

Salmon returns to Columbia River look good so far

Local News

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This year's run of spring Chinook returning to the Columbia River -- 291,000 adults counted passing Bonneville Dam by the last day of spring -- is comfortably above the 10-year average of 204,000. By contrast, the annual average in the decade of the 1990s, when 12 populations of steelhead and salmon in the Columbia Basin were listed for protection under the Endangered Species Act, was only 60,500 fish.

Thus, the closing decade is shaping up to be one of the best since Bonneville Dam was completed in 1938, with three remarkable years: 2001, 2002 and now 2010.

On average, natural-origin returns of spring Chinook in the past ten years were higher than the extreme low levels of the 1990's. However, NOAA biologists said those '90s runs were well below the averages for the previous decades and make any subsequent increases look more dramatic. Increasing natural-origin returns to levels that can sustain production during low periods, they noted, remains a major objective of Columbia basin recovery efforts.

The agency's biologists say there are a number of reasons for these recent increases: juvenile salmon encountered highly productive ocean conditions in 2007 and 2008, and the region has made marked improvements to freshwater rearing habitat and hatchery practices in the Columbia Basin. The scientists also point to fish-friendly improvements to the basin's hydroelectric dams, and thus better conditions for migrating fish, and better management of salmon harvests.

Columbia salmon and steelhead runs have remained strong while other West Coast salmon stocks, including Sacramento River fall Chinook, declined. Fishing closures off the central and southern Oregon Coast were designed to protect Sacramento fish. Columbia River fisheries have remained open, with provisions designed to safeguard protected species.

The pattern of improved Columbia returns may apply to other salmon species as well, the biologists say. Virtually all Columbia River sockeye are wild-origin fish, originating predominantly from Osoyoos Lake in Canada, with a smaller proportion from Lake Wenatchee. In the Snake River, only a small number of sockeye have returned each year over the past two decades, with an increase in 2008 and 2009, but virtually all of these are of hatchery origin.

However, so far this year 274,782 adult sockeye salmon have passed Bonneville Dam, which is much higher than anticipated. NOAA Fisheries biologists say if this year's count follows a pattern similar to the past three years', the region might see more sockeye passing Bonneville than any time since 1955.

Last month's ocean survey, conducted by fishery biologists with NOAA Fisheries, hinted at good returns in coming years as well, according to John Ferguson, director of the fish ecology division at NOAA's Northwest Fisheries Science Center in Seattle.

"We caught a lot of young salmon in our ocean sampling during May" he said. "That's always a promising indication that we may see good numbers of returning adults next year and the year after, if ocean productivity holds."

Each year to aid salmon managers, NOAA assesses ocean conditions that juvenile salmon experience. These assessments measure a broad array of factors: atmospheric conditions in the North Pacific Ocean and equatorial waters, local sea-surface temperatures, salinity, availability of food for young salmon in Pacific Northwest waters and how many juvenile salmon migrate to the ocean.

"Interestingly," Ferguson said, "we also captured an unusually high number of juvenile sockeye salmon. These were likely from the large number coming from the upper Columbia River this year."

One set of numbers that still has fishery scientists scratching their heads are the recent Chinook jack counts. Jacks are precocious males that return a year earlier than their adult cohorts. In previous decades they have provided reasonable estimates of the number of adults that will return the following year, enabling fishery managers to set harvest limits with some degree of confidence.

However, in the past decade jack counts have led to under- and over-predictions of actual adult returns. Last year, for example, more than 87,000 jacks were counted at Bonneville by June 20. That means there was about one jack for every two adult Chinook salmon, but typically there is only one jack for every 10 or 15 adults. Last year's jack count, if used traditionally, would have vastly overestimated this year's adult returns. Harvest managers had to take this high jack rate into consideration when developing harvest allocations. The exact reason jacks are returning at increasingly variable rates is unknown.

It is too soon to say much about steelhead counts at Bonneville Dam this year, because these fish are just starting to enter the river. However, steelhead numbers, while not as dramatic as those for Chinook, are also up: 27,500 had passed Bonneville Dam by June 27, substantially above the 10-year average of 16,200 for that date. This follows a general pattern of improved steelhead runs, where approximately 400,000 steelhead were counted passing Bonneville Dam each year this most recent decade compared to 217,000 counted annually from 1990 to 1999.

Typically, about 80 percent of adult salmon returns to the Columbia Basin are of hatchery origin. Under the Endangered Species Act, the long-term focus is on protecting natural-origin fish and their ecosystems. Rebuilding runs of natural-origin salmon and steelhead continues, and some are doing better than others. Upper Columbia spring Chinook, for instance, are categorized as "endangered" and efforts to aid these fish remain a high priority.

The Federal Caucus is a group of ten federal agencies operating in the Columbia River Basin that have natural resource responsibilities related to the ESA. The agencies work together to better integrate, organize, and coordinate the federal fish recovery and water quality efforts in order to improve the Columbia River Basin aquatic ecosystem, and coordinate execution of federal trust and treaty responsibilities to Basin Native American tribes. The Caucus accomplishes these purposes consistent with each member agency's missions and responsibilities. For more information, visit www.salmonrecovery.gov