

Great Rivers of the West: IDAHO



WESTERN RIVERS
CONSERVANCY

Report prepared by Tim Palmer and Ann Vileisis



North Fork Boise River. Cover: South Fork Payette River

TIM PALMER

Letter from the President

Rivers are the great treasury of biological diversity in the western United States. As evidence mounts that climate is changing even faster than we feared, it becomes essential that we create sanctuaries on our best, most natural rivers that will harbor viable populations of at-risk species—not only charismatic species like salmon, but a broad range of aquatic and terrestrial species.



That is what we do at Western Rivers Conservancy. We buy land to create sanctuaries along the most outstanding rivers in the West – places where fish, wildlife and people can flourish.

With a talented team in place, combining more than 150 years of land acquisition experience and offices in Oregon, Colorado, California, and Washington, Western Rivers Conservancy is well positioned to fulfill its mission in 11 western states.

Yet if we are to conserve the great rivers of the West, we need to know which rivers these are. To develop an inventory of the highest quality rivers, we turned to Tim Palmer—a noted author and photographer with 35 years of experience exploring hundreds of streams throughout the West.

The principal goal of the survey was to develop a list of the most outstanding natural rivers—the great rivers of the West. Criteria included free-flowing length, natural flow regime, water quality, biological health and habitat, ecological and regional diversity and recreational suitability, among other attributes. A committee of

noted scientists and other experts reviewed the survey design, and state-specific experts reviewed the results for each state.

The result is a state-by-state list of more than 250 of the West's outstanding streams, some protected, some still vulnerable. The Great Rivers of the West is a new type of inventory to serve the modern needs of river conservation—a list that Western Rivers Conservancy can use to strategically inform its work.

This is one of 11 state chapters in the report. Also available are a summary of the entire report, as well as the full report text.

With the right tools in hand, Western Rivers Conservancy is seizing once-in-a-lifetime opportunities to acquire and protect precious streamside lands on some of America's finest rivers.

This is a time when investment in conservation can yield huge dividends for the future. We invite you to join forces with us as we work to buy and conserve high-quality lands on the Great Rivers of the West. Please visit our website at www.westernrivers.org, or you may contact me at sdoroff@westernrivers.org or 503-241-0151 to learn more.

For Our Rivers,

A handwritten signature in blue ink, appearing to read 'Sue Doroff'. The signature is fluid and stylized, with a large loop at the end.

Sue Doroff
President

Introduction

Great Land, Great Rivers

Rivers and streams may be the most valuable of all natural resources in the western United States. They provide for a wide range of human needs—everything from drinking water and recreation to hydroelectricity and agriculture. At the same time, they offer crucial habitat and migration routes for fish and wildlife—often in otherwise arid landscapes. Even more fundamentally, they sustain vital natural processes—the hydrologic cycle, the flow of groundwater, and the growth of forests—that nourish all of life.

An extraordinary network of rivers flows from mountaintops to deserts, lowlands, and seashores. Among thousands of streams, several hundred remain as exemplary natural waterways.

Bound for the Pacific Ocean, rivers of the coastal states flow through remarkably varied terrain—from high elevations to sea level, and through drylands as well as the greatest temperate rainforests on earth. In California, the Smith River is the only sizable undammed river in the state and still supports runs of wild salmon. In the Sierra Nevada, the Kings, North Fork of the Kern, and other streams flow magnificently from alpine headwaters to lower foothill elevations. In Oregon, the Elk and Illinois are criterion natural rivers of the Pacific Coast Range, and the Rogue is one of few rivers that winds without development or roads as it cuts through these far-western mountains. In Washington, an incomparable suite of still-wild rivers drops from towering Mount Olympus, and in the glacier-carved North Cascades, the Skagit and Sauk River systems are among the finest for salmon, steelhead, and deep forest frontage with long, free-flowing mileage.

In the Rocky Mountains, a few rivers remain with exceptionally long reaches of undammed, watery pathways through the rugged terrain, and others are critical to fish and wildlife even though they are shorter. The Salmon of Idaho, perhaps America's premier river



Bighorn Sheep on the Salmon River

for combined length and natural mileage, runs for more than 400 miles through a geographic maze of eight major mountain ranges and still supports one of the West's most notable runs of salmon. The Selway is even wilder, pulsing down from its headwaters in the Bitterroot Mountains. Montana has the forks of the Flathead—each remarkable for its clarity, beauty, and habitat of rare bull trout and wildlife including grizzly bears and wolves. The Yellowstone flows for more than 600 miles without large dams, its nature still largely intact from Rocky Mountain heights to the heart of the Great Plains. In Wyoming, rivers of the renowned Greater Yellowstone Ecosystem include outstanding tributaries to the upper Snake and its incomparable riparian corridor beneath the craggy peaks of the Tetons. In Colorado, the Yampa has one of the finest cottonwood forests in the West and still supports endangered warm-water fishes of the Colorado River basin.



Snake River, Shoshone Falls

The drylands and deserts also have their riverine highlights. The Green of Utah flows for nearly 400 miles with native fish habitat through spectacular canyonlands, and the Virgin River is centerpiece to Zion National Park and a greater region of redrock canyons. Nevada has mountain streams where the rare Bonneville and Lahontan cutthroat trout survive. New Mexico has the fabled Rio Grande and the still-wild upper Gila; Arizona has the biologically rich Verde and the one-and-only Grand Canyon of the Colorado River.

These are just a few of the rivers and tributaries that still flow with exceptional natural assets throughout the American West. Much of value remains, yet much of natural worth has been lost during the past two hundred years, and even some of the best-protected waterways are threatened by mismanagement, development, or pollution from near or distant sources.

To protect and restore the finest rivers that remain are goals of top importance for the future of the West, yet no recent comprehensive survey has been completed to identify the best natural rivers that

remain. That is the intent of this report prepared by the Western Rivers Conservancy.

Great Rivers of the West: The Western Rivers Conservancy Survey of Eleven States

Western Rivers Conservancy (WRC) is dedicated to protecting the outstanding rivers of the western United States. Based in Portland, Oregon, but working throughout an eleven-state region, this nonprofit, private organization purchases riverfront property from willing, private landowners and assures that the land will be conserved as open space. In this way, the group has successfully protected dozens of critical riverfront tracts along streams such as the Sandy, Illinois, Chetco, and Willamette Rivers in Oregon; the Hoh River and Icicle Creek in Washington; the Snake River in Hells Canyon of Idaho and Oregon; the Sun River in Montana; the Smith River and Chico Creek in California. However, both the need and the opportunity to protect rivers far exceed the ability of this—or any organization—to accomplish all that should be done. Many rivers and their landscapes must be safeguarded so that natural ecosystems can continue to function and provide for people's needs in the future.

To clarify its mission and focus its efforts, the WRC in 2005 adopted a strategic plan to “protect outstanding river ecosystems in the western United States” and to “conserve the great rivers of the West.” These are described as “healthy, natural rivers where ecological functions are still intact.” The plan emphasized “whole ecosystem protection” and recognized the importance of headwaters, riparian lands, estuaries, and regions that have “a high density of high-quality rivers.” To plot this ambitious course, the WRC recognized the need to complete a survey to identify the highest quality rivers. Simply stated, if the organization is to save the “great rivers of the West,” it needs to know which rivers these are.

To develop the survey, the WRC hired Tim Palmer—a noted author of ten books about rivers and river conservation, a planner trained in landscape architecture, a photographer, and an inveterate rivers enthusiast with thirty-five years of experience exploring hundreds

of rivers throughout the West. A committee of noted river scientists and other western river experts reviewed the survey design as it was being developed, and state-specific experts reviewed the results for each state.

The survey examined rivers of Washington, Oregon, California, Idaho, Montana, Wyoming, Utah, Colorado, Nevada, Arizona, and New Mexico. For pragmatic reasons, Hawaii and Alaska were excluded.

Rather than start from scratch, WRC survey built on past river inventories. These include significant studies following the National Wild and Scenic Rivers Act of 1968, such as the Nationwide Rivers Inventory (NRI), and a wide variety of other more recent studies, inventory lists, articles, and research papers. Typically, for each state, 15 to 20 such sources were consulted. Each of these had its own “take” on the definition of quality (e.g. native fish abundance, water quality, recreation values), and some lists addressed only specific regions within a state. None told the whole story, but in aggregate, these earlier efforts all pointed the way or offered useful evidence. If a particular river was identified as excellent by half a dozen different sources, for example, it was considered likely to be a “better” natural river than one that was identified only once. To specifically consider rivers’ biological values, several experts—usually fisheries biologists or ecologists—were interviewed for each state. Their perspective and firsthand knowledge of local rivers provided essential insights for this survey’s analysis.

The Great Rivers of the West does not include of all rivers deserving protection. That would be a far larger list. To state this important point another way, if a river does not appear in this report, it implies no agreement that dams, pollution, new roads, or development can occur without significant public losses in river qualities and ecosystem functions. This survey, however, is WRC’s attempt to identify the very best rivers that remain with outstanding natural values. Furthermore, restoration efforts for rivers that are not even mentioned in this survey might someday reinstate their natural qualities so that they, too, will again become “great rivers of the West.”

Based on this survey, Western Rivers Conservancy will be able



St. Joe River

to better identify prime opportunities for its involvement. However, no land will be acquired for open space simply because a river appears on our list. And in cases where open space may eventually be bought to conserve the rivers, acquisition would be only from willing sellers who voluntarily agree upon all terms. The work of Western Rivers Conservancy and of other conservancies and land trusts simply gives property owners an opportunity to have their land protected if they want to do so.

The need for river protection is becoming more urgent as western streams are increasingly affected by pressures of a rapidly growing population; of the 10 fastest growing states in the nation on a percentage basis, seven are in the West. Such growth intensifies needs for water and energy and spurs suburban development of farm and ranchlands. The urgency of conserving rivers is also heightened by the aggravating effects of global warming and by neglect of problems that have been accumulating for many years across the watersheds of the West. In this challenging context, it is the aim of this survey to inform the conservation of the best remaining rivers of the West.

Surveying Idaho's Great Rivers

With vast mountainous terrain deeply cut by waterways, abundant snow and rainfall, and more remote country than any state outside Alaska, Idaho is widely regarded as America's premier state for free-flowing rivers that are both wild and long.

Idaho is capped by the Rockies—the northern extent of America's longest continuous mountain range, which rises for nearly the entire length of the West, from the Canadian border to southwestern sub-ranges that continue into Mexico. These mountains clearly dominate the central and northern state, and their influence—via waterways—is felt throughout. Fine streams can be found throughout the Rocky Mountains, but the Middle and Northern Rockies in Idaho and Montana get by far the most rain and snow and have nine of the region's ten largest rivers. In Idaho, these include the Pend Oreille, Clearwater, Kootenai, Salmon, and Snake.

The state's rivers system can be understood most fundamentally by knowing the route of the Snake River. The "Mississippi of Idaho," this artery receives almost all the water, except for a few rivers in the far north. The Snake enters southeastern Idaho after maturing with the generous runoff of eight contiguous mountain ranges in the Greater Yellowstone region of Wyoming. It quickly flows onto the arid Snake River Plain of Idaho, completely crosses the southern state, then bends north to eventually define the western boundary with Oregon. Along the way, the Snake receives a stellar collection of rivers draining Rocky Mountain highlands to the north and east. Centerpiece there is the vast Salmon River system—lifeline of the mountainous heart of Idaho and legendary among all rivers of the West. Other valuable river systems here include the Henrys Fork, Lost, Big Wood, Boise, Payette, and Clearwater. From the south and west, the Snake absorbs the meager flows of the Blackfoot, Bruneau, Owyhee, and smaller streams running seasonally off arid mountains. In Idaho's small area north of the Snake basin, the St. Joe River is a premier stream flowing into Coeur d'Alene Lake and hence to the Spokane River in Washington and to the Columbia. Beyond Coeur d'Alene, the Pend Oreille is all dammed but transfers the massive flow of Montana's Clark Fork on its way to the Columbia, and also picks up the partly wild Priest River of far northwest Idaho.



Clearwater River

The full-bodied Kootenai also crosses the thin, northern panhandle of Idaho in a brief, undammed interlude between Montana and British Columbia, where the "Kootenay" empties into the Columbia just north of the border.

Many of Idaho's natural rivers support one or more of the state's important native cold water fishes: chinook salmon, summer steelhead, bull trout, redband trout, and westslope cutthroat trout. Idaho's salmon and steelhead were once among the most plentiful in the world. But dozens of distinct runs have been reduced to remnants or driven to extinction owing to downstream dams, diversions, loss of spawning habitat, and hatchery populations that conflict with native fish. Yet many runs survive, and the importance of their protection is heightened by their scarcity. The other native fishes are likewise imperiled in most streams. Bull trout, which need long reaches of high quality aquatic habitat, are especially indicative of natural streams that remain.

Idaho boasts one of the two longest undammed and largely undiverted sections of river in the West—the Salmon (the Green in Utah is the other). The Salmon, along with most of its tributaries, provides key habitat for anadromous fish. These fish are currently the



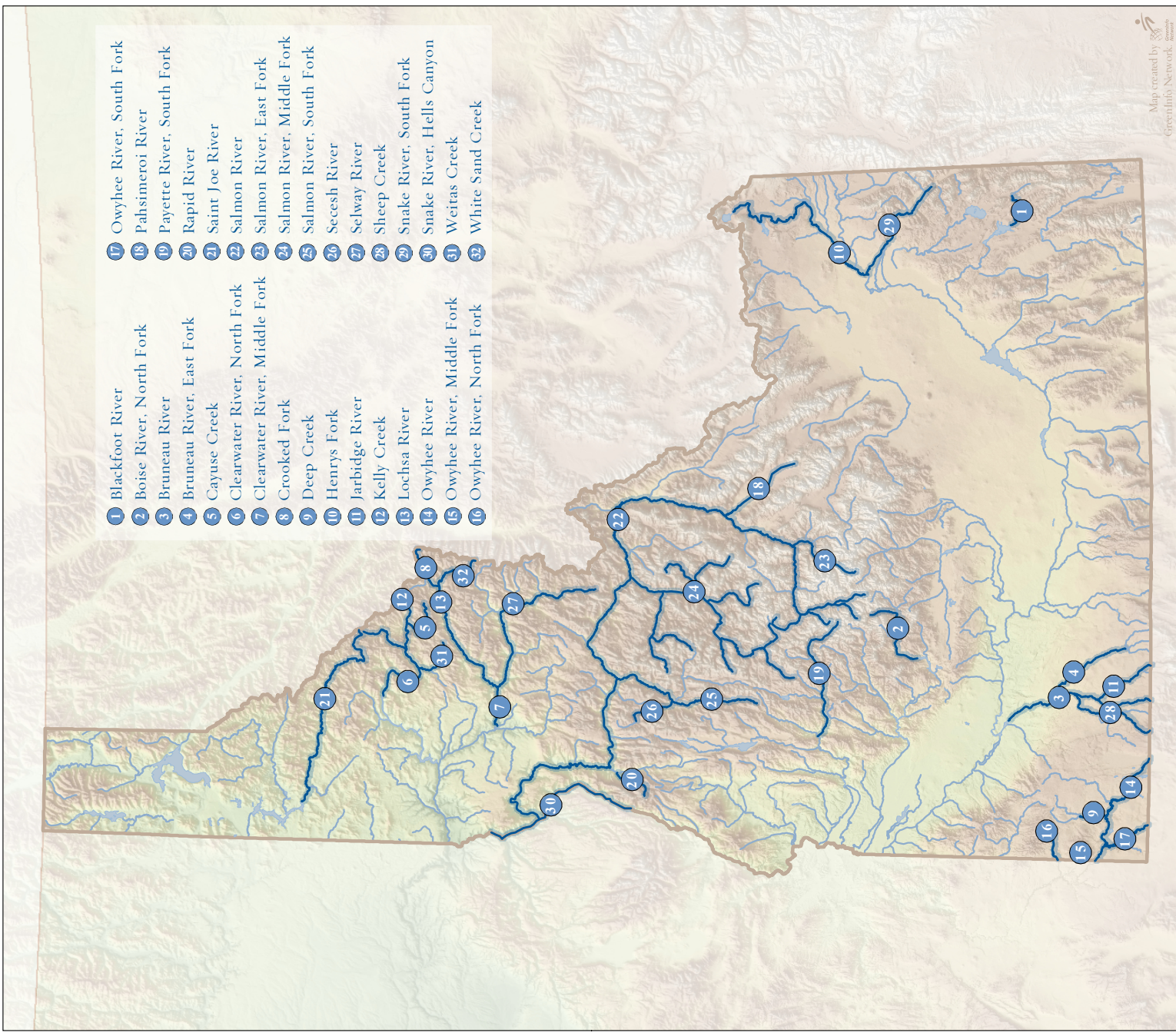
object of one of the most intense efforts ever undertaken for river conservation in our nation's history. Excellent salmon and steelhead habitat remains throughout the large basin or is restorable, and biologists believe that once-magnificent runs can be brought back if problems associated with downstream dams on the Snake River are solved.

Beyond the stellar Salmon system, other rivers, including the Selway, Lochsa, Clearwater, St. Joe, Payette, Boise, Owyhee, Bruneau, and Snake also have exceptional natural and recreational qualities. Many of these rivers offer excellent aquatic habitat for resident trout, rich riparian zones including some of the finest cottonwood forests in the West, and extraordinary opportunities for river running and streamside hiking through wilderness.

The river rankings that follow differ slightly in format from those of some other states in this report. For several rivers, multiple tributaries are grouped together under one description rather than covered individually. This is done in cases where the receiving river is quite large and where many high-quality tributaries tend to have similar characteristics and are all protected to a comparable degree. For example, the small, wild tributaries of the Salmon are presented here as a group rather than listed separately. ■

Middle Fork Lochsa River, tributary to the Clearwater

Idaho's Great Rivers: List



Idaho's Great Rivers:

River Narratives

IDAHO'S "A" RIVERS

Rapid River and West Fork

Bursting with clean, cold water from the isolated highcountry immediately east of Hells Canyon, the Rapid River is an excellent, small, salmon-supporting stream reached only by trail. This is the finest river in the uniquely isolated Seven Devils Mountains—an outlier of Rocky Mountain topography separated from the rest of the range.

Both forks of the Rapid River rise in the Hells Canyon National Recreation Area and flow northeast to the Little Salmon River just a few miles upstream from its confluence with the Salmon River at Riggins. The river supports salmon, resident fish, and diverse wildlife in its short 20-mile drop from headwaters at 8,956 feet on Monument Peak to mouth at under 2,000 feet. The cold water of the Rapid River is important to the health of the lower Salmon River and to its threatened runs of salmon and steelhead.

In 1975 the main stem of the Rapid River was designated in the National Wild and Scenic Rivers system for 18 miles—its entire length except for the lowermost two miles below a major fish hatchery. All 8.8 miles of the West Fork were likewise protected. The basin is entirely publicly owned except for two isolated state tracts, a mining claim, and the two lower miles.



Rapid River

TIM PALMER

Salmon River

Flowing for 425 miles with only one low dam (a weir) at a fish hatchery near the headwaters, the Salmon is the landmark river of Idaho and a premier natural river of America. Surviving salmon and steelhead runs here are among the most critical in the Columbia basin and the West and can possibly be restored. Much of the basin is also a stronghold of the large, migrating bull trout, and some sections and tributaries support native westslope cutthroat trout. Numerous wild or semi-wild tributaries contribute clean, cold water from unroaded basins throughout central Idaho, including the largest wilderness in America outside Alaska. The Salmon, when combined with the Snake River downstream, is one of only two rivers in the West that offer an extended river expedition of more than 400 miles without dams (the other is the Green of Utah). The dam-free reach of the Salmon and Snake together total about 416 miles from the Sawtooth Valley hatchery weir to the Snake River backwater of Lower Granite Dam upstream from Lewiston. Because of its free-flowing length, wilderness, surviving runs of salmon and steelhead, and riparian habitat, the Salmon is arguably the most valuable and important river in the entire Rocky Mountain region. If four dams downstream were removed (the least useful among eight that lie below the mouth of the Salmon River), it is likely that the magnificent runs of salmon and steelhead would return, making this river system all the more valuable.

The river begins at the juncture of the Smoky and Sawtooth Mountains northwest of Ketchum and flows in a remarkably roundabout course, but generally tending northwest. Its epic route brushes against nine major subranges of the Middle Rocky Mountains. Each was formed through seismic activity, and each determined the river's flow as the mountains arose. The Salmon first heads north from the Smoky Mountains and scribes a line between the spectacular jagged skyline of the Sawtooth Mountains to the west and the taller, more pyramidal White Cloud peaks to the east. Then it runs east past the Salmon River Mountains to the north while the Pioneer, Lost, and Lemhi ranges rise consecutively to the south. At 175 miles into its journey, the once-again north-bound Salmon encounters the base of the Continental Divide at the toe

of the Bitterroot Mountains (Beaverhead subrange) near the town of Salmon, then veers directly west through remote canyons that dramatically bisect the mountainous heart of Idaho. It swings north again along the front of the Seven Devils Mountains, and then finally turns west to its confluence with the Snake River in the remote, arid depths of Hells Canyon.

The Salmon evokes more superlatives than nearly any other river in the West. It is at once the longest, wildest, and cleanest river of its size, offering excellent habitat to both imperiled salmon and steelhead. No other river transects so much mountain country—continuous for the river's entire length and its 7,000-foot descent from the base of snow clad alpine peaks above Sawtooth Valley to the harsh desert of Hells Canyon—one of the hottest places in the Rockies.

The river's chinook salmon population may have been the most abundant in the world. Fish still migrate 900 miles upstream from the ocean—one of the longest anadromous journeys anywhere—and the fishes' headwater destinations may be the highest-elevation salmon-spawning areas on the globe.



Salmon River

The river can be divided into four sections of roughly a hundred or more miles each. First, headwaters in the Sawtooth Mountains gather in some of the loftiest and snowiest mountain country in Idaho and yield abundant cold water. Dozens of tributaries here will be increasingly important to the river as the climate warms (these are treated as a distinct group of streams in the text that follows). Likewise, many tributaries throughout the basin flow from wild or semi-wild landscapes and add clean, cold water to the main stem's flow, and are later considered as a discrete group of streams.

The second section of the river, from Clayton to North Fork, includes one of the finest continuous cottonwood forests in the West. This reach of more than 100 miles flows largely through private ranchland, with many diversions for irrigating pasture, but much of the river's aquatic habitat and rich riparian forest remains reasonably intact or is potentially restorable.

The third section of river—from North Fork to Riggins—cuts westward for 150 miles through the mountainous backbone of Idaho. This outstanding wild reach flows through tumultuous whitewater rapids, all the while picking up stellar tributaries that drain mountains that rise 6,000 feet above the river. Here, a 79-mile roadless stretch offers one of the most sought-after river trips in the West. This reach borders the Frank Church-River of No Return Wilderness and lies close to the Selway-Bitterroot Wilderness—two of the four largest wilderness areas in the lower forty-eight states.

The final section, known as the lower Salmon, penetrates four dry, desert canyons between Riggins and the Salmon's confluence with the Snake River. Together, these constitute the third-deepest canyon in America, behind only the Kings of California and Hells Canyon of the Snake, which the Salmon joins at its mouth. Both the wild reach and the lower river offer some of the most important winter ranges for wildlife in Idaho and support bighorn sheep, elk, mule deer, mountain lions, mountain goats, black bears, and bald eagles. Jet boats also ply lower parts of the wild reach and—even more so—the lower river near the Snake River confluence.

The Salmon, with its Middle Fork tributary, hosts the best remaining steelhead and spring and summer chinook salmon habitat in the entire Columbia basin, which is also the largest



Upper Salmon River tributary, in the Sawtooth Mountains

single mass of salmon spawning habitat in the West. The similarly wild Selway River, in the neighboring basin to the north, also has surviving steelhead populations, but it lost its native wild salmon runs when a downstream dam obstructed fish migration; the salmon in the Selway have been introduced from elsewhere.

The Salmon River's 125-mile wild reach from the North Fork, below the town of Salmon, to Long Tom Bar, above the town of Riggins, was designated in the National Wild and Scenic Rivers system in 1980. A more limited federal law banning hydroelectric development was passed to protect the lower 112 miles of river in 1988.

The Salmon River's upper reaches include large tracts of private ranchland through the Sawtooth Valley, though easements resulting from the Sawtooth National Recreation Area designation protect most of this property from development. The mid-section from Clayton to North Fork is mostly private ranch land, with many critical tracts of riparian habitat. The middle "River of No Return" reach is mostly national forest land, though private parcels used as resorts and second-homes are scattered along the river, and

mining claims have been patented along some tributaries. In the Salmon's lower reach, much of the frontage of the upper 30 miles, from Riggins to White Bird, is privately owned, and development and encroachments for gravel extraction in this section have been increasing. But downstream from White Bird, 52 miles are largely in BLM ownership owing to a successful land acquisition program that boosted public ownership from 20 percent to 80 percent over the last 20 years (unfortunately, in that same time, an exotic plant, star thistle, has overtaken the drylands of the canyon with its impenetrable thickets of sharp spines, virtually useless to wildlife or cattle).

The Salmon is the longest largely natural river in the West with much of its frontage in public ownership. Additional protection of open space and restoration of flows from current ranchland diversions could markedly improve riparian and aquatic habitat and restore some of the river's outstanding fish and wildlife values. The Idaho State Office of Species Conservation has been working to



Warren Creek, tributary to the Salmon River

minimize diversion-dam barriers to salmon along middle reaches and to protect selected river frontage. If further riparian open-space protection were to be combined with removal of the four lower Snake River dams lying downstream, this river could become America's most remarkable exemplar of river restoration and conservation.

Salmon River's Sawtooth Mountain headwater tributaries

Forming the headwaters of the Salmon River, ten major tributaries tumble down from the jagged Sawtooth Mountains. This is one of the largest blocks of high-elevation terrain in Idaho, with more clean and cold water flowing from it than from any comparable region. Much like runoff coming from glaciers on the north sides of Cascade peaks in the Pacific Northwest, these Sawtooth creeks will become increasingly important in the age of global warming.

Most of the mileage of these streams flows through the Sawtooth National Forest and the Sawtooth Wilderness, but the lower ends of several streams are privately owned. Valley Creek, which drains the highest country at the north end of the Sawtooth Range, flows mostly through private land near the town of Stanley. However, easements purchased as a result of the Sawtooth National Recreation Area designation bar development on much of this private ranchland.

Important Salmon River tributaries include Smiley and Beaver Creeks, at the southern and upstream end of the basin. Both of these also flow through privately owned mining claims. Alturas Lake Creek, Hell Roaring Creek, and Redfish Lake Creek drain the center of the Sawtooth highcountry. At the northern end of the range, Goat Creek, Iron Creek, Crooked Creek, and Stanley Lake Creek collect waters from the spectacular Sawtooth range before emptying into Valley Creek, which winds through a broad, willow-covered valley to the town of Stanley before joining the upper Salmon River. Protection of riparian vegetation and the prevention of diversions for new development along these headwaters streams are critical to maintain cold temperatures and healthy flows for the

entire Salmon River system.

Salmon River's minor tributaries

Dozens of small tributaries are important to the health of the Salmon River and to the stocks of salmon and steelhead that persevere in this basin. A few of the most important high-quality creeks, beginning at the upper river, include Warm Springs, Slate, Squaw, Iron (Challis National Forest), Indian, Owl, Horse, Chamberlain, Sabe, and Bargamin. These are all clean streams that are already well protected. Rhett and Sheep Creek basins are similar but include clusters of mining claims.

Most of these, as well as many smaller streams, have basins that are entirely in U.S. Forest Service ownership, and most are within wilderness areas. Water quality is almost uniformly excellent, and most streams offer fine spawning habitat for salmon and steelhead if natural barriers, such as waterfalls, do not exist. Minor intrusions, such as mining claims are located along some of these streams.

See the B and C rivers in this chapter for the larger Salmon River tributaries: South Fork Salmon, Lemhi, Pahsimeroi, and East Fork Salmon Rivers.

Salmon River, Middle Fork and tributaries

The Middle Fork is the “crown jewel” of the Salmon River system and—many people would say—of the entire riverscape of the West. This 104-mile-long stream is the Salmon’s largest tributary, has no dams, is mostly publicly owned, and flows through a wilderness landscape where nearly the entire watershed is protected and unpolluted. With excellent salmon habitat and a resident trout fishery, with intricate whitewater rapids, and with fine trails leading up tributary streams, the Middle Fork offers what many seasoned river runners consider the premier extended river trip in America.

Starting high in the southernmost Salmon River Mountains, the Middle Fork begins where its upper tributaries, Marsh and Bear Valley Creeks, join. It then drops down steep and narrow rapids, accessible only by trail, to Dagger Falls. Just below lies Boundary

Creek, the put-in for Middle Fork river trips. This 96-mile-long white-water route includes Class IV rapids, tributary waterfalls plunging off the canyon rim, hot springs, and stellar campsites. Occasional lodges and resorts are located along the river and often include small private airstrips. A trail follows the river for its entire length, and the corridor is surrounded by the 3.2 million acre Frank Church-River of No Return Wilderness.

One of the longest rivers designated from source to mouth, the entire length of the Middle Fork was included in the original National Wild and Scenic Rivers Act of 1968. Cattle grazing continued for decades with degradation of riparian areas in headwater basins but was largely discontinued in the 1990s when 120,000 acres of grazing permits here and in neighboring basins were bought for retirement. A marked improvement in riparian vegetation resulted within just a few years.

Superb Middle Fork tributaries include the Rapid River and Camas, Elkhorn, Soldier, Pistol, Indian, Marble, Little Loon, Loon, Sheep, Big, and Waterfall Creeks. These streams are well protected in the wilderness area, though mining claims and some state-owned land lie along Big Creek and its tributary, Monumental Creek. Expert whitewater kayakers consider Loon Creek one of the most beautiful



Salmon River, Middle Fork

streams in Idaho.

Selway River and tributaries

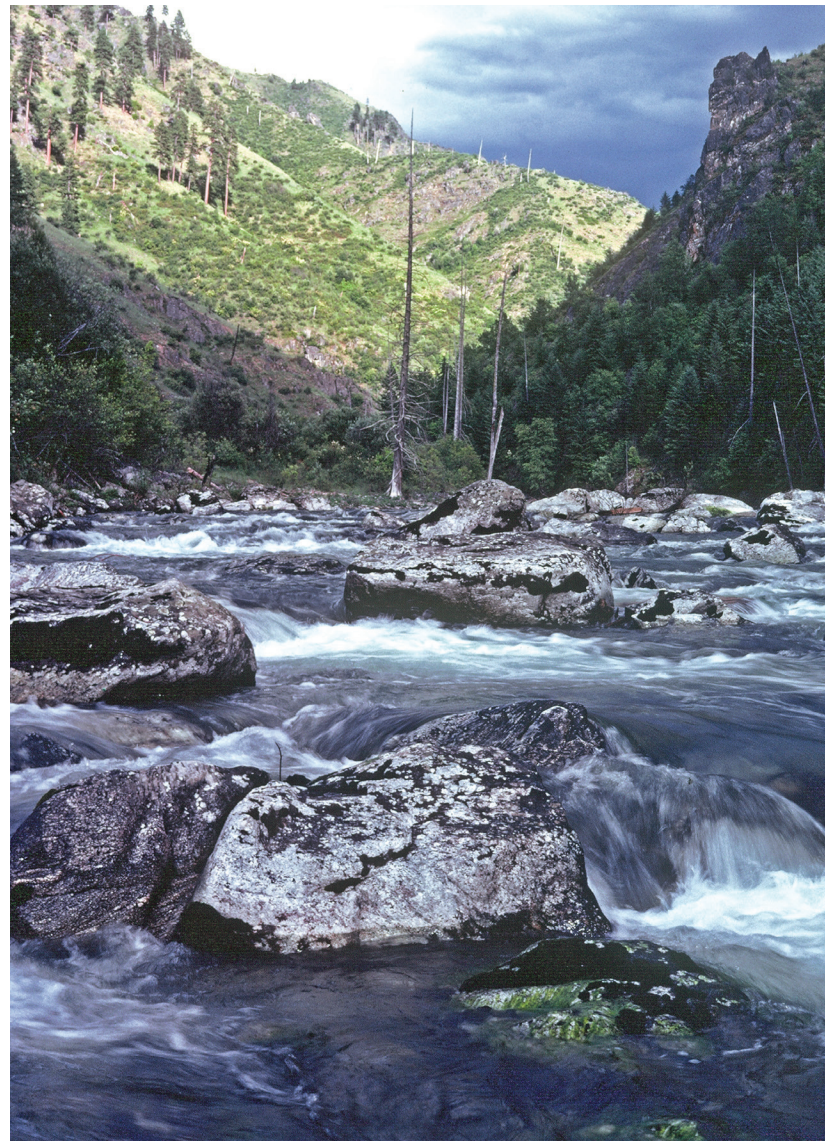
With crystal clear water, a pristine mountain wilderness of rugged peaks, lush evergreen forests, challenging rapids, and a fine fishery of westslope cutthroat trout, wild steelhead, and reintroduced chinook salmon, the Selway is regarded by many as the ultimate wild river of the West.

The Selway begins in the Bitterroot Mountains and flows 98 miles westward to its confluence with the Lochsa River. The two then flow as the Middle Fork of the Clearwater. Most of the basin is in a protected wilderness area.

Spoken of in near-mythic tones by veteran river-runners, the Selway's lucid water roars through difficult Class IV rapids when flows are high and then subsides to rocky, technically demanding drops at lower flows in late-June and July. The 48-mile-long river trip is more difficult than the similarly regarded Middle Fork of the Salmon, it has fewer lodges and guest ranches along its shores, and it is regulated far more stringently; only one raft trip is permitted each day. This is the only river in America that is managed to guarantee river runners such a pristine wilderness experience.

Western hemlock, grand fir, and western red cedar blanket the mountains below the rocky and snowy highcountry. For 47 miles the Selway churns through the 1.8 million acre Selway-Bitterroot Wilderness area. Only a dirt road separates this from the 3.2 million acre Frank Church-River of No Return Wilderness. Combined, they form the largest block of wilderness in the lower 48 states. An outstanding trail follows the Selway and offers one of the West's finest river-oriented backpacking trips—an experience that's always available after the rafting season ends owing to low flows in mid-summer. Below Selway Falls—a road-accessible tourist attraction in its own right—a fine Class II whitewater day-trip extends to the river's mouth.

With all 94 miles of the Selway designated in the original National Wild and Scenic Rivers system, this is one of America's longest rivers



Selway River

protected from source to mouth.

The Selway has always been free-flowing, but a dam built downstream on the lower Clearwater at Lewiston blocked the



NORMAN EDER

Snake River in Hell's Canyon

migration of salmon and has affected the Selway's fishery. Though the "B" run of Clearwater basin steelhead managed to make it past the dam, the river's native salmon run went extinct. In one of the first celebrated cases of dam removal, the antiquated fish-blocking structure was destroyed in 1973. Chinook salmon from other rivers were stocked here in the 1970s and are now reproducing as a partially naturalized run of fish. Thus, unlike the Middle Fork of the Salmon, which still has its native salmon run, the Selway is heavily stocked with hatchery fish by the Nez Perce Tribe, which largely controls fishery management in the basin.

Much like Salmon and Middle Fork Salmon, the Selway is fed by a stellar group of wild, clean, cold tributary streams. Foremost and largest of these, Moose Creek runs for its entire length through the Selway-Bitterroot Wilderness area, and is accessible only by trail. Upstream from Moose Creek, Bear Creek likewise drains highcountry wilderness. Other excellent wilderness area creeks are Meadow, Gedney, Three Links, Marten, Paradise, Running, and White Cap. All of these streams offer fine fish habitat and are paralleled by trails that provide for excellent backpacking.

Snake River in Hells Canyon

With its deep, wild, arid canyon, its variety of plant, animal, and fish life including imperiled salmon and sturgeon, and its superlative qualities for extended whitewater trips, this section of the Snake River is one of the outstanding reaches of large river in the West.

For more than 250 miles the Snake River forms the border between Oregon and Idaho (the entire river is 1,040 miles long and by volume ranks as the twelfth-largest river in America). Most of the Oregon length is impounded by the Hells Canyon complex of three dams, or it is heavily polluted by agricultural wastewater in the reach upstream from the dams. However, 70 miles remain free-flowing through the lower half of Hells Canyon, and have exceptional qualities. Counting downstream mileage along the border of Washington, the Snake flows free for 100 miles in this reach.

Here the river has carved the second-deepest canyon in America (only the Kings of the Sierra Nevada is deeper), and the deepest canyon carved by a large river. Massive in scale, the Snake in Hells Canyon averages 13,000 cfs even during the low-water month of August. Steep volcanic slopes rise from 5,000 to 8,000 feet above the water. Upper reaches of the canyon, immediately downstream from Hells Canyon Dam, include a blend of ponderosa pine, fir, and grasslands; lower sections are rocky and arid.

An intricately varied fishery includes bass, trout, surviving runs of fall chinook salmon and steelhead that still migrate to the mouths of the Grande Ronde, Salmon, and Imnaha Rivers. Forming the migration path for salmon and steelhead coming up the Columbia-Snake-Salmon Rivers system, the lower end of Hells Canyon is critical to these endangered and imperiled anadromous runs that were once among the finest in the world. Salmon in this system must now overcome four dams on the Columbia and four dams on the lower Snake before reaching the hospitable Snake River tributaries in Hells Canyon. A critically threatened species, the Snake River fall chinook spawn directly in the river in the free-flowing reach below Hells Canyon Dam. This is also one of the best remaining reaches of river supporting rare white sturgeon—the largest freshwater fish in

North America.

With its classic high-volume whitewater, the Snake attracts rafters, drift boaters, and kayakers from all over the nation for extended river trips of 3-7 days. It is also popular among jet boaters, unrestricted for many years even after non-motorized use had been limited by quotas. This has resulted in severe conflicts between the two groups. Trails follow portions of the canyon.

Snake River, “South Fork” reach

From Palisades Dam, near the Wyoming border, to the Henrys Fork confluence, the Snake River flows with ample runoff through one of the finest cottonwood forests in the West and offers outstanding habitat for native cutthroat trout and a host of wildlife (this section is often called the “South Fork.”)

For 15 miles below Palisades Dam, Highway 26 follows the river northwest through the ranchlands of Swan Valley. At Conant Valley, the river leaves the road and, for the next 30 miles, ripples through a magnificent forest of black cottonwoods with gravel bars exposed in low water and lava cliffs rising above. A rare orchid, the Ute Ladies Tress (*Spiranthes diluvialis*) has been found here. To the northeast, Engelmann spruce cover mountainous slopes that give way to drier terrain and to the southwest, irrigated farmland perches on the bluffs above the river. For another 25 miles the river continues to braid through bottomland cottonwood forests, though enormous diversions are withdrawn from the Snake and farmland encroaches on the river with levees.

This 70-mile section of the Snake is one of few large-volume, gentle flowing rivers in the Rocky Mountains. Famous for its native cutthroat trout fishery, the river draws anglers nationwide and is one few sport-fishing rivers for this native trout. The river is managed for native fish, with efforts to reduce non-native species. The riparian forest supports bald eagles, osprey, moose, and a host of other wildlife.

The Snake is the major river of Idaho. As it leaves its Rocky Mountain reach at the mouth of the Henrys Fork, it flows with an



Pelicans on the Snake River

average of 8,779 cubic feet per second—the seventh-largest river flowing within the Rocky Mountain region. By the time it reaches its confluence with the Columbia, 1,040 miles from its source in Yellowstone National Park, it carries 56,900 cfs and ranks as the second-largest river in the West and twelfth-largest in America.

Despite the Snake’s size and significance, the entire river below the Henrys Fork is heavily affected by diversions, agricultural pollution, damming, and land development. Nevertheless, some sections still offer important natural values. Several free-flowing reaches west of Twin Falls support rare white sturgeon (though they reproduce only in the section below Bliss Dam owing to the sturgeon’s need for long free-flowing reaches). Springs flowing into the river from the north near Hagerman are heavily manipulated for hydropower and fish farms, but they still support an imperiled sculpin and rare snails, and replenish the river’s diverted flows. Cliffs rising above the river at the Birds of Prey Natural Area near Swan Falls Dam support more species of nesting raptors than any other area in the nation. Farther downstream, the extraordinary Hells Canyon lies below the Hells Canyon Dam complex and is discussed in the Oregon chapter of this report. Although significant and even unique natural values still exist in these lower-river reaches, the overwhelming presence

of agriculture here precludes consideration of the middle and lower Snake as one of the great natural rivers of the West.

St. Joe River

The St. Joe River flows with outstanding clear water from forested lands of the Northern Rockies and supports one of the state's—and the West's—strongest populations of native westslope cutthroat trout and also bull trout. Completely undammed for its entire 130-mile length, this is one of the ten longest free-flowing river reaches in the Rocky Mountains.

Beginning almost on the continental divide at St. Joe Lake, the river drops west for about 28 miles, with a trail following its length the entire way. For the next 40 miles, to the town of Avery, a gravel road follows the stream. Then the river continues for 62 miles through a forested and cut-over valley, paralleled by a paved road to its mouth at Couer D'Alene Lake.

The river hosts an excellent native trout fishery, and is one of few



St. Joe River

major rivers where native cutthroat are still the dominant species. The basin supports wildlife including elk, mule deer, black bears, and grizzly bears. Westslope cutthroat trout are resident here and also migrate upstream from Couer D'Alene Lake, though introduced fish species and deterioration of the lake have degraded the lower river's native fishery.

The St. Joe's mouth at the lake is a unique feature with natural levees extending into the lake like two paralleling ribbons of land that support two strips of stately cottonwood trees. These house what may be the largest nesting colony of osprey in the country.

The entire river is enjoyed by trout anglers and Class II-IV whitewater paddlers.

Sixty seven miles have been designated in the National Wild and Scenic Rivers system: the upper 27 miles are classified as wild and the next 40 miles are classified recreational. The designation stops above Avery.

Upper portions of the watershed remain clad with old-growth forests, which are uncommon in the Northern Rockies. Middle sections have been logged, and the lower watershed has been intensively cut and recut. Most of the frontage above Avery—roughly the halfway point on the river—is under the jurisdiction of the St. Joe National Forest. Nearly all the land below Avery is owned by Potlatch and by other forest-industry companies. If the entire St. Joe were like its upper reaches, this would be one of the very finest rivers in the West. Intensive logging occurred through much of the middle and lower basin in the 1980s and 90s but has mostly been stopped, and there may now be opportunities for restoration of the St. Joe's exceptional qualities, even in its lower reaches.

IDAHO'S "B" RIVERS

Bruneau River with East Fork, Sheep Creek, and Jarbidge River with its East Fork

The Bruneau carves a spectacular vertical-wall canyon in the thick basalt layers of southwestern Idaho's Snake River plain. This

desert river and its tributaries still support Idaho redband trout.

The river gathers its headwaters from snowmelt in the Jarbidge Mountains, which rise to 10,789 feet in northern Nevada (see Nevada chapter of this report). It then flows north into Idaho, where it incises its remarkable canyon with high cliff faces, spires, and enormous piles of rockfall. Beyond its canyon, the river flows 14 miles through irrigated pastureland to the backwaters of C. J. Strike Dam on the Snake River.

With its largest tributaries, including the 60-mile-long East Fork, 80-mile-long Jarbidge River, and 70-mile-long Sheep Creek—the



Bruneau River

roughly 150-mile-long Bruneau and neighboring Owyhee River are unusual in the West for their extremely rugged, narrow canyons cut into dark, jagged layers of volcanic basalt. (New Mexico's upper Rio Grande in the Taos Box is the only canyon that could be considered comparable.) The 700-to 1,200-foot-deep canyons are entrenched in a vast, rolling, sagebrush-covered desert plain. If the most important criteria for this survey were geology and rugged, unusual scenery rather than biological importance, the Bruneau would surely be in the A list of this report.

Upper, mountainous reaches of the river system support resident trout, including redband, plus a remnant population of bull trout in the Jarbidge, which along with its smaller East Fork is exceptional among desert rivers in having cold, clear water rather than warm, silty flows typically found across arid landscapes of the West. The reduction of grazing within the canyons and headwaters areas over the past two decades has benefited the Bruneau, and fisheries and riparian qualities are recovering, according to BLM managers. In this respect, the Bruneau-Jarbidge system is now of greater natural value than the somewhat comparable but less-improved Owyhee River system to the west.

The extremely hot and remote desert canyons of the Bruneau provide habitat for mule deer, mountain lions, rattlesnakes, and other wildlife, including the threatened peregrine and prairie falcons. Along the lower river, a rare hot spring snail is found.

Because of the steep perpendicular walls, access to the Bruneau and its tributaries is extremely limited. One rugged trail winds down from the canyon rim in the river's middle section. A few other sites are reachable only by rugged 4-wheel drive routes that are impassable when wet. Long reaches of river are accessible only by kayak or raft. Sixty miles of the middle Bruneau, 15 miles of the lower Jarbidge, and 20 miles of lower Sheep Creek are run by boaters only during a short high-flow period in the spring.

A total of 121 miles of the Bruneau, along with the Jarbidge and lower Sheep Creek, were recommended for National Wild and Scenic River designation by the Department of the Interior in 1975; this remains one of the longest-standing but un-acted-upon federal recommendations for Wild and Scenic status. A bill for designation

was being considered anew in 2007.

Most of the river corridor upstream from the lower canyon's mouth is in public ownership and is managed by the Bureau of Land Management. Some tracts of arid ranchland are privately owned but have little potential for development. In the 1990s—amid great controversy and some concessions—the Air Force expanded a nearby bombing range farther into the Bruneau canyonlands.

Clearwater, Middle Fork with the Lochsa River, Crooked Fork, and White Sand Creek

A twin to the famed Selway River, the more northerly Lochsa flows with fabulous, clear whitewater and through thick evergreen forests to its confluence with the Selway. There, the combined flow forms the Middle Fork Clearwater. Unlike the wild Selway, the Lochsa and Middle Fork Clearwater have a major highway paralleling them for their entire length.

The 69-mile-long Lochsa begins in Lolo Pass, at the Idaho-Montana border, and flows west. Visible from Highway 12, the river plunges over rapids and through deep green pools. Then the Middle



North Fork Clearwater River

Fork Clearwater flows for about 25 miles farther to its confluence with the South Fork Clearwater, where the main stem begins.

As with the Selway, native runs of salmon were blocked from the Lochsa and the Middle Fork by Lewiston Dam, but steelhead survived along with a fine cutthroat trout fishery, and non-native salmon have been introduced, and reproduce in these rivers again.

Among the initial 12 National Wild and Scenic Rivers designated in 1968, the Lochsa and Middle Fork offer some of the finest river scenery that is accessible by a major highway. The Lochsa offers an exciting 35-mile reach of Class III-IV whitewater, boatable through early summer.

Nearly the entire Lochsa corridor is publicly owned in Clearwater National Forest, however, vital headwater basins are checker-boarded by private ownership and managed for timber production. White Sand Creek, flowing from the south, is only slightly affected, but the Crooked Fork of the Lochsa is thoroughly checker-boarded with forest-industry ownership. Acquisition of these lands would make the protection of the Lochsa complete.

Downstream from the Lochsa-Selway confluence, Middle Fork Clearwater frontage is split between national forest ownership through much of the upper half and private land on the lower half. The lowermost four miles of the river flow through the Nez Perce Indian Reservation, as does most of the main stem Clearwater River for 74 more miles downstream to the Snake River at Lewiston.

Clearwater River, North Fork with Kelly, Cayuse, and Weitas Creeks

These exceptionally beautiful Northern Rockies streams include deeply forested wild areas and superb cold-water fish habitat. Their legendary runs of steelhead and salmon were eliminated by the 717-foot-high Dworshak Dam and its 54-mile reservoir, but the river and its tributaries above the reservoir support fine resident trout fisheries, including some of the very best populations of imperiled bull trout and westslope cutthroat trout.

The North Fork Clearwater flows generally west for about

78 miles from headwaters at the Idaho-Montana border to the backwater of Dworshak Dam, near the mouth of the North Fork, east of Lewiston. Forty miles of the river are paralleled by road, and most of the rest is paralleled by a four-wheel drive route. The river has several important wild tributaries. Kelly Creek is 31 miles long with road access along its lower 10 miles, and is considered by fisheries biologists to be among the best bull trout streams anywhere. Entering from the south, Weitas Creek flows for 20 miles, accessible only by trail. Cayuse Creek runs for 30 miles with only trail access.

People who knew the undammed North Fork Clearwater regarded it as one of the finest river systems in Idaho; it once supported one of the most legendary runs of large steelhead ever known.

Though anadromous runs are extinct, the North Fork is now popular for trout fishing and for a 60-mile, Class III-IV boating run through splendidly remote, undeveloped valleys and canyons. The area is also known for elk and deer hunting and sustains several rare plant communities. An exceptional gem, Cayuse Creek has cutthroat trout, bull trout, and kokanee salmon, and also wolf habitat in its resoundingly wild basin. Kelly Creek is known for its fine cutthroat trout and bull trout and flows through a mix of exquisite meadows with forests and then tight canyons.

Nearly all the land in these watersheds lies in the Clearwater National Forest, but none of it is protected as wilderness, and many areas have been heavily logged or could be logged in the future. The upper end of the North Fork includes several miles of frontage owned by the timber industry, and other adjacent headwater areas lie in a checkerboard of national forest and industrial forest ownership. This river, with its mixed pattern of ownership, is a priority concern for the Idaho Nature Conservancy.

Salmon River, East Fork

This key tributary to the upper Salmon River has an important salmon and steelhead spawning population and a bull trout fishery. From alpine headwaters, the river drops through forested slopes and then winds through dry, rugged terrain with a rich riparian



Salmon River, East Fork

corridor of extensive cottonwood forests. The East Branch is the finest dryland river in Idaho with its salmon runs still present.

The East Fork flows north from the Boulder Mountains where its South and West forks collect headwater flows in the Sawtooth National Recreation Area. Both tributaries and 5 miles of the upper river are accessible by trail. The East Fork next flows for 6 miles through the Sawtooth and Challis National Forests. In this middle reach, the East Fork is fed by several tributaries that flow from the rugged White Cloud Mountains, which includes some of the highest peaks in Idaho. The entire east side of that range drains to the East Fork, providing healthy flows that support important anadromous runs and vital cold-water flows to the main stem Salmon River downstream. The East Fork next runs for 23 miles through a narrow strip of private ranchland surrounded by Bureau of Land Management property until it reaches its mouth at the main stem Salmon River, east of Clayton. Ranching and diversions for pasture have heavily affected the East Fork, but excellent potential remains to restore the health of this important Salmon tributary.

The Chinook salmon runs of the East Fork are especially important to the Shoshone and Bannock Tribes of southern Idaho.

To the east of the East Fork, the Lemhi and Pahsimeroi Rivers are Salmon tributaries that roughly parallel the route of the East Fork, but they flow largely through private ranchland and don't have the protected headwaters and high mountain snowmelt that benefit the East Fork.

Salmon River, South Fork and Secesh River

This major Salmon River tributary has important habitat for steelhead and salmon spawning and for bull trout, and was once regarded by many as the best of all habitat in the entire Salmon River basin. Badly damaged by logging in the past, but recovering, this basin is undeveloped and mostly in national forest ownership.

The South Fork begins in Boise National Forest but flows north mostly through the Payette National Forest, running for 67 miles to its confluence with the main stem at Mackay Bar, 20 miles upstream from the usual river-runners' take-out for the popular River of No Return reach of the Salmon. The South Fork flows through a varied landscape of meadows, pine forests, and rocky canyons incised within the granitic Idaho batholith.

While most of the basin is national forest, and lies directly adjacent to the large Frank Church River of No Return Wilderness, none of the South Fork watershed is similarly protected. Heavy logging here in the 1960s and '70s led to catastrophic landslides of the highly-erodible, granitic soils, and immediately to siltation that was disastrous to the world-class fish runs. The river has begun to recover from that damage. Forests have begun to regrow, however, the loss of soil, disturbance of the riverbed, and lack of returning salmon as a nutrient base have all had lasting effects.

The lower 25 miles are accessible only by trail, and a gravel road roughly follows the South Fork's corridor for the rest of its length. The steep-gradient, Class III-IV stream has become popular among whitewater boaters who are willing to cope with a long and arduous shuttle early in the summer. The river is a good fishery for spring and



TIM PALMER

Blackfoot River

summer Chinook salmon and bull trout. Several tracts of private land are located along the middle and lower sections of the river.

The Secesh River (pronounced SEE-sesh) flows for 38 miles from the west and north and joins the South Fork Salmon in its mid-section. Gravel roads follow much of the Secesh's length, but 12 miles have only trail access. This tributary has a good salmon, steelhead, and cutthroat trout fishery. One sizable private inholding in the Payette National Forest is located along the upper river at Secesh Meadows. Other fine tributaries also enter the South Fork downstream from the Secesh.

IDAHO'S "C" RIVERS

Blackfoot River

The upper Blackfoot River has some of the most productive water for native trout in Idaho, and perhaps the very best.

Rising in the little-known Webster Range of the middle Rocky

Mountains in far southeast Idaho, the Blackfoot flows north to the Snake River plain on the Fort Hall Indian Reservation north of Pocatello. The lower two-thirds of the river, from Blackfoot Reservoir down, flow through a remote Class III whitewater run—an inaccessible canyon with extreme whitewater along the border of the Shoshone and Bannock Fort Hall Reservation—and then lower reaches are severely diverted and dammed for irrigation. The upper third of the river, above Blackfoot Reservoir, is the reach that is listed here as one of Idaho’s outstanding rivers.

Headwaters begin with the twin streams of Chippy Creek, which flows 15 miles south, and Diamond Creek, which flows 18 miles north, both meeting to form the Blackfoot. Chippy Creek runs through a 3-mile-wide belt of private ranchland between sections of the Caribou National Forest. Diamond Creek flows 12 miles through the national forest and then 12 miles through private land.

The Blackfoot then curves for about 26 miles through a broad floodplain and wide, open, high elevation valley replete with wetlands along much of the river’s route, ending in Blackfoot Reservoir. Nearly all of the corridor lies within a few, large, private ranches.

Though this stream is heavily affected by deforestation,



Boise River

diversions, channelization, roads, and grazing, it was once among the very top native Yellowstone cutthroat trout (and perhaps bull trout) streams in Idaho and the West, likely much better than the current fishery in the renowned South Fork Snake. With limestone in the basin, the alkalinity of the water is high, leading to similarly high productivity for aquatic life. The conductivity of the stream—a measure of total dissolved solids indicative of nutrients—ranges between extremely high ratings of 500 to 700. The Salmon River, for comparison, rates from 40 to 70 (though a fine stream, the Salmon has only one-tenth the productivity of this little known and highly affected waterway.) Trout here can reach an exceptional 8 pounds, and grow at roughly twice the speed of fish in many other popular angling streams. Bird life is likewise outstanding, with throngs of shore and wading birds in the wetlands and with the potential for habitat much like the bird-rich Grays Lake National Wildlife Refuge, just 10 miles north from the river’s inlet to Blackfoot Reservoir.

As a stream with high restoration potential, it would be difficult to pick a more promising river than the Blackfoot.

Boise River, North Fork

Flowing through wild mountain canyons, this clear, cold stream hosts a fine fishery of both native and hatchery trout and offers good opportunities for hiking and whitewater paddling.

The 43-mile-long river gathers waters from 8,000-foot peaks and flows for eight miles through the Sawtooth Wilderness. It then runs through Boise National Forest for 11-miles accessible in part by four-wheel drive road, and for 16 scenic miles accessible by gravel road. The river finally then plunges into a wild canyon with no road or trail for nine miles before reaching its confluence with the Middle Fork Boise. Nearly the entire river lies in the Boise National Forest.

Much of the watershed burned in 1994, and many landslides ensued, but the basin has been gradually recovering. The river offers a fine sport fishery with trout, including native Idaho redbands, and the lower reach is a favorite of expert whitewater boaters who value the canyon for its beauty, seclusion, and whitewater.

Although the biological values of the North Fork Boise do not compare to Idaho's most exceptional rivers, many reaches of the North Fork and of the whole Boise River system offer outstanding recreational and natural qualities close to Idaho's largest population center. The lower river, in the city of Boise, is centerpiece to one of the finest urban greenways in America, and the greenway is being expanded to include more of the low-elevation river. The Middle Fork, above Lucky Peak Reservoir, is a beautiful free-flowing stream with wonderful early-summer whitewater boating and gravel-road access to the old mining town of Atlanta. At the Middle Fork's headwaters, the Queens River is an outstanding trail-accessible wilderness stream flowing from Sawtooth peaks. The South Fork has a popular whitewater run, a dam-release trout fishery between Anderson Ranch and Arrowrock Reservoirs, and a fine cottonwood corridor along upper reaches above Anderson Ranch. However, the North Fork is the least developed of the three Boise River branches.

Henrys Fork, Snake River

Considered by some anglers to be the finest dry-fly trout fishing river in the West, the Henrys Fork of the Snake has excellent cold water, unusual spring-fed flows, waterfalls, and wildlife habitat. Although it has development and roads and is blocked by two dams, the upper basin is geologically and ecologically the closest type of landscape we have to another Yellowstone caldera.

The 110-mile river rises with robust spring flows within a few miles of the continental divide, just west of Yellowstone National Park. Several tributary creeks flow into Henrys Lake, which has been raised by a small dam. Below it, the river meanders through forests and wetlands to Island Park Reservoir, which is managed for irrigation in the lower basin. Six miles below the dam, the river winds placidly through Railroad Flat at Harriman State Park—Idaho's first state park and the most popular fishing reach. Farther downstream the river plunges over three major waterfalls.

The Henrys Fork is exceptional in its clean, cold water with abundant insect life. Native cutthroats survive only in the upper



Owyhee River

river while the quiet, mirror-like surface of the Railroad Flat reach supports mostly non-native rainbow trout and is regarded as one of the premier dry-fly fishing rivers in the nation.

The river is also unique in flowing through the Island Park Caldera—an area of past volcanic activity that has left a broad, depressed basin isolated in the highlands of the Rocky Mountains. The collapsed caldera makes the geology, plantlife, and wildlife habitat of the upper Henrys Fork very similar to that of Yellowstone National Park. Moose, elk, and eagles are found here, as well as rare trumpeter swans, which depend on the relatively warm spring flows of the Henrys Fork in the winter.

The upper half of the basin is mostly in public ownership in the Targhee National Forest, but there has been heavy clearcutting throughout the area. Although no road parallels the river, there are several crossings and a fair amount of recreational development. After plunging through a nearly impassable canyon, the river enters its lower watershed, which is intensively farmed and irrigated but still has some fine cottonwood corridor. Diversion dams with large intakes shunt much of the river's flow into canals. The Henrys Fork Foundation is an active local group dedicated to the conservation of the river and to working cooperatively with the basin's farmers.



Pahsimeroi River

Owyhee River and Middle, North, and South Forks, and Deep Creek

The Owyhee River flows through an extremely remote and sparsely-roaded desert of southwestern Idaho with deep, narrow, vertical-wall canyons, a mix of gentle riffles and heavy whitewater, and habitat for golden eagles, bighorn sheep, and arid-land wildlife. Combined with the river's greater length in Oregon, and with the Bruneau River, the Owyhee is one of the two greatest wild rivers of the northern desert region of the West.

With seasonal flows coming from snowmelt in the Independence and Bull Run Mountains, the main stem Owyhee (sometimes called East Fork above the South Fork confluence) winds through dry mountains for about 60 miles in Nevada before reaching Idaho and then flows for about 100 miles from the Duck Valley Indian Reservation to the Oregon border. Much of this length is through steep, incised canyons with vertical walls of dark, volcanic basalt. In this reach, the South Fork, which also flows for about 100 miles in Nevada and then for 40 miles in Idaho, joins the main stem (see Nevada chapter of this report). The sixty-mile long Deep Creek is another tributary to the main stem that enters in Idaho. Two other

important Owyhee tributaries, the North Fork and the Middle Fork, enter the main stem far downstream in Oregon, but flow for their first 22 miles and eight miles, respectively, in western Idaho. (See the Oregon section of this report for a description of these tributaries.)

The Owyhee and its branches pass through some of the most remote desert lands in the West. The only access is by difficult, FOUR-wheel drive roads, impassible when wet. Though most of steppe-lands of southern Idaho have been heavily grazed, the Owyhee canyons are so rugged in many places that cattle have been kept out, leaving native grasses and other plantlife to thrive. The remote canyons also offer excellent habitat for desert wildlife including bighorn sheep. Major sections of the river and its tributaries provide good habitat for redband trout. Unfortunately, diversions for hay pasture in the Duck Valley area persistently affect the river and impede recovery of its fishery and other biological values.

The Owyhee canyonlands are well regarded by boaters for their remoteness and stark beauty. The main stem Owyhee offers a demanding, springtime Class II-IV kayak or canoe trip (up to 78 miles with a portage). The South Fork has a 36-mile Class II-III trip, and Deep Creek has a 39-mile Class II trip that whitewater guidebook author Grant Amaral calls a miniature Grand Canyon.

A bill to designate some of the Owyhee in Idaho in the National Wild and Scenic Rivers system was considered in 2007. Most of these river canyons are public land managed by the Bureau of Land Management.

Pahsimeroi River

This tributary to the mid-section of the Salmon River has been heavily affected by ranching and related diversions but remains important because of its high fisheries productivity and restorable spawning habitat.

The Pahsimeroi flows for about 52 miles north between the Lemhi Range and the Lost River Range. Its source lies on public land on the slopes of Idaho's tallest peak, the 12,662-foot Mount Borah.

With its ample gravels and cold water, this is an ideal stream for



South Fork of the Payette River

salmon spawning, and in the past was a tremendous producer of fish. Unlike most of central Idaho's basins, which are mainly granitic, this watershed has large deposits of limestone, which is especially conducive to invertebrate and fish life. The river still supports bull trout and westslope cutthroat trout. Two Pahsimeroi tributaries—Falls Creek and Big Creek—support strong populations of westslope cutthroat.

The Pahsimeroi, however, flows through a wide, open, arid valley that has been converted to ranching. Yet with cold spring-flows, meandering channels, and cottonwood forests either present or capable of regeneration, parts of this river could offer some of the extraordinary restoration possibilities. The Idaho Nature Conservancy has identified the Pahsimeroi and neighboring Lemhi Rivers as priority areas for attention and is working with the state's Office of Species Conservation and with ranchers on land protection and riparian restoration projects.

In a parallel course, but to the east, the Lemhi River has its headwaters of Eighteenmile Creek and flows for 64 miles, including reaches that are diverted and completely dewatered. It flows

northwest between the towering Bitterroot-Beaverhead Range, which marks the border of Idaho and Montana, and the Lemhi Range, which lies to the west. It empties into the Salmon at the town of Salmon. This stream is similar to the Pahsimeroi but more degraded.

Payette River, South Fork

The South Fork Payette tumbles from high peaks of the Sawtooth Wilderness, pounds through a spectacular middle-elevation canyon with hot springs along the shores, and offers excellent trout habitat, plus opportunities for streamside hiking and whitewater boating.

Beginning in the heart of the Sawtooth Mountains, the South Fork draws its waters from a gem-like collection of high-country lakes, then it flows for nearly 20 miles through wilderness, with a trail following its entire length. For its next 24 miles, the river rushes through scenic mountain terrain with riffles, pools, large rapids, intimate canyons, hot springs, and lush riparian thickets of willows. A road parallels this reach with Forest Service campgrounds and access areas. Then for 15 miles below Lowman, the river drops into a steep, rugged canyon and plunges over waterfalls. The South Fork's final 8 miles riffle and drop through Garden Valley to its confluence with the Middle Fork, where the main stem Payette begins.

Though it is heavily affected by introduced trout and not a highly productive stream, the South Payette basin is important habitat for Idaho's surviving redband trout, which are found only in the southwestern part of the state. Bull trout also survive in this river and its tributaries.

Most of the river frontage along the lower river, in Garden Valley, is private land and could face heavy pressure for subdivision and development.

The South Fork's dam-free drop of about 67 miles—from alpine source to low-elevation canyons and valleys—offers an exceptional tour of the middle Rocky Mountains. ■

Conclusion

Idaho has the finest long reaches of natural free-flowing rivers remaining in the West. Surviving chinook salmon, steelhead, bull trout, westslope cuthroat trout, and redband trout are all important native species that still survive in many of the streams. Further protection of Idaho's most outstanding rivers would ensure their significant values for the future. Restoration of rivers that have been degraded—but not irrevocably altered—by cattle, diversions, mining, and development would help to recreate natural river systems of great significance nationwide.

Using eleven lists developed by other organizations or agencies, plus several interviews with biologists and other experts familiar with the fisheries and ecosystems of Idaho, we have found 144 rivers that have been identified for their high natural qualities. We sorted the most exceptional of these into an "A" category of seven rivers, which includes the 420-mile-long Salmon, plus nearly 50 small- and middle-sized tributaries of the "A" rivers (these are clustered together in several groups by basin owing to their similarities). Our "B" category of excellent natural streams includes 16 rivers and tributaries. Our "C" list includes 10 rivers and tributaries.

Idaho has nine rivers in the National Wild and Scenic Rivers system totaling 686 miles—not much considering the number of excellent rivers in the state, but nonetheless the largest mileage by far in the interior West. Designated mileage, however excludes most of the main stem Salmon River, critical lower reaches of valuable rivers such as the St. Joe, most tributaries of designated rivers, and—as of this writing—the entire complex of incomparable desert rivers in the southwest corner of the state. A bill was introduced in 2006 to add 386 miles of Idaho's desert rivers to the National Wild and Scenic River System. Of these, 100 miles were on the Bruneau, West Fork Bruneau, Jarbidge, and Sheep Creek, plus 60 miles on the lower Bruneau tributaries of Big Jack's Creek and Little Jack's Creek. In the Owyhee basin, 226 miles were proposed.

Idaho's best natural rivers benefit from having extensive mileage



Kootensi River

that is publicly owned and managed by the U.S. Forest Service, and some of this mileage is fully protected within wilderness areas. However, many scattered parcels of land within the national forests are privately owned. Mining claims in some of the wildest regions could cause serious threats to water quality, and the checkerboard pattern of industrial forest ownership in northern rivers means that clearcut logging is a continuing threat to the integrity of whole watersheds. In low-elevation areas, which are also the most biologically productive, major reaches of the finest rivers are predominantly owned by ranchers or by industrial forest companies, whose management can conflict with conservation of river values. The Salmon River is a special case, having a long mid-section with privately owned frontage that is vulnerable to land development. Yet because much of the private land along many of Idaho's rivers is owned by either ranchers or by the forest industry,

much of it remains in large blocks under single ownerships. This aspect may make protection and restoration efforts more feasible than they would otherwise be after large tracts become subdivided.

Three significant clusters of outstanding natural rivers became evident as this survey unfolded. Two of these clusters are located in the wild and lightly developed lands of central Idaho, which, all told, encompass an area nearly 300 miles long and 100 miles wide. With a population density lower than any other place in the contiguous 48 states, the wildlands of central Idaho represent the most substantial mass of relatively natural landscape in the United States outside Alaska. The river network that threads through this wild country represents the best opportunity for river and habitat protection at an ecosystem scale, nationwide. Within this large wild area, we divided the riverscape into central and north-central clusters.

Central Idaho / Salmon River system

The central cluster is actually the entire 420-mile-long Salmon River and its tributaries. The Salmon has an extraordinary and enormous watershed spanning 150 miles east-west and 150 miles north-south. The entire length of this river is worthy of protection at some level, making the challenge of conservation equivalent to that of safeguarding many separate rivers in many of the other western states.

Two sections of the main stem Salmon have major mileage with privately owned river frontage: the extensive middle reach from Clayton to the North Fork, and the initial section of the lower river between Riggins and White Bird. Some form of protection and restoration in these two reaches may be critical to the long-term health of this incomparable waterway.

Many Salmon River tributaries are also excellent natural streams, and together they represent one of the most notable groupings of high quality waterways in America. The Sawtooth Mountain headwaters of the Salmon River contribute clean, cold water that is vital to the health of the larger river and that will become even more important in the age of global warming. Most of these streams are



Salmon River

KRISTINA ABBEY

already well protected.

The major east- (and dry-) side tributaries—the East Fork, Pahsimeroi, and Lemhi Rivers—are adjacent basins that also have great importance in the main stem of the Salmon. They, too, drain very high terrain, though their mountains receive less snowfall than the Sawtooths and White Cloud Mountains owing to the rain shadow cast by those great windward ranges, and also to their smaller area of highcountry. Although they are productive for fisheries owing to their geologic (limestone), hydrologic (springflows and snowmelt), and ecological makeup, these three rivers have been seriously degraded. They are not, however, heavily developed. In fact, they are scarcely developed at all, and their restoration is eminently possible. The East Fork, in particular, offers great potential because it adjoins the highly protected Sawtooth-White Cloud Mountain complex, has only a thin strip of private ranchland running down the center of its narrow valley, and retains many of its natural qualities.

North-central Idaho / Selway-North Fork Clearwater-St. Joe River systems

Immediately north of the Salmon River basin lies the extraordinary north-central cluster of Idaho rivers. Here the wild Selway-Lochsa system adjoins adjacent watersheds of the North Fork Clearwater and St. Joe.

The Selway-Lochsa is an outstanding complex of rivers and streams. A relatively small checker-boarded patch of private industrial forest land at the headwaters of the Lochsa is the only weak-spot in this otherwise highly protected river system. The North Fork Clearwater basin above Dworskak Dam (but excluding the Little North Fork, which has a lot of industrial ownership) has a stellar set of wild tributaries with only small amounts of industrial forest land in its upper basin.

The St. Joe watershed is wild at its headwaters, but in its mid-reach is checker-boarded with industrial forest tracts and national forest land that has been heavily logged. The lower St. Joe is biologically important but is owned almost entirely by the forest industry.

Idaho Desert / Bruneau-Owyhee River Systems

The third great cluster of natural rivers in Idaho lies in the desert southwest—the Bruneau and Owyhee basins. Like the forested wildlands of central Idaho, this area is remote from cities and major highways, and is accessible only by a sparse network of unimproved roads. Though cattle ranching has degraded much of the spare, arid landscape, the canyons remain as wild enclaves. As such, they remain as refugia for redband trout, native grasses, desert plants, and wildlife. Unlike some of the more road-accessible reaches of the Salmon and other central Idaho basins, the wild rivers of southwestern Idaho have few imminent threats. ■



St. Joe River, below Bruin Creek

SOURCES FOR THE IDAHO SURVEY

Idaho Rivers were evaluated using the following sources. Please see Appendix 1 for criteria.

1. Existing Inventories Of High-Quality Rivers

- National Wild and Scenic Rivers
- National Wild and Scenic Study Rivers
- National Wild and Scenic Study Rivers
- State-designated wild and scenic rivers
- Nationwide Rivers Inventory (National Wild and Scenic Rivers Act)
- U.S. Forest Service rivers recommended for protection
- Bureau of Land Management rivers recommended for protection
- Bureau of Outdoor Recreation, Western U.S. Water Plan
- Columbia Interior Basin Ecosystem Management Plan

2. Interviews with biologists and local experts

- Bert Bowler, Idaho Rivers United, fisheries biologist
- Will Whelan, The Nature Conservancy, director of government relations
- Roger Rosentreter, Bureau of Land Management, botanist
- Scott Bosse, Greater Yellowstone Coalition, fisheries biologist
- Russ Thurow, U.S. Forest Service, Rocky Mountain Research Station, fisheries biologist
- Scott Grunder, Idaho Department of Fish and Game, native species coordinator

3. Idaho/U.S. F&WS-EPA, highest-value fishery resource. These streams have been jointly designated by the Idaho Department of Fish and Game, the U.S. Fish and Wildlife Service, and the Environmental Protection Agency based on values for both biological diversity and sport fishing.

4. Idaho Department of Fish and Game, Outstanding Rivers Inventory. These streams have been identified by Idaho's fish and game department for outstanding fishery resources.

5. Idaho Rivers United. These rivers are on an informal list that Idaho's statewide river conservation group regards as the finest and also the most critical for conservation efforts.

6. Trout Unlimited. These are rivers highlighted for their native fisheries values in Where the

Appendix 1: Assessing the Quality of Rivers

To assess the qualities of rivers, the WRC survey used two sets of criteria. The first set were minimum requirements to be considered for a base-list of the best natural rivers. The second set addressed quality indicators—the specific values that indicated which rivers were the very best.

MINIMUM CRITERIA

Five minimum criteria were considered:

1. Free-flowing current. Free-flowing reaches of rivers are those that remain with their currents, riverbeds, shorelines, valleys, and canyons unblocked by dams. These reaches continue to benefit from floods' scouring and replenishment, they lack dams as barriers to fish migration, and they are more likely to retain ecological functions. Dams are so ubiquitous throughout the West that in many states only limited free-flowing reaches of rivers remain.

2. Reasonably natural flow regime. Natural flow regimes permit the full complement of native flora and fauna to thrive. Reaches that are de-watered or heavily diverted usually lack much of their native fish and wildlife and were not included in this survey, though rivers with minor diversions were considered. The more-natural the flow regime, the better.

3. Good water quality. High water quality is a foundation for much of the life in rivers. Heavily polluted reaches were not considered.

4. Non-urbanized shorelines. Most urban riverfronts no longer have intact corridors of riparian plant life; rather they are encased by impervious surfaces that contribute to extreme flow fluctuations and tend to aggravate problems of sedimentation and pollution. Conversely, undeveloped and undisturbed shorelines with their green band of riparian vegetation provide shade, temper flow and temperature, filter sediments, and offer habitat for wildlife. For this reason, urban rivers—though extremely important to society—were not included in this survey of the best natural streams. But occasional small towns and rural development did not bar a river from inclusion.

5. Outstanding natural features. One or more of these should be present. These include superlative scenic, geologic, hydrologic, fish, and wildlife qualities. (Historic and cultural values were excluded because they are an indicator of human activity and do not necessarily represent natural values.)

QUALITY CRITERIA

Beyond the minimum requirements (which yielded a very long list of rivers), the following four quality criteria were used to determine which rivers best retain their natural values:

1. Biological health. In keeping with the strategic plan of the WRC, this was the most important criterion. The best rivers should have intact and functioning ecosystems, with most

of the native fish and wildlife species present. This survey identified rivers with exceptional biological diversity, healthy fisheries, and natural riparian corridors.

To date, no uniform or comprehensive evaluation of the biologically healthiest rivers has ever been compiled for the West, though the Environmental Protection Agency is currently working on this goal, and some states have inventoried at least small (wadeable) streams for biological integrity. Even at state or regional levels, there is little information that indicates cumulative biological values of all rivers. To make determinations in this regard, the survey consulted with biologists working for state fish and wildlife departments, state natural heritage programs, and federal agencies including the U.S. Geological Survey, Fish and Wildlife Service, and Forest Service. We also consulted some of the Nature Conservancy's ongoing ecoregion planning programs. These local experts often provided the best judgments available regarding biological values.

In evaluating rivers' biological health, the survey considered high value fisheries as ranked by state agencies and the American Fisheries Society, valuable fisheries listed by the organization Trout Unlimited, inventories of riparian conditions, and other biological data. Rivers with intact native assemblages of fish were favored over rivers where introduced species, such as pike, brown trout, and rainbow trout have become dominant (even though these fish may be popular with many anglers).

Wildlife and plantlife are also important indicators for biological health. The survey considered keystone species such as cottonwoods, healthy populations of rare species otherwise in danger throughout much of their ranges, and other fauna and flora of special interest. Federal and state endangered and threatened species and species of special concern were also considered.

2. Wildness and roadless areas. Rivers with the least development generally rank highest in natural quality. For this reason, the survey noted rivers flowing through designated wildness, through roadless areas, and through publicly owned land. For some states, the survey consulted comprehensive proposals for wildland protection that identified large blocks of undeveloped and roadless terrain. For some states (generally those lacking other lists indicative of wildness), we conducted our own survey of roadless conditions by consulting with DeLorme atlases.

3. Recreation suitability. Though not necessarily an indicator of natural quality, river-based recreation often depends on high natural values. Thus the survey includes recreation as an additional and related category of interest and consideration. Three river-based recreation activities that depend on natural qualities were noted: fishing, river running, and backpacking.

4. Length. Though short rivers or river segments may have great natural values, rivers and tributaries with long free-flowing reaches provide the greatest range of interconnected aquatic habitat. Connectivity is especially important for migratory fishes that depend on a range of habitat conditions for different phases of their life history. In some cases, connectivity is also important for the transfer of nutrients within river systems and from oceans to rivers. For these reasons, the survey considered longer free-flowing reaches better and focused on rivers 25-miles or more in length but did not necessarily exclude short streams.

Threats to the qualities of a river were not considered criteria for selection. This is not a list of the "most endangered" rivers. The survey, however, does note some threats to specific rivers.

Consideration of these problems may be important in conservation strategies that will follow. In addition to these specific criteria, the survey set out to include rivers that represented the full diversity of the West's biology and terrain. Recognizing the importance of biological and natural diversity, we included at least one river from each ecoregion, based on vegetation and shown on the U.S. Forest Service's map, Ecoregions of North America.

RATING THE RIVERS

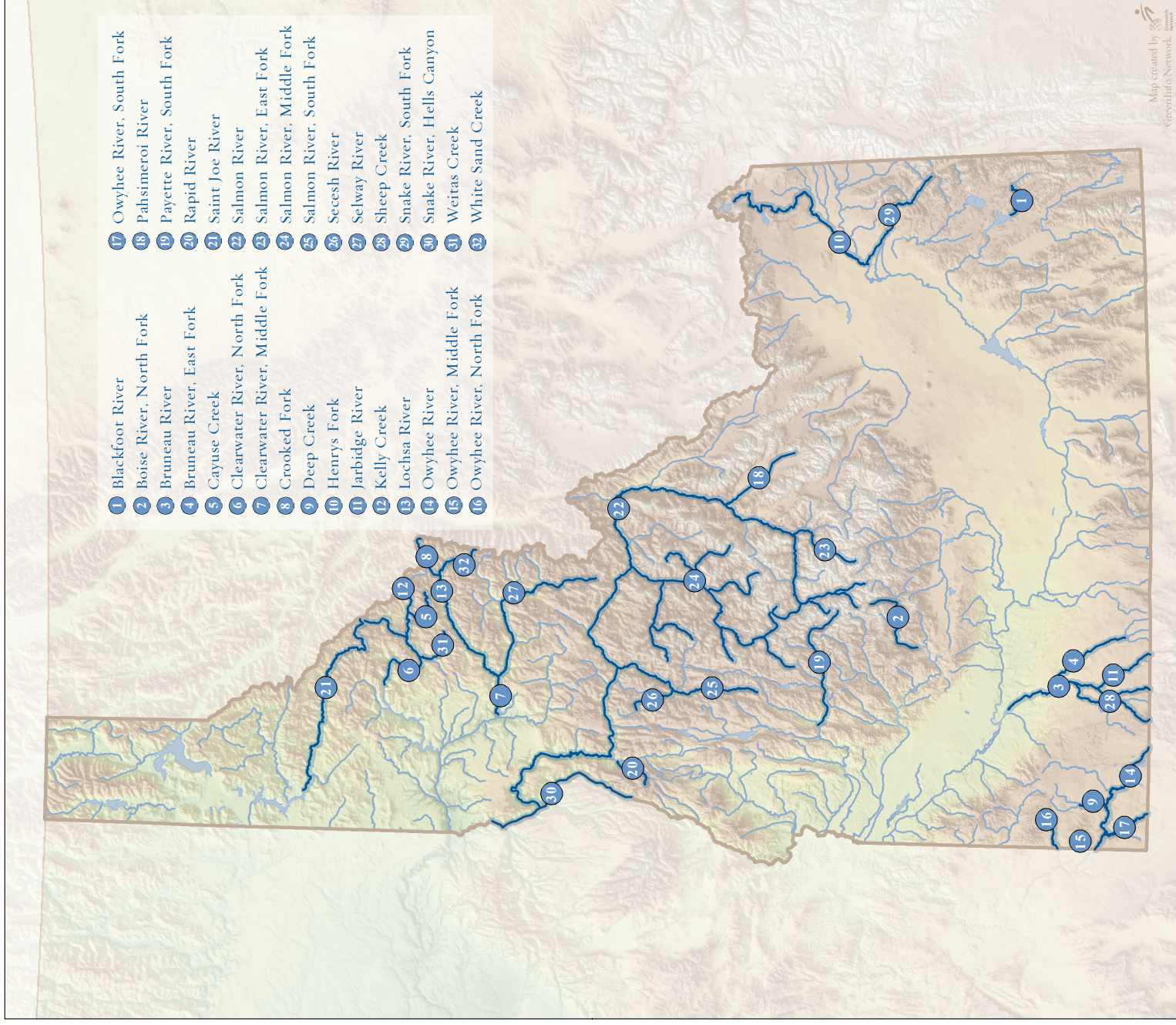
To analyze these criteria for rivers West-wide, data were obtained and tabulated for hundreds of rivers on a state-by-state basis. The resulting state-by-state tables became the integral foundation for evaluating and ranking waterways for the WRC survey. Each table lists a large number of high-quality rivers considered for the survey (100-300 for each state), the sources that have identified the river for its exemplary natural qualities, the types of qualities that are recognized, and the ecoregion that the river flows through.

Sources consulted include the National Wild and Scenic Rivers system, National Wild and Scenic study rivers, state-designated wild and scenic rivers, the Nationwide Rivers Inventory conducted by the National Park Service, rivers recommended for protection by the U.S. Forest Service and Bureau of Land Management, and streams identified in other regional planning efforts, such as the Columbia Interior Basin Ecosystem Management Plan. Additional sources were used for specific states, ranging from articles in the American Fisheries Society journal to state lists of the best water quality, top fisheries, and other natural features. Of comparable importance, the survey consulted on-the-ground experts from natural resource agencies and western universities to supplement and corroborate information about the biological values of the rivers.

The tables also list the final rankings given to streams on the basis of comparative analysis. In these rankings, A represents the most valuable natural rivers. B applies to rivers of very high value but that might occur in the same region as an A river and that have somewhat less quality or significance. C rivers lack the superlative qualities of A and B rivers or represent the second- or third-highest ranking stream in their particular region, or they have valuable qualities but also one or more significant problems.

In the main body of this report, state-by-state chapters include narrative sections that begin with an overview of the state's river system, one-page profiles of each A-, B-, and C-listed river, and a description of notable river "regions" where clusters of high-quality streams are found. In this regard, advantages can be gained by protecting identifiable clusters of streams in order to safeguard continuous aquatic habitat, to conserve landscape-scale wildlife habitat in adjoining basins, and to minimize "edge" effects that can damage rivers even when the source of degradation might be distant.

Idaho's Great Rivers: List



Great Rivers of Idaho

Other Rivers and Streams



WESTERN RIVERS
CONSERVANCY