

History of The Coos Bay North Jetty

Storms, Swells, and Seafarers



Coos Bay provided the Coos people with abundant food and building supplies.

Harper's Monthly printed this illustration in 1855. *Courtesy of the Oregon Historical Society Research Library.*

This stretch of coast has been home to Coos peoples since time immemorial. The Hanis Coos and the Miluk Coos traveled up and down the coast, with the waters of the region provided food, such as salmon and shellfish.¹ In the early 1800s, non-Indigenous people, like fur traders and those on military explorations, began arriving in the Coos Bay area. In 1852, the U.S. Army's schooner *Captain Lincoln* wrecked on Coos Bay's North Spit. The crew set up camp and survived for months thanks to the Coos people, who brought them fish, game birds, elk, and venison to eat.² When the crew returned to their homes after living on the Coos Bay North Spit, they gave accounts of the area and sparked curiosity among industrialists.³ The discovery of gold and coal along Oregon's southern coast in the early 1850s inspired a land speculation rush. The population rapidly increased along the coast.

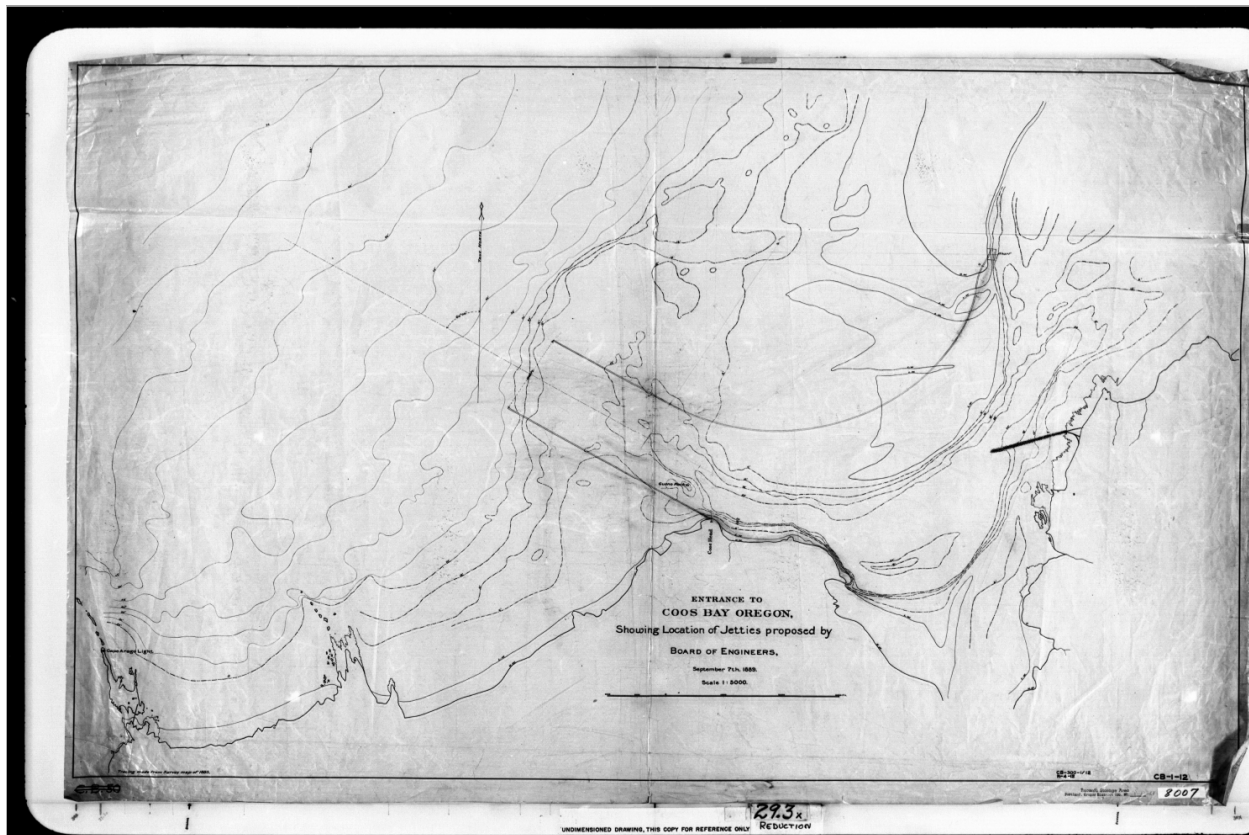
¹ Phillips 2024a, 2024b.

² Baldwin 1898

³ Shay 2023

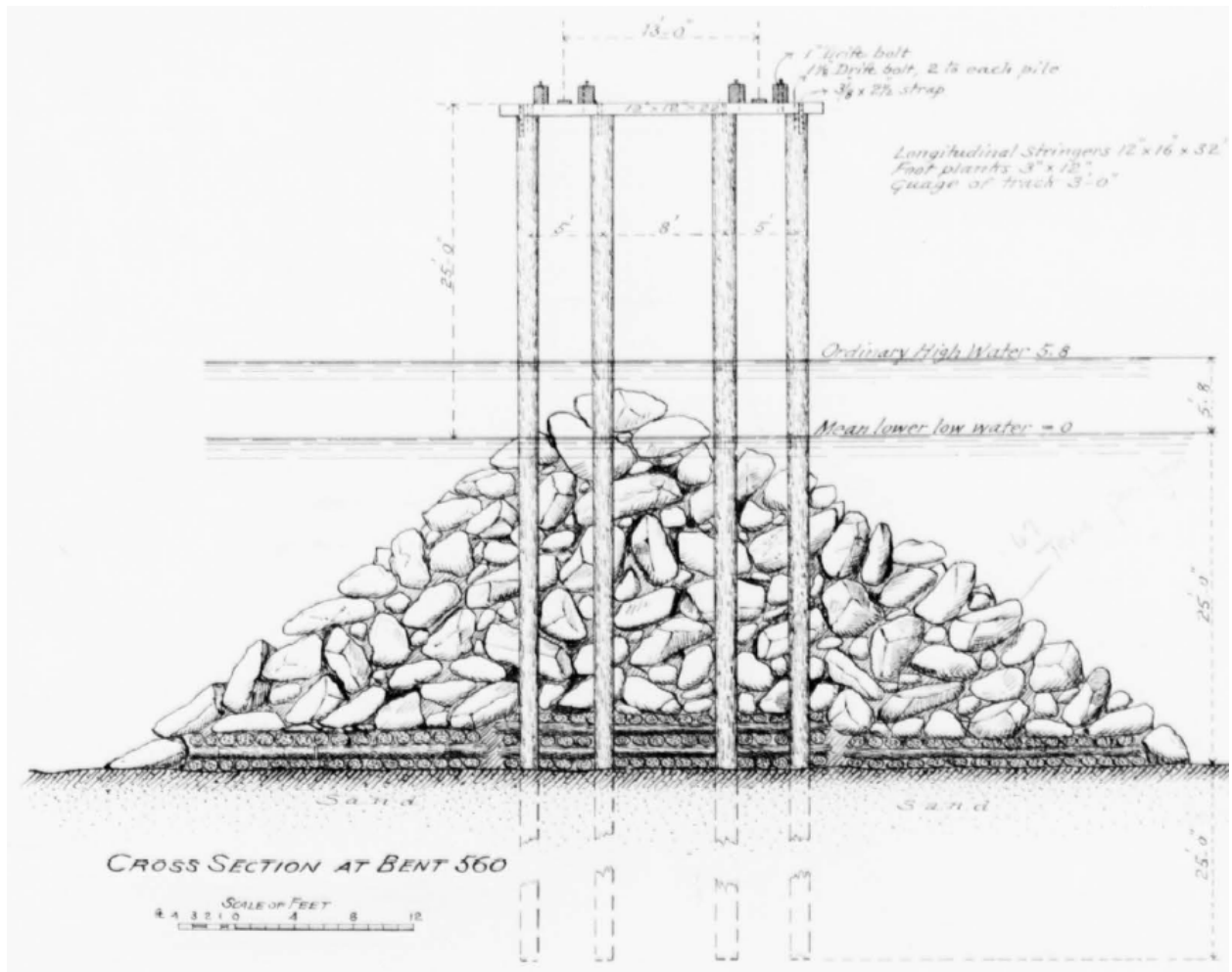
Non-Indigenous communities faced significant challenges when they set up permanent settlements along the coast. The intense storms, high tides, and frequent movement of silt on the coastlines all prevented ships from traveling safely in the area. As the U.S. government secured its control over the region, officials looked for ways to improve traveling safely and encourage commerce in the newly created territory of Oregon. In 1856, the Territorial Legislature petitioned Congress, requesting that Coos Bay and its associated town be made a port of entry with a Customs House and permanent government presence.⁴

Stones and Tramways – Construction of Coos Bay North Jetty (1890 to 1897)

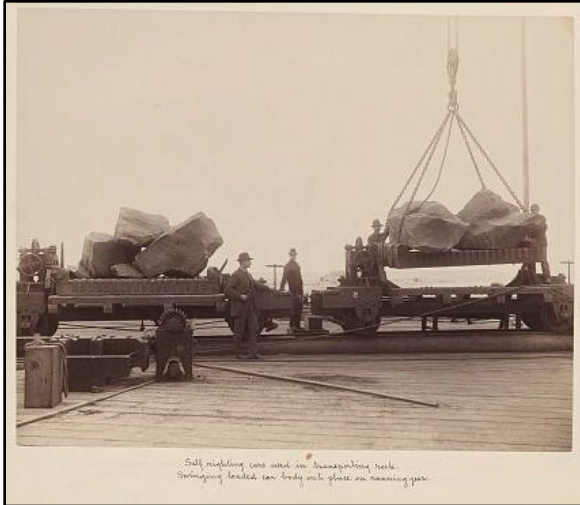


1889 map showing the location of the proposed North and South Jetties at the entrance of Coos Bay. *Courtesy of USACE.*

⁴ Grupe 2008



Design plans for Coos Bay North Jetty and elevated tramway. *Courtesy of USACE.*



Self-propelling cars used in transportation work.
Shipping loaded cars ready for place on remaining year.

In the 1890s, USACE built a tramway to move tons of stones and other building materials during construction of the Coos Bay North Jetty. Photograph by J.H. Bratt, 1892. *Courtesy of Library of Congress.*



Pile driver used during construction of Coos Bay North Jetty tramway. Photograph by J.H. Bratt, 1892. *Courtesy of Library of Congress.*



Coos Bay North Jetty elevated tramway loaded with rocks and brush mattress during construction. Photograph by J.H. Bratt, 1892. *Courtesy of Library of Congress.*

Turning Coos Bay into a major shipping port involved significant investment. In its natural state, the harbor at Coos Bay was too shallow for many large ships. Storms and unpredictable waves tended to fill the harbor mouth with silt that made the waterways impassable.

The government tasked the United States Corps of Engineers (USACE) with improving the safety and navigation conditions for vessels. Surveys of the sand bar at the mouth of Coos Bay and the bay were conducted by USACE and the US Coast Guard in 1861, 1878, and 1879. In 1879, USACE recommended that to improve navigation conditions a jetty needed to be constructed at Fossil Point in Coos Bay, about 1.5 miles into Coos Bay from where it met the Pacific Ocean. By building the Fossil Point jetty of wood and stone cribs and dredging a navigation channel, the engineers hoped the navigation channel would remain in one place and the water depth could be maintained. The nearly 2,000-foot-long Fossil Point Jetty was constructed 1879 – 1884, with a small addition in 1890. Another survey was conducted in 1885 of the bar at the mouth and of Coos Bay. While the jetty did

seem to help maintain a navigation channel in Coos Bay, it did not help with the bar of the mouth of the bay and may have actually been a hinderance. The jetty was abandoned in place and nature has slowly deteriorated it.⁵

There was a natural channel that crossed the Coos Bay bar, but it was subject to large and rapid changes in depth and location, making navigation into Coos Bay difficult. Additionally, the North Spit, being composed of sand dunes, was unstable and had changed in shape and size throughout history. The surveys showed North Spit was moving south, into the bay.⁶

In response, USACE developed an ambitious plan in 1879 to construct two jetties at the mouth of Coos Bay.⁷ The jetties would be 1,500 feet apart and work together to stabilize a navigation channel across the Coos Bay mouth, prevent sand from North Spit blowing into the bay and making the bar shallower, and stop the North Spit from moving south.⁸ The jetties would also direct the tidal flow from the ocean between them and naturally scour the mouth of Coos Bay, helping to deepen the navigation channel from 13 feet to 20 deep, to accommodate larger ships. Coos Bay had become a center for the timber and mining industries, and also a key shipping hub for the growing dairy and agricultural markets of the region, so it was important to maintain a navigation channel for safe and reliable navigation.⁹

Congress authorized the construction of Coos Bay's North Jetty and South Jetty with the Rivers and Harbors Act of September 19, 1890.¹⁰ Construction of the North Jetty started in 1890, while USACE waited to construct the South Jetty until 1924 - 1928.

Coos Bay North Jetty was constructed at the southern end of the Coos Bay North Spit. It was constructed of stone laid on top of 3- to 4-foot-thick bundles of pine, reed, and shrub, known as brush mattresses. To build the jetty a wharf was constructed off North Spit to receive building materials via ship and an elevated tramway was built from the North Spit leading into the Pacific Ocean where the jetty was to be established.¹¹ USACE civil engineer James Suydam Polhemus oversaw the North Jetty construction project.¹² Polhemus began work in December 1890, starting with the construction of the wharf, living quarters for the hired workforce, and the first part of the elevated tramway.

The North Jetty was built in phases, as funds were available. In the first few years, funding was plentiful and construction was only limited by how much of the jetty could actually be built in the year. To build the jetty, the elevated, double-track, narrow gauge tramway was first constructed where rock was to be placed. Workers used a heavy revolving pile driver to embed vertical piles used as stilts for the elevated tramway into the ocean floor. The vertical piles were then topped with a platform and a track for the tramway. The tramway was built bit by bit. An 11-ton Baldwin

⁵ USACE 1881, 1890; Willingham 1983.

⁶ USACE 1881, 1890.

⁷ Case 1983; USACE 1890.

⁸ USACE 1890, 1891.

⁹ City of Coos Bay 2024; Richmond 1970; Robbins 2024.

¹⁰ USACE 1891.

¹¹ USACE 1890

¹² Archives West 2025; Case 1983.

Locomotive Works engine known as the *Yarrow* moved loads of pilings, timbers, and brush mattresses along the tramway, over the bay and ocean. First the brush mattresses were lowered from the tramway and sunk to the ocean floor by the crews throwing small rocks on top of the mattresses. In deep water, small rocks were included in the brush mattresses construction, so they would sink on their own. Boulders, the average of which weighed two tons, were quarried and transferred by boat to the North Spit wharf. Once at the wharf, workers loaded the stone onto special dumping carts and used the tramway to transport them to where they were to be added to the jetty. The stone was then dumped from the tramway on top of the brush mattresses, creating a mound of rock. This process was repeated little by little each year, as the jetty was built.¹³

By 1895, the North Jetty was built to the planned length of 9,600 feet long, including about 4,000 feet (about $\frac{3}{4}$ of a mile) into the ocean from the North Spit. The jetty rock was planned to be at least as tall as normal high water. In 1895, only 5,000 feet of the jetty had rock to high tide, the remaining 4,600 feet, including the jetty head, had rock to the level of low water. Surveys in 1894 and 1895 showed even with the jetty not being as tall as planned, it was successfully keeping the navigation channel across the mouth of Coos Bay at a depth of at least 20 feet.¹⁴ No work was conducted in 1896, due to a lack of funds.¹⁵ Additional rock was added to the jetty in 1897, to bring the entire length up to the level of high water; however, this was not completed without challenges. Heavy weather and rough seas in the winter and spring destroyed about 400 feet of the tramway and beat down the top of the jetty rock. The tramway had to be rebuilt before the jetty rock could continue to be put in place.¹⁶

¹³ USACE 1891, 1984; Case 1983; Richmond 1970.

¹⁴ UASCE 1895.

¹⁵ USACE 1896.

¹⁶ USACE 1897.

Preserving and Repairing Coos Bay North Jetty (1900 to 2025)



The North Jetty provides a critical barrier against destructive waves, giving ships calmer waters to travel through, as shown in this 1939 aerial photograph. *Courtesy USACE.*

The work of maintaining and improving the Coos Bay North Jetty began immediately after construction ended. Rough winter storms continually battered the jetty, resulting in it deteriorating and deflating. In 1900, rough winds and tides destroyed more than 1,000 feet of tramway and a portion of the outer end was leveled. Additionally, the brush mattresses that were the base of the jetty compressed as the jetty settled, causing a decrease in jetty height. Starting in 1900, this resulted in regularly adding rock to keep the jetty functioning.¹⁷

Strong winds also continued to blow sand from the North Spit into the bay entrance. Starting during the North Jetty construction, USACE seeded Holland grass (*Arundo arenaria*) on the sand dunes of the North Spit to hold the sand in place and prevent it from drifting and blowing into the bay.¹⁸ By 1912, USACE had planted about 575 acres of Holland grass on the North Spit.¹⁹

¹⁷ Richmond 1970.

¹⁸ Richmond 1970; USACE 1890.

¹⁹ USACE 1912.

By 1913, the Oregon Legislature declared a need for emergency funds to repair the Coos Bay North Jetty. Some of the structure had deteriorated so it was beneath the relentless waves. There was concern ships might run aground on the submerged stones. The deterioration of the jetty made maintaining the channel difficult.²⁰

By 1920 about half of the North Jetty had been beaten down to almost low water level by the fierce waters of the Pacific.²¹ The tramway and receiving wharf had long since washed away. In 1922, Congress authorized restoration of the North Jetty and construction of the South Jetty in order to achieve a 22-foot-deep channel.²² Between 1923 and 1929, the Coos Bay North Jetty received approximately 690,000 tons of rock to bring it back to original height.²³ In 1930, USACE added sandstone and a concrete cap to form a monolith at the jetty head intended to protect the structure from wave damage.²⁴



Aerial photograph of Coos Bay North Jetty head in August 2025. *Courtesy of USACE.*

²⁰ Case 1983; Oregon House of Representatives 1913.

²¹ Richmond 1970.

²² USACE 1923; Willingham 1983.

²³ Case 1983.

²⁴ Case 1983.



Aerial photograph showing Coos Bay North Jetty truck from above. September 2024. *Courtesy of USACE.*



Aerial photograph of the Coos Bay North Jetty tail from above in August 2025. *Courtesy of USACE.*

Over the years the jetty was continually battered by storms, tides, and winds, resulting in erosion of jetty height and allowing sand from Coos Bay North Spit to enter the channel. It has been repaired many times since it was constructed. In 2023, the jetty was 1,100 ft shorter than the originally constructed 9,600-foot-long jetty. USACE began critical repairs to the Coos Bay North Jetty in that same year. The three-year project focused on rehabilitating the jetty to the original height in sections that have been damaged and rebuilding the deteriorated head to help improve channel depth and prevent erosion related issues.²⁵

The repairs had similar goals to the original construction project of the 1890s: by strengthening the jetty, engineers could calm the turbulent waters and create safe passage to Coos Bay for commercial and recreational vessels.²⁶ Like earlier efforts, the construction involved moving tons of rocks. Millions of pounds of stone arrived by barge, with the heaviest stones weighing almost 80,000 pounds.²⁷ The 2023-2025 repairs ensured the continued integrity of the historic Coos Bay North Jetty.

Historically Significant

In 2019, the Coos Bay North Jetty was determined eligible for listing on the National Register of Historic Places. The National Register is an official list of significant historic and archaeological resources that are important to preserving American history. The Coos Bay North Jetty is significant because it helped in the development of the commercial, industrial, and maritime economies of Oregon, specifically the towns of Coos Bay, North Bend, Charleston, Barview, and the surrounding area.²⁸ It has provided an avenue of growth for the region by helping to provide vessels with safe navigation to Coos Bay. The construction of Coos Bay North Jetty contributed to the development of the Pacific Northwest and the many repairs have helped preserve a historically significant structure, so it continues to work.

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²⁵ USACE 2023.

²⁶ USACE 2022.

²⁷ Hrvacevic 2023; USACE 2025.

²⁸ Hulse et al. 2024:73

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