

# WHERE HAVE ALL THE SALMON GONE?

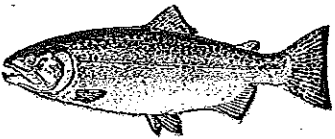

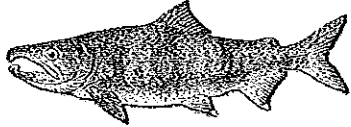
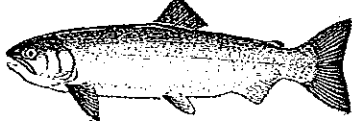

## INTRODUCTION

The mighty Columbia River once flowed wild, untamed, and full of salmon. Settlement of the West brought tremendous change to the river and consequently to the salmon population. In this activity you will have the opportunity to examine changes in the salmon population and factors that have led to change.

## OBJECTIVES

In writing, students will Interpret and make inferences about fluctuations in fish populations from actual data, as well as analyze the effects of human use and habitat changes on a fish population.

**SPECIES** Read about each of the Columbia River salmon species.

<p><u>Chinook Salmon</u></p> 	<p>Considered to be the most abundant and valued fish species for catching. They migrate the entire length of the river. Largest in size of all the salmon species.</p>
<p><u>Coho Salmon</u></p> 	<p>This species is considered 2<sup>nd</sup> to the Chinook in terms of popularity and economic value. They migrate only up to the lower middle part of the Columbia.</p>
<p><u>Chum Salmon</u></p> 	<p>This species has never been popular because they do not bite a hook well. They are usually caught with nets. This species is found only near the mouth of the river.</p>
<p><u>Sockeye Salmon</u></p> 	<p>This is the smallest species of the Columbia River salmon. They migrate to the uppermost part of the river. They require lakes for successful spawning. This species is also taken with nets.</p>
<p><u>Steelhead Salmon</u></p> 	<p>This species migrates throughout the Columbia River system. Habitat requirements are more demanding than the other salmon species.</p>

Read the history of the Columbia River fishing industry below.  
Answer the analysis questions that follow.

1866	Opening of the first fish cannery on the river
1869-1883	Canning of Chinook jumped from 100,000 to 630,000 cases
1880-1889	43 million lbs. of Chinook taken by commercial fishers
After 1883	Canneries began to use other salmon species
1877-1878	First efforts to regulate fisheries by the state of Washington Limited enforcement but control over amount and type of gear
1900-1909	30 million lbs. of all salmon species taken
1915-1920	40-44 million lbs. of fish taken due to World War I demand
1920	Approximately 1000 commercial trollers operating in the ocean At least as many river boats using gill nets, seines, and traps
1933-1938	Construction of the first dam on the lower Columbia
After 1935	Only gillnetters allowed on the river All other commercial fishing techniques banned
1941	Second dam built on the upper Columbia No fish ladders built to accommodate salmon migration
1940-1950	Four more dams built between the initial two dams
1930-1950s	Extensive logging on the lowest part of the river system
1950s	Six dams built on a major tributary of the river Government launches a massive hatchery program for the following species: Chinook, Coho, and Steelhead
1953	Another dam built on the main river
1957	Another dam built on the main river
1950-1960s	Greatly increased ocean harvest of Chinook and Coho
1968	Another dam built on the main river
1968-1973	Nitrogen super saturation due to runoff water causes a fish kill
1960-1980	Improved fish hatchery techniques for Chinook, Coho, and Steelhead
1970s	Commercial use of Steelhead banned
1980s	Intensive ocean regulation of Chinook and Coho