

**SKAGIT RIVER HISTORY**

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**[www.skagitriverhistory.com](http://www.skagitriverhistory.com)**



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## Preface

This paper is an attempt to document some of the history of the Skagit River according to mostly government documents obtained from the U. S. Army Corps of Engineers. On occasion it will also contain information obtained from local historical newspaper articles. It will be a factual issue oriented paper addressing the log jams, boat traffic, commerce, logging, agriculture, dam building, flood events of the “early days” and much more.

As is the case with all the papers I author, 99% of what is included are direct quotes from the sources cited. This paper is not intended to give the complete history of the Skagit River for it is much too involved to be shown in just one paper. For a more complete collection of papers and documents please refer to [www.skagitriverhistory.com](http://www.skagitriverhistory.com).

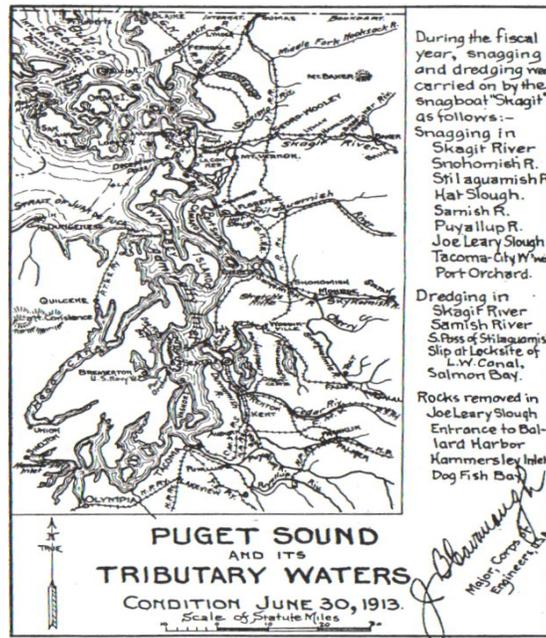
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## Prelude

The very first thing any historian writing about the Skagit River is struck by is just how recent the history of our river is when compared to other river systems in this great country of ours. For instance, before any white settlers came to Skagit County the first levees were constructed on the Mississippi River in 1717; the Corps of Engineers was formed in 1802; the first Rivers and Harbors Act passed by Congress was in 1826.<sup>1</sup> It wasn't until 1874 that the Rivers and Harbors Act even authorized an examination of the Skagit River. At that time the settling of Skagit County was in its infancy.

### Historical Facts About The River



The course of the Skagit, from its source in British Columbia is southward along the western foot-hills of the Cascade Range for 40 miles where it receives from the left bank the Sauk River, and ten miles lower, from the right bank, Baker River; its two principal tributaries from the mouth of the Sauk flowing west-southwest, discharging into the northeast portion of Utsalady Bay. In 1881 the Skagit River Valley was described as containing 200 square miles of fertile valley land, nearly level, and as being covered with dense forest, principally of fir, cedar, cottonwood, and spruce, alder and ash abounding in the river bottoms, and cottonwood along its banks. About one-fourth of the level land consisted of grass meadows and beaver marsh, easily drained and cleared for cultivation. (*Source: Report of Robt. Habersham, Asst. Engineer, Corps of Engineers, June 30, 1881*)

<sup>1</sup> (See Mississippi River Commission  
<http://www.mvd.usace.army.mil/MRC/index.php?page=timeline&loc=Includes>)

The Skagit River rises in the Cascade Mountains in British Columbia, flows in a southwesterly direction, and empties into Puget Sound 50 miles north of Seattle. The river is about 150 miles long, of which 130 miles is in the United States, and its width between banks is about 350 feet. It has a drainage area of approximately 3,084 square miles and is tidal for about 17 miles above its mouth. **There are no discharge data available.** (Source: *Corps of Engineers Annual Report, 1919*)

Eight miles above its mouth the Skagit separated into two principal channels called the North and South Forks; the former discharging at the northern extremity of Utsalady Bay, the latter entering the bay through three channels, known respectively as the Main River Channel, Steamboat Slough, and Freshwater Slough, which in 1881 were all navigable to crafts drawing 4 feet at low-water, but not approachable at low-tide, owing to the outlying flats, half a mile wide, with a ruling depth of 18 inches. (Source: *Report of Robt. Habersham, Asst. Engineer, Corps of Engineers, June 30, 1881*)

The bottomland along the lower part of the Skagit River was formerly covered with a body of very large and fine cedar trees. The mills on Puget Sound formed a ready market for the timber, which was cut into logs and shingle bolts. These conditions early attracted settlers to the Skagit River bottom. As the land was cleared of the timber it was found to be exceedingly rich and fertile, but much of it, however, was marshy and swampy. The money obtained from the cutting of the timber was used for clearing the land and protecting it with dikes. At first it was necessary only to build low dikes, as the floods did not attain a great height in the lower river. (Source: *Report of Capt. Harry Taylor, Corps of Engineers, December 11, 1897*)

For the first 18 miles, below Sedro the river at ordinary stages flows in one channel. It then forks into two branches, of which the larger, the South Fork, flows in a southerly direction, and the other, the North Fork, in a westerly direction into an arm of Puget Sound, known as Skagit Bay. Each of the two main forks subdivides into several smaller forks that find their way into Skagit Bay through separate mouths. None of these various mouths are navigable at low tide. The portion of the river affected by the tide depends upon the stage of water in the river. At extreme low water in the river the tide is perceptible as far as the town of Avon, a distance of 15 miles from the main mouth. (Source: *Report of Capt. Harry Taylor, Corps of Engineers, December 11, 1897*)

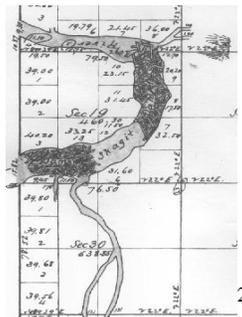
River velocities varied with location on the river. From the mouth to Mt. Vernon the flow of the river is influenced by the tides which depending on high or low tide allowed the river to flow from 1.5 mph to 4 mph respectively. From Mt. Vernon to Duffeys Reach, a distance of 20 miles the river varied from 3 to 4 and at some places 6 mph. For 40 miles above Duffeys Reach the flow of the river was uniform and comparatively slow, not exceeding 3.5 mph. All velocities were reported at low water conditions. Boats drawing 3 feet could ascend 70 miles from the mouth to Rockport. It was believed by the Corps in 1881 that above Duffeys Reach the river did not flood. The width of the river was reported to vary from 300 to 600 feet. Only one significant gravel bar was reported and that was 40 miles above the mouth which created a channel for boats only 50 feet across and only had 2 feet of water in it at low water. (Source: *Report of Robt. Habersham, Asst. Engineer, Corps of Engineers, June 30, 1881*)

In the early days what is known as the Old Main River was the principal outlet of the Skagit River. It is reported that in the early days boats drawing 10 to 12 feet could easily navigate this branch as far as Fir, about 5 miles up from the mouth. Prior to 1879 a log jam, which was nearly a mile in length and almost completely covered the river, existed near where the present town of Mt. Vernon is located. During freshets this jam obstructed the free flow of water and caught all logs and drift. The obstruction caused by this jam to the free flow of the flood waters prevented the low lands farther down the river from being flooded, but it caused the flooding of the entire country known as the Olympia and Beaver Marsh country, to the west of the Skagit River, between the present location of the town of Avon and Padilla Bay. (Source: Report of Capt. Harry Taylor, Corps of Engineers, December 11, 1897)

It is clear from a historical perspective that the Skagit River wasn't always in its current location. Robert Habersham, Assistant Engineer with the Corps wrote in 1881 that while making an examination of the low lands lying between the Skagit and Samish Rivers in 1872 that he saw indications that the Skagit at one time flowed into Padilla Bay, 12 miles north of the present mouth of Steamboat Slough; the old channel being easily traced, traversed by numerous beaver dams and at that time he felt that it was the Beaver Dams that changed the channel. (Source: Report of Robt. Habersham, Asst. Engineer, Corps of Engineers, June 30, 1881) In 1924, USGS confirmed that Padilla Bay was the mouth of the Skagit river generations ago. When the channel changed, the old outlet was filled with alluvial mud. (Source: [1/17/24 C.H.](#))

In 1913 the Skagit River was navigable for light-draft boats at all stages of water from the bar at its mouth to Mount Vernon, 11 miles, and at all stages, except extreme low water to Avon, 3 miles above Mount Vernon. During ordinary high waters the river was navigable as far as the Sauk River, 68 miles from its mouth. . . . The Skagit River had been improved to the extent of removing snags and similar obstructions to navigation since 1882. . . . The mattress sill and closing dikes in the river and the training dike, 10,450 feet long, at the mouth of the river had been completed. (Source: Report of Major Cavanaugh, Corps of Engineers Annual Report, 1913)

## Log Jams



The first “examination” of the Skagit River by the U. S. Army Corps of Engineers (“Corps”) was authorized by the June 23, 1874, Rivers and Harbor Act, and was conducted by Major Michler in October 1874. The purpose of the examination was to “ascertain the nature and extent of the jams or rafts which interrupt its navigation.” At that time Major Michler reported that the main entrance of the river was by the most southern of several mouths through which the Skagit River emptied into Puget Sound, and that the location was only accessible at “half-tides” or above. At low tide the Skagit Flats were bare and no boat traffic could proceed. (Source: *Corps of Engineers Annual Report 1875*)

Ten river miles up from the mouth, passing through an “extremely rich valley” which at that time was “quite well settled”, a large log jam had formed. The Indians reported that the log jams had been “always existent”. (Source: [2/20/41 Argus](#))

Before reaching the jam the Skagit was reported to have “considerable depth” and averaged about 500 feet in width. This log jam was found to be about 1,700 feet long and 460 feet wide. Major Michler stated that the log jam would rise and fall with the tides and was apparently only held by the banks. (Source: *Corps of Engineers Annual Report 1875*)

About a mile upstream of the jam was a second jam of much larger proportions. Major Michler measured it to be about 4,000 feet long and about 1,000 feet wide. Given the fact that the log jams were all the way across the river it caused the river to overflow its banks during times of freshets. Above the jams the river was “a fine navigable stream” however it contained some dangerous snags. The river above the jams was “thinly settled”. The Major recommended that \$15,000 appropriation from Congress be made to remove the log jams. (Source: *Corps of Engineers Annual Report 1875*)

Failing to get an appropriation from Congress, in 1877 two families of settlers (Stoor<sup>3</sup> and \_\_\_\_\_) set out to cut a “steamboat channel” through the log jams using nothing more than saws and axes, cutting loose the key logs during low-water, leaving them to float downstream during floods. Assisted by occasional volunteers and

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<sup>2</sup> Picture obtained from the original Government Land Office Survey Map 1866-1885.

<sup>3</sup> (Source: [11/23/59 SVH](#))

by contributions of tools and provisions from parties interested in opening the river to navigation, the two originators of the project persevered in their work of hardship and danger for two years, until passage wide enough for steamboats had been cut through. It was reported by the Corps that one man was drowned and another was disabled by the exposure endured during his labors. Before the jams of driftwood were cut through, the snow floods generally escaped through the sloughs and low places on the river banks, overflowing the flats to a depth of one or two feet. As of 1881 this had not occurred since their removal, although the snow flood of 1880 rose higher than any within the memory of the settlers. (Source: *Report of Robt. Habersham, Asst. Engineer, Corps of Engineers, June 30, 1881*)

About the year 1879 the Mt. Vernon log jam was cut by private enterprise. After it was cut up the greater part of it went out, and, from what I have been able to learn, much of the drift which was floated out from this jam lodged in what was then the main steamboat channel, Old Main River, and completely closed it. Since the breaking up of the log jam and the construction of dikes in the river, confining the waters of the river and preventing them to a very great extent from spreading over the adjacent country, the floods in the lower river have naturally increased in height. The country to the west of Avon, however, has been to a very great extent reclaimed, and now contains many of the richest and most valuable farms in the State of Washington. (Source: *Report of Capt. Harry Taylor, Corps of Engineers, December 11, 1897*)

## Skagit Valley Population

The first white person to see the shores of Skagit County is believed to have been Lt. Salvador Fidalgo of the Spanish Navy in 1790 on one of Spain's claiming expeditions which had begun 20 years previously. The English reached our county two years later in 1792 when Capt. George Vancouver made such a thorough exploration of the whole Sound area and contributed so many lasting names such as Puget, Baker, Rainier, Townsend, Bellingham and Whidbey. . . . March's Point, where history is being made today by the oil industry, is reported by good authority to have been first settled in 1853 by Enoch Compton and John Carr on what later became Munks' place. But due to dangerous Indians they were forced to move to Whatcom where Carr died. The Indian war came to a head with Compton enlisting. Then in 1859 he returned to find William Bonner on his old place. . . . One mill man William Bonner, went to March's Point in 1859 and settled on the place vacated by Compton and Carr five years earlier, then sold his rights the same year to William Munks for \$60 and a silver watch. Munks was the first postmaster at the post office called Fidalgo and is still credited with being the first permanent settler. (Source: *John F. Conrad, Historian, Skagit County Pioneer Association, [2/29/56 SVH](#)*)

In 1881 the population of Skagit County was estimated at between 300 and 400 individuals and was reported to be increasing rapidly, the discovery of gold in Ruby Creek contributing to the population increase. (Source: *Report of Robt. Habersham, Asst. Engineer, Corps of Engineers, June 30, 1881*)

By 1890 the population had grown to over 2,000 with the population of Skagit County towns along the river from its mouth being recorded as: Fir, 4 miles, about 50 people; Skagit City, 8 miles, 50 people; Mt. Vernon, 12 miles, 800 people; Avon, 16 miles, 250 people; Sears (Sedro??), 28 miles, 500 people; Lyman, 38 miles, 25 people; Hamilton, 44 miles, 450 people and growing very fast; Birdsvew, 52 miles, 20; Sauk, 85 miles, 25 people. (*Source: Report of E.H. Jefferson, Asst. Engineer in charge of the Skagit, Corps of Engineers, June 17, 1890*)

By 1905 the growth of the towns was noticeable and substantial. Many new buildings were erected and many others repaired and improved. The farmers appeared to have more spare money than formerly, which is noted by new buildings or improvements to old ones, new carriages and farming implements, and an improved grade of livestock. A new veneering and excelsior factory was started at Sedro-Woolley; a small plant for manufacturing cement blocks started at Mt. Vernon; and a large cement factory was being built up on the Baker River in Concrete. (*Source: Report of Capt. E. H. Jefferson, Snag Boat Skagit, contained in the Report of Major Mills, Corps of Engineers Annual Report, 1905*)

### Boats On The River

The first stern wheel steam boats that started operating on the Skagit in the spring of 1880 in the freight and passenger business, which was brought on by the discovery of placer gold by Otto Klement, Jack (John) Rowley, Charles Pressentin Sr. and another man. . . . There was the Josephine, Chehalis, Fanny Lake Lily, Nellie, Glide, Lady of the Lake, all loaded trip after trip with passengers and freight bound for Ruby Creek. A few boats made runs up as far as Durand's Riffle, which is about one mile down river from Marblemount, but most got no further than the present site of Rockport, and some not that far. . . . The beginning of 1882 saw the finish of the gold stampede so many of the first boats named sought other runs and another crop of boats took over. The Queen, Henry Bailey, Bob Irwin, Monte Christo, Indiana, Cascade, Mamie of Snohomish, The Skagit Chief, W.F. McDonald, Black Prince, and the T.C. Reed. The T.C. Reed was the largest of the lot and Mamie of Snohomish was the midget, being only sixty-five feet long. The Queen, Indiana, and Monte Christo served more years than any others except the Black Prince. . . . The Indiana was built, owned, and captained by John Hamilton, son of Wm. Hamilton, the founder of the Town of Hamilton. . . . The boats would land at any camp or any homesteaders place along the river. From 1889 to 1903 there was little business for steamers on the river. Then in 1904 there started up a little towing business with very small gas engine powered boats. By 1906 there were larger and more powerful tug boats built and put on the river and the steamers, Black Prince, the W.F. McDonald and the F.C. Reed joined the fleet of gas powered tugs in developing the business of log-towing. Then for 40 years the towing business continued. Hundreds of million of board feet of logs were towed down the Skagit. (*Source: [4/25/63 C.H.](#)*)

In 1881 only three "steamers" made weekly trips from Seattle to the Skagit River. Two of them only went up to Mt. Vernon and the third went as far up as Sauk City. (*Source: Report of Robt. Habersham, Asst. Engineer, Corps of Engineers, June 30, 1881*)

By 1890 there were four steamboats plying the Skagit River waters. They were the *Henry Bailey* 209 tons; *W.F. Munro*, 100 tons; *Cascade*, 63 tons; and the *Indiana*, 82 tons. The first three ran from Seattle to Mt. Vernon. The *Indiana* went from Mt. Vernon to Sauk City and was dubbed the “mail boat”. (Source: *Report of E.H. Jefferson, Asst. Engineer in charge of the Skagit, Corps of Engineers, June 17, 1890*)

The regular navigation of the river is small in amount, being confined to one boat making tri-weekly trips between Seattle and Avon, but the result of this navigation is important in the regulation of transportation rates. During the higher stages of the river large rafts of logs are towed down from the upper river, and on high tides small boats and scows navigate many of the sloughs or branches of the lower river and take out large quantities of grain, so that the aggregate of the navigation is of considerable magnitude and importance. (Source: *Report of Capt. Harry Taylor, Corps of Engineers, December 11, 1897*)

On the Skagit River there are at present three steamers regularly employed, one of them making three trips per week from Seattle via points on the Stillaguamish River, one connecting with her twice a week for up-river points as far as Hamilton and occasionally bringing down a tow of logs from above Lyman. The other one tows logs exclusively from camps near Lyman to Utsalady, on the salt water. Other boats, doing a jobbing business, frequently visit the Skagit and tributary sloughs after loads of hay and grain. (Source: *Report of E.H. Jefferson, Master Snag Boat, July 10, 1899*)

In 1905 there was one stern-wheel boat of 318 tons gross and 125 feet long, which made three trips per week from Seattle via Stanwood using the Skagit River. Another small stern-wheeler of 40 tons was reported as making three trips per week between Rockport, the end of the Great Northern Railway, and the head of upriver navigation, a distance of about 20 miles, carrying supplies and passengers to and from the mines of Mt. Baker and other mining districts. Other boats to the number of seven or eight, of both the stern-wheel and propeller types, varying in gross tonnage from 30 up to 300 tons, are employed irregularly in the Skagit and its tributaries at log towing and freighting hay and grain to Seattle and Tacoma. (Source: *Report of Capt. E. H. Jefferson, Snag Boat Skagit, contained in the Report of Major Mills, Corps of Engineers Annual Report, 1905*)

Steamboat navigation on the Skagit extends as far up as the mouth of the Sauk, but boats do not often ascend above Hamilton or Birdsvew. (Source: *Report of Major Kutz, Corps of Engineers Annual Report, 1909*)

It was reported by the Skagit Valley Herald in 1959 that the last stern wheel paddle steamer in the Puget Sound area, the W. T. Preston, a Corps of Engineers snag boat, still came up the Skagit River at least once a year to keep the channel free. (Source: [10/26/59 SVH](#))

For a much more thorough documentation of the Sternwheeler boats please see *Sternwheelers And The Skagit River* by Helen Barrett © 1971, and <http://www.stumpranchonline.com/Tales/BlackPrince.html>.

## Snag Boats

The very first “snag boat” on the Skagit River apparently was never assigned a name. Perhaps this was because it was really more of an improvised raft than a boat. It was constructed because between the mouth of the river and the forks a log jam had formed at the head of the North Fork, completely closing it to steamboat traffic forcing them to detour 18 miles in order to reach LaConner. Also numerous snags in the channel between the forks and Duffey’s Reach, 40 miles above the mouth, were dangerous to steamer traffic and there was reported a large “boulder” containing 5 cubic yards in the middle of the Steamboat channel which made navigation hazardous at low water near a place called “Millers Landing” 8 miles above the Forks (Source: Report of Robt. Habersham, Asst. Engineer, Corps of Engineers, June 30, 1881)

This improvised snag boat consisted of a raft of light, dry, cedar logs, 2 feet in diameter, floored with 2-inch plank and measured 15 by 60 feet. It had a cabin for the crew 10 feet by 12 feet for quarters, and was outfitted with a derrick on the other end and an iron capstan amidships constituting the snag-pulling apparatus. It was built at Dyer’s Camp and floated downriver towing a 100 ft. long heavy chain cable. The “boat” worked from September 1<sup>st</sup> till October 3<sup>rd</sup>, 1881 for a distance of 31 miles. It pulled snags, cut down trees along the riverbank (at “Little Mountain” which is believed to have been what we call today “Clear Lake Hill” as it was 28 miles from the mouth of the river, they cut down 60 trees). (Source: Report of Robt. Habersham, Asst. Engineer, Corps of Engineers, June 30, 1881)

In August, 1882, Congress appropriated \$20,000 for the building of a snag boat. It was completed in 1883 and was named the *Skagit*. A trial trip was made to the Skagit River in November 1883 however shortly thereafter was “laid up” due to lack of funds for operation. Although small amounts of money were subsequently made available no significant work was done with the *Skagit* until August 1888. Then the *Skagit* was thoroughly outfitted and ready for service. She remained in service from October 1, 1888 until May 1889. (Source: Corps Annual Report 1891) The *Skagit* worked in 1891 from the mouth to Hamilton pulling 630 snags and cutting down 27 leaning trees. (Source: Report of Captain E. H. Jefferson, Master Snag Boat Skagit, June 27, 1891)

During her fourteen years of service the boat had also become rotten and weak, so that great care had to be taken in using her. The appropriation of June 3, 1896, was sufficient to permit of rebuilding the snag boat, and providing some additional appliances which experience had demonstrated were necessary, and to permit of operating her continuously throughout the past year. With this boat there have been removed from the Skagit River, since she was put in commission in December 1896, after rebuilding, a total of 2,745 snags, ranging in diameter from 8 inches to 10 feet, and averaging about 30 feet in length, and 513 leaning trees, which were threatening to fall in and become obstructions, have been cut from the banks and disposed of. On the 18<sup>th</sup> and 19<sup>th</sup> of November, 1897, a freshet occurred which left several bad jams in the river. The snag boat was on the river at the time of this freshet and immediately commenced work on these jams. (Source: Report of Capt. Harry Taylor, Corps of Engineers, December 11, 1897)

In 1902 the *Skagit* worked continuously throughout the year. She pulled 2,990 snags from the Skagit River and 147 snags from Swinomish Slough. (Source: Report of Major Millis, Corps of Engineers Annual Report, 1902) In 1903 the *Skagit* pulled 1,323 snags from the Skagit River and 326 from the Swinomish Slough. The *Skagit* was still being skippered by Capt. E. H. Jefferson. (Source: Report of Major Mills, Corps of Engineers Annual Report, 1903)

During 1909 the *Skagit* pulled 1,774 snags from the Skagit River. Major Kutz wrote the following about the snag boat: “It is highly important to replace the snag boat by a new boat next season. The boat is now too old and worn, both in hull and equipment, to be repaired economically. What is needed is a new boat with a small suction-dredge attachment which can be used for cleaning-up work and removing bars and doing dredging on a small scale.” (Source: Report of Major Kutz, Corps of Engineers Annual Report, 1908)

The snag boat *Skagit* was in operation (from 1883) to March 1, 1915, when she was tied up for condemnation and sale. The new snag boat *Swinomish* was completed during the year and placed in commission March 1, 1915 and went to work immediately. The boat was built by Hall Brothers Marine Railway & Shipbuilding Company for \$48,225. (Source: Corps of Engineers Annual Report, 1915) On December 28, 1917 the *Swinomish* sunk in the Skagit River three bridge corridor just below the old Interurban during a flood event. (Source: [1/4/18 Argus](#))

In 1920 brush and earth were placed on the dams in several of the small sloughs leading off from Steamboat Slough, and 61 cords of brush was cut for use in raising the dams in Old River and North Fork. Between June 25, 1910 and March 2, 1919 the federal government had spent \$155,000 on river maintenance. (Source: Corps of Engineers Annual Report, 1920)

In 1929 the Seattle District of the Army Corp of Engineers put the *Preston* to work, collecting debris from Puget Sound, Lake Washington, and tributary rivers. It was named for W.T. Preston, the only civilian to ever hold the title of Seattle District Engineer. The *Preston* measure 163.5 feet long by 34.5 feet wide, it had a crew of 15 and had yearly removal rate of 1,100 cubic yards of debris. It had a gross tonnage of 291 tons, and it's steel hull (replacing its original wooden hull in 1939) displaced 494 tons. It was built by the Lake Union Dry Dock in Seattle, Washington, using many parts, including the main engines, from it's predecessor the *Swinomish*. After it's retirement in 1981, the *Preston*, became a National Historic Landmark, and currently sits on land, but near the water, in Anacortes, Washington. It is open to the public between Memorial Day and Labor Day weekends. (Source: <http://www.dieselduck.ca/images/Preston/>)

Between 1942 and 1960 the *W. T. Preston* dredged (sidecast) 796,324 cu yds of material and pulled 11,798 snags. Most of the *W. T. Preston's* work was done in the North Fork of the Skagit River up to Mt. Vernon with occasional trips above Mt. Vernon. Only one trip was documented as far



upriver as Hamilton. In addition the U.S. Dredge *Swinhomish* sidecast an additional 243,739 cu yds of river bottom material during the years 1949 through 1951, all upstream of Mt. Vernon. (Source: *Corps of Engineers Annual Reports, 1942—1960, See Appendix A*) Picture courtesy of <http://www.anacorteshistorymuseum.org/preston.htm> All of the work performed was strictly for navigational purposes and had no impact on flood control.

## Commerce

In 1881 the principal industry in Skagit County was logging. From 15,000,000 to 30,000,000 board feet of logs are annually, since the removal of the log jams, floated down to Utsalady and there sawed into lumber and exported to San Francisco, Honolulu, and other ports. The cottonwood along the river banks is made into stave-bolts for the manufacture of barrels. Farmers were growing wheat (40 to 60 bushels per acre) and oats (70 to 110 bushels per acre). Also, a vein of coal cropped out of the river 40 miles above the mouth and was classed as good lignite. (Source: *Report of Robt. Habersham, Asst. Engineer, Corps of Engineers, June 30, 1881*)

By 1890 the amount of freight carried by the regular river steamers was about 3,000 tons per month. General merchandise up and mostly produce back to Seattle. Counting the irregular steamers freight was estimated to be about 9,000 tons per month. In addition, the Seattle, Lake Shore and Eastern Railroad and the Great Northern Railroad were “bridging” the Skagit River and extending their lines north. (Source: *Corps of Engineers Annual Report, October 13, 1890.*)

Whether it was because of the intrusion of the railroads or hard economic times, by 1892 the steamer traffic had been cut to only two boats from Seattle to Mt. Vernon and the amount of tonnage dropped to only 1,200 tons. (Source: *Report of E.H. Jefferson, Captain Snag Boat Skagit, June 8, 1892*) By 1897 there was only one boat making tri-weekly trips from Seattle to Avon. (Source: *Report of Capt. Harry Taylor, Corps of Engineers, December 11, 1897*)

In order to facilitate the log business on the Skagit River, a boom company was organized and commended operations in the lower river about the year 1882. The boom was first put in what was known as Tom Moores Slough, where it remained for about two years. At the end of that time Tom Moores Slough was so filled up that logs could not be rafted through it. From Tom Moores Slough the boom was moved to what is known as Freshwater Slough, from Freshwater Slough to Deep Slough, and from Deep Slough to Log Slough. At the time the boom was moved from one slough to another each slough in turn was a navigable slough or entrance to the river, and each in turn filled up with drift so as to prevent boats from passing through it. The one navigable slough which is now left is known as Steamboat Slough. The booms may have helped the shoaling of the various sloughs in which they were located, but, judging from the results of the recent flood, such shoaling would have been brought about by natural causes, whether the booms were there or not. (Source: *Report of Capt. Harry Taylor, Corps of Engineers, December 11, 1897*)

It appears, therefore, that each of these several sloughs has been navigated, and that in each the boom was placed and soon after the placing of the boom the slough became unnavigable; but it does not appear that all of these sloughs, or more than one of them, for that matter, were navigable at any one time. I have been informed by an old settler on the river that when he first came there Steamboat Slough was so small that a rowboat could not be rowed through it. It has cut out and enlarged to its present size since the former navigable channels closed up. At the present time Steamboat Slough forms a good navigable channel. If all of the sloughs were opened so as to afford free exit to the waters, it would be but a short time before they would be closed up so that none of them would be navigable. (Source: *Report of Capt. Harry Taylor, Corps of Engineers, December 11, 1897*)

The following commercial statistics were furnished by Mr. John Polson, of LaConner, and the LaConner Trading and Transportation Co., of Seattle, Wa. and are for the calendar year 1899:

Exports

Article	Tons	Value
Cabbage seed	32	\$16,000
Fish	3,985	\$382,220
Grain	32,000	\$700,000
Hay	13,000	\$130,000
Lumber	8,600	\$48,000
Cord Wood	2,200	\$4,500

(Source: *Report of Capt. Harry Taylor, Corps of Engineers Annual Report, 1900*)

By 1902 eight steamers with a maximum draft of 6.5 feet were engaged in traffic on the Skagit River. Sixteen million board feet of timber (saw logs) and 10,000 cords of shingle bolts were floated down the river. (Source: *Report of Major Millis, Corps of Engineers Annual Report, 1902*) The next year found yet another steamer plying the waters of the Skagit, however, only 14 million board feet of timber was floated down the river. The amount of cords of shingle bolts doubled to 21,276. And for the first time in its history, Skagit County imported more than it exported (22,598 tons at a value of \$573,690 for exports vs. 39,196 tons at a value of \$1,751,300 for imports). (Source: *Report of Major Mills, Corps of Engineers Annual Report, 1903*)

In 1906, 61 million board feet of timber and 66,725 cords of shingle bolts were floated down the Skagit. Ten steamer boats were using the Skagit in this year. (Source: *Report of Major Chittenden, Corps of Engineers Annual Report, 1906*)

In 1907, 59,360,000 feet of saw logs, 32,000 linear feet of piling, 64,160 cords of shingle bolts, and 1,300 cords of wood were floated down the river and towed to the mills during the year. Eight steamers, with an aggregate gross tonnage of 1,743 tons and maximum draft of 5 feet, and 16 launches were engaged in traffic on the river during the year. Two milk condensers, one fruit cannery, six logging camps and one saw and

shingle mill were established in the Skagit River basin. (Source: Report of Major Chittenden, Corps of Engineers Annual Report, 1907)

During 1908 67,498,000 board feet of saw logs, 32,695 linear feet of piling, 40,700 cords of shingle bolts and 1,631 cords of wood were floated down the Skagit. Nine steamers and twelve launches were engaged on traffic on the river. (Source: Report of Major Chittenden, Corps of Engineers Annual Report, 1908)

In 1909 71,000,000 board feet of saw logs, 28,000 linear feet of piling, 43,000 cords of shingle bolts, and 1,400 cords of wood were floated down the river. (Source: Report of Major Kutz, Corps of Engineers Annual Report, 1908)

## Swinomish Slough

The operations contemplated under the appropriation of \$25,000 by the river and harbor act of June 3, 1896, were the straightening of the channel between the Hole-in-the-Wall and LaConner, by building a pile, brush, and stone dike from McGlinns Island to Gallihers Point, dredging a channel through the flats to the west of this dike, and repairing the old wattled dike<sup>4</sup> in Skagit Bay. On October 19<sup>th</sup> work was begun repairing the wattled dike and was continued until November 11, 1896, when it was suspended on account of the winter weather. Operations were resumed on April 20, 1897, and brought to a close on June 21, 1897. (Source: Report of the Chief Of Engineers, U. S. Army, 1897, authored by E. L. Carpenter, Inspector, June 26, 1897.)

The original plan for the improvement of Swinomish Slough provided for a channel 100 feet wide at the bottom and 4 feet deep at mean lower low water, extending from deep water in Skagit Bay across Skagit Bay Flats, through Swinomish Slough, and across Padilla Bay Flats to deep water in the latter bay. Under the appropriations of July 13, 1892, August 17, 1894, and June 3, 1896, the project has been completed to the extent of dredging 21,745 feet of channel, building 6,200 feet of wattled dike in Skagit Bay, putting in a pile dike between Goat and Ika islands, and building a pile, brush, and stone dike between McGlinns Island and Gallihers Point. (Source: Report of the Chief Of Engineers, U. S. Army, 1897, authored by E. L. Carpenter, Inspector, June 26, 1897.)

During the year (1900) 1,357 feet of the dike between the "Hole in the Wall" and Saratoga Passage was repaired . . . The work was greatly delayed and interfered with by storms which overturned the pile driver, carried away scows loaded with material, and destroyed mats ready to sink. (Source: Report of Capt. Harry Taylor, Corps of Engineers, 1900)

The work of opening a navigable connection of 4 feet depth at low water between Saratoga Passage and Padilla Bay via Swinomish Slough has never been completed. It is an exceedingly important project and a perfectly practicable one at a cost which would be

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<sup>4</sup> A construction of poles intertwined with twigs, reeds, or branches.

justified by the commercial benefits to be derived from it. (Source: *Report of Major Chittenden, Corps of Engineers Annual Report, 1906*)

Work was prosecuted actively throughout 1908. It consisted mainly of dike building and dredging. The dike work included the extension of the dike leading from Fidalgo Island past Goat Island toward deep water in Saratoga Passage, and the building of a dike (which serves as a breakwater) from Goat Island, parallel with the main dike to deep water. In both dikes a mound of stone was built up to a height of 8 feet below low water. The total quantity of dredging material removed was about 480,000 cu yds at a cost to the government of .10 cents per yard. It was intended to carry the dredging through Padilla Bay, but when it came to straightening the channel it seemed very important to make a more radical rectification than was at first proposed. The land for the required cuts was purchased from the Indians by the people of LaConner and donated to the Government, and a capacious channel was excavated, eliminating entirely the sharp bends which formerly made it very difficult for boats of any size to navigate the slough. This extra work made it necessary to postpone for the present the work in Padilla Bay. (Source: *Report of Major Chittenden, Corps of Engineers Annual Report, 1908*) Operations ceased on August 1, 1908. (Source: *Report of Major Kutz, Corps of Engineers Annual Report, 1908*)

In 1955 the *W. T. Preston* performed maintenance dredging totaling 199,498 cu yds. The existing project provided for a channel 100 feet wide and 12 feet deep at mean low water from deep water in Saratoga Passage to deep water in Padilla Bay, a distance of 11 miles. This project was completed in 1937. By June 1955 the Corps of Engineers had spent \$1,423,863 on this project. (Source: *Corps of Engineers Annual Report, 1955*)

During 1963 the Corps of Engineers completed work authorized by the Repair of Goat Island-McGlenn Island Dike maintenance contract authorized in 1962 by placing 16,408 tons of rock on the dike. Total cost of the project was 86,855. At that time there were 13 wharves, docks, and piers on Swinomish Slough, all privately owned. Of those, three were used for handling general cargo; two were used exclusively for moorage, unloading, and servicing fishing vessels; and two for handling petroleum products. (Source: *Corps of Engineers Annual Report, 1963*)

### Sterling Bend

Under date of April 28, 1897, I submitted a project for a cut-off at what is known as Sterling Bend, 2 miles below Sedro. This is a very bad bend, and each year it is an expensive and difficult operation to clear the snags from it. It was proposed to straighten the river at this place, so as to avoid, if possible, the perpetual snagging. At the time the project was submitted I was informed by the settlers living in the vicinity that the right of way and all the required releases from damages would be given freely, but such did not prove to be the case. On account of the damage suits which would have resulted had the cut-off been made, no further action has been taken. Straightening the river would be beneficial in more ways than one, but on account of the complications which would result I do not think it advisable to undertake it. (Source: *Report of Capt. Harry Taylor, Corps of Engineers, December 11, 1897*)

## Floods

The whole of the Pacific Northwest is subject to a peculiar warm, moist wind blowing off the ocean, usually from the southwest, which is known as the "Chinook." A Chinook wind may occur at any time of the year and may be felt by a large or small extent of territory at the same time. A Chinook wind striking a snow field causes the snow to melt with abnormal rapidity. (Source: *Report of Capt. Harry Taylor, Corps of Engineers, December 11, 1897*)

The conditions surrounding the sources of the Skagit River are therefore such that a flood in the lower river is liable to occur almost any day in the year. A Chinook wind will usually cause a marked rise in the lower river about thirty-six hours after it begins to blow, the amount of the rise depending upon the intensity and warmth of the wind and the amount of fresh snow upon the mountains. (Source: *Report of Capt. Harry Taylor, Corps of Engineers, December 11, 1897*)

During the year 1896 no less than three floods occurred in the Skagit River, due to the conditions above described. These occurred in January, June, and November. The flood of January reached a stage of 22 feet above low water on the gauge on the Great Northern Railroad Bridge, 6 miles above Mt. Vernon; the flood of June reached a stage of 20 feet, and that of November a stage of nearly 24 feet on the same gauge. The elevation of the river bank in the vicinity is 21 feet above low water, so that during two of the floods in 1896 the river overflowed its banks above Mt. Vernon. Protection from these overflows is one of the principal objects which the residents of the Skagit Valley desire to have accomplished by the improvement of the river. (Source: *Report of Capt. Harry Taylor, Corps of Engineers, December 11, 1897*)

On the 18<sup>th</sup> and 19<sup>th</sup> of November (1897) the Skagit River was visited by the greatest freshet in the history of the river (at least in the view of the settlers of that time). It has been claimed that had the different mouths of the river been opened up the waters of this freshet would not have risen as high as in previous years and that they would have run off much sooner than they actually did. . . . The town which suffered the most in proportion to its size of any on the Skagit River was the town of Hamilton, which is so far up the river that no possible opening of the mouths of the river could have had any effect on the height of the water at that place. From the extent of the floods and the damage caused in other places it is very evident that no amount of opening out of the mouths of the Skagit River would have prevented the floods in this river. As a matter of fact the most disastrous breaks in the dikes of the Skagit River were in the vicinity of Mt. Vernon, some 12 miles from the mouth of the river and too far to derive any benefit from the opening of the mouths of the river, and the higher up the river one goes the greater the freshet appears to have been. At Sauk River, 68 miles from the mouth, the water reached a stage of 6 feet 8 inches above the freshet of November, 1896; at Lyman, 32 miles below Sauk River, it was 2 feet 9 inches above last years flood; at Sedro, 8 miles below Lyman, it was 1 foot 6 inches, while in the vicinity of Mt. Vernon it was but about 10 inches

above last year's flood. (Source: Report of Capt. Harry Taylor, Corps of Engineers, December 11, 1897)

Other serious flood events took place in 1906, 1909, 1917 and 1921. Based upon numerous newspaper accounts of those flood events it is believed that in the "early days" the levees used to break or be overtopped at approximately a 31 foot elevation or when the Skagit River reached a flow of 90,000 cubic feet of water per second ("cfs"). That would be what is considered about 3 feet above flood stage in 2005. In 1995 the Skagit River levees withstood a flood flow of 141,000 cfs (at the Mt. Vernon gage) or approximately 9 feet above flood stage. During the 20<sup>th</sup> Century the Skagit River reached flood stage 66 times for an average of one flood every 1.5 years. (See [Historic Flood Flows](#), and [Historical Floods Of The Skagit River](#) @ [www.skagitriverhistory.com](http://www.skagitriverhistory.com))

### Levees

In my opinion, the only manner in which the farmers of the Skagit Valley can get relief from the disastrous freshets which visit them is by a **proper** system of diking. The state law is very full and explicit in regard to diking. It fully provides for the formation of diking districts, the appointment of dike commissioners who shall have charge of all matters relating to the dikes, the assessment and collection of taxes and all other matters pertaining to the subject of dikes. I am of the opinion that the greater part of the trouble on the Skagit River is due to the incomplete system of dikes. The river is divided into several diking districts, but I do not understand that any one general and systematic plan for the construction of dikes for the lower river has ever been agreed upon. In some places the dikes seemed to be unnecessarily high, in others dangerously low, and in a good many places they are weak and thin and for long distances they are entirely too near the river banks. The placing of the dikes so near the river banks confines the waters so much that at times of freshets an abnormal rise is produced, and it also exposes the dike to the swift current, which soon washes it away. The greater part of the breaks in the dikes along the Skagit River within the past two or three years have been due to this cause, or to the fact that the dike was so near the bank of the river that the bank gave out underneath and actually tumbled the dike into the river. It appears to me that the proper solution of this problem requires the formation of the entire part of the Skagit Valley needing dike protection into a single diking district and the appointment of a competent experienced civil engineer to take entire charge of the building and maintenance of all the dikes on the river. (Source: Report of Capt. Harry Taylor, Corps of Engineers, December 11, 1897)

On November 26, 1924 the Corps of Engineers held a public hearing in Mt. Vernon to discuss the future of flood control in Skagit County. Part of the public testimony was by J.O. Rundene, LaConner area farmer and State Representative. A portion of his testimony is presented below:

. . . I have lived in Skagit County forty-nine years and am familiar with the flood conditions, experienced in the Skagit Valley and

particularly the LaConner flats, so called, during that period of time; that the first freshet and flood from the Skagit River that I recall, occurred the last of **May in 1882**. At that time **there were no dikes**<sup>5</sup> on the Skagit River, but the land bordering on the same extending upward to the foothills and the foothills themselves were all covered with a heavy growth of fir, cedar and spruce. The water at that time covered the LaConner flats and stood on my farm three feet deep for a period of about two weeks, the depth of the water varying during that period of time. . . . **In 1883 I commenced to build dikes along the North Fork of the Skagit River.** These dikes were gradually increased and work was done on them continuously until 1895, when I retired as Commissioner, and at that time it appeared to me and I thought the dikes were sufficiently high to protect the land against extreme high water at all seasons and during all flood conditions. . . . As this condition has increased the size of the dikes have also been greatly increased, until at the present time the dikes are at least three times as large as they were in 1895, when they were considered sufficient for all possible purposes. There were other freshet of lesser consequences during the intervening years, but the next time at which the entire country was covered with water, as I recall it, was in 1909. At that time the dikes broke at various points on the Skagit River and North fork flooding the entire country between Mt. Vernon and LaConner and between Burlington and the mouth of the Samish River at Edison, being territory about ten miles square, to a depth of from two to eight feet of water. There was water in the vicinity of my place, about six feet deep, for a period of two weeks or longer, the water standing on the land for a period of a month or more. The next large freshet was in 1917, occurring in December and the entire country above referred to was again covered with water to a depth of from two to six feet, the water remaining on the land until after Christmas time. The next large freshet was in 1921 on New Year's Day. The entire country was again covered to a depth of from two to six feet and the water remaining on the land over a period of two weeks. . . . (Source: [11/26/24 Rundene Testimony](#))

## Dams

### Baker River Dams

According to the local newspaper *Skagit County Times*, the forerunner to the present day Courier Times, dams were first talked about on the Baker River in 1917. (Source: [4/5/17 SCT](#))

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<sup>5</sup> This statement is somewhat incorrect. According to the original Government Land Office Survey Map which was began in 1866 and was completed in 1885, in 1872 there were a few patchwork levees built by the early settlers. It is probable that there were no continuous levees in 1883 as we interpret that term today as according to the map there at least in 1872 were no levees shown on the North Fork of Skagit.

In January 1924 the *Concrete Herald* reported that the Stone & Webster Company, the forerunner of Puget Sound Electric, applied for a permit to build the Lower Baker Dam. (Source: [1/17/24 C.H.](#)) Actual construction of the Lower Baker Dam began on April 1, 1924 and was completed 18 months later in November 1925. (Sources: [3/27/24 C.H.](#), [10/15/25 CT](#) and [10/29/25 Argus](#))

Almost immediately it was determined that the Lower Baker Dam had the potential to completely “exterminate” the salmon runs on the Baker River. To their credit the power company put in a “fish ladder” which carried the fish over the dam, however later studies showed it was not enough to preserve the salmon runs. (Source: [The Influence Of A Power Dam In Modifying Conditions Affecting The Migration Of The Salmon](#), 10/19/27. See also [Historical Record of Fish Related Issues \(1897-1969\)](#))

In May 1926 Puget Sound Power & Light Co. was granted a permit to raise Lower Baker Dam 33 feet. The *Concrete Herald* reported: “This raise will make the dam 275 feet in height and will raise the waters in Lake Shannon by 30 feet. As every foot of raise now means a much larger area for the water to spread over, the 30 foot raise will mean an increase of water storage capacity of 140,000 acre feet, as compared with the present capacity of about 70,000 acre feet.” (Source: [5/4/26 C.H.](#)) 1927 the Lower Baker Dam was raised another 33 feet, which almost doubled water storage capacity from 70,000 to 130,000 acre feet. (Source: [5/19/27 C.H.](#))

In 1955 Puget Sound Power & Light applied for a permit for building the Upper Baker Dam. The *Concrete Herald* reported: “The specifications for the dam as listed in the report call for a concrete, gravity type dam to impound water to a normal elevation of 724 feet. Gross static head would be 290 feet and installed capacity 85,000 k.w. The reservoir would provide 130,000 acre-feet of storage between the two installations. (Sources: [4/25/55 MVDH](#), [4/28/55 C.H.](#), [10/14/55 MVDH](#)) Construction began in 1956 and the Upper Baker Dam was completed in 1959. (Sources: [6/7/56 C.H.](#), [2/12/59 C.H.](#), [7/16/59 C.H.](#),

### Seattle City Light Skagit River Dams

By 1920 Seattle City Light was making plans to construct the **Gorge Dam** and was also making plans for the Diablo and Ross dams. It was reported by the *Concrete Herald* that: “It has been found possible to construct a low diversion dam at Gorge Creek and a high impounding dam a half mile farther down the stream. The diversion dam would be less expensive, but the impounding dam would develop greater power. So far the only actual construction work has been done at Gorge Creek, where a sawmill has been erected and material is being assembled for the erection of the plant. Test borings are also being made at the **Diablo** and **Ruby** sites.” (Source: [6/12/20 C.H.](#)) By 1921 Nehalem had electricity from the temporary Gorge plant. (Source: [8/20/21 C.H.](#))

Seattle City Light began serious plans to construct **Diablo Dam** in February 1927. The *Concrete Herald* wrote the following: “The dam is located at the southerly end of the noted Diablo canyon, and when completed will be 570 feet wide at the top and 340

feet high, figuring from the ordinary water level of the Skagit river. . . . Actual work on the Diablo dam is expected to start within the next three months, with the actual pouring of concrete started within that time.” (Source: [2/23/27 C.H.](#)) The base of the dam was completed in 1928 and the dam was finally completed in August 1930. (Sources: [1/3/28 C.H.](#) and [8/28/30 C.H.](#))

The *Skagit Argus* reported in 1932 that Seattle City Light representative Glen Smith, assistant to J.D. Ross told the people of Skagit County, “The completion of this dam (**Ross**) will render impossible even such floods as the one in 1815, which Indian tradition has it, submerged much of the Skagit Valley to a depth of fifteen feet.” (Source: [1/7/32 Argus](#)) As we all know that simply is not the case.

In 1935 Seattle City Light received a federal grant and loan which paved the way for the construction of **Ross Dam**. The plan called for a loan of 55 per cent of the total cost, or \$7,425,000 and an outright grant of 45 per cent of \$6,075,000. It is proposed to apply the grant as follows: For construction, 25 per cent, or \$3,375,000; for application on bond interest payments, 20 per cent of the cost or \$2,700,000. (Source: [8/29/35 C.H.](#)) However, as late as 1943 the people of the valley were still being told that the “Dams have unquestionably alleviated flood conditions in the lower valley and the greater storage planned for Ruby Lake (Ross Lake) will remove the menace, as long as the dams hold.” (Source: [8/11/43 MVDH](#))

In 1946 the final go-ahead was given to raise **Ross Dam** to its present day height and in August of 1949 Ross Dam was officially completed and dedicated. (Sources: [5/30/46 C.H.](#), [8/8/49 C.H.](#)) However, power from Ross Dam was not generated until December 1952. (Source: [12/25/52 C.H.](#))

## Appendix A

During 1942 the *W. T. Preston* dredged (side-casted) 89,405 cu yds of material and pulled 691 snags. (*Source: Corps of Engineers Annual Report, 1942*) In 1943 the *W. T. Preston* dredged 63,188 cu yds of material and removed 787 snags. (*Source: Corps of Engineers Annual Report, 1943*) In 1945 the *Preston* dredged 75,580 cu yds and removed 746 snags. (*Source: Corps of Engineers Annual Report, 1945*) In 1946 the *Preston* dredged 51,417 cu yds and removed 831 snags. (*Source: Corps of Engineers Annual Report, 1946*)  
<http://www.anacorteshistorymuseum.org/preston.htm>



Picture courtesy of

During 1947 the *W. T. Preston* operated for 10½ months of which the majority of that time was spent on the Skagit River where it dredged 74,717 cu yds and pulled 1,271 snags. (*Source: Corps of Engineers Annual Report, 1947*)

In 1948 the *W. T. Preston* dredged 61,027 cu yds from the North Fork of the Skagit and 7,480 cu yds from the South Fork. An additional 3,780 cu yds were dredged at Hamilton and Sedro-Woolley. It also pulled 704 snags from the river. (*Source: Corps of Engineers Annual Report, 1948*)

In 1949 the *W. T. Preston* dredged 68,482 cu yds from the North Fork of the Skagit and pulled 600 snags. It also removed a log jam from the Highway 99 bridge at a cost of \$101,108 over a 3½ month period of time. The U.S. dredge *Swinhomish* dredged 77,900 cu yds above Mt. Vernon. (*Source: Corps of Engineers Annual Report, 1949*)

During 1950 the U. S. dredge *Swinhomish* dredged 127,514 cu yds above Mt. Vernon. The *W. T. Preston* dredged 49,904 cu yds in and upstream of the North Fork and pulled 907 snags. (*Source: Corps of Engineers Annual Report, 1950*)

During 1951 the U. S. dredge *Swinhomish* dredged 38,325 cu yds above Mt. Vernon. The *W. T. Preston* dredged 38,788 cu yds in and above the North Fork and pulled 744 snags. (*Source: Corps of Engineers Annual Report, 1951*)

In 1952 the *W. T. Preston* dredged 36,220 cu yds in and above the North Fork and pulled 352 snags. (*Source: Corps of Engineers Annual Report, 1952*)

In 1953 the *W. T. Preston* dredged 44,112 cu yds in and above the North Fork and pulled 385 snags. (*Source: Corps of Engineers Annual Report, 1953*)

In 1954 the *W. T. Preston* dredged 27,718 cu yds in and above the North Fork and pulled 511 snags. (*Source: Corps of Engineers Annual Report, 1954*)

In 1955 the *W. T. Preston* dredged 33,270 cu yds in and above the North Fork and pulled 498 snags. (Source: *Corps of Engineers Annual Report, 1955*)

In 1956 the *W. T. Preston* dredged 35,965 cu yds in and above the North Fork and pulled 262 snags. (Source: *Corps of Engineers Annual Report, 1956*)

In 1957 the *W. T. Preston* dredged 3,313 cu yds in and above the North Fork and pulled 524 snags. (Source: *Corps of Engineers Annual Report, 1957*)

In 1958 the *W. T. Preston* dredged 17,760 cu yds in and above the North Fork and pulled 577 snags. (Source: *Corps of Engineers Annual Report, 1958*)

In 1959 the *W. T. Preston* dredged 13,298 cu yds in and above the North Fork and pulled 320 snags. (Source: *Corps of Engineers Annual Report, 1959*)

In 1960 the *W. T. Preston* dredged 900 cu yds in and above the North Fork and pulled 395 snags. (Source: *Corps of Engineers Annual Report, 1960*)

In 1961 the *W. T. Preston* pulled 120 snags in and above the North Fork. (Source: *Corps of Engineers Annual Report, 1961*)

In 1962 the *W. T. Preston* pulled 360 snags in and above the North Fork. (Source: *Corps of Engineers Annual Report, 1962*)

In 1963 the *W. T. Preston* pulled 213 snags in and above the North Fork. (Source: *Corps of Engineers Annual Report, 1963*)