

TIMBER LAKES WATER SPECIAL SERVICE DISTRICT WATER MANAGEMENT AND CONSERVATION PLAN

A: BACKGROUND INFORMATION

Timber Lakes Special Service District (TLWSSD) is a retail water provider as defined in Utah Code Ann. §17-10-32, which serves approximately 835 connections and will ultimately serve approximately 1,500 residential connections, depending on the eventual full-time or seasonal lots ultimately developed. TLWSSD is located in a mountainous area 9 miles east of Heber City, Utah. Currently, we estimate that 24% of the water users are full-time and 76% are seasonal. Because of the limited water source available to TLWSSD's (Timber Lakes Water Special Service District) water users, outdoor water use is not allowed.

B: EXISTING RESOURCES

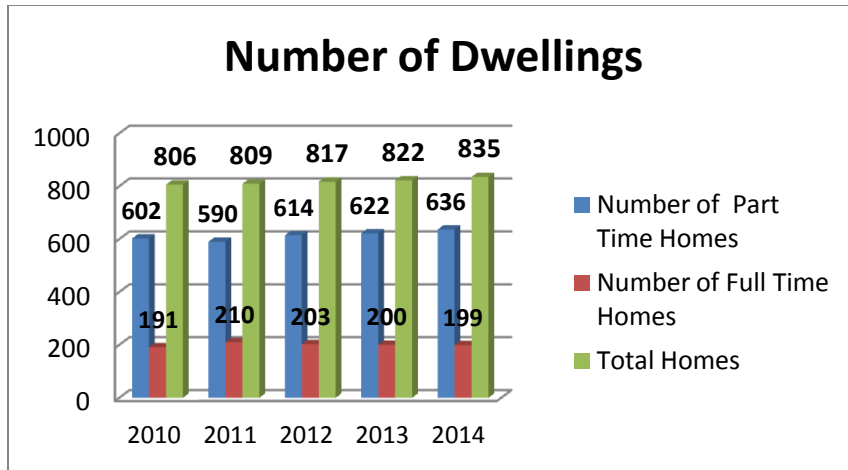
The water system consists of nine small springs with an average yearly demand of approximately 17 million gallons, which is a 6 million gallon decrease from the estimate made in the last conservation plan update. According to the master plan, connections should increase 1% every five years. Actually, the past five years present a 5% connection increase.

TLWSSD has water rights for 643.3 acre-ft. of water. The water system consists of approximately 33 miles of distribution lines with five water tanks that have a combined storage capacity of 1.5 million gallons.

C: CURRENT WATER USE AND DETERMINATION OF FUTURE REQUIREMENTS

The Timber Lakes Water System provides water for full and part-time homes. The majority of these residences are occupied on a seasonal basis. The number of full time residences ranged from 191 in 2010 to a high of 210 in 2011, decreasing to 199 in 2014. See illustration below.



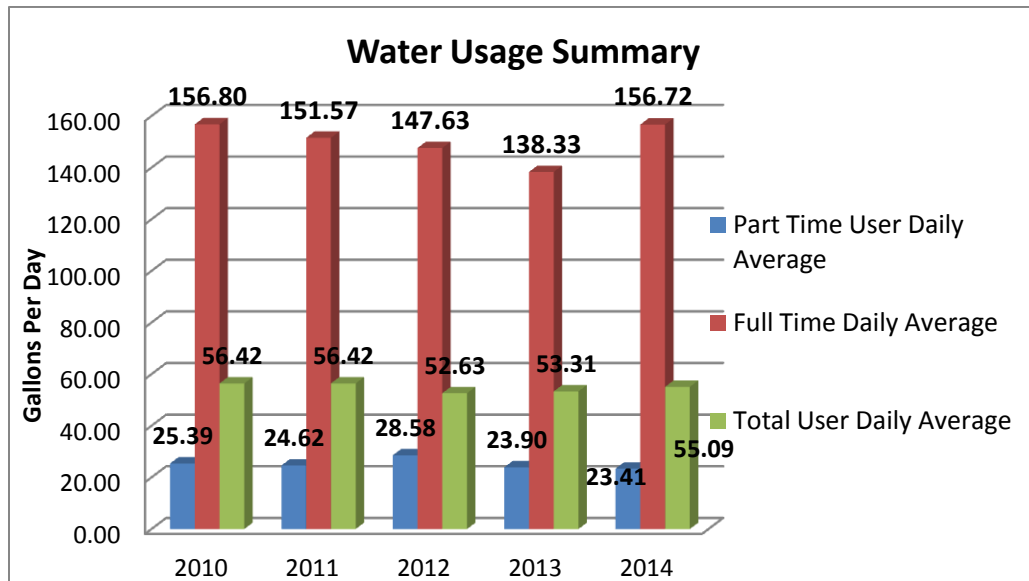


Originally, the Timber Lakes Water System was designed for seasonal use; an area of focus for TLWSSD has been the reduction of water usage due to leaks and pipe breakage caused by the ineffectiveness of the piping system for full time winter use.

Beginning in 2008 and continuing through 2011, the Timber Lakes Water System underwent major improvements, which improvements included replacing 18 miles of shallow, undersized, leaking water main, thus reducing leakage throughout the system. In 2014, TLWSSD finished replacing inadequate water meters with meters capable of pinpointing and data logging leakage through radio communication. Consequently, allowing us to accurately identify and eliminate water leakage quicker than before.

Many homes are vacant in the winter months, which results in frozen and broken water lines, thus wasting water and damaging property. Our electronic read meters will enable the District to conserve water by reading meters twice monthly during the extreme freeze thaw cycles, consequently reducing water leakage on the homeowner's side of the meter.

The following table details the amount of water usage for full time and part time water users. As illustrated below, variance in water consumption by full and part time homeowners was minimal from 2010-2014.



Based on the growth predictions in the Timber Lakes Culinary Master Plan 1999, the estimated number of connections is 12% and 3.7 % higher than predicted in 2010 and 2015, respectively.

D: IDENTIFICATION OF ALTERNATIVES TO MEET FUTURE WATER NEEDS

Due to conservation efforts, our water supply has been adequate, but as more customers connect to the water system, TLWSSD will be required to redevelop existing springs and find new springs to develop. TLWSSD is currently working with the Church of Jesus Christ of Latter-day Saints in order to develop additional springs. With spring sources limited, the District will need to investigate other possible water sources.

E: EVALUATION AND SELECTION OF ALTERNATIVES

With help from Franson Engineering, TLWSSD will need to evaluate the costs for finding new water sources.



F: PERIODIC EVALUATION

Now the water system is fitted with electronic read meters, all connections will be monitored and evaluated for usage in an effort to conserve and predict future capacity. TLWSSD will also continue to revisit the master plan and make changes to gauge the progress of the plan.

G: WATER REDUCTION GOALS

We do not anticipate water usage to decrease due to increased demand from planned future development. However, as can be seen by the aforementioned water usage and number of dwellings charts, water usage has been stabilized. As TLWSSD moves closer to build out, we plan to reduce water usage by 5% by mailing conservation flyers and discussing conservation with all of our customers.

H: Goal Implementation

a. TLWSSD will distribute conservation literature along with regular mailings. Hopefully, distributing this information to customers just prior to the summer season when demand normally peaks will help keep customers conservation minded.

b. TLWSSD is in the process of getting signatures from customers who have not signed connection agreements. We plan to renew our efforts and get a connection agreement with all of our customers. When customers sign connection agreements, they agree to conserve water by doing things like installing pressure-reducing valves and not watering outside.

c. TLWSSD will continue to promote water conservation benefits and techniques through information posted on the Timber Lakes newsletter and web site. The following information on efficient indoor water is available to the District's customers at the TLWSSD office. The District plans to post this information on its website. The information is as follows:

Low-flow plumbing fixtures and retrofit programs are permanent, one-time conservation measures that can be implemented with little or no additional cost over the lifetime of the fixtures. In some cases, these fixtures can even save residents money over the long term. The most commonly recommended low-flow plumbing fixtures are pressure reduction devices, faucet aerators, toilet displacement devices, low-flush toilets, low-flow showerheads, and plumbing modifications for gray water reuse.



Pressure Reduction: Homeowners can reduce the water pressure in a home by installing pressure-reducing valves. A reduction in water pressure can save water in other ways: it can reduce the likelihood of leaking water pipes, leaking water heaters, and dripping faucets.

Faucet Aerators: Faucet aerators, which break the flowing water into fine droplets and entrain air while maintaining wetting effectiveness, are inexpensive devices that can be installed in sinks to reduce the volume of water used. Aerators are easily installed and can reduce the volume of water use at a faucet by as much as 60% while still maintaining a strong flow. These more efficient kitchen and bathroom faucets use only 7.5 l/min, in contrast to standard faucets, which use 12 to 20 l/min, are also available.

Toilet Displacement Devices: Non-toxic bricks or plastic containers (e.g., milk jugs filled with water or pebbles) can be placed in a toilet tank to reduce the amount of water used per flush. By placing between one and three such containers in the tank, water can be saved. A toilet dam, which holds back a reservoir of water when the toilet is flushed, can also be used instead of the displacement device to save water.

Low-Flush Toilets: Conventional toilets use 13 liters per flushed as opposed to 6 liters or less of water per flush for low flush toilets. Since low-flush toilets use less water, they also reduce the volume of wastewater produced. Even in existing residences, replacement of conventional toilets with low-flush toilets is a practical and economical water-saving alternative.

Low-Flow Showerheads: Showers account for about 20% of the total indoor water use in a household. By replacing the standard 18 l/min showerheads with 10 l/min showerheads, which cost less than \$5 each, a family of four can save approximately 80,000 l/year. Properly designed low-flow showerheads, currently available, are able to provide the quality of water delivery found in higher volume models.

Gray Water Use: Domestic wastewater composed of wash water from kitchen sinks and tubs, clothes washers, and laundry tubs is called gray water. Gray water can be used by homeowners for home gardening, lawn maintenance, landscaping, and other uses that do not require potable water. The level of contamination of gray waters is minimal; however, the plumbing modifications needed to make use of this water should not allow its contamination by wastes from the toilets, which have the potential to spread disease, cause undesirable odors, and result in aesthetic degradation of homestead yards and gardens.

d. Our Water District will support a campaign of household leak detection. We plan to accomplish this by providing leak detection tips to requesting customers. Distributing



dye tablets to customers to encourage toilet leak checks as well as direct meter readers to inform customers with unusually high-recorded use to check for household water leaks

e. Exercise and sound all valves for leakage on a yearly basis.

f. In order to keep water system pressures at a minimum, TLWSSD will institute a program, which includes an accurate recording of system pressure for each separately operated pressure zone, leaks detected, and leaks repaired

g. Since the last update of this plan, service meters have been installed on all connections to insure accountability of water delivered. The District has an on going program, which includes an accurate recording system of meters tested, repaired, or replaced.

h. The TLWSSD will work with the Wasatch County building department to promotes water-saving plumbing fixtures and fittings in all new homes constructed or in existing homes where building permits are issued for kitchen or bathroom remodeling work

I: GOAL IMPLEMENTATION THROUGH PROHIBITION AGAINST OUTSIDE UNAUTHORIZED USES AND WASTE

The TLWSSD's water right is limited to inside use. As a result, TLWSSD strictly limits the use of its water to inside residential culinary use for homes located within its usage area. TLWSSD's customers are prohibited from using the water for any other purpose. Customers are prohibited from using the water for livestock, plants, lawns, gardens, or other vegetation outside the residence.

TLWSSD monitors the inside consumption of water through monthly meter reading. This helps insure against waste. Its customers are prohibited from wasting or allowing water to be wasted. Without limiting the foregoing, Culinary Water users are prohibited: (a) from permitting any other person, other than residents or visitors on the property, from using the water in any way, (b) from using the water on any other premises or property for any purpose, (c) from using or permitting the use of water for any purpose other than inside residential culinary use, (d) from collecting culinary water in tanks, reservoirs, or other receptacles, having a capacity in excess of 50 gallons unless the owner first complies with TLWSSD's back-flow and cross-connection policy, (e) from pumping the water in any manner, without the prior written approval of TLWSSD, and (f) from using the water to drive or propel any motor, siphon, turbine or other wells or



hydraulic engines, elevators, or to drive or propel machinery of any kind whatsoever. The Culinary Water user is required (a) to properly maintain facilities or apparatus, including stop tap valves, joints or pipes, and (b) to close all taps and faucets when water is not being used.

If a TLWSSD customer violates these prohibitions, it may disconnect and terminate the Customer's service as provided in the TLWSSD's service termination policy.

J: GOAL IMPLEMENTATION THROUGH UPDATED WATER RATE SCHEDULE

The TLWSSD rate schedule encourages water conservation by using a tiered water rate schedule. The rate for connected lots is \$94.11 per month plus an additional monthly charge, which includes 4,000 gallons of water. The typical customer pays \$54.61 out of the \$94.11 to pay for bonds issued to eliminate leaks through the before mentioned water system overhaul. A connected customer, who opted to pay the bonding costs up front, is charged \$50.16 monthly. Charges for water used in excess of 4,000 gallons are as follows:

1. \$.012 for each gallon from 4,000-6000 gallons used during the month. This rate is equivalent to \$12.00/1,000 gallons.
2. \$.016 for each gallon from 6,000-8,000 gallons used during the month. This rate is equivalent to \$16/1,000 gallons.
3. \$.020 for each gallon from 4,001-6,000 gallons used during the month. This rate is equivalent to \$20/1,000 gallons.
4. \$.024 for each gallon from 1,000 gallons used during the month above 6,000 gallons. This rate is equivalent to 24.00/1,000 gallons.

TLWSSD will use reasonable efforts to read meters monthly, and will continue to charge rates according to the abovementioned schedule, which was updated in 2011.

In an effort to generate revenue and reduce usage this rate schedule was updated in 2003, then in November of 2007, and again in 2011.

K: GOAL EVALUATION IN COORDINATION WITH CONSERVATION PLAN UPDATES

Water usage will be closely monitored by monthly meter reads. The District will review and make needed changes to its conservation plan on a yearly basis as it tracks progress toward goal completion. This will be done in January of each year in conjunction with its water rights reports.

This plan will be reviewed and updated by TLWSSD and resubmitted



to the Division of Water Resources every five years as required by Utah law. The ordaining ordinance for the water conservation plan is included in Appendix A



Appendix A

CERTIFICATION OF ADOPTION

We, Timber Lakes Water Special Service District hereby certify that the attached Water Management and Conservation plan has been established and adopted by Timber Lakes Special Service District, **February 17, 2015**

_____ Name	_____ Title	_____ Date
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L: List of Board Members

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Appendix B

Required public hearing and Notice: Pursuant to the public hearing and notice requirements applicable to Utah Special Service Districts (Utah Code Ann. §52-4-202) by providing at least 24 hour notice of the agenda, date, time and place of the public meeting. Such notice is posted (1) in TLWSSD's offices at 190 N. Main, Heber City, Utah, (2) in the Utah's Public Notice Website (via Wasatch County) and (3) notice is given to the Wasatch Wave. As an advertisement for the required public meeting to discuss and adopt the plan by resolution. A copy of this water management and conservation plan was submitted to the Wasatch Wave at least one week before the scheduled meeting to be held February 17, 2015.

