

**Trinity Rural
Water Supply Corporation**

Water Conservation Plan

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I. INTRODUCTION

This Water Conservation Plan has been prepared to meet the requirements of the Texas Water Development Board under 30 TAC 363.15 and the Texas Commission on Environmental Quality under 30 TAC 288.2. This plan comprises the overall revised conservation policy to be placed into effect by Trinity Rural Water Supply Corporation (TRWSC). The sources of future supply are limited and the cost of water supply will continue to increase. Therefore, TRWSC is committed to the progressive program of conservation of water resources outlined herein.

II. SYSTEM EVALUATION

A. Current System

The Trinity Rural Water Supply Corporation currently serves 2,263 connections in Trinity, Polk, and Walker Counties. Service to two major subdivisions, Harbor Point and Westwood Shores, is for water use only. These two developments, serving a combined 990 connections, have their own pump stations and distribution systems. Thus, there are 1273 high service connections on the TRWSC distribution system. Water supply for the overall system is from two wells, two emergency delivery points from the Trinity River Authority (TRA), and our Surface Water Treatment Plant (SWTP). The system is divided into three separate legs: the North Leg (2280028), the South Leg (2280011), and the Chita Leg (2280029).

North Leg – Water supply for the North Leg supplies water to 136 connections. Water supply for the North Leg is self-supplied from the SWTP, collected in two ground storage tanks totaling 30,000 gallons in capacity, and pumped into the distribution system by high service pumps totaling 300 gpm in capacity. A 5,000 gallon pressure tank is used to maintain pressure in the system.

South Leg – The South Leg supplies water to 681 high service connections and 800 wholesale water supply connections. Water supplies for the South Leg is self-supplied by the SWTP and by one emergency interconnect with TRA totaling 104 gpm. Water is collected into three grounds and one elevated storage tank totaling 409,148 gallons in capacity, and pumped into the distribution system by two high service pumps totaling 695 gpm in capacity. A 5,000 gallon pressure tank maintains pressure for the system.

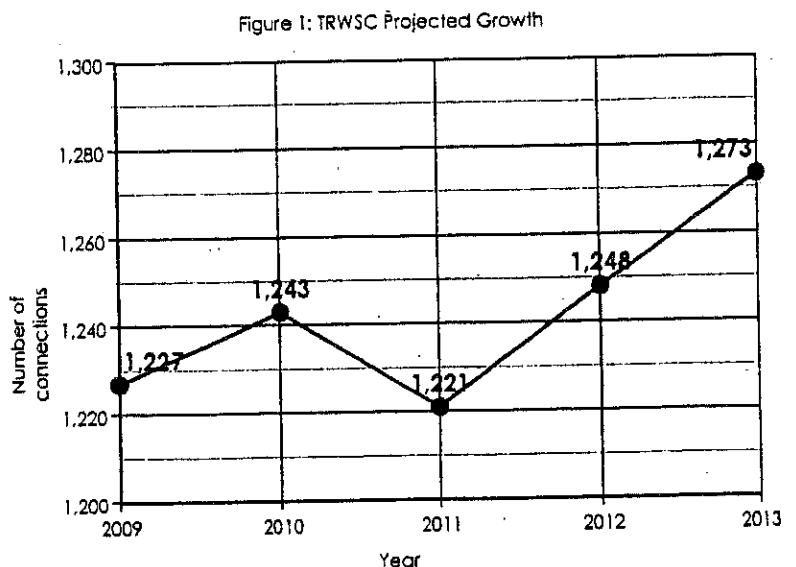
Chita Leg – The Chita Leg supplies water to 456 high service connections and 190 wholesale water supply connections. The two Chita Wells and a tie-in with TRA provide approximately 284 gpm of supply to the Chita Leg. Water from the wells is stored at the Chita Plant in an 80,000 gallon ground storage tank. Water is pumped to the two Chita Standpipes using high service pumps totaling 330 gpm in capacity. The Chita Standpipes have a combined storage capacity of 100,000 gallons. Water from TRA is delivered directly to the Chita Standpipes, which maintains pressure on the Chita Leg. Also, the Chita Leg system has a granted ACR of 0.47 gpm.

B. Projected Growth

Historical records for the number of retail connections were plotted and used to predict the general trend of future growth. The historical data is shown in Table 1, while the plot is shown in Figure 1. From the graph, the water system is estimated to be growing at an average rate of approximately 11.8 connections per year and will be serving 1415 connections by the year 2025. The Texas Water Development Board population information was examined for comparison. Population values were based on 3 people per connection. Based on the TRWSC analysis of the TWDB data, the projected growth rate for TRWSC is 10.6 connections per year. TRWSC feels that based on recent history, the estimation of 12 connections per year is more probable.

Table 1: TRWSC Historical Data

<u>Year</u>	<u>Connections</u>	<u>Estimated Population</u>
2009	1227	3,681
2010	1243	3,729
2011	1221	3,663
2012	1248	3,794
2013	1273	3,819



C. Water Usage and Conservation

Water usage for the system totaled 116,329,153 gallons for 1273 connections (3,819) customers in 2013. Based on the 3 people per connection discussed previously, the average usage is 83.5 gal/cap/day. This low per capita usage reflects the water conservation policies that are already in place. Current water conservation practices are described below:

1. **Metering** – All sources of supply are metered. Meters are calibrated periodically to assure accuracy. All service connections are metered. Supply and service meters are sized according to American Water works Association (AWWA) Standard C700 criteria for range of flow. These meters are periodically checked for accuracy, and meters not meeting the standards for accuracy, + or – 1.5% at normal flow and -5% or +1% at minimum flow are replaced.
2. **Loss Calculation** – The Water billing software is used to compare water supply to water sales monthly. The loss is calculated in terms of total volume and percentage of supply. Loss above 15% results in an intensive effort by the staff to locate distribution system leakage. Also, any leaks that are noticed by the staff or reported by the public are repaired as soon as possible.
3. **Water Rates** – The water rate structure is “non-promotional.” The schedule employs an increasing block rate for residential and commercial customers. The residential rate is \$60.00 for the first 3,000 gallons, \$6.60 per thousand gallons of usage from 3,001 to 5,000, and \$7.80 per thousand gallons for all usage of 5,001 gallons or more. The base charge for commercial service is \$65.00 for 3,000 gallons. The rates for usage over 3,000 gallons are the same as that for residential service.

III. LONG TERM WATER CONSERVATION

The conservation measures adopted for this plan are as follows:

A. Measures to Control Unaccounted for Water

The current policy of universal metering will continue. In addition, water supply meters will be calibrated every year at the SWTP and every three years at the Chita wells. This will be done to verify accuracy to meet AWWA standards. A program of service meter testing will be initiated so that residential meters are tested at least once every ten years and commercial meters are tested at least once every five years. Inadequate meters will be repaired or replaced. The

current policy for checking water lines for leakage based on the loss calculation and repair of all visible leaks as soon as possible after discovery will be continued.

B. Water Rate Structure

The current “non-promotional” water rate structure will continue. However, significant water supply and distribution system improvements that are planned will necessitate a significant water rate increase. The higher rates will be further incentive for water conservation.

C. Educational Program

Trinity Rural Water Supply Corporation will provide the public with information about water conservation at least once per year. This information will be provided by means of publication in the local newspaper and mailing to each member.

D. Measurable Goals

The goal for TRWSC is to decrease per capita water usage by 1% per year through water conservation practices. Projected populations and water usage goals through the year 2025 are shown in Table 2. The goal for 2020 is a per capita usage of 82.8 gal/day and a total usage of 123 million gallons (MG). The goal for 2025 is a per capita usage of 82.5 gal/day and a total usage of 128 million gallons (MG). Of course, the usage may be greater in periods of drought and less in periods of wet weather. Also, the total usage goals are based on a projection of growth, and the actual growth rate may vary from the projection. The 2013 water loss for the South leg was 33%. The 2020 goal is 27% and the 2025 goal is 22%. These goals are also based on a 1% per year water loss reduction.

Table 2: Water Conservation Goals

Year	Connections	Population	Projected Water Usage	
			gal/cap/day	MG/yr
2013	1,273	3,819	83.43	116.3
2014	1,285	3,855	83.15	117
2015	1,297	3,891	83.08	118
2016	1,309	3,927	83.02	119
2017	1,321	3,963	82.95	120
2018	1,333	3,999	82.89	121
2019	1,345	4,035	82.83	122
2020	1,357	4,071	82.77	123
2021	1,369	4,107	82.71	124
2022	1,381	4,143	82.66	125
2023	1,393	4,179	82.60	126
2024	1,405	4,215	82.54	127
2025	1,417	4,251	82.49	128

*-Usage for 2013 is historical data

E. Adoption and Enforcement of This Plan

The Board of Directors of the Corporation will be ultimately responsible for implementation of the Water Conservation Plan. Implementation will be by the Corporation Staff under the general oversight of the Board of Directors. A resolution for adoption is included as Appendix A.

F. Tracking Plan Effectiveness

An assessment of compliance will be conducted annually. The assessment will address each of the elements of the plan described above. A letter report describing the results of the assessment will be presented to the Board of Directors of the Corporation in the regular Directors meeting immediately following the annual membership meeting.

G. Coordination with Regional Planning Groups

This plan has [or will be] submitted to the Regional Water Planning Groups for Regions H and I. Copies of the letters of transmittal are included as Appendix B.

IV. EMERGENCY WATER DEMAND MANAGEMENT

The Drought Contingency Plan for TRWSC was updated by Jay Savanich (General Manager), in March, 2014. This plan discusses the measures to be taken during various conditions of water shortage. A copy of the plan is attached as Appendix C.

V. CONCLUSION

TRWSC understands the importance of water supply to its customers and the quality of life in the State of Texas. Thus, TRWSC is committed to an effective and progressive program of water conservation. The water conservation measures identified in this plan will be implemented as an important component of facilities operation.