Principal Flood Problems – Coos County

Most flooding in Coos County occurs on the Coquille River and its tributaries. The Coquille River at Coquille and the South Fork Coquille River at Myrtle Point typically exceed flood stage at least once each winter. Most other rivers and streams in the county flood less frequently. Riverine flooding usually occurs from November through February when storms moving inland off the Pacific Ocean cause heavy rainfall.

In the lower reaches of the Coquille River, higher than normal tides combining with high runoff can cause extensive flooding. Storm runoff is high because of moderately steep to steep terrain and the characteristic low soil permeability in the upper Coquille River valley. A natural constriction in the Coquille River valley downstream of Riverton and tidal influences control the flood elevations at the City of Coquille. The river valley at Coquille is flooded an average of 3 months each year. Natural levees along the riverbanks result in poor drainage from overbank areas as floodwaters recede. The worst flooding occurs when high tides combine with high runoff and onshore winds during major winter storms.

Flood stage at Coquille is 9.6 feet while the flood stage at Myrtle Point is 29 feet. Extreme riverine floods have occurred in 1890, 1955, and 1964. Major flooding occurred in the Coquille River valley in January 1966, January 1974, December 1980, December 1981, January 1995, and December 2005.

The largest observed flood in the basin, in February 1890, crested at 23 feet at the State Highway 42S Bridge in Coquille. In both December 1955 and December 1964, the river crested at 21.1 feet at Coquille with an estimated discharge of 120,000 cubic feet per second (cfs). The estimated return period for both the 1955 and 1964 floods is 200 years. During floods of this magnitude, an estimated 300,000 acre-feet of water covers the Coquille River flood plain to an average depth of 15 feet. Damages to the Coquille River basin during the December 1964 flood totaled $3.1 million. About one-half of the damages were agricultural.

Flood stage in the Myrtle Point area is higher than in the areas downstream because of a natural constriction in the flood plain immediately downstream of the confluence of the North and South Forks of the Coquille River. In December 1964, the Spruce Street Bridge staff gage at Myrtle Point, indicated that the South Fork Coquille River crested at approximately 11 feet above flood stage (bank full discharge) with an estimated discharge of 100,000 cfs. This flow has a return period greater than 500 years. A stream gage on the South Fork Coquille River at Powers recorded a peak flow of 48,900 cfs. This flow has a return period of about 500 years.

Flooding on the North Fork Coquille River is often affected by backwater from the South Fork Coquille River. However, a localized storm system could cause flooding on the North Fork with resulting water-surface elevations that are not significantly affected by South Fork flows. During the December 1964 flood, the North Fork Coquille River near Myrtle Point peaked at 38,400 cfs. This flow has a return interval of 55 years.

Flooding on Cunningham Creek and Budd Creek is affected by backwater from the Coquille River, During the December 1964 flood, flow from Cunningham and Budd Creeks was 1 to 1.5 feet deep over North Central Boulevard in the City of Coquille. Most flooding on Ferry Creek, located within the corporate limits of Bandon, results from high tides and storm surge in the Coquille River estuary backing up flow in the creek. During the 1955 flood, there were 18 inches of water in the Bandon Cheese Cooperative building on the west bank of Ferry Creek between U.S. Highway 101 and 3rd Street E. In December 1981, the creek overflowed near the intersection of 3rd Street E. and Grand Avenue. Water was 18 inches deep in one building southeast of the intersection. The overflow traveled down 3rd Street E. and Fillmore Avenue to the Coquille River estuary. In December 1964, the flow at the only stream gage in the Coos River basin on the West Fork Millicoma River near Allegany, peaked at 5,560 cfs. This

flow has a return period of only two years. The peak recorded flow at the Allegany gage was 8,100 cfs in November 1960. This flow has a return period of about 8 years. Until 1980, the flood plain along Pony Creek, located in the cities of North Bend and Coos Bay, had not been developed. As development occurs in this area, the potential for flood damage could increase substantially. In December 1980, water levels almost reached the Woodland Medical Village on Pony Creek east of Broadway Avenue after a period of heavy rainfall. The peak flow recorded below the lower Pony Creek dam for December 1980 was 73 cfs. The peak flow of record at the gage was 181 cfs in December 1981.

Flooding on North Tenmile Lake, Tenmile Lake, and Tenmile Creek in Lakeside usually occurs from October through March, during periods of heavy rainfall. Major floods in Lakeside typically have occurred in December or January. The largest recorded flood on Tenmile Creek came in December 1964 during a period of extensive flooding throughout western Oregon. The peak recorded flow at the USGS gage Tenmile Creek near Lakeside, was 3,330 cfs. This flow has a return frequency of approximately 36 years. The maximum elevation of Tenmile Lake during the 1964 flood was 18.8 feet measured at a staff gage maintained by the USGS near the outlet of Tenmile Lake. This elevation has a return frequency of approximately 17 years. East of South 8th Street, floodwaters almost reached North Lake Avenue. The Lakeside Division of Bohemia Lumber Company was flooded. West of North 6th Street floodwaters reached the second step of the Northlake Resort grocery store.

In January 1953, before the Tenmile Creek stream gage and Tenmile Lake staff gage were installed, Tenmile Lake reached an elevation of 19.8 feet. This elevation has a return frequency of approximately 53 years. Other major floods have occurred in 1969, 1977, and 1982 as a result of heavy rainfall. Flooding in December 1982 was close to what would be expected during the 1-percent-annual-chance event.

There is limited development along the shoreline of the Coos Bay estuary except in the incorporated areas of Coos Bay and North Bend, and in the unincorporated communities of Barview, Charleston, and Glasgow. Flooding in Coos Bay is most likely to occur from November through March, when rainfall is greatest and major storms are most likely to occur. In the past, most severe flooding in the City of Coos Bay has been caused by high tides in the Coos Bay estuary occurring during periods of high rainfall and runoff. In December 1964, a high tide of 6.1 feet combined with strong southerly winds to flood Bayshore Drive and several homes along Front Street to a depth of 6 inches. In December 1965, high water flooded the lobby of the Fitzpatrick Building, the basement of the old City Hall, and the intersection of South Broadway and Hall Avenue. In January 1966, December 1967, December 1968, December 1969, and December 1972, high tides of approximately 6 feet caused flooding along South Broadway and U.S. Highway 101. In January 1973, several businesses along Front Street and North Bayshore were flooded. Development in Eastside, North Bend, Barview, and Glasglow has generally occurred in areas unaffected by flooding. Flooding in Charleston has reached some of the lower-lying commercial areas in the past when storm surge combined with high tides.

Ocean flooding is the result of higher than normal sea levels resulting from storms or a seismic disturbance on the ocean floor. Storms during the months of November through February produce the storm surge and wind generated waves which combine with the astronomical tide to cause the most frequent and serious flooding. Seismic sea waves or tsunamis, which can occur at any time during the year, are the most destructive type of ocean flooding. Physical characteristics of the continental shelf and the shoreline affect all types of waves, focusing wave energy at some locations and dissipating energy in other areas.

Very little development exists along the coastline of Coos County, and the extent of damage due to ocean flooding has been limited. In the past, the Pacific Ocean has caused flooding in areas of Bandon south of the Coquille River jetty, at the mouth of Johnson Creek, and at a low beach west of the Beach Loop Road-Seabird Lane intersection. During the winter or 1977-1978, wave action was high enough to erode the property around an existing home west of the Beach Loop Road-Seabird Lane intersection.

In March 1964, a tsunami generated by the Good Friday earthquake in Alaska reached the Oregon coast during the high spring tides. Wave heights were about 10 feet above the prevailing mean high water along the Coos County coastline. At Charleston, docks were damaged and several boats sank or were beached. At Sunset Bay State Park, the picnic grounds were flooded by up to 3 feet of water. The old downtown area of Bandon was flooded north of 1st Street for a short time. The effect of the tsunami in Coos Bay above Charleston was limited because it was dissipated by the estuary.