

WILD AND SCENIC RIVER VALUES

TLIKAKILA RIVER | Alaska | Fall 2018

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







THE WILD AND SCENIC RIVERS ACT AND THE TLIKAKILA 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.

The Tlikakila River originates in the Chigmit Mountains (a sub-range of the Alaska and Aleutian Ranges) near Summit Lake of Lake Clark Pass and flows southwest approximately 50 miles into Lake Clark.

In order to protect the Tlikakila's free-flowing characteristics, water quality, and outstandingly remarkable values (ORVs), the 51 miles of the Tlikakila within the area designated as "national park" of Lake Clark National Park and Preserve were designated a wild river in 1980 by the Alaska National Interest Lands Conservation Act (ANILCA) under the provisions of the 1968 National Wild and Scenic Rivers Act (Public Law 96-487). Wild rivers are rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive, and waters unpolluted. These represent the vestiges of primitive America.

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, free-flowing condition, and water quality form the three pillars of protection under the Wild and Scenic Rivers Act.



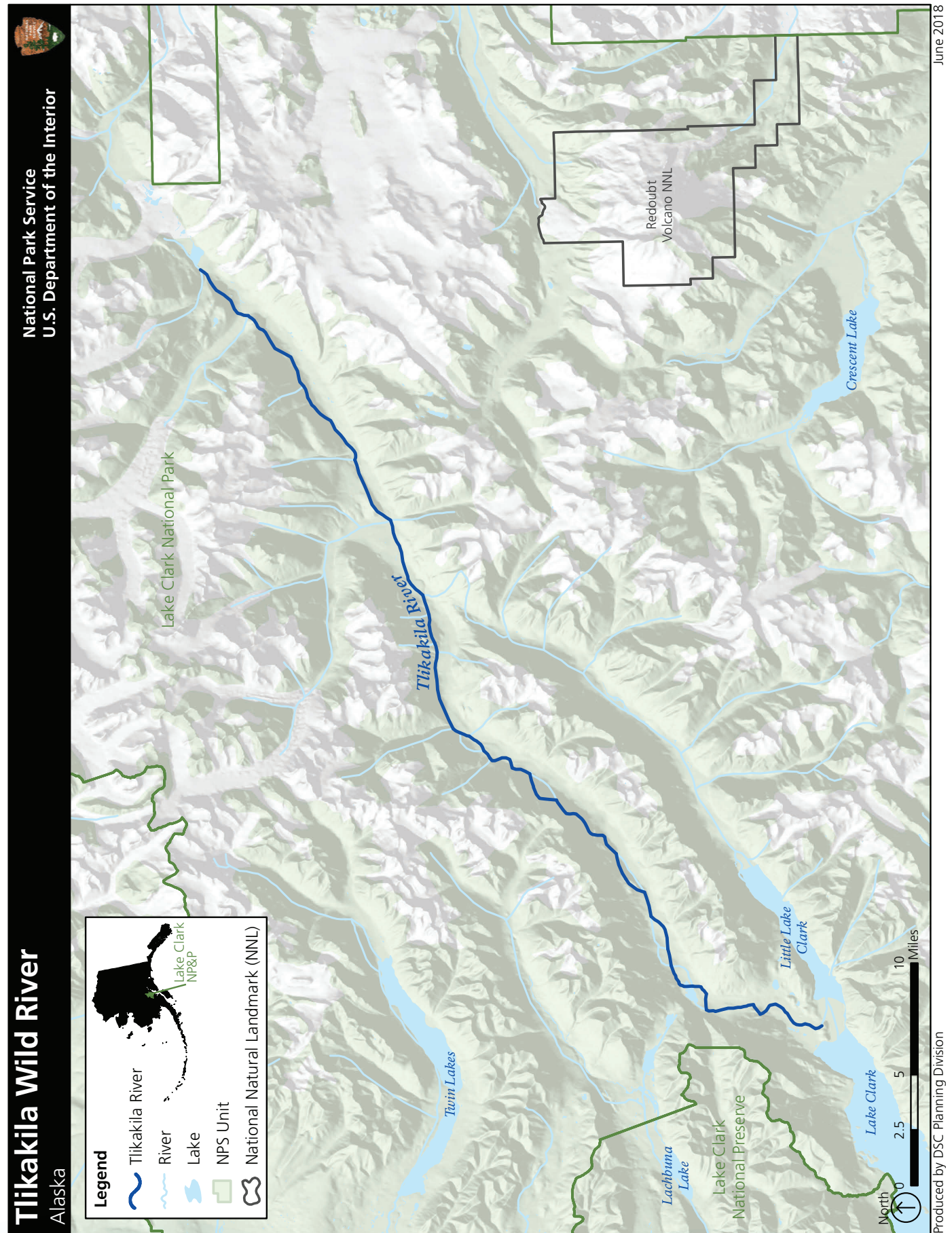
**Outstandingly
Remarkable Values**



Free-flowing Condition



Water Quality





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 mile 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.

The Interagency Wild and Scenic Rivers Coordinating Council provides additional criteria for assessing each ORV category listed in the Wild and Scenic Rivers Act, noting that the criteria may be modified to make them more meaningful to a particular river. The council also notes that, while no specific national evaluation guidelines have been developed for the “other similar values” mentioned in the Wild and Scenic Rivers Act, agencies may assess additional river-related values including, but not limited to, hydrology, paleontology, and botany. Specific criteria for identifying ORVs are included below.

Table 1. Outstandingly Remarkable Value Criteria for the Wild Rivers in Lake Clark National Park and Preserve

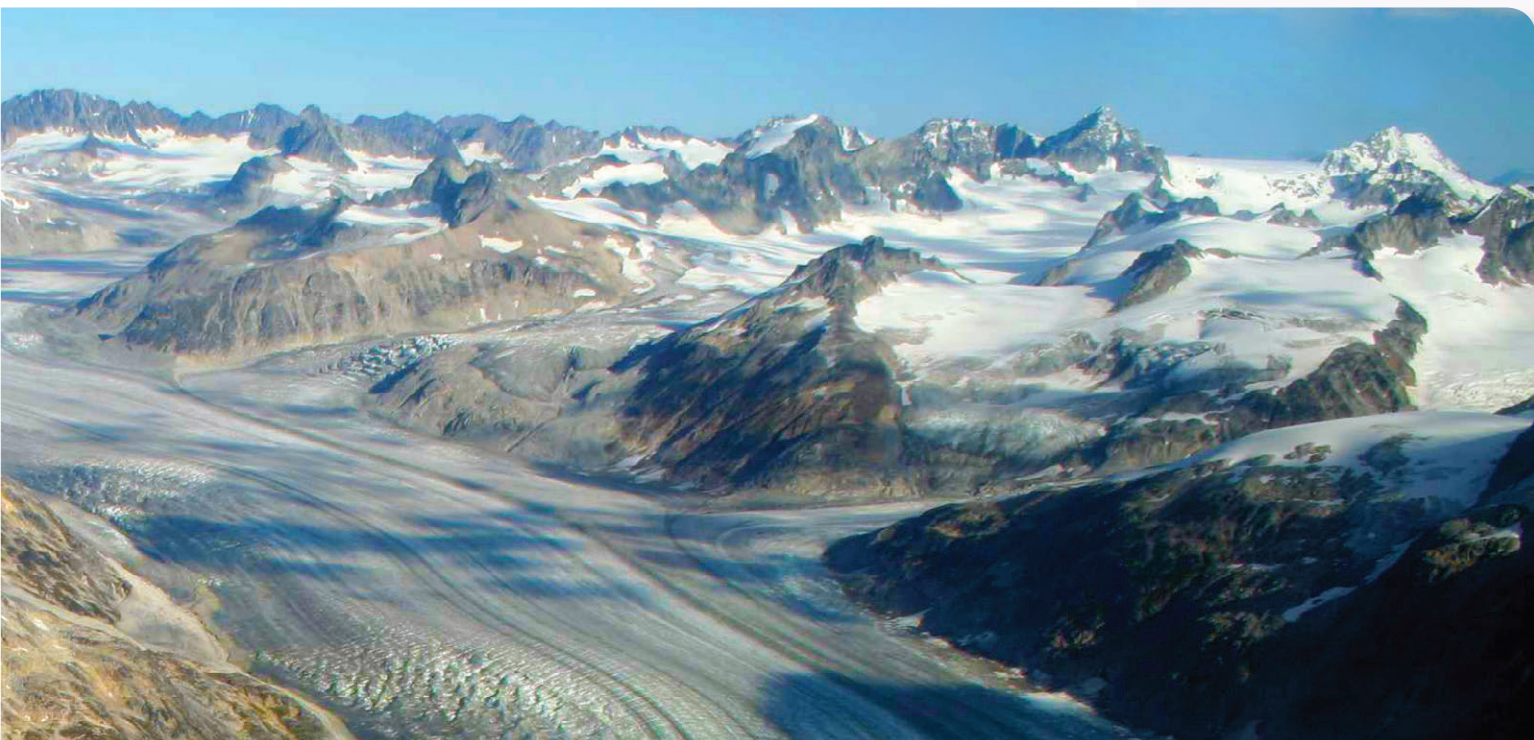
Concept/ Category	Outstandingly Remarkable Value Criteria
Scenic Values	Landscape elements visible from the river and its banks result in notable views that characterize rivers in Lake Clark National Park and Preserve. The landscape elements of landform, vegetation, water, color, contrast, and related factors result in notable or exemplary visual features and/or attractions. When analyzing scenic values, additional factors—such as seasonal variations in vegetation, scale of cultural modifications, and the length of time negative intrusions are viewed—may be considered.
Recreational Values	River-related recreational opportunities attract, or have the potential to attract, visitors from throughout or beyond the region of comparison or are unique, rare, or exemplary within the region. Visitors are willing to travel long distances to use the river resources for recreational purposes. River-related opportunities could include, but are not limited to, sightseeing, wildlife observation, camping, photography, hiking, fishing, and boating.



Concept/ Category	Outstandingly Remarkable Value Criteria
Geologic Values	Examples of geologic features, processes, or phenomena are unique or rare within Alaska and/or nationally, either individually or in combination. The river corridor contains at least one example of a geologic feature, process, or phenomenon that is unique or rare within the region of comparison. The feature(s) may be in an unusually active stage of development, may represent a textbook example, and/or may represent a unique or rare combination of geologic features (erosional, volcanic, glacial, or other geologic structures).
Fish Values	Fish values may be judged on the relative merits of fish populations, habitat, or a combination of these river-related conditions. Populations The river is nationally or regionally an important producer of resident and/or anadromous fish species. Of particular significance is the presence of wild stocks and/or federal or state listed (or candidate) threatened, endangered, or sensitive species. Diversity of species is an important consideration and could, intrinsically, lead to a determination of "outstandingly remarkable." Habitat The river provides exceptionally high-quality habitat for fish species indigenous to the region of comparison. Of particular significance is habitat for wild stocks and/or federal or state listed (or candidate) threatened, endangered, or sensitive species. Diversity of habitats is an important consideration and could, intrinsically, lead to a determination of "outstandingly remarkable."



Concept/ Category	Outstandingly Remarkable Value Criteria
Wildlife Values	The river corridor provides exceptionally high-quality and nearly continuous habitat for wildlife. Biological processes along the river corridor have exceptionally high integrity in that they are relatively intact and undisturbed throughout the entire length of the river corridor. Wildlife values may be judged on the relative merits of either terrestrial or aquatic wildlife populations, habitat, or a combination of these conditions. Populations The river corridor contains nationally or regionally important populations of indigenous wildlife species. Of particular significance are species considered to be unique and/or populations of federal or state listed (or candidate) threatened, endangered, or sensitive species. Diversity of species is an important consideration and could, intrinsically, lead to a determination of "outstandingly remarkable." Habitat The river corridor provides exceptionally high-quality habitat for wildlife of national or regional significance and/or may provide unique habitat or a critical link in habitat conditions for federal or state listed (or candidate) threatened, endangered, or sensitive species. Contiguous habitat conditions are such that the biological needs of the species are met. Diversity of habitats is an important consideration and could, intrinsically, lead to a determination of "outstandingly remarkable."



Concept/ Category	Outstandingly Remarkable Value Criteria
Cultural and Historic Values	Archeological Values The river corridor contains archeological sites and areas important to traditional cultures; these help perpetuate cultural and spiritual traditions among Native Alaskans. Several archeological sites and traditional cultural properties are listed (or are eligible for listing) in the National Register of Historic Places and have unique or rare characteristics, are regionally important for research, or tangibly link Alaska Natives to their heritage. Examples include burial grounds; petroglyphs; the oldest known human-use site in a region; and streams that support traditional agriculture, subsistence fishing, or spiritual ceremonies.
	Historic Values The river corridor contains at least one site or feature associated with a significant event, an important person, or a cultural activity of the past that was rare or unique in the region. Historic structures, buildings, and landscapes are listed (or are eligible for listing) in the National Register of Historic Places, have either national or regional significance, and do not impede or divert the free flow of the river. In most cases, a historic site or feature is at least 50 years old.
	Prehistoric Values The river corridor contains at least one site where there is evidence of occupation or use by Native Alaskans. A site must have unique or rare characteristics or exceptional human-interest value(s). A site may have national or regional importance for interpreting prehistory, may be rare and represent an area where a culture or cultural period was first identified and described, may have been used concurrently by two or more cultural groups, or may have been used by cultural groups for rare sacred purposes. Many such sites are listed in the National Register of Historic Places.

Based on these criteria and a careful analysis of the designated reaches of the Tlikakila River, the National Park Service (NPS) has determined that several ORVs are present: scenic, recreational, geologic, fish, wildlife, and cultural values. A set of broad statements has been developed that articulates each ORV for the entire river designation.



Scenic Values

The Tlikakila River flows entirely through designated wilderness (ANILCA 1980) and has exceptional wilderness character. The corridor has no traces of human use or habitation, and natural geologic, hydrologic, and biologic processes are free from on-site modern human influence. The entire Tlikakila River system exists in a primitive and natural state.

The Tlikakila River corridor has distinct scenic beauty. Flowing through a textbook U-shaped glacial valley, peaks rise to 5,000 and 6,000 feet on both sides, with many capped by visible hanging glaciers. In the headwaters, several glaciers terminate within 0.5 mile of the river, while others feature massive rock outcroppings interspersed with snowfields. Glacial cirques, some with dam walls intact, are scattered high along the valley walls. Bare perpendicular rock cliffs are also common—many dotted with caves—and numerous side streams cascade into the valley. Some side streams feature waterfalls over 100 feet tall or cataracts that rush through narrow rocky gorges.

The vegetative cover adds to this scenic resource. From low-profile alpine tundra in the headwaters to high brush transitional ecosystems and upland spruce-hardwood forest, the river traverses a dynamic and diverse landscape of color and texture.

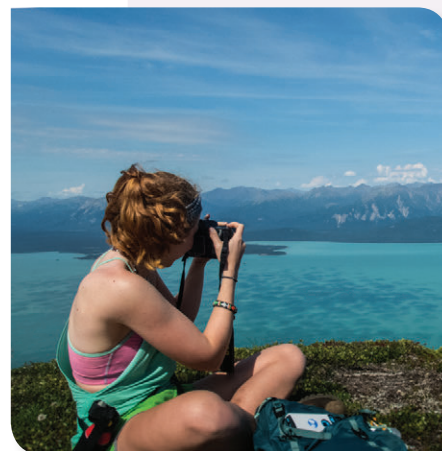
The river's scenic qualities contribute to exceptional river-related recreation (see "Recreational Values" section). Steep valley walls create stunning close views of glacial cirques and waterfalls, while the river's long, straight course down valley gives the impression that it extends endlessly upstream and downstream. The combination of dazzling foreground features set against the massive background is dramatic.

Recreational Values

Against the backdrop of its geologic, fish and wildlife, scenic, and historic resources, the Tlikakila River offers exceptional recreation opportunities. Recreation activities include floating, camping, wildlife viewing, fishing, hiking, and photography.

Visitors generally access the corridor via small planes, landing on Summit Lake and portaging to the first boatable reaches, or by landing on larger gravel bars downstream. Most continue to the river's mouth in Lake Clark. For most of its length, the river is a braided fast-flowing Class I river boatable in a canoe, kayak, raft, or pack raft. Although there is a short Class II/III reach downstream of the confluence with the North Fork at higher water levels, the trip generally requires little to moderate whitewater skill and is suitable for families.

Throughout the corridor there are plentiful large gravel bars, providing superb places to camp for floaters. These bars tend to be easily accessed from boats (there are often good eddies), and offer scenic views and short hikes. The dynamic hydrology also continually renews these bars, sweeping away footprints



and campfire rings, leaving the impression that each new group is the first to camp there. Most floaters take 2 to 4 days to float the entire river.

The corridor provides exceptional opportunities for solitude. Although as many as 50 small aircraft per day may fly over the corridor after crossing through Lake Clark Pass (usually lower than the 5,000-foot mountains), few people float the river each year, and trips are unlikely to encounter each other or observe evidence of previous use. Most of the surrounding peaks are unnamed, weather can be harsh, and the terrain feels rugged and remote. In addition, the area is challenging to access—trips originating from Summit Lake may have a day-long portage to reach boatable water, depending on glacial runoff patterns. Under the current management regime, there are few use restrictions and visitors have considerable liberty on how they explore the river corridor. Taken together with its raw natural setting, the Tlikakila offers visitors a textbook version of a glacial river coursing through an alpine Alaskan wilderness.

Geologic Values

The Tlikakila River features several exceptional geologic resources. The notable linear shape of the river valley is due to the Lake Clark/Castle Mountain fault zone, a northeast-trending zone where the earth's crust is in flux. In general, the Tlikakila Valley is a youthful and dynamic geologic landscape, with features both regionally and nationally unique.

Within this major fault zone, existing landforms are the result of representative glacial and fluvial action. At least three glacial advances are indicated within the Wisconsin period, and a large glacier during the Last Glacial Maximum has carved a textbook U-shaped valley. Some geologists believe ice from the Cook Inlet corridor overtopped the divide at the northeast end of the valley and may have been the source of the glacier that created the entire Lake Clark trough. Smaller cirque glaciers, whose meltwater cascades down the steep valley walls into the river, are abundant along the Tlikakila corridor.

Glaciers occupy approximately one-third of the Tlikakila River basin and have a direct impact on the river's hydrology and geomorphic processes. Glacial melt constitutes approximately 11% of the river's flow; peak melts occur in summer, extending high flows from spring runoff. Glacial runoff also creates noticeable diurnal flow fluctuations and contributes substantial sediment to

the river, producing an outstanding example of a dynamic braided river (D stream type) within a glacial-scoured (Type V) valley.

Changes in flow, sediment delivery, and transport characteristics may occur in the Tlikakila River from accelerated glacial melt due to climate change. Baseline hydrology and geomorphology information can help illustrate such changes in Alaska Range Ecoregion glacial outwash systems without potential masking impacts caused by major land use changes in the watershed (e.g., mining, timber, urban development).



Fish Values

There are several known fish species in the Tlikakila corridor, including longnose suckers and ninespine sticklebacks (in Otter Lake) and sockeye salmon (in the main river). Dolly Varden and slimy sculpin are also likely to be present. The Tlikakila River provides critical spawning habitat for Lake Clark sockeye salmon—about 20% of all Lake Clark sockeye are thought to spawn in the river.

Sockeye in Lake Clark tend to be lake spawners, but this population spawns in the river's main stem, with the highest concentrations between Otter Lake and the North Fork. In addition, these sockeye spawn in the river as the turbidity gradient declines near freeze-up, among the latest spawners in the Bristol Bay region—a region known to have the world's greatest sockeye salmon fishery. Protection of sockeye salmon habitat was specifically mentioned in ANILCA (Section 201 7a) as a purpose of Lake Clark National Park and Preserve.



Wildlife Values

Several typical wildlife species are present in the Tlikakila corridor, although the number and diversity is generally not exceptional for the region. Representative mammal species include brown bear, black bear, moose, Dall's sheep, wolverine, caribou, wolf, lynx, red fox, muskrat, snowshoe hare, and beaver. Raptors, waterfowl, seabirds, and songbirds are also found along the river in limited numbers. Bird species include bald eagle, peregrine falcon, golden eagle, gyrfalcon, rough-legged hawk, short-eared owl, boreal owl, great horned owl, spotted sandpiper, golden-crowned sparrow, song sparrow, Arctic tern, and many species of passerines.

One exceptional wildlife value is associated with impressive numbers of bears concentrated along the river to feed on late-spawning sockeye salmon in September and October (see "Fish Values" section). The fish provide an important resource for hyperphagic brown bears preparing to hibernate later in the year; these bears may be attracted to the area through December.

Other notable wildlife resources in the Tlikakila corridor include the whistling swans and sandhill cranes that migrate over Lake Clark Pass, and spring lambing among Dall's sheep on the north side of the valley between Portage Lake and the North Fork.

Cultural Values – Historic

The most important historic value of the Tlikakila River is its proximity and access to Lake Clark Pass, which provided a pedestrian route through the Aleutian and Alaska Ranges, connecting the Upper Cook Inlet (Pacific Ocean) and Bristol Bay (Bering Sea) drainages.

The Lake Clark and Cook Inlet Dena'ina traveled Lake Clark Pass (Qizhjah Vena Tustes in Dena'ina) for trading purposes, probably during the late pre-historic period into the early 20th century. The glacier at the head of the Tlikakila River was probably an impediment for pedestrians prior to this time because of its

height and width; glaciers in the area began to recede at the end of the Little Ice Age (mid-19th century). From the late 19th century until 1918, Dena'ina and American prospectors also used the Tlikakila River-Lake Clark Pass route for overland travel.

The pass and river corridor were also important in Alaska's civil aviation and exploration history. Lake Clark Pass was first traveled in 1930 by pilot Matt Nieminen, inaugurating use of the most important civil aviation pass in the southern Alaska Range. In the 1950s and 1960s, NPS park planners traveling this route counted 24 glaciers in 24 miles, highlighting the area's scenic and geologic resources and leading to early proposals to set aside the area as a national park, tentatively named "Lake Clark Pass National Park." With global climate change, there may now be fewer than 24 glaciers in that 24-mile stretch.

COMPARISONS TO OTHER DESIGNATED WILD AND SCENIC RIVERS

The park defines the region of significance as the Bristol Bay watershed. The character of the Tlikakila River differs from the other designated rivers in the Alaska and Aleutian Ranges or Bristol Bay region, including the Upper Mulchatna, Chilikadrotna, Alagnak, and Aniakchak. Values for the Upper Mulchatna and Chilikadrotna are discussed below. The Alagnak is a clearwater river flowing through incised rolling terrain with an outstanding fishery. The Aniakchak flows out of a volcanic caldera and has more challenging whitewater and access. The geologic, scenic, fish, wildlife, recreation, and historic values of the Tlikakila River are unique and/or exemplary in the Bristol Bay region.





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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