Acknowledgements

This project was funded through a grant provided by the Colorado Water Conservation Board, a division of the Department of Natural Resources in the State of Colorado. Tri-County Water Conservancy District provided oversight of the completion of this project and provided in kind service as a provision of the funding. Rebecca Nichols of RHN Water Resources Consultants, LLC acted as the project manager and the primary author of this document.

Many people contributed to this project. Especially important to this project was the contribution that Mike Berry, the Manager, and Kathleen Margetts, the Assistant Manager of the Tri-County Water Conservancy District, made with their time and knowledge. Also important are the contributions that the different city and district water managers made to the project.

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Acronyms

Name	Acronym
Acre feet	af
Cubic feet per second	cfs
Chipeta Water District	Chipeta
City of Delta	Delta
City of Montrose	Montrose
Colorado Water Conservation Board	CWCB
Commercial & Industrial	C-I
Gallons per day	gpd
Menoken Water District	Menoken
Million gallons per day	mgd
Million gallons per year	mgy
Municipal and Industrial	M&I
Project 7	P7
Town of Olathe	Olathe
Tri-County Water Conservancy District	Tri-County or TCW
Uncompahgre Valley Water Users Association	UVWUA
United States Bureau of Reclamation	BOR
Water Treatment Plant	WTP
Water Conservation Plan	WCP

Mission Statement

Tri-County Water's
Water Conservation Mission is:

To Promote Water Conservation,
and
Efficient, Responsible, and Wise Use of Our Water Resources.

Preface

A Water Conservation Plan (WCP) is a plan for the development and utilization of a set of strategies. The WCP will provide both water suppliers and the local communities a means of using their water resources in a wise and prudent manner thus managing this precious exhaustible resource to its maximal responsible use.

The WCP developed by the Tri-County Water Conservancy District, is the first effort in realizing a regional Water Conservation Plan in the Uncompahgre Valley. It is Tri-County's hope that all water purveyors in the Uncompahgre Valley will either join in the water conservation effort or develop a similar Water Conservation Plan and join Tri-County in bringing water conservation into public awareness and practice.

This WCP is intended to be broad and flexible so that it can be adapted to changing water conservation efforts over time. It is also Tri-County's hope that through cooperation of all of the water purveyors in the Uncompahgre Valley that a regional water conservation effort will be realized. The ultimate goal of creating a water conservation effort is to provide unified water education and community outreach programs that will aid the public in developing meaningful water conservation practices.

Chapter
1

Water Conservation Plans

The purpose of a Water Conservation Plan is to help water purveyors improve their overall water use efficiency by addressing issues and problem areas and providing a defined method of solving problems and dealing with system inefficiencies.

The Water Conservation Planning Process

Background Information

Information was gathered and documented in this plan to assist with identifying and analyzing water conservation opportunities. Chapter 2 is a profile of the water system which includes the water supply contracts and water rights, the delivery of the system and general operating procedures. Chapter 3 characterizes water use and forecasts future demand and Chapter 4 outlines proposed new facilities.

Identification and Evaluation of Candidate Water Conservation Goals

Chapter 5 is the development of the Water Conservation Plan. The development of the plan includes the development of the Water Conservation Goals, the identification and selection of Water Conservation Measures, the integration and modification of water demand forecasts and the implementation of the Water Conservation Plan.

Water Conservation Goals

Water Conservation goals were set based on the criteria of:

- The District's Mission
- The Feasibility of the Goal
- The Benefits of the Goal

Defining a Plan of Action

The Water Conservation measures or plans of action were determined by evaluating proposed alternatives. The Water Conservation Measures that best met the criteria of the District were selected for implementation.

Implementation of the Plan of Action

Each Water Conservation Measure was prioritized for implementation based on its relative importance as determined by the Board of Directors and the District staff. A planning-level budget and schedule was developed as well as prospective funding sources for each measure.

Evaluating and Monitoring the Progress and Updating the Water Conservation Plan

Progress reviews will be conducted periodically and the Water Conservation Plan will be updated every seven years at a minimum.

Chapter
2

The Tri-County Water Conservancy District

History of the Tri-County Water Conservancy District

Investigations for the Dallas Creek Project began in the 1940s and the Tri-County Water Conservancy District was formed in September of 1957 to sponsor and support the Project. The Dallas Creek Project was authorized for construction by Congress in 1968 under the Colorado River Basin Act. Upon authorization, the District became the contracting agency for the repayment of the Dallas Creek Project and the holder of the water rights for the Project. Although there were several project features, Ridgway Dam and Reservoir was the only feature constructed to date. Upon completion of Ridgway Dam and Reservoir, the District took over the daily operations of the Project. In 1977, Tri-County signed the repayment contract for the Dallas Creek Project. Prior to construction of Ridgway Dam and Reservoir, the District established a domestic water system in the rural area of the Uncompahgre Valley. The Dallas Creek Project subsequently became the raw water storage and supply for the District.

The District

The contracting parties to the Dallas Creek Project are located in the Uncompahgre Valley in Ouray, Montrose, and Delta Counties on the western slope of Colorado. Elevation in the District ranges from 5000 feet to 8400 feet above sea level with an annual average precipitation ranging from 8.0 inches to 14.0 inches, respectively. During the winter months, temperature lows range from below zero degrees Fahrenheit in the higher elevation to the mid-teens in the lower elevations and winter highs range from mid 20s to upper 40s. During the summer months, highs range from the low 80s in the higher elevation to the low 100s in the lower elevations.

Tri-County Water Conservancy District Governance and Organization Structure

The Board of Directors is made up of five members from each of Delta, Montrose, and Ouray Counties appointed by the State District Court Judge and each member serves a four-year term. The general powers of the Board of Directors are outlined by the Colorado State Statutes (Title 37, Article 45, paragraph 118 CRS). Duties of the Manager and the Assistant Manager of the District are described in the Operating Policies of the District.

Contract Obligations

As the contracting agency for the Dallas Creek Project and as a major domestic water supplier, the District has entered into many contracts. Listed below are the major contracts and a description of the contractual agreements:

United States Department of the Interior

- Contract No. 7-07-40-L0273, U.S. Department of the Interior, Bureau of Reclamation, Dallas Creek Project, and the Colorado River Basin Act: Repayment Contract Between the BOR and the District, dated January 14, 1977.

  The contract establishes Tri-County as the contracting agency. It also describes the Project Works (Ridgway Dam and Reservoir), conditions precedent to construction of the Project Works, the terms of repayment of the Project Works, the establishment of the Development Blocks, and the use and allotment of the Project water. The contract also sets out the obligation of the District once the operation and maintenance of Ridgway Reservoir has been assumed by the District. The contract sets the M & I repayment at $38,000,000 plus interest which was reaffirmed in 1983 by Public Law 98-63.

- Contract 8-08-40-R0880, Between the BOR, the UVWUA, and Tri-County for Operation and Maintenance of Modified and/or Extended Portions of the Existing Domestic Water Distribution System, Colorado River Basin Salinity Control Project dated March 22, 1987.

  Contract 8-08-40-R0880 describes the replacement of winter livestock water historically delivered through the UVWUA canals and laterals by the extension and modification of Tri-County's existing domestic water system. The winter livestock water exchange period was set for October 15- April 15 and an annual exchange amount was set at 825 acre feet to be allocated between Olathe, Delta, Montrose, Chipeta, Menoken, and Tri-County.

- Contract 1-07-40-R1300, the BOR, the Uncompahgre Project, the Dallas Creek Project, and the Colorado River Storage Project: Agreement among the UVWUA and Tri-County for the Exchange of Water between the Uncompahgre and Dallas Creek Projects, dated June 4, 1991.

  Contract 1-07-40-R1300 formally recognized the exchange of Dallas Creek storage water in Ridgway Reservoir with direct flow water from the Uncompahgre Reclamation Project through the Gunnison Tunnel. The limits for the exchange were set at a flow rate of 200 cfs

with an annual limit of 23,000 acre feet for the irrigation season of April 1 through October 31 and 15,000 acre feet for the non-irrigation season of November 1 through March 31. The contract also specifies that during the operation of the exchange, a minimum flow of 75 cfs shall be maintained between the confluence of Cow Creek and the Uncompahgre River and the M&D Canal diversion from May 16 to October 31, and 45 cfs from November 1 to May 15.

M&I Contracts

Contracts for the M&I pool in Ridgway Reservoir were entered into between Tri-County and Montrose, Delta, Olathe, Menoken, and Chipeta. Below is Table 2-1 that summarizes the contract dates and the contract amounts.

Table 2-1

Contract for M&I Water in Ridgway Reservoir

Contract Holder	Date	Amount (acre-feet)
City of Montrose	9/23/1977	10,000
City of Delta	9/27/1977	3,700
Tri-County	1/14/1977	12,860
Town of Olathe	9/29/1977	300
Menoken Water Dist.	11/15/1989	640
Chipeta Water Dist.	11/16/1989	600
Total		28,100

Project 7 Water Authority

- Contract Establishing the Project 7 Water Authority as a Separate Governmental Entity, dated September 29, 1977.

  This contract establishes the Project 7 Water Authority as the entity that will provide water treatment services to Tri-County, Montrose, Olathe, Delta, Menoken, and Chipeta. The contract states that raw water will be provided by Tri-County and Montrose. The contract sets out the structure of the governing board and their duties.

  When the original carriage contract was made between Tri-County and the UVWUA, the concept of a regional water treatment plant was being formulated. On September 29, 1977, the Project 7 Water Authority was established as a separate government agency to treat raw water for the domestic water providers and deliver treated water to those entities. The domestic water providers are Tri-County, Montrose, Olathe, Delta, Menoken, and Chipeta.

The UVWUA became the seventh entity of the Project 7 as the UVWUA delivers the raw water through the Gunnison Tunnel and their canal system.

Service Area Agreements

- Agreements between Tri-County and Montrose, Delta, Olathe, Menoken, and Chipeta. Each agreement describes the individual water service area boundaries. These service area agreements were a condition of the contract creating the Project 7 Water Authority and were designed to eliminate competition for customers among the contracting entities of P7. The agreements were also made to assist in the planning for economical and efficient extension of the utility services. Over the years, some of the Service Area Agreements have been updated to meet changes in the service areas.

The Dallas Creek Project

From the inception of the Dallas Creek Project, the operations of the Project and distribution of the stored and treated water has been possible largely through cooperation and agreements among several entities. The Bureau of Reclamation (BOR) has title to the Ridgway Dam and Reservoir and all land and facilities around the reservoir. The Colorado State Parks operates the camp grounds and recreation facilities.

A report recommending that the Dallas Creek Project was submitted to the Secretary of the Interior on April 30, 1966 as one of the Upper Colorado River Basin storage projects. The project was planned as a multi-purpose project to provide municipal, industrial, and irrigation water to Delta, Montrose, and Ouray counties. Additional benefits were hydropower, flood control, recreation and benefits to area wildlife and the fishery in the Uncompahgre River.

The original plan included three major reservoirs; however, the Final Environmental Statement for the Definite Plan was submitted in September of 1976 which presented a project plan of considerably smaller scope from the original plan. The plan for construction included only Ridgway Dam and Reservoir. Ridgway Reservoir was constructed and started filling in 1987 and was at storage capacity by 1990. The storage capacity for Ridgway Reservoir is 84,410 acre-feet.

Since the Dallas Creek Project was reduced in its size and scope, many of the conditional water rights were discontinued through the diligence proceedings. In Water Court case 94CW052, the District received an absolute decree for 84,602 acre-feet in Ridgway Reservoir. In this proceeding, 138,444 acre-feet, the balance of the original decree, was cancelled by the Water Court. After Ridgway Reservoir became operable, it became apparent that there were times when the reservoir would have the opportunity to refill. In Water Court case 96CW140, Tri-County filed for a conditional refill right of 84,602 acre feet. Water Court case 96CW139 granted a conditional decree for a direct flow right for hydropower. In Water Court case 04CW011, 7262.0 acre-feet of water was made absolute for municipal and industrial uses, 11,143.0 acre-feet of water was made absolute for irrigation and stock uses, and the entire water right was made absolute for flood control. All other conditional water rights have been continued and are in good standing.

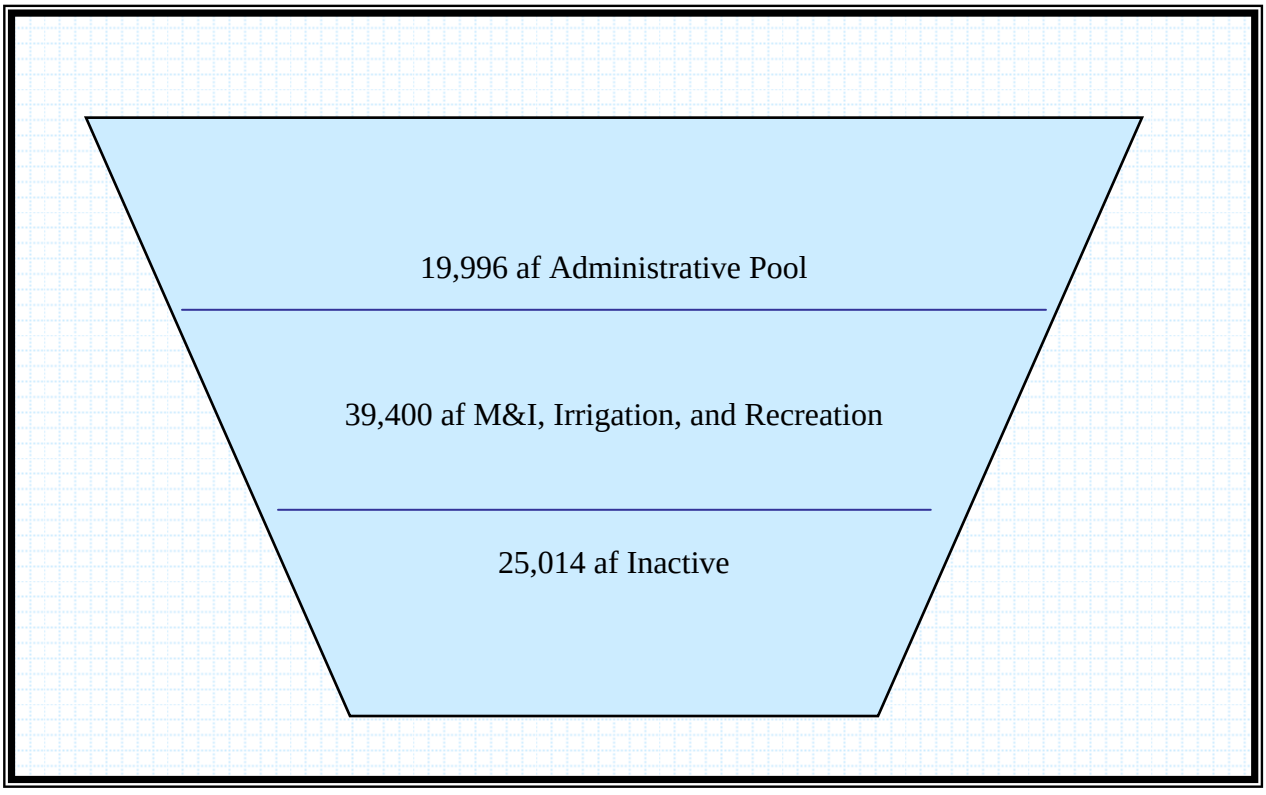
Ridgway Reservoir Storage and Contract Pools

Of the 84,410 acre-feet of water stored in Ridgway Reservoir, 25,014 acre-feet is inactive storage for recreation and sedimentation in the reservoir. The active storage is 54,900 acre-feet with 39,300 acre-feet allocated for project contracts. The unallocated 15,600 acre-feet is considered an "administrative pool" by the Bureau of Reclamation and use of the pool is at the Bureau's discretion.

Currently 28,100 acre-feet in Ridgway Reservoir is contracted M&I uses, 11,200 acre-feet is contracted for irrigation by the UVWUA, and 100 acre-feet is contracted for use at the recreation area. The M&I water allocation is held by six water providing entities. All allocated pools are purchased on an annual basis by the respective entities through contracts with Tri-County. Figure 2-1 is a depiction of the various pools in Ridgway Reservoir.

Figure 2-1

Ridgway Reservoir Pools



Water Supply - Ridgway Reservoir Storage

Ridgway Reservoir, by virtue of the Gunnison Tunnel Exchange, provides domestic water to the District's customers within the service area. The Ridgway Reservoir usually fills

around the first or second week of July. The maximum fill in the past 11 years occurred on May 8, 2000 with storage of 85,875 acre-feet when the reservoir was spilling and the lowest end-of-season storage occurred on October 21, 2002 with storage of 55,121 acre-feet. In years that the Reservoir doesn't fill, shortages are first made up by the administrative pool. Table 2-2 shows the Ridgway Reservoir first-of-month storage for the past twelve years.

Water Administration and Operating Procedures

Because of the better water quality in the Gunnison River, the location of the Project 7 WTP, and to provide Reservoir water to enhance late season opportunity for irrigation through the Uncompahgre River, a carriage contract was entered into between Tri-County, the UVWUA, and the BOR in April of 1965. When Ridgway Reservoir came on line, the carriage contract was terminated and a formal agreement was executed on June 4, 1991. The exchange provides for water to be diverted at the Gunnison Tunnel under the UVWUA decrees and delivered to the P7 WTP in exchange for an equal amount of M&I water in Ridgway Reservoir. The diversion rate at the Gunnison Tunnel is limited to 200 cfs with an annual maximum volume of 23,000 acre feet and a maximum storage credit in Ridgway Reservoir limited to 15,000 acre-feet with no water carried over from year to year. The balance of the M&I pool, 5,100 acre feet, must be diverted from the Uncompahgre River. Because of the Gunnison Tunnel Exchange, water provided to Tri-County is diverted under the Gunnison Tunnel water right which is one of the senior water rights on the Gunnison River. The exchange provides a secure water supply for the present and future population of Tri-County which includes the other major water purveyors in the Uncompahgre Valley.

During the months of November through May or June, depending upon when a downstream senior call is placed on the Uncompahgre River, Ridgway Reservoir fills under its decree. When the Reservoir is filling, bypass flows are made for the maintenance of the fishery. Once the call is placed on the Uncompahgre River by a senior water right holder, Ridgway Reservoir maintains its water level and must bypass all inflows. Concurrently, water is exchanged for M&I uses at the Gunnison Tunnel for Tri-County. Releases from the M&I exchange pool and the irrigation pool are usually made in the later part of the irrigation season to the Uncompahgre River for the UVWUA.

As water is stored in Ridgway Reservoir, water is concurrently being diverted through the Gunnison Tunnel under the UVWUA direct flow decree. At this time, a like amount of water is exchanged in Ridgway Reservoir and released for irrigation. Water is diverted from the Gunnison River into the Gunnison Tunnel and transported through 6 miles of tunnel to the South Canal. Approximately 2 miles down the South Canal from the west portal of the Gunnison Tunnel, the municipal raw water is delivered to Fairview Reservoir. Fairview Reservoir is a 500 acre-foot reservoir that acts as a holding facility for P7. The raw water that is stored in Fairview Reservoir is conveyed to P7, treated, and delivered to each of the contracting domestic water providers via the P7 transmission line. The line begins at the P7 WTP and terminates at Delta to the North. All domestic water providers take delivery of treated water from the P7 transmission line at various points along it course. Figure 2-2 is a diagram of the domestic water delivery in the Uncompahgre Valley.

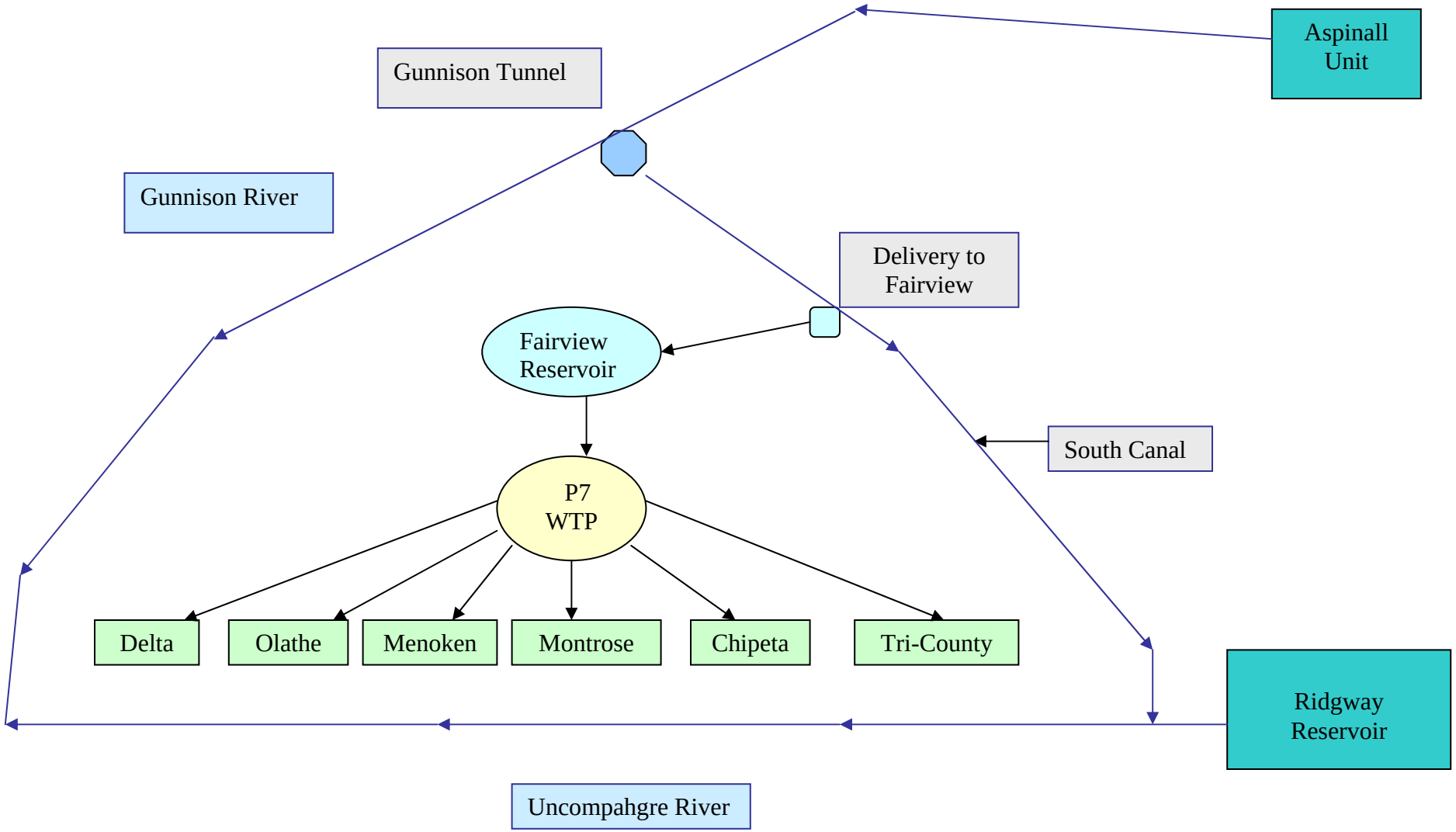
Table 2-2

Ridgway Reservoir
Beginning of Month Storage
1997-2008

values in acre-feet

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1997	76,599	76,837	75,522	74,511	56,456	57,910	80,457	82,676	77,365	68,131	71,815	74,179
1998	62,872	64,242	65,536	68,924	61,937	58,364	76,461	83,381	76,768	75,512	61,439	62,218
1999	66,836	66,726	66,395	67,490	70,015	74,942	83,106	83,593	80,652	68,485	72,141	68,747
2000	68,597	70,119	71,307	73,273	84,228	84,378	82,371	73,040	65,965	67,453	64,901	66,947
2001	72,469	72,924	73,468	74,482	69,149	77,445	83,085	81,435	80,344	73,127	69,977	71,432
2002	67,843	68,345	68,793	70,631	71,815	69,770	66,477	60,355	55,602	55,561	67,334	67,260
2003	61,064	62,616	63,953	66,966	73,487	84,751	82,497	75,306	70,157	73,487	68,159	69,911
2004	71,470	72,334	73,146	77,295	72,247	74,854	82,413	78,508	69,046	71,441	70,517	75,168
2005	77,215	77,865	77,775	75,778	69,855	75,020	81,063	71,815	61,875	61,108	65,500	68,103
2006	69,723	70,793	71,537	72,837	77,555	81,269	81,269	78,457	70,327	68,057	79,163	81,964
2007	80,898	79,153	77,875	81,001	74,678	76,927	82,854	72,334	62,943	64,620	68,812	71,806
2008	74,169	75,424	73,098	66,112	54,198	58,887	83,635	80,037	66,993	61,823	63,630	65,700
12 Year Average	**70,813**	**71,448**	**71,534**	**72,442**	**69,635**	**72,876**	**80,474**	**76,745**	**69,836**	**67,400**	**68,616**	**70,286**

Figure 2-2
Project 7 Water Delivery Diagram



P7 Ten Year Water Demand

As illustrated in Figure 2-1, the Project 7 Water Treatment Plant delivers treated water to the City of Montrose, the City of Delta, Tri-County, the Town of Olathe, and the Menoken and Chipeta Water Districts. In the past ten years, the City of Montrose has increased its use of the storage pool by 6%, the City of Delta by 5%, Tri-County by 4%, Olathe by 2%, Menoken by 49%, and Chipeta by 18%. In 2007, the total active taps for all of the P7 entities served was 20,894. Table 2-4 lists the last ten-year water distribution to each entity and Table 2-5 is an estimate of peak daily demand for each entity.

Drought Year Water Demand

In 2002 a Water Management and Conservation Plan was developed by Tri-County. As of 2002, there was a total of approximately 17,506 active taps served by the P7 entities. According to estimations made by each water provider, approximately one-third of the taps in the District provides outside water for lawns and gardens. In the drought year of 2002, there was a demand of 8,776 acre-feet which was 31% of the M&I allocation in Ridgway Reservoir. Below is Table 2-3 that shows the water allocation, the 2002 water demand, the percentage of the storage allocation, miles of distribution lines, percentage of losses, taps and taps with outside watering for each water provider. The lowest distribution system loss was claimed by Olathe with a 6% system loss and the highest loss was claimed by Chipeta with a 23% system loss. System losses were provided by each water provider.

Table 2-3

Customer Water Use in 2002

	Montrose	Delta	Olathe	Menoken	Chipeta	Tri-Co	Total
Ridgway M&I Allocation (AF)	10,000	3,700	300	640	600	12,860	28,100
2002 Water Demand (AF)	3,649	1,442	276	533	460	2,417	8,776
% of Storage Allocation	36%	38%	92%	83%	76%	18%	31%
Distribution Lines (miles)	100	100	15	100	107	530	952
Unidentified Use & Loss (%) *	10%	17%	6%	7%	23%	12%	13%
Taps	5,584	3,024	585	1,130	1,370	5,813	17,506
% Taps with Outside Watering *	50%	65%	75%	2%	5%	2%	33%
# of Taps with Outside Watering	2,792	1,966	439	23	69	116	5,404

* Shown as an Average instead of a Total

Table 2-4

Tri-County Water Conservancy District
10 Year Water Demand

Year	Montrose				Delta				Tri-County			
	gal	af	% of Stor Pool 10000	Active Taps	gal	af	% of Stor Pool 3700	Active Taps	gal	af	% of Stor Pool 12860	Active Taps
2007	1281721000	3933.5	0.39	7523	507828000	1558.5	0.42	3395	884468800	2714.3	0.21	6715
2006	1261456000	3871.3	0.39	8149	490582000	1505.5	0.41	3305	875253200	2686.1	0.21	6227
2005	1248380000	3831.1	0.38	7831	466052000	1430.3	0.39	3206	753600400	2312.7	0.18	5873
2004	1272221000	3904.3	0.39	6315	496244000	1522.9	0.41	3192	749397640	2299.8	0.18	5775
2003	1277582000	3920.8	0.39	5804	475390000	1458.9	0.39	3043	746118750	2289.8	0.18	5923
2002	1189059000	3649.1	0.36	5584	469815000	1441.8	0.39	3024	787398880	2416.4	0.19	5813
2001	1146778000	3519.3	0.35	5192	471798000	1447.9	0.39	2929	760971830	2335.3	0.18	5699
2000	1160882000	3562.6	0.36	4990	448490000	1376.4	0.37	2791	757218790	2323.8	0.18	5544
1999	989997000	3038.2	0.30	4924	421638000	1294.0	0.35	2916	706620680	2168.5	0.17	5375
1998	1066110908	3271.8	0.33	4650	447290000	1372.7	0.37	2492	699954659	2148.1	0.17	5160

Year	Olathe				Menoken				Chipeta			
	gal	af	% of Stor Pool 300	Active Taps	gal	af	% of Stor Pool 640	Active Taps	gal	af	% of Stor Pool 600	Active Taps
2007	86139400	264.4	0.88	605	207510000	636.8	0.99	1256	142087000	436.0	0.73	1400
2006	82677000	253.7	0.85	602	194209000	596.0	0.93	1228	143668000	440.9	0.73	1375
2005	79556700	244.2	0.81	600	148303000	455.1	0.71	1191	148303000	455.1	0.76	1432
2004	83907060	257.5	0.86	586	147344000	452.2	0.71	1164	147344000	452.2	0.75	1418
2003	85639570	262.8	0.88	585	152795000	468.9	0.73	1140	152795000	468.9	0.78	1391
2002	90002330	276.2	0.92	605	149817000	459.8	0.72	1130	149817000	459.8	0.77	1370
2001	86432610	265.3	0.88	614	147582000	452.9	0.71	1106	147582000	452.9	0.75	1251
2000	84132350	258.2	0.86	605	142002000	435.8	0.68	1084	142002000	435.8	0.73	1229
1999	77717120	238.5	0.80	550	117720575	361.3	0.56	1047	117720575	361.3	0.60	1092
1998	84280760	258.6	0.86	583	106855999	327.9	0.51	980	106855999	327.9	0.55	1041

Table 2-5

STORAGE ON THE PROJECT 7 SYSTEMS
EXCLUSIVE OF P-7 STORAGE
2008

Entity	Active Taps	Online Storage (mil gal)	Max Day Jul-07 (mil gal)	Percentage of P-7 Peak Day	Gallon Storage/ Capita (peak day)	Population (estimated)	Days Storage Available (peak day)
City of Montrose	7,591	6.0	7.209	49.5%	371	16,169	0.83
City of Delta	3,436	4.0	2.885	19.8%	547	7,319	1.39
Tri County	6,385	8.0	3.187	21.9%	553	13,600	2.51
Town of Olathe	605	1.0	0.496	3.4%	776	1,289	2.02
Menoken	1,256	2.5	1.171	8.0%	934	2,675	2.13
Chipeta	1,434	1.8	0.498	3.4%	573	3,054	3.51
Totals	**20,707**	**23.3**	**15.45**	**106.0%**	**3754**	**44,106**	

Comments:
These values have been determined based on calculated metered values from the P-7 treatment plant effluent.
The P-7 Peak Day is derived from the maximum values during the month of July 2007.

The peak day values of each system may not have been experienced on the same day that P-7s Peak Day occurred
The gals/capita are based on an overall 23.12 persons per tap, with no distinction between, residential, commercial, or industrial.

Chapter
3

Tri-County Water: Present Water Use and Future Water Demand

Tri-County Water

Tri-County Water provides domestic water service to areas in the Tri-County Water Conservancy District that are outside of the water service areas of the City of Montrose, the Town of Olathe, the City of Delta, the Menoken and Chipeta Water Districts. The distribution system runs South from Montrose to the vicinity of the City of Ouray and North from Montrose to the Gunnison River. The original system was constructed in 1970 and consisted of 255 miles of pipeline, two water storage tanks and three pump stations. Since the original construction many miles of pipeline have been added and other system improvements have been made. Presently there are 600 miles of pipeline, 21 water storage tanks totaling 8.0 MG of storage, and 41 pump stations.

Much of the service area of Tri-County Water is located within the Uncompahgre Valley Project that provides irrigation water to farms and ranches in the lower Uncompahgre Valley. The irrigation project was funded by the BOR and all irrigation water is tied to the ground that was originally designated for irrigation. As farms and ranches are sold for housing subdivisions, the irrigation water traditionally stays with the ground and continues to provide a means of outside irrigation other than treated water through the main distribution pipeline.

Cost of Service Rate Study

Tri-County commissioned a Cost of Service Rate Study that was conducted by Del-Mont Consultants, Inc. in 1999 and updated this study in 2006 for the 2005 water year. The study analyzed the water use patterns, the revenue requirements for Tri-County, the cost of service, rate design, and capital improvements. Included in the study was the population growth for the Uncompahgre Valley.

Revenue Requirements

Revenue received from water sales finance all or part of operation and maintenance, debt service, and capital improvements. Operation and maintenance include source of supply expenses such as the cost of water treatment, distribution expenses, customer accounting and general administrative expenses that include salaries, employee benefits, office expenses, etc. Debt service

at this time is covered by water sales, property taxes, cash reserves, and interest income. Capital improvements are financed in part by water sales but are financed primarily by new tap fees and development of new line extensions.

Rates consist of a rate charge to cover fixed costs plus a flat rate per thousand gallons of water used. The 2006 cost of service analysis found that the cost of delivering water was constant at $2.23 per thousand gallons; however, the rate structure was and is adequate to meet revenue requirements.

Current Rate Structure and Tap Fees

In January of 2008 the Board of Directors approved a flat rate structure for all taps served by Tri-County. All taps with 5/8" X3/4" meters are generally designated as residential and are referred to as standard meters. Taps with ¾" and 1" meters are designated as commercial and 2" meters are designated as industrial meters. Both commercial and industrial meters are considered demand taps. In January of 2009, Tri-County water rates changed to a pay-for-use rate structure. The standard bi-monthly base rate is currently $15.00 and the demand tap bi-monthly base rate is $45.00 with a water use charge of $2.80 per 1000 gallons for both standard and demand meters. Additional pumping charges are $0.30 per 1000 gallons per pump station for total usage.

Tap fees are currently $5,000 plus cost of installation for a standard residential 5/8 inch by ¾ inch meter, $12,500 plus cost of installation for a 1 inch meter, $25,000 plus cost of installation for a 1.5 inch meter, and $40,000 plus cost of installation for a 2 inch meter. Additional costs for installation for a new tap are incurred if additional work is required. Below is Table 3-1, a chart of rate structure and taps fees.

Table 3-1

Rate Structure and Tap Fees

Tap Size	Bi-Monthly Base Water Rate	Cost per 1,000 gal	Tap Fee	Max. Flow (gpm)	Plant Investment Fee
5/8"	$15.00	$2.80	$6,200	20	$5,000
1 "	$45.00	$2.80	$14,300	50	$12,500
1 ½ "	$45.00	$2.80	$31,700	100	$25,000
2"	$45.00	$2.80	$47,200	160	$40,000

Growth and Future Water Demand

Population growth in the Uncompahgre Valley has been relatively steady for the past 10 years averaging approximately 2.4% per year. The number of water taps increased, on average, 2.2% from 1999 through 2008 and the annual water increased, on average, 1.4% during the same time period. The State Demographer forecasts a population growth rate of 2.7% annually for the next 20 years.

During a 45-day rainy period in the late 1990s, Tri-County determined that only 2% of water billed to standard meters was attributed to outside watering. Tri-County Water anticipates that outside water use will increase from 2% to as much as 15% due to large golf course communities and "ranchette" subdivisions that will not have access to surface irrigation water. The increase in outside watering will in turn increase the total monthly irrigation season water demand placing more pressure on the peak daily demand and the distribution system.

Table 3-2 shows the billed water for the residential, commercial, and industrial sectors of Tri-County Water for the years 2005-2008. Also shown are the number of water taps in each sector, the percentage of water billed to each sector and the percentage of taps for each sector. As shown, historical water use in the residential sector is between 77% and 83% of the total billed water, however, the residential water taps account for approximately 98% of the active water taps. Per capita billed water was calculated to average 95 gpd for the time period.

Also shown in Table 3-2 is the number of commercial and the number of industrial water taps as well as the annual billed water to those sectors, the percentage of water taps and percentage of water use for those sectors. As stated earlier, commercial and industrial uses are determined by the size of the meter on each water tap. Figure 3-1, below, illustrates the variety of water use for the Commercial-Industrial sectors for 2008. Agricultural uses include 2 dairies, 7 feedlots, 8 poultry farms, and a vegetable packing plant. Commercial uses include restrooms for a commercial building, an ice business, and 5 RV Parks. Commercial taps that have residential uses include 11 homes, 574 mobile homes, and 42 apartments. Population for the residential sector was based on 2.2 persons per unit for the mobile homes and apartments, and 2.4 persons per residence. The sector labeled "Other" includes the Colorado Correctional Facility in Delta, restrooms at 3 State Parks, an aviation water supply, Cornerstone Metro District water supply, and other various water uses. As shown in Table 3-2, the distribution of water taps by sector has remained constant over the years.

Table 3-3 shows Tri-County's monthly and annual metered water purchased from the Project 7 WTP for 2003 through 2008 including a detailed description of average use.

Figure 3-1

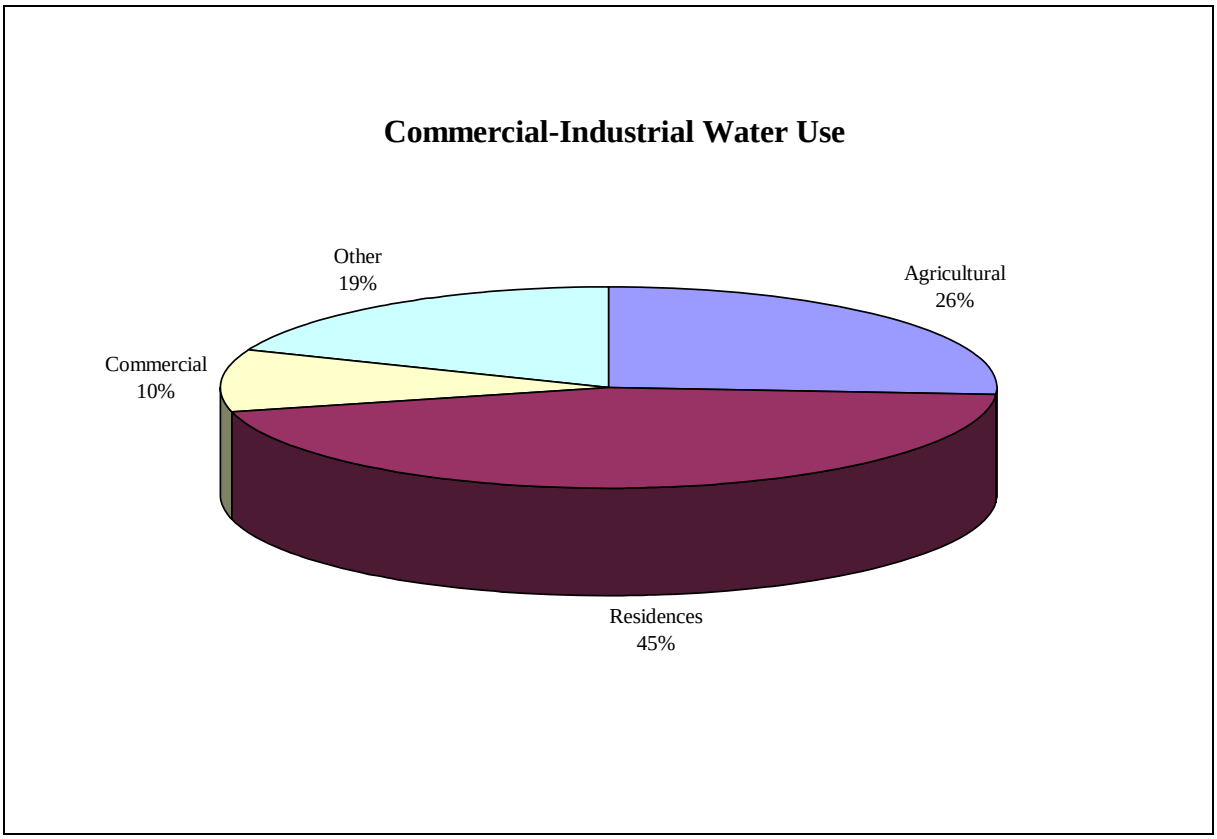

Commercial-Industrial Water Use
Other
19%
Agricultural
26%
Commercial
10%
Residences
45%

Table 3-2

Water Use Patterns
Billed Water

Year		Customer Class	Total Taps	Metered Water (1000 gallons)	Average Monthly (gal)	Population	Per Capita	Water Use % of Total	% of Taps
2008		Residential	7,076	593,081	6,985	16,982	97	77%	98.9%
		Commerical	47	30,543	54,154	1,200		4%	0.7%
		Industrial	34	146,774	359,740			19%	0.5%
		Total	7,157	770,398		18,182			
2007		Residential	7,246	586,727	6,748	17,390	94	76.4%	98.8%
		Commerical	49	36,407	61,917	1,400		4.7%	0.7%
		Industrial	38	144,436	316,746			18.8%	0.5%
		Total	7,333	767,570		18,790			
2006		Residential	6,970	598,946	7,161	16,728	99	81.4%	98.9%
		Commerical	50	35,218	58,697	1,550		4.8%	0.7%
		Industrial	31	101,774	273,586			13.8%	0.4%
		Total	7,051	735,938		18,278			
2005		Residential	6,907	535,425	6,460	16,577	90	83.4%	98.8%
		Commerical	48	35,111	60,957	1,350		4.4%	0.7%
		Industrial	34	123,898	303,672			12.2%	0.5%
		Total	6,989	694,434		17,927			

Note: Active tap accounting has been used with an estimated 95% occupancy rate.
Population estimated at 2.4 persons per residential tap
Per capita: monthly residential gallons divided by 30 divided by 2.4

Table 3-3

Tri-County's Water from Project 7 Treatment Plant

(values in million gallons)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2003	50.0	42.2	48.2	58.8	69.5	84.7	98.5	83.8	60.6	54.3	46.0	49.4	746.1
2004	47.4	45.1	56.7	53.3	76.1	86.2	90.6	82.1	65.8	50.4	45.8	49.7	749.1
2005	48.4	44.7	52.3	57.4	78.8	77.4	96.6	76.7	64.5	52.5	47.5	56.7	753.6
2006	52.2	46.9	50.8	72.6	84.2	101.4	97.1	87.0	86.8	77.7	57.8	60.7	875.3
2007	61.7	54.6	62.7	66.3	80.7	110.8	113.9	95.4	76.0	55.3	55.1	52.0	884.5
2008	52.5	58.0	60.2	62.8	69.0	98.8	97.1	88.9	71.5	60.4	53.9	48.6	821.8
Average	52.0	48.6	55.2	61.9	76.4	93.2	99.0	85.6	70.9	58.5	51.0	52.9	805.1

Detailed Water Use

Average Annual Water Use	805.1 mgy	87%
Unbilled Water	106.4 mgy	13%
Total Metered Water Use	698.7 mgy	
Average Peak Day Use (July)	3.6 mgd	
Average Day Use (January)	1.7 mgd	
Average Peak Day to Average Day rat	2.1	

Note:

Normal residential use is 6750 gallons per month

750 taps used under 1000 gallons /month

8% of water use is attributed to Cornerstone Golf Community

Forecast of Water Demand

A forecast of future water demand was developed based on present water use patterns and population trends forecasted by the State Demographer. If water use trends follow past water use, 99% of all water taps will be for domestic use with the remaining 1% allocated to the Commercial-Industrial (C-I) sector. However, past trends show that C-I sector water use averaged 20% of all billed water. To be noted: Water Sales for 2007 were unusually high due to a warmer than average May with an exceedingly high peak day demand of 4.4 mg. The number of active water taps decreased in 2008 because of the slow down in the economy and housing sales. The reduction in active taps for 2008 was factored in to the estimated 2010 taps estimates with the assumption that a 2.7% annual growth rate would continue after 2015. Table 3-4 is a projection of future water demand through the year of 2025 based on a 2.7% annual growth rate from 2015 through 2025.

Table 3-4

15-Year Estimated Water Demand
(values in million gallons)

	Year	2008	2010	2016	2021	2025
	Historic:					
1	Water Demand from P7	821.8				
2	Unbilled Water	6.25%				
3	Residential Demand	593.1				
	Commercial Demand	30.5				
	Industrial Demand	146.8				
4	Population	18,000				
	Projected:					
5	Population		18544	21001	23993	27412
6	Projected Water Demand from P7 (mg)		820.3	925.2	1,032.7	1,127.8
7	Residential Demand		635.3	740.2	847.7	942.8
8	Commercial Demand		35.0	35.0	35.0	35.0
9	Industrial Demand		150.0	150.0	150.0	150.0

1 Treated water purchased from P7
2 Unbilled water for 2008
3 Sector billed water
4 Residential taps times 2.4 persons per household
5 State demographer forecasts population growth to be 2.7% a year.
Projected population increase: 1% for 2009, 2.5%/yr between 2010 and 2015, then 2.7%/yr
6 Projected purchased water from P7: Total of projected sectors
7 Historical per capita of 95 gpd times the estimated population
8 Commercial demand is estimated to remain at high historic values
9 Industrial water demand estimated to increase to 150 mg/year

Chapter

4

Proposed New Facilities

District and developer financed improvements in addition to federally funded programs have provided sufficient capacity to accommodate recent growth, however, continued growth will necessitate further system enlargements and/or upgrades. Menoken Water District, Chipeta Water District and the Town of Olathe are using at or near their storage allotment from Ridgway Reservoir leaving Tri-County Water or the City of Montrose to provide the water supply for new growth in those areas. Two new large developments are located between the City of Montrose and the Town of Ridgway. It is estimated that these developments, which will include homes and golf courses, could add an average of 500 thousand gallons per day to Tri-County's demand over the next twenty years.

To meet the projected water demand of the upper Tri-County Water service area, two feasibility studies have been conducted in the past four years. In 2005, the Tri-County Water Conservancy District conducted a joint study with the Town of Ridgway for the purpose of constructing a Regional WTP in the upper Uncompahgre River Valley. The study proposed either an expansion of the Town of Ridgway's WTP or the construction of a new WTP at Ridgway Reservoir. The Town of Ridgway decided not to participate in a regional solution.

The need for a WTP near Ridgway Reservoir persists. Using data from the Tri-County/Town of Ridgway Feasibility Study, a second study was conducted by Carter Burgess, Inc. The study was undertaken to determine the feasibility of the construction and operation of a smaller WTP at Ridgway Reservoir, to research the development of a small microturbine hydroelectric plant, and to analyze the economics.

As stated in the earlier reports, the primary benefit of a WTP near Ridgway Reservoir is redundancy of the supply and reduction of pumping demands. Currently, Tri-County's service area is dependent upon both the Gunnison Tunnel supply and P7's WTP. A failure in any of these systems would result in a total loss of service in this area.

Many alternatives were analyzed for feasibility and benefit/cost to Tri-County. The District proposes to build a WTP that will produce between 2.0 and 10.0 mgd that will be constructed in phases in the foreseeable future. Included in the new WTP is a 160 kW microturbine that could be integral with the WTP with the excess water from the WTP returned to the Uncompahgre River below Ridgway.

The estimated average day demand in 2008 was estimated to be 0.62 mgd and 0.75 mgd in 2028. The peak day demand was estimated to be 1.36 mgd in 2008 and 1.53 mgd in 2028. Therefore a 1.5 mgd WTP would be able to meet the 2028 peak day demand with the benefit of reduced pumping costs and maintenance. The construction costs for a 1.5 mgd WTP was estimated at $5.4 million dollars.

Chapter
5

The Tri-County Water Conservancy District Water Conservation Plan

Water Conservation Plans

The Board of Directors of Tri-County supports water conservation as part of its general mission and is taking the lead in promoting water conservation in the Uncompahgre Valley. Tri-County has historically taken pro-active positions on water issues and views water conservation as not only necessary for the future but also responsible management of its water resource.

Objectives

Tri-County has identified the following objectives to be achieved through the implementation of this WCP.

Goal 1: Work with cities and counties to draft public policy and land use code that promotes water conservation.

Goal 2: Create public awareness of wise water use and conservation.

Goal 3: Realize water savings in residential water demand by 10% per tap for 50 taps per year over the next five years.

Goal 4: Realize water savings in commercial/industrial water demand by 5% over the next 5 years.

Plan Elements

The Colorado Water Conservation Board (CWCB) has listed elements that will be considered in a Water Conservation Plan. Below is a list of minimum required Water Conservation Plan Elements that must be fully considered in this WCP.

- Water efficient fixtures & appliances
- Low water use landscapes
- Water-efficient industrial & commercial water-using processes
- Water reuse systems
- Distribution system leak identification & repair
- Dissemination of information regarding water use efficiency measures
- Water rate structures & billing designed to encourage water use efficiency
- Regulatory measures designed to encourage water conservation
- Statement of the entity's best judgment of the role of water conservation plans in entity's water supply planning
- Steps the entity used to develop, implement, monitor, and revise its WCP
- Review and update entity's WCP every seven years
- Incorporate public review in water conservation planning

Previous Water Management and Conservation Plans

The District has previously developed two Water Management and Conservation Plans. The first plan was written in 1992 and later revised in 1996 for the BOR. In the 1996 Water Conservation Plan, several water conservation measures were identified and the need for a water education program was recognized and pursued.

Current Water Conservation Measures

Education

Tri-County has continued to support the Water Wise program for the past three years. In support of the Water Wise program, Tri-County and other local sponsors provide water conservation information and kits to 5th graders in the Uncompahgre and lower Gunnison Valleys. The Resource Action Kits include program materials such as fact sheets, workbooks, and home audit forms as well as high-efficiency showerheads and kitchen and bathroom facet aerators, toilet leak detectors, and drip/rain gauges. The kits were distributed to 705 students for the 2007-2008 school year. According to the home audit sheets that were returned by the students, 59% installed new high efficiency (HE) showerheads, 58% installed kitchen facet aerators, and 52% installed bathroom facet aerators. The annual Water Wise Program summary estimated water savings of 6.31 million gallons per year (mgy) from the HE showerhead retrofit, 0.97 mgy from the kitchen facet aerator retrofit, and 0.87 mgy from the bathroom facet retrofit. The Uncompahgre Water Wise Program is designed and implemented by Resource Action

Programs (RAP). Rap also tabulates all responses, including the home audit sheets, and publishes an annual report.

Distribution System Leak Identification

Tri-County presently has a leak detection program in place and it is estimated that 5% of unbilled water is saved through this program. Tri-County's distribution system is equipped with a telemetry system that measures pressures and controls the system. The telemetry system is constantly monitoring for pressure fluctuations and if the pressure falls at any one point, leaks are apparent and are repaired as soon as possible. Table 5-1 shows leaks identified and repaired in the past four years indicating an average of 49 leaks per year. Also, large fluctuations in any storage tank level are immediately detected as the storage tanks have an alarm system that activates when the tank level drops suddenly. The alarm insures that leaks are found and repaired before the water tank is drained. A water saving measure was instituted with underwater tank cleaning, inspection, and repair. This has saved approximately 8.0 mg of water annually by eliminating tank draining for cleaning, inspection, and repairs.

Table 5-1

Leak Detection

Year	Total Leaks	Gravity System	Pumped System
2005	53	36	17
2006	41	27	14
2007	50	34	16
2008	49	22	27
Average	48	30	18

Water Rate Structure & Metering

Tri-County began reviewing its water rate structure annually in 2000. Determining water rates, the District changed the water billing in 2008 from a declining rate structure to a flat rate structure. The change was made so that Tri-County could provide its customers a fair and equitable rate structure and inherently encourages water conservation. In January of 2009, Tri-County again changed water rates to a pay-for-use rate structure. Tri-County intends to conduct a feasibility study within the next five years to determine if an inclining rate structure would be acceptable and appropriate in the future. All Tri-County water taps have recently been converted to an automated meter reading (AMR) system. The AMR system provides more accurate information to both the water users and Tri-County.

Below is Table 5-2 that lists the estimated water savings for the past three years from the Water Wise Education Program and the Leak Detection and Tank Cleaning efforts.

Table 5-2

Estimated Current Water Conservation Savings

Program	Years	Conservation Effort	Estimated Water Saved per Year (million gallons)
Wise Water Use Educatior	3	Retro-fits:	
		Showerheads	6.31
		Kitchen facet	0.97
		Bathroom facet	0.87
Leak Detection	On-going	5% water saved year	40.3
Underwater Tank Cleaning	3	2-4 tanks cleaned per year	8.0
& Repair			
Total Savings			56.45
Savings for Three Years			169.35

Plan Elements Considered for Programs

Water Efficient Fixtures & Appliances

Tri-County has considered a retro-fit program. According to research, 65% of all indoor water use is attributed to toilet flushing, showers, and clothes washers (26% to toilet flushing, 17% to showers, and 22% to clothes washers). It has been calculated that 74% of Tri-County taps, or 4,738 taps, have been in service prior to the 1994 U.S. Energy Policy Act that set standards for toilets, showerheads, and faucets. Tri-County is researching a low-flow toilet program that will retro-fit toilets in 100 homes saving on average 8,899 gallons of water per household (residential tap) per year (Amy Vickers, Handbook of Water Use and Conservation).

A benefit-cost analysis was conducted for a toilet retro-fit program. The analysis assumed an annual cost of $12,500 per year. The toilet fixture costs were estimated at $10,000 per year and the administrative costs were estimated at $2,500 per year. There are currently no

plans for expansion of the raw water supply facilities and the P7 WTP is currently undergoing expansion. Therefore, the 2009 direct cost of $2.80 to produce 1000 gallons of water was used in the analysis with the benefit shown to the customer. According to the analysis, benefits did not out-weigh costs until the fifth year of the program. However, calculations indicate that if 100 households were retro-fitted with low flush fixtures that 889,920 gallons of water could be saved the first year of the program. Table 5-2 is the benefit-cost of the retro-fit program.

Low Water Use Landscapes

Much of the Tri-County water service area lies within the Uncompahgre Valley Water Users Association's project area. UVWUA supplies irrigation water throughout the Uncompahgre Valley. At present, it is estimated that less than 5% of the potable water, or 21.3 mgy, is actually used to irrigate lawns in the Tri-County service area. It should be noted that the large increase in total seasonal water use in the past two years is attributed to Cornerstone Metro District which uses approximately 8% of all billed water to irrigate their golf course.

Tri-County has considered an irrigation audit program and plans to conduct an irrigation audit of the Cornerstone Golf Course as well as the top ten residential water users in the next seven years. Tri-County also intends to develop a water conservation program that will include public service announcements through the local media. Some of the announcements may be directed towards efficient lawn irrigation and water-wise landscapes. Tri-County also hopes to influence public policy regarding turf requirements for new construction.

Commercial & Industrial (C-I) Water Efficiency

In 2008, approximately 13% of Tri-County metered water was used by the five largest water users in the Commercial/Industrial sector. The water uses included domestic use in 2 large trailer parks, irrigation of a golf course (approximately 8% of annual total), and one feed lot. One of Tri-County's goals is to reduce C-I water use by 5% over the next five years. Tri-County will implement a water audit program for the top five C-I water users and will also encourage the C-I water users to participate in the toilet retro-fit program.

Regulatory Measures

Tri-County will adopt a water waste policy stating that water is a valuable resources and no wasting of water will be tolerated.

Table 5-3

Benefit-Cost Analysis
Low Flow Toilet Retro-fit Program

Direct Costs

	Cost	Quantity	Total
Toilet	$ 100.00	100	$10,000.00
Utility Cost*	$ 25.00	100	$ 2,500.00
Program Cost			$12,500.00

Direct Benefits -Water Savings

Years	(gal/tap)**	Number	Total Gallons	B-C Ratio
1	8,899	100	889,920	
5	8,899	500	4,449,600	
10	8,899	1000	8,899,200	
15	8,899	1500	13,348,800	
Annual Cost Savings***		$2.80	$ 2,491.78	0.20
5 Year Cost Savings			$ 12,458.88	1.00
10 Year Cost Savings			$ 24,917.76	1.99

*Assumes administrative, advertising, publicity, and follow-up per unit

** Water savings from 1.6 gal toilets are based on a calculated 11.5% savings per household of 2.4 people

***Billed cost of 1000 gallons of water as of January 2009

Taps prior to 1994 = 4738

Plan Elements Not Considered by Tri-County

Water Reuse Systems

Of the 7,076 taps in service in 2008, 1,255 or 18% of taps were connected to a Wastewater Treatment Plant and the remainder of the 5,821 taps were connected Individual Septic Disposal Systems. Statutorily, water diverted through the Tri-County delivery system is prohibited from reuse therefore this plan element has not been included for further consideration.

Water Conservation Programs Selected for Implementation

Tri-County's Water Conservation Program will consist of the following:

Retro-fit Program

The program will target 100 homes per year to retro-fit toilets. Estimated savings are 8,889 gallons per year per household with an annual cost to Tri-County of $2,500 for administrative fees and $10,000 for replacement fixtures.

Audit Program

An audit program will target the five top C-I water users. Audits will include in-house as well as landscape water usage with suggestions for water savings. Since three of the top five C-I water users use the water for domestic purposes, it is projected that they will participate in the toilet retro-fit program. Water savings have been estimated at 1% per year and will be revised once the audits are conducted and water saving fixtures installed. Estimated initial cost is $5,000.

Irrigation audits will also be conducted for the Cornerstone Golf Course and the top ten residential water users. Estimated cost for irrigation audits is $7,500.

Water Conservation Awareness Program

Tri-County in cooperation with area water purveyors hopes to establish a water conservation office that will provide a regional water conservation effort in the Uncompahgre Valley. It is hoped that this office will coordinate and oversee all water education programs including the Water Wise program and other water education programs in the elementary and high schools as well as out-reach programs to communities in the Uncompahgre Valley. The water conservation office could also produce:

- Public Service announcements through the local media that may include:
  -Providing information on landscape water conservation including drought tolerant plants, state of the art irrigation systems, examples of low water use landscapes;
  -Providing information on water saved for high efficiency fixtures and appliances;

-Providing information on water lost through leaking domestic fixtures.

- Literature that outline the different incentive programs instituted by Tri-County.
- Literature that explain the costs of providing drinking water and explain the benefit of water savings to the community.
- Demonstration landscapes and workshops for low water use plants
- Development of a Water Conservation Website that would include information listed above.

The estimated cost of the Water Conservation Awareness Program is $60,000 per year in consulting and administrative costs.

Regulatory Measures

With Board approval, Tri-County will adopt a water waste policy stating that water is a valuable resource and no wasting of water will be tolerated.

Table 5-4 outlines the five Water Conservation Programs, time frames, and costs.

Modification of Water Demand Forecast

Estimates of water savings from the proposed water conservation programs are listed below in Table 5-4. If the Toilet Retrofit Program is successful and 100 toilets are replaced in 100 residences, the projected savings would total 889,920 gallons per year. Goal #3 in the Water Conservation Plan is to reduce residential water use by 10% per year. The average residence uses 6750 gallons per month so a 10% reduction would be 675 gallons or 33,750 gallons per year. The realized water saving would be 11% water saving for each residential tap per year. If the C-I sector participated in the Toilet Retrofit Program, that could potentially meet the 5% goal of water savings for that sector. Since the number of C-I taps represent only 1% of the taps of the Tri-County water service, potential savings from the Toilet Retrofit Program may be limited. Once a water audit is conducted, an individual water savings program can be developed for the C-I sector. Also, irrigation audits will be conducted for the Cornerstone Golf Course and the top ten residential water users. Water saving results from the irrigation audits have been estimated at 10% of the water demand or 6.7 mg over the five-year period of 2010-2015.

Projected Water Demand with Conservation

Estimated water savings have been calculated for the years 2010 through 2025 using the estimated annual water savings from the Toilet Retro-fit program, the WaterWise Program, the Landscape Water Audits, and the goal of a 5% water savings for the C-I sector between 2010 and 2015. Although short-term water savings will be barely noticeable, the water conservation benefits will accrue over time resulting in long-term water savings. It is anticipated that overall water savings will be increased due to general water conservation efforts and public awareness. Table 5-5 is a calculation of estimated water demand with and without water savings.

Table 5-4
Tri-County Water
Water Conservation Plan Measures

Water Conservation Program	# of Goals Met	Start Date	End Date	Water Savings	Total Budget
Fixture Retro-fit Program:					$12,500/yr
♦ Retro-fit high volume flush toilet with low flush toilets; budget assumes retro-fit of 100 fixtures per year.	1	2011	On-going	.89 mgy	
Landscape Water Audit Program:					$7,500
♦ Conduct landscape audits: (estimated 10% reduction for each) Residences Cornerstone Golf Course	1	2012	On-going	0.084 mg 6.62 mg	
Water Conservation Awareness Program:					$60,000/yr
♦ Water Conservation Office: Will include Public Service announcements through local media providing information about water use in homes, on lawns and landscapes.	2	2011	On-going	Not estimated	
Commercial-Industrial Audit Program:					$5,000
♦ An audit program will be developed. The top five Commercial-Industrial water users will be audited and individual water conservation programs developed. (Savings estimated at 5% over 5 years)	2	2010	On-going	2.66 mg over 5 years	
Regulatory Measures:					
♦ Tri-County will adopt a No Water Wasted Policy.	3	2010	On-going	Not estimated	N/A
Inclining Block Rate Structure		2010-2015	On-going	Not estimated	N/A

Table 5-5

15-Year Estimated Water Demand
(values in million gallons)

	Year	2010	2016	2021	2025
1	Projected Water Demand				
	w/o water savings:				
	Residential	643.0	747.9	854.4	950.5
	Commercial-Industrial (C-I)	177.3	177.3	177.3	177.3
	Total Water Demand w/o Savings	820.3	925.2	1,031.7	1,127.8
	Projected Water Demand				
	with water savings				
	Projected Water Savings:				
2	Toilet Retro-fit program	3.56	4.5	4.5	4.5
3	WiseWater Use program	8.15	5.0	5.0	5.0
4	Landscape Audits	6.7	0.0	0.0	0.0
5	C-I Audits	2.66	0.0	0.0	0.0
	Total Savings from Programs	21.1	30.5	40.0	49.5
6	**Water Demand w/Savings**	**799.2**	**894.6**	**991.7**	**1,078.3**

1 Estimated population multiplied by 95 gallons per day per capita, C-I sector estimated to remain
2010 demand includes savings from Wise Water Use program and leak detection and tank cleani
Leak detection and tank cleaning water savings estimated to remain constant

2 Projected water savings of 0.89 mgy starting in 2011

3 Estimated water savings of 8.15 mgy from 2010-2015, reduced to 5.0 mgy from 2016-2025

4 Landscape audits saving of 6.7 mgy starting in 2012-2015,
includes 10 residential audits at 2 per year and a one-time audit of Conerstone Golf Course

5 C-I audit water savings of 8.865 mgy for five years starting in 2010 minus Cornerstone of 6.2 mg

6 Estimated water demand with estimated water savings from measures and programs

Monitor, Evaluate, and Revise Programs

The Water Conservation Programs will be announced and implementation will begin during the summer of 2010. Each program will be evaluated and revised according to effectiveness and individual audits will be followed annually to assess total water saving per year. Also, all fixture retrofits will be tabulated annually with annual total water demand to determine annual water savings. Annual findings will be reported through the Tri-County web page and their newsletter.

Kathleen Margetts, Assistant Manager of Tri-County Water, has been appointed the Water Conservation Coordinator and can be contacted by telephone at 970-249-3369 or by email at tcwkathleen@montrose.net.

Adoption of WCP by the TCW Board of Directors

The Water Conservation Plan was made available to the public on April 10, 2009 for a review period of 60 days. Subsequently, on June 17, 2009, the Board of Directors of Tri-County Water formally adopted the plan.

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