

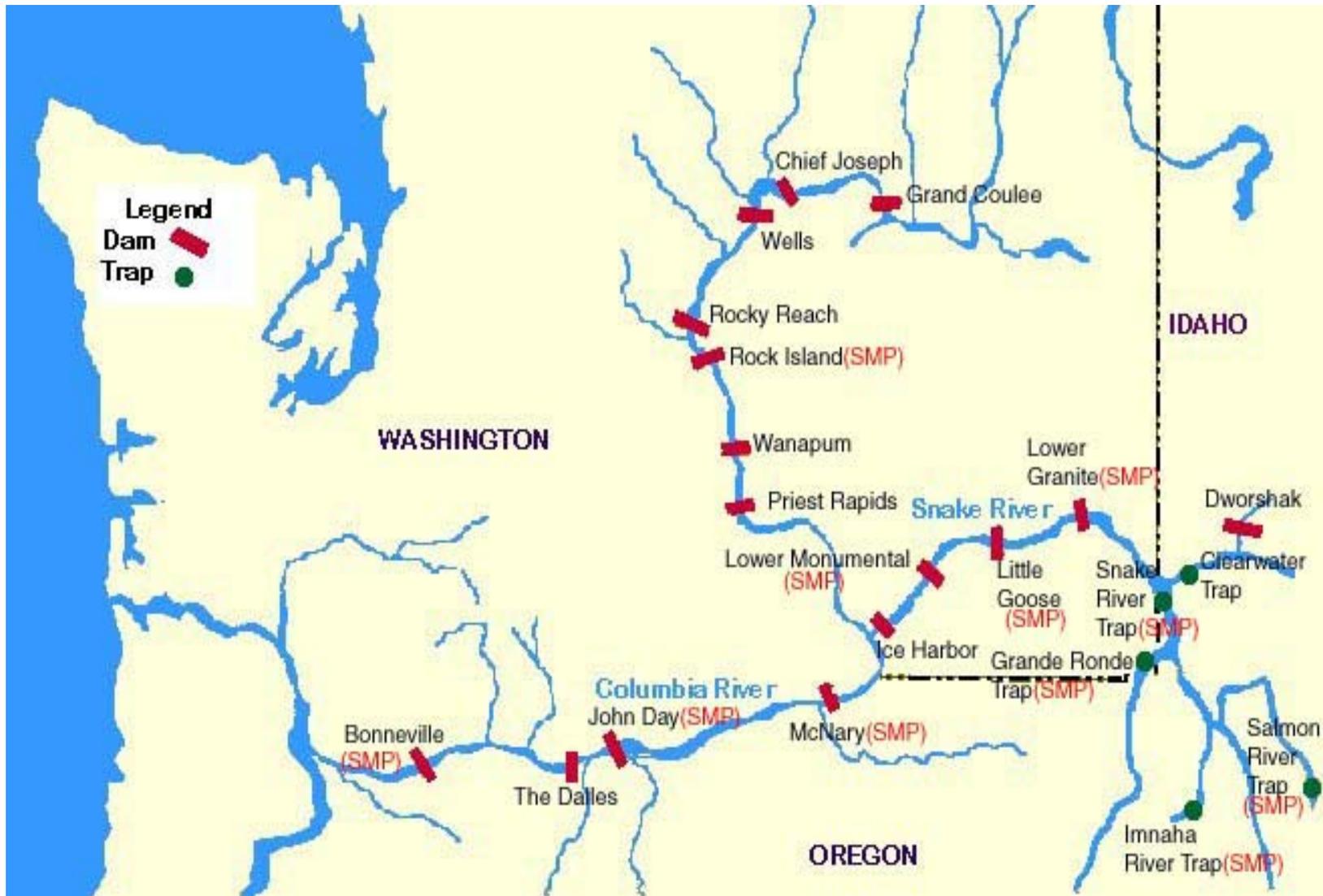
Stocks Present in Lower Columbia at Key Index Sites

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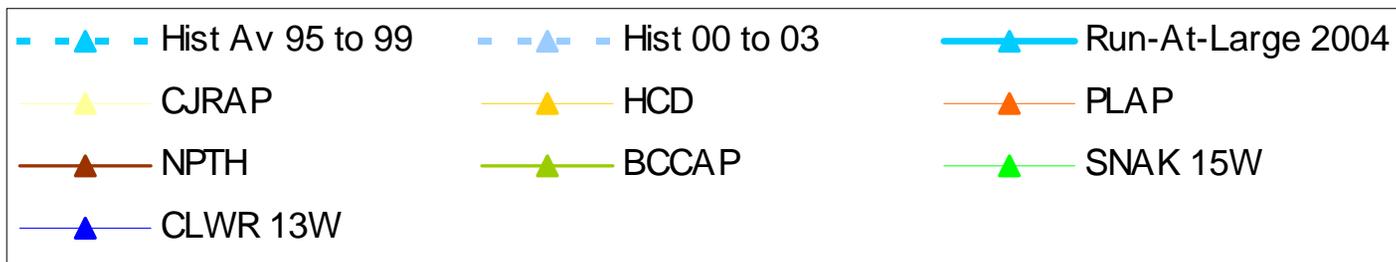
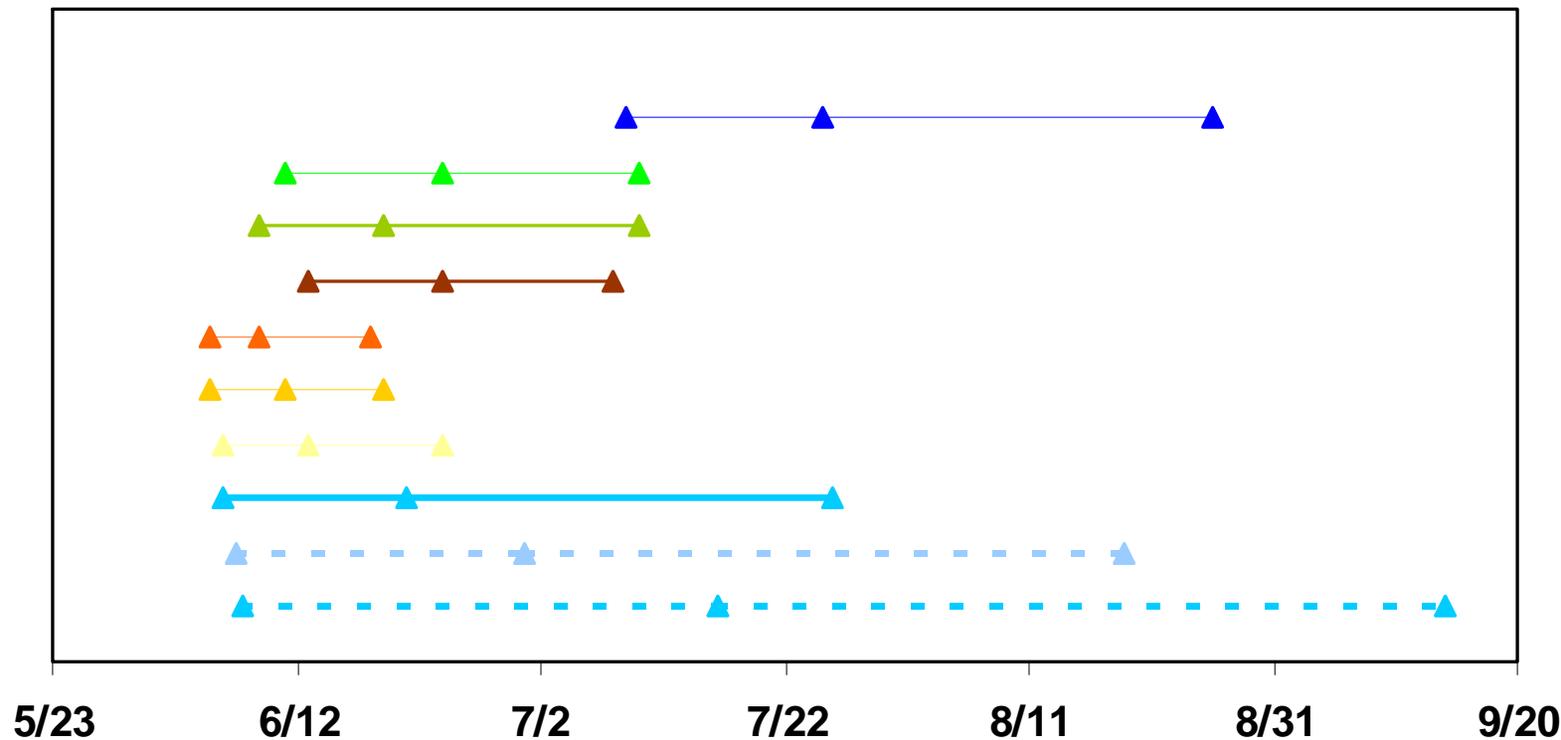
- Present tagging programs do not allow a precise breakdown, by stock, of the population of subyearling chinook passing Lower Columbia River dams in August. Our analysis of the presence of various stocks is based on PIT-tag passage data, hatchery release schedules, and tributary trap collections.



The 95% passage date at Lower Granite Dam for the run at large (hatchery and wild combined) and the wild PIT tagged fish.

YEAR	95% Passage Date Run at Large	95% Passage Date wild Snake River PIT Tagged Fish
1995	Oct 11	Sept 14
1996	Sept 20	Aug 27
1997	Sept 23	Sept 14
1998	Sept 26	Aug 15
1999	Sept 22	Aug 15
2000	Sept 08	Sept 14
2001	Aug 16	Aug 18
2002	Aug 31	July 28
2003	Aug 24	July 19
2004	July 26	July 10

Historic versus 2004 Subyearling Passage at Lower Granite Dam

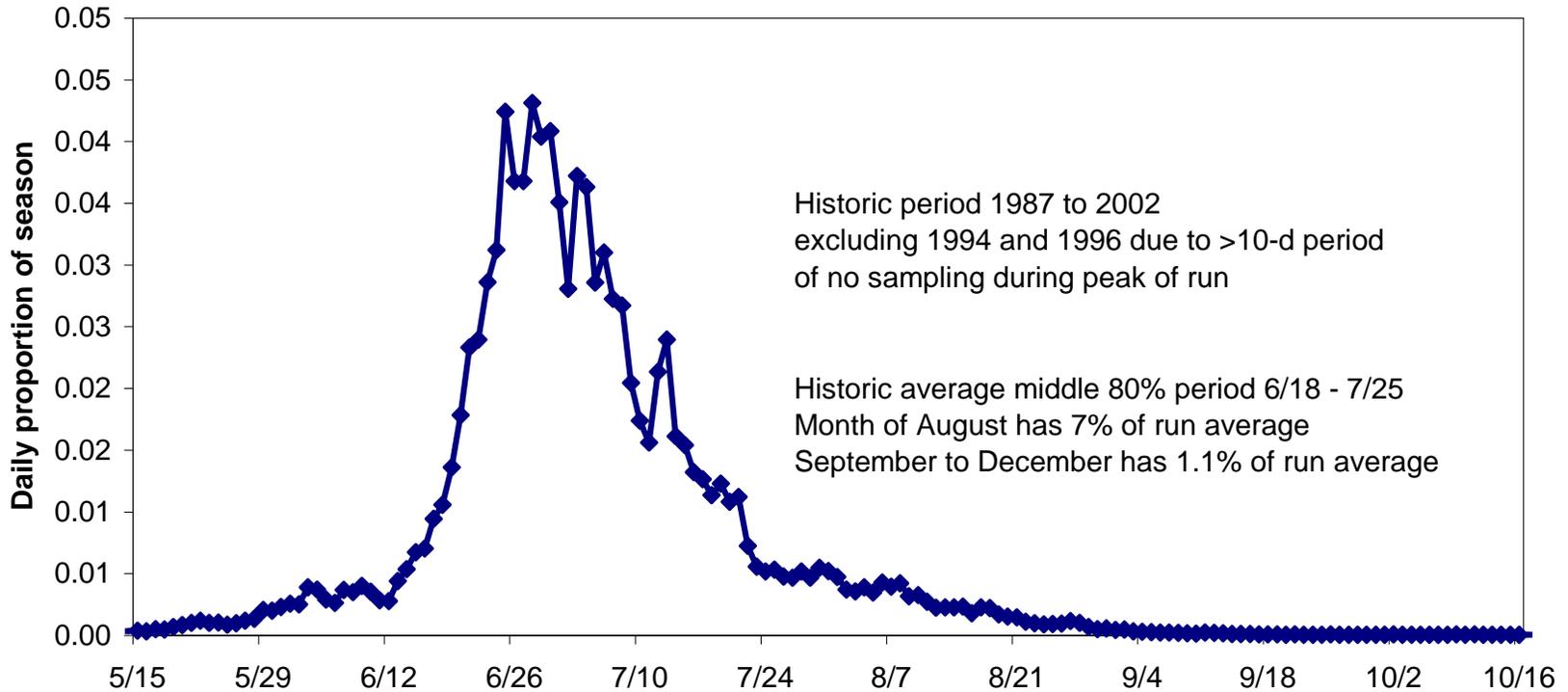


Snake River Subyearling Passage at LMN

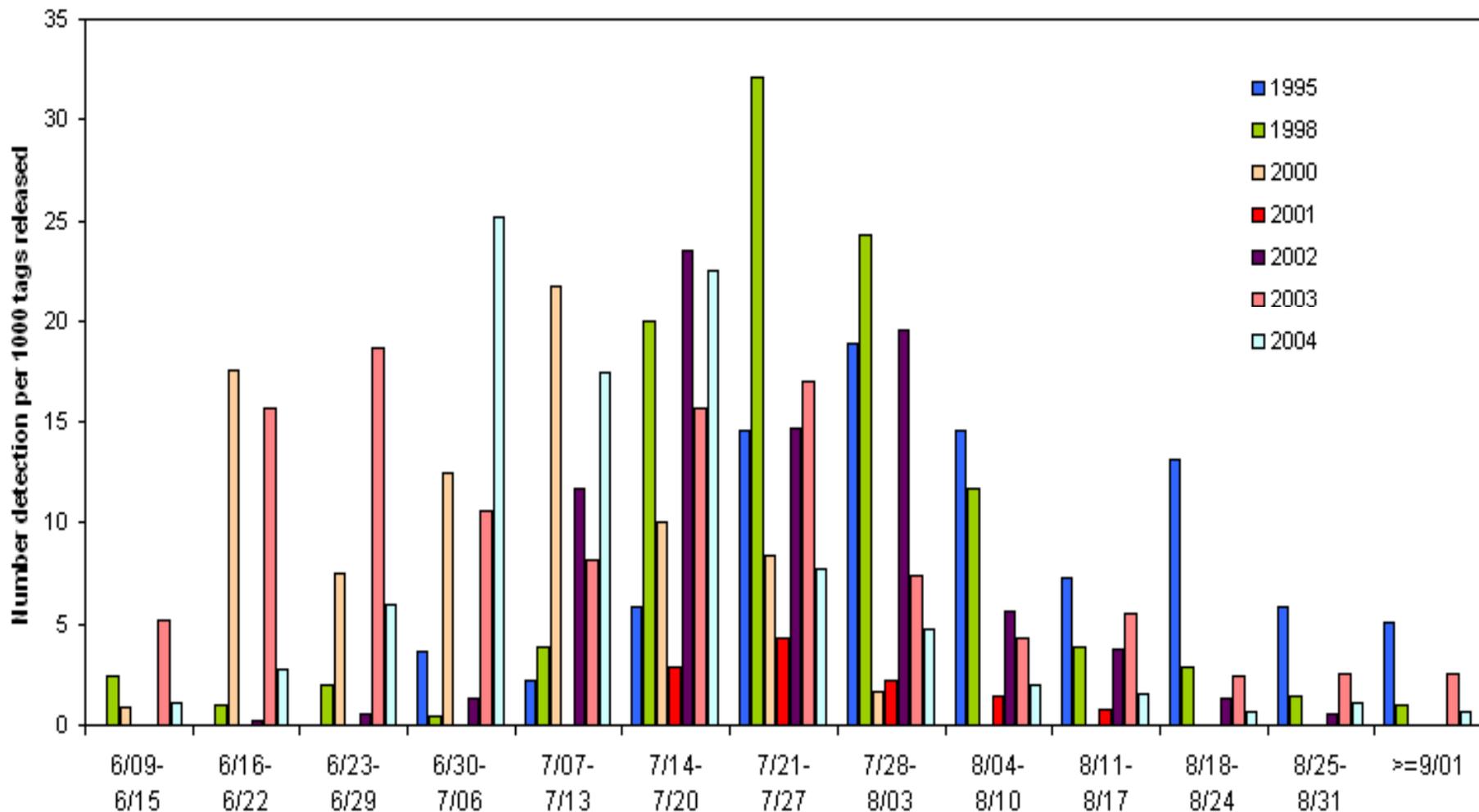
Passage Timing			
Year	5%	50%	95%
1994	7/8	8/30	10/20
1995	7/14	8/5	9/17
1996	6/14	7/26	8/24
1997	6/25	7/21	9/23
1998	6/22	7/21	8/14
1999	6/22	7/17	8/19
2000	6/21	7/6	9/27
2001	7/11	7/21	8/25
2002	6/28	7/14	8/9
2003	6/7	7/6	8/21
2004	6/15	7/14	8/1

Average subyearling chinook timing at McNary Dam.

Average Subyearling chinook timing at McNary



Snake River basin wild fall chinook passage timing at McNary Dam



From Dec 15, 2003 memo “Juvenile Fish Passage in the Lower Columbia River in August – Washington Stocks.”

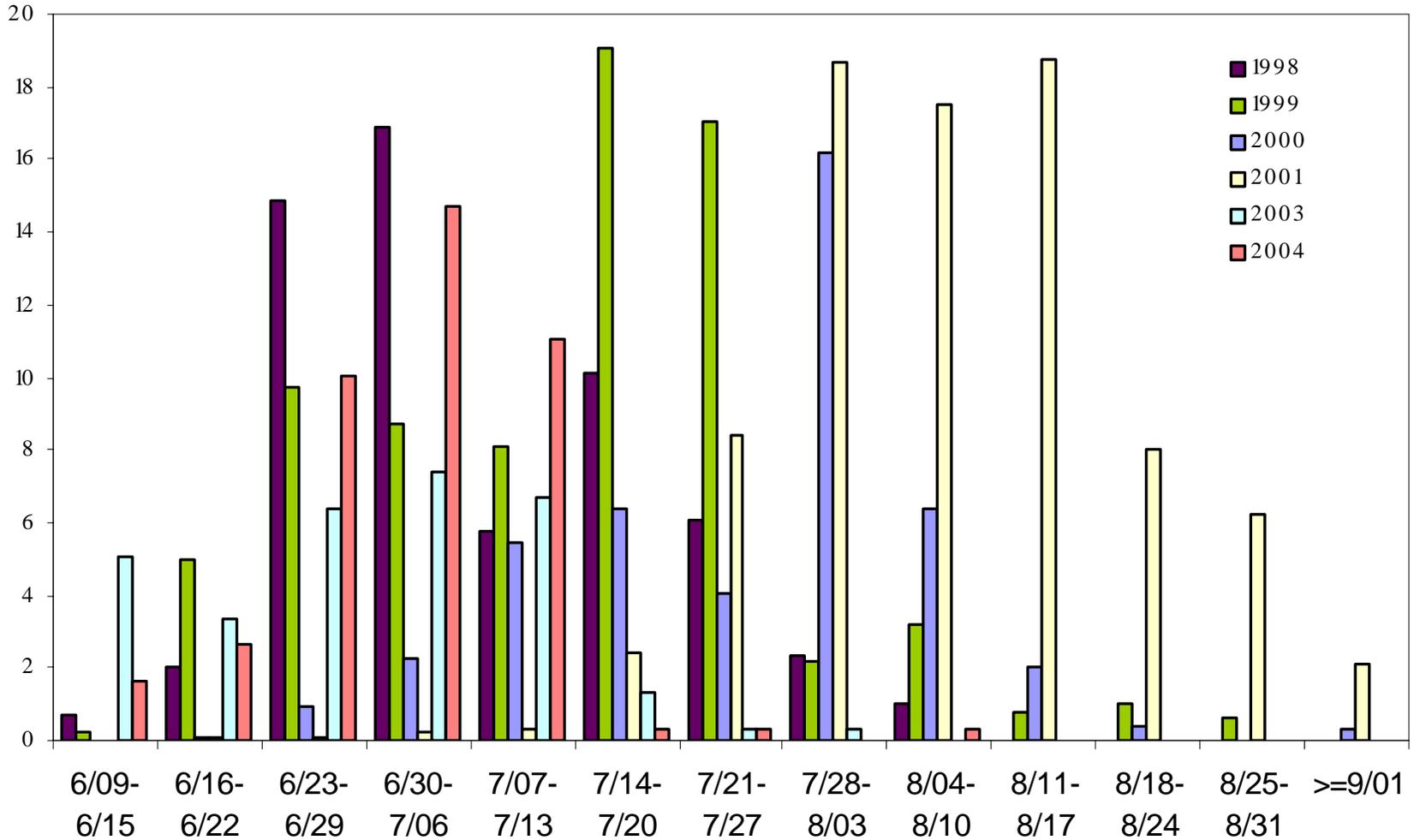
- PIT-tagged wild subyearling chinook from the Yakima Basin, Hanford Reach and Tucannon River have been detected at McNary, John Day, and Bonneville dams in August.
- PIT-tag subyearling chinook releases from Rock Island and Rocky Reach dams are a combination of hatchery and wild origin fish and provide some of the largest numbers of detections at Lower Columbia dams during August.

- PIT-tag detection data in the Lower River during August, indicate the presence of subyearling chinook released from Wells, Turtle Rock, Priest Rapids, Ringold, and Lyons Ferry hatcheries. In addition, PIT-tagged hatchery subyearling chinook from the Yakima Basin are also present during August. Of these hatcheries, Wells and Turtle Rock hatcheries tend to have later release schedules and later passage through the lower Columbia River.

Subyearling Population Index at McNary Dam for August 1992 – 2003

YEAR	8/1 to 8/15	8/16 to 8/31
2003	949,944	139,482
2002	771,437	550,113
2001	788,990	361,316
2000	1,168,668	304,032
1999	744,671	472,097
1998	523,606	172,724
1997	1,980,147	652,587
1996	1,193,721	404,474
1995	195,242	157,361
1994	77,023	43,518
1993	639,800	144,708
1992	138,145	47,032

Hanford Reach wild fall chinook passage timing at John Day Dam



Fall or unknown race chinook from Klickitat River Trap

Migration Year	Collection (June 1 to Sept 15)	Collection (July 20 to Aug 20)
2000	17,270	5,625
1999	61,961	6,461
1998	32,428	4,307
1997	14,118	442
1996	14,107	1,507

Percentage of Subyearling Chinook Migrants Observed During August

Year	Snake River Wild (McN)	Yakima River Wild (JDA)	Hanford Reach Wild (JDA)
1995	51.2		
1998	21.3	18.5	2.3
1999	47.3	21.2	9.2
2000	10.1	20.8	44.7
2001	33.3	12.8	66.7
2002	15.9		
2003	13.8	0*	0*
2004	5.6	0*	0*

Travel Times for Subyearling Chinook detected at McNary dam in August 1997 – 2003

Migration Year	N	Median Travel Time (days)
2003	7	7.4
2002	62	9.6
2001	49	13.2
2000	9	9.4
1999	40	5.0
1998	84	6.4
1997	40	5.0

Conclusions

- The historic passage data indicates that significant proportion of the summer migration is present in the lower Columbia River in August.
- The same data shows that the proportion of passage present in August varies from year to year, which is a function of several factors including flow.

- The smolt transportation program upstream and project operations largely affects the presence of juvenile fall chinook in the lower Columbia and lower Snake Rivers.
- The effectiveness of transportation of fall chinook juveniles is presently being evaluated. If a “spread-the-risk” policy for transportation of fall chinook is implemented in the future, the proportion of fall chinook present in the lower Columbia River and the lower Snake River will increase.