

Spokane River Stewardship Partners

Working every day for a healthy river

Prior to
1900

1900 to 1919

1920 to 1949

1950 to 1969

1970 to 1979

1980 to 1984

1985 to 1989

1990 to 1999

2000 to 2003

2004 to 2006

2007 to 2008

2009 to 2012

- » Etienne Eduard Laliberte (Steve Liberty) homesteaded the west side of Liberty Lake, just one year before Spokane's first settlers arrived.
- » The first train arrived in Spokane Falls and became an important terminal for three transcontinental railroads.
- » The trading, logging and mining hub, first established as Fort Sherman on Lake Coeur d'Alene, became the City of Coeur d'Alene.
- » To develop a cattle ranch, the area surrounding the marsh in Liberty Lake was diverted into a hand-dug channel along the eastern edge of the marsh.
- » To address rapid growth and sewage needs, the City of Spokane Falls Council adopted their first treatment system with a series of gravel shelves that the sewage passes over before flowing into the river.
- » In 1889, Washington Water Power Company was incorporated.
- » Washington Water Power constructed the original Monroe Street Dam at Spokane's natural "Lower Falls" waterfall, advancing the town of Spokane Falls from candles and oil lamps to incandescent lighting.
- » Spokane Falls changed its name to Spokane. Spokane is linked to the river for food, power and transportation – particularly to transport lumber and mining materials to Spokane where it can be shipped throughout the country on transcontinental railroads.
- » City of Spokane established its first sewer line and structured sewer system.



Avista's Monroe Street Dam

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- » Spokane experienced its fastest population growth from 1890 to 1910.
- » In 1908, Washington Water Power constructed the Post Falls Hydroelectric Development, where the Spokane River branches into three channels. A dam was constructed in each channel.
- » The boom in Spokane's population heightened the need to expand the structured sewer system.
- » Liberty Lake became a popular resort and recreational location from 1900 to 1924. The electric train from Spokane provided transportation to dancehalls, resorts and hotels located around the lake.
- » In 1910, Inland Empire Paper Company began construction on the south bank of the Spokane River six miles east of Spokane in a town known today as Millwood.
- » In 1910, Washington Water Power completed construction of Little Falls Dam, increasing its power generation by more than 50 percent to accommodate additional power needs.
- » On October 30, 1911, Inland Empire Paper Company produced its first paper.
- » In 1915, Washington Water Power constructed Long Lake Dam.



Avista's Long Lake Dam

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- » To address water quality needs, the City of Spokane expanded its sewer system and began constructing catch basins to combine sanitary sewage and stormwater in the sewers.
- » In 1922, Upper Falls, the last hydroelectric development built by Washington Water Power on the Spokane River, was constructed.
- » In 1925, Washington Water Power purchased Nine Mile Dam to accommodate the region's power needs. The dam was originally constructed to supply power to the 130-mile long Spokane and Inland Empire Railroad Company's electric railway system.
- » The City of Coeur d'Alene completed construction of its first wastewater treatment plant in 1939.
- » To address water quality needs, Spokane citizens were informed of the necessity of a wastewater treatment facility and more extensive sewer system. Those in opposition to the idea called it "a terrific barrage of propaganda."



City of Coeur d'Alene Wastewater Treatment Plant

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- » The City of Spokane Sewage Treatment System Bond was passed allowing the construction of the Riverside wastewater treatment plant in 1952.
- » Throughout the 1950s, Liberty Lake's water quality was noticeably deteriorating.
- » The City of Spokane began operating the Riverside wastewater treatment plant in 1958, providing basic primary sewage treatment. Sewer usage charge was imposed to fund the new treatment facility, expansions and improvements.
- » The City of Spokane contracted with Washington State University for the "Crosby Studies" to study water quality in the Spokane Valley Rathdrum Prairie Aquifer in the 1960s.
- » In 1963, Inland Empire Paper Company installed a new filtering system to augment existing water filtration facilities. This equipment removed wood fibers from water which made the wastewater suitable for disposal into the Spokane River.
- » In 1966, Spokane County purchased the marsh and adjoining land at the south end of Liberty Lake to use for a County Park. Spokane County removed a pump which had been installed in 1934 to keep the marsh dry.
- » By late 1968, tons of decaying aquatic weeds and dried algal mats were removed from Liberty Lake. Residents formed a Citizens Advisory Committee in response to deteriorating water quality conditions. Water tests were sent to WSU. Installation of a sewer system was recommended.



City of Spokane Wastewater Treatment Plant in 1958.

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- » In 1970, Inland Empire Paper's wastewater treatment system came on-line. In 1977, an Aerated Deep Tank was installed for secondary treatment of wastewater.
- » In 1971, the Liberty Lake Sewer District was formed by a vote of the residents.
- » Federal Government passed the Clean Water Act in 1972 with major amendments in 1977 and 1987.
- » In 1974, a water quality study was published on extent and nature of nonpoint source enrichment of Liberty Lake and possible treatment.
- » In 1975, Sewer construction began in Spokane Valley; Spokane County began operating decentralized facilities.
- » Between 1975 and 1978, Liberty Lake Sewer and Water District received a grant to construct a sewage collection and treatment system as part of the lake restoration project.
- » In 1977, to protect the high quality of the Spokane Valley Rathdrum Prairie Aquifer, Panhandle Health District and Kootenai County adopted the "5-acre Rule" to limit septic system density over the Aquifer.
- » By 1977, the City of Spokane completed major upgrades and improvements to the Riverside wastewater treatment plant, and began providing advanced treatment of the sewage including seasonal removal of approximately 85% phosphorus.
- » In 1979, Spokane County Commissioners & Spokane City Council approved the Water Quality Management Plan (WQMP) to protect the Spokane Valley Rathdrum Prairie Aquifer.
- » The City of Coeur d'Alene's wastewater treatment plant reached its capacity by the late 1970s, which resulted in a moratorium on new hookups to the sewer system.



City of Spokane Wastewater Treatment Plant in 1977.

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- » In 1980, the City of Spokane and Spokane County Wastewater Management Agreement was created to allow up to 10 million gallons per day of Spokane County's wastewater to be treated at the City of Spokane's Riverside wastewater treatment plant.
- » In 1980, construction of the new Liberty Lake wastewater treatment facility was initiated. Prior to this new facility, Liberty Lake was on septic tanks.
- » In early 1980's, the City of Spokane banned the use of phosphates in laundry detergent. Additionally, the City spent about \$40 million to construct separate stormwater systems to eliminate most of the combined sewers in north Spokane.
- » Spokane County adopted a Comprehensive Wastewater Management Plan for sewer construction and septic tank elimination in the unincorporated urban area in 1981. Construction of the first Spokane Valley Interceptor Sewer occurred in 1983.
- » The City of Coeur d'Alene completed its new wastewater treatment plant with a secondary clarifier in 1981. With the construction of the new treatment plant, the city's building moratorium was lifted.
- » The Liberty Lake wastewater treatment plant was completed in 1982.
- » In 1983, Spokane County adopted the "Aquifer Sensitive Area Overlay Zone" which required secondary containment for Critical Materials, sanitary sewers and stormwater management in areas which overlay the Spokane Valley Rathdrum Prairie Aquifer.
- » In 1984, the Liberty Lake watershed study was completed by Liberty Lake Sewer and Water District.

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- » In 1985, Spokane County voters approved establishment of an Aquifer Protection Area (APA) and fee. The APA fee provided 20 years of funding for the Spokane County Septic Tank Elimination Program (STEP) and groundwater monitoring in Spokane Valley.
- » In 1985, Spokane County constructed its first Sewer Utility Local Improvement District on Pines Road to eliminate septic tanks over the Spokane Valley Rathdrum Prairie Aquifer.
- » City of Post Falls wastewater treatment plant came on line in 1985. The treatment plant allowed seven thousand people to be removed from septic tanks.
- » In 1986, Hayden Area Regional Sewer Board (HARSB) was formed under a joint powers agreement signed by the Hayden Lake Recreational Water and Sewer District and the City of Hayden. HARSB constructed their wastewater treatment plant in 1986.
- » In 1985-86, Washington Water Power funded a study of salmonid fishes in the Idaho portion of the upper Spokane River. This study represented the third major fish study funded by WWP in the upper Spokane River since 1979.
- » The Safe Drinking Water Act Amendments of 1986 provided for, and funded, local Aquifer and Wellhead protection programs.
- » In 1989, Spokane River Phosphorus Management Plan was adopted to limit phosphorus discharge to the Spokane River.
- » Liberty Lake Sewer and Water District adopted the Liberty Lake Restoration Plan, Liberty Lake Watershed Stormwater Management Plan, and banned the disposal of phosphorus detergent.
- » Inland Empire installed a 3-channel activated sludge aeration basin for secondary treatment of wastewater in 1989. A Primary Clarifier also was constructed, and the existing clarifier was used in the secondary treatment process.



Hayden Area Regional Sewer Board Team

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- » In 1991, Washington Water Power received an Environmental Achievement Award for a cooperative project to improve habitat for bass in Lake Spokane.
- » In 1991, Inland Empire Paper Company constructed a recycling facility for the recovery of pulp fiber from old newsprint, magazines and office waste. In 1992, a fluidized bed energy system was constructed to produce steam from the wastewater sludge generated by the recycling facility.
- » The City of Post Falls completed upgrades to their wastewater treatment plant in 1992. These upgrades reduced biological phosphorus. Since then, 80% of the incoming total phosphorus has been removed year-round.
- » The Liberty Lake Sewer and Water District initiated a fall beach and shoreline cleanup to reduce leaching of nutrients from debris entering the lake. In 1997, the District received an “Outstanding Performance Wastewater Treatment Operations” Award.
- » In 1993, HARSB purchased 467 acres of land for reclaimed water irrigation and began pilot studies needed for the first land application permit over the Rathdrum Prairie Aquifer.
- » In 1995, the City of Coeur d’Alene completed final construction phase of the wastewater treatment plant that included phosphorus removal.
- » In 1997, HARSB upgraded its treatment plant to 1.3 MGD which continues to allow land application of reclaimed water when river flows fall below 2,000 cubic feet per second from June through September.
- » In 1998, Spokane County received a Watershed Management Planning grant for the Middle Spokane and Little Spokane River watersheds (Water Resource Inventory Areas 57 and 55).
- » In 1999, Washington Water Power was renamed Avista (there was no transfer or change of ownership).



Terry Werner, City of Post Falls Public Works Director, at the wastewater treatment plant pond.

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- » The City of Spokane continued upgrades to the wastewater treatment plant, increased focus on water reclamation, changed the name of the plant to Riverside Park Water Reclamation Facility, and began construction of Combined Sewer Overflow (CSO) control facilities to further reduce overflows to the river.
- » In 2000, Avista provided support for the survey of aquatic plants and the development of management plans for invasive aquatic plants in Lake Spokane.
- » The City of Coeur d'Alene completed and adopted a new wastewater facility plan in 2000. Cost of the plant expansion was estimated at \$28 million.
- » In 2001, the Liberty Lake Sewer and Water District was awarded the District of the Year award for Industry Achievement and Meritorious Service by the Washington Association of Sewer and Water Districts.
- » In 2000, the City of Post Falls changed from chlorine disinfection to ultraviolet light to reduce toxics in the treated wastewater and reduce the dangers of chlorine handling and storage.
- » In 2003-2004, Washington and Idaho wastewater managers participated in the Spokane River and Long Lake Reservoir Use Attainability Analysis (UAA). They also participated in the Spokane River and Lake Spokane water quality improvement process to develop a Total Maximum Daily Load (TMDL) for dissolved oxygen to examine the human and natural factors influencing the River's water quality and watershed health. This process led to proposed stringent limits for discharge of phosphorus into the Spokane River system.
- » In 2003, Spokane County adopted the Critical Areas Ordinance containing provisions for Critical Aquifer Recharge Areas.
- » In 2003, Spokane County received a Watershed Management Planning grant for the lower Spokane River watershed (Water Resource Inventory Area 54).



Water quality testing at Liberty Lake Wastewater Treatment Plant.

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- » In 2004, Spokane County purchased the former Stockyards Site for construction of a new state-of-the-art water reclamation facility.
- » In 2004, the City of Post Falls purchased land on the Rathdrum Prairie for future seasonal irrigation and reuse of reclaimed water.
- » In 2004, Spokane voters re-approved the Aquifer Protection Area, providing 20 years of continued funding for the Spokane County Septic Tank Elimination Program (STEP), groundwater monitoring and public education.
- » In 2005, Inland Empire Paper implemented upgrades to improve oxygen delivery capacity and enhanced secondary treatment, reclaim wastewater for beneficial reuse back into the mill's processes, and tested five pilot-scale state-of-the-art treatment technologies for removal of phosphorus.
- » In 2005, construction began on the Liberty Lake treatment plant to upgrade to a 2-million gallon a day facility. In addition, the District passed a ban on phosphorus in dishwasher detergent and in lawn fertilizers.
- » The Hayden Area Regional Sewer Board was the only Spokane River discharger using a complete water reclamation and re-use system during the growing season.
- » The City of Spokane implemented reclaimed water pilot projects to irrigate local golf courses. Further reductions in CSO overflows were also implemented.
- » In 2008, Spokane County was the first place in the nation to implement a legislative ban on the sale of phosphate in automatic dishwashing detergent.
- » In 2006, Avista completed an initial study to explore options to improve low dissolved oxygen concentrations below Long Lake Dam. Avista also completed a study to evaluate options to reduce Total Dissolved Gas below Long Lake Dam.
- » In 2006, Liberty Lake's wastewater treatment plant upgrades were completed. The District's facility was awarded the 2007 and 2008 Treatment Plant of the Year award by the Washington State Department of Ecology, along with an Innovative Solutions award.

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- » Between 2006 and 2009, Inland Empire Paper implemented mill-wide water conservation, reclamation and re-use program; installed enhanced secondary treatment; installed full-scale tertiary treatment for low-level phosphorus removal; and continued its study of phosphorus removal with pilot testing of three additional state-of-the-art treatment technologies.
- » The City of Post Falls upgraded their oxidation basin aeration systems and purchased land next to the existing treatment plant for future plant expansions.
- » The City of Coeur d'Alene continued to complete improvements that included phosphorus and ammonia reduction at their Wastewater Treatment Plant.
- » In 2007, Spokane County began work on an EPA funded bi-state nonpoint source phosphorus study for the Spokane River Watershed in Idaho and Washington. This study is related to the planned water quality improvements to the Spokane River and Lake Spokane under the Dissolved Oxygen TMDL.
- » In 2008, Spokane County completed a draft Reclaimed Water Use Study and initiated the evaluation of using Saltese Flats for wetland restoration and reclaimed water use.
- » Liberty Lake Sewer and Water District spent \$12 million upgrading its treatment plant to remove 80% more phosphorus. The new treatment process uses year-round biological nutrient removal for both nitrogen and phosphorus reduction.



Inland Empire Paper Company manufacturing recycled newsprint.

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- » In 2009, construction of the Spokane County Regional Water Reclamation Facility began. Completion date is scheduled for early 2012. The facility will produce up to 8 million gallons per day of Class A reclaimed water, and will use state-of-the-art technology for removal of phosphorus.
- » In 2009, Spokane County began a four year, indoor water conservation rebate program to reduce wastewater generated from residences, with up to \$4 million available for the program. The City of Spokane also participated by contributing \$200,000 in rebate funds.
- » In June 2009, Avista received a new 50-year license from the Federal Energy Regulatory Commission to operate its five hydroelectric facilities (Post Falls, Upper Falls, Monroe Street, Nine Mile, and Long Lake) located on the Spokane River. As part of the new license Avista began implementing conditions that will support water quality improvements in the Spokane River and Lake Spokane.
- » In 2009, Post Falls began construction of its treatment plant expansion which will add biological nitrogen reduction for sustainable, year-round improvement to the Spokane River.
- » In 2011, the Spokane County Septic Tank Elimination Program (STEP) is scheduled to be completed. Approximately 35,000 septic tanks discharging to the Spokane Valley Rathdrum Prairie Aquifer will have been removed when the program is completed. Total construction is estimated to include over 500 miles of sewer in the Spokane Valley and North Spokane.



*Spokane County Water Reclamation Facility
groundbreaking in 2009.*