

Fort Yukon, Alaska Emergency Watershed Protection Program (EWP)



One Tank Farm, 76 Villages, and Nearly 2,000 Miles of River

When a fuel tank farm teetered on the edge of eroding into the Yukon River, NRCS Alaska stepped in with EWP and prevented a major environmental catastrophe, while protecting subsistence salmon and other species for Alaska Natives.

The village of Fort Yukon is on the north bank of the Yukon River in northeast Alaska. The village is not accessible by road and all supplies are either barged in during the short summer or flown in at an extreme expense. The citizens of Fort Yukon are predominantly Alaskan Natives who live a subsistence lifestyle, relying on fish from the Yukon River as one of their main foods.

An entire year's fuel supply is barged upriver during summer months when the river is not frozen and is deep enough for barge passage. The tank farm holds 750,000 gallons, the fuel for heat, the city power generator, and vehicles.

A major break-up flood event in May 2009 caused widespread bank erosion on the Yukon River. A break-up flood is a spring flood that occurs during the time period when the river ice is breaking up. The ice sometimes forms huge ice jams that can dam the river and exacerbate flooding. The ice chunks are often larger than semi-trucks. The fast flowing water pushes the ice downstream, scouring the banks, and plowing into buildings and earth.

The 2009 break-up flood destroyed a series of finger dikes NRCS installed through EWP in the mid 1990s. Without the finger dikes, the tank farm was left vulnerable to erosion as the tanks were mere feet from the eroding river bank.

Yukon River Facts:

More than 80 percent of communities in Alaska and all of the villages on the Yukon are not connected to a highway or road system. These villages are commonly called "bush Alaska".

The human population of the Yukon Watershed is sparse, with approximately 110,000 people however; more than 11 percent of federally recognized tribes in the US are within the watershed.

Larger than the state of Texas, the Yukon River watershed covers more than 328,000 square miles.

The Yukon River and its environmental and social impacts on Alaska are enormous. The river provides subsistence foods, including salmon and other fish, to more than 76 bush villages.

At 1,980 miles long with an average discharge rate of 225,000 cubic feet per second, the Yukon River is the third largest river in North America.

The Yukon River Delta is one of the most important waterfowl and shorebird nesting, rearing, and migration habitats on Earth.



To save their fuel and protect the river, Fort Yukon residents requested NRCS assistance to replace the bank protection measures in front of the tank farm.

However, stabilizing the bank was impractical. First, NRCS engineers estimated bank stabilization efforts could run as high as \$23 million dollars. This estimate put the project out of reach both from NRCS and the project Sponsor, the Gwichyaa Zhee Gwich'in Tribal Government. NRCS EWP can cover 90 percent of a project cost with a 10 percent local match, in the case of a limited resource community such as Fort Yukon. Equally problematic as the price tag, long term success of erosion control measures on the bank were uncertain. Relocating the tank farm away from the river bank to a more stable, less flood prone location was the best alternative.

The tank farm relocation ultimately cost just over \$10 million in construction with the Sponsor and a private entity furnishing approximately \$2 million of the cost. The project was successful, preventing a fuel spill into the Yukon River, protecting a village tank farm infrastructure, and helping the subsistence lifestyle by protecting their fisheries.

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