

**WATER LITERATE LEADERS
GREELEY PRESENTATION**

April 12, 2018

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**SHARE THE HISTORY OF GREELEY'S ACQUISITION OF
AGRICULTURAL WATER FOR URBAN USE AND OUR PLANS FOR
THE FUTURE:**

This History the is Story of Developing a [long term water supply for Greeley](#)

In APRIL 1870 the Union Colony started construction of the Number 3 Canal which is now the Greeley Irrigation Company. The construction took 10 weeks with water being turned into the canal on June 10, 1870. A 3/8ths undivided interest in the water of the canal was dedicated for the Parks and Gardens of the Colony. This upcoming water season will mark 148 years of continuous service for the Number 3 Canal. The Union Colony also started construction of the Number 2 Canal in the fall on 1870. The Number 2 is now known as the New Cache Irrigation Company. These two canals were constructed to irrigate the farm ground surrounding the Colony. Domestic water during the early days of the Colony was from shallow wells and cisterns.

Greeley continued with shallow domestic wells and cisterns **until 1890's**. The 1890's saw the construction of the first water treatment plant, in town, using a sand infiltration gallery and installation a piping distribution system throughout town.

In 1905 Greeley purchased a farm and water rights at Bellvue west of Fort Collins. These water rights are the Number 6 and 6.5 priorities on the Poudre River. A treatment plant was constructed utilizing slow sand filter basins. Thirty Six miles of 20 inch wood stave pipeline brought this treated water to Greeley. Total cost of the project was \$362,000. Treated water has been continuously delivered from this location for 111 years. A new 20 MGD treatment train is currently under construction at the Bellvue Plant

In 1933 the origins of the CBT project occurred in Greeley. This was during the drought of the 1930's. On January 31, 1939 Greeley formally contracted for 15,000 units of CBT at \$1.50 per unit per year. Interestingly the first 10 months of 1939 saw only 5 inches of moisture. CBT came on line in 1954 and has been an integral part of Greeley's water supply ever since. Today Greeley has 22,732 units of CBT.

In 1943 Greeley starts work on the construction of Seaman Reservoir on the North Fork of the Poudre River. Work was suspended during World War II and the dam was completed in 1946. Seaman has a total storage capacity of 5,000 AF.

In 1947 Greeley purchases the High Mountain Reservoirs from the Mountains and Plains Irrigation Company. There are five of these reservoirs in the upper Poudre drainage.

On June 30, 1961 Greeley entered into an agreement with the Greeley Loveland Irrigation Company (GLIC). This agreement formalized a working relationship that is still in existence today. A key part of this agreement was the construction of a treated water grid, by Greeley, to serve the farms under the GLIC system. In exchange for this water service the GLIC farmers agreed not to oppose any annexation by Greeley and Greeley agreed to accept the GLIC shares for dedication of water rights to the City. The GLIC system was and is located in the western urbanization path of Greeley. This agreement has been the foundation for a long term working relationship between the Company and Greeley. Today Greeley owns 53% of the company shares. This agreement also paved the way for the construction of the Boyd Lake Water Treatment Plant and associated

pipelines to Greeley. The GLIC system also includes Boyd Lake, Lake Loveland and the Seven Lakes system.

During the 1980's Greeley was part of the Six Cities project that is now known as the Windy Gap Project a Municipal Sub-district of the Northern District. The Windy Gap Project brings additional Colorado River water to our area.

In 1991 and 1992 Greeley purchase \$12,000,000 of water under the Greeley and Loveland system. This was during a severe downturn in the agricultural economy. Greeley paid above market prices for the water and acquired 40% of the water shares from a local bank. The water was leased back to the farmers for a 15 year time period at a rental rate equal to the assessments from the GLIC. The farmers also had the option to buy the water back in 5 years if they wanted to. They also could sell all or part of their water. Water was purchased off of 25 farms under the Greeley Loveland System. These farms have either been urbanized or are still being farmed today. This long term leaseback program has kept many farmers in business and has been a good partnership between the City, the Company and the farmers. A large portion of these farms have recently had their leases renewed until 2027.

In 2003 Greeley adopts a comprehensive Long Range Water Master Plan to provide for Greeley's water needs in 2050. Greeley's population is projected to double during this time frame. **Key elements** of this Master Plan were: the construction of **more reservoir storage, aggressive water conservation,** and the **acquisition of additional water supplies.** The plan also identified the Poudre River Basin as an area of concentration due to the high quality watershed of the Poudre. Since 2003 Greeley **has purchased water** in the following companies: **Water Supply and Storage Company (WSSC), Larimer and Weld Irrigation Company (L&W), the New Cache Irrigation Company (NCIC),** and an interest in the **Laramie Poudre Tunnel.** All of these purchases have been between a willing seller and a willing buyer. The majority of this new water has been leased back for farming under long term leasebacks.

Our **water conservation efforts** have been successful in reducing our overall demand. A USGS study in 1961 showed Greeley citizens using 292 GPCD of water. Fort Collins was using 260 GPCD and Loveland 265 GPCD. Today Greeley's water use is at 120 GPCD which is 20% below our 2003 numbers. We are working hard to reduce this demand even more.

Greeley has also been working diligently to add additional reservoir storage. Greeley is part of the Windy Gap Firming project which is currently being delayed by litigation from the environmental community. On its own, Greeley is well along in the permitting process for an expansion of Seaman Reservoir. Both of these reservoir projects will provide **drought year yields** for Greeley.

Municipal Water Supply planning is a long term effort that spans decades. Greeley and most municipal providers use a fifty (50) year planning horizon. The current permitting activity for the expansion of Seaman Reservoir is based on meeting Greeley's water needs in **2065**. To meet these **2065** needs water supplies must be acquired ahead of time. Greeley has had a long history of developing water supplies ahead of the need. This approach results in a situation where in most years municipalities may have more water available than is actually needed in any one year. Water supply planning is also based on a "firm yield" of the water supply. In Greeley's case a 50 year drought criteria is used to determine **firm yield**. This is the yield of the water supply during the defined drought period. This results in there being excess supply during the good to average water years.

Greeley currently has an active agricultural water leasing program in place. The program has two major components. The first is the “**Long Term Leaseback**”, of the acquired water, to the farms where the water was purchase from. Greeley has been using this concept for the last 50 years in the Greeley Loveland system. As water has been acquired in the Poudre Basins similar long term leases have been instituted with farmers in the WSSC, L&W, and NCIC systems. These leases are initially for 10 years. Greeley currently has **long term leaseback agreements** with 48 farmers in 4 different irrigation companies. The majority of these run through the year 2027.

The second component of Greeley’s agricultural leasing program is **the annual leasing of excess water in a given water year**. During 2017 Greeley leased excess water **to 22 farmers** and to two major irrigation **companies**. This water is available in varying amounts depending yield of the snowpack in any given year. Greeley’s **Long Term Leaseback** program is over 50 years old and has been beneficial to the agricultural community as well as to the City of Greeley.

WHAT IS THE FUTURE?

Greeley sees a future of continuing growth in the demand for municipal water supplies. We also are fairly sure that the

future will be different than to day. This will be so for both the cities and for agricultural. For the cities we will probably see more density, more conservation, a warmer climate, and a different landscape. A landscape more like Santa Fe than St. Louis. We will need more storage to get us through future droughts. There will also be a continuation of the moving of water from agricultural to municipal use.

Based on past history in Northern Colorado we also expect that agriculture will look different than it does today. What will the impact of technology and genetics be? Will crops change to more high value crops? What will the average size farm be? Will there be an adequate farm labor supply? A good example of past changes is the demolition of the Great Western Sugar Plant in Greeley and the construction of the Leprino Cheese plant on the land once occupied by the sugar plant. The acres of sugar beets, in Weld County, have significantly decreased and we now have approximately 75,000 head of dairy cows supplying milk to Leprino.

There is much discussion going on today in Colorado about the movement of agricultural water to municipal use. These are useful and necessary discussion. Agriculture is an important part of Greeley's economy that we want to keep. Greeley's challenge, and the challenge of the area, is how to meet an

increasing municipal demand while at the same time keeping our agricultural economy strong. Much of the discussion, in Colorado, has been around Alternative Transfer Methods (ATM). In Greeley's opinion, **any transfer method must provide permanence, certainty, and control of our water supply**. When a water tap is sold to a customer they expect service 24 hours a day, 365 days a year from now on. Plus this supply is critical to the health, welfare and life of the community. Many, if not most, of the current ATM discussions do not provide the **permanence and certainty** that is needed. This is not to say that there are not circumstances where ATM's may be beneficial.

Based on Greeley's fifty plus years of experience with **"Purchase and Leaseback"** of water rights we are looking at how to apply this experience to the future. We think our **"Purchase and Leaseback"** approach has worked well for Greeley and our farmers. We need to take what we have learned and figure out ways to improve upon it. How do we take our existing program and enhance it? One concept we are starting to explore is an **Interruptible Long Term Lease** with a **Crop Insurance type payment** during the interruptible period. The real challenge is going to come when we enter into our

next prolonged drought cycle. How do we provide the necessary municipal water and at the same time help the farmer stay in business? We are not sure what all the answers are. But we are going to be working hard to find the answers. With 148 years of water history on the Poudre we feel confident that we can find an answer that works for Greeley and our farmers.