

RIVER OF LIFE CHANNEL OF DEATH

Fish and Dams on the Lower Snake



E I T H C . P E T E R S E N

RIVER OF LIFE
CHANNEL OF DEATH
Fish and Dams on the Lower Snake

KEITH C. PETERSEN

A James R. Hepworth Book

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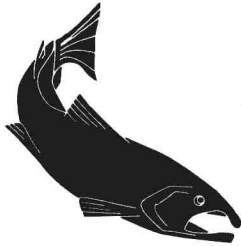
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To Candy and Carol

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Chronology

c. 10,000 B.C.

The last of the Missoula Floods, the greatest in geological history, destroy all evidence of possible earlier human life along the lower Snake River.

c. 8,000-9,000 B.C.

People are living in the Marmes Rockshelter along the lower Snake River; the Snake River provides an essential supply of food and water to these ancient residents.

c. 1750 Nez Perce Indians acquire horses.

1802 Congress establishes the U.S. Army Corps of Engineers.

1805 Lewis and Clark journey down the lower Snake River.

1836 Henry Spalding establishes a mission near the confluence of the Clearwater and Snake rivers.

1860 Elias Pierce discovers gold on the Clearwater River in Idaho.

The *Colonel Wright* becomes the first steamboat to navigate the lower Snake River to newly-founded Lewiston.

- 1861 Lewiston grows into a raucous tent city supplying goldrush miners.
- 1862 Lewiston becomes the capital of the new Idaho Territory.
- 1876 The first load of Palouse country wheat is transported down the lower Snake River by steamboat to Portland.
- 1896 The Corps of Engineers constructs Cascade Locks on the Columbia River as the first step in creating a year-round navigable waterway along the Columbia and Snake rivers.
- 1915 The Corps of Engineers constructs Celilo Canal, opening another part of the Columbia River to year-round navigation.
- 1930 The Corps of Engineers presents to Congress its Snake River "308 Report," outlining potential development plans for the river.
- 1933 Franklin Roosevelt directs the Corps of Engineers to construct Bonneville Dam on the lower Columbia River, the first Corps dam on the Columbia/Snake waterway.
- 1934 The Inland Empire Waterways Association is organized to lobby for an "open river" from Lewiston to the Pacific Ocean.
- 1945 Congress authorizes the Corps of Engineers to construct the Lower Snake River Project to bring year-round navigation to Lewiston and to generate hydropower.
- 1948 The Corps of Engineers establishes a new district at Walla Walla, Washington, to oversee construction of the four-dam Lower Snake River Project; the Walla Walla District will grow to supervise more construction activity than any other district in the Corps nationwide.
- 1952 Biologist Harlan Holmes estimates that each dam built on

the Columbia and Snake rivers will kill 15 percent of juvenile salmon passing through; the Corps of Engineers refuses to publicize his report.

- 1955 Congress awards the Corps of Engineers first funding for Ice Harbor Dam on the Lower Snake River after ten years of effort by fishery agencies to halt construction of the project because of the agencies' concerns that the lower Snake dams will destroy Idaho salmon runs.
- 1961 Ice Harbor, the first of the four lower Snake River dams, comes on line.
- 1962 Rachel Carson writes *Silent Spring*.
Congress authorizes the Corps of Engineers to construct a dam at Asotin, Washington.
- 1965 Roald Fryxell finds 10,000-11,000-year-old human bones near Marmes Rockshelter on the lower Snake River, the oldest human bones ever found in North America.
- 1968 Idaho senators Frank Church and Len Jordan propose a ten-year moratorium on dam building on the Snake River above Lewiston.
- The first barge transportation of juvenile salmon and steel-head around lower Snake River dams begins in an effort to preserve Idaho's anadromous fish runs.
- 1969 Congress passes the National Environmental Policy Act.
Lower Monumental Dam comes on line, flooding Marmes Rockshelter.
- 1970 The United States celebrates the first Earth Day.
- The National Marine Fisheries Service calculates that as many as 70 percent of Idaho salmon smolts die from dam-produced nitrogen supersaturation on their way down the lower Snake River.

Conservation organizations file suit against the Corps of Engineers to halt construction of Lower Granite Dam and deauthorize Asotin Dam in an effort to preserve fish runs.

1973 Congress passes the Endangered Species Act.

1975 Lower Granite Dam completed.

Slackwater comes to Lewiston after more than one hundred years of effort to create a year-round navigable waterway from Idaho to the sea.

American Society of Civil Engineers names the Lower Snake River Project the nation's outstanding water resources achievement of the year.

Congress creates the Hells Canyon National Recreation Area and deauthorizes the Corps of Engineers' Asotin Dam.

1976 Congress passes the Lower Snake River Fish and Wildlife Compensation Plan, the largest federal mitigation effort in United States history to that time.

1980 Congress passes the Pacific Northwest Electric Power Planning and Conservation Act with a goal of giving anadromous fish equal consideration with hydropower on the Columbia/Snake river system; the act forms the Northwest Power Planning Council.

1988 Congress passes legislation prohibiting the licensing of any dam at Asotin, whether public or private.

Snake River coho salmon become extinct.

1990 One sockeye salmon manages to return to Idaho past the eight Corps of Engineers' dams on the Columbia and Snake rivers.

- 1991 American Fisheries Society reports that 214 salmon species in the West face extinction.
- Snake River sockeye salmon listed as an endangered species.
- 1992 Environmentalists encourage lower Snake River drawdowns in an effort to create a more natural migration of salmon smolts; the Corps of Engineers undertakes an experimental drawdown behind Lower Granite Dam.
- 1993 American Rivers names the Columbia/Snake waterway the nation's most endangered river.
- 1994 The 9th Circuit Court of Appeals rebukes the Northwest Power Planning Council for emphasizing hydropower production along the Columbia/Snake waterway at the expense of protecting salmon.
- The Northwest Power Planning Council announces an expansive salmon recovery plan for the Columbia/Snake river system.
- The Columbia River is closed to commercial salmon fishing by non-Indians.
- Snake River chinook salmon listed as an endangered species.



Prologue

Rivers slice through time and place. The Snake River has carved deep canyons into the landscape while it has cut through more than ten thousand years of human history. During all that time it has provided many of life's essentials for those living near it: food, water, protection, transportation, power. Studying a river like the Snake reveals much about people and place and changing times. Rivers, in other words, offer us one of our best windows to the past. As historian Donald Worster has said, "To write history without putting any water in it is to leave out a large part of the story. Human experience has not been so dry as that."¹



It's a warm May morning at Lower Granite Dam, isolated in the Snake River canyon in southeastern Washington about twenty-five miles from Pullman, a college town of twenty thousand—the nearest population base. Iron cables and thick yellow nylon ropes fasten a tug and barge to a steel abutment just downstream from the dam's powerhouse. Like surgical tubing connecting vessel to mainland, plastic pipes wind their way through an Erectorset-like building onto the barge and snake into cargo doors. Water draining through the tubes enters watery bays on the barge and small objects appear through the clear plastic, streaming onto the barge.

These specks are tiny fish, shimmering silver in the hose's stream—fingerling steelhead and salmon in the early stages of smoltification, the period in their lives when they turn from freshwater beings into ocean

dwellers and swim in the Pacific for a few years before venturing back upstream to spawn. In a few hours the dam's fishways will disgorge slightly more than twenty tons of young fish onto the barge. At about seven to the pound, the craft will carry somewhere near three hundred thousand smolts as it sets off downstream at noon. Thirty hours later, below Bonneville Dam on the Columbia River, doors under the barge will drop open and the thousands of little fish will glide down the last hundred miles of river on their own, having taken advantage of the tug ride to bypass three hundred miles of slackwater reservoirs, thousands of predatory fish, and seven more dams on their way to sea.

It isn't hard to find humor in this situation—fish taxying downriver on a barge. A hundred years ago, millions of smolts exited to the ocean each year without artificial aid. Sixteen million adult fish annually made it into the Columbia's mouth, powering their way upstream to virtually every tributary river and creek in Washington, Oregon, and Idaho, many traveling more than nine hundred miles through some of the mightiest rivers in America, a feat roughly equivalent to swimming uphill from Dallas to Chicago. As late as the 1930s Pacific Northwesterners still told stories of spawning streams so chock-full of salmon a person could walk on their backs. But today the lower Snake and Columbia rivers are not rivers at all. They are a staircase series of slackwater pools and the young smolts—killed at dams, eaten by warmwater predators, and threatened with fatal timing dysfunctions if they fail to make it to the ocean promptly—can no longer navigate this man-made maze without help. Indeed, there is no guarantee they will survive even with this artificial taxi-barge life support system.

It would be easy to see the humor, that is, if you failed to recognize that *The Chinook*, the barge on which the fish will depart from Lower Granite Dam on this day, is a million-and-a-half dollars worth of state-of-the-art fish transportation technology, that it is only one of six sophisticated fish-carrying craft daily plying the Columbia River system during spring and summer smolt runs, and that these barges represent but a trifling percentage of the billions of dollars Americans have or soon will invest in an effort to save the Snake/Columbia anadromous fish runs.

It would also be easier to see the humor if you could ignore the people whose livelihoods await an answer as to whether the fish can be saved. There are those directly affected by each decision made about fish and dams on this river system—commercial Indian and white fishers; port employees who rely on slackwater navigation; farmers who irrigate their fields from dwindling supplies of Snake/Columbia water; aluminum

workers whose jobs depend upon a steady flow of inexpensive hydroelectricity from the dams' generators. And then, of course, there are many—many—thousands more who have come to expect the cheap power that dams provide. Indeed, were it not for the Columbia and Snake dams and the economic boom they brought during and after World War II, most residents of the region would not live here today. And indeed, it is difficult to imagine that any of the nine million dwellers of the three Northwestern states will go unaffected either directly or indirectly in the upcoming struggle to determine whether the region can have both dams and salmon. All of them either rely on the river system for power or transportation, or will be asked to foot a large part of the fish-saving bill via higher power rates and taxes.

It would be much easier to see the humor if you did not know that American Rivers, the nation's largest river conservation group, named the Columbia/Snake waterway the country's most endangered river; that the once prodigious Snake river coho salmon is now extinct; that in 1990 one Snake River sockeye salmon managed to make it back to the stream where hundreds of thousands once swam. The National Marine Fisheries Service has listed the sockeye and Snake River chinook salmon as endangered. As Steve Pettit, fish passage specialist for the Idaho Department of Fish and Game has said, these endangered species listings have the potential to make the spotted owl crises—an endangered species controversy affecting a mere thirty thousand woods workers in Oregon and Washington—"look like a pillow fight." Never has there been an environmental issue in Northwest history more widely discussed and reported, and never has there been one with the potential to impact so many people.²



In western Wyoming, high mountain peaks shed water into creeks with names like Fox, Wolverine, Rodent, Crooked, Sickle, and Basin. Their union gives birth to the Snake River.

The Snake flows west to the Lewis, then turns south into the Jackson Hole country. Paralleling the Teton Range, it gains additional energy from the Gros Ventre and Hoback rivers before entering Idaho.

Moving west, in the days before dams and irrigation diversions, it dropped precipitously in a series of spectacular waterfalls, some of which lent their names to cities: Idaho Falls, American Falls, Twin Falls, taller-than-Niagara Shoshone Falls, Augure Falls, and Salmon Falls, all the

time gathering force from the accumulated waters of the Blackfoot, Portneuf, Raft, Big and Little Wood, and Bruneau rivers.

Reaching Idaho's western border, the Snake turns abruptly north, forming the boundary between Oregon and Idaho, taking on the waters of Owyhee, Malheur, Burnt, Powder, Boise, Payette, and Weiser rivers. Flowing now with the force of one of the world's great streams, the Snake hurtles through Hells Canyon, the deepest gorge in North America. The Salmon and the Grande Ronde enter, and the river becomes the boundary between Idaho and Washington.

The Clearwater joins at Lewiston, Idaho, where the Snake turns abruptly west to arc through southeastern Washington, amassing more strength from streams like the Tucannon and Palouse before merging into the Columbia at Pasco, Washington, as the largest tributary of the Great River of the West. Before that confluence the Snake has flowed 1,036 miles (the nation's seventh-longest river), gathered water from six states, cut across a significant portion of the American West, and served as an umbilical cord, a lifeline to some of the driest and most isolated parts of the nation.

Different people have different ideas about just where it starts, but somewhere near Lewiston, where the Clearwater feeds in, most people say the "lower" Snake begins. During its last 140 miles, this portion of the river transects some of the nation's richest agricultural country, cutting a gorge two thousand feet deep, before exiting through fertile but dry desert land near its confluence with the Columbia.

Along this stretch of the lower Snake River the U. S. Army Corps of Engineers constructed four dams and attempted to build a fifth. This book is the story of how people came to settle this region and demand such river alterations—and how some eventually came to oppose them. It is a history of the long struggle to bring navigation to Lewiston and hydropower to a region; of the influence of powerful congressional representatives and booster organizations; of a clash of cultures between Indians and whites and later contention between environmentalists and developers; of the role of the federal government in Western settlement. It is also the chronicle, yet unfolding, of the conflict between native wildlife and dams. In microcosm it is, in many ways, the story of the American West.



Along with the three hundred thousand fish, a captain, a pilot, two deckhands, and one barge tender, I climbed aboard the fish barge *Chinook*

and the tugboat *Idabo* for the ride from Lower Granite Dam, past Little Goose and Lower Monumental dams, to Ice Harbor Dam, near the Snake's confluence with the Columbia.

I have lived in the lower Snake River country for a quarter of a century. We residents of the inland Northwest depend upon the river to haul our crops to market, to light our homes, and to heat our schools. But we have, during the course of more than a century of white settlement, all but turned our backs on the river—so much so that the only way to really see it today is by boat. Except for a few isolated spots for a few isolated miles, you cannot drive along the lower Snake. You can zigzag across it at a few places—at a handful of bridges and over the four dams. But you can't drive near it for any extent of time, and this is inhospitable country for hikers, particularly in summer when the sun bakes the riprapped shore banks and the rattlesnakes come out. So, to most of us, the lower Snake remains an enigma in our backyard.

The Army Corps of Engineers, owners of the barge upon which I will travel and builders of the dams that have created the fish crisis, is likewise something of an enigma. Writers have long ignored this federal agency. The Bureau of Reclamation's role in watering the West has had the luxury of good historical syntheses.³ But the Corps, with its influence centered in navigation, hydropower, and flood control, still awaits such analysis. Yet it is difficult to think of a single federal agency in the West—particularly the Pacific Northwest—that has more dramatically affected the region.

The federal government spent \$33 million on Western water development in 1939. Just ten years later it expended seven times that much, and water budgets continued to rise. By the 1940s, when Congress authorized the Corps to build the lower Snake dams, one out of every four federal dollars invested in waterways development flowed into the State of Washington, and by 1960 Washington and Oregon gobbled up nearly a third of all multipurpose water project funds. Nothing before or since transformed the region so thoroughly. Historians now call the period from the 1930s to the 1970s the "dam building era" in the Northwest. During that time the Army Engineers became the nation's largest builder and operator of hydroelectric facilities, responsible for constructing the vast majority of federal dams that remade the Pacific Northwest into one of America's most important industrial regions.⁴

The tiny fish that *The Chinook* will haul on this day are an enigma, too. If you visit a fish-viewing room at any of the dams along the Columbia and Snake rivers you might see mature salmon steadily climbing fish ladders to