

Water Conservation Plan

TRUCKEE MEADOWS WATER AUTHORITY

July 2007

Submitted to Division of Water Resources, Nevada

Pursuant to NRS 540.121-540.151

Introduction

Water conservation is a vital part of an integrated water resource plan. Water conservation can influence customer utility bills, the need for future facilities or timing of those facilities, drought protection for the community, and the rate at which new resources are needed. There has been a process of developing and implementing conservation programs over the past 18 years, implemented by Truckee Meadows Water Authority (TMWA), its predecessor Sierra Pacific Power Company (Sierra), and the Regional Water Planning Commission (RWPC). In 1995, Sierra submitted conservation plans to the Nevada Public Utility Commission under NRS 704.662 as part of its 1995-2015 Water Resource Plan. TMWA submitted its first conservation plan to the Nevada Division of Water Resources under NRS 540.121 through 540-151 in 2003 as part of its 2005-2025 Water Resource Plan. The plan submitted herewith is the 5-year update to the 2003 submittal.

In developing its water conservation strategies, there are several planning objectives that TMWA seeks to achieve. TMWA conservation efforts satisfy NRS 540.121 through 540.151 by implementing conservation programs that provide:

- a) Methods of public education to (1) increase public awareness of the limited supply of water in the State and the need to conserve water, and (2) encourage reduction in the size of lawns and encourage the use of plants that are adapted to arid and semiarid climates;
- b) Specific conservation measures required to meet the needs of the service area, including, but not limited to, any conservation measures required by law;
- c) Management of water to (1) identify and reduce leakage in water facilities, inaccuracies in water meters and high pressure in water supplies, and (2) increase the use of effluent; and
- d) A contingency plan for drought conditions that ensures a supply of potable water.

To satisfy the objectives of NRS, TMWA's conservation plan consists of four categories that address: public education, other conservation measures, system management, and conservation during drought periods. The first three categories with their various conservation measures, the target audience, and TMWA's primary conservation programs are summarized in Table 1. Drought conservation activities generally include enhancement of the Regional Water Planning Commission's (RWPC) conservation plan and is comprised of the conservation measures currently practiced and described for its retail customers under each of these three sections. TMWA intends to continue the programs listed and described herein unless required to do otherwise or as conditions change that would redirect activities toward measures that enhance TMWA's conservation efforts.

Table 1: Conservation Measures

	Primary	Target
<i>A. Public Education</i>		
Irrigation management workshops & certifications	1, 2	Landscape professionals
Homeowner workshops	1, 2	Residential services
Public education/presentations, free kits	1, 2	Residential, children
Watering schedule	1, 2, 3	All services
Landscape retrofit	1, 3	Irrigation & residential services
Conservation consultants	1	All services
Teacher materials	2	Children
Audit program	1, 2	Residential & business services
<i>B. Other Conservation Measures</i>		
Water management programs	1, 3	Large public and irrigation services
Water rates	1	All services
Codes and ordinances	1	All services
<i>C. System Management</i>		
Meter retrofit program	1, 3	Residential
Meter replacement	1	All services
Coordination of effluent use	3	Irrigation
Non-potable water service	3	Irrigation
Leaks and system repairs	1, 4	All services
System pressure standards	1, 4	All services
<i>D. Drought Responses</i>		
Expand no watering times: 10:00a to 7:00p	1	All services
Mandatory "Good Earthkeeping"	1	Hotel/motels
Restricted lawn planting season	1	Irrigation & residential services
Limit outdoor watering to non-turf areas if needed	1	Irrigation & residential services
Increased water waste enforcement	1	All services
1	Reduces water use/waste	
2	Education	
3	Peak day savings	
4	Minimize operation and maintenance to distribution facilities	

Public Education

Irrigation Management Workshops and Certifications In March 2005, TMWA hosted a training and certification program for local landscape industry professionals. A two-day training class leading to certification as a Landscape Irrigation Auditor was conducted at TMWA facilities. Those who completed the training were awarded with a certificate of recognition by TMWA. In addition to the Landscape Irrigation Auditor class, a one-day Spanish class was also held. Certificates were awarded in Spanish and English. The RWPC funded the class. The training is held as requested by landscape professionals.

Homeowner Workshops TMWA continues to partner with Washoe County Parks Department to offer a ‘Common Sense Gardening Series’ at Rancho San Rafael, a regional park with an extensive arboretum. The arboretum contains examples of low water-use plants and native plants. TMWA is co-sponsoring guided tours of water efficient plants and seminars including designing and winterizing irrigation systems, turf alternatives, and expert panel sessions.

TMWA also provides workshops on topics of customer interest throughout the year. Most recently these workshops focused on the river system and our water supply, residential water use, and growth paying for growth.

Public Education, Distribution of Kits and Materials TMWA utilizes every opportunity to promote responsible water use by attending public events and distributing information. Organizations can request that TMWA present conservation advice to a specific audience. TMWA’s residential indoor and outdoor guide provides water savings tips for households, as well as some general usage information about TMWA services and how to read your meter.

Doorhangers are left at residences whenever a TMWA Conservation Consultant has visited a home, reminding customers of their watering times, and conservation tips. Bill inserts remind customers of both summer and winter habits that can conserve water. TMWA also uses its billing system to print conservation messages and facts directly on customer’s bills. TMWA’s internet site (www.tmh2o.com), further provides local conservation facts and tips, an online landscape guide, and links to professional horticulture sites.

TMWA sponsors an annual poster contest that enables children from throughout the community to develop slogans and pictures highlighting the need for conservation. In 2006 TMWA turned the winning poster art submissions into book covers and works with the Washoe County School District to distribute. Further, local weatherpersons act as liaisons between TMWA and the community by featuring information on the water supply, conservation, and assigned-day watering during their weather forecasts.

TMWA also sponsors an annual award for the best water-efficient landscape in its service area. Local landscapers and landscape suppliers support prizes for customer submittals of landscapes that have aesthetic qualities while promoting water conservation.

Assigned Day Water Schedule TMWA sponsors an advertising campaign for mandatory assigned day watering during the summer months, and for a fall ‘cool-down’ period during the autumn months in drought years. The program began as a voluntary program in 1987 to spread the use of water more evenly throughout the week and reduce total weekly and daily water

production used for landscape irrigation. The plan calls for watering deeper and less often, and assigns days of the week when customers may water.

Advertisements promoting assigned day watering are placed on TV, radio, and in local newspapers. Additionally, printed material with tips on how to keep a healthy landscape are provided in monthly bill stuffers, direct advertising, and web postings.

Outdoor watering is limited to a customer's assigned days, and watering between 1 p.m. and 5 p.m. is prohibited. In 2004 TMWA enhanced its rules by adding penalties which are billed directly to a customer for water waste violations and for watering on non-assigned days. These rules provide for a one-time warning followed by an increasing penalty of up to \$75 per occurrence for repeat violations. TMWA's water consultants investigate water waste complaints and provide tips to customers that help curb water usage.

Landscape Retrofit The landscape retrofit program encompasses promotion of water efficient landscaping in the Truckee Meadows primarily through education. TMWA provides a guide to water-efficient landscaping guide with ideas for yard designs, irrigation layout, plant selection, and maintenance. TMWA launched an interactive guide on its website hosting this guide, and it is one of the most visited pages on the website.

TMWA continues to solicit input from its customers through formal advisory groups. TMWA held focus groups to gain input from a wide array of residential customers on conservation and landscape related topics. Input from past and current advisory groups has included recommendations to set additional rate tiers to penalize excessive water users. TMWA has partnered with other public entities such as the Washoe County School District and Reno Housing Authority to convert large turf areas to water-efficient landscapes.

Conservation Consultants TMWA hires seasonal water conservation consultants during the summer months to consult with customers about water waste, remind customers about the assigned day summer watering schedule, provide advice to customers, and help high usage customers reduce their water consumption. Each year TMWA employees make over 9,000 visits to customer locations to educate and distribute water conservation materials.

Teacher Materials TMWA launched TMWA Academy in 2005. The TMWA Academy website (www.tmwaacademy.com) was created especially for teachers and students in the Truckee Meadows. It provides resources and information for all grade levels of students and teachers on water in northern Nevada, including many helpful lesson plans, projects, and interactive learning tools.

TMWA currently provides EPA teaching materials for grade school via the internet site. TMWA developed a series of modules that meet the Nevada standards for the science curriculum and released the first set of materials in the spring of 2003. Modules were released for school grades K-12 so that children could be introduced to the subject and build their knowledge base with each grade that they progress through. Teachers are able to either download the materials directly from the Internet, or order the materials from TMWA.

Water Audit Program TMWA began a residential audit program in the summer of 2003. The program is co-sponsored by TMWA and the Regional Water Planning Commission. This program includes a comprehensive house (indoor and outdoor) water usage review performed by one of TMWA's two auditors. Due to the program's success with residential customers, it was

expanded to commercial customers in 2005. As of December 2006, more than 2,500 water audits had been completed (Table 2).

Table 2: Water Audits by Year

	Commercial	Residential
2003	42	402
2004	66	431
2005	123	771
2006	70	661
Total	301	2,265

The most common problem found at audited sites is that run-times for irrigation zones within a landscape are set for too much time. Many times the auditors recommend reducing the run-times by approximately 25 percent to achieve a balance between water savings and healthy landscaping

Other Conservation Measures

Water Management Programs The Washoe County School District (WCSD) is one of TMWA's largest municipal customers. TMWA prepared a Water Management Program for the school district to help them reduce water use on their sites, lowering their water bill, and reducing peak day demand for TMWA. For example, TMWA has worked with the WCSD to implement non-potable watering solutions at Reno High School. Similar water management programs may be prepared for other large municipal customers in the future depending on interest.

Evapotranspiration Study A three-year Evapotranspiration (ET) Controller study was initiated in 2003 at 11 select commercial properties and in 2004 at 10 additional properties. Combined, the properties had over two million square feet, or 47 acres, of turf that was irrigated with the use of ET Controllers. The goal of the study was to better understand potential water use reductions gained through using ET Controllers. To measure water savings as a result of the installation of ET Controllers, a base level of water usage for each site was established by averaging its water usage between May to October in 2000, 2001, and 2002. Water usage for May to October of each study year was then compared to this base level.

Data shows that the total water savings for the 2003-2006 study properties, measured as the deviation at each site from its base period water usage and using an average approach, was 15.4 million gallons. For the 2004-2006 group, data indicates that approximately 22.9 million gallons were saved over the 3-year study duration (See Table 3 and Table 4). Additionally, the study confirmed that all the individual commercial sites that used the ET Controllers as intended benefited from water savings during the study period. These sites also had the benefit of professional landscape services that aided in the proper use and maintenance of the ET controller necessary to receive maximum water saving. However, not all sites benefited proportionately in each of the study years. The few sites that applied more water in relation to their established base

level either had system leaks, changes in ET Controller settings, or changes in landscaping during the study timeframe.

Table 3: Summary Results of 2003 ET Controller Study Sites

Site	PERCENT SAVINGS OVER HISTORICAL AVERAGE				THOUSANDS OF GALLONS SAVINGS REPORTING PERIOD MAY - OCTOBER			
	2003	2004	2005	Total	2003	2004	2005	Total
2003 Controller Group								
Vistas HOA	10%	11%	3%	2%	2,145	2,309	536	4,989
Coit Plaza	23%	9%	23%	11%	280	113	274	666
Greg Center- Bldg. A	8%	13%	3%	7%	164	259	67	489
Greg Center- Bldg. B	18%	21%	11%	13%	226	269	137	631
Greg Center- Bldg. C	43%	23%	14%	22%	416	223	138	778
Greg Center- Bldg. D	44%	19%	26%	21%	166	72	99	338
Manogue - Church	2%	10%	26%	4%	23	125	307	454
Manogue - Post Office	32%	13%	45%	15%	322	130	444	897
McCarran Landing	35%	49%	56%	28%	704	978	1,134	2,817
Redfield Promenade	18%	7%	33%	8%	735	293	1,339	2,366
Sierra Marketplace Office	29%	24%	17%	18%	411	344	245	999
TOTAL (THOUSANDS OF GALLONS)				3%	5,591	5,113	4,719	15,423

Table 4: Summary Results of 2004 ET Controller Study Sites

Site	PERCENT SAVINGS OVER HISTORICAL AVERAGE				THOUSANDS OF GALLONS SAVINGS REPORTING PERIOD MAY - OCTOBER			
	2004	2005	2006	Total	2004	2005	2006	Total
2004 Controller Group								
4840 Mill St	18%	26%	26%	23%	85	125	126	335
1301 Corporate Blvd	55%	49%	-30%	25%	267	240	(146)	361
3001 Skyline Blvd	18%	34%	26%	26%	66	125	96	286
1150 Corporate Blvd	42%	61%	65%	56%	364	523	559	1,445
4865 Longley Ln	35%	45%	-48%	37%	121	153	(165)	109
Northgate Village HOA	25%	20%	17%	21%	1,477	1,221	1,013	3,712
Cimarron HOA [R]	6%	-2%	-4%	-7%	447	(122)	(264)	62
Mill Creek HOA [R]	1%	5%	3%	3%	56	239	126	421
The Fairways HOA [R]	31%	0%	11%	14%	1,110	(13)	381	1,478
Lakeridge Shores HOA [R]	15%	21%	28%	21%	3,391	4,725	6,556	14,673
TOTAL (THOUSANDS OF GALLONS)				16%	7,383	7,215	8,280	22,878

Now that the study is finished, TMWA will continue to monitor the ET Controller technology, cost, and associated requirements. Implementing a full ET controller distribution and/or retrofit program will require systems that do not require professional maintenance and can be used by the general public. However, reaping the full benefits may require altering the assigned day watering program.

Water Rates Metered customers pay an inverted block structure with three tiers. For single family residential metered customers, the first 6,000 gallons per month is charged at \$1.58 per 1,000 gallons. Usage between 6,001 and 28,000 gallons per month is charged at \$2.50 per 1,000 gallons and usage in excess of 28,001 gallons is charge at \$2.91 per 1,000 gallons. Multi-unit residential metered customers are charged \$1.58 per 1,000 gallons for the first 4,000 gallons used per unit per month, and \$2.50 per 1,000 gallons for usage in excess of 4,000 gallons per unit per month. For commercial customers, the first tier usage limit, defined by the customer's meter size, is charged at \$1.58 per 1,000 gallons, the second tier is charged at \$2.50 per 1,000 gallons, and the third tier is charged at \$2.91 per 1,000 gallons.

TMWA will continue to use a tiered rate structure for metered customers. Not only are tiered water rates a part of the Negotiated Settlement but increasing tiered rates provide greater incentive to high volume water users to conserve.

Codes and Ordinances TMWA is working with local agencies to require landscape designs that make sense in our high desert environment. TMWA also supports the RWPC in their efforts to change the residential hot water plumbing code to reduce pipe size where applicable.

The cities of Reno and Sparks, and Washoe County (April 2002, July 2002, and March 2002, respectively) have enhanced ordinances that support TMWA's conservation efforts and allow enforcement of penalties to water wasters. The ordinances give TMWA's Board of Directors authority to recommend to the local governments that a water emergency be declared with associated watering restrictions.

System Management

Meter Retrofit Program The installation of water meters in the incorporated areas of the Truckee Meadows evolved over a period of 15 years. With rapid population growth in the cities of Reno and Sparks in the latter half of the twentieth century increasing demands on limited water resources increased dramatically; it became apparent that this condition needed to change. In 1979 meters were installed at commercial customer services and meters began to be installed at irrigation services. In 1985 NRS was modified to allow customers to volunteer for installation of meters and required meters in new homes after July 1, 1988. With passage of AB 900 in 1990, Sierra was authorized to install meters on remaining flat-rate customers and in 1995 the Public Utilities Commission of Nevada approved the "Finance and Meter Retrofit Construction Plan." Per the terms of the PSA, Sierra was required to provide a financing plan for the installation of water meters on 44,651 unmetered, flat-rate water customers (as of November 1994, when Sierra's 1995 Water Resources Plan was approved). Project management of the Retrofit Program initiated setting up the program in early 1995. By June 1995, all the elements—financing, accounting, cash collection, and management, personnel, equipment, and data tracking were in place to begin installations of meters. Since its inception the financing element of the meter retrofit program has always been a "pay-as-you-go" process; no bond financing was ever used to fund this program. Monies were collected from new development based on a fee for every 1 acre foot of demand dedicated for water service. The current retrofit fee of \$1,830 per acre-foot of demand was approved in 1999.

As of June 2007, TMWA has meters on approximately 95 percent of the water services in its system. At that date, there were 4,187 residential services yet-to-be retrofit (2,354 single

family services and 1,833 multi-unit complexes). The number requiring retrofit has greatly diminished and is primarily limited to services in the Stead area.

Table 5: Meter Retrofit Summary

	Services
Flat Rate Services Requiring a Meter	4,187
Flat-Rate Services with Non-Billing Meters	11,146
Total Flat-Rate	15,333
Total Metered Residential Services	66,821
Total Flat and Metered Services	82,154

At this time TMWA’s Board has decided to continue voluntary switching from a flat rate to metered rate for customers. However, for those customers paying a flat rate, water use information from their non-billing meter is included on their monthly bill. It is anticipated that the meter retrofit program will be completed within two to three years for an approximate cost of \$10-12 million.

Meter Replacement Since TMWA was created in 2001, crews have been targeting large commercial meters that were installed in the 1980s for replacement. Many of these meters are no longer functioning properly and are a source of lost revenue. An additional benefit of this process is the detection and repair of leaks resulting from the older facilities. This program is also resulting in further reduction of water waste.

All of TMWA’s 86,000-plus metered services are read electronically via remote radio transponders by one meter reader. Although the majority of meters are under ten years old with an expected life-cycle of 15 years, TMWA will annually review individual meter performance and based on the installation date of a meter, will replace older meters as necessary.

Effluent Water Service Coordination with Local Agencies TMWA has been asked by Reno, Sparks, and Washoe County to ensure that the use of treated effluent is being applied at suitable sites where the infrastructure is, or is planned to be, installed while meeting return flow obligations associated with the use of effluent. In 2003 TMWA incorporated into its requirements that new service applications submit verification whether the site applying for municipal, treated water has already been designated, or is within feasible range to be serviced by effluent water.

Supplying large turf sites with effluent or other non-potable sources leaves capacity for new municipal demand that requires treated water, enabling the water resources to go further.

Non-Potable Service Effective November 1, 2002, TMWA has a “Non-Potable Service” (NPS) tariff to provide sources of untreated water to sites that can receive untreated Truckee River water or poor quality ground water with minimal capital investment. Non-potable water service is available at a reduced rate, providing incentive for qualified customers to switch to this

service. The service will reduce TMWA peak-day demand and lower system capacity needs. It is anticipated that irrigation and construction sites utilizing this service will also conserve water due to the requirement to demonstrate responsible watering practices specified in the contract for this service.

Specific facility needs for each service connection will be identified in the service agreement between TMWA and the customer receiving non-potable service. The recipient of this service will have to demonstrate at each site the ability to tolerate the interruptible nature of this service (due to system or drought requirements) and/or the potential to switch between treated and untreated water.

Leaks and System Repairs TMWA is very aggressive with repairs of water main breaks and leaks as soon as is practicable. Of primary concern is assessing public safety and safety of the work crews, minimal interruption to public and private services, as well as minimizing overtime expenditures. If water leaks are not large, not causing a safety problem, and reported outside normal working hours, field supervisors will determine the urgency of the needed repairs and schedule repair work accordingly.

When the source of the leak is determined and the appropriate underground locations of other utilities are completed, the crew will excavate the leak site and make repairs. In the case of a leaking poly-butylene pipe, the crew will usually replace the entire service, as this type of pipe has proven particularly prone to repeated leaks. All leaks are reported and entered into a database. Since its inception in 2001, TMWA has replaced over 220,000 feet of main, and repaired 1,272 specific leaks.

System Pressure Standards Engineering design criteria require that a pressure of 40 to 125 PSI be maintained at the customer's connection. Pressures exceeding 125 PSI may increase the possibility of main breaks or accelerate the development of leaks, both on TMWA and customer facilities. Excessive pressure results in more water delivered through the tap since flow rate is proportional to pressure. This can result in such forms of water waste as sprinkler overspray, faucet splashing, and higher leakage flow rates.

Unauthorized Use of Treated Water Use of water without dedicated water rights, or for temporary purposes without TMWA permission, is illegal. Use of fire hydrants as a water source is also illegal under city ordinances (except for city vehicles). As TMWA continues to meter the system, it continues to locate and correct unauthorized or unknown water use. An example of this type of unauthorized use occurs when there are two service lines to one premise with one service that is not billing.

Assigned Day Watering As discussed under the public education section, TMWA continues to implement assigned day watering to help manage the delivery of water throughout the distribution system. Currently, this method enables residential services to water on Wednesday and Saturday, for even addresses, or Thursday and Sunday, for odd addresses. Commercial properties are assigned Tuesday and Friday for outdoor watering. Monday is used as a day for system recovery with no customers assigned to water on this day.

TMWA was required to utilize twice a week watering, per the terms of the 1996 Conservation Agreement as part of the Preliminary Settlement Agreement, until such time as at least 90 percent of its flat-rate, single family residential services was metered. As discussed earlier in this chapter, Sierra, and subsequently TMWA, embarked on a meter retrofit program in

June 1995 to meet this goal. TMWA currently has over 95 percent of its flat-rate, single family residential services metered thereby enabling TMWA's Board of Directors to modify the current watering schedule if appropriate. Metering the system and providing comparison billing to those customers with non-billing meters has resulted in an overall reduction in water use throughout the system.

Prior to changing the current watering schedule, however, it is important to assess the impact of potential changes on TMWA's system and pressure zones. As a first step, and in an effort to gain better understanding of system-wide, average daily summer usage and assigned day water usage, TMWA conducted a daily water demand study from June 2, 2006, to August 15, 2006. During summers 2007 and 2008, TMWA will follow-up the system-wide study with a more focused study that targets specific pressure zones and neighborhoods. This micro-level data, when combined with the system-wide water demand data, will enable TMWA to thoroughly assess the impacts of a modified watering schedule on all parts of its system and ensure changes to the watering schedule will not interrupt water service to customers during peak times.

Conservation Response During Drought Conditions

During periods of successive drought years it becomes critical to further reduce potable water use; water use by TMWA's customers is expected to decrease during these periods. A cooperative effort approach with the Regional Water Planning Commission (RWPC), the cities of Reno and Sparks, and Washoe County is critical to reducing potable water use, particularly by those that rely on the Truckee River. The RWPC Drought Response Plan (DRP) therefore includes the conservation activities undertaken by TMWA to reduce potable water use by its retail and wholesale customers.

The DRP responds to conditions that impact TMWA's ability to divert water from the Truckee River. Inability to divert sufficient quantities of water from the Truckee River only happens during consecutive dry summer months in a low-precipitation year. It follows that water conservation efforts in response to drought should be triggered region-wide by the same conditions, that is, when Truckee River flows are inadequate to meet Floriston rates for one or more consecutive summer months between June through September (the prime months of the irrigation season). Under these conditions, TMWA is required to use privately-owned stored water (POSW) or other available drought reserves (e.g., increase groundwater pumping). The recommended level of response is phased-in according to the flows and the number of drought months during the irrigation season.

Additionally, drought response measures should be those proven to reduce summer demands. Based on current predictive capabilities and water/river forecasts, the RWPC, and TMWA, phase-in certain measures earlier in the year to potentially extend water availability and thereby limiting the need for severe water conservation activities. The DRP uses a drought rating similar to that of Southern Nevada Water Authority (SNWA) that includes the following levels of drought declaration:

- No Drought
- Drought Watch
- Drought Alert
- Drought Emergency

During years in which the Federal Water Master predicts one or more months' loss of Floriston rates, a Drought Watch, Drought Alert, or Drought Emergency may be declared. As the water purveyor dependent on Truckee River water as the main source of supply, TMWA begins planning for the irrigation season prior to the April snowpack findings and formulates communication plans for each of the following drought ratings in the event that such a declaration is made. The drought rating for a season may be stepped up or down depending on actual river flows during the summer with the appropriate conservation measures enacted.

The condition defining each of these drought ratings presented here as set forth in the RWPC Regional Water Management Plan along with the conservation measures that may be undertaken by TMWA and other water purveyors in the region.

No Drought

Condition: Floriston rates are predicted to be maintained from June through September.

Response: Promotion of assigned day watering and other conservation measures.

Drought Watch

Condition: Predicted loss of Floriston rates beginning in September.

Responses:

- Increased enforcement of assigned day watering; no watering between 1:00 p.m. and 5:00 p.m.
- Increased public education
- Increased enforcement of water waste rules
- Implementation of landscape water budgets for irrigation customers. Assumes an amount of water use associated with various lot sizes. Exceedance of average water use by lot size would result in recommended audits
- Voluntary restaurant implementation of “no-water-served-unless-asked” policy
- Voluntary hotel/motel implementation of Good Earthkeeping activities

Drought Alert

Condition: Predicted loss of Floriston rates beginning in August.

Responses:

- In addition to those actions listed under Drought Watch, these actions may be implemented:
 - Expand no watering time from 1:00 p.m. to 5:00 p.m. to 10:00 a.m. to 7:00 p.m.
 - Public education encouraging Spring or Fall plantings of new lawns
 - Exceedance of water/irrigation budgets results in mandatory audits
 - Mandatory “no-water-served-unless-asked” policy
 - Mandatory hotel/motel implementation of Good Earthkeeping activities

Drought Emergency

Condition: Predicted loss of Floriston rates any month(s) prior to the month of August .

Responses:

- In addition to those actions listed under Drought Watch and Drought Alert, any of these actions may be taken:
 - New lawn plantings prohibited during the months of lost Floriston rates
 - Once-a-week watering possibly beginning during first month of lost Floriston rates
 - Outdoor watering is limited to non-turf landscaping such as trees, shrubs and flower and vegetable gardens for the duration of the drought emergency. Consideration will be given to public irrigated recreation areas such as parks and schools as the water supply condition permits.

Depending upon the severity of the drought, many of the programs mentioned above will require mandatory participation. As a result of actions taken during drought conditions, there exists a potential for water savings, potentially 15 to 20 percent as demonstrated during the 1987 to 1994 drought years. The graphic illustrates this point in showing reduction in use per connection per year during dry years followed by increase in use per connection in non-dry years.

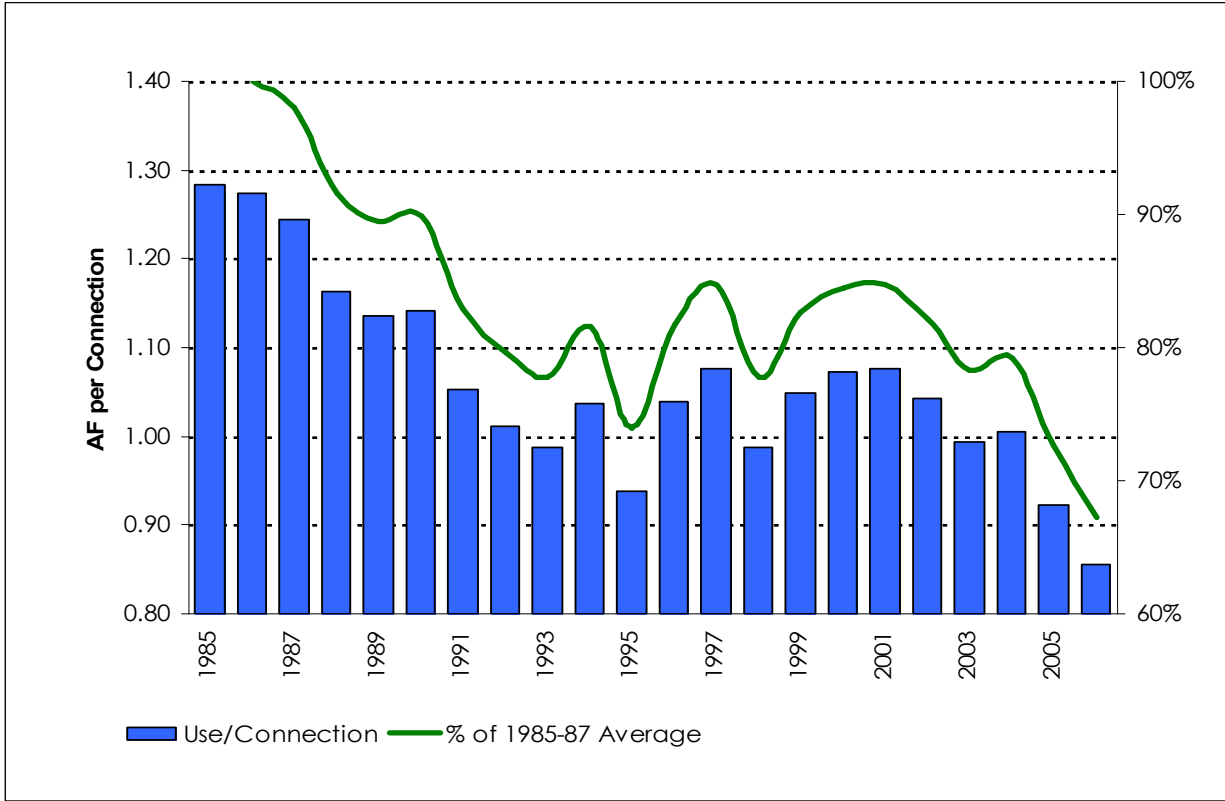


Figure 1. Use per Connection per Year

TMWA, in cooperation with other local entities, will continue to be actively involved with planning for and managing conservation programs during drought conditions.

Summary

All of the measures outlined under the sections of Public Education, Other Conservation Measures, and System Management comprise TMWA’s plan for conservation regardless of whether it is a drought or non-drought year. Depending on water supply conditions for any given year, TMWA increases conservation efforts especially during droughts. The goal during droughts is to further reduce water use in the event successive drought years are experienced. TMWA’s Board adopted this plan in 2003 and reaffirmed with revisions in June 2007. The plan satisfies the requirements of NRS 540.121 through 540.151.