

WILD AND SCENIC RIVER VALUES

CHARLEY RIVER | Alaska | Summer 2021

NATIONAL PARK SERVICE • U.S. DEPARTMENT OF THE INTERIOR



THE WILD AND SCENIC RIVERS ACT AND THE CHARLEY RIVER

The national wild and scenic rivers system was created by Congress in 1968 (Public Law 90-542; 16 USC 1271 et seq.) to preserve certain rivers with outstanding natural, cultural, or recreational values in a free-flowing condition for the enjoyment of present and future generations. The act is notable for safeguarding the special character of these rivers, while also recognizing the potential for their appropriate use and development. It encourages river management that crosses political boundaries and promotes public participation in developing goals for river protection.

It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes.

Wild and Scenic Rivers Act, October 2, 1968

Rivers may be designated by Congress or, if certain requirements are met, the Secretary of the Interior. Each river is administered by either a federal or state agency. Designated segments need not include the entire river and may include tributaries. Rivers may be managed through a partnership with communities, special councils, and state governments.

Eighty-eight miles of the mainstem Charley River—its entire length—and seven of its major tributaries were designated a wild river in 1980 by the Alaska National Interest Lands Conservation Act under the provisions of the 1968 National Wild and Scenic Rivers Act. The designated reach of the Charley Wild River is “The entire river, including its major tributaries, Copper Creek, Bonanza Creek, Hosford Creek, Derwent Creek, Flat-Orthmer Creek, Crescent Creek, and Moraine Creek” (Public Law 96-487). The National Park Service (NPS) manages the entire watershed, as it lies completely within Yukon-Charley Rivers National Preserve.

Outstandingly
Remarkable Values



Free-flowing Condition



Water Quality



WILD AND SCENIC RIVER VALUES

Each river in the national system is administered with the goal of protecting and enhancing the values that caused it to be designated. Outstandingly remarkable values (ORVs), free-flowing condition, and water quality form the three pillars of protection under the Wild and Scenic Rivers Act. Free-flowing condition and water quality support the integrity of the ORVs and are key components of future management. They are included as part of this ORV statement. These fundamental characteristics of the rivers are described at the end of the ORV statements.

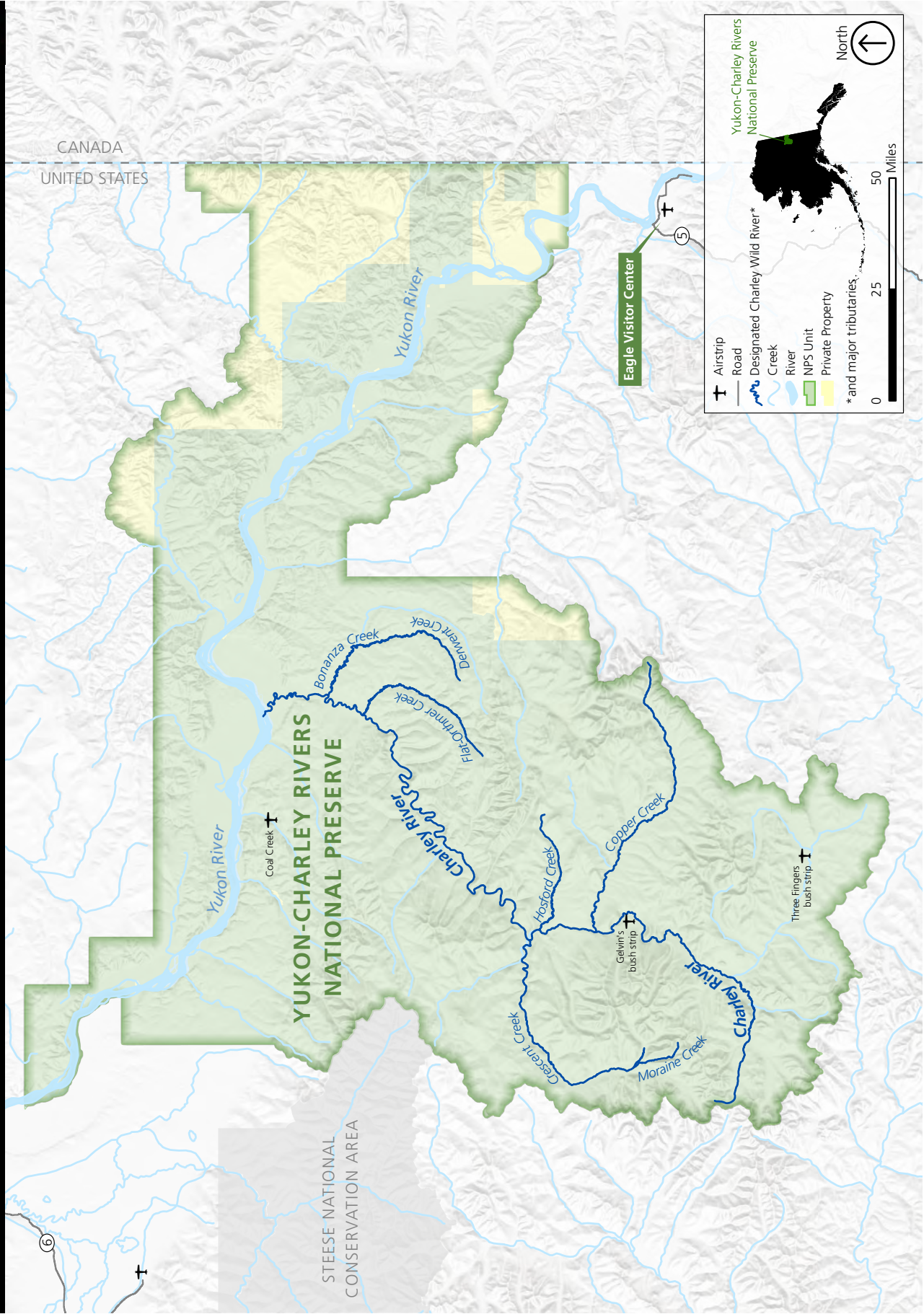




Charley Wild River

Alaska

National Park Service
U.S. Department of the Interior





OUTSTANDINGLY REMARKABLE VALUES

Outstandingly remarkable values are defined by the Wild and Scenic Rivers Act as the characteristics that make a river worthy of special protection. Thus, the foundation for wild and scenic river management is a clearly defined set of ORVs. The Interagency Wild and Scenic Rivers Coordinating Council has issued criteria for identifying and defining these values. The criteria guidance states that an ORV must be river related or dependent. This means that a value must

- be located in the river or on its immediate shorelands (generally within 0.25 miles on either side of the river)
- contribute substantially to the functioning of the river ecosystem
- owe its location or existence to the presence of the river

An ORV must also be rare, unique, or exemplary at a comparative regional or national scale. Such a value would be one that is a conspicuous example from among a number of similar values that are themselves uncommon or extraordinary.

Based on these criteria and a careful analysis of the designated reaches of the Charley Wild River, the National Park Service has determined that a number of ORVs are present. The analysis concludes that the Charley River contains the following ORVs: scenic, wildlife, fisheries, scientific, ecological, recreation, historic, and cultural values (table 1). A set of broad statements has been developed that articulates each ORV for the entire river designation.

Table 1. Outstandingly Remarkable Values for the Charley Wild River

River	ORV Category								
	SCENIC	WILDLIFE	FISHERIES	SCIENTIFIC	ECOLOGICAL	RECREATION	GEOLOGIC	HISTORIC	CULTURAL
Charley River	•	•	•	•	•	•		•	•

Scenic Values

Area of comparison: Yukon-Tanana Uplands.

The dramatic Charley River corridor contains some of the most magnificent scenery found in interior Alaska.

The Charley River has four distinctive viewshed types (highland headwaters, upland valleys, entrenched, and mature floodplain), each exemplary in their own way. The entire watershed is within the boundary of a national park unit, and there is almost no evidence of the presence of contemporary human activity.

The river course itself is punctuated with rapids and boulder fields. Sections of the river are enclosed viewsheds that are “bookended” by massive, exposed rock formations. Wildlife is often seen close to the river, including species like caribou and Dall’s sheep. The river presents a seemingly endless array of geological formations, breathtaking scale, intense textures and colors, and a mosaic of wildlife viewing opportunities.

The vegetative eco-zones found along the river display a wide range of types and a great diversity of species from alpine tundra to lowland boreal forest. The surrounding landscape and vegetation have high levels of contrast within visual elements such as scale, color, and texture. There is great seasonal variation—the lushness of summer, the colors of fall in a boreal forest, and the astonishing starkness of winter—each incredible yet distinct.

Wildlife Values

Area of comparison: Interior Alaska.

The Charley River provides habitat for foraging, breeding, and nesting as well as key migration corridors for a full assemblage of wildlife species found in interior Alaska.

The Charley River watershed exemplifies intact ecosystem processes with a diversity of species under natural conditions. Interior Alaska species such as moose, caribou, bears (black and grizzly), Dall’s sheep, wolves, and wolverines are found in or near the Charley River and its designated tributaries.

The Fortymile Caribou Herd frequents the entire drainage and uses the upper portion of the Charley River and its tributaries (Copper and Hosford) as its wintering ground, and the central part of the upper Charley River is one of the herd’s calving grounds.

The bluffs carved by the Charley River support habitat for a population of Dall’s sheep that are found at low elevations, often along the edge of the river. While not unique, this is a rare phenomenon. The bluffs also provide excellent nesting habitat for species such as peregrine falcons.



Fisheries Values

Area of comparison: Upper Yukon River drainage.

The Charley River and the designated tributaries contain populations of a broad assemblage of interior Alaska fish species, as well as a large amount of breeding habitat for Chinook (king) salmon, a species of critical concern.

The Charley River and its tributaries contain habitat for, and populations of, a broad assemblage of the fish species found in interior Alaska rivers. Documented fish species include: Dolly Varden, Arctic grayling, longnose sucker, slimy sculpin, lake chub, northern pike, burbot, round whitefish, Arctic lamprey, inconnu, least cisco, broad whitefish, humpback whitefish, chum salmon, and Chinook salmon.

The Charley River and its tributaries serve as the spawning and rearing grounds for Chinook (king) salmon, a species tied to the Yukon River and the subject of international treaties. The waters of the Charley River are filled with habitat features associated with Chinook salmon spawning and rearing, particularly large woody debris, typically in the form of logjams.

Scientific Values

Area of comparison: United States.

Decades before its designation, the people of the United States (US) recognized the immense scientific value an intact, undisturbed watershed such as the Charley River's represented, creating a legacy of study and discovery for the American people.

The entire watershed of the Charley River, 1.1 million acres, is protected within the boundaries of Yukon-Charley Rivers National Preserve. Every drop of water that works its way to the Charley River and its tributaries comes from protected lands.

The Charley River basin was envisioned to be a focal point for scientific study of subarctic ecosystems that range from river bottoms to alpine habitat. The United States Congress recognized this in the Senate and Congressional records, where this idea was the basis for including the Charley River basin within a conservation unit and for the eventual designation of the river as part of the Wild and Scenic Rivers system.

Ecological Values

Area of comparison: Alaska.

The hundreds of miles of designated river flow through a wide range of sub-arctic environments, much of it unglaciated for hundreds of millions of years, comprising a broad range of habitat types in an undisturbed condition.

The watershed exemplifies intact ecosystem processes with a diversity of species under natural conditions. The Charley River basin is a focal point for scientific study of subarctic ecosystems that range from river bottoms to alpine habitat.

The Charley River and its tributaries flow through a wide range of habitat types, all relatively undisturbed by human activity, creating a continuum of environments that are intact and interconnected. Much of the land that comprises the Charley River watershed has been unglaciated for 400 million years.



Recreational Values

Area of comparison: Alaska.

The Charley River is one of the best whitewater floating experiences in Alaska. The corridor provides a truly wild experience and includes a diverse range of recreational opportunities.

The 88-mile-long Charley River contains some of the best whitewater floating in Alaska, with seemingly endless Class III-IV rapids continuing for river mile after river mile.

Wildlife viewing is considered excellent, particularly of Dall's sheep, caribou, and raptors, but also black and grizzly bears. The river corridor provides the chance to see smaller species such as lynx, wolverines, and beavers.

Hiking is outstanding, especially in the upper stretches of the river. The corridor provides opportunities for and access to a wide range of recreation activities, including sport hunting, fishing, trapping, skiing, dogsledding, and snow machining—all in a wild, undeveloped setting.

Historic Values

Area of comparison: Alaska.

The Charley River corridor contains the historic resources that tell incredible stories of adversity and survival in a wild place.

On December 21, 1943, a high-altitude US military aircraft flying over the Alaska interior ended in a fiery crash atop a mountain overlooking the Charley River. Co-pilot Lt. Leon Crane survived the crash by parachuting out of the aircraft before impact. The other four men aboard the B-24 did not survive but were later identified and some of their remains recovered in 2006 by members of the joint POW/MIA Accounting Command. The aircraft wreckage is still in place, and the site integrity of the crash site is considered good.

The story of Lt. Crane's escape from the floundering B-24 by parachute and his 81-day journey through the coldest and darkest day of the interior Alaska winter is an incredible tale of survival. The route that Crane took to finally reach rescue was along the Charley River.

Crane's story of survival, a tale of cold, hunger, and rugged terrain, was memorialized by author John McPhee in his book "Coming into the Country" and chronicled in Brian Murphy's "81 Days Below Zero."

Cultural Values

Area of comparison: Alaska.

The Charley River corridor contains a long record of human habitation, from at least 8000 years into our past, through the period of western colonization, and on to the inhabitants of today.

The Charley River and its tributaries fall within the traditional lands of the Han Athabaskan people. Traditional place names throughout the basin, often specifically attached to the watercourses, document these longstanding human connections to the river. The river corridor and tributaries were used as travel routes between subsistence resource zones—lowlands/rivers primarily for salmon and uplands primarily for caribou, though additional plant and animal resources would be sought in each zone. Archeological sites along these watercourses provide exemplary evidence of this land use pattern for at least the past 8,000 years.

The variety of stone material types found, including obsidian, rhyolite, and varieties of chert, indicate that the people using this land had a vast knowledge of resource locations across the region and/or access to equally extensive trade networks at least throughout Alaska and western Canada. Evidence of short-term occupations, likely camps used for days or weeks, shows that the people using these uplands were not passing through, but rather relied on these areas as an important part of the seasonal subsistence round.

Han Athabaskan people following a version of this seasonal round were encountered by outsiders passing through the area in the late 19th century. Chief Charley, the leader of a Han Gwich'in group living along the Yukon River near the mouth of the Charley River, met with missionaries, traders, and American military personnel. The village where Chief Charley lived was reported to be near the mouth of the Kandik River, then referred to as Charley Creek. The Charley River was called Willow Creek at that time. It is unknown when the current river names came into common usage.





FREE-FLOWING CONDITION

Section 16(b) of the Wild and Scenic Rivers Act defines free-flowing as “existing or flowing in a natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway.

The Charley River is a typical Yukon Basin clearwater river. Its runoff characteristics are dominated by snowmelt, with no contribution from lake outflow or glacier melt. Most runoff occurs from May to September, with the highest flows tending to occur each year in May and June in response to snowmelt and additional significant runoff events occurring in response to summer rainstorms. From October through late April to mid-May, runoff is minimal and flows depend entirely on groundwater inputs. The geomorphological and hydrological regimes of the Charley River and its tributaries are entirely natural and unaffected by any human activity.

No adequate hydrological data exist on which to base a description of river’s hydrology except in very general terms. The two measurements that exist (June and August 2002) suggest that summer flows might vary between 2,000 cubic feet per second and 5,000 cubic feet per second near the mouth of the river, although it is unknown if those measurements were conducted during typical or atypical conditions. There is no indication that the hydrology of the river has changed substantially since its designation, although the ongoing effects of climate warming are likely to alter the river’s hydrology in the future.

The Charley River is free from human infrastructure that could impact the free-flowing condition of the river. There are no impoundments, dams, wells, diversions, levees, riprap, or other structures that could impact the free-flowing conditions of the river or its tributaries. The Charley River and its tributaries are entirely free-flowing from its source to its mouth.





WATER QUALITY

Congress declared its intent to protect the water quality of rivers added to the National Wild and Scenic Rivers System in section 1(b) of the Wild and Scenic Rivers Act. Congress further specified that the river-administering agencies cooperate with the US Environmental Protection Agency (EPA) and state water pollution control agencies to eliminate or diminish water pollution (section 12(c)). The Act, however, does not reassign EPA and/or state responsibility for implementation of the Clean Water Act to the river-administering agency.

Although the biological, physical, and chemical data are sparse, the water quality of the Charley River and its tributaries is considered to be excellent. The Charley River and its tributaries are exceptionally clear, and features are easily seen to depths of 15 feet. Downstream from the confluence with Bonanza Creek, the waters flow through muskeg soils with high organic content and take on a brownish cast.

Water quality data that were collected at various times since designation all indicated that the water quality of the river was outstanding. Most recently in 2011, and then in 2014–2016, the NPS Inventory and Monitoring program's Central Alaska Network collected extensive water quality data (chemical, physical, biological). All parameter values were consistent with outstanding water quality.

The Arctic is warming at a faster rate than temperate or tropical regions, and aquatic ecosystems may be vulnerable to the effects of warming. One direct effect of warming is a lengthening of the ice-free season on rivers and lakes. Longer open-water seasons may impact flow regime and fish habitat. Permafrost thaw in the Charley River valley may alter watershed hydrology, increase erosion, and modify the chemical composition of river water. Recent warming has also increased wildfire extent and severity in the region, which can have dramatic effects on river water quality. More research and monitoring are required to better understand the effect of climate change and disturbance on arctic rivers, including the Charley River.



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historic places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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