“We don’t own this planet. We are borrowing it from our grandchildren.”

- Cecil Andrus

The sections of this package are:

Salmon in Idaho History
The History and Ecology of Salmon in the Northwest
Idaho Public Lands and Salmon
Salmon Fishing in Idaho: Selections by Ted Trueblood
Salmon Magic I: Selections by scientists Robert Behnke and Jim Lichatowich
Salmon Magic II: Selections by David James Duncan
Salmon selections by Cecil Andrus

All introductory and bridging text, in separate typeface, is by Pat Ford.

The right-hand pocket holds two copies: a Ted Trueblood story on fishing for salmon on the Weiser River in the 1950s, and the “River of No Return” chapter from Cecil Andrus’ autobiography, “Politics, Western Style.” The left-hand pocket holds a summary of the salmon-and-dams decision calendar now before Northwest people, leaders, states and tribes.

The photographs used here document Idaho salmon and steelhead fishing in Idaho in the 1930s, ’40s and ’50s. They were taken in Bear Valley, along the Middle Fork of the Salmon, and in the Stanley Basin. They are from the Ted Trueblood Special Collection at Boise State University Library. The photograph on page 13 of salmon fishers on the Clearwater River is used courtesy of Cort Conley.
Salmon were in Idaho when the first human being set foot in what would become our state, some 12,000 to 16,000 years ago.

Just 212 years ago, Meriwether Lewis became the first recorded white man to enter Idaho, on August 12, 1805, at Lemhi Pass. The next day, he was given salmon by a Shoshone Indian: “On my return to my lodge an Indian called me into his bower and gave me a small morsel of the flesh of antelope boiled, and a piece of fresh salmon roasted; both which I eat with a very good relish. This was the first salmon I had seen and perfectly convinced me that we were on the waters of the Pacific Ocean.”

The Native Period. Archaeological evidence and oral traditions confirm three facts about these 10,000-plus years. First, salmon existed in abundance that is inconceivable to us today. The most widely accepted estimate is that 10 million to 16 million adult salmon and steelhead returned annually to the Columbia Basin (NW Power Planning Council 1987). An extrapolated estimate for the Snake Basin is 4 million to 7 million annually.

Second, native people used salmon very heavily. Dr. Alan Scholz, fisheries professor at Eastern Washington University, cites a careful 1958 estimate by Randall Schalk, of the U.S. Army Corps of Engineers, that native people harvested an average 41,700,000 pounds of wild salmon annually in the Columbia-Snake Basin. Compare this to the pre-hatchery downstream industrial fishery of 1883-1919, which surpassed 41 million pounds only eight of 36 years (NW Power Planning Council 2008).

Third, dozens of native bands or tribes, inhabiting dozens of river localities up to 900 miles apart, evolved cultural norms and fishing rules that assured salmon were able to continue their abundance and productivity, despite such constant heavy harvest. From the Lemhi Valley to the Columbia estuary, people constructed complex weirs and temporary dams that allowed them to harvest huge numbers of salmon. (William Clark saw a four-part weir operating across the entire Lemhi River on August 21, 1805). But these were removed or breached for critical periods to allow upstream migration of similar huge numbers. Native people possessed the technology to overharvest salmon, especially in upstream terminal areas like the Salmon and Clearwater. Overharvest surely occurred, though we do not know how often. But for thousands of years the rules were mostly kept. For each tribe or band it was a matter of survival, but their cultural and spiritual norms also took account of other tribes’ and bands’ survival, up and down river.

Early Historical Accounts. Starting with the Journals of Lewis and Clark, here is a sampling of historical accounts of Snake River salmon and steelhead. Together, these accounts document large numbers of salmon over much more of Idaho than exists today, and very heavy harvest by trappers, miners, militaries, settlers, and re-sellers.
Salmon appear nearly 300 times in the Journals. When the party is on the Lemhi and Salmon Rivers, in August and early September 1805, and in Clearwater Country and the lower Snake in late September-October 1805, salmon are mentioned nearly every day. The Shoshone and Nez Perce Indians they encountered were fishing for, eating and drying salmon. The expedition also relied on salmon they caught, and that they purchased from or were given by Indians.

August 21, 1805. Clark has his first look at Indian salmon fishing technology, on the Lemhi River:
“This morning early Capt. C. resumed his march; at the distance of five miles he arrived at some brush lodges of the Shoshones inhabited by about seven families where he halted and was very friendly received by these people, who gave himself and party as much boiled salmon as they could eat…After smoking with them he visited their fish wear [weir] which was about 200 yds. distant. He found the wear extended across four channels of the river which was here divided by three small islands. Three of these channels were narrow, and were stoped by means of trees fallen across, supported by which stakes of willow were driven down sufficiently near each other to prevent the salmon from passing. About the center of each a cilindric basket of eighteen or 20 feet in length terminating in a conic shape at its lower extremity, formed of willows, was opposed to a small aperture in the wear with its mouth upstream to receive the fish. The main channel of the water was conducted to this basket, which was so narrow at its lower extremity that the fish when once in could not turn itself about, and were taken out by untying the small ends of the longitudinal willows, which formed the hull of the basket. The wear in the main channel was somewhat differently contrived. There were two distinct wears formed of poles and willow sticks, quite across the river, at no great distance from each other. Each of these, were furnished with two baskets; the one wear to take them ascending and the other in descending. In constructing these wears, poles were first tied together in parcels of three near the smaller extremity; these were set on end, and spread in a triangular form at the base, in such manner, that two of the three poles ranged in the direction of the intended work, and the third down the stream. Two ranges of horizontal poles were next lashed with willow bark and wythes to the ranging poles, and on these willows sticks were placed perpendicularly, reaching from the bottom of the river to about 3 or 4 feet above its surface, and placed so near each other, as not to permit the passage of the fish…”

August 22, 1805. Lewis gives what may be the first description in English of steelhead: “Late in the evening I made the men form a bush drag, and with it in about two hours they caught 528 very good fish…Among them I now for the first time saw ten or a dozen of a white species of trout. They are a silvery color except on the back and head, where they are of a bluish cast. The scales are much larger than the speckled trout, but in their form position of their fins teeth mouth &c they are precisely like them.”

October 11, 1805. On the lower Snake River not far below present-day Lewiston. Clark: “a cloudy morning wind from the East….passed a rapid at two miles, at 6 miles we came to some Indian lodges and took backstaf, we purchased all the fish we could….at 9 mile passed a rapid at 15 miles halted at an Indian Lodge, to purchase provisions…. Came to and encamped at 2 Indian Lodges at a great place of fishing here we met an Indian of a nation near the mouth of this river. We purchased three dogs and a few fish those Indians, we passed today nine rapids all of them great fishing places, at different places on the river saw Indian houses and Slabs and Split timber raised from the ground being the different parts of the house of the natives when they reside on this river for the purpose of fishing….”

October 17, 1805. The Corps arrives where the Snake River joins the Columbia. Clark: “I took two men in a Small Canoe and asended the Columbia river 10 miles to an Island near the Stard. Shore on which two large Mat Lodges of Indians were drying Salmon. The number of dead salmon on the shores and floating in the river is incredible to Say and at this Season they have only to collect the fish Split them open and dry them on the Scaffolds on which they have great numbers…”

“This river is remarkably Clear and Crowded with salmon in many places, I observe in ascending great numbers of Salmon dead on the Shores, floating on the water and in the Bottoms which can be seen at the depth of 20 feet. So it is I must have seen 3(00) or 400 dead and many living….

“I was furnished with a mat to Sit on, and one man Set about prepareing me Something to eate, first he brought in a piece of a Drift log of pine and with a wedge of the elks horn, and a mallet of Stone curiously Carved he split the log into Small pieces and lay’d it open on the fire on which he put round Stones, a woman handed him a basket of water and a large Salmon about half Dried, when the Stones were hot he put them into the basket of water with the fish which was Soon Sufficiently boiled for use. it was then taken out put on a platter of rushes neetly made, and Set before me they boiled a Salmon for each of the men with me [it] was delicious.”

_The Snake Country Expedition of 1830-31: John Work’s Field Journal_. Frances Haines, editor. University of Oklahoma Press, 1971. Work’s Hudson’s Bay Company expedition sought to trap out beaver as completely as possible, so American fur traders would not establish in the Snake and thus lead to American settlement. Starting from Walla Walla, Work ranged widely in the Snake: south along the west side of the Snake in present-day Oregon, up the Payette River, traversing the Boise, Camas Creek and Big Wood Rivers; trapping down the Salmon River and up the Lemhi, into Birch Creek and Little Lost River, then down the Henrys Fork and Snake to near Milner. A sampling:

August 30, 1830. The party is on the way from present-day LaGrande to Baker City. The Powder River had salmon prior to the Hells Canyon dams. “Blowing fresh towards evening. Proceeded from the Fountain to Powder river 3½ hours march about 14 miles S.E. the road good along a fine valley, steep mountains on both sides. Crossed two small branches before reaching the one on which we encamped, this is only a small stream, about 10 yd. wide, and shallow, there are a good many salmon in it. Some of the people took a few of them, they are but indifferent but the people relish them well. The people had bad implements for catching them or several more might have been taken.”

September 8. The party is camped seven miles below present-day Payette, Idaho, about to cross the Snake. “Weather warm. This day to noon was occupied crossing the river, there were five channels to cross and two of them were so deep that only the highest horses could cross the property without being wet. Some few things of the people’s were wet. Some Indians are encamped here, fishing. They lent their assistance crossing the river, and furnished us with some salmon both dry and fresh.”

September 9. Near present-day New Plymouth. “Warm sultry weather. Marched about 18 Miles S.S.E. viz 12 Miles along the north bank of the river to the entrance of Payette’s River, and 6 Miles up this river. The road good, some rich low land along the bank of the Big River, country hilly to the northward, to the Southward appears little interrupted with hills. Several Snake Indians visited us both from below and above our camp to trade Salmon, cords, and &c.”

September 18, on the South Fork of the Boise River: “Lowering stormy weather. Continued our journey about 16 Miles S.E. over a rugged hilly country the road stony in places. Several of the men slept out with their traps last night. 9 beaver were taken. Read’s [Boise] river or a branch of it runs along behind the hills at a short distance to the Northward nearly parallel to our road. The men saw good marks of beaver but several Indians are encamped on the river fishing salmon and breaking up the beaver lodges with sticks which renders them so wild that it is difficult to kill them.”

October 22. Party coming into the Challis Valley from the Mackay side. “Marched 18 Miles N.W. to Salmon River, the road in places hilly but good lay along a valley which at the river spreads out to a plain of considerable extent…the river here is divided into different channels and is pretty large, it here
runs from the S.W. here are also two small branches that fall from the Westward. Here is also a hot spring. The river has a good deal of poplar and willows on its banks, but the plains are exceedingly barren and scarcely a blade of grass left by the buffalo. Some of the men set their traps, there is the appearance of beaver. Some buffalo were killed. Salmon ascend this branch to past this place. The Banack Snakes have been lately encamped here, but have taken another direction and cut across the hills to the N.E.”

Life in the Rocky Mountains: A Diary of Wanderings on the sources of the Rivers Missouli, Columbia and Colorado, 1830-1835. Warren Angus Ferris. Trapper Ferris’ diary is considered the best picture of southern Idaho we have from this period, and his hand-drawn map (which shows the extent of bison herds in the upper Snake and Salmon in 1835) the most accurate of southern Idaho from the time.

Chapter XVII and XVIII. June-July 1831. “We now separated from the Flatheads, and crossed a mountain to the westward, when we reached a torrent bounding over the rocks in that direction, which we followed for several miles, until it falls into a large one from the southwestward [the East Fork Salmon River].…. After a tedious and toilsome march, we at length encamped on the 13th in a prairie, forming the central portion of a large valley half grown up with lofty pines, which is watered by one of the largest and most westerly of the sources of Salmon river. Here we found a party of ‘Root Diggers,’ or Snake Indians without horses. They subsist upon the flesh of elk, deer and bighorns, and upon salmon which ascend to the fountain sources of this river, and are here taken in great numbers. These they first split and dry, and then pulverize for winter’s provision. They often, when unable to procure fish or game, collect large quantities of roots for food, whence their name. We found them extremely anxious to exchange salmon for buffalo meat, of which they are very fond, and which they never procure in this country, unless by purchase of their friends, who occasionally come from the plains to trade with them. We have not seen a vestige of buffalo since leaving the valley of Gordiez River [Big Lost River].”

“Meanwhile such of us as remained to take care of camp were employed in taking salmon, which was easily effected by driving them up or down the river, over shoals and rapids where we killed them with clubs and stones, and frequently even caught them with our hands.”

Chapter XXVIII. August 1832. “On the 23rd we arose in the morning, and found ourselves in the valley of the east fork [Lemhi River] of Salmon river. There were large herds of buffalo slowly moving up the valley, which led us to believe, that the Indians were not far below us. One of their encampments appeared to have been evacuated, but five or six days since; and was at this time a rendezvous for wolves, ravens and magpies. We likewise saw numbers of salmon, forcing their way up the small streams, in this valley—many had so worn out their fins, that they could with difficulty avoid us when we endeavored to catch them, in our hands. With clubs and stones, we killed several of them, with which we regaled ourselves at noon, and my companions, amused themselves, whilst our horses were feeding, by adding to the numberless carcasses scattered along the shore, that had been taken and thrown away by the Indians.”

The Adventures of Captain Bonneville. Washington Irving, 1837. Irving quotes Captain Bonneville:

“The Salmon River is one of the upper branches of the Oregon or Columbia; …It owes its name to the immense shoals of salmon which ascend it in the months of September and October. As the buffalo in countless throngs find their certain way in the transient pasturage on the prairies, along the fresh banks of the rivers, and up every valley and green defile of the mountains, so the salmon, at their allotted seasons….swarm in myriads up the great rivers, and find their way up their main branches, and into the minutest tributary streams…”
“When Lewis and Clark met the Lemhi Shoshoni after a long search in the summer of 1805, they found a band of about four hundred camped in the Lemhi Valley.”

1864. “As if the lack of attention and supplies from the Indian Department were not enough to drive the Lemhis to despair, they were faced with the loss of salmon, their main supply of food, when groups of white men built five weirs along the Lemhi River effectively blocking the fish from swimming upstream to spawn.”

1872-3. “Also, the whites had built so many fisheries obstructing the Columbia River and its tributaries that the Lemhi and evidently other tribes were able to harvest only about one-third their usual catch of salmon. Instead of 30,000 pounds, the Lemhi had managed to get only 10,000 pounds of dried fish.” [10,000 pounds of dried fish likely required 30,000 pounds of caught fish.]

1877. “At the Fort Hall military post, Captain Augustus Bainbridge…recommended that that the Lemhi Indians be moved to Fort Hall where he could keep better track of them. He recognized that they preferred to stay at Lemhi, where salmon were available ‘when the Gov’t rations give out.’ ”

1878. “The Lemhi again complained about the fish traps on the river…” Indian agent John Wright “now took on the task of getting rid of the fish trap on the Lemhi River. It had been in operations since 1862 under the very aggressive care of its owner, Thomas McGarvey, who made good profits selling wagon-loads of dried salmon caught in his weir. During the Nez Perce War the year before, the frightened white settlers had subscribed $400 to pay McGarvey to open the trap to allow salmon to proceed to Lemhi River to the Indian fishing grounds. Despite [much effort], the year 1878 closed with the fish trap still operating under McGarvey’s careful scrutiny.”

North American Fauna, No. 5. C. Hart Merriam. U.S. Department of Agriculture, General Printing Office, 1891. Merriam’s survey of wildlife in southern Idaho came while he led the forerunner to the U.S. Fish and Wildlife Service. In 1890 he explored the Lemhi and Pahsimeroi Valleys, the main Salmon to the Challis Valley, the Big Lost and the Big Wood, and then back into the Salmon Basin over Galena.

“The information heretofore available relating to the natural history of Idaho is so exceedingly scant that all attempts to map the distribution of mammals or birds in the West, or to define the boundaries of faunal and floral zones, have encountered in this State an insuperable barrier, a veritable terra incognita… Very much less is known of the natural history of Idaho than of any other State or Territory in the Union; and no map of Idaho thus far published can claim even approximate accuracy.”

“Salmon and Sturgeon ascend Snake River to the Great Shoshone Fall. When we crossed the river at Lewis Ferry, October 12, we saw several large Sturgeon tied by the tails to stakes driven in the bank. One weighed fully 70 kilograms (150 pounds), and we were told by Mr. Lewis that he sometimes catches individuals weighing as much as 300 kilograms (600 pounds). He told us also that the fall run of Salmon reached his place about October 1, and that the fish that do not die go back in November. We met a number of Shoshone or Bannock Indians on their way to the river to spear Salmon. Some of them came all the way from the Lemhi Reservation.”
“The Saw Tooth Mountains form the western boundary of the valley of the upper part of Salmon River. They are covered with coniferous forests from the very base on the east side to timber line….At the east foot of the range are several lakes, known collectively as the ‘Red Fish Lakes’ because inhabited by a bright red Salmon called Nerka.”

“At the time of our visit, September 12 to 18, the lower part of the Pahsimeroi River, which averages about 15 meters (50 feet) in width and two-thirds of a meter in depth, was full of large Salmon still working upstream. Many of them were bruised, others were in excellent condition, and I never saw a finer Salmon that one we took for our own use. It weighed about 18 kilos (40 pounds) and measured 46 inches in length and 2 feet in girth; its flesh was hard and delicious.”


“Our investigations show undoubtedly that very important spawning grounds of the chinook salmon, redfish, and steelhead are found in Idaho, and that it is upon these grounds that we must depend in large measure for the natural increase necessary to the continuation of the salmon industry of Columbia River.”

Payette River. “The Payette River is one of the most important streams in Idaho. The main river rises on the southwest slopes of the Sawtooth Mountains….After flowing westward about 90 miles it is joined by a stream from the north known on the maps as North Fork of Payette River. It is the fork with which we are at present concerned. At the head of this fork are important spawning grounds of the chinook salmon, the redfish, and the steelhead. The Payette Lakes are situated here.”

Statement of W.C. Jennings, who lives at the Meadows, about 10 miles from Payette Lake, 1894: “The [chinook] salmon come up Payette River into Long Valley about July 4…They are most abundant August 15 to September 15, when they are spawning. I have seen salmon up Gold Fork 10 to 12 miles, and as much as 15 miles up Lake Fork….I think all the salmon which come up here die after spawning; I have seen thousands dead along the river.” On sockeye salmon: “Heard of the redfish in Payette Lakes even before I came here. For many years I put up a good many for use. Two fisheries were run here for seven or eight years, between 1870 and 1880, by Hughes and Bodily and Louis Fouchet. They put up great quantities of redfish. Hughes and Bodily put up about 75,000 fish one year.

Snake River. Twin Falls vicinity. Immediately below Auger Falls, “a small stream known as Rock Creek flow into Snake River from the south bank…Mr. I.B Perrine, of Blue Lakes, situated about 4 miles above Auger Falls, says he has killed salmon in this creek, and that they used to run into it in considerable numbers.”

“Upper Salmon Falls are situated about 25 miles below Auger Falls…Salmon pass over these falls in considerable numbers. A fishery has been maintained more or less regularly each year near Lewis’s Ferry, about 4 miles above these falls. During last October [1893], Mr. E.E. Sherman operated a seine at this place and caught about 300 salmon. He regarded this as very poor fishing, and finally abandoned this ground and went to Glenn Ferry, where he hoped for better success….about 2 miles below the falls is a considerable rapid at the head of a large island owned by Mr. Liberty Millet. At the head of this island,
in the main stream...is the largest and most important salmon spawning ground of which we know in the Snake River. The spawning bed is at the foot of the rapids and is on gravel bottom where the water is from 1 to 5 feet deep.”

**Lower Salmon Falls.** “These falls are very similar to the Upper Salmon Falls and are situated about 6 miles below them….Toward the left bank of the river the ledge is broken up into benches resulting in irregular series of shorter falls, up which salmon are able to go, with more or less difficulty...I first visited these falls September 16, and, crossing over to the ledge, spend some time watching the salmon jumping. We saw some thirty or thirty-five attempts made by salmon to ascend the falls, but all failed….Our first sight of the fish would be when he shot out of the water like an arrow speeding toward the top of the falls; for 10, 15 and often 20 feet he sustains himself in the air, and then drops into the turbulent water at the foot of the falls, or strikes the column of falling water at some point below the lip of the ledge; occasionally he strikes near the top where the water is scarcely vertical, and then, with every muscle strung to its utmost tension, the body quivering in every inch of its length, he fights the descending torrent, retaining his position perhaps for several moments; but the contest is an unequal one and the salmon is finally carried down and into the pool below, perhaps to renew the fight after a period of rest. Often the leaping salmon would strike in the seething water at the foot of the fall and there he would sustain himself at the top of the water for a longer time….The large majority of salmon that make these falls, however, probably go up at some of the places nearer the left shore. Yet even these offer such serious obstruction that it is quite certain that many salmon which would otherwise reach the spawning beds above are prevented from doing so by Lower Salmon Falls….A little blasting at these falls would make it very much easier for salmon to ascend. The expense would not exceed $100 to $300, and I believe it would result in a considerable increase in the salmon supply of Snake River…”

“In the vicinity of King Hill, some 18 or 20 miles below Bliss, or 25 miles below the Lower Falls, are said to be some spawning beds. King Hill was formerly resorted to by the Indians during the salmon run, and a few are said to visit there each year yet.”

Statement of Robert E. Conner, Lower Salmon Falls, 1894:  “I have lived near these falls since 1882. After my coming salmon were abundant; have seen the chute full of salmon; there must have been a thousand in sight at one time….This used to be a famous Indian fishing ground.”

Statement of E.E. Sherman, who lived 3 miles below Upper Salmon Falls, 1894:  “The smallest weigh about 5 pounds, the largest probably 60 pounds…Last year I caught about 6 tons, which I sold at 3 cents a pound to people who would come to the fishery, then peddle them out, chiefly at Oakley, Goose Creek, Raft River, etc….This year] from October 1 to October 15 I fished about 2½ miles above Upper Salmon Falls….my catch amounted to about 3,200 pounds….Thinking I might do better I went to Glenns Ferry and from October 20 to 26….I caught about 5 tons of salmon, but they were in bad condition and I saved only about 1 ton.”

Statement of Liberty Millet, Salmon Falls, 1894: “I do my fishing from about October 1 to October 25. Last year (1893) I leased my fishery to Mr. E.E. Sherman. In 1892 my season’s catch about to between 7 and 8 tons, dressed. My seine is 300 feet long, 20 feet deep in the wings, and 11 feet deep in the center. I haul the seine in 10 to 15 feet of water and right over the spawning ground. Have caught as many as 200 at a single haul. I sell my fish principally to farmers and others who come for them. I get 3 cents a pound, dressed.”
Snake River Boise to Weiser. “Beginning at that place [the mouth of the Boise and Owyhee rivers] there are fisheries scattered all along for about 60 to 75 miles, or from the mouth of the Boise to Huntington, and perhaps farther.”

“The spawning grounds of chinook salmon in Snake River between Huntington (Oregon) and Auger Falls have been, and perhaps still are, the most important in Idaho. Certain it is that more salmon fishing for commercial purposes is done here than in any of the other streams of the State.

Statement of William O’Brien, Weiser, 1894, who operated a seine in the Snake near Weiser: “We get our best salmon fishing between September 15 and October 15, but they are most abundant earlier…Up to the present day (September 21) I have caught about 175 salmon. They will average 12 to 25 pounds.”

Evermann: “The place where the seine is hauled out is a long, broad gravel bar, between which and the shore is a long, narrow, shallow strip of water. Mr. O’Brien has dammed this both at the lower and upper ends, thus making a pond into which he can put his fish and keep them alive indefinitely. He says he has had as many as 600 to 700 fish in this pond at one time. He sells his fish to farmers who come to the fishery for them, to men who peddle them over the country, some few to hotels and others in Weiser, and in the latter part of the season he ships a good many by express to Pocatello, Butte, etc.” O’Brien estimated that ten seine operations between the mouth of the Boise River and Huntington Oregon had caught 3000 salmon total in September and October 1894.

Salmon River. “The headwaters of Salmon River have long been known as containing important spawning grounds of the chinook salmon. All persons familiar with the region with whom we talked spoke of the salmon as spawning there in great numbers. Ten and fifteen years ago they were very abundant, but all agree that the number spawning there now are as nothing compared with former years.”

Statement of F.C. Parks, Sawtooth postmaster, 1894: “The salmon appear above the mouth of Alturas Creek about July 25. They are then in excellent condition, and people spear and shoot them for food. There is no regular shipping of fish from here; the fish are taken chiefly by miners and ranchers, and by tourists and campers, who often ship some home. They begin spawning about August 10 and up until about September 1. On September 1, 1891, a Mr. Benson shot four near the mouth of Alturas Creek. About August 20 or 25, Mr. B Carlo, of Sawtooth, shot and speared fourteen large salmon in Alturas Creek, half a mile above its mouth….The best spawning beds are in the last 1½ miles of Alturas Creek. There are other large spawning beds in Salmon River immediately below the mouth of Alturas Creek and at various places on down the river, at least as far as the outlet of Redfish Lake. I have seen them as far up Salmon River as the mouth of Pole Creek.

“The salmon that come here [he is referring to chinook] will average about 15 pounds in weight. The largest I ever saw weighed 40 pounds, and the smallest about 8 pounds….When the spawning time arrives the male digs out a hole in the gravel with his nose; he sometimes turns on his side and may scoop out the gravel some with the hump on his back; he also seems to use his fins for this purpose. The female comes along and, passing over the hole scooped out by the male, lays her eggs, and the male comes and plunges around some, probably pouring out the milt at the same time. They always stand in the current with the head up stream. I think they all die after spawning; have seen many dead ones every year. I never knew one to take a hook, nor did I ever find any food in their stomachs….There were more salmon this year than for the past five or six years. More than six years ago they were much more abundant.”

[On sockeye:] “About 1881 a prospector took 2,600 pounds fresh from Alturas Lake and Rocky Bar, where he sold them to the miners. Formerly many were salted and barreled. At one time there was talk of starting a cannery here or at Redfish Lake, but the passage of a law prohibiting traps stopped the matter.”
Statement of Thomas Mulky, of Stanley Basin, 1894: “The salmon come in July and their spawning is finished in September. Yesterday (September 12) I saw as many as 100 live salmon in Salmon River between Basin Creek and Valley Creek. Saw a good many dead ones too. They spawn all along in that part of the river.”

**Steelhead, aka “salmon trout.”** “One of the most interesting and important results of our work in Idaho was the discovery of the fact that large numbers of steelheads spawn in the streams of that State, and that the catch of steelheads in the Snake River is almost as important as that of the chinook salmon. During our stay at Weiser and Upper Salmon Falls we saw a number of steelheads caught...The name by which this fish is usually known in these Idaho localities is ‘salmon trout’....”

Statement of F.C. Parks, Sawtooth, Idaho, 1894: “The salmon trout come to the Alturas Lake region about May 5, and are seen up to about June 10. Some spawn in Salmon River and Alturas Lake outlet, while others go up into the inlets...We catch them with spears and grab hooks.”

Statement of William O’Brien, Weiser, 1894: “I first noticed these fish here about 18 years ago, but they are now more abundant than the chinook salmon. They come up early in September and remain in Snake River until about April 10...I think they spawn from April 15 to about May 10...Six years ago, my catch of salmon trout was about 18,000 pounds, or about 2,250 fish. Since then they have decreased, so that last year I got only about 8,000 pounds, or 1,000 fish. But there are more fisheries now than there were a few years ago, so that the decrease in salmon trout is more apparent than real.”

Finally, a story from Linwood Laughy, who grew up near Kooskia:

“The main meadow on the 352 acres on the Middle Fork of the Clearwater that I called home for 39 years had once been a Nez Perce seasonal village. My parents lived there from 1965-1975. One day in 1966 neighbors who lived across the river called my father and said he might want to paddle over and visit with a friend of theirs, an elderly Nez Perce woman. The woman spoke only Nez Perce but was accompanied by her daughter, who translated for her.

“My father crossed the river in our canoe and walked a short distance to Dick and Ruby Anderson’s home, where he was introduced to the two Nez Perce ladies. The older woman told my father, through her daughter, that she had often visited the village across the river when she was a girl, in the 1880s and ‘90s. She said her family would come there to fish and usually stay three days. My father asked her how many fish they would catch in those three days. Her answer came back ‘25 horses.’ My father thought his question had gotten lost in translation, so he spoke to the woman’s daughter and explained that he was asking how many fish her group would catch in 3 days.

“The answer came back, 25 horses.

“And then my father understood. At 200 pounds of fish per horse, that is 5,000 pounds of fish in three days of fishing.”
THE HISTORY AND ECOLOGY OF SALMON IN THE NORTHWEST

This patchy introduction to the long history of salmon is told in quotations from two men. Dr. Robert Behnke is emeritus professor at Colorado State University Department of Fishery and Wildlife Biology, and author of "Trout and Salmon of North America." Jim Lichatowich is one of America’s senior salmon scientists. He is the author of "Salmon Without Rivers" and "Salmon, People and Place: A Biologist’s Search for Salmon Recovery."

“Fifty million years ago, enormous rivers known today as the Yukons flowed into the Pacific Ocean from a high plateau in the Pacific Northwest [which was then north of its current location]. Deep and wide, the Yukons left deposits 600 feet high, and buried among these layers of rock were nuggets of gold that would one day drive fortune seekers toward the American West. Surrounded by subalpine vegetation, the Yukons and their tributaries teemed with life. Swarms of fishes including suckers, herring, primitive bonytongues, and hulking two-ton sturgeon swam in these ancient waters. One of these fishes, a nimble trout, would dart after insects and chase smaller fishes, then scurry beneath a log for cover. Perhaps the progenitor of all modern salmon and trout, *Eosalmo driftwoodensis* is the earliest known salmonid fossil.” Behnke.

“The evolutionary story of trout and salmon is a long volume with many missing chapters. We know that salmonids are among the oldest families of fishes and have graced the waters of the Earth for many millions of years. The ancestral line of ray-finned fishes evolved in very ancient times, giving rise to a fish in the Northern Hemisphere with many unique features. By 100 million years ago or more, this fish was recognizable as a member of the family Salmonidae. By 50 million years ago, the major branching leading to the whitefishes and graylings had probably occurred, thus leading to modern lines of trout and salmon. These lines separated into their present species somewhere between 2 million and 5 million years ago. Much of the present diversity, particularly at the subspecies level, is the result of events that have occurred in the last 1 million years and up to about 12,000 years ago, when ice sheets of the last glacial age subsided.” Behnke.

“What makes the Northwest unique among the regions of North America? For me, the answer begins with the region’s geology. Extinct volcanoes and others not so extinct remind us that this is one of North America’s most geologically active regions. The Coastal, Olympic, Blue, Klamath, Cascade and western tip of the Rocky mountains are prominent geological features. Between and among the mountains are valleys, plateaus, and plains. Water moving from mountains through the valleys and into the ocean carved, and carves, out river basins. Atmospheric processes interact with physical geography, producing a mix of climates: heavy rainfall on the western side of the mountains and deserts on the eastern side. Temperature gradients from the valley floor to the mountaintops are visible in shifting snow levels. All of this has created a variety of micro-climates and patchwork of local habitats for native plants and animals, some of which, like the salmon runs, attained phenomenal levels of productivity.” Lichatowich.

“The major trend in the evolution of North American Pacific salmon species is a reduction in the freshwater portion of their life history and an increase in their time spent in the ocean. This trend means that virtually all feeding and growth occur in the vast expanse of the North Pacific Ocean. Because they are
less dependent on fresh water and thus not constrained by its limited habitat volume, Pacific salmon attain by far the greatest natural abundance compared with all other trout and kindred species.

“The Northwest Power and Conservation Council estimates that before settlement of the Pacific Coast by European Americans, about 10 million to 16 million salmon returned to the Columbia Basin to spawn annually, and that the total annual biomass (total weight) ranged from 120 million to 160 million pounds….The Salmon River, in Idaho, was historically the most productive tributary for Chinook salmon and steelhead in the Columbia River Basin.” Behnke.

“All organisms are historical phenomena, and the salmon are no exception. For thousands or even millions of years, the salmon have accumulated the history of their species and retained it in the gene pools of individuals and populations. As a result, the salmon’s genetic program, coded in its DNA, is a textbook containing thousands of years of evolutionary experience – lessons on how to survive in a harsh, changing world.

“My study of the evolutionary history of the salmon and the geologic history of the Pacific Northwest changed what I see when I look at a salmon. Now I see more than a silver fish sitting at the corner of a regional crisis. Instead, when I look at a salmon today, I am reminded of the region’s long history. The large, ocean-fed salmon recalls the cooling ice 10 million years ago; how the rise of mountains and the advance of ice shaped the salmon’s ability to colonize new habitat; and how the diversity of the salmon’s life histories match the highly variable landscape, climate, and vegetation patterns. I see too the physical beauty of the land: the forests that protect and nurture the salmon’s habitat; the wild and free rivers that flow through these forests; the mountains that contribute gravel for the salmon to spawn in; and the cool climate that keeps the rivers flowing. And finally, the salmon remind me of people: the Indian fishermen and their 10,000-year relationship with the salmon, the commercial fishermen and their unique communities and way of life, and the sport fishermen who come from all over the Northwest to hunt the salmon. When I look at a salmon, I don’t just see a silver fish, I see the Northwest.” Lichatowich.
SALMON AND PUBLIC LANDS IN IDAHO

Idaho’s public lands, and Idaho’s salmon and steelhead, form a virtuous circle. The public lands make Idaho’s one-of-a-kind salmon and steelhead resource possible. The salmon bring ocean nutrients that feed forests and valleys, insects and animals.

Central Idaho hosts by far the largest, healthiest, best connected, highest, and coldest spawning habitat for salmon and steelhead in the 48 states. Idaho’s group of salmon species migrate farther and higher inland – nearly 900 miles and up to 7000 feet – than any salmon assemblage on earth. This habitat where they begin and end their lives still exists in such quantity and quality because nearly all of it is on public lands – in the Salmon and Clearwater watersheds, and the Hells Canyon reach of the Snake.

It is the best-protected salmon habitat in the 48 states, thanks to decisions in Idaho and Congress over 51 years. Idahoans have protected a greater percentage of salmon and steelhead habitat than any other state, and a greater acreage than any state but Alaska. The Selway-Bitterroot, Hells Canyon, Frank Church River of No Return, Gospel-Hump, White Clouds and Jerry Peak Wildernesses, and the Sawtooth National Recreation Area, protect over 4 million acres of it. Another 5 million public acres surround the protected areas. Together they host 8900 miles of stream that support salmon and steelhead. And they provide the cold clean water that gives young salmon a several-hundred-mile healthy head start on their seaward migration each year.

The main reason Idaho salmon still persist, despite great damage to their downstream habitats, is the size, quality and intact connectivity of their public land habitats in Idaho. Oregon scientist Kyle Dittmer rightly calls central Idaho the “Noah’s Ark for Salmon.”

Here are a few examples how Idaho salmon, public lands and people intertwine:
- According to Conservation Geography, Idaho public lands host 9,246,000 acres, and 8,939 stream-miles, of salmon and steelhead habitat.

- Ecologically, the salmon habitats and salmon of Idaho are like a good marriage. It is hard to untangle the two partners. Salmon help create and nourish the habitats; the habitats carve the fitness of the salmon; their coupling is dynamically renewed each year; and together they provide widely to lands and people. Native Idahoans have used and worshipped this bond at least 10,000 years. White Idahoans have used salmon since the second day of setting foot here (Meriwether Lewis, August 13, 1805), and many have now also come to revere the bond.

- Over 100 species of central Idaho fish, birds, mammals and amphibians feed on the ocean nutrition that salmon bring. Salmon-bearing streams have more diverse and productive vegetation, insect life, and animals than streams without salmon. That salmon support so many other species matters in central Idaho, where high elevations are less biologically productive than lower-elevation areas. Restoring salmon, and their 10,000-year-old ocean ferry, will build health and resilience into Idaho public lands for their future, and for those who will use them in the future.
- Salmon and steelhead fishing has been a bulwark for central Idaho communities and economies for 150 years. It’s a great distinction of living in towns like Salmon, Challis, Stanley, and Riggins. When chinook and steelhead returns are healthy, fishing stretches from late spring through winter – a main continuity of livelihood in these public lands towns.

- Idaho’s Indian tribes can only exercise their rights to salmon, and our nation meet its salmon obligations to them, if the presence of salmon on public lands continues. The tribes’ ceded lands in Idaho, where they retain rights to use and help manage salmon, are almost all public lands.

- We know much about Idaho salmon from decades of field research. Most of it has taken place on public lands by scientists employed or supported by public land agencies. The Forest Service’s ongoing 30-year study of chinook salmon in the Middle Fork Salmon River is an example: It has shown that, despite very low numbers the last 40 years, most of their native genetic diversity still exists because of the quality and breadth of their public land habitats.

- Research has also shown that central Idaho waters carry chemical signals derived from the lands they drain. The salmon and steelhead experience it mainly by smell, riding with it to the ocean when young and following it home as adults. Salmon in the East Fork Salmon literally take the White Clouds with them to the ocean, in their bodies. Two or three years later, as they enter the Columbia’s freshwater plume 30 miles or more out in the ocean from its mouth, they pick the signal up again and follow it up the Columbia, up the Snake, and, 750 miles inland, up the East Fork itself.

- Salmon and steelhead help make possible, and benefit from, the public and private land linkages of central Idaho. Public lands provide vast superb spawning beds and clean water that rears the fish and then carries them downstream. Private lands hold the downstream reaches where the main rivers collect salmon and send them on, and host the people that both use them and are the local stewards of their habitats across ownerships. Watershed restoration is now a large part of this partnership in the upper Salmon, with federal salmon funds jump-starting stream re-connections across private and public lands in the Lemhi, Pahsimeroi, East Fork Salmon, and Yankee Fork Salmon. After a century’s interruption, today waters from Mt. Borah on the south and the Lemhi Range on the north are again flowing continuously through the Pahsimeroi Valley for salmon and steelhead.

- Central Idaho public lands, and salmon born from them, are Idaho brands. Our public lands are enjoyed nationwide and globally, and salmon from Idaho are used by thousands of people and dozens of communities downstream. The size and duration of many fisheries from California to Alaska are regulated by Idaho salmon abundance. Recent science has revealed a surprising further link: Puget Sound’s resident orca whale populations, and the whale watching industry built on them, closely depend on Snake River salmon numbers, and thus on their Idaho birthplaces.

- Declines of salmon and steelhead in the last 50 years (recent from the viewpoint of salmon and lands with very long histories) are reducing the productivity of central Idaho public lands. Salmon scientist Jim Lichatowich estimates that current wild salmon numbers are returning 5 percent to 7 percent of the marine-derived nutrients to Northwest streams that salmon did 200 years ago. An Idaho estimate would almost certainly be lower.

Idaho public lands and Idaho’s salmon and steelhead have made a spectacularly productive marriage for at least 10,000 years. But neither the lands nor their best management can assure salmon recover in Idaho, or even survive. The great majority of human-caused mortality to Idaho salmon occurs downstream, to both ocean-bound juveniles and Idaho-bound adults, in 320 continuous miles of dams and reservoirs in their migratory habitat from Lewiston to Bonneville Dam on the Columbia.
SALMON FISHING IN IDAHO

Ted Trueblood, of Nampa, is probably the greatest fisherman Idaho has ever produced. He fished in every decade of his life, for every kind of fish. He and his wife Ellen spent their honeymoon in a tent, salmon fishing, in what is now the River of No Return Wilderness. He calculated he had spent two years of his life fishing and hunting in that Wilderness-to-be. He fished for salmon and steelhead in the Payette and Weiser Rivers before the Hells Canyon dams.

Ted is also the finest writer about Idaho fishing. He was the outdoor columnist for Field and Stream for 30 years, wrote five books on fishing and hunting, and several hundred magazine and newsletter articles. Over time, the fisherman became a conservationist. He helped found the Idaho Wildlife Federation, and was chairman of the River of No Return Wilderness Council for its 7-year existence. He was America’s leading sportsman’s voice against the attack on public lands during James Watt’s tenure at the Department of Interior. He worked until he died to keep salmon coming back to Idaho.

Ted exemplifies what thousands of others in Idaho once, not long ago, experienced. I hope this miscellany suggests a bit of what it was like: excerpts from some of his articles, samples from his meticulous fishing notebooks, a letter to his Field and Stream editor, a mimeograph of a Field and Stream story about his salmon fishing honeymoon.

Year of Decision, 1978. “The Salmon River drainage is the most important area for steelhead and salmon spawning in the entire Columbia Basin.”

Letter from Ted Trueblood to Clare Conley (editor, Field and Stream), October 11, 1961 (prior to Lower Snake dams) regarding a two-week fishing trip.

“Dear Clare:

First things first—steelhead:

Sept. 23. Drove to Lewiston and fished Clearwater in p.m. No strike. 100 to 300 steelhead per day going over dam at Lewiston [the old Lewiston Dam, now removed].

24th. Fished Clearwater from Lewiston to Orofino. Ed hooked three steelhead and landed two.

25th. Fished downstream to Lewiston, each caught one steelhead.

26th. Bought Washington licenses and started up Snake to Grand Ronde. Ed caught one six-pound steelhead from a rocky riffle. Camped by the first pool and caught six before dark. It was loaded. I got one on a Royal Coachman, then three on a Joe’s Hopper. These were the first steelhead I ever caught on a dry fly, and I was delighted.

27th. Ed caught 8 steelhead and I caught three.

28th. We caught 10 steelhead.

29th. My diary gets a little confused here, but it was overcast all day and we had caught 16 steelhead by lunch time.

[Entries continue through October 8, fishing near Whitebird, Shorts Bar, the Salmon west of Cottonwood.]

According to my log, which I carried all the time and made entries as the fish were caught, we got a total of 90 steelhead.”
**America’s Largest Wilderness. 1979.** “The Middle Fork [of the Salmon River] delivers 1.4 million acre-feet of high quality water to the Columbia River system each year. This is important, perhaps vital, to the steelhead and salmon all the way downstream through the Snake and Columbia Rivers.”

“These great fish migrate 700 miles from the Pacific to spawn in Idaho’s clear wilderness streams. The spawning waters of the Middle Fork and its 250 miles of major tributaries produce a large share of the steelhead and salmon. Both species are fighting a battle for survival against downstream dams and impaired upstream watersheds....”

**Excerpts from Ted’s fishing notebooks:**

March 8 to 13, 1943: “Went to Warm Lake with Harper and Warren and fished through the ice for blueback salmon [sockeye]. They hit well on worms at depths from just under the ice to the bottom, about 60 feet. They averaged about 9” long. They are delicate biters and it is hard to feel them when they are deep....The snow was about 4 ½ feet deep and the ice about 3 feet thick. There were occasional squalls or snow or wind, but on the whole the weather was very pleasant.

May 22 and 23, 1943: “Ellen and I went to Mann’s Creek (tributary of Weiser River) with Ruth and Jim. The steelheads were supposed to be running. I hooked one, about 20”, on a No. 10 hook, 1X leader and worm.”

August 12, 1943: “Buddy, Ellen and I fished Bear Valley Creek for salmon. More here than I’ve ever seen. Got 1 in fore-noon....Ellen had several strikes during the day and caught 30-inch fish on fish....Buddy hooked and lost several good ones & landed several spawners that had to be turned back. Every pool had half a dozen fish and more were moving upstream over the riffles all the time. A few were spawning but the majority were fresh fish, just arriving.

August 13 and 14, 1943: “Fished all day both days and caught and released countless fish....Buddy started using a Heddon Vamp Spook with spinner blades and it was hot. He took 6 fish on it Saturday...We made short turns up Bear Valley and Elk Creek, but most fish and the best fishing was below the Elk Creek Bridge...We saw a few big fish, but nearly all we kept were between 28 and 32 inches long and weighed 8 to 12 pounds. The largest I caught, Sunday morning, must have weighed about 15....We kept 5 salmon....In one long flat pool Buddy and I watched 6 or 7 salmon cruising around exactly like trout feeding on nymphs, but if they were feeding, we could not see what they were getting. Gilroy, the game warden, reported someone caught a salmon with four small trout in its stomach, but the intestines of all we dressed were empty. We kept only males.”

“More than anything else, I was surprised at the extent to which salmon are individuals. Far more than is the case with any other fish, each salmon is a law unto himself. I missed the first six to rise by striking too slowly, the next half dozen by striking too fast. Only then did I discover that each strike must be timed according to the manner of coming of that particular fish.

It is the same in choosing a fly. Unlike trout, which feed and which, as the result, are all inclined to take the same thing at the same time, the best fly for salmon may vary from fish to fish. Particularly is this true with dry flies. One salmon may rise to a No. 8 White Wulff. The next may refuse it and a dozen others and finally take a Jennings Stone Fly on a No. 4 hook. Nor is there any way of knowing in advance which fly will be successful. All dry-fly salmon anglers seem to be great fly changers.”
THOSE WERE THE DAYS

This article about fishing for salmon in the Weiser River in 1954 was published in February 1982.

“Those were the days, my friend; we thought they’d never end...’ I liked that song. I’ve been there.

In 1954 the Weiser River was running clear when the spring chinooks turned into it from the Snake, a rare thing. Streams in the wilderness may be up and flowing through the willows and yet be so clear you can count the pebbles on the bottom. But they know not the cow and bulldozer.

We got the word from Fred Einsphar on May 30. He had a ranch along the river about halfway between the town and Galloway Dam. Herb Carlson, Clare Conley and I were there early the next morning....

The Weiser River salmon were never large. I think “small stream, small fish” is a true saying. In July when the river was running clear and the salmon were lying in the upstream pools or spawning on the gravel bars, the boys caught them on bait – speared them, of course, until it became illegal in 1939 – and a salmon of 20 pounds was a very big fish. Most weighed between seven and 15 pounds. But I don’t need a big fish; I’ve caught one. My most exciting steelhead weighed between 5 and 10 pounds, and in my experience those above 12 pounds were not so active – strong and heavy, of course, but not as wild. I hoped these Weiser River salmon would be wild.

Herb, Clare, and I stood on the bank just downstream from the dam to watch. A curling mist was rising from the water and the eastern sky was blushing at the approaching sun. And salmon were there! They were jumping at the dam. Eventually most of them would find the poorly designed fish ladder, but Galloway was a low dam, merely a diversion for the Galloway Ditch, and the salmon tried to jump it in the thin water that spilled over the top. Dozens were leaping and falling back and occasionally one made it.

We hurried downstream beyond the closure that protected the concentration of fish immediately below the dam and salmon were rolling in the long run before us. They often do this, and steelhead, too, early and late. But when the sun is on the water they seldom show and you can fish all day and never know whether you’re casting over barren water or to dozens of fish. I tied on a Red Optic, one of Jim Pray’s patterns. My hands were shaking.

I waded in and worked out line, letting the head trail in the water while I stripped monofilament from the reel. I made a fishing cast across and a little downstream..... A hundred casts later and 200 yards downstream, still nothing. I walked back upstream to the head of the run. Herb and Clare were sitting there on the gravel. I had forgotten all about them. When I drew near, I saw that each of them had a fish. I sat down beside them and lit my pipe, and they were glad to tell me every detail – again and again.

In the river again. The tug of the current against my waders and the routine of cast, step, fish it out, retrieve, and cast again were good. My fly touched bottom occasionally, and hope was in me. The thin clouds that the sun had set to blushing earlier were thicker now and more soft overcast was drifting in out of the west. Good. Everything was good.
And then, just at the end of the swing when the line lay straight downstream, it stopped. Oooh! Was it? I tightened cautiously. It could be bottom. But then I felt the chug, chug that a steelhead or salmon gives you, shaking his head, when he feels the hook.

I killed two fish that day. One weighed 9½ pounds, the other 13.

Day by day as more fish passed the dam the fishing grew slower and day by day we grew more weary. Two things I remember well: One was my snake-bit day. I hooked nine salmon and lost every one. These were not merely strikes. They were fish on, played, and lost. The other, in fact the clearest memory of a wild and weary week, was the great fish I lost, one of the nine.

This salmon took going away while the Red Optic was still in the swing and it just didn’t stop. My reel sang the song built into it and I lunged ashore, alternately cursing and praying. Then I ran down the beach and the backing was still flowing off my reel. After 200 yards and eight jumps – eight honest-to-God, high, arching jumps – the fish stopped in slack water. I brought it in, giving the Winston every ounce that it could bear. And as the brave fish was sliding up the beach and I could see the Red Optic in its jaw, it came unbuttoned. The fly just came away. The salmon flopped end for end and got its head in deeper water, and it swam away. I sat down on the sand, and couldn’t even cry.

Now, anglers who have caught salmon only in the salt will tell you that their fish are the strongest and the best; that salmon 400 miles from the Pacific, as these Weiser River fish were, are spent, exhausted, and don’t fight well. This is conjecture. They haven’t fished both places, but I have. In the shallow water of the Weiser, they jump. I have never had a chinook salmon jump after I hooked it offshore or in tide-water, where the pools are deep and slow. Here, most of them jump. Or did jump when we had salmon to fish for, before the days of Brownlee Dam.

Like its salmon, the steelhead of the Weiser were never large. I think the biggest I ever caught was a little over seven pounds. Whether they were active or sluggish depended entirely on water temperature. But it was a challenge and it was close to home and it was always there, this unique fishing that no other inland state in all of America has ever known.

“Those were the days, my friend…”
SALMON MAGIC

Salmon magic comes in many forms, as this section will illustrate through the words of four people:
- Robert Behnke and Jim Lichatowich note the biological and ecological magic of salmon;
- John Kitzhaber, governor of Oregon from 1995-2015, speaks of responsibility to the future;
- Novelist and fisherman David James Duncan describes Idaho salmon and their rivers, and the passion of people for each.

Salmon Magic I: Salmon Ecology

Salmon Spawning. “The start of redd construction invariably attracts males to the area surrounding the female. Then, the female will send cues via subtle posturings of her fins and mouth that she is preparing to release her eggs. Her anal fin will probe the prepared site and males will appear for the final chance at mating. Through some mechanism of male supremacy and female decision, one dominant male will move in alongside the female over the redd.

A dramatic dance in unison of sinuous swimming, gaping mouths, and quivering bodies finally culminates in a stream of eggs enveloped in a cloud of milt (sperm). Usually this involves one male with one female, but sometimes a second male will appear and release his milt.

The female then covers the redd with a layer of gravel until the eggs are completely buried. Pacific salmon females guard the redd, to prevent other fish from disturbing it and consuming the eggs, until their death, which occurs within one to two weeks of spawning.” Robert Behnke.

Salmon Migration and Homing. “Salmon are an amazing study in movement and migration. Their ability to move and migrate through complex river systems and open ocean is perhaps their primary evolutionary advantage and the reason they have been able to persist for many millions of years through dramatic changes in climate and geography.

“The sense of smell is known to be one of the principle mechanisms that enable homing salmon to accurately locate their natal stream. Salmon fry are able to imprint the exact chemical fingerprint of the stream in which they were born, and smolting juveniles will in turn record the chemical signal of each tributary as they proceed down to the estuaries and open ocean. When the returning adult encounters a fork in the river, it is able to recall and recognize the smell of the correct tributary, and eventually make its way back to the precise location where it emerged. In the ocean, magnetic orientation is believed to play a major role in movements and migrations. The presence of magnetite crystals in the nose is thought to contribute to the ability of salmon and steelhead to navigate the vast open sea.” Robert Behnke.

“A recurring event can be so unique, so connected to the landscape, the flora and fauna and human cul-
tures, that place and event merge, becoming inseparable. In the Northwest, the annual return of the salmon was that kind of place-defining event. Tim Egan stated it nicely: ‘The Pacific Northwest is simply this: wherever the salmon can get to. In the Northwest, a river without salmon is a body without a soul.’

“Consider place from the salmon’s perspective. After migrating thousands of miles in the ocean, wild salmon return to their home stream. They make their often heroic migration upstream, and spawn in the same place they were born. This attachment to place is one of the salmon’s important biological attributes because it is the source of the species’ biological diversity. The drive to return to the place of their birth isolated the individual breeding populations and, over thousands of years, those populations adapted to the environmental conditions in their home stream. This created a diversity of genetically distinct populations. Their genetic diversity combined with the complex mosaic of habitats encountered during their long migrations resulted in a rich diversity of life histories, which enhanced the salmon’s survival, giving them the resilience needed to cope with environmental fluctuations.” Jim Lichatowich.

**The Salmon Feast.** “In their pristine abundance, the salmon were one of the natural wonders of North America. They were on par with the passenger pigeon, the great white pine forests, the plains buffalo, the redwood forests, and the California sardine. In the Northwest wild salmon were a keystone species – one that plays a critical role in maintaining the structure of an ecological community – because their large annual runs transferred nutrients from the ocean to the inland aquatic and terrestrial ecosystems. Those nutrients were important to the Native Americans as well as the eagles, bears, and many other species. The wild salmon were the silver thread that held together the complex tapestry of ecosystems that comprise the Northwest.” Jim Lichatowich.

“When the wild salmon ran upstream, they transformed a river into a great table, set with a feast that nourished the entire ecosystem: cedar and fir trees, bears, eagles, humans, and many others.” Jim Lichatowich.

**Salmon Persistence and Recovery.** “The real experts on salmon recovery are the salmon. They have the accumulated lessons from millions of years of evolutionary experience…. I feel certain they will persist if we can control our behavior and give back what we’ve taken from them – rivers that retain some of their healthy ecological function.

“Our culture’s most common image of the salmon is of a fish climbing the face of a seemingly impassable falls, wiggling and fighting for purchase to launch another jump. We associate the salmon with a strong, fighting spirit and an unstoppable determination to return to the stream of their birth to create the next generation. Our image fosters the belief that the salmon possess an inherent ability to persist regardless of obstacles. This persistence is more than just legend. Nature, and more recently, humans have repeatedly created conditions that threatened the salmon’s survival, yet they have persisted.” Jim Lichatowich.

“As I see it, the scientific lesson is clear: If the habitat is available and healthy, the salmon know how to recover. Should we breach one or more dams to save the salmon? That’s not a question for a biologist to answer. The citizens of the Northwest will have to make that choice after weighing the value they place on salmon against the value they place on specific dams. But if we are to recover the salmon, we need healthy rivers. We must give back to the salmon some of their habitat.” Jim Lichatowich.

**Salmon Stewardship.** “Wild salmon penetrate the ecosystems of the Northwest so thoroughly that they come into direct or indirect contact with nearly all human activities. Humans are as much a part of place
“as the mountains, firs, rivers and salmon.” Jim Lichatowich.

“The Pacific salmon’s biological and migratory needs force them into intimate contact with landscapes dominated by humanity. Because of this, salmon can continue to exist only if humans enable and encourage them to do so.” David James Duncan.

“It’s tempting to say that Native Americans managed their local stock of salmon, but the common use of the word manage – control and manipulate salmon and rivers to achieve specific ends – does not describe what they did. It’s more accurate to say the Native American culture participated in co-evolved and sustainable relationships among salmon, people and place.” Jim Lichatowich.

“We enthusiastically accepted the gift of salmon, but failed to treat it with the respect it deserves. We failed to meet our obligation to return the gift in the way that only humans can. We failed to return the gift of salmon with the gift of stewardship.” Jim Lichatowich.

“….the life of salmon is dedicated to the future – to nurturing, sustaining and giving to that which will follow….On its final journey this remarkable creature travels thousands of miles, fighting its way upstream – leaping impossible falls and negotiating obstacles – in a single minded effort to return and spawn in the very gravel where it was born.

And even those who never make it home – who die in the effort – give their bodies to the river and to the future, providing the nutrients essential to the survival of the next generation. I share this story because there is a similar voice calling to us – a voice that reminds us of the responsibility that each generation has to the next.” John Kitzhaber, Oregon governor (2000).
**Salmon Magic II: David James Duncan**

Duncan is the Northwest’s most popular writer about salmon and fishing. His work weaves science, fishing and faith. He lives in Lolo, Montana, five miles from Idaho.

“For all the diversity of life they’ve given us, Sun and Ocean have managed to bequeath us just one – count them: one – family of creature capable of journeying back and forth between the high-altitude valleys of our continent’s interior and the green ocean swells a thousand miles away. That family is the anadromous fish, the most celebrated of which, for a hundred poetic and pragmatic reasons, is the wild salmon.”

“The wild fish of Idaho are adaptive geniuses, utter standouts among salmon. Every winter, for example, anchor ice forms in their high-elevation birth streams, freezing the streams almost solid in places. Idaho salmon smaller than my little finger know how to move out from under this ice and winter over in deep pools. Coastal salmon stocks, introduced to the same inland waters, stay put in the seemingly benign runs as the ice forms, then freeze to death en masse.”

“On the northeast edge of Idaho last fall, I watched a single female chinook, with great, crimson-gilled gasps of effort, turn her ocean-built body into a shovel and dig, in the unforgiving bone of the continent, a home for offspring she would not live long enough to see. I watched her lay eggs so tender the touch of a child’s fingertip would crush them, eggs exactly the color of setting suns. I watched the darker, fiercer-kyped male ease in front of those suns without touching the female, and send milt melting down into her nest of stones. I watched the paired chinook circle their pebbled redd, tending it, guarding it – I want to say “loving it,” if the State will allow. Yet only incidentally, as if by accident, did they touch each other. Because they weren’t making love to each other. They were making love to the very land and water, to broken bits of mountain and melting snows.

I left them to die, as salmon do, their clutch of eggs orphaned in a frigid gravel womb. As I write these words, winter has snapped down hard in the Rockies. Snow is mounting high. But in that ice-covered streambed nest, which the female covered with protective pebbles with her last few strokes of life, tiny eyes are even now appearing in her sun-colored eggs.

There is a fire in water. There is an invisible flame, hidden in water, that creates not heat but life. And in this bewildering age, no matter how dark or glib some humans work to make it, wild salmon still climb rivers and mountain ranges in absolute earnest, solely to make contact with that flame. Words can’t reach deep or high enough to embody this wonder. Only wild salmon can embody it. Each migration, each annual return from the sea, these incomparable creatures climb our inland mountains and sacrifice their lives, that tiny silver offspring may be born of an impossible flame.”

“Salmon are a light darting not just through water, but through the human mind and heart. Salmon help shield us from fear of death by showing us how to follow our course without fear, and how to give ourselves for the sake of things greater than ourselves. Their mass passage, from the sea’s free invisible into the river’s sacrificial and seen, is not just every American’s, but every Earth-born man, woman, and...
child’s birthright. Their bodies remain the needle, their migration the thread, that sews this vast, broken region into a whole.”

“The inland West’s wild salmon awaken, at birth, to the pebbles and clear flow of a high mountain stream. The tiny fish thus bond not to a parent fish, but to the parenting stones and flow of their birthstream. For a full year, in some cases two, fingerlings cling to this unlikely madonna, imbibing her unique chemistry, memorizing all they can about her. Then, at the nautically unpromising length of five inches, they obey their blood and the parent stream’s incessant downward urging and set out on a journey that rivals, in terms of wonders, horrors, steadfastness, and distance, that of Odysseus himself.

“The fish that reach the Pacific, even today, put on silvery muscle fast, and, for the next two to three years, travel distances that put every inlander but circumpolar birds and long-haul truckers to shame. Some Idaho chinook swim ten thousand miles at sea. They’ve been caught off the coast of Japan, the Kamchatka Peninsula, the Aleutian Islands. Diving so deep at times as to be untraceable, swimming too far, too fast to be followed, oceangoing salmon maintain the ability – so troubling to those who would control them completely – to elude the radar of human knowing.”

“Indians aren’t the only people with ancient stories that establish the sacredness of this species. It’s time non-Indians recalled their own. On the very first page of the Bible, the sublime Creativity that has given us wild salmon is celebrated in these words:

‘And God said, let the waters bring forth abundantly the moving creature that hath life, and fowl that may fly above the earth in the open firmament of heaven. And God created great whales, and every living creature that moveth, which the waters brought forth abundantly, after their kind, and every winged fowl after his kind: and God blessed them, saying, Be fruitful, and multiply, and fill the waters in the seas.’

The bounty of Creation is daily evidence of a living, giving Creator. In the Northwest there is no more moving evidence of such giving than a huge, healthy run of salmon. Speaking from lifelong experience, I can say that the sight of these massive ocean travelers in a clear flow before me, hundreds of miles inland, thousands of feet above the sea, is a literal answer to unspoken prayer. Words aren’t needed in the presence of such an answer. There it swims in the water before me: Genesis blessing, the moving creature that hath life.”
CECIL ANDRUS ON IDAHO SALMON

While Governor Andrus called his failed effort in the 1990s to achieve a Northwest political accord on salmon “my greatest frustration in politics,” he accomplished more for Idaho’s endangered salmon than any elected leader to date. Here are a few of his statements about salmon. Also included in the packet is a copy of his chapter on salmon from his autobiography, Politics Western Style.

“The Northwest’s power utilities once dreamed and schemed to build six-hundred-foot-high dams in the canyons of the Snake and Salmon. The paint splotches marking the Nez Perce and High Mountain Sheep dam sites can still be seen by rafting parties floating down the Snake River. But the upper reaches of Hells Canyon had already been dammed three times. The remaining hundred miles of canyon, I felt, were best kept wild. Salmon could spawn, bighorn sheep could balance on cliff faces, and two-footed creatures could feel the waves of Wild Sheep Rapids.

I fought to create a Hells Canyon National Recreation Area that would leave the remainder of the Snake River undammed and a River of No Return Wilderness that would assure that nobody would ever plug the Salmon River with concrete.”

“It is at White Bird Hill that I can get steamed up over my greatest frustration in politics. The Salmon River gets its name from the hundreds of thousands of fish that once spawned in its pools, eddies, and side streams. Meriwether Lewis was fed one of them by friendly Indians after staggering over the Continental Divide at Lemhi Pass into the valley of the upper Salmon.

“In the mid-1950s, about four hundred thousand salmon returned up the Snake River system each year, most heading for such unspoiled tributaries as the Salmon, Clearwater and Imnaha Rivers. I would picnic with my young family at Bruce’s Eddy on the Clearwater and wade into the river with hopes of hooking a chinook salmon or steelhead, the Northwest’s fighting and famously tasty species of seagoing trout.

“No more. The fish are disappearing from the river system.”