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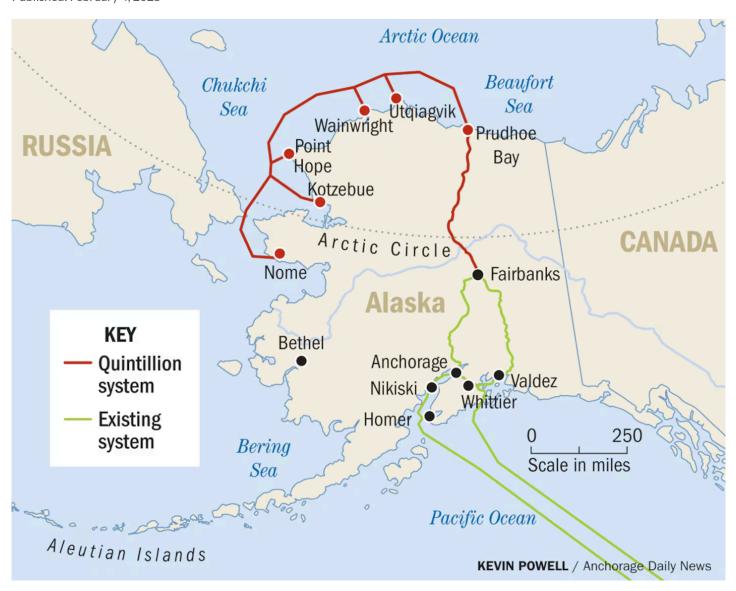
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Rural Alaska

Beaufort Sea ice cuts fiber-optic cable, limiting internet for about 20,000 residents of Northwest Alaska through summer

By Zachariah Hughes Published: February 4, 2025



In January, sea ice severed a fiber-optic cable running along the floor of the Beaufort Sea several miles off the North Slope. The line is a key piece of Northwest Alaska's broadband infrastructure, and since the break, internet access has been significantly diminished for some 20,000 residents of the region.

If the situation sounds familiar, that's because the same thing happened in 2023. The cable, owned by telecommunications company Quintillion, was <u>similarly cleaved by ocean ice</u> that summer in almost exactly the same area, a few dozen miles north of Oliktok Point, just west of Prudhoe Bay. That break happened in June, toward the end of the ice season, and by September the company was able to fix the cable and restore service.

This time, Quintillion says, it is many months away from being able to start repairs.

"Unfortunately, the outage will be prolonged, and sea ice will prevent a repair crew and vessel from entering the area and completing a subsea repair until late summer," said Quintillion president Michael "Mac" McHale in a <u>statement</u> released the day after the break was discovered.

Until then, the company is pursuing short- and medium-term efforts to restore some degree of reliable internet access to residents of communities from Utqiagvik to Nome, many of whom pay internet service provider companies like GCI, Alaska Communications, and others, which in turn rely on Quintillion's fiber infrastructure for high-speed broadband.

The company said it is working with other telecommunications companies that have customers in the affected areas to set up a hybrid solution, mixing fiber-optic lines and a terrestrial satellite station near Nome.

"We have contracted for backup capacity," McHale said in a <u>statement</u> sent to stakeholders Monday. "The plan, barring any technical obstacles, is to distribute capacity to all affected communities utilizing a ground station in Nome and the Quintillion subsea fiber network, which is operational apart from the damaged segment off Oliktok Point ... The process is expected to take up to two weeks."

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According to GCI, customers in Nome, Kotzebue, Wainwright, Point Hope and Utqiagvik have seen diminished internet speeds and intermittent cellphone service since the break. The company restored a degree of service by pulling in more capacity from its microwave relay

towers and satellite systems, according to a Jan. 24 <u>update</u> to customers. But those technologies are not capable of replicating broadband speeds.

"Internet service will be limited to basic web browsing and checking email," GCI wrote. "Mobile service will support voice calls and media-free text messages. We're actively working on managing our network to improve your experience and will report any additional service improvements as they are made."

According to McHale, shifting sea ice patterns resulting from climate change are imperiling the subsea cable in ways the company did not plan for.

"The environment has changed since the system was originally designed 10 years ago. In the first 6 years of operation the system operated fault-free," McHale said in an emailed response to questions. "We are working with the scientific community, industry, and defense partners to design and implement a solution that will address and account for the changing environment and resulting sea ice patterns. However, our best option, rather than predicting nature, is to build redundancy."

As longer-term solutions, Quintillion is looking to lay a terrestrial cable that would connect Deadhorse to Utqiagvik, bypassing the section of seafloor that's been twice speared by ice. The company has also been pursuing a cable connection between Nome and Homer, further adding backup capacity if one section of the fiber-optic infrastructure goes down.



A Starlink dish is installed on a house on Saturday, Aug. 10, 2024 in Utqiagvik. (Loren Holmes / ADN)

But since the last time this happened to Quintillion's line, many rural residents, local governments and businesses have taken it on themselves to add backup systems— or replace fiber-optic options entirely. Scores of Alaskans have moved over to satellite internet provider Starlink since it first became available here in 2022. The company, owned by Elon Musk, relies on an array of low-Earth orbit satellites that connect with terminals customers install on their homes or businesses, bypassing terrestrial infrastructure entirely.

According to the <u>Nome Nugget</u>, people in the Bering Strait Region hub community have taken various steps to to salvage a degree of connectivity, though, for most people it came down to purchasing Starlink terminals if they didn't have them already set up.

"But there are some limitations to that," said Nome Mayor John Handeland. For instance, he said, core public functions like utility metering and city email servers don't seamlessly mesh with Starlink systems. According to Handeland, local entities have coordinated with other telecommunication providers to get a small fraction of connectivity back. "It's kind of like the old days, as far as email is concerned."

Handeland said there's some frustration in town, but people are generally "just kind of rolling with it" and finding alternative solutions where they can.

"You certainly notice how much more you've become reliant on it," he said of high-speed internet. "I had to get the fax machine back online."

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