
CITY OF LOGAN

LOGAN, UTAH

# *Water Conservation Plan 2020*

March 2021

# EXECUTIVE SUMMARY

The Utah Water Conservation Plan Act (73-10-32, UCA), requires water systems with more than 500 connections to prepare and implement a water conservation plan and update it every five years. This water conservation plan meets the requirement of this act.

In 2005, the City of Logan submitted a water conservation plan to address excessive water use. In 1992, average water use exceeded 400 gallons per capita daily (gpcd) throughout the City. Recognizing this problem, the City implemented several efforts to reduce this water use, primarily by searching for leaks in the system. By 2003, this number was decreased to about 350 gpcd. The Public Works Department has recognized water conservation to be very important, not only for environmental reasons, but for economic reasons. In 2003 and 2004, our summer peak demands nearly exceeded our ability to deliver water. As a result, very aggressive goals were set to prevent this from happening again.

As part of those efforts, the following programs were implemented:

1. Golf Course reservoir replacement project (2008)
2. DeWitt Pipeline replacement project to eliminate major leaks (2008)
3. Automation of water system controls to eliminate storage tank overflows (SCADA updated 2008)
4. Implementing aggressive leak detection and repair programs
5. Installing water meters on all services to eliminate estimating errors (2010)
6. Replacing old water meters to correct under measurements (Ongoing)
7. Implementing monthly meter reading using radio systems (2007)
8. Implementing pressure reducing valves to decrease pressures to service lines (2014)

As a result of these efforts, the City of Logan has reduced our total water use to 175 gpcd in 2020. This was further emphasized by the reduction of our summer peak demands from 36 million gallons per day (mgd) in 2003 to 24 mgd in 2020.

Additionally, the projects have increased our system capacity from 55.7 cfs (36 mgd) in 2004 to 69 cfs (44.6 mgd) in 2014. These improvements, combined with the reduced water demands, have significantly reduced stress on our system during the summer months.

While these improvements have been fantastic, the City of Logan needs to again refocus on the new priorities. First, while major improvements have been made, we are still losing 25 percent of the water we deliver in the system associated with leaks, main breaks, and other unaccounted for water. This causes significant costs in pumping and facility maintenance. In order to further address these issues, Logan City has identified the following additional goals.

1. The further implementation of the pipe replacement plan developed in 2007 and the proposed update to the plan in 2012.
2. Completion of a water audit of the City's accounting system to identify any errors in the process. This will also allow us to try to identify possible illegal connections within the City.
3. The participation of the implementation of a vast multi-city pressurized secondary irrigation system.

These combined efforts are expected to continue to reduce our water losses and demands on the system and extend our water supply into the future.

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# Introduction

The City of Logan is experiencing growth that consistently exceeds population projections. Moreover, the city is the commercial and institutional hub of a growing metropolitan area with many outlying residential communities, and is home to Utah State University, one of the largest universities in the state.

This growth prompted the City to plan for the future by preparing a 20-year Culinary Water Master Plan which was completed in 2016. The Water Master Plan will continue to be periodically updated.

The City is currently undertaking important steps to improve water supply service. These interventions will reduce waste and unaccounted for water, and will also help to ensure the system against major loss of service in the future.

# INVENTORY OF WATER SOURCES

## A. Water Rights

Water rights are the permission that the City has from the State of Utah, the owner of the water, to divert and beneficially use water. The City approved water rights listed for municipal use are listed in Table 1.

**Table 1**
**City of Logan Water Rights for Municipal Use**

| Location | Priority | Flow | Water Right No. |
|---|---|---|---|
| DeWitt Spring | 1 May 1860 | 10 cfs | 25-3506 |
| DeWitt Spring[1] (Apr-Sep) | 1 May 1900 | 4 cfs | 25-5492 |
| DeWitt Spring[2] (Oct-Mar) | 17 Mar 1981 | 20 cfs | 25-8258 |
| Combined Right[3] | 1961, 1963, and 1978 | 49 cfs | Approved A28759 (Combines 25-3394, 25-3395, 25-3396, 25-3397, 25-4176, and 25-7704) |
| DeWitt Spring (Apr-Sep)[4] | 1865 | 10 cfs | Contract Exchange |
| DeWitt Springs (April-Sep)[4] | 1865 | 10 cfs | E1844 |
| *Total Water Rights Available*[5] | | 83 cfs<br>56 cfs | (54 mgd) (Division of Water Rights)<br>(36 mgd) (Division of Drinking Water) |
| *Total Available during entire Peak Demand Season*[5] | | 79 cfs<br>56 cfs | (51 mgd) (Division of Water Rights)<br>(36 mgd) (Division of Drinking Water) |

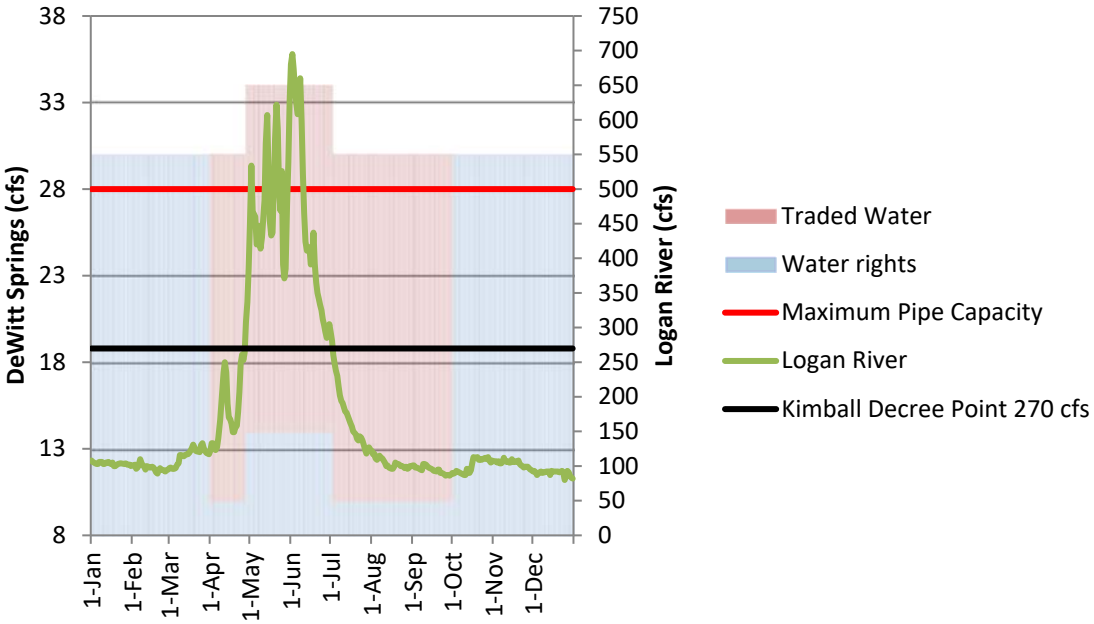
[1]This right is only operable when Logan River flow exceeds 270 cfs.
[2]Late priority means this right from the Logan River can only be exercised outside of irrigation season or when river flows exceed 480 cfs.

[3]This right allows a varying amount of water from each well to be used as long as it does not exceed 49 cfs and allows the water to be pumped from the four existing wells and two proposed wells.
[4]This is an exchange of irrigation rights with canal companies allowing Logan City to take additional water from DeWitt Springs.
[5]The Division of drinking water only considers the lowest flow of water from a spring during any given year as the available water.

While it would appear that the City has considerable water rights for municipal use, the following key points must be considered.

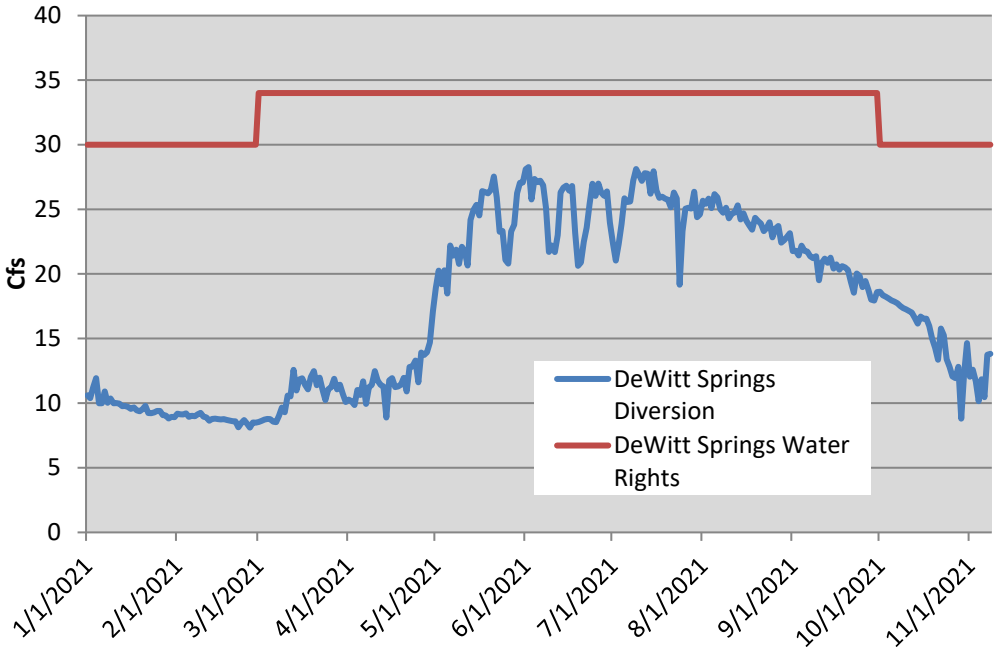
1. All of the DeWitt Springs water rights are governed by the Kimball Decree which reduces the amounts the City can divert based on flow in the river. The City has made trade agreements with two canal companies to allow the city to remove an additional 20 cfs from the springs which makes up for the loss due to the Kimball Decree as shown in Figure 1.

**Figure 1**
**DeWitt Springs Water Rights vs. Logan River Flow (2020)**




2. The actual flow available from DeWitt Springs is not usually controlled by water rights, but by the flows produced by the spring itself, hydraulic capacity of the pipeline (28 cfs), and actual water demands as shown in Figure 2.

**Figure 2**
**DeWitt Springs Water Rights vs. DeWitt Springs Diversions 2020**




3. While Dewitt Springs is never allowed to come under the influence of surface water, it is still susceptible to other threats. In 1962 an avalanche knocked out the spring for an extended time. Additionally the waterline crosses the Logan Fault which experienced a magnitude 5.7 earthquake in 1962. As a result, a redundant supply is necessary.

4. Current capacity is limited to approximately 28 cfs in the DeWitt Pipeline in an old 24" concrete section that has not been replaced.

5. Division of Drinking Water rule R309-510-7(4) only allows us to use the "minimum" flow from DeWitt Springs, about 7 cfs, to determine our available water supply. As a result, we only have 46 cfs of available water with the remainder of our rights providing redundancy when water is available.

## B. Municipal Water Supply Facilities

System capacity is the amount of water the City can deliver to its customers and is independent of water rights. The City of Logan relies entirely on springs and wells to supply municipal water needs. The primary sources of water are the DeWitt Spring, two groundwater wells located near the USU campus, a well near the center of town, and a well on the south side of town. The City owns one additional well on the north side of town to supply irrigation water to some of the canal companies in exchange for additional

water diversion at DeWitt Springs. Table 2 summarizes the system capacity available to Logan City during the year.

| Table 2<br>City of Logan Municipal Water Production Facilities | | |
|---|---|---|
| Source | Summer | Winter |
| Wells | 39 cfs (25 mgd) | 39 cfs (25 mgd) |
| Springs[1] | 15.5 cfs (10 mgd) | 7 cfs (4.5 mgd) |
| Total | 54.5 cfs (35 mgd) | 46 cfs (29.7 mgd) |

[1]Flows from springs vary both seasonally and daily. While Logan City can pull up to 30 cfs hydraulically and by water exchanges from the springs, during a drought and serious water restrictions, historical peak flows have shown to be decreased. Over the drought since 2012, summer peak diversions have been reduce to 12 mgd, so a conservative estimate of 10 mgd was assumed.

## C. Secondary Water Supplies

There are 17 canal companies in the area. They supply secondary irrigation needs for several residences in Logan and the City cemetery, but their primary customers are agricultural users in rural areas of the county. The City does own additional water shares in many of these canals, but does not have a way to fully utilize these shares at present. Rather the City allows the canal companies to use our shares to offset shortages at their discretion in exchange for the use of the canals to carry storm runoff. In the future, the development of the Secondary Water Systems can further be used to offset demands on the culinary water system.

In the last few years, Logan City has been a participant in a multi city and multi irrigation company in an initiative to develop a regional pressurized secondary irrigation system. If successful, this will shift much of the demand on our culinary water system to the secondary irrigation system. Although this initiative has been successful so far, it still has much work to be done before it is a reality.

# POPULATION PROJECTIONS

The population in Logan increased by 6.5 percent during the period of 2010-2020. This corresponds to a 0.6% average annual rate of change (AARC) for the last 10 years. The growth rate has decelerated during the previous decade for the second consecutive decade. The historical mildly exponential growth from 1960 to 2000 and then two consecutive decades of moderately decreasing growth make it difficult to project future population growth.

Based upon growth in 2000-2020, projected growth in USU student population (over 19,500 on campus currently), and the fact that Logan population historically has increased faster than for Cache County as a whole, the City has identified a worst-case potential growth rate of 1.8% AARC.

To develop a most-likely growth rate scenario, City planning staff reviewed historic growth rates for 1960-2010 (2.1% AARC), zoning and future development, planned annexations, and the increase in enrollment at USU. The previous period of decreased growth for 2000-2020 (1.0% AARC) was also considered. The City is of the opinion that a growth rate of 1.0% AARC is more representative of the growth that can be anticipated over the next 40 years.

Figure 3 shows historic population to the year 2020, as well as the population increase in the last 10 years (0.6% AARC), City-defined worst-case scenario (1.8% AARC) and the City most-likely scenario (1.0%) for growth to the year 2040.

**Figure 3**
**Logan Historic and Projected Population, 1980-2050**

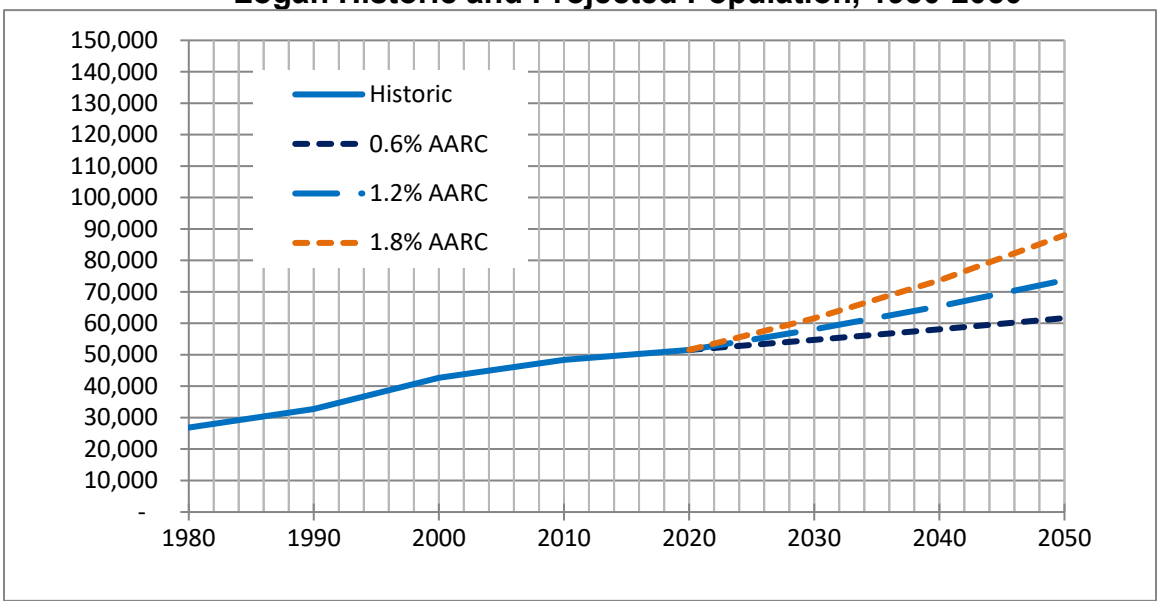



Table 3 shows a summary of historic and projected population used to create Figure 3.

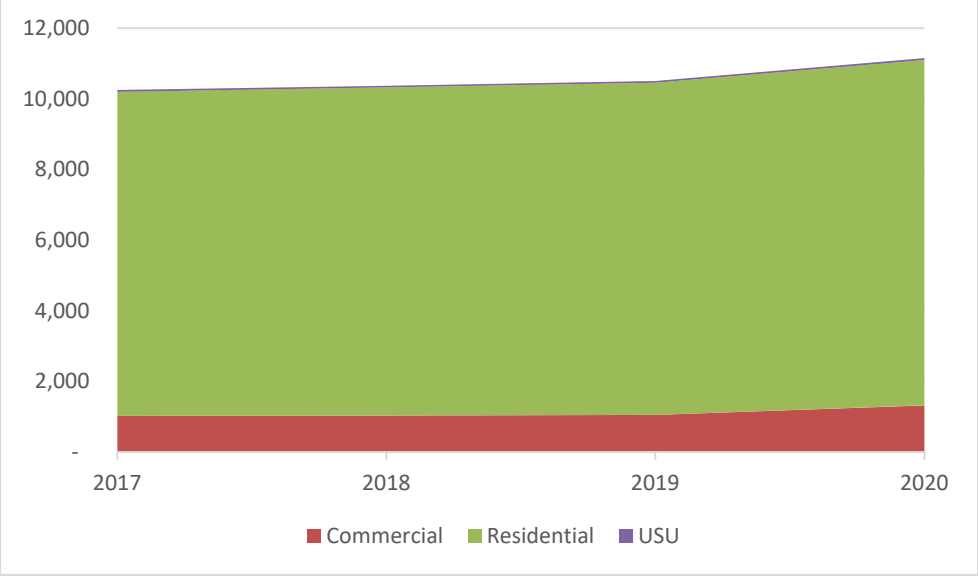
| Table 3<br>Logan Historic and Projected Population, 1980-2040 | | | | |
|---|---|---|---|---|
| Year | Historic | 0.6% AARC | 1.2% AARC | 1.8% AARC |
| 1960 | 18,731 | | | |
| 1970 | 22,333 | | | |
| 1980 | 26,844 | | | |
| 1990 | 32,762 | | | |
| 2000 | 42,670 | | | |
| 2010 | 48,375 | | | |
| 2020 | 51,542 | 51,542 | 51,542 | 51,542 |
| 2030 | | 54,719 | 58,072 | 61,608 |
| 2040 | | 58,093 | 65,429 | 73,641 |
| 2050 | | 61,674 | 73,719 | 88,023 |

[1]Average 2.1% AARC over the period 1960-2000. From 2010 to 2020, the average AARC = 0.6% reflecting the economic recession. The expected continuing growth is between 0.6% and 1.8%.
[2]AARC = Average Annual Rate of Change.

This increase in population over next 40 years will result in additional pressure on City water resources.

Similarly, customer accounts have experienced a steady increase. Figure 4 below shows the trend in municipal water services during the period 2017 to 2020.

**Figure 4 Logan Historic Number of Water Services 2017-2020**



This figure shows a 9% increase in the number of water services since 2017. This growth will continue as Logan continues to grow and develop over the next 50 years.

# WATER DEMANDS

As the commercial and institutional hub of Cache County, water demands in Logan include commercial facilities and institutions, such as Utah State University, that serve the entire county and state.

Therefore total per capita water consumption City-wide can be expected to be higher than in a bedroom community whose demands are largely residential with little commercial activities.

Moreover, planned developments on the west side of the City will include commercial and industrial parks, reinforcing Logan's role as the economic hub of a larger county-wide community. This will be reflected in continued higher per capita water consumption than for a largely residential community.

## A. Unit Water Consumption

Water demands are composed of billed water consumption and unaccounted-for water. These are expressed in terms of per capita consumption in order to relate to State water conservation goals and better identify trends in consumption by category.

The City of Logan historically lists two categories for billed water consumption: residential consumption, and commercial consumption. Residential consumption includes apartments or multi-family dwellings that employ a master meter instead of individual meters. Commercial consumption includes industrial and institutional demands, City offices and facilities, and irrigation of parks from the culinary water system.

Unaccounted-for water includes water consumed but not billed, fire flows, other unmetered municipal uses, and water lost to leakage in the water supply system. Unbilled water consumption can owe to under-registering customer meters, unmetered water such as hydrant flushing and construction water, and errors in water accounting and billing practices or software.

Figure 5 provides a summary of water use versus total water supplied since 1992. The graph shows the overall focus of the City to bring the water losses into more reasonable amounts. As the graph shows, aggressive efforts by the City have substantially reduced our per capita water use by focusing on the unaccounted for water.

**Figure 5**
**Logan Water Supplied versus Billed, 1992-2020**

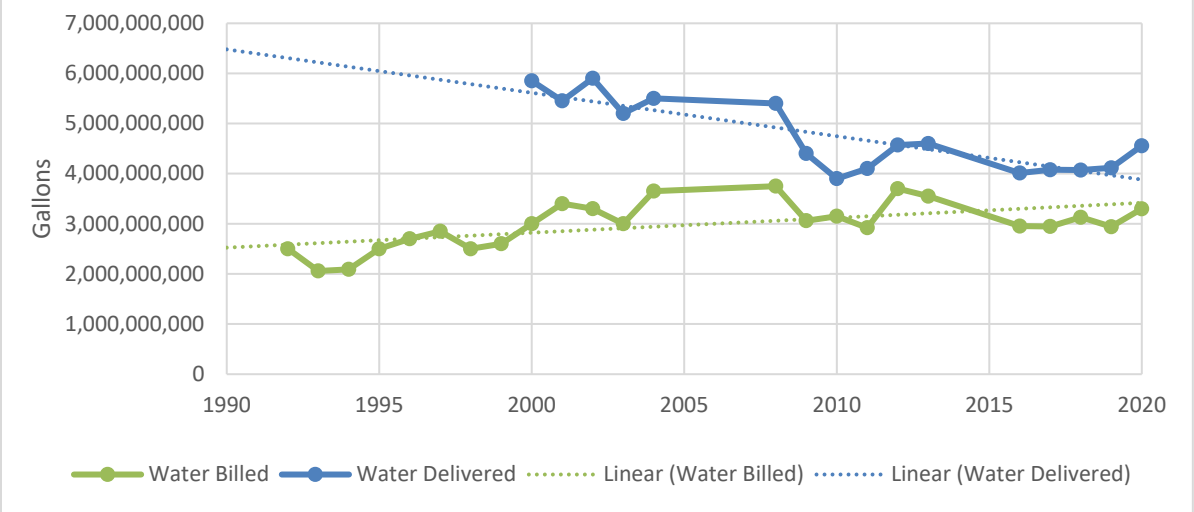
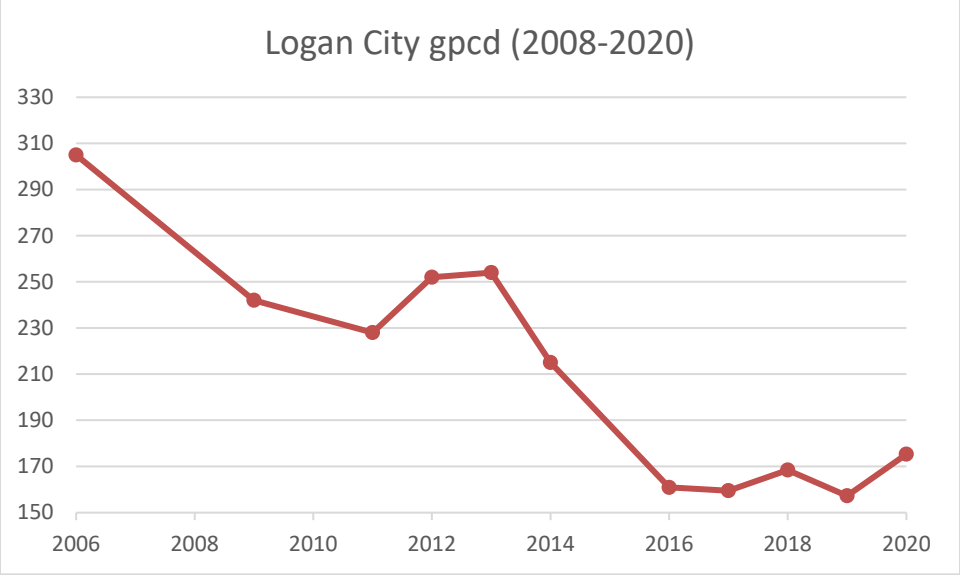



**Figure 6**
**Logan Average Daily Water Use (2008-2020)**



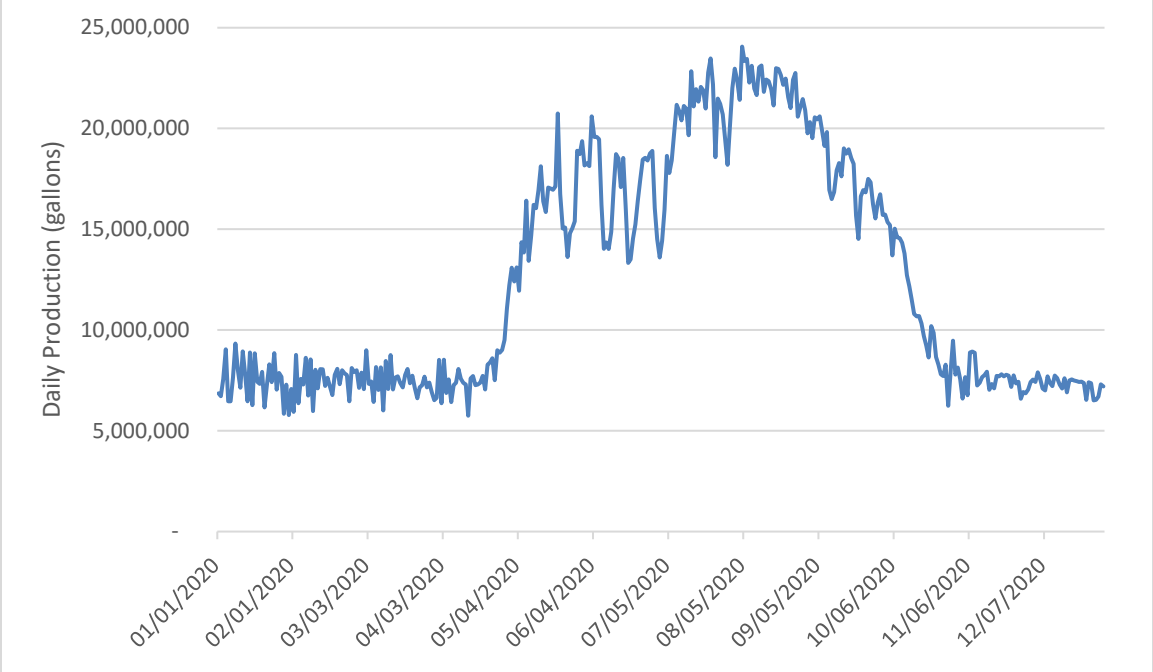
To put this into direct perspective, Figure 6 shows the gpcd for Logan City annually since 2008 reflecting the trend in average daily water use. Note that while there is significant fluctuation annually, the overall trend is down, particularly from 380 gpcd in the 1990's, to as low as 157 gpcd over the last three years, averaging 164 gpcd over the last five years. As shown in the above Figure 5, much of this water reduction has been from a significant reduction in unaccounted for water.

Unaccounted-for water used to comprise the single largest component of water consumption, averaging 42% of water supplied in 2000-2004. The average unaccounted-for water consumption now is at 26% for the last five years. Unaccounted-for water averaged over 180 gpcd during the 1990s, but since then has been reduced to 60 gpcd in the last 5 years. This has been the result of capital replacement projects, decreased system pressures, and improved management.

## B. Seasonal and Daily Peak Demands

The City installed a SCADA system several years ago and recently started updating this system, which now makes it possible to track water supplied to the network on a daily and even real-time basis. Figure 7 documents daily total water supplied for the calendar year 2020. While the daily peaks may fluctuate based on water system storage, weather, irrigation demands, etc., the pattern is consistent with previous years.

**Figure 7**
**Logan Daily Water Supply, 2020**



Maximum day demands are 1.93 times the annual average demand and the instantaneous peak demand factor is 3.0 (Based on Logan City 2016 Drinking Water Master Plan).

## C. Water Demand Projections

Figure 8 reflects the projected water demand increases assuming there is no further water conservation, and population projects as discussed in the Population Projection Section, assuming that per capita water use remains at 2018-2020 levels, and population projections discussed previously are representative of actual growth. As discussed previously in this report in Table 2, the maximum capacity in the system at present is about 35 mgd.

Figure 9 reflects the projected annual water demand projections in acre-feet compared to our water rights. For the purpose of the water rights analysis, DeWitt Springs has not been included due to concerns for source security and reliability in the future.

**Figure 8**
**Logan Projected Peak Day Water Demands (mgd), 2020-2050**
***Without Additional Water Conservation***

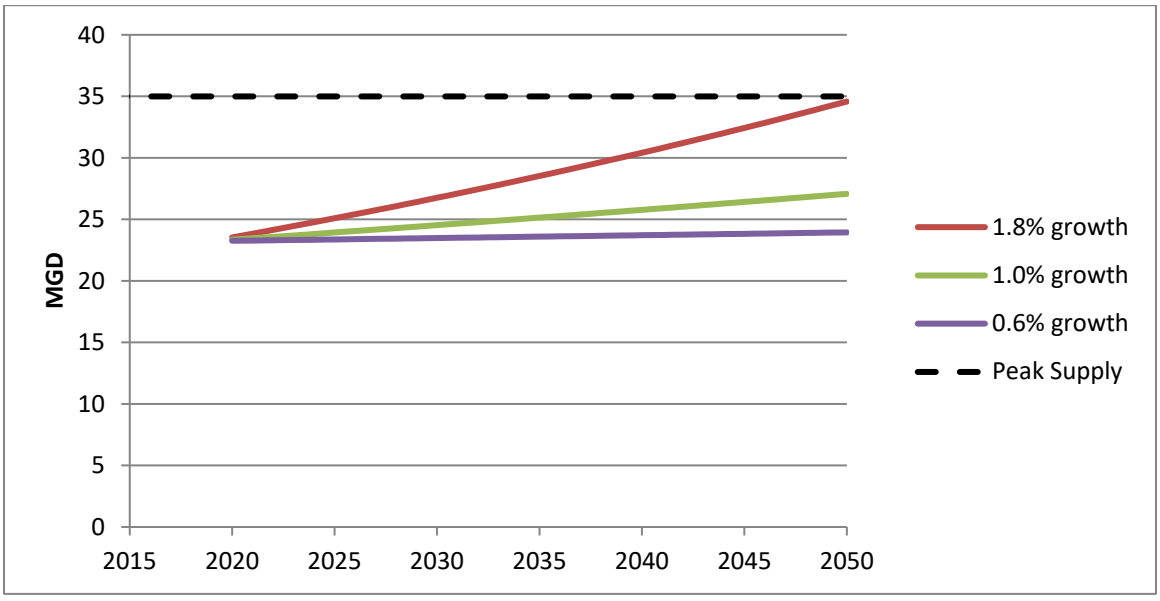


**Figure 9**
**Logan Projected Annual Water Demands (acre-feet), 2020-2050**
***Without Additional Water Conservation***

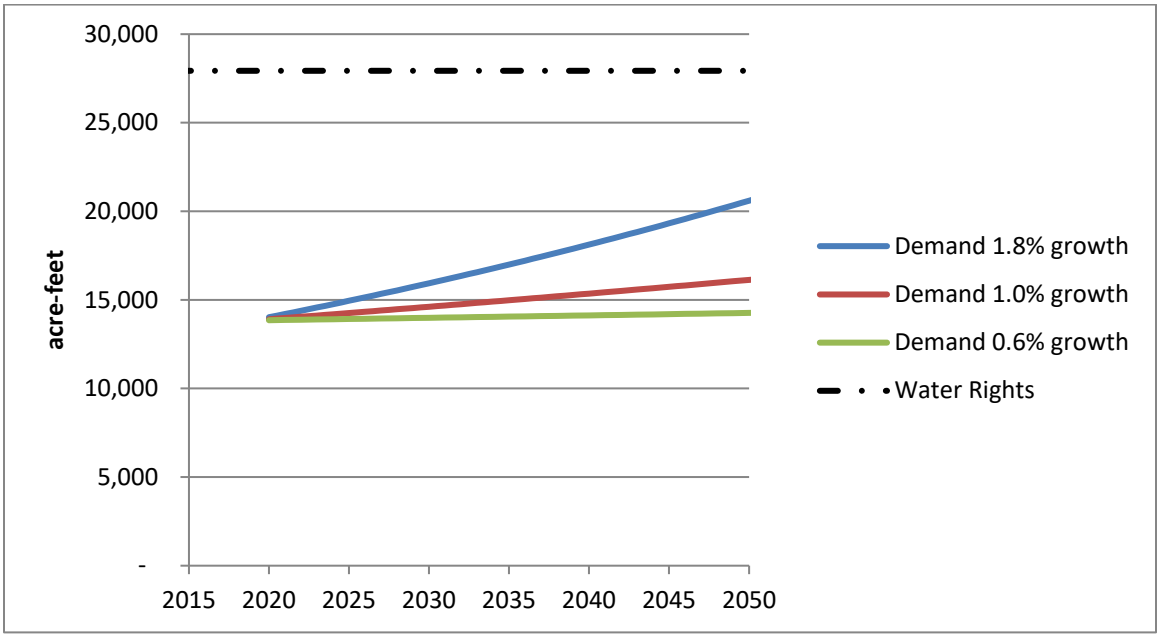



Table 4 summarizes the project water demands based on the three growth scenarios considered. This table helps in planning for system capacity expansion in both delivery capacity (mgd) and source capacity (acre-feet) if no further water conservation takes place.

Table 4, Comparisons of Need for System Expansions.

| Growth Rate | 2050 Peak Day Demand (mgd) | Year Demand Exceeds 35 mgd (system peak flow rate) | 2050 Annual Demand (Acre-feet) | Year Annual Demand Exceeds Reliable Water Rights (27,937 acre-feet) |
|---|---|---|---|---|
| 0.6% | 24 | 2050+[1] | 14,266 | 2050+[2] |
| 1.0% | 27 | 2050+[1] | 16,133 | 2050+[2] |
| 1.8% | 35 | 2050 | 20,603 | 2050+[2] |

[1]Projections show that Logan City will reach build-out conditions with sufficient source productions to meet demand.
[2]Projections show that Logan City will reach build-out conditions with sufficient water rights to meet demand.

## D. Water Reuse

The City operates one of the largest lagoon treatment systems in the nation. During the summer months, 90% of this water is reused for agricultural irrigation by farmers drawing water from the effluent canal. The City also has a commitment for sending the remaining 10% of these flows downstream to maintain a treatment wetland system. Due to the water rights currently associated with the effluent from the treatment system, it is not currently feasible to consider Waste Water Reuse.

The City is currently in the process of replacing our lagoons with a mechanical treatment plant. However, the water rights associated with the irrigation downstream will still be in place, thus limiting our ability for waste water reuse within the City.

# WATER SUPPLY CONCERNS

The City is confronted by a number of challenges that will need to be addressed in order to meet future water supply obligations. The City is already now actively taking steps to correct deficiencies and prepare for the future. This section summarizes many of the key concerns.

## A. Limited Ability to Supply Water

Peak water demands in Logan approached the City's available water limits in the years 2003 to 2005. The restrictions on capacity owed to:

- **Hydraulic restrictions in the pipeline in Logan Canyon.** DeWitt Spring is the primary water supply source for the city, yet the pipeline was only able to convey 20 cfs. However, improvements in the pipeline have increased our capacity to 28-30 cfs. If additional water rights could be obtained in Logan Canyon, then additional capacity would need to be provided to convey these extra flows.

- **Physical capacity restrictions at wells.** Pumps at four of the wells convey only 80% of the available water right for the wells. The loss of any single well during the peak demand period will result in a significant reduction in water delivery capability.

- **High summer demands.** Residential and commercial irrigation of lawns and gardens contributes to high peak demands during the summer. This is still a concern to our ability to deliver peak demands in abnormally dry years.

## B. Unaccounted-for Water

Unaccounted-for water is about 25% of the total water supplied. The main causes for the current water loss include:

- **Leakage from the water distribution network.** Some City pipes date from the late 1800s and are leaking. Also, newer ductile iron pipe on the west side of town is experiencing rapid deterioration from corrosive soil conditions.

- **Water losses to water main breaks.** Every time a water line breaks, it causes substantial water losses that are not accounted for in this analysis. Water crews actively pursue repairing leaks. However, there are probably a significant amount of leaks that we do not know about in the older parts of the City and on the Island area of the City where the leaks don't bubble to the surface.

- **Operational Losses.** Operational losses have significantly decreased with the implementation of an automated system. However, some losses remain, such as during fire hydrant flushing maintenance.

Reducing unaccounted-for water is important because (1) reducing lost water also reduces the use of the wells and reduces operational costs, and (2) reducing the lost water allows the City to meet peak demands more easily without significant additional capital expenditures.

## C. Lack of Secondary Irrigation System

Currently the City does not utilize any large-scale secondary irrigation. There is a strong initiative with good momentum to combine all the local irrigation companies to make a vast multi-city pressurized secondary irrigation system. If pushed through to completion, this system will benefit our culinary system by decreasing the summer peak demands corresponding to irrigation.

## D. Rate Structure

A cost-of-service study was completed in 2018 and a plan to increase culinary water rates was adopted. An initial 35% increase for all culinary water accounts was brought into effect in 2018 with additional 3% increases yearly for the next four years. The existing two tiered rate structure remains to encourage water conservation.

# WATER CONSERVATION GOALS

The State Division of Water Resources (DWRe) has established a goal to reduce per capita water demand from municipal water supply systems statewide by at least 25% before the year 2050. Specifically, DWRe would like to see per capita demand decline from the 1995 statewide level of 321 gpcd down to 240 gpcd or less before the year 2050. This per capita demand includes billed consumption as well as unaccounted-for water.

The City of Logan has met this goal as of 2009 and continues to meet this goal. However, It is important for the City to continue to meet this objective annually in order to avoid major shortfalls between water demands and available water rights and supplies.

# WATER CONSERVATION PRACTICES IMPLEMENTED OVER THE LAST 15 YEARS

The City has recognized the need to address water supply and conservation issues. Therefore the City implemented numerous water conservation efforts to reduce overall water consumption and loss as well as to reduce annual operating costs.

## A. Replacement of Leaking Golf Course Reservoir

The City of Logan decided to replace the Golf Course (GC) reservoirs 1 and 2, which had a total capacity of 3 MG. This reservoir, damaged by an earthquake in 1962, was believed to contribute substantially to water losses from the system, on the order of four (4) million gallons per day.

The four cells in the new 5.65 MG concrete reservoir, called GC 6, 7, 8, and 9, were constructed at the same site. The first cell was brought into service in August 2005, and the last cell of the original reservoir was retired from service at the same time. Comparing city-wide unaccounted-for water for the months of July and August, preliminary results indicate a significant reduction in water losses, most likely owing to replacing the original reservoir. Long term monitoring of the system confirmed the increased reduction in water loss.

## B. Replacement of the steel portions of the DeWitt Waterline and other waterlines in the City

Over the period from 2005 through 2008, the City of Logan replaced the steel portion of the DeWitt Pipeline up Logan Canyon. This line was historically losing on the order of about 2.3 mgd from leaks along the portion under US-89. With the reconstruction of this line, further hydraulic restrictions were removed from the system, allowing the City to more fully utilize their water rights.

Older water piping in the areas of 1000 West, 600 East, 1150 North, 200 East, and 100 East were replaced over the last 10 years. The City continues to identify and replace older infrastructure on a periodic basis as budgets allow.

## C. Full System Automation

With the completion of the DeWitt Waterline, a new automated flow control valve was installed. With this last control valve automated, the almost daily overflows from the system reservoirs have been almost completely eliminated. .

## D. Universal Metering

The City has implemented a program to introduce full metered consumption. Previously consumption by some customers was not metered, only estimated. As of December of 2010 all un-metered accounts have been furnished with meters. Where feasible, the City is also phasing out master meters in favor of individual meters, which will strengthen the principle of individual accountability and encourage water conservation. In other locations the master meters are being replaced by compound meters for better accuracy at low flow situations.

## E. Meter Replacement

The City found that some old meters were under-registering actual consumption by about 10%. The City has implemented a program since 2003 to replace meters. This program is funded as part of an annual replacement program. The City replaced all of the water meters completely and is now replacing high flow meters (commercial) on a regular basis.

## F. Pressure Reducing Valves

In 2014, the City installed and implemented pressure reducing stations throughout the city. A study was performed to determine the effects of pressure reductions to building fire suppression systems. Suppression systems adversely affected by pressure reductions were retrofitted to provide adequate fire coverage prior to implementation of pressure reducing stations. Pressure reducing valves were placed in strategic areas of the city reducing pressures and limiting the amount of wasted water due to higher leakage rates caused by high pressures. In the first year after placing the PRV's online, the City recognized a 17% reduction of water use and a 40% reduction in the number of water main breaks. Additionally, there has been a 32% reduction in power consumption from pumps supplying water to the City's wells.

## G. Meter Measurement and Billing

Formerly all meter reading was conducted on a bi-monthly basis. The City implemented radio metering and has gone to monthly meter reading for all customers. This allows more accurate billing records and less opportunity for unaccounted-for water.

## H. Rate Structure

The City of Logan adopted new culinary water rates that increased the existing rates to catch up with unaccounted for inflation for the past decade. The City maintained the existing two tier rate structure, with the culinary rate increasing after 10k gallons of usage in a single billing period.

# I. Irrigation Resolution

In response to the high water demands of 2003 and 2004, the City established a lawn irrigation resolution, permanently restricting irrigation to between the hours of 6:00 p.m. and 10:00 a.m.

# ADDITIONAL WATER CONSERVATION MEASURES

In order to maintain the water conservation goal of 240 gpcd, it will be necessary to carry out more measures than have been performed to date. While the existing measures are being continued, additional measures are needed. The next paragraphs describe measures, which in the opinion of the City; will contribute most to achieving their objective.

## A. Leakage Detection

The City routinely employs leak consultants to help confirm areas of suspected high leakage. In the past year the City has been looking into purchasing leak detection equipment to make leak detection more financially viable.

## B. Pipe Replacement Planning

While the City will resume annual leakage detection, the City is also taking steps to be more proactive in rehabilitating the water distribution network to reduce leakage. These steps include preparing a detailed registry of pipe failures, and implementation of a Pipe Replacement Plan. Currently, the City uses computer software to track waterline breaks and failures and will incorporate information gathered during the upcoming leakage detection program. This information provides the City a framework for anticipating and scheduling network pipe rehabilitation or replacement. By proactively maintaining the network, the City will be able to reduce water losses from leakage.

## C. Internal Water and Accounting Audits

As part of the water conservation program, the City will develop a better methodology for quantifying and tracking lost water in the system including both operational losses (flushing, testing, disinfecting new lines, tank overflows, construction water, etc.) and maintenance losses (line breaks, know leaks that are repaired, etc.). Additionally, the City will perform an internal audit of our billing and metering data to identify any additional errors in the system and to quantify any possible illegal connections or under registering meters.

The installation of radio read meters allows monthly collection of data and water use at each meter location. Monthly readings are compared to past readings and accounts that have drastic seasonal use increases are flagged for audit. The City investigates sites that are identified as having abnormal readings and the City verifies proper meter function and adequate City infrastructure. The City will arrange to meet with property owners to help them identify problems if it is found to be the responsibility of the owner.

## D. Secondary Irrigation Policy

Currently the City does not utilize any large-scale secondary irrigation. There is a strong initiative with good momentum to combine all the local irrigation companies to make a

vast multi-city pressurized secondary irrigation system. If pushed through to completion, this system will benefit our culinary system by decreasing the summer peak demands corresponding to irrigation.

# IMPLEMENTING AND UPDATING THE WATER CONSERVATION PLAN

The City has charged the Water and Wastewater Division Manager with direct responsibility for implementing the Water Conservation Plan. Additionally the Public Works Director has overall responsibility for the plan.

Staff from both Operations and Engineering have worked together to develop this Water Conservation Plan.

The Public Works Department coordinates major water conservation actions with the Water Advisory Board, which is composed of civic and local representatives. The Water Advisory Board provides local input concerning planned actions, and recommends approval or disapproval to the City Council.

This Water Conservation Plan will be updated to document achievements and identify additional actions needed, and will then be submitted to the Utah Division of Water Resources in December 2020, as required by the Utah Water Conservation Plan Act (73-10-32, UCA).