Irrigation Development in Northern Colorado:
A Brief History of How Water Influenced the Development of the Fort Collins Region
By Brian Werner

The development of irrigation in the 19th and early 20th centuries in northern Colorado was influenced by two principal factors.

First, was the region's semi-aridity. Annual precipitation in the Fort Collins area is less than 15 inches annually which is not enough to sustain most agricultural crops. This had a great influence on the first settlers' development of the vast system of canals and reservoirs most of which are still in existence today.

Second, is Colorado's peculiar geography which leads to dependence on mountain snows to provide the majority of our water supply. More than 80 percent of the state's precipitation falls on the west slope. The relatively brief spring runoff period necessitated reservoir development.

There were distinct, yet often overlapping phases to irrigation development in the Poudre basin. These can be outlined as follows:

1) **Single farmer efforts** - The first settlers built small ditches to irrigate bottomlands near the rivers. The first to do so in the Poudre basin was G.R. Sanderson near Bellvue. His diversion is the first priority right on the Poudre River dated June 1, 1860. This right was later sold to Joshua Yeager and became known as the Yeager ditch. The City of Fort Collins later purchased this right, which it still owns.

2) **Cooperative efforts** - farmers soon realized much of the better agricultural lands were situated on the bench lands farther from the river. To gather the necessary labor and capital to build larger and longer canals and storage reservoirs, they began to pool their resources. The Union Colony in 1870 became the basis on which many of these cooperative efforts were modeled. Dozens of canal and reservoir companies were established before the turn of the century - Water Supply and Storage Company and North Poudre Irrigation Company to name two. Future governor Benjamin Eaton was an early pioneer in ditch construction in the region. He began construction of the Eaton Ditch in 1864 and later built the Larimer County Canal #2 and the Larimer and Weld Canal - largest irrigation canal in Colorado. Eaton understood that a well established irrigation system would be essential to the sound economic development of northern Colorado. And he did everything he could to assure that it happened. The development was so rapid that by 1882 the Poudre Valley was declared "one vast network of irrigating canals" by writer William Pabor.

3) **Storage reservoirs -** as irrigation systems developed rapidly around Fort Collins in the 1870s and 80s, farmers realized one of the very basic tenants of farming in this semi-arid region - that the water Mother Nature provides is uneven throughout the year. The vast majority coming during the two to three month spring runoff period. Yet, they needed water in the late summer months to finish out their crops. The solution was to build storage reservoirs. The period from 1890 to 1910 is the golden period for reservoir building. Many of the reservoirs that dot the

landscape today were built at this time as ditch and reservoir companies scrambled to capture the spring runoff for use in late summer and during ensuing dry years.

4) **Transbasin and transmountain diversions** - farmers realized early on that the Poudre River Basin was over appropriated, especially in low water years. One solution was to tap the flows in streams outside the basin and supplement the Poudre flows with additional water. The earliest attempts were two small efforts in the early 1880s near Chambers Lake and Cameron Pass. However, the first truly successful diversion occurred a decade later when William Rist built the first 3/4 mile of the Skyline Ditch. This project diverts Laramie River water into Chambers Lake and the Poudre basin. The best known and most famous of the early transmountain diversions was the Grand River Ditch, built by the Water Supply and Storage Company. This ditch first diverted Colorado River water into the basin in 1894. Expanded numerous times during the next 40 years to a length of 17.5 miles, the Grand River Ditch adds an additional 20,000 acre feet of water annually from the slopes of the Never Summer Range for farmers under the Water Supply and Storage Company system. Additional diversions include the Michigan Ditch and the Laramie-Poudre Tunnel.

The history of irrigation has been marked by the variability of Mother Nature. Northern Colorado has witnessed the same droughts and floods as elsewhere in the West. Fort Collins owes its present location to one such flood. The 1864 flood forced the Army camp to relocate downstream to the present site near Old Town. Droughts in 1863 and 1874 led many to examine how to adapt the growing of crops to this semi-arid environment.

Irrigation also influenced directly the crops grown in the region. As additional water diverted into he basin, reservoirs constructed and canal systems enlarged, many farmers began to experiment with crops that matured later in the summer at times when streamflows alone did not suffice. Sugar beets, potatoes and other vegetables were found to grow well in the area's soils when adequate water was applied. This led Ansel Watrous to declare in his 1911 History of Larimer County that "Larimer County is the banner agricultural county in the state..." It wouldn't have been possible without the water.

Many significant technological developments in irrigation and farming had their beginnings in the Poudre basin. Ralph Parshall developed one of the most widely used water flow measuring devices along the banks of the Poudre River - the Parshall Flume. Elwood Mead was a pioneer in irrigation development and many of his ideas became standard thought. He taught at CSU and later became the Wyoming State Engineer and eventually the Commissioner of the Bureau of Reclamation.

No story on irrigation development would be complete without at least a mention of the unique system of water law that has its origins in the Poudre basin and since adopted by the majority of western states. The Doctrine of Prior Appropriation had its beginnings in a dispute between Greeley and Fort Collins over the proper use of the Poudre River water rights in dry times. What developed was the doctrine which Colorado codified in the state constitution in 1876. It is often referred to as "first in time, first in right." In a nutshell, the first person to divert water for beneficial use has the priority claim to that amount of water. This is extremely important in dry

years when there may not be enough water for everyone. Those with the earliest rights get the water first.

When Teddy Roosevelt signed the Reclamation Act into law in 1902, the federal government took a larger and more active role in irrigation development in the arid west. With the creation of the Reclamation Service, money was made available (through the sale or public lands in the West) to build large scale water projects that would in essence allow for additional migration to the relatively undeveloped and under populated west. Northern Colorado took advantage of this program in the 1930s with the development of the Colorado-Big Thompson Project. This project when completed in 1957 brought the equivalent annual flow of another Poudre River into northeastern Colorado to help farmers and cities meet their supplemental water needs. This project developed out of the critical need for water during the 1930s drought. Civic leaders and farmers championed the C-BT as a way to assure that the severe water shortages that occurred during the 30s would not befall the region again.