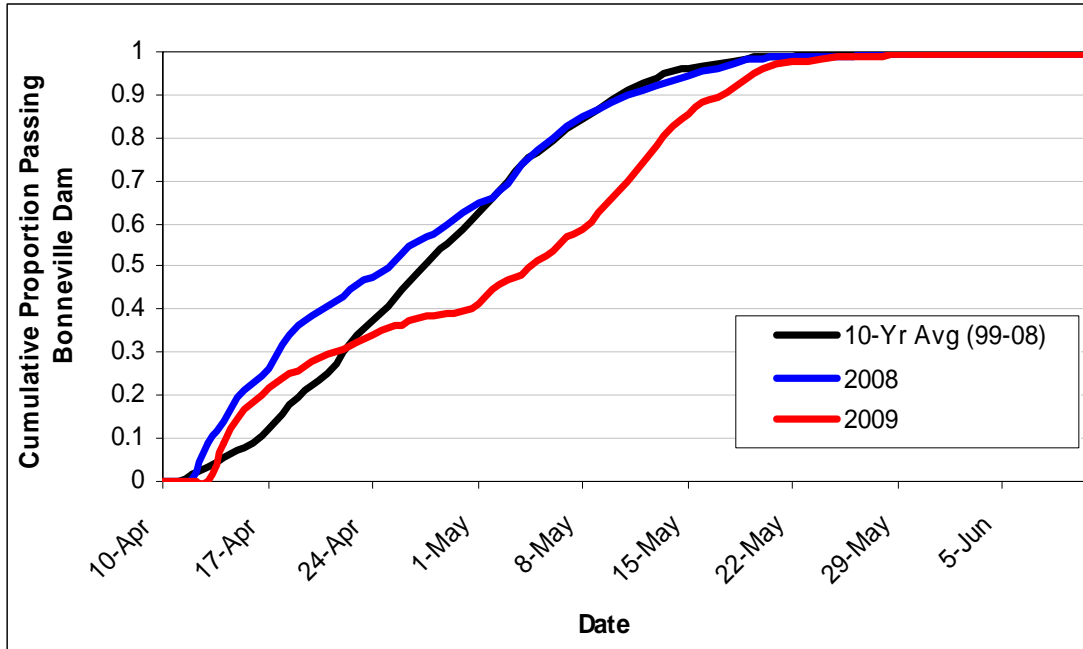
In past years, we have provided you with figures to illustrate passage timing of Carson NFH spring Chinook to Bonneville Dam since tagging began in 1997. However, given that Carson NFH has been releasing tagged fish for so many years now, these figures have become cumbersome. This year, we have decided to provide a table that presents the estimated 10%, 50%, and 90% passage dates of Carson NFH spring Chinook juveniles at Bonneville Dam for each of the years of tagging (Table 2). Finally, Figure 1 is provided as an illustration of how the arrival timing of the 2009 smolt release relates to last year's release, as well as the 10-year average arrival timing (1999-2008).

**Table 1.** Carson National Fish Hatchery Spring Chinook Travel Times to Bonneville Dam

Release Date	Migration Year	Travel Time (Days)			Confidence Limits 95%		Bonneville Flow (kcfs)
		Min	Med	Max	Lower	Upper	
17-Apr	1997	0.66	16.5	33.7	14.6	17.1	
20-Apr	1998	1.7	10.0	38.5	9.6	10.7	
20-Apr	1999	0.8	8.7	94.3	7.8	9.5	198.5
20-Apr	2000	0.9	11.6	41.2	10.7	12.6	192.5
19-Apr	2001	1.6	18.5	130.3	18.3	18.7	127.8
17-Apr	2002	0.7	15.6	76.7	15.5	15.7	132.1
16-Apr	2003	1.2	12.5	42.5	11.6	13	111.8
15-Apr	2004	0.9	10.4	65.9	9.6	10.6	143.8
15-Apr	2005	1.5	11.5	29.3	10.7	11.6	146.7
10-Apr	2006	0.7	7.4	44.3	6.7	8.4	226.2
12-Apr	2007	0.9	17.6	41.6	15.7	18.6	215.7
11-Apr	2008	0.9	17.5	98.3	16.2	18.6	158.4
13-Apr	2009	0.7	22.5	101.4	21.5	23.5	164.4

**Table 2.** Estimated 10%, 50%, and 90% passage dates of Carson NFH spring Chinook at Bonneville Dam.

Migration Year	10% Passage Date	50% Passage Date	90% Passage Date
1997	22-Apr	4-May	13-May
1998	24-Apr	29-Apr	7-May
1999	22-Apr	29-Apr	10-May
2000	22-Apr	1-May	15-May
2001	26-Apr	7-May	14-May
2002	20-Apr	3-May	13-May
2003	19-Apr	27-Apr	10-May
2004	17-Apr	25-Apr	5-May
2005	18-Apr	26-Apr	6-May
2006	12-Apr	18-Apr	6-May
2007	15-Apr	30-Apr	12-May
2008	14-Apr	26-Apr	12-May
2009	15-Apr	5-May	18-May



**Figure 1.** Cumulative passage timing of Carson National Fish Hatchery spring Chinook to Bonneville Dam.

We hope that the information we have provided regarding the use and application of information from the marked groups over the last several years is of some use to you. If you would like any additional information regarding these releases please feel free to contact us.

Sincerely,

Michele DeHart  
Fish Passage Center Manager

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