



CENTRAL UTAH WATER
CONSERVANCY DISTRICT

ANNUAL **REPORT** **2020**





2020

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MESSAGE FROM THE GENERAL MANAGER



GENE SHAWCROFT, P.E.
GENERAL MANAGER / CEO

As the pandemic of 2020 began to unfold, a series of press conferences were held by state officials providing conditions, statistics, guidelines, encouragement, and warnings. Included in these weekly events also came this declaration of reassurance: The water supply was safe.

What a huge message of trust in and commendation for the water-supply industry! What a weighty responsibility for staff and trustees of the Central Utah Water Conservancy District!

Our people, now seen in socially-distant and masked settings, continued to provide a safe and secure water supply to meet the culinary, agricultural, hydropower, environmental, and recreational needs of our contract holders and partners. Though trustees, staff, and their families were affected by the virus, the work continued in a reliable and efficient manner.

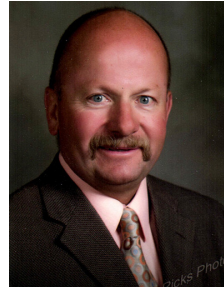
This has again proven to me that whether the threat is pandemic, or fire, or drought, or earthquake, or any of myriad threats; Our people are our primary defense. I admire them, and thank them for their dedication, resourcefulness, and sacrifice.

BOARD OF TRUSTEES

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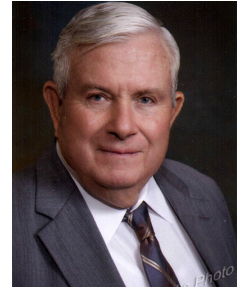
UINTAH



STEVE HANBERG

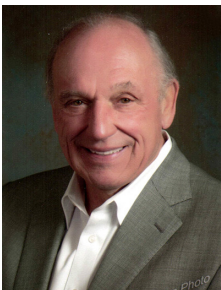


MAX HASLEM

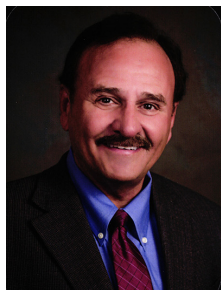


BOYD
WORKMAN

SALT LAKE



JIM BRADLEY



MAX BURDICK



AL MANSELL



JIM RIDING

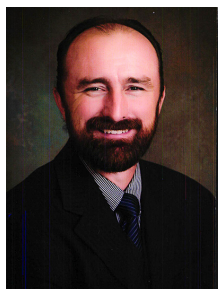


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UTAH



G WAYNE
ANDERSEN



NATHAN IVIE



BILL LEE



STEVE FARRELL



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WASATCH/SUMMIT



RESILIENCE

As pandemic effects began to blanket Utah, the District immediately initiated measures to mitigate impacts to staff; to water supply treatment, conveyance, and storage; to new and ongoing construction projects; and to supporting administrative services. Centers for Disease Control and Prevention (CDC) and local health department guidelines were closely followed. Situational updates were constantly provided by Human Resources.

Masks, social distancing, and frequent hand washing became the norm. Where possible, staff worked from home, traveled in separate vehicles to work sites, and arranged schedules to provide minimal group contact. For the first time ever, video conferencing technology was used for conducting meetings of the Board of Trustees.

Even with these measures in place, the District felt the reach and seriousness of the COVID-19 virus. Infection, testing, and quarantining touched the lives of many staff, trustees, and their families. But through it all, the treated water supply remained safe and the raw water supply remained secure, thus demonstrating District resilience at its finest.

“ *It's part of Central Utah Water's mission to plan for the future, including plans for emergency situations and unforeseen circumstances. We join local and state leaders in closely monitoring the situation to assure the continued delivery of safe, clean water to the public.* **”**

- GENE SHAWCROFT, GENERAL MANAGER
MARCH 13, 2020

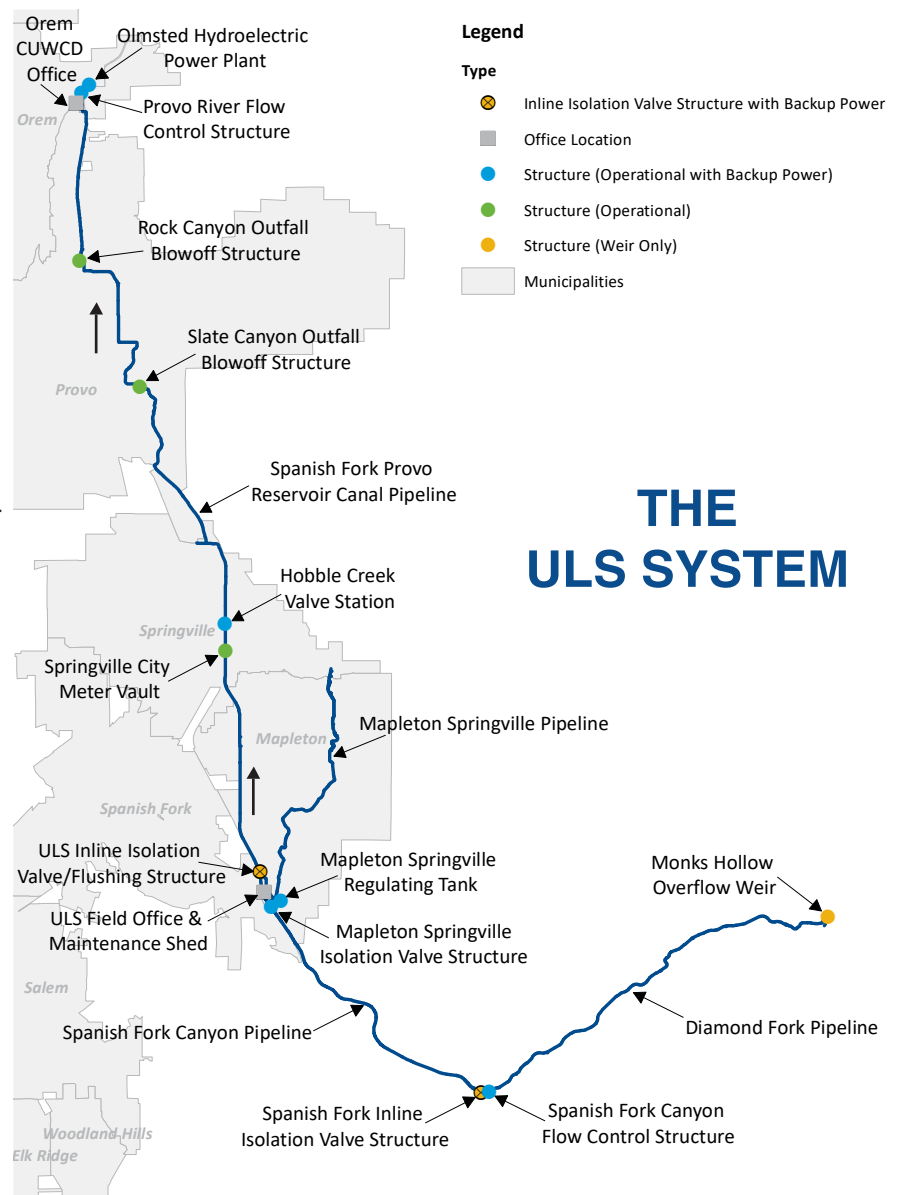
BLOCK NOTICE

7A-2

As the Central Utah Project (CUP) water supply is developed, allotments of water, defined as blocks, are issued. In October 2020, Block Notice 7A-2, for 22,000 acre-feet, was issued from the United States Department of Interior to CUWCD for the first Utah Lake System (ULS) M&I water deliverable to Metropolitan Water District of Salt Lake and Sandy (MWDSL&S) and Jordan Valley Water Conservancy District (JVWCD). Prior to Block Notice 7A-2, Block Notice 7A-1 was issued for fisheries through water conservation savings derived from enclosing the Provo Reservoir Canal, and Block Notice 7B-2 was issued to South Utah Valley Municipal Water Users Association for delivery of 500 acre-feet of water to Spanish Fork City.

MWDSL&S began using 3,100 acre-feet of water immediately with plans to defer the rest of their water, 2,500 acre-feet, for 10 years. JVWCD elected to defer all of their 16,400 acre-feet of water for 10 years. Both entities have the flexibility to do this, under their water sales contracts. They also may start taking water earlier upon request.

During the deferral period, the District is working to use this water for other various purposes such as deliveries to Utah County customers through the Central Water Project (CWP) system and also for aquifer storage and recharge investigations.



UTAH LAKE SYSTEM





Design and construction continued on approximately 16 miles of the Spanish Fork Santaquin Pipeline of the Utah Lake Drainage Basin Water Delivery System.

The approximate 1.5-mile-long, Salem Reach 2 Pipeline, which began construction in 2019, was completed in 2020. This reach included upgrading the adjacent Salem Canal from a concrete ditch to an HDPE pipeline.

Construction began on approximately four miles of the Payson Spring Lake Reach Pipeline. It is scheduled to be completed in the spring of 2022.

An Environmental Assessment (EA) for the realignment of the 2.5-mile-long, South Fields Reach 2 Pipeline was completed in 2020. The design was completed to the 95-percent level with construction field work anticipated to begin in late 2021. Design and right-of-way acquisition continued on the 2.5-mile-long, Salem Reach 1 Pipeline. A preliminary design layout was prepared for the 4.5-mile-long Santaquin Reach Pipeline.

Meetings were held with all affected property owners to discuss project impacts to their properties and to collect design data.

The first delivery of ULS water from the Spanish Fork Santaquin Pipeline also occurred in 2020, a great milestone for the project. The first delivery was made to Spanish Fork City from the Spanish Fork Reach Pipeline which was constructed in 2018.

CENTRAL WATER PROJECT

The year 2020 brought the completion of pump houses for the Central Water Project (CWP) Wells #8, #9, and #10. Together, these wells provide an increased water source capacity of 17,000 gallons per minute. The new well houses include 1,250-horsepower (hp) pumps and motors, disinfection systems, large-capacity cooling systems, SCADA controls, and other appurtenances necessary to deliver high-quality, groundwater to the CWP System.

The Vineyard Collector Pipeline, consisting of 2.7 miles of 20-inch to 48-inch diameter, welded-steel pipe, was put into service. This pipeline connects the newly-completed CWP Wells #8, #9, and #10 to the CWP North Shore Aqueduct and other future well sites.

Other projects completed in 2020 included:

The addition of piping and valves in the Lehi/Saratoga Springs 2300 West Turnout Vault, which provides another CWP water delivery point for those cities.

The expansion of the Pony Express Pump Station to full buildout, which increases the number of 500-hp pumps to four and increases the total pumping capacity to 9,600 gallons per minute.

The procurement of new well sites for CWP Wells #16 & #17 along with an engineering consultant being selected to help with the design of the new wells that will be drilled.

Beginning the design on a 15-million-gallon expansion of the North Shore Terminal Reservoir with construction slated to begin in the summer of 2021.



The increase in completed CWP facilities has resulted in a significant work load increase for the Vineyard CWP Office. Staffing adjustments in 2020 will ensure that CWP facilities will continue to be operated and maintained in the best possible condition.

The CWP delivered 26,060 acre-feet of high-quality, drinking water to seven customer agencies in 2020. This is a new delivery record for the system. The contract delivery amounts will continue to increase in the coming years.



2020 Central Water Project Operations

CUSTOMER AGENCY	WATER DELIVERED (acre-feet)
VINEYARD TOWN	763
VINEYARD TOWN NON-CWP	0
PACIFICORP	2,135
LEHI CITY	2,319
SARATOGA SPRINGS	1,104
EAGLE MOUNTAIN CITY	3,208
ALPINE SCHOOL DISTRICT	20
JORDAN VALLEY WATER CONSERVANCY DISTRICT	14,340
JORDAN VALLEY WATER CONSERVANCY DISTRICT NON-CWP	0
CWP USE	18
OREM NON-CWP	40
UTAH LAKE (ARTESIAN FLOW)	399
TOTAL CWP CONTRACT WATER	23,890
TOTL NON-CWP CONTRACT WATER	40
TOTAL CWP USE	18
TOTAL UTAH LAKE (ARTESIAN FLOW)	399
TOTAL CWP SYSTEM DELIVERIES	24,347
SOURCES	
CWP SYSTEM STORAGE	11
CWP WELL 11	2,910
CWP WELL 12	5,127
CWP WELL 13	4,205
CWP WELL 14	475
CWP WELL 15	179
DACRWTP	11,431

CENTRAL UTAH PROJECT OPERATIONS

The State of Utah experienced the driest water year on record in 2020. This created a heavy demand for Central Utah Project (CUP) water and threatened several facilities with wildfires. The winter snowpack at the beginning of the water year started off strong, but quickly decreased with the lack of precipitation from April through October. Project water deliveries were projected slightly below average but, because of the dry summer, CUP deliveries ended up at approximately 125% of average. Reservoirs levels ended the year below prior year levels because of the dryness of the season.

The North Fork Siphon Replacement Project continued through 2020 and will be completed in 2021. Drainage systems were replaced at Rhodes Tunnel and Trial Lake Dam. Corrosion and pitting issues on Syar Tunnel were repaired by sandblasting, cleaning, and recoating.

The Sixth Water Flow Control Structure Modification Project began in 2020. This project will provide flow releases for stream enhancement of Diamond Fork Creek. The Hodge access door was removed and replaced with a dished head. This will allow water deliveries to continue during construction of a new, flow-control-valve structure in the summer of 2021. The new valves will be capable of controlled releases from 0 to 100 cubic feet of water per second. The Hodge access door will be reinstalled at the end of the project.

On the West Fork Pipeline, the cathodic protection systems and grounding beds were replaced. At Upper Stillwater Dam, controls on the vibrating wire monitoring system were

replaced and the joints on the Stillwater bridge deck were cleaned and sealed.

At Jordanelle Dam, woody vegetation within 20 feet of the abutments was removed and maintenance on the cut slopes was completed to improve inspection visibility and dam safety.

At the Wasatch County Water Efficiency Project (WCWEP), two new regulating ponds were completed and put into service. The ponds were enlarged to four times their prior regulating capacity to accommodate the changes in land use. Additionally, several wedge-wire screen structures were constructed at delivery points to provide cleaner irrigation water.

The restoration of the Historic Olmsted Hydroelectric Power Plant with a seismic upgrade was completed. New cameras and security systems were installed at both the new power plant and the historic power plant and campus.



HYDROPOWER



Staff continues to work, with great progress, on the restoration of the Historic Powerhouse. The District continues to anticipate educating the public about water deliveries and power generation by allowing visits to these important, historic buildings.

The Olmsted Hydroelectric Power Plant saw a few tours before it was closed to visitors due to COVID-19. Warranty work was scheduled and completed for a few maintenance issues on hydraulic systems and interior pipe coatings. The plant continued to produce power as water was available.

The Jordanelle Hydroelectric Power Plant continued to operate smoothly in 2020. One group was able to tour the facility before the plant was closed to tours due to COVID-19. Several maintenance and upgrade projects took place during the year. A significant replacement project in 2020 included an upgraded flow meter. Annual meetings with Heber Light & Power also continued. The plant was able to run smoothly on the required water deliveries.

Energy Generation Summary for 2020

Month	Jordanelle Generation Output Net Energy, MWh	Olmsted Generation Output Net Energy, MWh
January	1,977.92	1,951.56
February	1,838.88	2,998.19
March	1,997.47	4,060.09
April	2,594.82	2,973.26
May	8,628.25	3,645.92
June	8,697.68	5,144.69
July	6,584.93	1,933.18
August	5,329.93	1,504.55
September	4,613.50	1,291.16
October	3,254.82	1,055.84
November	1,847.93	38.69
December	1,853.15	240.38
Total	49,219.28	26,837.51

Hydropower Generation 2019 vs 2020



ENGINEERING & TECHNICAL SERVICES



Several projects were started and completed in 2020. The Historic Olmsted Powerhouse Rehabilitation and Seismic Stabilization project strengthened this nearly 120-year-old powerhouse to resist earthquake forces as well as rehabilitate the interior for public tours.

The Duchesne Aqueduct Improvement Project, which consisted of redoing all of the air/vacuum valve stations, upgrading existing delivery vaults, and valving as well as providing new connections to existing systems, and data collection, began in 2020 and will be completed in early 2021.

Ground was broken on the Process Improvement Project (PIP) at the Duchesne Valley Water Treatment Plant that is required as a result of the Dollar Ridge and Pole Canyon Fires. Thunderstorm-induced erosion and sediment-laden runoff from the burn scar have dramatically changed the water quality of Starvation Reservoir since late August of 2018 and have made the water much more difficult to treat. This project will upgrade the plant from a direct filtration plant to a conventional treatment plant to help with that process.



The North Branch Connection to Alpine Pipeline and Pump Station Project started construction in 2020. This project consists of a new pump station in Highland and 24-inch pipeline from the pump station to the Healey Well in Alpine. This project will permit Alpine to take its allotment of CUP water from the North Branch turnout. Completion of the project is slated for spring 2021.

Construction of the Tyzack Vault Capital Replacement Project upgrade at the Ashley Valley Water Treatment Plant began in 2020. This project will upgrade an existing vault, replace a



worn out sleeve valve and piping, construct a new valve vault, and upgrade an existing turnout for water coming from the Red Fleet reservoir. Completion of this project is anticipated in the spring of 2021.

The District was involved in two major studies: The Alpine Aqueduct Reach I Geohazard Analysis, which was completed and now will continue to the NEPA phase and final design of that project; and the Plan Formulation Study of how to provide supplementary water to the communities in south Utah County and north Juab County out to 2060.

TREATMENT PLANTS



The Duchesne Valley Water Treatment Plant (DVWTP) delivered 3,828 acre-feet of drinking water and met all their water quality goals despite still experiencing multiple algae blooms due to the after effects of the 2018 Dollar Ridge Fire. The construction of a new floc-sed basin at the facility is currently underway so that the plant can effectively treat the long-term, water-quality impacts of that forest fire.

The Ashley Valley Water Treatment Plant (AVWTP) delivered 3,920 acre-feet of drinking water. There were several capital replacement projects that were completed this past year, and there is one project in progress. The AVWTP met all operational goals and the stringent water quality goals of the Partnership for Safe Water Program.

The Don A Christiansen Regional Water Treatment Plant (DACRWTP) delivered 33,047 acre-feet of drinking water and met all regulatory limits and the stringent water quality goals of the Partnership for Safe Water Program.

The DACRWTP continues to be recognized by the American Water Works Association as one of the best run plants in the nation. In addition, the plant went from delivering 25,000 acre-feet to 33,000 acre-feet, which was necessary to meet the increased demands from CWP.

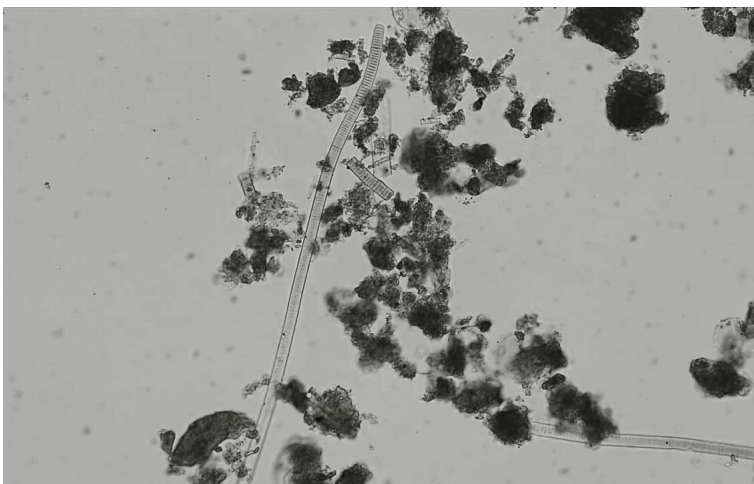
The success achieved at these facilities is all centered around the people that staff it. By hiring well, and providing continuous training, staff members become knowledgeable and fully capable of reaching lofty goals.



WATER QUALITY

In 2020, the District partnered with Brigham Young University (BYU) for a project to study cyanobacteria in the Provo River. The need for the project was to address small cyanobacteria blooms or accumulations that typically occur in Deer Creek Reservoir in late summer and early fall. While these blooms can cause concern to recreators when they see or encounter them, they do not pose a threat to drinking water supplies because the vast majority of the cyanobacteria stay in the reservoir and do not migrate to the Provo River. Monitoring small, transient blooms or accumulations in the reservoir required significant time and resources, whereas the river was monitored more intensively and efficiently through sensors and sampling. This strategy provides the required information to know that drinking water sources were not threatened despite conditions in the reservoir.

Staff placed sensors in strategic locations on the river to monitor the cyanobacteria levels. An extensive amount of data has been collected by the District and BYU. Analysis of the river data has begun. This analysis includes examining cyanobacteria genes, water chemistry, nutrients, temperature, and more, to ensure protection of source water. Fortunately, there have been no concerns detected in the river even when there have been issues at the reservoir.







DOWNLISTING OF

As progress has been made on construction of the Central Utah Project, C work towards its recovery. In 2020, the efforts of all involved were rewarded





THE JUNE SUCKER

CUWCD and its partners have had to be mindful of the June sucker and to deal with the downlisting of the June sucker from “Endangered” to “Threatened”



Back from the Brink: Recovering the June Sucker

Central Utah Water is proud of its role in managing the water within its jurisdiction and using technology, intelligence, and hard work to ensure the best possible balance for humans and nature. A great example of success in ensuring this balance comes from a rare species of fish found only in Utah Lake, called the June sucker. As progress has been made on construction of the Central Utah Project, the District has been mindful of the June sucker and worked towards its recovery.

In 2002, the District, together with six other federal, state, and local agencies, founded the June Sucker Recovery Implementation Program (JSRIP). The District helped implement projects designed to recover the species. Despite obstacles to recovery, these efforts have made sure the June sucker is better off today than it was 20 years ago. In fact, the Fish and Wildlife Service officially downlisted the June sucker from endangered status to threatened on Feb 3, 2021, officially recognizing the progress the District and its partners have made. This partnership has brought the June sucker population from a low point of a few hundred breeding adults in the wild in the mid-1990's to tens of thousands of June sucker in Utah Lake today.

Recovering a species of fish is no easy task, and the recovery of the June sucker is an environmental success story. Since the Endangered Species Act was passed, only four other species of fish have been downlisted from endangered to threatened. Getting to this point has required the expertise and ingenuity of District staff. The numerous contributions and efforts are too lengthy to name, but a few of the

recovery actions the District helped to implement are listed below:

- Secured over 25,000 acre-feet of water for supplementing instream flows in the Provo River and Hobble Creek
- Delivered water annually to ensure that successful June sucker spawning occurred
- Stocked over 850,000 captive, reared, June sucker into Utah Lake
- Removed over 30 million pounds of carp from Utah Lake, resulting in a 75% decrease in the carp population
- Restored over two miles of Hobble Creek to allow June sucker to spawn in that tributary
- Implemented the restoration of the Provo River Delta, which will restore conditions allowing young June sucker to thrive

In 2004, biologists working on the June sucker recovery projects were able to find 16 June sucker spawning in the Provo River, while today, it is possible to observe schools of June sucker numbered in the hundreds spawning in the river. While many may believe water development and endangered species recovery to be at odds, the District has shown that with determination and the right partnerships, both can be successful. The District will continue to work with its partners to further June sucker recovery efforts as we work towards the full recovery and delisting of the species.

30 million
pounds of carp
removed



850,000
June sucker
stocked

25,000
acre-feet of water
secured



CONSERVATION EDUCATION



It was a challenging year for the District’s Conservation Education Program. Staff worked diligently to adapt to the circumstances and still provide education for the community. The majority of the classes were moved to an online format, and the attendance numbers actually increased. Twenty-two classes were held with an average attendance of 79 and a total attendance of 1,746. Ten outreach events were held including two Localscapes classes in Wasatch County.

The District developed two new conservation programs this year: the Localscapes Home Builder Program, which rewards home builders for installing water-efficient landscapes, and the Landscape Leadership Grant Program, which

reimburses a portion of the cost for organizations to install water-efficient landscapes on their properties. Fifty-four properties were submitted to the Localscapes Home Builder Program, and two properties were submitted to the Landscape Leadership Program.

The District also completed a successful landscape conversion project at the Duchesne Office this spring. The project consisted of reducing a 25,000 square-foot lawn down to 5,400 square-feet and converting the remaining space to water-efficient planting beds. A smart irrigation controller was added to the sprinkler system, and the plants were watered with a drip irrigation system. According to meter data, 2020 saw a savings of an astounding 951,875 gallons.





EDUCATION OUTREACH



2020 completely changed outreach and education in the District. In March, the pandemic caused the cancellation of nearly every scheduled event. But for every challenge, there is an opportunity. The outreach and education group took this opportunity to develop all-digital outreach programming for 2020. With teachers searching for college credits to renew their teaching licenses, the District provided several virtual, teacher-training courses including Weather and Climate, Citizen Science, Drinking Water in Schools, Ecosystems of the Great Salt Lake, and Chemistry in the Classroom.

Much of science education has shifted to after school programs. The District developed monthly Short Interactive Programs (SIPs) that tackled topics such as Wicked Weather, The Wonders of Water, EcoHeroes, Healthy Hydration, and Operations Snowfall. Staff met with educators to help them learn how to facilitate each week's curriculum and experiments.

Early in the year, the District started a workplace Community Emergency Response Team (CERT) training program. District staff worked with Orem City and Provo CERT to have the program recognized as an official training program. The District's program is the first workplace CERT in Utah County.

CONSERVATION PROGRAMS

The State of Utah requires retail water providers and water conservancy districts to prepare and adopt a water conservation plan every five years. In 2020, CUWCD staff, along with the help of Brown and Caldwell and Maddaus Water Management, developed the new Water Conservation and Efficiency Plan.

The Water Conservation and Efficiency Plan defines the purpose for the District’s conservation efforts, identifies specific conservation goals, documents current and past water conservation efforts, identifies the most effective activities to achieve the goals, and sets out an implementation plan for those activities. The District is dedicated to supporting the customers in their service area. CUWCD is committed to assisting each utility’s conservation efforts to support rapid growth in Utah. The plan also clearly illustrates that conservation planning is just as crucial as infrastructure planning in populated areas.

After surveying stakeholders and analyzing their responses, the District was able to create three specific goals: use District water efficiently, support water retailer’s conservation efforts, and encourage conservation by the public. These goals will be carried out by completing tasks such as tracking water use and conservation progress across the District’s service area, training retailer staff on implementing conservation programs, and educating and providing incentives to encourage water-wise landscaping.

CUWCD looks forward to doing its part to protect valuable water resources.



Why is Water Conservation Important?

The District promotes water conservation and efficiency to:

Provide industry leadership

The District has a responsibility to provide an adequate water resources portfolio that includes enough water supply. The Utah Division of Water Resources (UDWR) has recently set statewide water use goals to secure an adequate water supply through 2065. To achieve the 2030 goal, an estimated \$2 billion will need to be spent on conservation in the District service area over the next 10 years.¹ The District’s extensive experience provides insight into the long-term big picture, and can guide the most effective conservation spending. The District is finding future water inadequacies, and making connections locally, nationally, and internationally that support water conservation progress to provide information to our cities. Statewide UDWR Conservation goals for Utah²:

17.6% average gpcd reduction goal by 2030
22.8% average gpcd reduction goal by 2045
25.5% average gpcd reduction goal by 2065

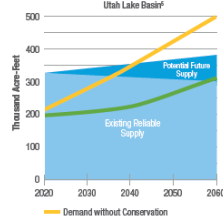
Address environmental impacts

Efficient use of water reduces pollution and means more water can be left in streams, lakes, and reservoirs for fish, wildlife, and for recreation. Our community’s dedication to prioritizing our water resources is critical. Prioritizing our environment supports long-term supply reliability.

Protecting our watershed doesn’t mean that our economy needs to suffer – when one succeeds, the other will thrive.

Secure reliable water supply

Utah has a finite supply of water that can be developed and eventually water will be a factor in how Utah grows. For example, Utah County is expected to add 60,000 households over the next 10 years.³ Each community’s ability to conserve water will determine whether our water supply has the resiliency to allow our grandchildren and great-grandchildren to live here.⁴



Serve community expectations

Envision Utah’s Valley Visioning study found that Utah County residents anticipate efficiently using limited water resources to support themselves and future generations while maintaining a high quality of life. They found that residents are willing to further reduce water consumption.

#1 water management is the top priority for Utah County’s future (Valley Morning 2018 survey)

Water issues affecting the District service area:

Utah Valley Groundwater ●●
 Due to over appropriation, the State Engineer closed further development of major aquifers in Utah Valley.⁵ This makes development of future water supplies from groundwater in Utah Valley difficult.

Colorado River Water ●●●
 The District delivers a major portion of Utah’s allocation of the Colorado River as allocated in the 1922 Colorado River Compact. The Central Utah Project (CUP) was designed with large canyon storage to capture high runoff and winter flows for use during the high demand summer months and sustain deliveries during drought periods. Demands on the Colorado River continue to increase in the midst of a 20 plus year extended drought. The District will be very vigilant as negotiations of river operations continue. Projections show the gap between demand and supply is growing.⁶

Recreation ●●●
 Utah’s reservoirs, lakes, and rivers are popular tourist attractions and are heavily used for recreation and fishing. If these water resources are diminished, water recreation and income from water-based tourism activities will decrease.

Shifting Use ●●
 New development is reducing agricultural land. Development of agricultural land can potentially increase the overall water use.

Local Availability of Water ●●●
 Easy access water has already been developed. Population growth, which formerly occurred in areas where there was an existing water supply, is now happening in areas that desperately need water.

Public Awareness ●●
 The community is more aware and willing to conserve water and demanding conservation before or in conjunction with development of new water sources. With increased awareness, water conservation opportunities are gaining support.⁷

Climate Variability ●●
 Utah is already one of the driest states in the nation. Much of Utah’s water infrastructure is designed around capturing snowmelt, but snowpack has been decreasing since the 1950s.⁸ Scientists say the southwest US is experiencing a “megadrought”.⁹ Climate variability impacts both water supply and demand for water. Careful planning is needed to provide supply resiliency to adapt to climate variability.

Pollution ●
 Excess outdoor water use increases runoff, which can contaminate water bodies with fertilizers that encourage toxic algae blooms.¹⁰ Algae blooms threaten fisheries and cause problems for downstream users and recreation. Water that experienced algae blooms require costly additional treatment to make it drinkable.¹¹ Efficient water use reduces runoff and the risk of algae blooms.

- Provide industry leadership
- Address environmental impacts
- Secure reliable water supply
- Serve community expectations

Utah’s population is expected to double by the year 2060. Without conservation, demand for municipal and industrial (M&I) water will likely also double but supply cannot.⁴ We need a robust plan to balance conservation and new supply development cost-effectively.

To meet growing demands for water in our service area, the Statewide Water Infrastructure Plan estimates \$25.7 billion should be spent over the next 50 years:

\$11.7 billion for repair and replacement!
\$6.6 billion for new supply development!
\$7.4 billion for conservation!



ENVIRONMENTAL PROGRAM

In 2020, the Environmental Assessment (EA) for the Diamond Fork Environmental Update Project officially got underway. Public and agency scoping was held from March 22 through April 24. The analysis process then began to look at the impacts of reducing the instream flows in Sixth Water and Diamond Fork Creeks, capturing and relocating the hydrogen sulfide springs near the Upper Diamond Fork Flow Control Structure, and providing more flexibility to the inspection and maintenance schedule for the Strawberry Tunnel. The EA should be completed in 2021.

The environmental team also completed several Categorical Exclusions that provided the federally-required documentation necessary for projects to move forward. These exclusions were completed for the following projects:

- [Surplus Strawberry Reservoir Water Project](#)
- [Payson-Spring Lake Reach Realignment Project](#)
- [Duchesne Aqueduct Improvement Project](#)
- [Orchard Mesa Meter Vault Project](#)
- [Provo City and Provo Metro Water Contract for Storage in Jordanelle Reservoir Project](#)
- [Tyzack Valve Vault Project](#)
- [Duchesne Aqueduct Improvement Project – Staging Area](#)
- [Temporary Use of Block Notice 7A-2 Project](#)
- [Jordanelle Special Service District Pipeline Diversion Project](#)

The Environmental staff continues to provide ongoing field support for construction projects. This year, the field work ranged from nest surveys along South Fields Reach 2 to cultural resources surveys on the Payson-Spring Lake Reach.



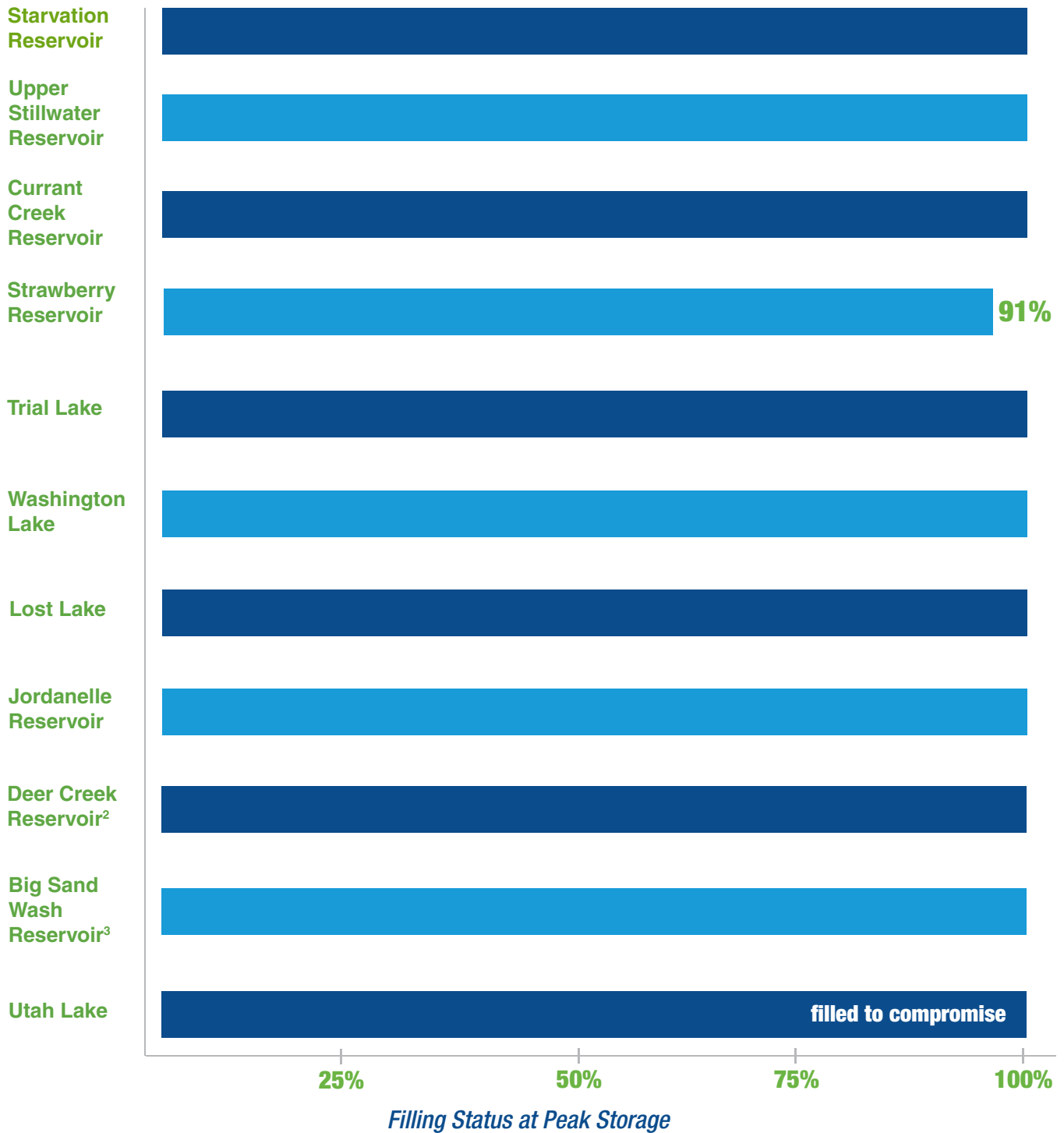


WINTER SNOWPACK

What began as a respectable, winter-snowpack season ended in a disastrously dry summer and fall. Snow-water-equivalent (SWE) values exceeded 100% on April 1 in all river basins across the District, but by fall, total water-year precipitation had dropped to less than 75% of normal in the same river basins. Fortunately, project reservoir storage had benefited from a bounteous 2019 and allowed reservoirs to fill to the amounts shown here. By board action, project water contract holders were granted full contract allocations.

Snotel Site	% of Peak Normal Value¹
Provo River/Utah Lake/Jordan River	
Trial Lake	111%
Snowbird	107%
Clear Creek #1	92%
Beaver Divide	111%
Lookout Peak	116%
Timpanogos Divide	88%
Duchesne River	
Lakefork Basin	113%
Brown Duck	105%
Chepeta	111%
Strawberry Divide	99%
Indian Canyon	120%
Daniels-Strawberry	88%
Sevier River	
Box Creek	55%
Pickle Keg	105%
Mammoth-Cottonwood	107%
Seeley Creek	104%
Green River	
Trout Creek	114%
King's Canyon	131%

RESERVOIR STATUS



¹This value represents the peak annual snowpack amount in percent of the peak 30-year median snowpack value for each respective Snotel site.

²Provo River Water Users Association Facility

³Moon Lake Water Users Association Facility

DELIVERIES

JORDANELLE RESERVOIR	AC-FT	Non-Project Water (Secondary Irrigation Systems)	AC-FT
<u>CUP Project Water (M&I)</u>		Lehi City (Temporary)	0
Jordan Valley Water Conservancy District	55,319	Lehi City	971
Metropolitan Water District of Salt Lake & Sandy	20,000	Lindon City	506
Metropolitan Water District of Orem	7,094	Highland City	1,086
Lehi City	1,175	Pleasant Grove City	3,898
IM Flash Technologies	550	Power	
Cedar Hills	764	Olmsted Hydropower Plant	94,928
Lindon City	855	Jordanelle Hydropower Plant	214,063
Highland City	415	UPPER PROVO LAKES (TRIAL, WASHINGTON, LOST)	
American Fork City	2,202	<u>CUP Project Water (Irrigation)</u>	
Pleasant Grove City	620	Summit County Irrigation Companies	1,855
Vineyard Town	35	<u>Non-Project Water (Irrigation)</u>	
DOI Water Management Improvement Program (Section 207)	29,130	Washington Irrigation Company	782
<u>Non-Project Water (M&I)</u>		Deer Creek Reservoir Exchanges	1,228
Jordan Valley Water Conservancy District	6,273	Exchange 400	1,157
Jordan Valley Water Conservancy District (Transfer)	0	WASATCH COUNTY WATER EFFICIENCY PROJECT	
Metropolitan Water District of Salt Lake & Sandy	0	CUP Project Water (M&I)	1,615
Metropolitan Water District of Salt Lake & Sandy (Transfer)	0	CUP Project Water (Irrigation)	4,306
Metropolitan Water District of Orem	10,852	Non-Project Water (Irrigation)	18,829
Provo City	2,819	Daniels Replacement Project	3,478
CUWCD-CWP	9,911	DEER CREEK RESERVOIR	
<u>Non-Project Water (Irrigation)</u>		<u>Non-Project Water (M&I)</u>	
Upper Provo Lakes (Exchanges)	1,228	Wasatch, Summit, and Utah Counties Exchange Contracts	99



DELIVERIES



STRAWBERRY RESERVOIR	AC-FT		AC-FT
<u>CUP Project Water (M&I)</u>		Duchesne County Upper Country Water Improvement District	3
Uinta Basin Exchange Contracts	1	Johnson Water Improvement District	24
ULS South SUVMWA	0	Camperworld	5
ULS North MWDSLS	0	DOI Water Management Improvement Program (Section 207)	2,900
ULS North JWWCD	0	DOI Water Management Improvement Program (Rediverted "44,400")	0
<u>CUP Project Water (Irrigation)</u>		<u>Non-Project Water (M&I)</u>	
South Utah County (Temporary Contracts)	14,677	Duchesne City	568
Upper Strawberry Flows (DRP)	2,900	Johnson Water Improvement District	503
<u>CUP Project Water (Utah Lake /Other)</u>		Myton City	165
Exchange Water to Utah Lake	25,031	Duchesne County Water Conservancy District	2,059
Other Trans-Mountain Diversions	0	East Duchesne Culinary Water Improvement District	716
<u>CUP Project Water (Instream Flows)</u>		<u>CUP Project Water (Irrigation)</u>	
2018 Carry-Over Releases	0	Block Notice No. 1	12,757
2019 Carry-Over Releases	28,015	Duchesne County Water Conservancy District (Block Notice 1B)	2,581
2020 Allocation Releases	18,117	Midview Exchange	10,136
Dedicated Storage Releases	0	<u>CUP Project Water (Replacement)</u>	
<u>Non-Project Water (Irrigation)</u>		Replacement Water for Project Operations	14,313
Strawberry Water Users Association	71,997	BIG SAND WASH RESERVOIR	
STARVATION RESERVOIR		<u>CUP Project Water (M&I)</u>	
<u>CUP Project Water (M&I)</u>		Duchesne County Water Conservancy District (Notice of Water Availability UBRP2)	1,430
Uinta Basin Exchange Contracts	89	DOI Water Management Improvement Program (Section 207)	1,500
Duchesne City	27	<u>CUP Project Water (Irrigation)</u>	
East Duchesne Culinary Water Improvement District	10	Duchesne County Water Conservancy District (Block Notice UBRP1)	2,228

RECOGNITION



KC Shaw receives ASCE Utah Section’s Engineer of the Year Award

In 2020, KC Shaw, District Chief Engineer, was awarded The American Society of Civil Engineers, Utah Section’s Engineer-of-the-Year award. This award is given based on:

- Outstanding technical contributions to the civil engineering profession.
- Outstanding professional and leadership contributions to the civil engineering profession.
- Significant contributions to the local community representing the civil engineering profession.
- Outstanding contributions in the area of civil engineering education.

The District would like to congratulate KC and thank him for his contributions to the engineering community.



Olmsted Hydroelectric Power Plant Receives Award

The Olmsted Hydroelectric Power Plant has received many awards including an award in 2020. The plant was awarded the “2020 Excellence in Concrete Award” in the Structures-Industrial category by the American Concrete Institute.

The Olmsted Hydroelectric Project, put into operation in 1904, held a unique place in the early-day development of hydropower transmission.

The historic facility was taken out of service and the new power plant was placed on line in June of 2018. It currently produces approximately 27,000 MWH per year, enough power to supply over 2,500 homes.



North Fork Siphon Replacement Project Highlighted

The North Fork Siphon Replacement Project featured cutting-edge crane technology to replace aging infrastructure of a large, inverted siphon, in the Strawberry Aqueduct and Collection System. The project has been recognized and featured in several magazines and has also received multiple awards in 2020 including:

- *“Most Outstanding Project” Award - Utah Construction and Design Magazine*
- *“European Crane Gives Utah’s North Fork Siphon Pipeline Project a Lift” - ENR Feature Article*
- *“Overall Utility Infrastructure Project of the Year” Award - Associated General Contractors of Utah*
- *“Rising to the Challenge: Replacing the North Fork Siphon” - ADSC*
- *“Leading the Way in Inaccessible Terrain” - World Pipelines Magazine*



DACRWTP Attains 3,650 Days of Exceptional Water Quality

On June 1, 2020, the Don A. Christiansen Regional Water Treatment Plant (DACRWTP) recorded 3,650 consecutive days of a finished water quality below 0.10 NTU (nephelometric turbidity units). Not at any time during those 10 years did a single filter produce water above that 0.10 NTU water quality goal.

Already nationally-recognized for producing some of the best water in the nation, maintaining less than 0.10 NTU 100% of the time over a decade is a rare achievement in the industry.

The American Water Works Association (AWWA) awarded the District the “Award of Excellence” in 2003, making the DACRWTP the second in the nation to receive the award.

RETIREMENTS & SERVICE AWARDS



CONNIE MULLINS

Connie Mullins retired in 2020 after working 14 years at the District as an O&M Administrative Assistant. Connie’s invaluable commitment, hard work, and optimism brought great success to the District. Connie, and her husband Kim, love to travel and plan to experience all the world has to offer.



KALVIN KILLIAN

Kalvin Killian retired in 2020 after 20 years of working at the District as a Water System O&M Technician. Calvin successfully operated and maintained the facilities associated with the Strawberry Aqueduct and Collection System and the Starvation Collection System. Calvin, and his wife Tammy, now plan to operate a family farm near Myton, Utah.

5 YEAR

Joe Crawford
Kent Cottle
Jantzen Reynolds
Jon Babb
Brett Barrus

10 YEAR

Casey Finlinson
Brent Chase
Chuck Hale

15 YEAR

Sarah Sutherland
Rustin Harrison

20 YEAR

Paul Pierpont
Monica Hoyt
Kirk Beecher
Mike Whippey
Heath Clark

30 YEAR

Jim Brooks
Rich Tullis
Debbie Vanoy



PLANNING AHEAD: COLORADO RIVER



Building upon past efforts to understand and identify potential impacts of hydrologic variability on water supply reliability, the District created its Colorado River Program. This program expands the District's engagement on Colorado River issues including risk evaluation, mitigation measures, and fostering relationships with counterparts and policy makers on the River.

In its first months, the Colorado River Program has forged new important relationships and developed modeling tools that are capable of determining impacts of operational and policy changes in the Colorado River Basin, to Utah, and the District. The results of these relationships and tools are helping to evaluate risk and provide input to the mitigation planning process. Additional tools are also being developed, including models and investigations for accounting and forecasting to aid in mitigation planning.

With increased attention and dialogue surrounding the "Big River," the Colorado River Program is important to protecting and preserving the District's interests in this vital water supply and is positioned to support partnering organizations within the state, and the basin, to similarly protect and preserve our common interests.





CENTRAL UTAH WATER
CONSERVANCY DISTRICT

Mission

To responsibly plan for the future by developing, delivering, and efficiently using our limited water resources.

Vision

To provide a safe and secure water supply, to empower and challenge employees, and to be a leader in the water industry.

Values

We value safety, integrity, quality, and people.