AVETA Report Summary– Dillingham, Alaska

Community Information

Dillingham is at the extreme northern end of Nushagak Bay in northern Bristol Bay at the confluence of the Wood and Nushagak rivers. It is 327 miles southwest of Anchorage and is a 6-hour flight from Seattle. The community is at approximately 59° North Latitude and -158° (West) Longitude (Sec. 21, T013S, R055W, Seward Meridian.). Dillingham is in the Bristol Bay Recording District. The area encompasses 33.6 square miles of land and 2.1 square miles of water. The primary climatic influence is maritime; however, the arctic climate of the Interior also affects the Bristol Bay coast. Average summer temperatures range from 37 to 66 degrees Fahrenheit. Average winter temperatures range from 4 to 30 degrees Fahrenheit. Annual precipitation is 26 inches, and annual snowfall is 65 inches. Heavy fog is common in July and August. Winds of up to 60 to 70 mph may occur between December and March. The Nushagak River is ice-free from June through November.

View of downtown Dillingham

Corps shore protection at Snag Point

What are the costs associated with continued erosion?

There are three elements related to costs associated with erosion: past protection endeavors, the cost of ongoing repair and maintenance, and future damages. These are discussed in more detail in the following paragraphs.

Erosion Protection Costs

Previous efforts to control riverbank erosion near the small boat harbor consisted of timber plank and pile bulkheads built in 1983 by the City of Dillingham at Snag Point, about ¾ mile east of the small boat harbor; 1,600 feet of sheet-pile bulkhead built by the Corps at Snag Point between 1995 and 1998 (COE 1995, 1997); and about 600 feet of

sheet-pile bulkhead built by the Corps immediately east of the harbor entrance in 1999 (COE 1998). In addition, Bristol Alliance Fuels has installed a sheet-pile wall to protect their mooring facilities. Erosion control efforts by the Corps to date total more than $6 million.

Storm waves entering Dillingham Harbor

Corps protection on harbor east bank

A project to protect Dillingham Harbor and the surrounding facilities is nearing completion of the planning phase and the beginning of the design phase. Typical annual storms are causing land to erode along the west bank of Dillingham Harbor. As seen in the photos above, the waves enter the harbor and continually erode the west bank. The east bank has already been protected by a Corps project. Erosion at the west side of the harbor entrance is also fueled by wave action in conjunction with high tides. Currently, the west bank of Dillingham Harbor is eroding at an average rate of 11 feet per year. If left unchecked, the continued erosion would lead to a significant decrease of harbor protection. In addition to reduced bank protection for the harbor, floats, and commercial fishing fleet, land as well as the majority of the fuel supply for the area would be lost.

Future Damages

It is expected that future erosion damages are expected to be minimal because of the existing bank stabilization seawall and the proposed erosion protection project at the east and west bank of the harbor.

What are potential costs associated with moving to a new location or an existing community?

There is no reasonable need for Dillingham to relocate. With the exception of a few small segments, the erosion at Dillingham has been contained. The rest of the erosion is currently being addressed through other means. In addition, the community and State have not expressed interest in relocating Dillingham; therefore, numbers for relocation were not developed.

What is the expected time line for a complete failure of the usable land?

Complete failure of the Dillingham property is not expected in the foreseeable future. Some erosion control measures are already in place, removal and reburial of grave sites is already occurring, and other measures are underway.

Alaska District
Corps of Engineers
Civil Works Branch

Historical and Predicted Shorelines

1972 2005 2022
1985 2015 2030

Image dated October 2005

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Alaska Village Erosion
Technical Assistance Program

Dillingham, Alaska