PREPARED FOR:

PREPARED BY:

BOWEN COLLINS & ASSOCIATES

2020 WATER CONSERVATION PLAN

APRIL 2021

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

Water conservation has different meanings to different people. An increasing number of people who have adopted a conservation ethic are likely to support a wide range of water conservation practices aimed at reducing water use. Others not so inclined often associate water conservation with inconvenience, deprivation, and dry yards. From the perspective of the Uintah Water Conservancy District (UWCD or District), water conservation means increasing the efficiency of water use in order to sustain and optimize future water supplies to its customers. It does not mean dry flower beds and brown lawns, but rather a wise use of water to ensure that it is not needlessly wasted. With this in mind, UWCD has adopted water conservation as a key element in its long-term master plan to serve its customers.

Attitudes toward water supplies are changing. Water is no longer seen as an endless supply, but as a valuable commodity that needs to be managed carefully. With this shift in attitude, conservation is becoming a larger part of water suppliers' plans to meet future water needs. Many water suppliers throughout the country have adopted conservation programs. Benefits experienced as a result of these programs include:

- Using existing water supplies more efficiently.
- Maximizing utilization of existing water conveyance, treatment and distribution facilities
- Delaying or deferring expensive construction of capital improvement projects
- Reducing the need for additional water supplies.

Officials at the State of Utah Department of Water Resources recognize the potential of conservation programs to extend current water supplies. In their recently released Regional Conservation Goals, they have established conservation goals for various regions through the State that, if achieve, will result in a statewide reduction in er capita water use from levels measured in 2015 by 16 percent by the year 2030.

UWCD recognizes the potential benefits of conservation efforts, which ultimately will reduce costs to individual customers. Since sustained additional water conservation will be an important component in the District's plans for future water use, this report will evaluate current conservation efforts within the District and will discuss additional measures that will allow Uintah to conserve water.

WATER SYSTEM SERVICE AREA

The Uintah Water Conservancy District delivers water to four retail water districts:

- Ashley Valley Water and Sewer Improvement District (AVWSID),
- Jensen Water Improvement District (JWID),
- Maeser Water Improvement District (MWID), and
- Vernal City

These four providers serve the water needs of nearly all the residents in the Ashley Valley and Jenson areas of Uintah County. These service areas, along with UWCD conveyance facilities, are shown in Figure 1. Historic and future demands for these water districts were analyzed to determine the total municipal and industrial (M&I) demand for the UWCD system.

In addition to these municipal water users, there are three other entities that receive water from the UWCD system. These entities include:

- Simplot
- Ramsey Hill Exploration Company
- Uintah County

Simplot receives its water through an exchange for Red Fleet Reservoir water through several wells on its site, Ramsey Hill is serviced by AVWSID, and Uintah County receives water directly from Red Fleet reservoir. Unlike the municipal water districts, water demands for each of these entities are not directly related to population growth. It is assumed that existing and future demands for each of these entities will be exactly as defined in agreements between the entity and UWCD. Correspondingly, these entities will not be discussed further in this conservation plan.

EXISTING WATER USERS (MUNICIPAL & INDUSTRIAL CONNECTIONS)

Existing connections by connection type for each of the four retail water districts within the UWCD boundary is provided in Table 1. Existing water usage by connection type for each of the four retail water districts within the UWCD boundary is provided in Table 2.

Table 1
2019 Connections by Connection Type

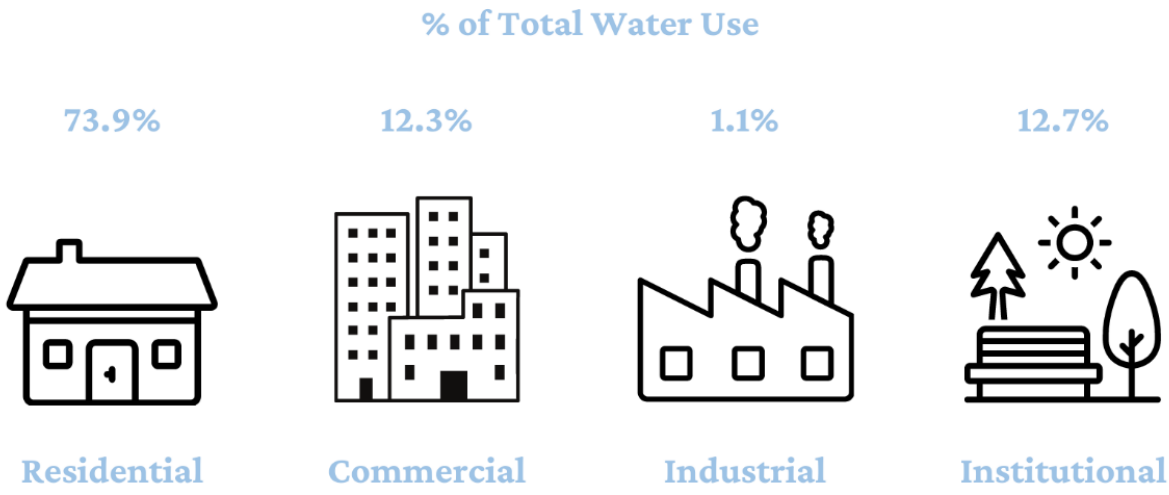
Customer Class	Ashley Valley	Jensen Water Improvement	Vernal City Municipal	Maeser Water Improvement	Total	% of Total
Residential	4,582	492	2,645	1,309	9,028	90.3%
Commercial	219	30	424	20	693	6.9%
Industrial	0	14	0	21	35	0.3%
Institutional	73	11	140	21	245	2.4%
Total	4,874	547	3,209	1,371	10,001	100.0%

[1]Number of connections by connection type data obtained from the Utah Division of Water Rights Public Water Supplier Information.

Table 2
2019 Water Usage (Acre-Feet) by Connection Type

Customer Class	Ashley Valley	Jensen Water Improvement	Vernal City Municipal	Maeser Water Improvement	Total	% of Total
Residential	2,458	180	1,173	506	4,316	73.9%
Commercial	307	25	381	4	718	12.3%
Industrial	0	7	0	59	66	1.1%
Institutional	314	25	331	73	742	12.7%
Total	3,078	236	1,885	642	5,841	100.0%

[1]Water usage by connection type data obtained from the Utah Division of Water Rights Public Water Supplier Information.



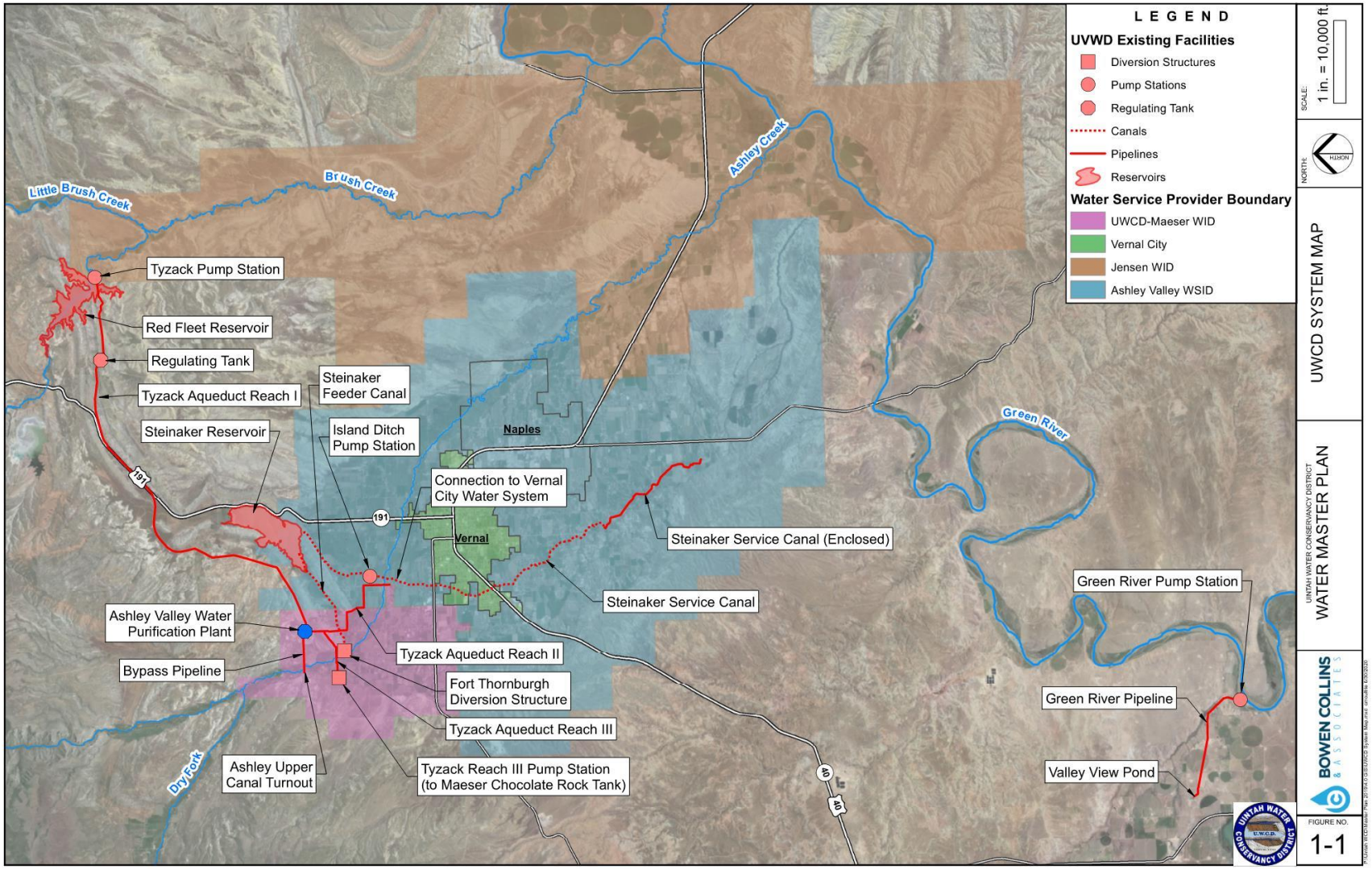


Figure 1
Uintah Water Conservancy District Service Area

HISTORIC POPULATION AND FUTURE GROWTH

Ashley Valley has experienced boom and bust periods of population growth related to oil and anticipated shale oil development in the past. As shown in Figure 2, population growth in Vernal (the largest city in Uintah County) has varied from positive 6.3 percent average annual growth in the 1970's (boom) to stagnant in the 1980's (bust). During the last several decades, annual growth has been close to the long-term average for growth in the City of 1.5 percent. Figure 2 also shows that the total population in Uintah County follows a similar growth pattern to that of Vernal City, but with more growth in the early 2000's. All this data confirms that the region is susceptible to volatile growth cycles and greatly influenced by actual and anticipated economic development.

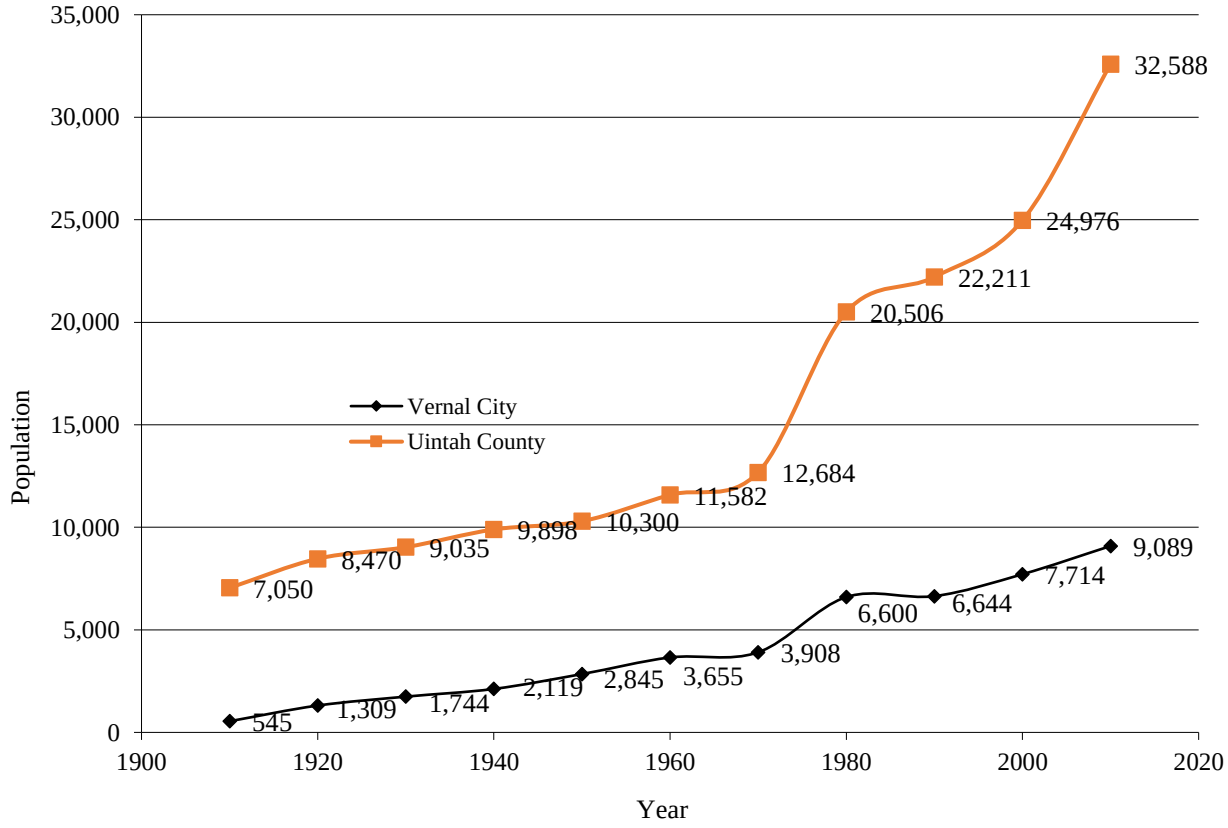


Figure 2: Historic Vernal City and Uintah County Population

Future growth is expected to continue to be volatile due to uncertainty in energy markets, making it difficult to project growth with any confidence. For this reason, two growth rate cases were considered in the District's most recent master plan:

- **Average Growth Projection** – Each of the four retail water districts have recently completed or are currently developing water master plan documents. Copies of these reports were referenced to estimate total historic and future demands on the UWCD system. The growth projections contained in the master plans appear to be generally based on the historical average population growth for each retail service area. For the purposes of the District's master plan, the projected growth rates in each retail area master plan were adopted as the projected average growth for the District demands as well.

- **Aggressive Growth Projection** – The boom period that occurred in the 1970's resulted in a growth rate 2 to 3 times larger than average. While it is possible that similar growth rates could be seen in the future, it is not anticipated that those rates would be sustainable for long periods of time. However, if the Ashley Valley were to see more advantageous economic conditions for any extended period of time, growth could be notably higher than historical averages. For that reason, the District's master plan includes an aggressive growth scenario. In this scenario, growth was assumed to be 50% higher than the average growth rate.

Population and water demand projections are based on equivalent residential connections (ERCs) for each retail water district. Table 3 lists the current number of ERCs and projected average growth rates as identified in each district's respective master plan, as well as projected aggressive growth rates.

Table 3
Existing ERCs and Future Growth Rates

Water District	No. of ERCs (End of Year 2019)	Average Growth Rate	Aggressive Growth Rate
AVWSID	5,635	1.0%	1.5%
Jensen WID	523	1.0%	1.5%
Maeser WID	1,382	3.0%	4.5%
Vernal City	5,461	1.5%	2.3%
Total	**13,001**	**1.4%**	**2.1%**

Table 4 lists recent historic population within the service area and project population based on an average growth rate of 1.4% and an aggressive growth rate of 2.1%.

Table 4
Historic and Projected Water Service Area Population

Year	Residential Population (Average Growth)	Residential Population (Aggressive Growth)
2000	19,642	19,642
2005	21,089	21,089
2010	25,452	25,452
2015	27,284	27,284
2020	29,248	29,248
2025	31,354	33,587
2030	33,611	37,265
2035	36,030	41,345
2040	38,624	45,873
2045	41,405	50,896
2050	44,385	56,469
2055	47,580	62,653
2060	51,006	69,513

CURRENT AND FUTURE WATER SUPPLY

The following section summarizes Uintah Water Conservancy District's current and future water supply as documented in Uintah WCD 2020 Water Master Plan (BC&A).

Culinary Sources

The District utilizes Ashley Creek and Brush Creek flows for its water supply. Excess spring and winter Ashley Creek flows are stored in Steinaker Reservoir for the District's Vernal Unit. Excess spring and winter Brush Creek flows are stored in Red Fleet Reservoir for the District's Jensen Unit. Historically, these supplies have provided adequate water to meet the irrigation, municipal, and industrial water demands of District customers. Since 2012, the District has utilized the Green River to supply irrigation water via its Green River Pumping Plant. This project provides supplemental water to the west side of the District.

Existing Culinary Supply

Based on the estimated production of the sources described above, the total annual supply for the District is summarized in Table 5 for both dry and average water years.

Table 5
Municipal and Industrial Water Supply Based on River Commissioner Reports

Water Supplier	Average Year Water Supply[a] (acre-feet/yr)	Reliable, Dry Year Water Supply[b] (acre-feet/yr)
Ashley Valley Water & SID (AVWSID)		
Ashley Creek Primary Allotment (4.59%[c] of Flow between April 1 - October 31) Average[d]	2,166.7	975.3
Ashley Creek Winter Stock Water	90.8	90.8
Steinaker M&I Water	640.0	640.0
Ashley Reservoir Company Stock	224.0	0.0
Mayberry Agreement	4.0	4.0
Red Fleet Via Tyzack Aqueduct	1,620.0	1,620.0
Total	4,745.5	3,330.1
Jensen Water Improvement District		
Red Fleet Winter Stock Water	20.0	20.0
Ashley Central Canal Company	33.5	0.0
Ashley Reservoir Company Stock	10.0	0.0
Red Fleet Via Tyzack Aqueduct	661.0	661.0
Total	724.5	681.0
Maeser Water Improvement District		
Ashley Creek Primary Allotment[d] (0.86%[c] of Flow between April 1 - October 31) Average	482.8	161.3
Ashley Creek Winter Stock Water	36.1	36.1
Steinaker M&I Water	200.0	200.0
Ashley Reservoir Company Stock	74.6	0.0
Ashley Central Use	0.0	0.0
Red Fleet Via Tyzack Aqueduct	560.0	560.0
Maeser Hullinger Well (Artesian flow to Ashley Creek)	335.8	335.8
Total	1,689.3	1,293.2
Vernal City Municipal Water		
Ashley Creek Primary Allotment[d] (4.39%[c] of Flow between April 1 - October 31) Average	2,099.2	659.2
Ashley Creek Winter Stock Water	5.7	5.7
Ashley Creek Water Claim #1370	140.0	140.0
Steinaker M&I Water	760.0	760.0
Ashley Reservoir Company Stock	786.9	0.0
Red Fleet Via Tyzack Aqueduct	1,840.0	1,840.0
Total	**5,638.0**	**3,404.9**

[a] Average Year Supply is based on average annual supply from October 2015 to September 2017, or current water allotment for non-variable supplies.
[b] Dry Year Supply is based on October 2017 to September 2018 historic yields.
[c] Diversion caps apply between April 1 and July 1.
[d] Consistent with River Commissioner's practice, this line item also includes Ashley Creek winter water rights.

In summary, existing culinary water supply can be summarized by source type as shown in Table 6.

Table 6
Summary of Current Water Supply in the District
(Including member agency supplies)

Source	Average Year Water Supply (acre-feet/yr)	Reliable, Dry Year Water Supply (acre-feet/yr)
Wells	335.8	335.8
Springs	0.0	0.0
Surface	5,302.2	3,069.1
Purchased	0.0	0.0
Exchanged	0.0	0.0
Total	**5,638.0**	**3,404.9**

Groundwater Depletion and Aquifer Recharge

The State of Utah checklist for conservation plans asks for a description of groundwater depletion, aquifer recharge (artificial and natural) and storage and recovery practices. As summarized above, hydrogeology in the District service area is such that groundwater use as a supply for culinary demand is minimal. As a result, there are no known occurrences of groundwater depletion. Additionally, aquifer recharge is not a topic of great importance to the District water supply strategy and has not been examined in detail.

Future Culinary Supply

Unallocated Jensen Unit M&I Water

The Jensen Unit was designed to provide 18,000 acre-feet annually for municipal and industrial purposes from Red Fleet Reservoir. This 18,000 acre-feet design yield was based on projected population growth, but this growth has failed to materialize. Due to the reduction in M&I demand, the Burns Bench Pumping Plant portion of the project which would have developed 12,000 acre-feet of the total M&I water has not been constructed.

Based on existing M&I and irrigation commitments, the existing Red Fleet system is considered fully committed. However, if the Burns Bench Pumping Plant is constructed, the 12,000 acre-feet additional M&I water conceived as part of the original Jensen Unit concept will become available. This will be available because the Burns Bench Pumping Plant will bring water from the Green River that can be used by irrigators in the Jensen area in exchange for water from Red Fleet Reservoir.

Uinta and Whiterocks Rivers

The Uinta and Whiterocks Rivers and their tributaries are the two major water sources for the west side of the District's service area. Most of this water, however, has already been appropriated and is being used to meet existing demands. Additional storage would be required to develop any significant amounts of this limited remaining resource.

Ashley Creek

Ashley Creek is the major water source for the Ashley Valley portion of the District's service area. This water, however, has already been appropriated and is being used to meet existing demands. Additional storage would be required to develop any significant amounts of this limited remaining resource. In the past, the District has examined constructing additional storage on Ashley Creek, but it was not deemed feasible at the time.

Green River

Much of the water for future development in the basin is expected to come from the Green River. Presently the District has water rights for 43,942 acre-feet, of which 10,000 acre-feet is committed to the Green River Pumping Plant. The remaining 33,942 acre-feet water right will be the water source for much of the future water development within Uintah County.

White River

The District also has two water rights on the White River totaling 4,450 acre-feet. A small portion of this right has been committed to an energy company, but the water has not been utilized.

Future Water Source Summary

Available water sources for future development consist of the following:

Description	Amount (acre-feet)	Source
Burns Bench Pumping Plant	12,000	Green River
Green River Water Rights	33,942	Green River
White River Water Rights	4,450	White River
Total	**50,392**	

Future Water Costs

If the District needs to develop additional culinary supply, the most cost effective source is the Burns Bench Pumping Plant. Development of this source is expected to cost approximately $10,500,000, or about $875/acre-ft.

HISTORIC WATER PRODUCTION, SALES AND SYSTEM LOSS

As a water wholesaler, the District does not control retail metering data collection or practices. As a result this plan does not include a detailed discussion of retail metering and billing issues such as:

- percent of metered connections by type, reading frequency, calibration schedule, etc.
- revenue losses and control practices
- Tiered pricing structure for retail customers

However, this plan has collected available data from its member agencies as available to provide the other water use information requested by the State of Utah as part of a comprehensive conservation plan.

Per Capita Water Production and Consumption

Historic water use in gallons per resident from 2000 to 2019 is summarized in Table 7. This includes both per capita water sales and per capita water production. Per capita water use was quantified

using available water production records and water sales records from the Division of Water Rights and population estimates per the District's recent master plan.

Table 7
Historic Per Capita Culinary Water Production, Sales and System Loss

Year	Population[1]	Historic Water Production (acre-ft)[2]	Per Capita Production (gpcd)	Historic Water Sales (acre-ft)[3]	Per Capita Water Use (gpcd)	System Loss (acre-ft)	System Loss %
2010	25,452	7,788	273.2	5,598	196.4	2,190	28.12%
2011	25,808	10,602	366.7	6,821	235.9	3,781	35.66%
2012	26,170	8,972	306.1	7,419	253.1	1,552	17.30%
2013	26,536	9,378	315.5	7,913	266.2	1,465	15.62%
2014	26,907	9,976	331.0	5,336	177.0	4,640	46.51%
2015	27,284	8,536	279.3	6,143	201.0	2,393	28.03%
2016	27,666	9,739	314.3	5,737	185.1	4,002	41.09%
2017	28,053	8,820	280.7	5,936	188.9	2,884	32.70%
2018	28,446	8,410	263.9	6,831	214.4	1,579	18.78%
2019	28,844	7,551	233.7	5,842	180.8	1,710	22.65%

1. *Population based on estimates for service area as a sub-set of Kem C. Gardner estimates for Uintah County*
2. *Historic Water Production based on "Total From Sources" values reported to the Utah Division of Water Rights*
3. *Historic Water Sales based on "Total Retail Use" values reported to the Utah Division of Water Rights*

The per capita water production varies from a high of 366 gallons per capita per day (gpcd) in 2011 to a low of 233 gpcd in 2019. Per capita metered water sales vary from a high of 266 gallons per day in 2013 to a low of 177 gallons per day in 2014. On average, system losses in the District have be approximately 28% of annual water production as shown in Table 7.

Figure 3 shows historic culinary water use to date on a per capita basis. As can be seen in the figure, the District's per capita use has been generally trending downward, but conservation progress is uneven. To track how well the District is doing in achieving its conservation goal in the future, the District will continue to annually estimate per capita water demands based on yearly metered sales data and an updated population estimate as a function of new system connections.

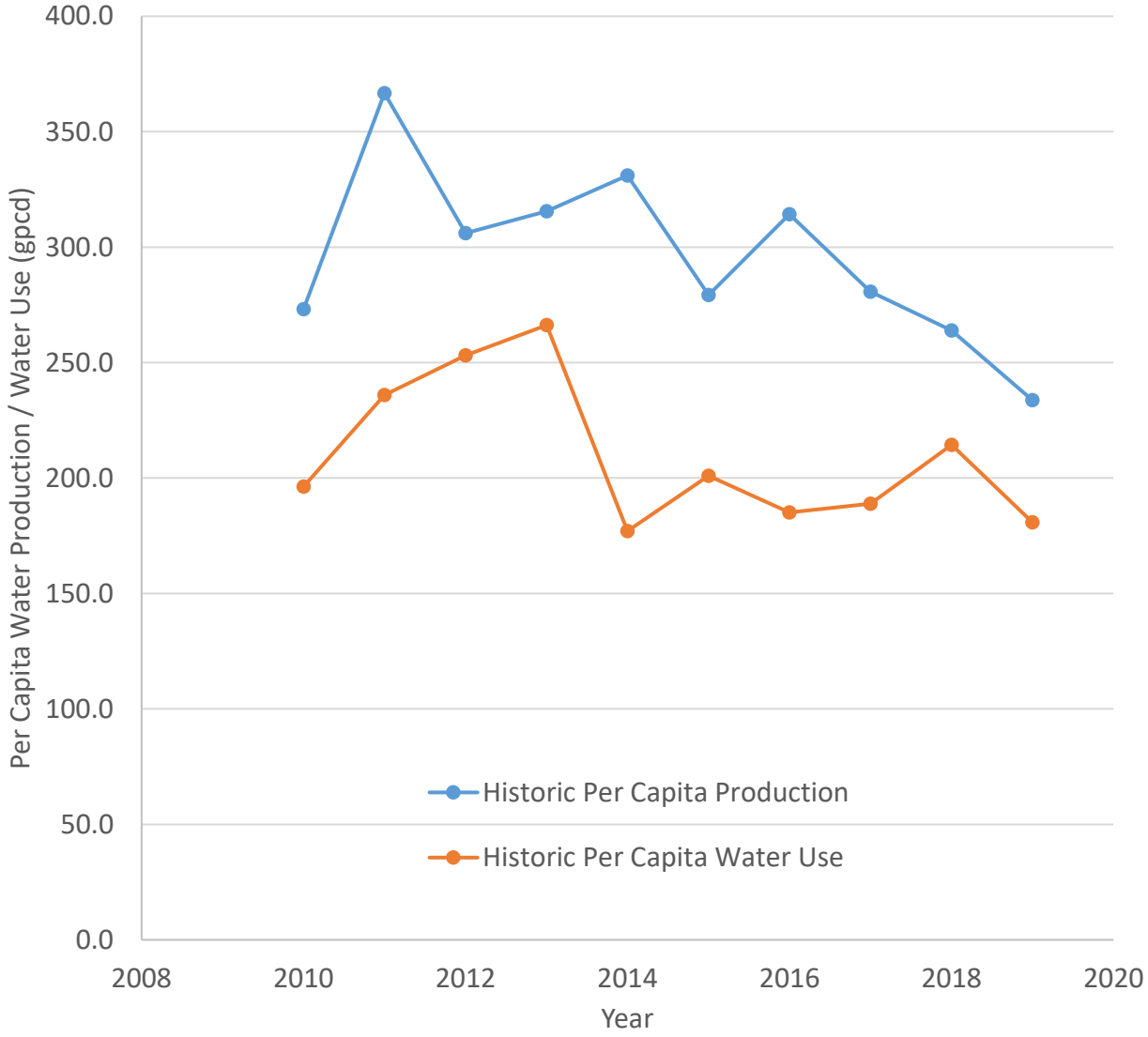


Figure 3: Historic Per Capita Water Use

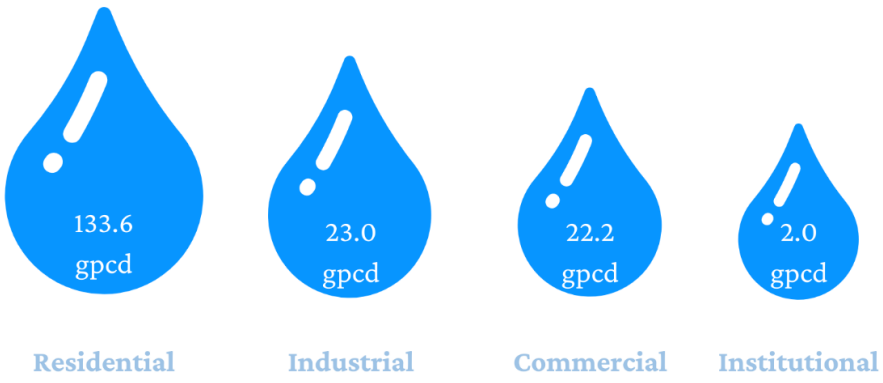
Current Per Capita Water Use

An analysis of UWCD's current municipal and industrial water use was completed. Estimated water use by type for the year 2019 is summarized in Table 8. Per capita water use was estimated using the approximate population of 28,844 people for the year 2019 and annual water use data provided by the Utah Division of Water Rights.

Indoor monthly water use was quantified using the average monthly water use during the winter months (November through March). These months were referenced because historically no outdoor water use occurs at that time, meaning that all water used those months is considered indoor water use. Multiple years of data were referenced to determine an average ratio of indoor vs outdoor water usage. The average annual indoor use was determined by multiplying the average indoor monthly water use (which is equivalent to total winter monthly use) by 12. It is estimated that on average, 57% of water is used indoors while 43% is used outdoors. These numbers are shown in Table 8 and refer to the total water used within the District's service area.

Table 8
2019 Per Capita Culinary Water Use By Type

User Type	Indoor Use (gpcd)	Outdoor Use (gpcd)	Total Use (gpcd)
Residential	133.6		133.6
Commercial	22.2		22.2
Institutional	2.0		2.0
Industrial	23.0		23.0
Total	103.1	77.7	180.8



CONSERVATION GOAL WITH MILESTONES

Water conservation will be a strategy utilized by the District to stretch limited water resources in the basin. Goals for water conservation within Uintah County consist of a reduction in per capita water use over time as shown in Table 9.

Table 9
Conservation Goal With Milestones Through 2065

Year	% Reduction from 2015 Per Capita Water Usage
2025	6%
2030	12%
2035	18%
2045	21%
2065	21%

These goals are generally based on the Regional Conservation goals established by the State of Utah Division of Water Resources. However, the Regional Goals first milestone is in 2035[1]. Interim goals in 2025 and 2030 have been established in this report to help the District in tracking its progress towards longer-term goals.

Evaluation Process to Measure Progress

An important part of setting goals is to understand how progress will be measured and evaluated. The District's plan for measuring progress will include the following actions:

- **Collect Water Use and Production Data from Retail Providers** – Because the District does not meter all water use in the service area, it will need to rely on reporting from its member agencies. It is expected that this data can be collected based on the water use reports submitted to the State of Utah Division of Water Rights.
- **Calculate Per Capita Water Consumption** – Per capita water use will be calculated for both water sales and water production based on reported water use and estimated service area population.
- **Measure Progress Compared to 2015 Per Capita Water Use Values** – Consistent with the State's Regional Conservation Goals, progress will be measured against 2015 per capita values. As shown in Table 7, the values for 2015 are 201.0 gpcd for sales and 279.3 gpcd for production. Because District operations will be mostly dependent on required production, the per capita water production value will be used as the primary metric for assessing conservation progress.

PROJECTED WATER SUPPLY AND DEMAND

To adequately represent the implications of the District's water conservation goals, a comparison of projected demands (based on total system production requirements) and available supplies must be made. Table 10 shows the projected water production requirement (demand) for the District with conservation and the projected production requirement if no additional conservation occurs. The annual demand without conservation volume was calculated by multiplying each year's population by estimated per capita production in 2019[2]. The annual demand with conservation was then calculated by multiplying each year's population by a reduced value of per capita production based on the conservation goals in Table 8[3].

[1] Initial goal in the Regional Goals report is actually stated as 2030. However, to account for the later release of the report relative to the baseline (2019 vs. 2015), the text of the report includes a buffer of 5 years to achieve the goal. This report follows that same approach and uses 2035 as the stated milestone date.

[2] Based on 2015 per capita water use and conservation to date.

[3] Assuming 4% conservation is achieved between 2015 and 2019.

Table 10
Projected Culinary Water Production Requirements (Dry Year)

Year	Projected Production Requirements Without Conservation (acre-ft)	Projected Production Requirements With Conservation (acre-ft)	Estimated Annual Savings Through Conservation (acre-ft)
2015	8,057	8,057	0
2020	9,346	9,175	171
2025	9,969	9,405	564
2030	10,646	9,621	1,025
2035	11,383	9,819	1,565
2040	12,186	10,338	1,849
2045	13,063	10,883	2,180
2050	14,022	11,663	2,358

Projected demand (both with and without additional conservation) is compared against the District's existing available water supply in Figure 4. As shown in the figure, the District's existing water supply is adequate to meet projected demands through the year 2060 if the District meets its current conservation goals. Without additional conservation, average year water supply is projected to exceed supply around 2047. In dry years, the District is projected to need additional supply in the very near future (both with and without additional conservation). However, achieving the targeted level of conservation will minimize the volume of new water needed by the District, even in dry years.

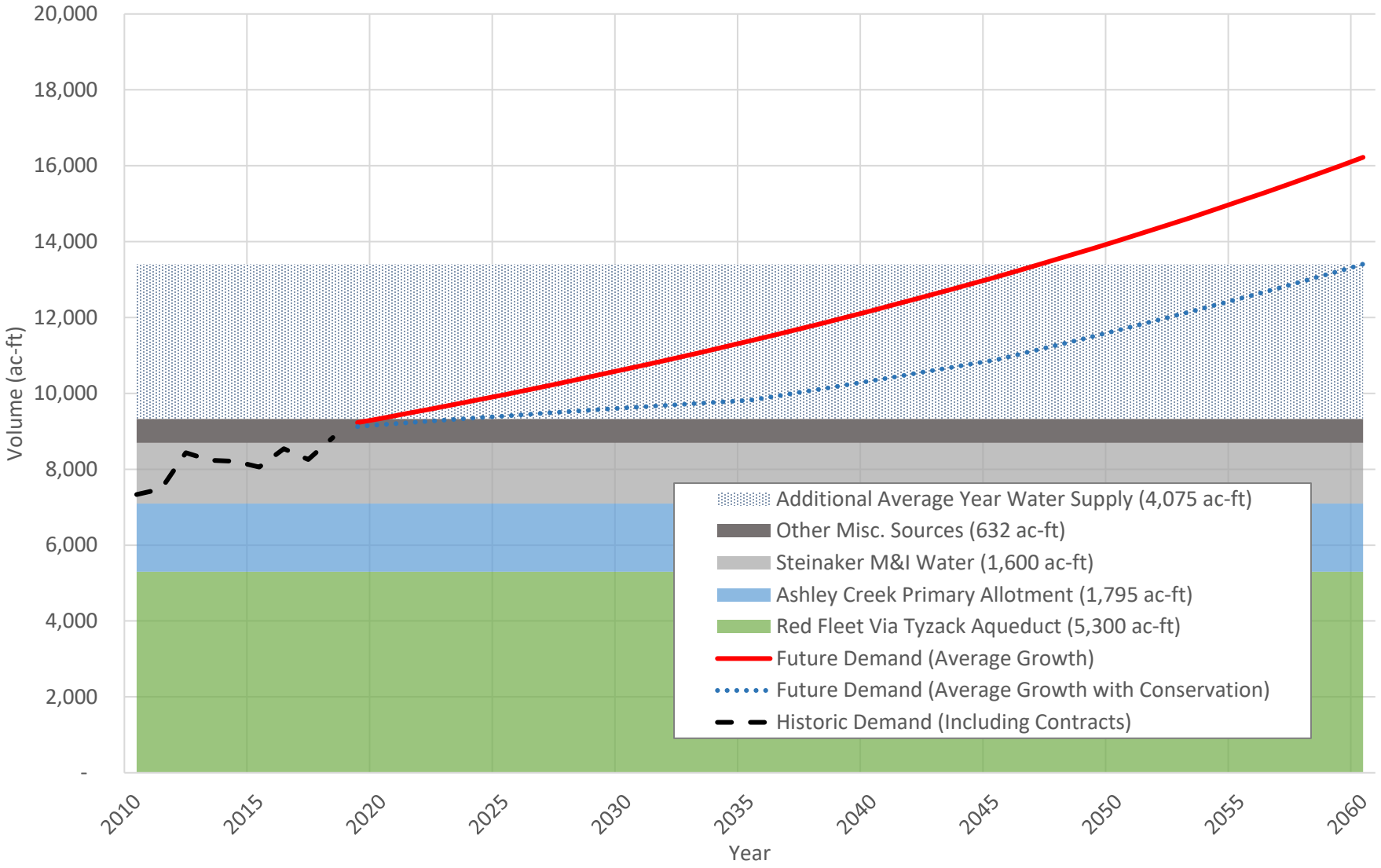


Figure 4
Total M&I Annual Demands and Reliable Dry Year Water Supply

CURRENT CONSERVATION PRACTICES

As part of its overall water supply plan, the District has implemented several conservation measures to reduce water usage and waste. This includes being proactive in implementing and maintaining many programs to ensure that the system operates at an optimal level. Each of these programs is discussed in detail below:

Steady Emphasis on Canal Enclosure Program to Minimize Losses to Evaporation and Seepage – The District has made extensive efforts to facilitate enclosure of existing canals throughout the District. Enclosure of the irrigation canals saves significant amounts of water in the District's system in two ways. First, enclosure eliminates conveyance losses associated with seepage and evaporation. Second, enclosure often allows canals to be pressurized. Where this occurs, irrigation can move from flood irrigation to more efficient sprinkled irrigation. The District has facilitated canal enclosure in two ways. It has funded enclosure of its own canals (e.g. enclosure of 3.1 miles of the District's Steinaker Service Canal) and it has provided funding or technical support to enclose the canals of other entities (e.g. assistance with enclosing the Ouray Park Irrigation Company Canal).

Improved Water Measurement and Accounting – Good water management and accounting is an important part of the District's water conservation plan. Over the past several decades, the District has spent significant resources in implementing a SCADA system improvements to meter and automate District facilities. The goal of these improvements has been to optimize water use and eliminate waste. This has included upgrading communication infrastructure to provide continuous monitoring, remote control functions, and room for additional facilities to be monitored as they come on line in the future.

Many of the improvements were completed as a part of a WaterSmart grant from the US Bureau of Reclamation in 2010. Improvements made through this project included: replacing outdate computer technology; adding remote sensing sites associated with new facilities including the West Side Combined Canals and the Green River Pumping Plant; and bringing all available District data to a central operating site. Since then, the District has continued to add remote operation and metering capability.

Water conservation is achieved through these efforts in two ways. First, the District is able to more quickly respond to needs in the system which avoids water being lost when it is sent where it is not needed. Second, the additional metering allows the District to better track where water is being used in the system and identify efficiency in the District conveyance system. This allows the District to identify problems areas and focus efforts on improving efficiency in those areas with highest water loss.

Aggressive Facility Maintenance Program – The District has an aggressive system inspection, maintenance and operations program. The goal of this program is to keep facilities in good operating condition to minimize water lost through leakages associated with aging and deteriorating facilities.

Water Conservation Plan – The District updates its Water Conservation Plan at least every five years and adopts it by Ordinance.

NEW CONSERVATION PRACTICES PLANNED FOR IMPLEMENTATION

There are several new conservation practices that the District has either recently started to implement or will implement in the next few years. Table 11 summarizes the implementation schedule, estimated costs and potential partners of the new practices. Each practice is discussed in more detail in the following sections:

Complete Enclosure of the Steinaker Service Canal – The District has long-term plans to pipe all remaining open section of the Steinaker Service Canal. Reach II of the Steinaker Service Canal Enclosure Project scheduled for 2021 will enclose approximately 1.8 miles of the canal. Future Reach III and Reach IV projects will enclose the remaining 6.5 miles of canal. In association with the Reach II improvements, the District will also help facilitate enclosure of the Ashley Central Canal. Water saved by enclosing the Central Canal will reduce the flow rate required to be delivered through Reach II of the Steinaker Canal. This will allow the enclosure of the Steinaker Canal to be completed with a smaller diameter pipeline.

Continued Support for Conveyance System Efficiency Improvement Projects – The District has an important role in serving as a "water consultant" for other governmental agencies, irrigation companies, and other water user entities in the county. It will continue to assist these other entities in identifying and funding projects that improve water use efficiency. Activities will include: providing technical assistance; working with local, state, and federal governments on water management and development initiatives; and sponsoring projects where appropriate.

One example of this is the upcoming Ashley Upper and Highline Canal Rehabilitation Project. In this case, the District has assisted the irrigation companies using the canals to secure funding through the Community Impact Board (CIB) to enclose the canals and transfer existing canal easements to Uintah County for flood control purposes.

Continue Ongoing SCADA Improvements to Optimize System Operation – While significant progress has been made in improving the District's SCADA system, SCADA system upgrades will be an ongoing capital and maintenance expense. One specific area of focus for this planning window will be improved automation of water deliveries. The District has submitted an application with the US Bureau of Reclamation for funding to actuate the valves that control water deliveries along Reach 1 of the Steinaker Service Canal.

Agricultural Efficiency Research – The District has recently teamed with Utah State University to develop a new farm research station. The purpose of this research farm is to identify best practices for farmers during drought conditions. This includes establishing best management practices for irrigation during drought conditions, and identification and testing of forage species that might replace other crops during drought situations. Results of research will be used to help with conservation by agricultural irrigators that will improve the overall water situation for all water users in the area.

Water Banking – As the lead entity for water issues in the county, the District is interested in exploring opportunities to facilitate water banking to promote the efficient use of water, especially during periods of drought. The District will work with the Division of Water Rights and others throughout the state interested in this topic to identify future opportunities in this area.

Waterwise Landscaping Example at District Office – If the District is to meet its long-term conservation goals, there will need to be at least some modifications in the way customers in the District landscape. While the District does not have any direct control over landscaping through land use or development ordinances, it can set an example and provide resources for its customers and the local public. One way to accomplish would be through installing waterwise landscaping at the District's administration building.

The majority of the existing landscaping at the District administration building is turf. As part of this conservation plan, the District proposes to replace a portion of this area closest to the building with waterwise landscaping. This will both set an example for the public as well as providing a demonstration garden for those wishing to learn more about waterwise landscaping options. It is expected that the first phase of this landscape modification will be completed in the next 5 years with additional phases implemented thereafter.

Table 9
Implementation Schedule, Estimated Costs & Partnerships

New Conservation Practices	Implementation Timeline	Estimated Cost	Potential Partnerships
Complete Enclosure of the Steinaker Service Canal	Reach II – 2021 Reaches III & IV - TBD	Reach II - $10.4 million Reaches III & IV - $40 million	• USBR
Conveyance System Efficiency Projects	Varies based on individual projects Example Project: Upper and Highline Canal Rehabilitation - 2021	Varies Example Project: Upper and Highline Canal Rehabilitation - $10.9 million ($8.2 million via grant, $2.7 million via loan)	• Irrigation companies
Continue Ongoing SCADA Improvements	Ongoing	TBD	• USBR
Agricultural Efficiency Research	2021	District Portion = $20,000	• Utah State University
Water Banking	More research needed	TBD	• Irrigation companies • Municipal provides • State of Utah Division of Water Rights
Waterwise Landscaping at District Office	Phase 1 – Complete within next 5 years Future Phases – As necessitated by interest and available funding	Phase 1 (5,000 SF) - $30,000	• Central Utah WCD • Localscapes.com

WATER CONSERVATION COORDINATOR AND COMMITTEES

The District has appointed a Water Conservation Coordinator (William Merkley). The coordinator is responsible for all District conservation efforts including acting as the liaison for water conservation matters between the citizens and City officials.

WATER CONSERVATION PLAN AUTHOR(S)

This plan was prepared by Bowen Collins & Associates at the Draper office:

Bowen Collins & Associates
154 E. 14075 South
Draper, Utah 84020
801.495.2224 Office

Primary authors of the plan are:

Keith Larson, P.E.
klarson@bowencollins.com

Cody Moultrie
cmoultrie@bowencollins.com

UINTAH WATER CONSERVANCY DISTRICT CONTACT

Uintah Water Conservancy District
78 West 3300 North
Vernal, UT 84078
435.789.1651

William Merkley
wmerkley@uwcd.org

DRAPER, UTAH OFFICE
154 E 14075 S
DRAPER, UTAH 84020
PHONE: 801.495.2224

BOISE, IDAHO OFFICE
776 E RIVERSIDE DRIVE
SUITE 250
EAGLE, IDAHO 83616
PHONE: 208.939.9561

ST. GEORGE, UTAH OFFICE
20 NORTH MAIN
SUITE 107
ST.GEORGE, UTAH 84770
PHONE: 435.656.3299

OGDEN, UTAH OFFICE
2036 LINCOLN AVENUE
SUITE 104
OGDEN, UTAH 84401
PHONE: 801.495.2224

BOWEN COLLINS & ASSOCIATES

WWW.BOWENCOLLINS.COM

Entity: Uintah Water Conservancy District

Body: Uintah Water Conservancy District

Subject:	Water and Irrigation
Notice Title:	Board Meeting
Meeting Location:	78 West 3325 North Vernal UT 84078
Event Date & Time:	May 11, 2021 May 11, 2021 10:00 AM
Description/Agenda:	*Resolution authorizing issuance of up to $7,500,000 Water Revenue Re-funding Bonds *Steinaker/Red Fleet Inflows Update/Fill Predictions *Red Fleet J-Stock Allotment *Uintah County Efficiency Project Watershed Plan and Environmental Assessment *Red Leaf Resources, Inc. White River Water Lease Option *2020 Water Conservation Plan *Approval of April finances *Employment Status Change *Health Insurance Rates *SNOTEL/Drought reports/Water Supply Forecasts *Closed session for discussing real estate transactions, pending litigation or personnel issues
Notice of Special Accommodations:	In compliance with the Americans with Disabilities Act, individuals needing special accommodations (including auxiliary communicative aids and services) during this meeting should notify Mary Searle 435-789-1651.
Notice of Electronic or telephone participation:	Electronic or telephone participation is NOT available.
Other information:	
Contact Information:	Mary Searle (435)789-1651 msearle@uwcd.org
Posted on:	May 06, 2021 03:27 PM
Last edited on:	May 06, 2021 03:27 PM

Uintah Water Conservancy District

Board of Trustees
Board Meeting Minutes
May 11, 2021

Approved

Conducting: Chairman Quentin R. Johnson called the May 11, 2021, Board Meeting to order at 10:00 a.m. and welcomed guests.

Present:

Trustees: Quentin Johnson, Tyson Murray, Dean Baker, Todd Thacker, and Shane Frost. Herb Snyder and Greg Witbeck were excused.

Others: William Merkley, UWCD General Manager; Mary Searle, UWCD Clerk; John Hunting, UWCD O&M Manager; Dave Rasmussen, UWCD Consultant; Aaron Averett, Sunrise Engineering; Bart Jensen, Jones & DeMille; Mike Collins, Bowen Collins & Associates; Wayne Simper, Central Canal; Morgan Batty, Island Ditch; Randy and Randan Vincent, Brush Creek Water Users.

Approval of Minutes Shane Frost made a MOTION that was SECONDED by Dean Baker and passed unanimously to approve the April 13, 2021, Annual Meeting minutes.

Jensen Pump Project Randy Vincent requested funding for a project to pump water out of Green River in Jensen. This would benefit the Sunshine and Snow pipelines, the Murray Ditch, Burns Bench as well as being able to send water through Red Fleet exchange to other entities in the Uinta Basin. The NRCS study shows they can pump 25 CFS back to the top pipelines. The Bureau of Reclamation has a block of water (12,000 AF) intended to be developed out of Red Fleet. This project could benefit the entire community. The question was asked if this would be duplicating the Burns Bench Pump Station. We need to have customers to make the Burns Bench project feasible. The Board directed William to talk with Scott Chew and find out if there is funding from the State.

Resolution 2021-0511 David Robertson and Eric Hunter from Chapman & Cutler joined the meeting by Zoom. They are looking into re-funding five of our outstanding loans:

1) 2004 Water Treatment Tank;
2) 2008 Island Ditch Pumping Station;
3) 2015 Green River Pumping Plant;
4) Jensen Unit Block Notice No. 1;
5) Jensen Unit Block Notice No. 3.

They would be combined into one bond, but will maintain the same amortization schedules so the debt service will taper off at the same rate. The savings from doing this through about 2026 will be $45,000-$45,000 per year, then $20,000-$25,000 per year after that. They will form a pricing committee to price the bonds within the parameters. The total sources of bonds is up to $7.5 million.

This should save us money on interest rates. Shane Frost made a MOTION that was SECONDED by Todd Thacker and passed unanimously to approve the resolution and authorize Quentin Johnson and William Merkley to sign it.

Steinaker and Red Fleet Inflows

John Hunting reported that Red Fleet Reservoir is currently at elevation 5587.82 with an active capacity of 16,767 acre-feet and an average inflow of 53 CFS and outflow of 41 and pumping about 6 over to the treatment plant. Steinaker Reservoir is at elevation 5478.11 with an active capacity of 8,701 acre-feet and an average inflow of 27 CFS with 83 CFS going out. There was a report that the Feeder Canal was leaking, but it was a Rock Point lateral instead. Wayne Simper asked if there was an agreement about pass-through water. Feeder Canal flows below 20 CFS are considered regulation water instead of pass-through that keeps Central Canal regulated. They feel that water is being wasted by trying to regulate the canal without Steinaker. We are required to pay the Bureau of Reclamation $1.70 for the contract payment but could have the option to not charge the O&M and Reserve. Shane Frost made a MOTION that was SECONDED by Tyson Murray and passed unanimously to allow Central to run water through and pay only the $1.70/acre-foot to let the reservoir regulate the canal flows.

Red Fleet Allotment

Dean Baker made a MOTION that was SECONDED by Todd Thacker and passed unanimously to approve 100% allotment on the Red Fleet water.

Vernal Unit Efficiency Project Watershed Plan

Bart Jensen reported that they have made great progress. They are at 30% project design and cost has been turned over to the economist as well as the hydro-model. The next step is to continue to answer questions. They are meeting with the NRCS bi-weekly. They may be able to update their completion schedule next month.

Red Leaf

Red Leaf would like to enter into a 3-year water lease option on our White River water right. The Option is for a period of three years at $5 per acre foot per year. If they choose to act on the Option and lease the water, the cost jumps to $150 per acre foot. This will be used for oil shale production. They want to make sure they have the resources in place in case production heats up. Dean Baker made a MOTION that was SECONDED by Shane Frost and passed unanimously to have William re-negotiate the lease to $300 per acre foot instead of $150.

2020 Conservation Plan

The Board felt that we need to put a measuring device in at Vernal City's point of diversion. Todd Thacker made a MOTION that SECONDED by Shane Frost and passed unanimously to adopt the 2020 Conservation Plan as presented.

Financial Statements

Shane Frost made a MOTION that was SECONDED by Dean Baker and passed unanimously to approve the April 2021 financial statements.

Invoices

Dean Baker made a MOTION that was SECONDED by Shane Frost and passed unanimously to approve paying BHI $3,700; Bowen Collins $25,681; International Water Screens $9,520.08 for a total of $38,901.08.

Gordon Merkley

William Merkley reported that Gordon has stepped up and picked up the slack to do Devin's job. We are going to replace Devin soon on the West Side. Gordon and Dustin are reading meters this week. The District cost of a ditch rider is not being completely reimbursed by the canal companies. Shane Frost made a MOTION that was SECONDED by Dean Baker and passed unanimously that Gordon's hourly rate be increased to $30 for this year and the Board will talk about it next month after the new person is hired.

Employee Health Insurance

Shane Mayberry prepares a comparison chart for us each year to see where our current policy stands in the insurance market. Dean Baker made a MOTION that was SECONDED by Shane Frost and passed unanimously to accept the renewal option presented by PEHP.

Manager Report

The State of Utah has approved the process for appointing a representative for Uintah and Duchesne Counties on the Colorado River Board. William will set up a meeting with Duchesne to appoint a representative and let the Board know. It will be a six-year appointment but is most likely an eight-year commitment.

Greg and William are going to the Utah Water Users Conference in St. George.

Governor Cox has mandated that government facilities water lawns between 10 p.m and 6 a.m. to conserve water.

Adjourn

Todd Thacker made a MOTION to adjourn which was SECONDED by Tyson Murray and passed unanimously. The meeting was adjourned at 11:50 a.m.