

Middle Snake River Watershed History of Development

The Snake River is the tenth longest river in the United States, extending 1,036 miles (1,667 km) from its origins in western Wyoming to its union with the Columbia River at Pasco, Washington. The river reach of SIWQC concern, Milner Dam to King Hill, hereafter referred to as the Middle Snake River, and also known as the Upper Snake Rock Subbasin, spans roughly 93 miles (150 km) and lies in the Snake River Plain of southern Idaho. The contributing watershed includes 8,620 square miles (22,326 square km) of land below the Milner Dam downstream to King Hill and the adjacent contributing areas as shown in Figure 1. While designation of the Middle Snake River is largely arbitrary, it is essentially located between two mainstem dams, Milner and Lower Salmon Falls. This subbasin is primarily in Gooding, Jerome, Twin Falls, Cassia, and Elmore Counties, with small amounts in Owyhee, Lincoln, and Minidoka Counties. The topography of the basin consists of tablelands with relatively medium to high relief. The native vegetation is predominantly sagebrush-grass zone with minimal riparian vegetation limited to water ways.



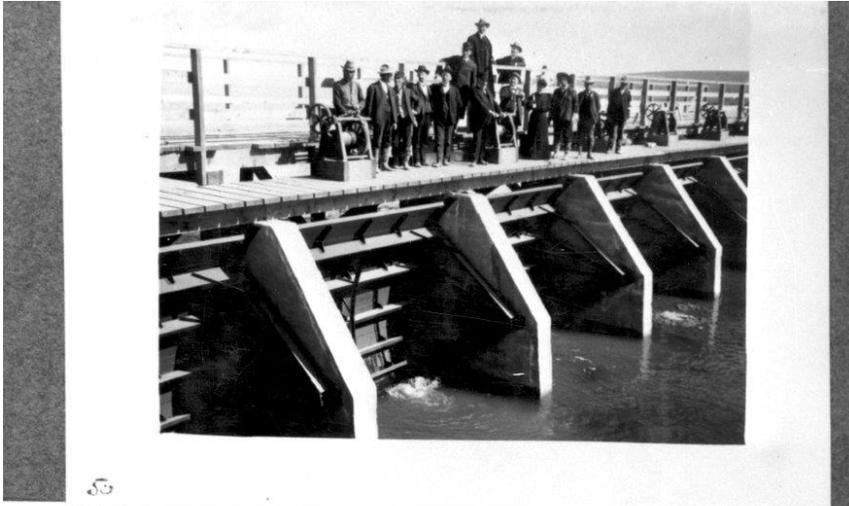
History of Land and Water Development

Significant land and water development in the region began following a US Geological Survey examination (1889-1890) that identified considerable irrigation possibilities in Idaho (Stene 1997). The federal Carey Act (1894) and Reclamation Act (1902) sought ways to encourage settlement of the arid west by encouraging private investment in irrigation and federal public works (dams) investments. Milner

Dam was completed in 1904 and is privately owned. Following passage of the Reclamation Act, the Bureau of Reclamation initiated the Minidoka Project and several other Projects ultimately resulting in construction of four federal dams and numerous additional privately held dams in the mainstem and tributaries of the Snake River. The Idaho Department of Water Resources has identified all of the dams in Idaho (<https://idwr.maps.arcgis.com>).

The completion of the Milner and Minidoka projects converted the Magic Valley, from a desert dry sagebrush and grass area into a productive agricultural, aquaculture, and industrial production region. Currently, the 2010 census shows the Magic Valley to have a population of 185,790 people, approximately 12% of Idaho's population. (Water and Power Resources Service Project Data, 1981).





No. 1721. Preparing for the ceremony of the official opening and dedication of the Twin Falls Canal. Mrs. M. M. Murtaugh is holding the champagne bottle ready to break; her husband by her. Messrs. Buhl and Kimberly are at the cranks of the gate hoist. Messrs. Filer and Schuyler in rear. Messrs. Bickel, Critchlow, Milner and other officials are in the group. The "populace" crowd the canal banks, out of sight.

By 1997, the land used in the basin had been modified to 54% desert shrublands (grazing is a major industry for both cattle and sheep) and 41% agriculture, both irrigated and dryland. Major crops include beans, sugar beets, corn (maize), potatoes, cereal grains, and alfalfa. Livestock products include dairy (particularly in Jerome and Gooding Counties), cattle, and sheep.

Hydropower

Hydropower development on the Snake River began in the early 1900's. Currently, there are 6 mainstem hydro projects on the Snake River from Milner to King Hill, all of which are owned and operated by Idaho Power Company. In addition, Idaho Power has projects on tributaries including the Malad River, Thousand Springs, and Clear Lakes. Electricity is generated using energy associated with falling water. Falling water is created by natural barriers (eg. Twin Falls and Shoshone Falls), or constructed dams eg. Upper Salmon Falls, Lower Salmon Falls, Bliss). Dams were constructed to impound water thereby developing a location at the dam with substantial drop. Typical water retention times in the Snake River reservoirs vary from hours to a few days, depending on river flows. The impoundments on the Mid Snake are operated as run-of-river. This means that on a 24-hour basis, the amount of water that flows into the impoundment is the same as what flows out.

In addition to the Idaho Power owned hydro project numerous small, privately owned generation facilities have been constructed on small tributaries, canals, and drains under the Public Utilities Regulatory Policies Act (1978). Typically, these projects do not impound significant amounts of water, so they have minimal effects on stream flow or water velocity.

Aquaculture

The first fish farm in Idaho was built in 1909 at Devils Coral. While it only lasted one year it was the seed for future development. Shortly after WW2 aquaculture reliant on gravity fed spring water flow from the Eastern Snake Plain Aquifer became a profitable business. Today, the Middle Snake River area hosts the largest rainbow trout industry (including fish processing). According to the Idaho State Department of Agriculture, aquaculture is the third largest food animal industry in Idaho. There are approximately

115 NPDES permitted aquaculture facilities in Idaho, of which nearly 70% operate in the Middle Snake River Basin and discharge to the Snake River and its tributaries. All fish farms are non-consumptive users of water (water enters a farm and, after waste treatment, is returned back to a tributary or directly into the Middle Snake River. While most facilities rely on spring water, some facilities are located on Snake River tributaries (e.g. Cedar Draw and Mud Creek). Together, these facilities make Idaho the largest commercial producer of rainbow trout. (<http://www.deq.idaho.gov/water-quality/wastewater/aquaculture/>, web, Jan. 7, 2019) Additional species include steelhead trout, sturgeon, and warm-water species including catfish, tilapia, and tropical fish. The aquaculture facilities are private or federal/state government owned.

Cities

The City of Twin Falls is known as the gateway to the Snake River Canyon. It is the largest City in Twin Falls County and is the county seat. The City was incorporated in April 1905 and has continued to experience incredible growth since that time. The City's population was estimated at 49,764 in 2018. The City continues to experience a high growth rate.

Set in one of the best agricultural areas in the United State. The City has seven major industrial partners that are based in the rich agricultural heritage of the area. The City is home to Clif Bar Baking Company, Lamb Weston and Chobani to name a few.

The City supplies potable drinking water from various groundwater sources in and around the Snake River Canyon area. The City owns a Publicly Owned Treatment Works facility that cleans domestic and industrial wastewater before discharge to the Snake River. The City continues to take an active role in water issues that face the Magic Valley and surrounding areas. This role continues to change as the population of the City increases.

Other cities that discharge to the Middle Snake River region include Jerome (2018 population 11,807), Buhl (2018 population 4,407), Hansen (2018 population 1,280), Filer (2018 population 2,851), and Hagerman (2018 population 884).

The cities of Kimberly (2018 population 3962), Wendell (2018 population 2715), Hazelton (2018 population 816), Eden (2018 population 423), Castleford (2018 population 246), and Murtaugh (2018 population 168) do not discharge wastewater to the Middle Snake River region.