FISH PASSAGE CENTER

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Mr. Gene McPherson
McCall Hatchery
Idaho Department of Fish and Game
P.O. Box 1021
McCall, ID 83638

Dear Gene-

The Fish Passage Center has been marking fish from the McCall Hatchery facility over the last several years as part of the Smolt Monitoring Program (SMP) and the Comparative Survival Study (CSS). For purposes of these studies data are collected on either the 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. The CSS is a multi-year program that estimates survival rates over different life stages for spring and summer Chinook produced in major hatcheries. We would like to share with you some of the information we developed under these studies for the fish used from the McCall Hatchery facility.

Under the Smolt Monitoring Program, information is collected on the timing and migration speed from the hatchery to Lower Granite Dam. In addition, as part of the CSS study, juvenile survival estimates are developed for the hydrosystem between Lower Granite and Bonneville Dams, as well as survival to adulthood of different passage histories.

Table 1. McCall Hatchery Summer Chinook Travel Times to Lower Granite Dam

Release	Migration	Travel Time (Days)			Confidence Limits 95%		Lower Granite	
Date	Year	Min	Med	Max	Lower	Upper	Flow (kcfs)	Temp (F)
20-Mar	1997	9.9	49.4	100.2	49.1	49.7	150.9	52.3
30-Mar	1998	14.4	36.5	109.7	36.4	36.5	71.4	51.4
6-Apr	1999	13.8	39.9	129	39.7	40.5	95.5	50.4
5-Apr	2000	11.3	34.1	114	34	34.2	94.2	51.6
26-Mar	2001	24.2	48.5	114.8	48.2	48.6	41.4	47.3
25-Mar	2002	20.2	51.3	82.5	51	51.5	27.6	
31-Mar	2003	12.4	42	101.3	41.9	42.1	28.8	
22-Mar	2004	16.4	43.5	96.1	43.4	43.6	23.9	
18-Mar	2005	24.4	49.4	93.1	49.4	49.5		
21-Mar	2006	17.5	46.1	76	45.9	46.3	44.2	
19-Mar	2007	20.0	47.0	71.8	46.8	47.2	52.9	
17-Mar	2008	32.9	54.7	100.5	54.5	54.9		

Table 1 above provides estimates of minimum, median, and maximum travel time from each year's release to Lower Granite Dam. Also provided are estimates of the 95% confidence limits around the estimated median travel time.

Table 2 below contains estimates calculated in the CSS study of juvenile survival in the hydrosystem between Lower Granite and Bonneville Dams and survival to adulthood of juvenile salmonids in several categories. Those categories are SAR(T), SAR(C_0), and Weighted $SAR_{LGR\text{-}to\text{-}LGR}$, where SAR(T) represents smolts transported from Lower Granite, Little Goose, or Lower Monumental Dam, SAR(C_0) represents smolts migrating in river, and $SAR_{LGR\text{-}to\text{-}LGR}$ is a weighted estimate that is obtained by taking the proportion of the total population of smolts (tagged and untagged) at Lower Granite Dam in each study category and multiplying by the respective study category's $SAR_{LGR\text{-}to\text{-}LGR}$. In effect, the weighted $SAR_{LGR\text{-}to\text{-}LGR}$ is the estimated SAR for the overall hatchery release. The data presented in Table 2 were taken from the Draft 2008 CSS Annual Report, which can be downloaded from the FPC webpage (http://www.fpc.org/documents/CSS.html).

Table 2. McCall Hatchery Summer Chinook Survivals from CSS

Release Date	Migration Year	Juvenile Survival LGR-BON	Proportion Transported	T/C Ratio	Adult Survival SAR(T)	Adult Survival SAR(C_0) %	Adult Survival Weighted $SAR_{LGR\text{-}to\text{-}LGR}$
20-Mar	1997	0.43	0.51	1.38	1.51	1.09	1.31
30-Mar	1998	0.56	0.86	1.96	2.69	1.38	2.50
6-Apr	1999	0.52	0.73	1.49	3.59	2.4	3.26
5-Apr	2000	0.61	0.58	1.89	3.88	2.06	3.12
26-Mar	2001	0.27	0.97	31.9	1.23	0.04[B]	1.20
25-Mar	2002	0.58	0.68	1.44	1.49	1.03	1.34
31-Mar	2003	0.70	0.54	1.47	0.79	0.54	0.68
19-Mar	2004	0.44	0.93	1.59	0.40	0.25	0.39
18-Mar	2005	0.53	0.86	3.02	0.62	0.20[C]	0.58
21-Mar	2006[A]	0.60	0.66	1.11	1.06	0.95	1.00

[A] Migration year 2006 is incomplete with Age 2-salt adult returns through 8/13/2008
[B] Assumed SAR(C_0) same as SAR(C_1) for 2001
[C] In-river SAR is combination of groups C_1 and C_0

Figure 1 below is a time series of the Weighted $SAR_{LGR\text{-}to\text{-}LGR}$ over the ten years of available data.

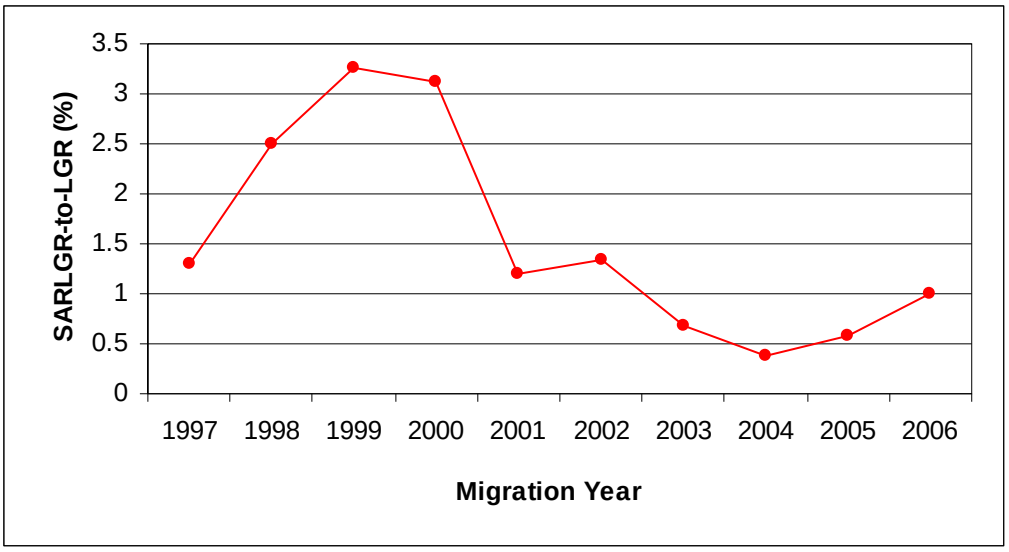
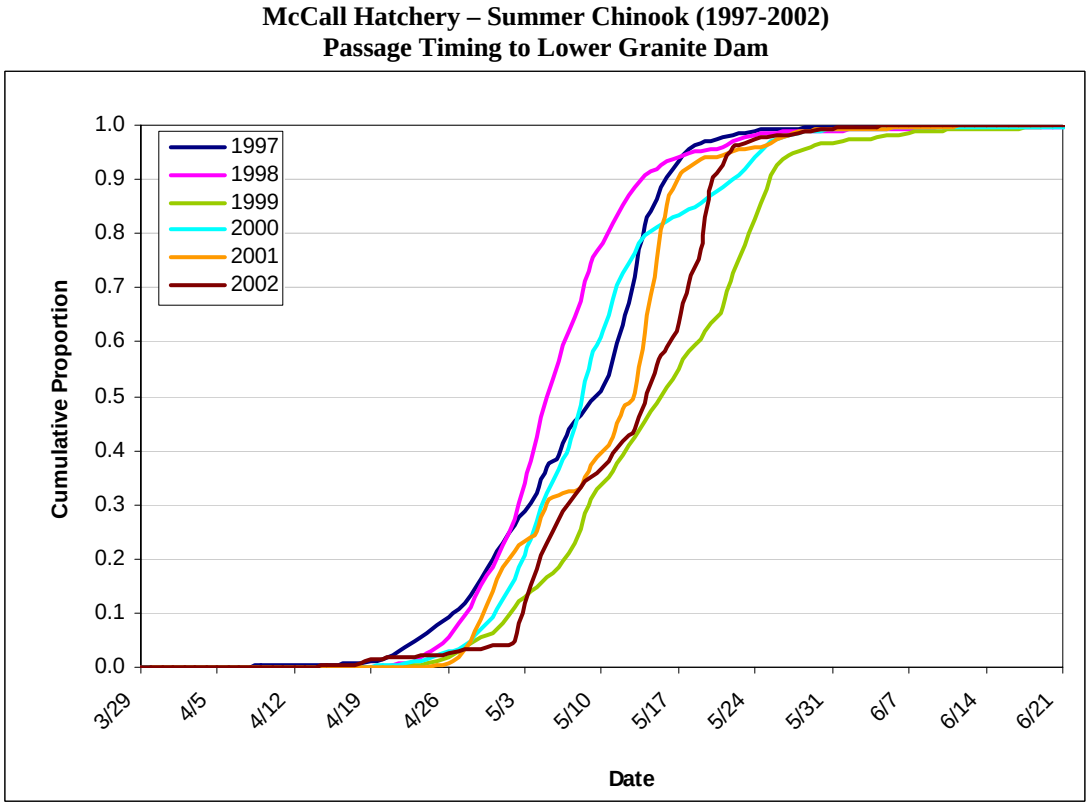
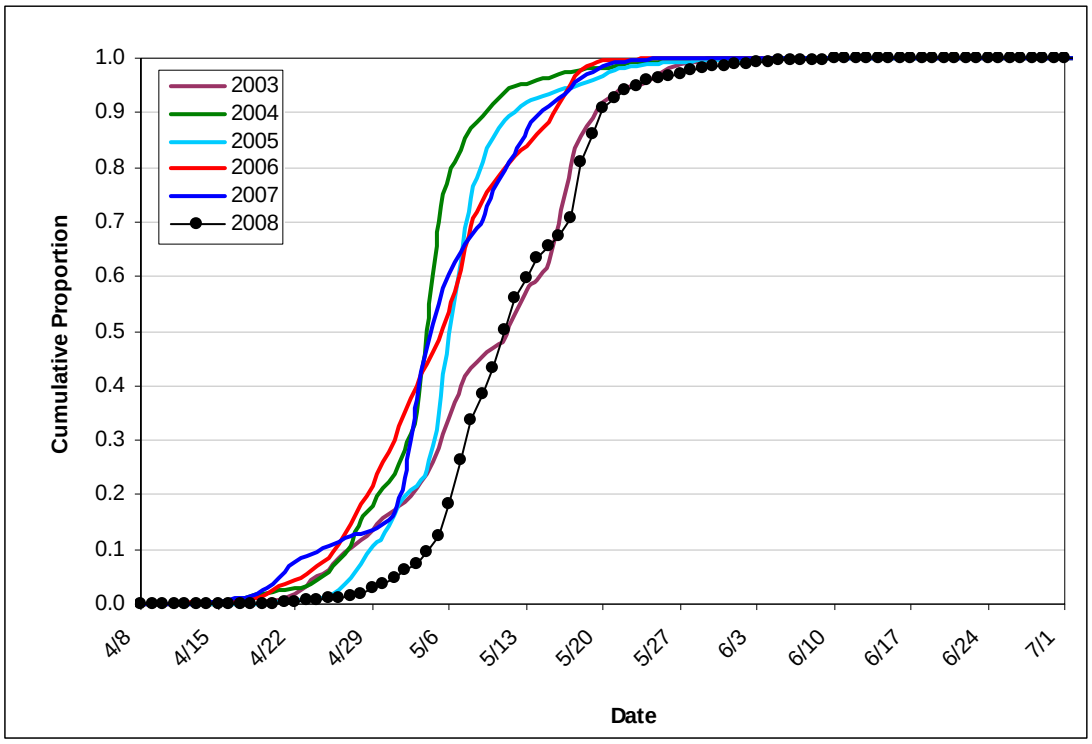


Figure 1. Weighted $SAR_{LGR\text{-}to\text{-}LGR}$ for McCall hatchery summer Chinook released from 1997-2006

Finally, we are providing figures to illustrate passage timing of McCall Hatchery summer Chinook to Lower Granite Dam over the past several years. To better facilitate comparison, we have broken the years into two separate graphs. Please note the different scales on the x-axis.



McCall Hatchery – Summer Chinook (2003-2008)
Passage Timing to Lower Granite 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

Cc: Pete Hassemer, IDF&G
Doug DeHart, USFWS
Brian Lipscomb, CBFWA
Tony Nigro, ODFW
Ron Boyce, ODFW
FPAC