

## CHAPTER 3

# A Brief History

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The Columbia Slough Watershed and waterway have drastically changed over the past 200 years. Some changes were physical, such as floods, levees, and urban development, while other changes were regulatory, such as the Clean Water Act and protection of wetlands. All of these changes have shaped the watershed of today and are important in understanding current conditions.

Below is a short timeline containing some of the major events in the history of the Columbia Slough Watershed.

### Pre-1800s

- Roughly 10,000 years ago, the great Bretz (or Missoula) floods of the last ice age formed the topography and geology of the area that was to become the Columbia Slough Watershed. At that time, the vegetation of the Willamette Valley became what it is today, with Oregon white oak and Douglas fir as the dominant tree species; Willamette Valley ponderosa pine was historically more abundant. Oregon white oak was the dominant tree species in the grasslands, while the riparian forests were composed primarily of cottonwood, Oregon ash, willow, and dogwood.
- The confluence of the Willamette and Columbia Rivers was rich in biota. The marshlands were the ideal habitat for wapato, a wetland plant highly prized by Native Americans, and for wintering waterfowl. Pre-development species in the region included 54 mammal species, 24 reptile and amphibian species, 25 to 30 fish species, and over 150 breeding bird species.
- Until 1919, the Columbia Slough was part of the Columbia River floodplain. It contained a natural system of stream channels, lakes, and wetlands that flooded annually. Numerous lakes existed, including Fairview, Switzler, Mud, Force, Smith, Bybee, and Ramsey Lakes. In summer and fall, the rivers receded, drying out the floodplain.
- For generations, Native Americans inhabited the Columbia Slough Watershed. The Chinook tribes used the area to hunt and fish, and traveled between the Willamette and Columbia Rivers via the more shallow waters of the Columbia River floodplain. Their principal food sources were salmon, sturgeon, and camas. Cedar longhouses were occupied seasonally.

### 1805-1806

- The Corps of Discovery, which included Lewis and Clark, Sacagawea, and York, traveled through the area. On November 5, 1805, Clark recorded in his journal:

*Rained all the after part of last night, rain continues this morning, I [s]lept but verry little last night for the noise kept [up] by the Swans, Geese white & Grey Brant Ducks &c on a small sand island [...] they were emensely noumerous, and their noise horid.*

## **1820s-1850s**

- Anthony Whitaker, Thomas Cully, and Lewis Love established donation land claims and businesses in the watershed. Lewis Love made a fortune cutting and shipping lumber to downtown Portland from the Lower Slough area. This is the first written record of commercial use of the Slough as a navigable waterway.
- 1859 Oregon became a state.

## **1891**

- The Oregon Legislature established the Port of Portland. The Port's original charter was to create and maintain a navigable river channel by dredging the shipping channel to a depth of 25 feet.

## **1894**

- The Great Flood of 1894 occurred, crested at 33 feet in Portland, and caused widespread flooding of downtown Portland and all surrounding areas.

## **1902**

- The U.S. Congress passed the "Reclamation Act of 1902," enabling citizens to raise funds to build levees and drain and fill wetlands for flood control and development.

## **1903**

- Portland's rapid growth increased interest in open land and park space. In 1903, the Olmsted brothers submitted their Parks Plan to the City Parks Board. The plan called for parks along the length of the Columbia Slough. This was the precursor of today's 40-Mile Loop Trail.

## **1907-1909**

- Transportation, especially the shipment of goods, was a major activity in the watershed. In 1907, the Seattle Portland & Spokane Railroad excavation occurred next to Smith and Bybee Lakes. Shortly afterward, the Swift Interests stockyard and meatpacking plant began to operate on the south side of the Columbia River's Oregon Slough. Other stockyard and meatpacking businesses followed.

## **1910**

- Newly constructed sewer pipes conveyed north Portland's sewage into the Willamette River and Lower Columbia Slough.

## **1912**

- The Seattle Portland & Spokane Railroad spanned the Columbia River, connecting Oregon and Washington.

## **1917-1919**

- The interstate automobile and truck bridge opened over the Columbia River in 1917.

- Landowners in the floodplain formed the Multnomah County Drainage District #1, Peninsula Drainage District #1, and Peninsula Drainage District #2 for flood control purposes.
- In a 1918 letter to the U. S. Army Corps of Engineers, the Board of Supervisors of Multnomah County Drainage District No. 1 wrote:

*(T)he sole object of the proposed district improvement is to make productive by creating conditions favorable to its full use for agricultural purposes...Such an improvement will be an aid to the development of the enclosed and adjacent lands for industrial and commercial purposes and can in no way interfere with such development.*

- Drainageways and ditches were built and natural channels were deepened in the Columbia Slough Watershed. Levees were built to keep the Columbia River and the Columbia Slough from flooding levee-protected areas.
- City engineers dug the City Canal (Peninsula Canal) in an effort to improve water quality, which was affected by the flat elevation and tidal effects that trapped sanitary and industrial wastes in the Lower Slough after levee construction. However, the canal provided little water quality improvement in the Lower Slough as a result of the same elevation and tidal effects.

## **1920s**

- Lumber and wood products industries, including the Kenton Shingle Company and Kenwood Lumber Company, opened along the Lower Slough. Eleven lumber and shingle companies eventually operated along the Slough in the 1930s and 1940s. Columbia Shingle Company used 75,000 board feet of lumber per day, and Kenton Lumber Company used 500,000 board feet of lumber per month for shingles and boards. Tugboats moved log rafts in and out of the Slough.

## **1930s**

- A resort was built on Johnson Lake, featuring boating, dancing, and swimming.
- Transportation and truck freight industries located in the Slough watershed.
- Boats up to 75 feet long were constructed at boatyards along the Slough.
- The St. Johns Landfill was established on wetlands and small Slough channels. Ash and debris from the City of Portland's incinerator were deposited in the landfill.
- Bonneville Dam, the first dam on the Columbia River, was built in 1938. It dramatically changed the river's and slough's hydrographs, decreasing high flows in the winter and spring, and supplementing low summer flows in the Columbia River, which affects the Lower Columbia Slough.

- Portland's citizens and school children organized Willamette River cleanup campaigns. Activists, City staff, and the City Club promoted the removal of sewage and industrial waste from the waterways. Funds for sewage treatment, however, were repeatedly voted down.

## **1940**

- The Portland Airport opened in northeast Portland adjacent to the Slough after the previous airport outgrew its location on Swan Island. The new airport was developed in part with Depression-era Works Progress Administration funds.

## **1942**

- Japanese-Americans were moved from their homes to wartime relocation camps. Many were temporarily housed at Portland's Livestock Exposition Center (Expo Center).

## **1942-1948**

- World War II's jobs drew people to Portland. The Kaiser Company, owner of the Oregon Shipbuilding Corporation, bought a 650-acre parcel of leveed land between the Columbia Slough and Columbia River and constructed the new town of Vanport, the largest public housing project in the U.S. at the time. Approximately 100,000 people eventually lived in Vanport, which contained 720 apartment buildings with 9,942 living units, as well as 226 other buildings, including five schools, recreation centers, shopping centers, a library, nursery, hospital, post office, and movie theatre.

## **1946**

- The Vanport Extension Center, which later became Portland State University, opened at Vanport. Returning GIs attended classes on the GI Bill.

## **1948**

- The Vanport Flood occurred on Sunday, May 30, 1948. Heavy rains, snowmelt, and warm weather contributed to unusually high water levels in northwest rivers for several weeks. Floodwaters broke through the railroad embankment/levee on the west edge of Vanport. Within two hours, Vanport was destroyed, and approximately 16,900 residents were displaced. The next day, the Denver Avenue levee east of Vanport gave way. Levees all along the Columbia River broke, and the entire floodplain, from the Sandy River to the Willamette, was inundated. Vanport was never rebuilt.

- In the aftermath of the flood, the levees were reconstructed and, in some cases, reinforced and raised to withstand a 100-year flood event.
- Instead of reinforcing the City (Peninsula) Canal levee, the ends of the canal were plugged.

## **1950**

- Millworkers refused to handle logs stored in the Columbia Slough because of the sanitary and slaughterhouse waste in the waterway.

## **1952**

- Portland built the Columbia Boulevard Wastewater Treatment Plant, the City's first sewer treatment plant, along the Columbia Slough. Combined sewage and stormwater was conveyed to the plant, and treated sewage was discharged to the Columbia River. Combined sewer overflows (CSOs) occurred during heavy rains, discharging from 13 outfalls to the Lower Slough and from other outfalls to the Willamette River.

## **1964**

- The Port of Portland acquired the Rivergate property for industrial development. Filling with Columbia River dredge sands began at the Smith and Bybee Lakes and Ramsey Lake complexes.
- Rivergate and the Smith and Bybee Lakes area were inundated in the flood in 1964.
- As a result of the flood, the mid-dike levee (NE 142<sup>nd</sup>) was conceived and constructed in following years. The mid-dike levee sectioned off the Middle and Upper Slough, which provided additional protection to the floodplain.

## **1970s**

- Port of Portland Terminal 5 (handling bulk grain) and Terminal 6 (containerized cargo and automobiles) were constructed in the Rivergate area of the watershed. Truck traffic and river tonnage increased.
- The Oregon Legislature passed OAR 196.820, a prohibition against issuance of permits to fill Smith Lake or Bybee Lake below the contour line, which lies 11 feet above mean sea level, unless the fill will enhance or maintain fish and wildlife habitat

## **1972**

- Congress passed the federal Clean Water Act.

## **1973**

- The Oregon Legislature passed Senate Bill 100: Oregon Comprehensive Land Use Planning Act.

## **1983-1984**

- Interstate 205 was constructed. A culvert was constructed to convey the Lower Inverness Slough, a portion of Whitaker Slough, under the freeway.

## **1986**

- The Columbia Corridor Association (CCA), a business association, was organized in the watershed to advocate for "a successful business community." The CCA promotes commercial and industrial development in the Columbia South Shore area. The portion of

the Columbia South Shore area that lies within the City of Portland is between NE 82<sup>nd</sup> and NE 185<sup>th</sup> Avenues and between the Columbia River and Sandy Boulevard.

## 1987

- The City of Portland developed the Columbia South Shore Plan District. The City applied overlay zones to certain areas of the Columbia South Shore to "protect, conserve, enhance, restore, and maintain significant natural and manmade features of public value, including river corridors, streams, lakes and islands, domestic water supply watersheds, flood water storage areas, natural shorelines and unique vegetation, wildlife and fish habitats, significant geological features...".
- The City established Columbia South Shore drinking water wells, which have a current capacity of approximately 100 million gallons per day.

## 1988

- The City developed and implemented environmental protection (EP) and environmental conservation (EC) zones. These zones established a mechanism for protecting and conserving areas that have significant natural resource values, while still allowing some development in the EC zone to occur provided impacts are avoided, minimized, or mitigation occurs.

## 1989

- The Portland Development Commission (PDC) established the Airport Way Urban Renewal Area as the City's industrial sanctuary. City Council adopted the Airport Way Development Plan to guide public policy for the urban renewal area. The plan's goal is to develop a major employment center by attracting and supporting investments, resulting in the potential creation of 20,000 new jobs by 2010.
- The Oregon Department of Environmental Quality (DEQ) designated the Columbia Slough as "water quality limited," which means that the Slough does not meet designated water quality standards.

## 1990

- The City of Portland developed the *Columbia South Shore Natural Resources Management Plan (NRMP)* for the Columbia South Shore District. The plan established a minimum 25-foot environmental conservation zone along the Slough and minimum protection of other wetland and natural resources in the district. Citizens appealed the plan to the state Land Use Board of Appeals (LUBA), asking for a minimum environmental protection zone width of 50 feet from top of bank. LUBA upheld the appeal and remanded the decision to the City for revision of the NRMP.
- *The Smith and Bybee Lakes Natural Resources Management Plan* was adopted by the first joint Portland City Council and Metro Council public meeting. The Plan established the natural area, along with goals and objectives and a framework for managing the area.

## 1991

- The St. Johns Landfill was closed. Water quality monitoring plan implementation began. Stabilization and closure measures, including the landfill cover and gas collection system, were put in place.

## 1991-1992

- Participants from the City, stakeholders, government agencies, and appellants met to negotiate the *Columbia South Shore NRMP* (see 1990, above). The Appeals Court and State Supreme Court upheld the appeal. The regional permit request was withdrawn.

## 1993

- Portland rewrote the *Columbia South Shore NRMP* as the *Columbia South Shore Natural Resources Protection Plan* (NRPP). The NRPP established a 50-foot environmental protection zone along the Slough and strengthened protection of other wetland and natural resources in the area.
- Advocates mourned the loss of "The Egg," an intensively used 34-acre migratory bird foraging area just west of 185<sup>th</sup> Avenue that was filled for development.
- City Council approved the Columbia South Shore Plan District, incorporating provisions of the NRPP.
- Citizen groups distributed warnings about health risks associated with eating contaminated fish from the Slough.
- The Columbia Slough Watershed Council began to form, based on the model established by the Oregon Legislature. The Council includes residents; business owners; landowners; environmental advocates; recreationists; state, local and federal governments; and tribes.

## 1994

- In response to a threatened lawsuit by Northwest Environmental Advocates, the City began a comprehensive study and cleanup of the Columbia Slough, called the Columbia Slough Water Quality and Sediment Project. Citizens and technical experts met monthly to direct sampling and proposed cleanup measures.

## 1995

- Portland received \$10 million Environmental Protection Agency (EPA) Columbia Slough Revitalization Grant.

## 1996

- Metro and the City acquired the Whitaker Ponds Natural Area. Site cleanup over the next five years enabled community environmental education and restoration projects to begin.

- The City of Portland's Slough watershed education program began, providing school-based and site-based education for thousands of children. Portland's Columbia Slough revegetation program began. Both programs were funded by the Columbia Slough Revitalization Grant.
- The flood of 1996 reached a high-water mark of 29.8 feet NGDV. The Lower Slough watershed flooded in areas without levees. The Upper and Middle Slough experienced more than 100 slope failures within the waterway as a result of extended pumping. Erosion affects Columbia River levees in Multnomah County Drainage District #1 and Peninsula Drainage District # 2, area. Repairs are required

## **1997**

- The Port of Portland initiated a program to control and reduce deicing materials in stormwater runoff to the Columbia Slough.
- The Peninsula Drainage District #1 Natural Resources Management Plan was adopted.

## **1999**

- DEQ established, and EPA approved, total maximum daily loads (TMDLs) for the Columbia Slough. The TMDLs limit the amounts of pollutants the Slough can receive from all sources, in order to meet water quality standards for designated parameters.
- Anadromous salmonids were listed as endangered under the Federal Endangered Species Act.

## **2000**

- The City completed a nearly \$200 million set of projects that virtually eliminated the flow of 1.2 billion gallons of combined sewer overflows (CSOs) to the Lower Slough. These projects included control of 13 outfalls, expansion of the Columbia Boulevard Wastewater Treatment plant, construction of the Columbia Slough Consolidation Conduit ("Big Pipe"), downspout disconnection, and stormwater separation projects.
- Portland's Mid-County Sewer Project was completed. This project provided sanitary sewer service to areas east of NE 42<sup>nd</sup> Avenue, which previously was served predominantly by individual septic and cesspool systems.

## **2001**

- Sampling by the City of Portland and Ducks Unlimited confirmed the presence of salmonids in the Lower Slough.

## **2002**

- Construction began on the U.S. Army Corps of Engineers Section 1135 Columbia Slough Restoration Project. The initial idea of opening up the Slough to the Columbia River to improve water quality proved infeasible because of the Slough's elevation and hydraulic characteristics. The project consists of creating 7 miles of in-stream meanders and associated

emergent wetland habitat, removal of six impoundments, and protection and restoration of 18 acres of wetland seeps and springs.

- The Port of Portland completed the infrastructure to manage deicing and anti-icing materials in their stormwater runoff. The program consists of capturing the runoff and sending it to the sewage treatment plant or holding it onsite and discharging it to the Slough in permitted concentrations.

## **2003**

- The Columbia Slough watershed Council developed the Columbia Slough Watershed Action Plan. The Action Plan establishes a unified approach to protect, enhance, and restore the natural resources in the Columbia Slough Watershed, within a holistic watershed perspective. It identifies and prioritizes 85 projects and programs, within six categories, for the Council and stakeholders to conduct over the next 2 to 5 years.
- The Smith and Bybee water control structure was replaced with a structure that allows fish passage as well as water level control.