

Nooksack-Sumas River Basins

The Nooksack-Sumas Basin area is bounded on the north by the Canadian border, on the west by the Strait of Georgia, and on the south and east by the Samish and Skagit River drainage area. The basins lie almost entirely within Whatcom County and include those portions of the Nooksack, Sumas, and Chilliwack Rivers in the United States. The land and water area totals 1,256 square miles. The western alluvial lowlands are fertile croplands, bordered by forest-covered mountains. The climate is generally cool in summer and mild in winter. Mean annual precipitation varies between 32 inches near the Sound to more than 100 inches on and around Mount Baker.

Nooksack River Basin

Completed Flood Control Study (Seattle District) In 1973, the Corps completed a feasibility report on flood control studies of potential multi-purpose storage sites in the upper basin and levee and channel improvements. The report recommended flood damage reduction measures be limited to flood plain management. When Bellingham needs additional water supplies, consideration could be given to a multi-purpose storage project on the South Fork of the Nooksack River, near Edfro Creek. The feasibility report was sent to Congress in 1980. In June 1988, Whatcom County requested reactivation of the basin flood control studies. The basin study was reactivated in February 1992 and the reconnaissance phase report was completed in February 1993. A flood damage reduction solution was found that would have reduced flooding in the Sumas Basin, but would have increased flooding downstream of the city of Everson in the Nooksack Basin, requiring extensive mitigation measures in that basin. The study sponsor, Whatcom County, was not ready to participate in the cost-shared feasibility study at that time and the study has been put into an inactive status.

Marietta, Nooksack River Delta

Flood Control Study (Seattle District) At Whatcom County's request, a Section 205 reconnaissance study was initiated in March 1991 to investigate measures for reducing periodic flooding at this community and damage to its only access road. In June 1992, the study was terminated because the cost of raising the existing levee exceeded the flood damage reduction benefits.

Everson, Nooksack River

Flood Control Study (Seattle District) As a result of severe flooding in November 1990, Whatcom County requested assistance under Section 205 of the 1948 Flood Control Act in reducing flood damages in the vicinity of Everson. A reconnaissance study was initiated in March 1991 and a preliminary plan developed for a ring levee around most of the town that would allow low level flood waters to bypass Everson. Whatcom County and the cities of Everson.

Nooksack, and Sumas, all involved in flooding when the Nooksack River overflows, requested the Section 205 study be deferred pending results from the Nooksack River Basin reconnaissance study. No plan exists to re-initiate at this time.

Sumas, Sumas River Basin

Flood Control Study (Seattle District) Flood overflows from the Nooksack River at nearby Everson frequently back up into Sumas and Abbotsford, B.C., via a former river channel isolating Sumas and causing flood damages to buildings, roads, and croplands. In January 1991, the city of Sumas requested assistance under Section 205 authority. A reconnaissance study was initiated and a preliminary plan proposed consisting of a ring levee around the residential and retail business district, a flood channel allowing low level flood waters to bypass most of the town, and channel improvements in the Sumas River. The initial plan was reviewed by Whatcom County and the cities of Sumas, Everson, and Nooksack. The Corps was requested to defer the Sumas study pending results from the Nooksack River Basin reconnaissance study. No plan exists to re-initiate at this time.

Mouth of the Nooksack River Downstream of Ferndale

Flood Control Study Terminated (Seattle District) In 1991, Whatcom County requested assistance under Section 205 of the 1948 Flood Control Act to investigate the feasibility of dredging to improve outflows from the mouth of the Nooksack River and reduce damages to dwellings and access roads at Ferndale and the nearby Lummi Indian Reservation. A reconnaissance study indicated that increasing the river channel depth one foot would produce low level flood protection that might last for ten years before the river would need redredging. However, the project is economically infeasible and the study has been terminated.

Bellingham Harbor

Completed Navigation Project (Seattle District) The federal project included dredging a channel in Whatcom Creek Waterway 30 feet deep for a distance of 3,800 feet, and 18 feet deep for an additional 750 feet. Additionally, the project includes an entrance channel 26 feet deep from deep water in Bellingham Bay to the main pierhead line in Squalicum Creek Waterway, and maintenance of the southwesterly portion of a turning basin to the same depth. The Squalicum Creek Waterway was completed in 1931 and the Whatcom Creek Waterway in 1961. A small-boat basin was enlarged in 1958. Federal improvements included removal of a breakwater southwest of Squalicum Creek Waterway and construction of a new seaward rubble-mound breakwater 2,000 feet long. In addition, the original breakwater at the southeast end of the basin was raised

and extended 1,000 feet and the entrance channel dredged to a depth of 12 feet. Breakwater restoration in 1959 corrected subsidence and side sloughing. The Port of Bellingham completed dredging the basin August 1958 and has constructed utilities, mooring, and terminal facilities. Federal costs for existing projects through September 1998 were \$1,579,839 for new work and \$3,090,256 for maintenance. In addition, \$29,421 of contributed funds were expended on new work and \$9,103 of contributed funds for maintenance. The Port of Bellingham has spent more than \$1 million for harbor improvements of which about 80 percent was for the small-boat basin. Commerce in 1997 totaled 1,555,000 tons.

Squalicum Harbor Expansion, Small-Boat Basin

Completed Section 107 Navigation Project (Seattle District) Squalicum small-boat harbor is on the eastern shore of Bellingham Bay within the Bellingham city limits. The Port of Bellingham is the project sponsor. A breakwater and access channel were constructed and the existing boat basin expanded by about 500 berths with the work being completed in 1980. Federal costs through September 1998 were \$1,744,025. In addition, \$1,570,886 of contributed funds were also spent for this project.

Bellingham Harbor - I & J Street Waterway

Completed Section 107 Navigation Project (Seattle District) A channel 18 feet deep and 100 feet wide in the I & J Street Waterway was completed in June 1966 at a federal cost of \$125,634, plus \$2,500 Coast Guard funds. Periodic maintenance dredging has been accomplished by Seattle District. The U.S. Coast Guard has built a new Coast Guard station at the head of the I & J Street Waterway.

Lummi Bay Small-Boat Harbor

Navigation Study, Terminated (Seattle District) In June 1981 the Lummi Indian Tribe requested federal assistance under Section 107 of the 1960 River and Harbor Act (as amended) in developing a new commercial fishing boat marina at Gooseberry Point in Hale Passage. A favorable reconnaissance report was completed in November 1981. Due to subsequent environmental concerns, detailed studies were shifted from Gooseberry Point to the aquaculture project (sea pond) operated by the tribe in Lummi Bay. A 438-boat moorage basin would be dredged in an unused portion of the sea pond. Navigation improvements would include timberpile breakwaters and a mile-long navigation channel with disposal of dredged material in the sea pond to provide fill for marina support and related industries. The detailed project report was approved for planning and specifications in November 1988. During final environmental review, objections were raised to the mitigation plans for replacing herring spawning eelgrass lost by channel dredging. Coordination with resource

agencies by the Corps and local sponsor to develop and implement a mitigation test plan was not successful and the project was terminated. Federal involvement in the project was terminated in August 1990.

Sandy Point Navigation Channel

Navigation Study, Terminated 1989 (Seattle District) In September 1981, Whatcom County requested federal assistance under Section 107 of the 1960 River and Harbor Act (as amended) to construct jetty protection and a navigation channel to alleviate an inadequate harbor entrance at Sandy Point, adjacent to the Strait of Georgia, in western Whatcom County. Beach material transferred by littoral drift has been deposited within the existing harbor entrance, posing navigation hazards. A favorable reconnaissance report was completed in June 1982, and detailed project report studies were initiated the following August. A draft report was released for public review in November 1984. In 1985, the study was deferred pending local agreement to share in project costs.

Blaine Harbor

Completed Navigation Project (Seattle District) Federal work at Blaine included enlargement of a locally constructed mooring basin to protect fishing boats and pleasure craft. The work, completed in 1957, included dredging a 14.7-acre area to a depth of 12 feet and providing breakwater protection. The Port of Bellingham, the project sponsor, later extended the breakwater. The Port of Bellingham is completing a major expansion to their moorage areas including renovation of the existing facilities. Federal expenditures through September 1996 were \$346,650 for new work. Commerce in 1993 totaled 4,000 tons.

Lummi Shore Road, Bellingham Bay

Emergency Bank Protection Section 14 (Seattle District) - Constructed An emergency shore protection project has been constructed to prevent damage to Lummi Shore Road, an 8-inch sewer force main, a sewer lift station, an 8-inch water main, power and phone lines. The unprotected bank was receding and without some form of protection, severe winter storms could erode enough of the bank to require relocation of the road and utilities. The project consists of a 2,500-foot rock revetment of rock slope and quarry spall filter. The project was conducted at the request of the Lummi Indian Tribe (local sponsor), and accomplished under authority of Section 14 of the 1946 Flood Control Act. Construction was completed in November 1994. Total project cost was \$616,772 (\$482,000 federal).

Lummi Shore, Bellingham Bay

Shore Protection, Section 103 Project, Constructed A feasibility study investigating bank stabilization along 9,300 feet of Lummi Shore Road and 3,000 feet of Lummi View Drive at the Lummi Peninsula in Whatcom County was

completed in early 1997. The study sponsor was the Lummi Indian Nation. The study found that the benefits of protecting these shoreline areas with a rock revetment would exceed the costs. Plans and specifications were successfully completed in mid-1998, and the construction cost was estimated to be about \$3,258,000 (\$1,777,000 federal, and \$1,481,000 non-federal). During the plans and specs phase it was decided not to protect Lummi View Drive with rock revetment. The Tribe decided to relocate the road instead. Construction on the revetment protecting Lummi Shore Road began in August 1998 and ended in December.

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