



# FISH PASSAGE CENTER

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## MEMORANDUM

TO: FPAC

FROM: Margaret J. Filardo

DATE: March 14, 2002

RE: Spring Creek Hatchery Proportion Passing Bonneville

At yesterday's TMT conference call for discussion of the Spring Creek hatchery release we were asked to give an update regarding the proportion of the run that has passed Bonneville Dam. Prior to 2000 all SMP data was collected at Powerhouse I, which was the priority Powerhouse. Minimal sampling for fish condition was accomplished at PH II. The smolt collection at Powerhouse I was accomplished via the use of a smolt bypass trap that was lowered into the bypass channel for a specified time period. The physical constraints of trap operation limited our ability to sample when large numbers of fish were passing through the collection channel. Consequently, because of concern regarding the impact of sampling on the fish migration, the numbers of fish were often estimated on the nights of highest passage. Therefore, when looking at the data prior to 2000 it is not directly comparable to the data collected after the PH II sampler was installed. However, regardless of the ability to compare the magnitude of past years' passage data to this year, the shape of the passage remains relatively the same (see historic graph).

The PH II sample collection facility first operated in 2000. The data for 2000 is directly comparable to the data being collected in 2002. Smolt data was not collected in 2001 at PH II for the Spring Creek Hatchery release because a facility modification contract was not completed in time to operate the PH II sampler. Monitoring did occur over at PH I, but because of the low river flows minimal powerhouse flow was passing through the first PH. Sampling in 2001 showed that without flow through Powerhouse I few fish voluntarily pass via this route.

In 2000, flow during the passage period was at or above 200 Kcfs and spill occurred for a 7+ day period following the release. The attached table includes both the spill and flow that occurred in 2000 and the spill and flow that has occurred thus far in 2002. In order to estimate what proportion of fish have passed Bonneville Dam relative to the release thus far this year, we calculated the total number of fish estimated in the passage index for the 10 day period after the Spring Creek Hatchery release in 2000. A total passage index of 1,711,335 subyearling chinook passed Bonneville Dam in the 10-day period. This represents 21% of the release of 8.2 million that occurred in 2000. The PH II sampling period is from 0700 to 0700 hours. The sample

ended at 0700 on March 14, 2002. Thus far we have a cumulative passage index of 405,024 subyearling chinook at Bonneville Dam, or 5.5% of the 7.4 million fish released from Spring Creek Hatchery. If we expect to reflect 21% of the release in our passage index, as we did in 2000, then we are about 26% of the way through the run. This can be seen visually in both Spring Creek graphs comparing 2000 and 2002.

In summary, from the data available for past years we estimate that about **26%** of the subyearling tule fall chinook from the Spring Creek Hatchery release have passed Bonneville Dam as of 0700 hours on March 14, 2002.

Passage Index	2000	2002	2000		2002	
			flow	spill	flow	spill
3/7	0		211.72	0.00	128.1	0
3/8	47		214.53	0.00	117.8	0
3/9**	139		206.65	16.54	121.8	0
3/10	1,228		211.28	103.99	117.2	0
3/11***	516,101		210.05	113.79	110.4	0
3/12	1,104,556	847	211.46	119.47	141	36.5
3/13	47,187	18242	210.08	117.24	191.7	87.2
3/14	22,308	385935	199.80	104.89		
3/15	7,019		198.94	106.83		
3/16	7,286		205.00	94.36		
3/17	3,236		214.24	0.00		
3/18	2,275		193.71	0.00		
3/19	2,108		173.87	0.00		
3/20	1,370		181.38	0.00		
3/21	2,083		173.93	0.00		
3/22	2,128		182.32	0.00		
3/23	1,961		189.35	0.00		
3/24	2,613		212.21	0.00		

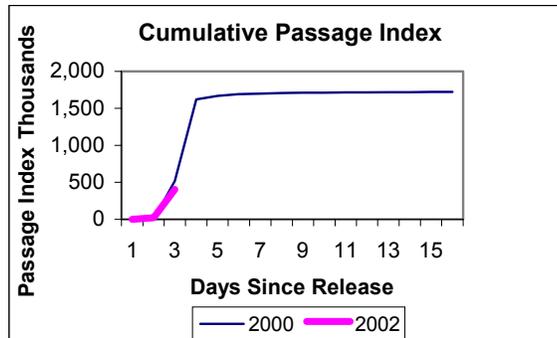
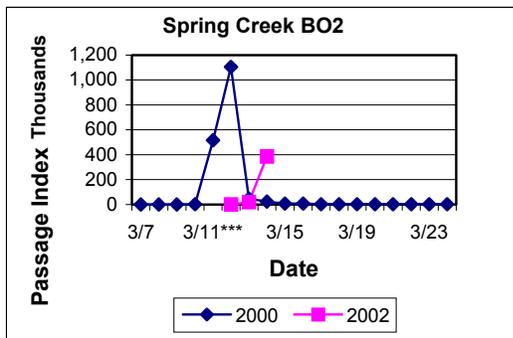
PI (10d) 1,711,335 405,024  
 Release 8,200,000.0 7,400,000

2002/2000 0.26

Proportion 0.21 0.05

Approximately 26% of the Spring Creek Hatchery release has passed Bonneville Dam as of 0700 hours on March 14, 2000.

\*\* 2000 rel date  
 \*\*\* 2002 rel date



Spring Creek Passage

