

Salmon and Wilderness

Sharing the responsibility, sharing the benefits

Accountability Across Resources

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On a cool August morning, Chinook salmon (*Oncorhynchus tshawytscha*) fulfill an ancient ritual in the wilderness. Despite the rigors of an 850-mile journey, the female excavates a redd (nest) by moving stream gravels with her tail while males spar for a place beside her. In an ultimate act of nurturing, these salmon spawn and die, their bodies providing essential nutrients for the next generation of salmon and a host of other aquatic and terrestrial organisms. Northwest salmon have been performing this reproductive ritual for at least two million years, and in 2014 *this* place and *these* salmon are extraordinary. Idaho's Middle

Fork Salmon River flows through the heart of the 2.3 million acre Frank Church-River of No Return Wilderness (the Frank), the largest contiguous wilderness in the lower 48 states. The Chinook salmon in the Middle Fork spawn as high as 6,000 feet, a higher elevation than any others.

Genetically intact wild salmon like these are rare, persisting in just 4% of the Columbia River Basin's historical spring/summer Chinook salmon habitat; all other populations have been extirpated or supplemented with hatchery-reared salmon.

The Frank's large area and wilderness designation allow natural processes to function relatively unimpeded across its vast landscape. Natural processes create and alter habitats, providing a template that is

essential to the expression of native species' life history and genetic diversity. To illustrate, over the past two decades, wildfires have burned over 52% of the Middle Fork basin. Intense thunderstorms or rain-on-snow events following fires create debris flows or snow avalanches that push wood and sediment into streams. Salmon in this wilderness basin evolved with these dynamic landscape processes, which have been acting on this landscape and creating essential habitats for salmon and other native species for millennia. A nearly complete assemblage of native species persists in the Frank—only grizzly bears and indigenous people are absent from the era of Lewis and Clark.

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Today a host of Federally listed species (Chinook salmon, Steelhead, bull trout, and lynx) Federal Candidate species (white-bark pine), recently Federally de-listed species (peregrine falcon, bald eagle, and gray wolf) and U.S. Forest Service Regions 1,4-Sensitive Species (Pacific lamprey; westslope cutthroat trout; inland redband trout; Columbia spotted frog; black-backed and American three-toed woodpeckers; boreal, flammulated, and great gray owls; spotted and Townsends big-eared bats and fringed myotis; common loon; harlequin duck; northern goshawk; wolverine; fisher; and several sensitive native plants) depend on this wilderness.

In an increasingly human-dominated world, wilderness managers and wildlife biologists recognize the value of untrammled landscapes as places where native fish and wildlife and wilderness depend on one another. Within the Frank, salmon modify stream substrates and provide essential nutrients for a host of species, while unimpeded natural processes create diverse, high quality, and

connected habitats essential for native species. Farley Mowat observed this interdependency: "...and this is why the caribou and the wolf are one; for the caribou feeds the wolf, the wolf keeps the caribou strong." At a landscape scale in the Frank, this interdependency is even deeper—fish, wildlife, and other organisms keep the wilderness strong, just as the wilderness with its natural disturbance processes and diverse landscapes strengthens them in return. 



Post-fire debris flow adding sediment after an intense summer rainstorm in 2003; Chinook salmon spawned here in 2004.



Post-avalanche woody debris in 2014 that adult salmon successfully navigated to spawn upstream.

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