California Chinook Salmon Population Data

FOR STUDENTS

Historical Background:
By 1852, sediment from California gold mines had nearly destroyed Chinook Salmon spawning grounds and resting pools on the Sacramento, Yuba, Mokelumne, Feather, and American Rivers. In 1878 public concern over the decline in fish species, especially salmon, led to the creation of the State Board of Fish Commissioners. The board established salmon hatcheries as a means to stabilize fish populations. The focus of commercial fishing in California was placed on ocean fisheries by 1920. Construction of the California network of dams began in 1923 with the O'Shaughnessy Dam built on the Toulumne River, followed by Shasta Dam in 1945 (historic salmon spawning grounds were eliminated). In 1951 the Friant Dam eliminated the spring-run salmon in the San Joaquin River. From 1940 to 1960 all Central Valley rivers of any size (except the Cosumnes River) were dammed in the foothills. See the attached map.

Estimates of Returning Central Valley Fall-run Chinook Salmon
Historical Through 2017

Year	Number of Salmon	Year	Number of Salmon
Historic	1,000,000	1987	297,000
1954	487,000	1990	87,000
1957	118,000	1993	165,000
1960	476,000	1996	351,000
1963	294,000	1999	414,000
1966	195,000	2002	872,000
1969	320,000	2005	437,000
1972	153,000	2008	71,000
1975	195,000	2011	227,000
1978	156,000	2014	255,000
1981	260,000	2017	100,000
1984	262,000		

Source: California Department of Fish and Wildlife

The dams of the Central Valley present a major challenge for sustaining Chinook Salmon populations. They prevent Chinook Salmon from swimming to higher elevation streams where colder water temperatures provide the necessary conditions for spawning. Between 1942 and 1980, a total of seven hatcheries were established to help mitigate the impact to salmon populations in California's Central Valley caused by water development projects. These hatcheries release more than 40 million juvenile salmon annually. California, from 1950 to the present, has been the national leader in agricultural production; farming and ranching use 30% of the state's land, and most crops require irrigation and use 85% of the state's developed water. The California Central Valley grows approximately one third of U.S. food.


O'Shaughnessy Dam

Visit ***www.projectwild.org/aquatic*** for links to additional information on the San Francisco Bay-Delta Watershed, as well as an electronic color version of the map titled *California's Central Valley: A Transformed Watershed* included in this activity.