



FISH PASSAGE CENTER

847 NE 19th Ave., Suite 250, Portland, OR 97232

Phone: (503) 833-3900 Fax: (503) 232-1259

<http://www.fpc.org/>

e-mail us at fpcstaff@fpc.org

MEMORANDUM

TO: Brad Klippert

Michele DeHart

FROM: Michele DeHart

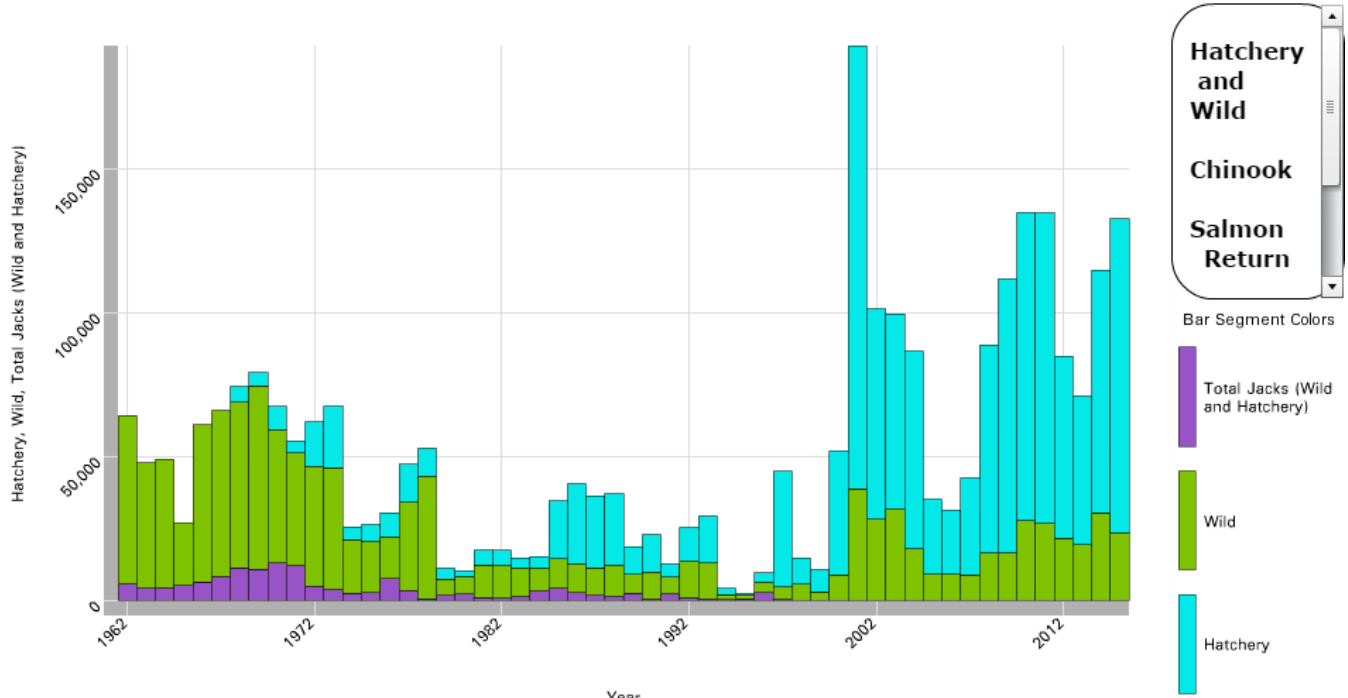
DATE: November 28, 2016

RE: Adult Salmon and Steelhead Dam Counts

In response to your questions about adult dam counts and whether or not adult dam counts can be used to determine the status of salmon and steelhead population numbers, the Fish Passage Center (FPC) staff summarized a few examples of adult return data to answer your questions.

Dam counts are either visual, collected by a person watching fish pass a counting window, or videotaped. The video tapes are reviewed by a person at a later date. The counter records the fish species; Chinook, sockeye, steelhead, and coho by visual recognition. The counters also record fin clips that they see, such as adipose fin clips. A fish with an adipose fin clip is recorded as a hatchery fish. However, it is important to note that not all hatchery fish have fin clips. This means that dam counts on their own can't be used to determine the number of wild fish returning. Dam counts can be misleading because they may represent primarily large hatchery returns that can mask the smaller returns of wild/natural populations and major population groups that are not rebuilding. Dam counts should be considered along with other data to assess the magnitude of adult returns. The following figures are provided as examples for your consideration.

Spring/Summer Chinook Return at Lower Granite Dam



Run Year	Hatchery	Wild	Total Jacks (Wild and Hatchery)	Total Run
1962	0	58,566	5,686	64,252
1963	0	43,514	4,139	47,653
1964	0	44,700	4,300	49,000
1965	0	21,900	4,979	26,879
1966	0	54,500	6,364	60,864
1967	0	57,700	8,208	65,908
1968	5,500	57,500	11,304	74,304
1969	4,600	63,700	10,792	79,092
1970	8,100	46,300	12,846	67,246
1971	4,200	39,000	12,062	55,262
1972	15,400	41,700	4,768	61,868

Figure 1. Hatchery versus wild/natural spring/summer chinook return to Lower Granite Dam, Follow Idaho Salmon Home website. http://216.206.157.62/idaho/web/apps/USR_lgrchinadultreturn_spsu_hatchery.php

Dam counts can be misleading because they may represent primarily large hatchery returns that can mask the smaller returns of wild/natural populations and major population groups that are not recovering. Figure 1, above is from an Idaho Department of Fish and Game website called Follow Idaho Salmon Home. Figure one illustrates the Spring/Summer Chinook adult return to lower Granite Dam, with the annual count at Lower Granite dam displayed in terms of Hatchery versus wild/natural origin Spring/Summer Chinook. Although it appears that the annual counts of spring summer chinook have increased, it is clear that most of that increase is due to hatchery released fish. Another notable point is that some recent years, 2005-2007 had low returns of both wild and hatchery stocks.

Upper Salmon River Estimated Chinook Spawner Escapement by Year

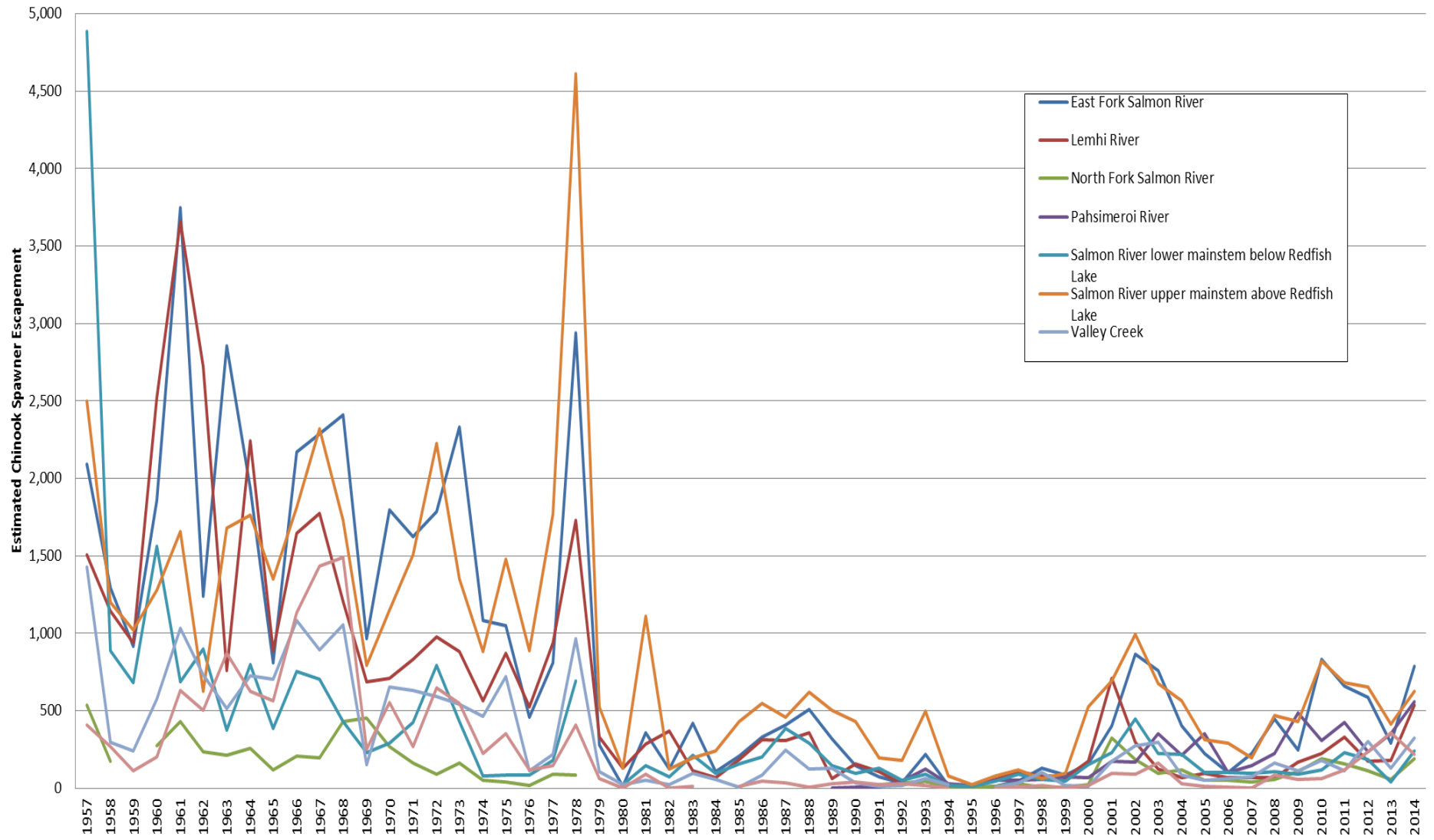


Figure 2. : Historic Spring Summer Chinook spawner escapement by year and major population groups

Figure 2, above, illustrates the spawner escape return of specific populations of Upper Salmon River Chinook major population groups. The figure shows that some populations are at very low levels. This would not be discernable from dam counts.

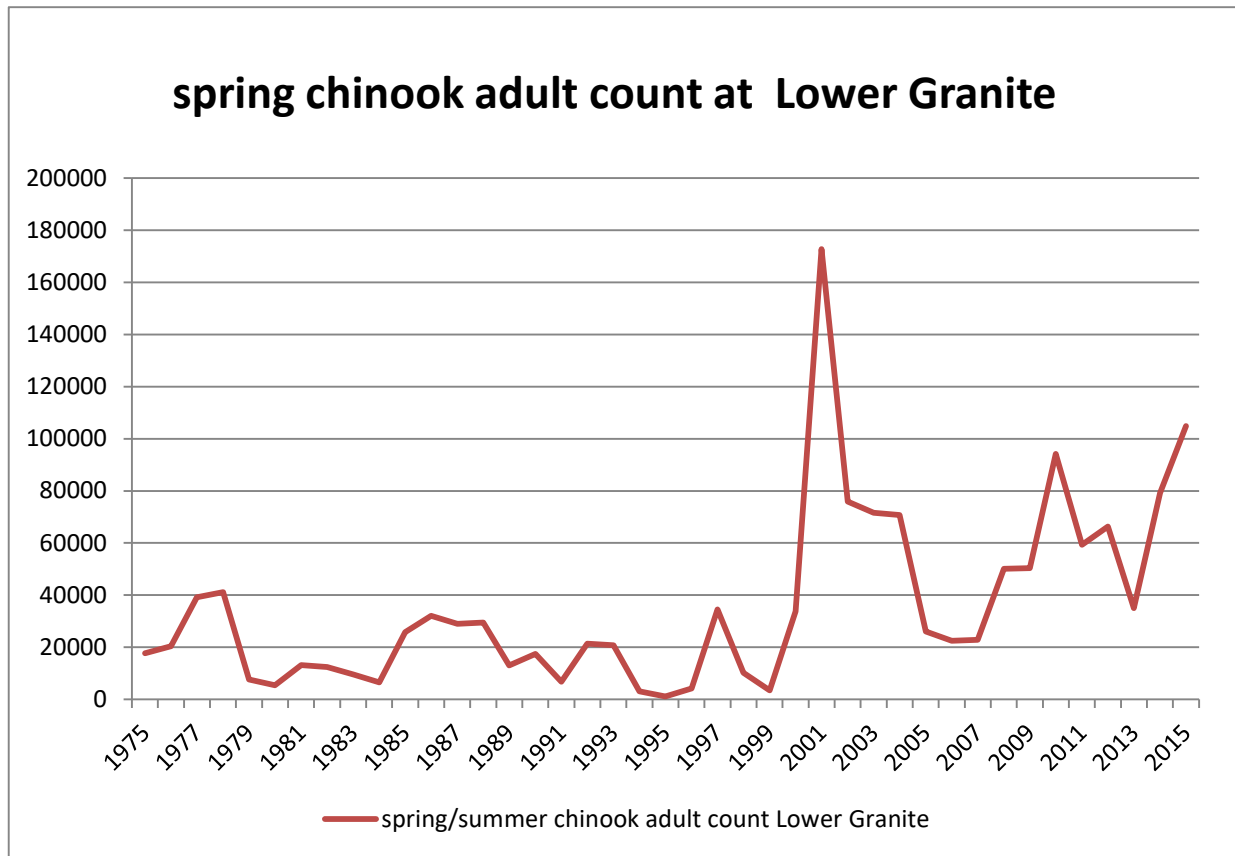


Figure 3. Spring chinook adult count at Lower Granite Dam

Figure 3. above, illustrates the overall adult count of spring chinook at Lower Granite Dam. By comparing the major population group graph to the overall count graph, you can see the potential that adult returns of weaker stocks can be obscured by larger returns of hatchery stocks.

Hopefully these few examples will help answer your questions about adult dam counts and whether or not they indicate rebuilding and recovery of salmon and steelhead. The question of status and strength of salmon and steelhead is complicated by many factors. Please call or email if you have further questions or need additional data summaries.