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Mendenhall Lake

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Navigability of Glacial Lakes

The Mendenhall Glacier (also known as Sitaantaagu) is a beautiful and easily viewable ice face located approximately twelve miles northwest of Downtown Juneau and four and a half miles north of Juneau International Airport, respectively. Its proximity to the road system makes it a convenient option for visitors who have never seen a glacier and those hoping for a glimpse of it tour the aptly named Mendenhall Glacier Visitor Center, which received 700,000 visitors in 2017. The glacier is prominently featured on many local postcards and most visitors do not consider a trip to Juneau complete until they take a selfie in front of it. A physically fit and adventurous person with more than six hours to burn and a willingness to hike and climb rocky terrain can even touch it.

The majority of the glacier's visitors arrive via cruise ships in Downtown Juneau. Then they are bused to the visitor center where they spend a limited time before their ship departs, making hiking to the glacier a risky proposition. As the glacier continues to recede, both visual and physical access to it will become more challenging. Unfortunately, as global temperatures continue to increase, the glacier has been steadily receding for over a hundred years due to surface melt and calving where masses of ice shed and form icebergs. According to the United States Forest Service, with the glacier receding at its current rate, visitors will no longer be able to see its terminus from the visitor center by 2050.

The Mendenhall Lake is a waterway just shy of two miles in length and dynamic. Its terminus is the Mendenhall Glacier, and as the glacier recedes, the lake grows. Seasonal snowmelt from the nearby mountains, McGinnis and Bullard, forms cascades that, along with the glacier, Nugget Creek, Steep Creek, and a few small tributaries feed the lake. This water is the source of the Mendenhall River, which flows in a southward direction approximately six miles before entering salt water in Fritz Cove adjacent to Favorite Channel.

Due to the increasing number of visitors and the pace of the retreating glacier, the United States Forest Service has devised the Mendenhall Glacier master plan to develop the area for visitors. New infrastructure including docks and a remote glacier facility will enable visitors and residents to more easily reach the glacier and will better accommodate the substantial visitor traffic. In addition, the Forest Service intends to provide transportation from one side of Mendenhall Lake to the other by establishing a ferry service, which has raised the serious question of whether the waterway should be considered federally navigable.

The case of *The Daniel Ball*, 77 U.S. (19 Wall.) 557, 563, (1870) established the federal test for determining a waterway's navigability over a hundred years ago. In that case, the Supreme Court declared: "Those rivers must be regarded as public navigable rivers in law which are navigable in fact. And they are navigable in fact when they are used, or are susceptible of being used, in their ordinary condition, as highways of commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water." Whether a waterway is federally navigable affects the government's ability to regulate it.

Navigability determinations are largely dependent upon survey data and history of use. Survey data of the waterways is spotty at best by virtue of their history. For instance, the Mendenhall River was surveyed in 1901, and the current lake was mostly glacier at that time.

Since then, kayaking and white water rafting companies have operated on the lake, which does not historically constitute interstate commerce. As part of their development efforts, the Forest Service has performed a survey of the lake and provided data that the Coast Guard will analyze and review before sharing a recommendation on navigability for Congress to assess.

On a federally navigable waterway, the carriage of passengers for hire is regulated by Title 46, Code of Federal Regulations, and these regulations set standards for everything from which type of vessel may operate on the lake to what kind of lifesaving equipment must be carried to what certification the vessel masters must have. However, the full extent of Title 46, Code of Federal Regulations does not apply unless the waterway is federally navigable, and one must prove a waterway is subject to interstate commerce before it can be deemed navigable. The question of navigability becomes significant when considering a ferry service that will transport over half a million visitors, i.e. passengers, across a chilled lake and the potential hazards of calving icebergs and glacial lake outburst floods (also known as Jökulhlaup).

The Mendenhall Lake is likely the first of many unusual waterway situations in the coming years. Global warming continues to impact our environment. As the arctic and northern regions melt and become more accessible, new waterways will form, which will result in more visitors for both commercial and recreational purposes and new activity for longer durations. A world of possibilities awaits, but with it, so does the danger of the unknown and the untested. In the interest of safety, surveys will be necessary to identify hazards to navigation and navigability determinations will prudently follow.

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