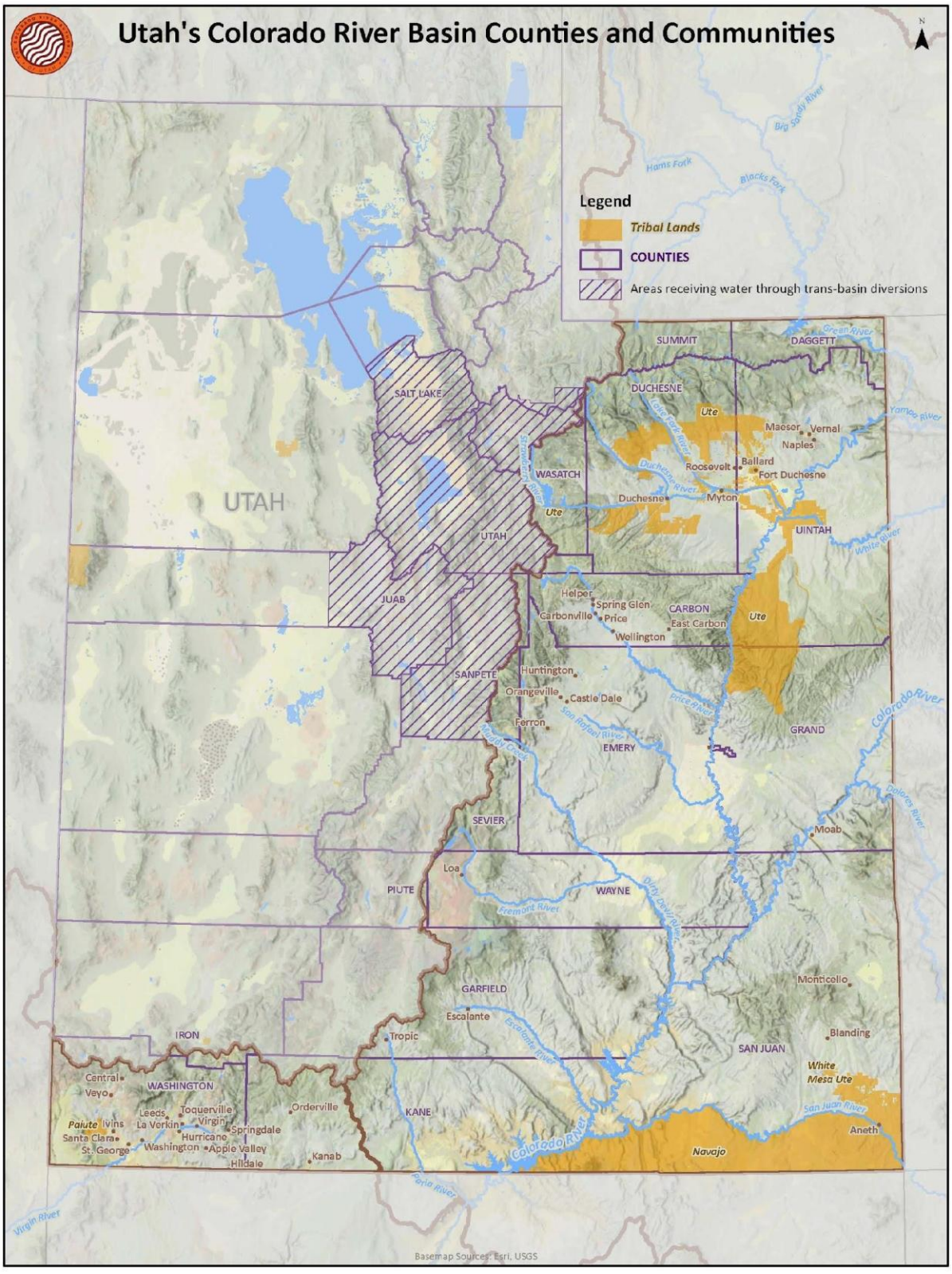
Fiscal Year 2026 Work Plan

July 1, 2025 – June 30, 2026

THE COLORADO RIVER AUTHORITY OF UTAH


Utah's Colorado River Basin Counties and Communities
N
Legend
Tribal Lands
COUNTIES
Areas receiving water through trans-basin diversions
Big Sandy River
Hams Fork
Blacks Fork
Green River
SUMMIT
DAGGETT
DUCHESNE
SALT LAKE
Ute
Maeser
Vernal
Naples
Yampa River
Roosevelt
Ballard
Fort Duchesne
Duchesne River
Duchesne
Myton
WASATCH
UTAH
Ute
UINTAH
White River
JUAB
Helper
Spring Glen
CARBON
Carbonville
Price
East Carbon
Ute
Wellington
SANPETE
Huntington
Orangeville
Castle Dale
Price River
Colorado River
Ferron
San Rafael River
GRAND
Muddy Creek
EMERY
Dolores River
SEVIER
Moab
Loa
PIUTE
WAYNE
Fremont River
Dirty Devil River
Monticello
GARFIELD
Escalante
Blanding
Tropic
Escalante River
SAN JUAN
IRON
White Mesa Ute
Central
WASHINGTON
Veyo
Orderville
Leeds
Toquerville
Virgin
KANE
San Juan River
Paiute
Ivins
La Verkin
Springdale
Aneth
Santa Clara
Hurricane
St. George
Washington
Apple Valley
Hildale
Kanab
Colorado River
Navajo
Paria River
Virgin River
Basemap Sources: Esri, USGS

1. Executive Summary

1. Executive Summary

In April 2022, the Colorado River Authority of Utah (Authority) approved a five-year Colorado River Management Plan (Management Plan) to accomplish its statutory mission to "protect, conserve, use, and develop Utah's waters of the Colorado River system." 63M-14-102, et seq. The Management Plan began July 1, 2022, and continues through June 30, 2027 (fiscal years 2023 – 2027). The Management Plan was developed with the intention of being dynamic to respond to changing hydrology and conditions in the Colorado River Basin.

In accordance with the Management Plan, annual plans (Work Plans) will be developed and approved by the Authority Board. The Work Plans will include activity details, estimated budgets, and time frames for projects related to the three priority areas of the Management Plan.

This document is the Authority's Fiscal Year 2026 (FY26, July 1, 2025, to June 30, 2026) annual Work Plan, constituting the Management Plan's fourth annual Work Plan. Accordingly, there are both ongoing Colorado River activities that began under the FY23, FY24 and FY25 Work Plans, as well as new Colorado River activities being initiated in FY26.

This Work Plan includes:

- Participation in intrastate and interstate Colorado River activities
- Investment in streamflow and diversion measurement
- Installation and maintenance of agricultural consumptive use measurement instrumentation
- Acquisition of consumptive use data using satellite-based remote sensing technology
- Research supporting water supply forecasting improvements
- Research supporting water use optimization and demand reduction
- Participation in federal funding opportunities
- Drought mitigation pilot projects
- Provisional accounting of diversion and depletion
- Development of the Utah Colorado River Accounting and Forecasting planning model (UCRAF) in the Colorado River system in Utah
- Modeling to evaluate short-, mid-, and long-term Colorado River operating policy
- Oversight of Authority Advisory Councils

2. Fiscal Year 2026 Work Plan Overview

This Fiscal Year 2026 Work Plan (FY26 Work Plan) describes Management Plan activities scheduled for FY26. The FY26 Work Plan also includes estimated costs, timeframes, and the relationship of each activity to the three Management Plan priority areas of Measurement (Section 5), Hydrology and Operations (Section 6), and Drought Mitigation (Section 7). Consistent with the mission of the Authority, the purpose of the Management Plan and associated annual Work Plans is to "*ensure that Utah can protect and develop the Colorado River system and work to ensure that Utah can live within the state's apportionment of the Colorado River system.*" Certain activities to be performed during FY26 are reflected in the FY26 Work Plan as participation in work groups, teams, and committees, rather than being ascribed to a single focus area in the Work Plan. These activities are described in Section 3.

Activities and FY26 Work Plan elements described herein are supported by funding from several sources as illustrated in Table 1. These include annual ongoing appropriations and one-time appropriations to the Authority from the Utah Legislature, in-kind goods and services provided to the Authority by Utah Colorado River water users, and various federal funding sources. In particular, the FY26 Work Plan leverages a portion of the $50,000,000 Infrastructure Investment and Jobs Act (IIJA) funding that was made available to the Upper Division States (UDS) through the Upper Colorado River Commission (UCRC) to support the implementation of the 2019 Upper Basin Drought Contingency Plan (DCP).

2. Fiscal Year 2026 Work Plan Overview

Table 1. FY26 Budget and FY27 Estimated Budget. TBD indicates budget is to be determined.

Section	Work Plan Element	FY26 Budget[1]	FY27 Est. Budget	Funding Source[2]
Interstate & Intrastate Activities				
3	Personnel	$1,536,700	$1,586,000	Annual Appropriations
3	Travel	$70,000	$70,000	Annual Appropriations
4	Advisory Councils	$255,000	$ 255,000	Annual Appropriations
Measurement				
5.1	Measurement Coordination & Implementation Planning	Included in Section 5.2	Included in Section 5.2	Included in Section 5.2
5.2	Instrumentation & Measurement	$500,000 $1,226,000	$1,500,00 $1,142,000	One Time Appropriation Federal Funding
5.3	Utah Flux Network	$137,000 $62,000	$134,000 $64,000	One Time Appropriation Federal Funding / In-Kind
5.4	OpenET	$780,000	$790,000	One Time Appropriation
5.5	Advection Impacts on Remote Sensing of Evapotranspiration	NA	NA	Project Pause
5.6	Provisional Accounting	$100,000	$100,000	Annual Appropriations
Hydrology & Operations				
6.1	Short- and Mid-term Operations Modeling	$95,000	TBD	In-Kind Contribution
6.2	Long-term Operations Modeling	$312,000	TBD	In-Kind Contribution
6.3	Transit Loss Study	NA	NA	Incorporated into Other Studies
6.4	Climate & Hydrology Research & Instrumentation	$30,000 $15,000	$30,000 $3,000	One Time Appropriation Federal Funding
6.5	Snowpack, Runoff, & Operations Pilot Project & Research	$201,000 $109,000 $307,000	$200,000 $108,000 $307,000	One Time Appropriation In-Kind Contribution Federal Funding
6.6	Snow Temperature Profile (Cold Content) Sensors	$31,400	$0	Federal Funding
6.7	Radar Gap Filling Pilot Project	$0	$125,000	Federal Funding
Drought Mitigation				
7.1	Agricultural Water Resilience Study	NA	NA	Project Complete
7.2	Emery County Irrigation Efficiency Study	$167,000	$126,000	Federal Funding
7.3-7.5	UCRAF (Duchesne, San Rafael, Price River, Ashley & Brush, Colorado River System)	$641,000	$617,000	One Time Appropriation

2. Fiscal Year 2026 Work Plan Overview

7.6	Demand Management Pilot Program	$3,100,000	$4,500,000	One Time Appropriation
7.7	AG-DRIP Pilot Program	$500,000 $500,000	$500,000 $500,000	One Time Appropriation In-Kind Contribution
7.8	Pelican Lake Subsurface Drip Irrigation Pilot Project	$0	TBD	NA
7.9	System Conservation Pilot Program	$0	TBD	Federal Funding
Total		**$ 10,675,100**	**TBD**	

[1] Federal funding sources include the Infrastructure Investment & Jobs Act and WaterSMART.

[2] The totals provided for under this Work Plan are estimates for FY26 & FY27. Work Plan budgets are subject to adjustment depending on conditions and activities in the Colorado River Basin that may be unknown when the Work Plan was developed.

3. Interstate Colorado River Engagement

Utah's Colorado River Commissioner, with support from the Executive Director and other Authority staff, is heavily involved in interstate negotiations with the other six Colorado River Basin States and the federal government over the criteria that will govern Colorado River operations beginning in 2026 when the current rules (2007 Interim Guidelines) expire. In FY25 the Commissioner and Authority staff traveled extensively and spent countless hours in negotiations across all seven states. In addition, staff have logged hundreds of hours participating in numerous interstate work groups, committees, technical teams, and forums.

The current negotiations center on the fact that changing hydrology, particularly since the early 2000s, has reduced flows in the Upper Colorado River Basin while current demand on the Colorado River exceeds the available water supply. All seven Basin States agree that water use reductions are necessary. The goal for the next set of criteria is to begin to bring the system back into balance. Reductions in water use can be accomplished in two ways: either through mandatory, uncompensated reductions based on the 'first in time, first in right,' principal enshrined in State law or through voluntary, temporary, and compensated water use reductions. Utah, through the Authority, is leading the way among the Upper Basin by developing strategies and programs to reduce water use through voluntary measures which are described in Section 7.6 herein. The UDS have also pointed out repeatedly that reductions in water use occur naturally in the Upper Basin during periods of drought. This hydrologic shortage should be recognized and factored into the supply-demand equation for the UDS.

Every activity and program the Authority is engaged in supports Utah's interstate negotiating position and Post-2026 commitments. Protecting Utah's right to use water from the Colorado River system while at the same time meeting our downstream obligations necessarily means:

1. **Improving water use measurement**. Measuring and reporting water use accurately is critically important to ensuring Utah's uses are not overreported or underreported. Accurate water use measurements allow us to manage our water use more effectively. Several state agencies, including the Authority, are actively involved in improving and coordinating water measurement infrastructure and methods. All of this work provides Utah with the data we need to account for and get credit for conserved water to be stored in Lake Powell, which is a key UDS Post-2026 commitment.

2. **Improving our understanding of the current hydrologic cycle**. Much of the modeling used in developing negotiating strategies relies upon various representations of hydrology. Developing a better understanding of the hydrologic shortage and developing improved runoff forecasting will aid the UDS in meeting Post-2026 commitments. In addition, operational releases from Upper Colorado River Basin reservoirs, a core feature of the Upper Basin's Post-2026 commitments, are tied to forecasting runoff models.

3. Interstate Colorado River Engagement

3. **Providing programming that allows water users to temporarily and voluntarily reduce their water use**. The Upper Division States have proposed voluntary, temporary, and compensated water use reductions as an element of our Post-2026 commitments. The intent of the Authority's Utah Demand Management Pilot Program is to test this concept and inform a larger scale program that would fill this need for Utah water users. The goal is to reduce water use while also keeping Utah farmers farming, protecting critical municipal drinking water supplies, protecting water for power production, and providing water for fish, wildlife and the environment.

Engagement with Interstate Work Groups and Committees

Authority staff are engaged in numerous interstate Colorado River work groups, committees, technical teams, forums and activities. These include but are not limited to work with the Upper Colorado River Commission (UCRC), endangered fish recovery programs (Upper Colorado River Endangered Fish Recovery Program and San Juan Recovery Implementation Program), Glen Canyon Dam Adaptive Management Program, and the Salinity Control Forum. The Authority's engagement with these groups is critical in successfully representing Utah's interests and helping define what future obligations the State may face**.**

Additional information about select interstate activities is available below with a full list of interstate work groups, committees, and participating organization[s] in Table 2. Some of these are permanent groups, and others have been established to address temporary and topical issues.

- **Glen Canyon Dam Adaptive Management Program (GCDAMP):** The GCDAMP operates under the Federal Advisory Committee Act and is a key compliance element of the 1996 Record of Decision (ROD) for the Operation of Glen Canyon Dam Final Environmental Impact Statement and subsequent 2016 ROD for the Glen Canyon Dam Long-Term Experimental and Management Plan. Within the GCDAMP, the Adaptive Management Work Group (AMWG) makes recommendations to the Secretary of the Interior on Glen Canyon Dam operations and management actions to protect downstream resources, consistent with the 1992 Grand Canyon Protection Act. The GCDAMP is run through the Bureau of Reclamation with USGS acting as the Program science provider. In addition to the AMWG, the GCDAMP is composed of a Technical Work Group (TWG) and several Ad-Hoc committees. Authority staff are involved at all levels. Key activities in FY25 included the signing of the LTEMP Supplemental Environmental Impact Statement (SEIS); first-ever implementation of experimental Cool-Mix Flows under the LTEMPS SEIS to prevent the establishment of smallmouth bass within Grand Canyon; recommendation of a Triennial Budget and Work Plan for federal FY25-27; release of an Environmental Assessment and Finding of No Significant Impact for modification of the 12-Mile Slough; consideration of a fall and spring High-Flow Experiment, and recommendation of experimental Cool-Mix Flows for 2025.

3. Interstate Colorado River Engagement

- **IIJA Funding, UCRC:** The IIJA was signed in 2021 and allocates $8.3 billion through federal Fiscal Year 2026 for Reclamation to fund western water infrastructure projects. In 2023, $50 million was authorized (through December 2029) to the Upper Division States through the UCRC for limited duration data gathering and analysis activities that support and further operationalize drought response planning and implementation of the Upper Basin Drought Contingency Plan (DCP). Activities contemplated in the Notice of Award are consistent with the Authority's Five-Year Management Plan and include efforts such as additional ground-truthing and verification of remotely-sensed consumptive water use estimation, estimation of water supply and shortages via streamflow and diversion measurements, and field-scale water balance studies. In addition to pursuing seven Utah-specific IIJA-funded projects (Sections 5.1, 5.2, 5.3, 6.4, 6.6, 6.7, 7.2), the Authority participates in four IIJA workgroups (snow and runoff forecasting, incidental use, reservoir evaporation, data integration) that guide four-state IIJA projects. Interstate projects contemplated by the workgroups for FY26 and beyond include reservoir evaporation studies, incidental use studies, development of an Upper Basin data integration portal and supporting Airborne Snow Observatories (ASO) flights in Colorado and Wyoming.

- **Consumptive Use Work Group, UCRC:** The UCRC Consumptive Use Work Group (CUWG) is comprised of technical representatives from the UD States, UCRC, and the Bureau of Reclamation. The purpose of the CUWG is to develop and/or consider methods and data pertaining to consumptive water uses in the Upper Basin. Following approval by the Commission in 2022 of eeMETRIC, a model that uses remotely sensed evapotranspiration data, as a uniform method for estimating agricultural consumptive use, the CUWG has focused on 1) reviewing Reclamation's consumptive use methods, and 2) evaluating and recommending the best available estimation methods for the remaining consumptive use sectors (non-agricultural) in the Upper Basin. In FY25, the UCRC released a draft Methods Manual for Estimating Consumptive Uses in the Upper Colorado River Basin, which was reviewed by the CUWG and UCRC Engineering Committee. Additional review and consideration of the Methods Manual is expected to occur in FY26.

3. Interstate Colorado River Engagement

Table 2. List of Colorado River Interstate Activities. Acronyms include Colorado River Authority of Utah (Authority), Office of the Attorney General (OAG), Division of Water Rights (DWRi), Division of Water Resources (DWRe), Division of Wildlife Resources (DWR), Department of Natural Resources (DNR), and Division of Water Quality (DWQ).

Committee, Work Group	Utah Participating Organization
Standing UCRC Committees	
UCRC Legal Committee	OAG
UCRC Engineering Committee	Authority/DWRi/DWRe/Water Users
Ad Hoc UCRC, Upper Division State and Basinwide Work Groups and Committees	
US-Mexico Minute 323 Binational Work Groups	Authority
Basin States Technical Work Group	Authority
UCRC Technical Team	Authority/DWRe
UCRC Demand Management/Conservation Work Group	Authority/DWRi/OAG
Upper Basin Drought Response Operations Agreement Work Groups	Authority/OAG/DWRi/DWRe
Upper Basin Consumptive Use Work Group	Authority/DWRe/DWRi
UCRC Depletion Demand Schedule Work Group	Authority/DWRe
Colorado River Basin Climate and Hydrology Work Group	Authority/DWRe
Glen Canyon Dam Adaptive Management Program	
Adaptive Management Work Group (AMWG)	Authority
Technical Work Group (TWG)	Authority/DWRe
Planning and Implementation Team	Authority
Upper Colorado River Fish Recovery Program	
Implementation Committee	DWR
Management Committee	DNR
Biology Committee	DWR
Water Acquisition Committee	Authority/Water Users
San Juan Recovery Implementation Program	
Coordination Committee	DNR
Biology Committee	DWR
Water Quality	
Colorado River Salinity Control Forum	DWRe/DWQ/Authority

4. Advisory Councils

Description

UCA 63M-14-209 authorized the Authority to create advisory councils to provide "data, information, and input… relevant to the mission and objectives of the authority." Advisory councils provide a diversity of perspectives to inform the Authority and help meet its mission. Five advisory councils (Northern, Central, Southeast, Southwest, and Agricultural) were established that are composed of water users, regional experts, topical experts, and engaged citizens who care about the Colorado River. These regional advisory councils meet regularly to share information and updates and to discuss and develop ideas related to the challenges facing the Colorado River Basin. The regional advisory councils serve as a deliberative forum for diverse points of view. Although the advisory councils are not vested with authority to make decisions regarding public business, advisory council perspectives provide viewpoints and insights that inform Utah's Colorado River Commissioner, the Authority Board, Authority staff, and elected officials. A complete list of advisory council members is available at cra.utah.gov.

The councils have informed decision-making by discussing policies and strategies with local input before formal adoption; identifying regional challenges and priorities that may not be apparent at the statewide level; providing real-time, community feedback to Authority staff and board members; and fostering open and transparent dialogue, mutual learning, and grassroots collaboration. The councils also provide valuable feedback on the fiscal year Work Plans.

Progress to Date

In FY25, the advisory councils made notable advances in public engagement, regional representation, and informed policy development. Throughout the year, members of the advisory councils and Authority staff engaged in a variety of outreach, education, and fact-finding initiatives. These activities included presentations and discussions at the Utah Beef Expo and other agriculture related venues, stakeholder meetings along the Price River corridor, meetings with several locally elected officials in the Uinta Basin, and multiple hands-on tours such as a Green River float trip, survey of Demand Management Pilot locations, and a tour of Upper Stillwater Reservoir. These engagements provided council members and the public with firsthand insight into the challenges and opportunities regarding Utah's portion of the Colorado River system.

In recognition of the distinct needs and geographies within southern Utah, in FY25 the Southern Advisory Council was officially divided into the Southeast Advisory Council and the Southwest Advisory Council, allowing for more focused and localized engagement. The newly established Southwest Advisory Council will enable the Authority to better understand the unique concerns of southwest Utah, including more enhanced engagement with the Shivwits Band of Paiutes on tribal land in Washington County, as well as more focused dialogue on the issues facing communities in the Virgin River drainage basin.

Additionally, in FY25, the Agricultural Advisory Council was fully constituted. This council brings the voice of Utah's farmers, ranchers, and irrigation stakeholders directly into the conversation,

4. Advisory Councils

helping to shape practical, agriculture-informed recommendations that balance water conservation with the needs of Utah's working lands. All advisory councils convened for a landmark joint session at the Utah State Capitol in January, where members held an outreach and dialogue event alongside state legislators. This event provided an invaluable forum for cross-regional learning and highlighted the importance of the Authority's mission to lawmakers.

FY26 Work Plan
At the January Board meeting, Vice Chairs from each council presented recommendations to the Board. The following recommendations have been selected for consideration and implementation beginning in FY26. The Five advisory councils will continue to meet and provide regular updates and recommendations to the Authority Board, Authority Staff, and Utah Colorado River Commissioner in response to evolving conditions and priorities for the Colorado River.

Advisory Council Recommendations to the Board

POLICY POSITIONS

Support Additional Storage. The Southern, Agriculture, and the Central Advisory Councils recommended that Utah pursue additional storage opportunities that are cost effective and consistent with sound fiscal and water policy. The Authority will work in FY26 to develop and support policy positions on both the State and federal level that advance this objective. Policy objectives supporting additional storage may center around creating additional storage to achieve greater water conservation goals while at the same time securing water for the purpose of meeting the downstream obligations Utah has under the 1922 Compact and Law of the River.

Protect Recreation Economies in Utah. The Central Advisory Council recommended the Authority advance policy positions that protect recreation economies in Utah. The Southern Advisory Council also highlighted recreation as a key consideration in Colorado river deliberations. Recreation within the Colorado River system from river rafting on the Green and Colorado, to fishing and boating on Lake Powell and Flaming Gorge are important sources of revenue for local, rural economies. The Authority will work in FY26 to develop and support policy positions on both the State and federal level that advance this objective.

Tribal Engagement. Several councils encouraged continued and enhanced tribal engagement in all key water discussion related to the Colorado River.

Responsible River Management. The Central Advisory Council pointed out that federal river management that utilizes rapid reservoir release changes of sediment-starved waters is seriously impacting private property owners. Streambank protections need to be considered and prioritized. The Authority will work in FY26 to develop and support policy positions on both the State and federal level that advance this objective.

4. Advisory Councils

Fish, Wildlife, Habitat and the Environment. The Northern and the Central Advisory Councils recommended considering wildlife, habitat and overall watershed health when crafting policy and solutions including threatened and endangered species, natural resources, and ecosystem functionality to help fortify the long-term resiliency of the system. The Authority will work in FY26 to develop and support policy positions on both the State and federal level that advance this objective.

PROJECTS

Agricultural Water Conservation. All the advisory councils provided recommendations for water conservation activities. The Agricultural Advisory Council recommended the implementation of a water use reduction program that is strictly voluntary, temporary in nature, fairly compensated and ensures that the underlying water rights remain protected throughout the process. The Utah Demand Management Pilot Program (DMPP) reflects the core concepts of this recommendation and is being implemented for the first time in 2025. The Northern Advisory Council recommended the Demand Management Pilot Program be transparent and durable. The Southern Advisory Council encouraged Utah to be a leader in the western US in developing water conservation activities. The DMPP is the first of its kind among Upper Division States and Utah is leading the way in development of this kind of program. The program is described in more detail in Section 7.6 of this Work Plan.

Provisional Accounting. The Central Advisory Council recommended developing a mechanism to track and potentially receive "credit" for water conservation activities, such as those accomplished under DMPP. This recommendation is in line with the Provisional Accounting Memorandum of Understanding signed by the Upper Division States and the Bureau of Reclamation in December 2024. The Authority has added a new work item for FY26 to implement this recommendation in coordination with the DMPP. This effort is described in Section 5.6 of this Work Plan.

Municipal and Industrial Water Conservation. The Northern Advisory Council recommended that the Authority identify, support and promote incentives and programs that will result in municipal and industrial water conservation in addition to the agricultural water savings already being explored. The Authority will study this recommendation during 2025 and provide possible options to accomplish this objective for the FY27 Work Plan.

Project Information

- Funding Source*:* one-time appropriations
- Budget:
    - FY26: $255,000
    - Total: $1,080,000
- Timeline: FY23 – FY27

5.1 Measurement Coordination & Implementation Planning

Description

Coordination and implementation planning for measurement improvements is the intermediate step between the Authority's Gap Analysis (Gap Analysis, Colorado River Authority of Utah, 2023) and on-the-ground implementation of measurement improvements in the Colorado River Basin in Utah. This effort involves: 1) refining Authority-specific goals and objectives related to measurement, and 2) further planning and coordination between the Authority and other local, state, and federal entities to address potential measurement improvements identified in the Gap Analysis. Planning will include consideration of state and federal funding mechanisms for both capital costs and operations and maintenance expenses. The goal of this effort is to leverage funding sources available to the state and to identify improvements that are mutually beneficial to the Authority and partner entities.

Progress to Date

In FY25, building upon work initiated in FY24, the Authority continued filtering and refining the Measurement Geodatabase that was produced through the Gap Analysis. This work informed a UCRC Diversion needs assessment completed by each Upper Division State for the purposes of allocating IIJA funding for measurement improvements (Upper Colorado River Commission, 2024a). As a result, at the UCRC's 309th Special Meeting on October 28th, 2024, the UDS Commissioners directed $16 million of IIJA funding towards enhancing diversion measurement and telemetry throughout the Upper Basin, with $2.9 million directed specifically for use in Utah. Following the UCRC Special Meeting, the Authority had several coordination meetings with DWRi staff and regional engineers regarding DWRi measurement initiatives and regional measurement priorities.

In the second half of FY25, UCRC and the UDS initiated discussions on programmatic guidelines for IIJA measurement funding and discussed pathways for implementation in each state. Utah and New Mexico decided to administer any IIJA-funded measurement work through the UCRC whereas Colorado and Wyoming decided to pursue state-administered programs. As such, the Authority worked with UCRC to prepare a request for proposals (RFP) for technical and administrative consultant support to implement IIJA-funded diversion and telemetry improvements in Utah (Upper Colorado River Commission, 2025). The RFP was issued on April 4, 2025, and proposals were evaluated in June. An executed contract between a consulting firm and the UCRC is anticipated at the end of FY25 or the beginning of FY26.

FY26 Work Plan

Anticipating an executed contract for technical and administrative consultant support, the Authority's primary focus in FY26 will be to support the UCRC and the contracted consultant in administering the IIJA-funded diversion measurement and telemetry program in Utah. Early efforts will focus on developing a Program Implementation Plan, identifying participation and/or selection criteria for projects, performing outreach, developing an application process for interested water

users, and identifying priority projects in coordination with DWRi. Significant work on the construction and installation process isn't anticipated until the second half of FY26. Coordination will occur throughout the year with DWRi in particular and other Key Partners as needed.

Project Information

- Funding Source: federal IIJA funds
- Budget: See Section 5.2
- Services:
    - Competitive procurement process to engage technical services conducted through the UCRC
    - Contract between UCRC and consulting firm, TBD
- Timeline: FY25 – FY30

Key Partners

- Consultant, TBD
- Division of Water Rights (technical collaboration)
- Division of Water Resources (technical collaboration)
- United States Geological Survey (technical collaboration)
- Upper Colorado River Commission (interstate technical collaboration)
- Local Water Entities (technical collaboration)

5.2 Instrumentation & Maintenance

Description

Under this task, the Authority will pursue on-the-ground improvements to the stream gaging and diversion measurement network within the Colorado River system in Utah. Whereas activities in Section 5.1 support planning and programmatic elements related to measurement, this effort pertains to the actual installation of measurement infrastructure (capital costs) as well as limited-duration operations and maintenance costs. This effort is informed by the activities described in Section 5.1 of the FY26 Work Plan and by coordination with Key Partners.

Progress to Date

1 Year-One USGS Stream Gages (IIJA)

In FY24, the Authority, working through the UCRC and in coordination with DWRi, secured over $1,400,000 in federal IIJA funds for the installation of ten USGS stream gages within the Colorado River system in Utah (year-one gages). In addition to operating the new year-one gages for five years, the contract between the UCRC and USGS also funded the continued operation of two critical existing gages on the Colorado and Green Rivers through September 2029. In FY25, five of the year-one gages were installed between June and July, 2024, with three more being installed Fall 2024 (Table 3). The final year-one gages to be installed were on North Fork Mill Creek and the Fremont River, which were both delayed due to federal permitting delays. All gages were installed as initially scoped with the exception of the lower Dry Fork gage, which did not receive landowner permission to be installed. Because of this, the gage was moved downstream to Ashley Creek at Remember the Maine, on the recommendation of the Ashley Creek River Commissioner. This location was originally recommended over the Dry Fork location but was not initially pursued due to logistical challenges.

Table 3. Year-One IIJA-Funded USGS Stream Gages. All data is publicly available at Water Data for the Nation (U.S. Geological Survey, n.d.).

Stream Name	Station/Gage Description	Installation Date
Price River	Price River below Golf Course near Helper, UT (09313520)	6/14/2024
Lake Fork River	Lake Fork River near Myton, UT (09294500)	7/11/2024
Lower Ashley Creek	Ashley Creek below Union Canal Div Nr Jensen, UT (09271550)	7/11/2024
Muddy Creek	Muddy Creek below I-70 Nr Emery, UT (09332100)	7/11/2024
Price River	Price River near Scofield, UT (09311500)	7/24/2024
San Rafael River	San Rafael River near Castle Dale, UT (09328000)	9/11/2024
Ashley Creek	Ashley Creek near Remember the Maine Park near Vernal, UT (09271000)	10/2/2024
Castle Creek	Castle Creek below Castle Valley near Moab, UT (09182400)	10/16/2024
North Fork Mill Creek	North Fork Mill Creek above Confluence with Mill Creek near Moab, Utah (09183800)	2/21/2025
Fremont River	Fremont River at Hwy 24 above Sandy Creek near Caineville, UT (09330250)	3/21/2025
Green River	Green River at Mineral Bottom near Canyonlands National Park	NA, Existing
Colorado River	Colorado River at Potash, UT	NA, Existing

2 Year-Two USGS Stream Gages (IIJA)

On April 4, 2025, the UCRC's initial contract with USGS for IIJA-funded stream gages in the Colorado River Basin in Utah was amended to include the installation of 10 additional IIJA-funded stream gages (year-two gages). As depicted in Figure 1, year two priorities include additional standard USGS gages on the Green River, Duchesne River, Brush Creek, and San Juan River, which will be installed and operated through September 2029. The amendment also includes temporary gages and additional discrete gaging efforts (through April 2027) on the Price River in support of the Authority's Utah Demand Management Pilot Program (Figure 1). Finally, the amendment also includes the installation of a cableway to measure high flows on Ashley Creek at Remember the Maine gage (other gage components installed in FY25) and covers the United States Fish and Wildlife Service (USFWS) FY25 operations and maintenance funding shortfall ($1,725) for the Price River at Woodside gage.

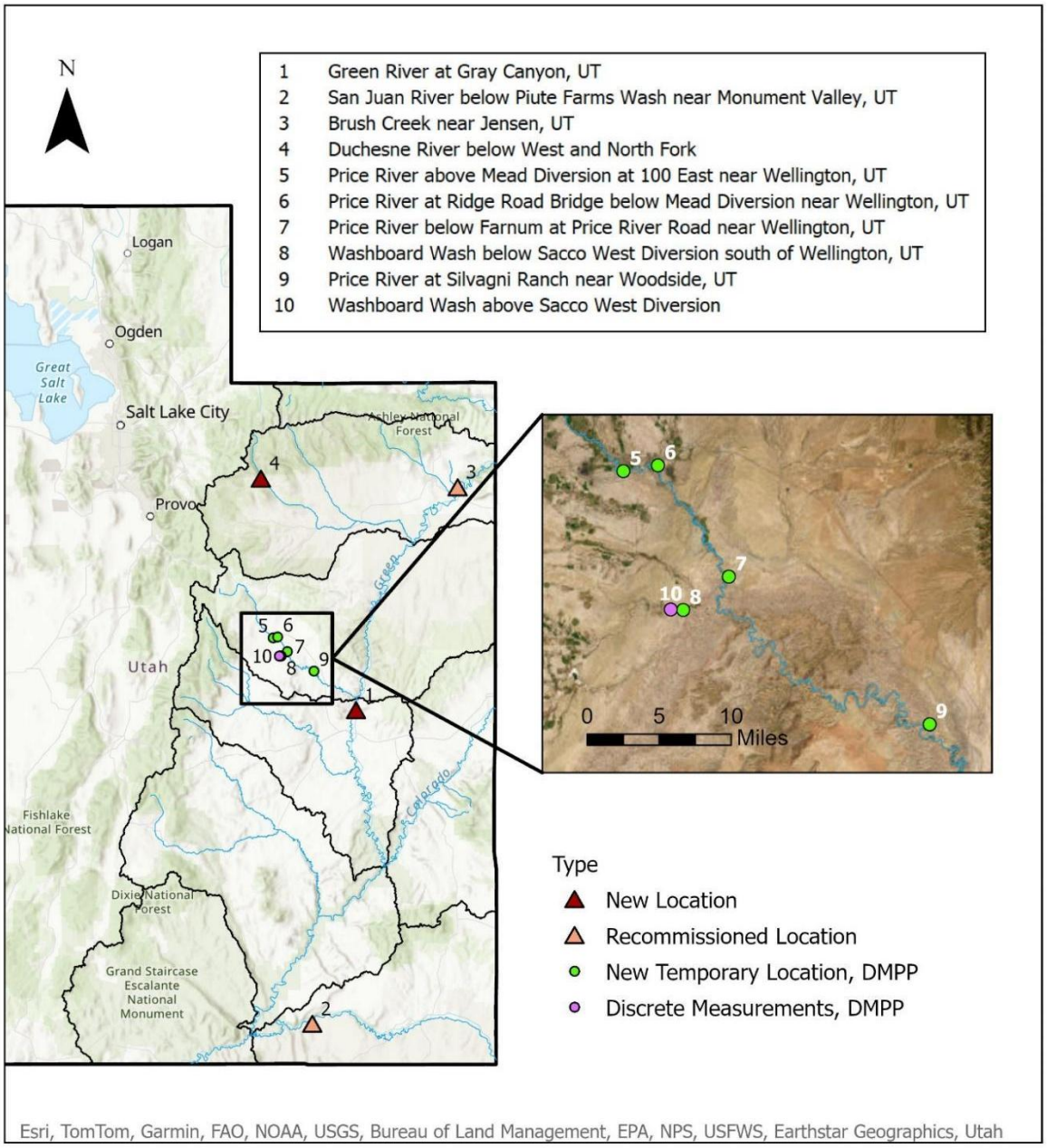


Figure 1. IIJA funded year-two USGS stream gages within the Colorado River system in Utah.

5. Measurement | Streamflow & Diversions

FY26 Work Plan

In FY26, the Authority will work with key partners on implementing measurement improvements that are identified through the coordination and implementation planning effort (Section 5.1) or through related and ongoing efforts (Drought Mitigation, Section 7.6). The Authority anticipates focusing FY26 efforts on the implementation of IIJA funded diversion measurement and telemetry improvements, which are a priority for the UDS and UCRC. The scope and extent of diversion measurement installations will be informed by the outcome of activities described in Section 5.1. Throughout FY26, the Authority will also coordinate with UCRC to monitor the installations of year-two IIJA-funded USGS stream gages.

One-time State appropriated funding has also been budgeted in FY26 to assist with implementation of diversion measurement and telemetry improvements. Numerous water diversions throughout the Colorado River Basin in Utah lack basic infrastructure to support measurement device installation. The Authority will coordinate with water users and partner entities to identify deficiencies in diversion infrastructure and fund improvements to allow for installation of measurement devices and associated telemetry.

Project Information

1 USGS Stream Gages, Initial Contract (year-one)

- Funding Source: federal IIJA funds with USGS cost share
- Budget:
    - FY26: $223,854 (IIJA funds)
    - Total: $1,529,000 ($1,466,000 IIJA funds/ $62,800 USGS cost share)
- Services: Funding agreement between the UCRC and USGS
- Timeline: FY24 – FY30

2 USGS Stream Gages, Contract Amendment (year-two)

- Funding Source: federal IIJA funds with USGS cost share
- Budget:
    - FY26: $276,523 (IIJA funds)
    - Total: $1,074,810 (IIJA funds)
- Services: Amendment to a funding agreement between the UCRC and USGS
- Timeline: FY25 – FY30

3 IIJA Diversion Measurement and Telemetry Program

- Funding source: federal IIJA funds
- Budget:
    - FY26: $725,000 (IIJA funds, estimated).
    - Total: $2,900,000 (IIJA funds)
- Services: See Section 5.2
- Timeline: FY26 – FY30

4 Measurement Infrastructure Improvements

- Funding source: one-time appropriations
- Budget:
  - FY26: $500,000
  - Total: $2,000,000
- Services: TBD
- Timeline: FY26 – FY27

Key Partners

- Division of Water Rights (technical collaboration)
- Division of Water Resources (technical collaboration)
- United States Geological Survey (technical collaboration)
- Upper Colorado River Commission (interstate technical collaboration)
- Local Water Entities (technical collaboration)

5.3 Utah Flux Network

Description

The Authority is investing in the Utah Geological Survey's (UGS) Utah Flux Network (UFN) to support measurement of consumptive water use from field to basin scale within the Colorado River system in Utah. UFN is an assemblage of Eddy Covariance (EC) stations, instruments that provide the best-available measurement of field-scale evapotranspiration, or consumptive water use.

Although EC stations provide accurate evapotranspiration measurements, they only represent the field in which they are located, and they are expensive to acquire and maintain. Therefore, UFN EC station data is used to ground-truth the larger scale, remotely-sensed evapotranspiration data from OpenET (Section 5.4). UGS will acquire, install, and maintain EC stations in the Colorado River system in Utah, and perform data management, analysis, and intercomparison. Data and results from the UFN will support the Authority's objectives of defensible, accurate, and timely measurement that builds trust in decision-making, optimized consumptive water use, and verifiable execution of drought mitigation projects.

Progress to Date

Under a 2022 funding agreement with the Authority, UGS purchased six new EC stations from Campbell Scientific, and agreements were initiated with landowners to locate an EC station on their property. In FY24, the Authority facilitated a funding agreement between the UCRC and UGS to use federal IIJA funds to purchase and install a seventh EC station and test a recently developed "alternative" EC station (the LI-710 Evapotranspiration Sensor, a smaller and lower-cost instrument compared to traditional EC stations) through the UFN.

To date, seven full-scale EC stations have been installed by UGS in the Colorado River system in Utah (Table 4)—additionally, two EC stations were installed in FY25 (Pelican Lake and Green River), along with the "alternative" EC station in Green River (Figure 2), completing the planned network. UGS has developed code and protocol to streamline management of raw data, data quality assurance and quality control, and post-processing needed to generate reliable flux information. Development of the data management protocol was based on best practices established by academic partners, academic literature, and Campbell Scientific. The results of this data pipeline have been shared with OpenET, Desert Research Institute, and UCRC. As of the end of FY25, data sets from all active EC stations, except Pelican Lake, have been processed and submitted to AmeriFlux.

On September 17, 2024, UFN attended an EC station workshop hosted by UCRC and their Upper Basin Flux Network in New Mexico. UFN hosted a workshop in June 2025 to review station and instrument placement and discuss data processing and management with collaborators.

UFN data can be found at AmeriFlux (ameriflux.lbl.gov), EasyFlux Web (ugs.easyfluxweb.com), Utah Climate Center (climate.usu.edu), and MesoWest (mesowest.utah.edu).

Table 4. UFN Colorado River system EC station summary.

#	Location	Funding Source	New or Pre-existing Instrument	Contract with Landowner	Status & Notes
1	Wellington	CUWCD	Pre-existing	Underway	Maintenance and data QAQC
2	Matheson Wetlands	DWRi, Reclamation	Pre-existing	Underway	Maintenance and data QAQC
3	Dugout Ranch	Authority	New	Underway	Maintenance and data QAQC
4	Myton	Authority	New	Underway	Maintenance and data QAQC
5	Cedar Mesa	Authority	New instruments, pre-existing tower	Underway	Transfer and update completed Fall 2023, on state land, partnership with Northern Arizona University and University of Utah
6	Bluff	Authority	New	Underway	Maintenance and data QAQC
7	Escalante	Authority	New	Underway	Maintenance and data QAQC
8	Mobile Station – Pelican Lake	Authority	New	Underway	Installed Summer 2024, a mobile temporary site to support existing locations and other research, currently at Pelican Lake (Section 7.8)
9	Green River	IIJA	New	Underway	Installed Spring 2025, maintenance and data QAQC
9.5	Green River	IIJA	New, LI-710	Underway	“Alternative” station co-installed with Green River station, may be moved

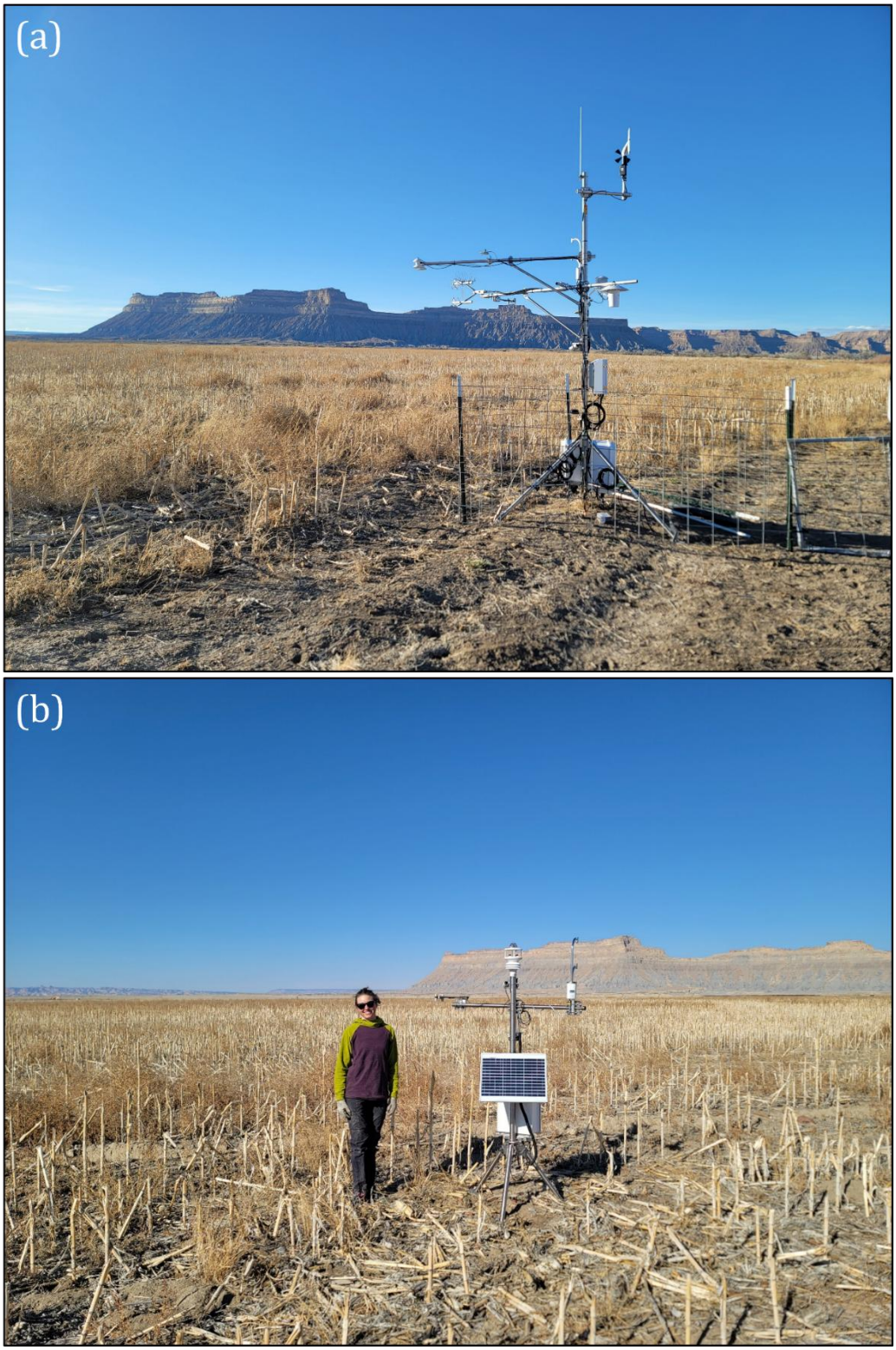


Figure 2. (a) EC station and (b) "alternative" station installed in Green River, Utah, 2025. Photos courtesy of UGS.

FY26 Work Plan

In FY26, the UFN will continue the efforts of FY23, FY24, and FY25. The UFN will maintain instruments and data will be collected, post-processed and analyzed. As needed, adjustments to instrument locations will take place. Intercomparison of EC station data with OpenET and other available datasets will proceed in close collaboration with the OpenET team and discipline experts. Staff training within UGS and the Authority will continue to ensure the UFN has adequate personnel support. Close coordination will occur between UGS and UCRC as data from the UFN becomes integrated into the larger Upper Basin Flux Network and UCRC IIJA Data Portal. Finally, UGS will continue to collaborate with local water managers, water users, and EC experts to build trust in UFN's findings.

Project Information

- Funding Source: one-time appropriations and federal IIJA funds
- Budget:
  - FY26: $137,000 (Authority), $62,000 (UGS and IIJA funds)
  - Total: $1,030,000 (Authority), $581,000 (IIJA funds)
- Services:
  - Interagency Funding Agreement with the Authority and UGS, beginning July 2022 (Authority Agreement)
  - Interagency Funding Agreement with the UCRC and UGS, beginning July 2024 (UCRC Agreement)
- Timeline:
  - FY25 – FY27 (Authority Agreement)
  - FY25 – FY30 (UCRC Agreement)

Key Partners

- Utah Geological Survey (contractor)
- OpenET (technical collaboration)
- Trout Unlimited (local knowledge)
- The Nature Conservancy (local knowledge)
- Landowners (host instruments)
- Division of Water Rights (local knowledge and technical collaboration)
- Upper Colorado River Commission and Upper Division States (interstate technical collaboration)

5.4 OpenET

Description

OpenET is supporting measurement of consumptive water use from field to basin scale within the Colorado River system in Utah. OpenET has developed a platform for public, transparent, and reproducible measurement and reporting of evapotranspiration (also referred to as depletion or consumptive water use in agriculture) using remote sensing (OpenET, 2025). Remote sensing uses satellite imagery of the entire surface area of a landscape, enabling consistent analysis of the Colorado River system and aligning the Authority with interstate water management efforts. Remote sensing of consumptive water use is a relatively new method and requires ground-truthing and continued verification research. Therefore, OpenET data will be intercompared with UFN EC station data (Section 5.3) through collaboration between each team and coordination by the Authority.

OpenET will provide (1) administrative support through training, review of reports reliant upon OpenET data, data services and access, (2) data improvement through historic data production (1991-2023), crop type and land use updates, and consumptive use accounting for effective precipitation, and (3) data comparison through correlation of historic OpenET data to crop coefficient methods. Together, these deliverables will provide a longer and higher frequency dataset than is currently publicly available and will streamline the process for incorporating effective precipitation for consumptive use determination, while improving the publicly available data. Ultimately, OpenET's products will support the Authority's objective of establishing confidence in remote sensing methods and their applications to drought mitigation planning, implementation, and verification.

Progress to Date

Beginning in FY23, OpenET has performed work on the three contracted deliverable areas: administrative support, data improvement, and data comparison. For administrative support, OpenET completed a technical memorandum regarding Open Data License Recommendations for the Authority, hosted the first-ever OpenET Applications Conference with the Authority as a participant, conducted in-person training for Authority staff and partners, and collaborated with the Authority on operational data access and management for other Authority projects. For data improvement, OpenET completed production of the 1991-2023 historical dataset for the Colorado River system in Utah and prepared a report on the dataset and has continued developing an effective precipitation dataset. For data comparison, OpenET completed recommendations for expanding the UFN, the first of two Accuracy Assessments based on available EC station data, completed a report on Intercomparison of OpenET to Legacy Crop Coefficient Evapotranspiration Estimates for Determining Consumptive Use in Utah, and supported ongoing intercomparison work performed by UGS.

In FY24, the Authority partnered with DWRe and other agencies to establish an Enterprise Agreement for Google Cloud Platform. The agreement includes unlimited access to Google Earth

Engine, which supports all OpenET data and enables the Authority and associated contractors to work with the large OpenET dataset efficiently. The Authority and its partners attended a technical training for Google Earth Engine in April 2024, and a Google Cloud Platform showcase in January 2025.

Data can be found on OpenET's website (etdata.org).
Visit the Authority's OpenET webpage (cra.utah.gov/openet).

FY26 Work Plan
In FY26, OpenET will continue contracted efforts for the Authority. Tasks will focus on completing the second of two Accuracy Assessments based on available EC station data, development of effective precipitation and consumptive use datasets, and data and platform updates, maintenance, access, and training. Close coordination between the Authority, OpenET, partner agencies, other Authority contractors, and local water managers will occur throughout all efforts.

Project Information
- Funding Source: one-time appropriations
- Budget:
    - FY26: $780,000 ($700,000 OpenET, $80,000 Google Cloud Platform)
    - Total: $2,811,000 ($2,541,000 OpenET, $270,000 Google Cloud Platform)
- Services: Sole source contract with OpenET, Funding agreement between Authority and DWRe
- Timeline: FY24 – FY27

Key Partners
- OpenET (contractor)
- Utah Geological Survey (technical collaboration)
- Division of Water Rights (technical collaboration)
- Division of Water Resources (technical collaboration)

5.5 Advection Impacts on Remote Sensing of Evapotranspiration

Description

An issue identified by OpenET and other evapotranspiration (ET) experts is that most remote sensing models underestimate evapotranspiration for small agricultural areas in arid environments, which are common across the Colorado River system in Utah (OpenET, 2025). This underestimation can be caused by advection, a physical process where warm, dry air above arid lands flows into areas with cooler air above irrigated lands. The movement and heating of air above irrigated lands can increase evapotranspiration, but the physical process is not captured through remote sensing of evapotranspiration. An underestimation of ET could have implications for water users, water managers, and water planners, warranting additional research on the impacts of advection on remotely sensed ET data. To support the continued improvement of the OpenET models, the Authority, with potential support from federal IIJA funds, is interested in pursuing a research project that compares EC station data with OpenET data, focusing on advection parameters, to understand which OpenET models perform best when advective conditions are present, and why some models perform better than others.

Progress to Date

In FY24, the Authority collaborated with OpenET and Utah State University (USU) specialists in agricultural hydrology to create a common understanding of the knowledge gap and develop a preliminary scope of work for the research project. In FY25, this research concept was proposed to the UCRC as one of the Authority's priorities for Year two IIJA projects, but was not advanced in the UCRC IIJA spend plan. No further work was pursued in FY25.

FY26 Work Plan

The Authority will suspend work on this effort to prioritize other Work Plan projects for FY26.

Project Information

- Funding Source: one-time appropriations and federal IIJA funds
- Budget:
    - FY26: $0
- Services: Research Grant Funding Agreement
- Timeline: TBD

Key Partners

- Utah State University (technical collaboration)
- OpenET (technical collaboration)
- Utah Geological Survey (technical collaboration)

5.6 Provisional Accounting

Description

The Bureau of Reclamation and the Upper Division States acting through the UCRC signed a Memorandum of Understanding (MOU) in December 2024 allowing for the accounting of water conserved as a result of conservation and other qualifying activities in the Upper Basin.

Specifically, this MOU focuses on conservation and demonstration projects ("Qualifying Activities") that the Upper Division States may implement in 2025 and 2026 under existing federal and State authorities. The MOU establishes a framework for the Parties to explore and potentially implement "Provisional Accounting" for water volumes associated with these Qualifying Activities. This provisional accounting aims to account for potential water savings resulting from these projects. A key understanding within the MOU is that the Upper Division States will seek credit for any water generated by these Qualifying Activities that flow into and is stored within Upper Colorado River Basin reservoirs. Ultimately, this MOU sets the stage for a cooperative approach to verifying and accounting for water savings from Upper Basin conservation efforts during the specified timeframe.

Provisional accounting will include both conserved consumptive use volumes and water delivered to an Upper Colorado River Basin reservoir generated through the Utah Demand Management Pilot Program (DMPP) projects. Projects include various types of water conservation activities such as fallowing, partial fallowing, deferral of trans-basin diversions and intentional releases of storage water from upstream reservoirs. Projects may be located on both tributaries and main stem reaches of the Green and Colorado rivers. Four projects have been approved for 2025 and 2026 (see Section 7.6). The DMPP anticipates adding additional projects for the 2026 season. The DMPP will obtain useful information on Utah's changes to Code, Section 73-3-30(4), authorizing this type of program. Measurement and provisional accounting through the MOU of water leased under the program and released downstream will provide quantifiable volumes of conserved consumptive use reductions which translates to water being delivered downstream to an Upper Colorado River Basin reservoir.

Progress to Date

Since December 2024, the Upper Division States have been working on identifying and selecting the specific Qualifying Activities that they will propose to Reclamation.

FY26 Work Plan

For estimates of conserved consumptive use from irrigated agricultural projects, the Authority will primarily use eeMETRIC version 2.3. For verification of conservation activities, such as fallowing, the Authority will use the same processes implemented in the 2023 and 2024 System Conservation Pilot Program such as field visits to verify fallowing and checks on water meters to verify no use has occurred.

5. Measurement | Provisional Accounting

Estimates of the total volume of water delivered to an Upper Colorado River Basin reservoir will be determined through actual flow measurements of the water, documentation of water left in-stream on large main stem rivers such as the Green and Colorado, and measurement of water released from upstream storage reservoirs. Verification activities will take place beginning at the authorized points of diversion, rediversion and points of return (if applicable) as defined on the change applications filed with the Utah Division of Water Rights for each project. Additional measurement points (as needed) will be established downstream along the natural stream channels to measure and track flows to an Upper Colorado River Basin Reservoir. Distribution records from the Utah Division of Water Rights will be used to determine if flows were intercepted by intervening diversions.

Calculation of incidental conveyance and evaporation losses between the location of the Qualifying Activities and the Upper Colorado River Basin reservoir designated as the point of delivery, will include analysis of both direct measurements and modeling along larger stream and river stretches where direct measurement is ineffective.

Project Information

- Funding Source: one-time appropriations
- Budget:
    - FY26: $100,000
    - Total: TBD
- Services: TBD
- Timeline: FY25 – FY27

Key Partners

- Utah Division of Water Rights (technical collaboration)
- OpenET (technical collaboration)
- Utah Geological Survey (technical collaboration)
- Utah Division of Water Resources (technical collaboration)
- Upper Colorado River Commission and Upper Division States (interstate technical collaboration)
- Central Utah Water Conservancy District (technical collaboration)

6.1 Short- & Mid-Term Operations Modeling

Description

Evaluating ongoing and proposed coordinated operations of Lake Powell and Lake Mead is necessary to ensure that their management is in accordance with the Law of the River[1] and to inform Authority leadership of potential water supply impacts. Robust evaluation, considering a range of potential hydrologic conditions, is best accomplished using computer simulations and is an important element of the Authority's annual Work Plan.

The Bureau of Reclamation (Reclamation) models short- and mid-term operations of the Colorado River mainstem reservoirs using computer simulation models that approximate system performance based on a variety of input factors and assumptions, including historic operations, maintenance, hydrology, etc. Reclamation uses the Colorado River Mid-term Modeling System (CRMMS), which is implemented in a modeling software called RiverWare©, to model the likelihood of different system conditions occurring in the short and mid-term (up to five years). CRMMS provides the ability to evaluate probabilistic system conditions, informing operators and stakeholders of the risk of certain conditions occurring given projected forecasts and initial conditions.

The Authority uses CRMMS to evaluate operating proposals under the 2007 Interim Guidelines (which govern the coordinated operations of Lake Powell and Lake Mead), the effectiveness of proposed operations under the Drought Response Operations Agreement (DROA), and other operations related to the 2019 Drought Contingency Plans (DCPs) and/or emergency actions taken in response to river conditions in the short to mid-term.

Progress to Date

Average hydrologic conditions during water year 2024 kept the system in a similar state compared to the previous water year 2023. Work was conducted to review monthly CRMMS model outputs and Colorado Basin River Forecast Center (CBRFC) forecasts to determine the possibility of different actions for the coming years. Monthly DROA reports were compiled regarding the current forecast and the likelihood of additional actions that may be taken by Reclamation in the future. While there were no DROA Actions in FY25, at the UCRC Special Meeting on February 18, 2025, Reclamation and the UCRC decided to resume monthly DROA meetings due to the declining two-year forecast. Work was also completed to review the forecasted annual releases from Lake Powell and understand associated impacts to operations, tier determinations, and other factors of interest to the Authority.

FY26 Work Plan

Short- and mid-term modeling activities are driven by real-time response to developing

[1] The Law of the River is a compendium of laws, regulations, agreements, and policy affecting the use, management and allocation of water in the Colorado River system.

hydrologic and system storage conditions. Monitoring and evaluation performed in previous years will continue in FY26, including tracking system conditions to inform whether DROA releases or similar actions are required based on forecasted system conditions. Evaluation of the actions described in the upcoming Post-2026 Environmental Impact Statement (EIS) could be simulated to determine the short-term outlook of new policies.

Project Information

- Funding Source: in-kind contributions from CUWCD
- Budget:
    - FY26: $95,000
- Services: Pre-existing, multi-year contract with Precision Water Resources Engineering established through a competitive procurement process conducted by CUWCD. Renewed sole source contract (5 years) will begin July 1, 2025.
- Timeline: FY26 – FY30

Key Partners

- Precision Water Resources Engineering (contractor)
- Upper Colorado River Commission and Upper Division States (interstate technical collaboration)
- Division of Water Rights (technical collaboration)
- Division of Water Resources (technical collaboration)
- Bureau of Reclamation (technical collaboration)
- Lower Division States, California, Arizona, Nevada (LDS) (interstate technical collaboration)
- Central Utah Water Conservancy District (in-kind contributions, technical collaboration)

6.2 Long-Term Operations Modeling

Description

The 2007 Interim Guidelines, which govern the coordinated operations of Lake Powell and Lake Mead, will expire December 31, 2026. This operating policy has significant bearing on system conditions, second only to hydrology. Similar to short- and mid-term operational evaluation, long-term planning and operating policy performance is evaluated using RiverWare modeling. Reclamation has developed, and made public, its Colorado River Simulation System (CRSS) model to evaluate long-term operating policy. This work includes evaluating system performance under a variety of hydrologic conditions and water use demands when using 2007 Interim Guidelines, variations of the 2007 Interim Guidelines, and other alternative operations of Lake Powell and Lake Mead.

Progress to Date

In March 2024, the Upper Division States jointly submitted a proposal to the Bureau of Reclamation for consideration and evaluation as an alternative for Post-2026 operations of Lake Powell and Lake Mead. In December, during the annual Colorado River Water Users Association (CRWUA) conference, the Bureau of Reclamation unveiled its comparison of five alternatives in the ongoing Post-2026 NEPA process. Instead of including the UDS and Lower Division State (LDS) alternatives that were submitted earlier in the year, Reclamation identified four action alternatives, including a Basin Hybrid alternative with elements of each of the UDS and LDS alternatives. On December 30, in response to an invitation by the Commissioner of Reclamation, the UDS submitted refinements to the UDS alternative that included concepts for protection and conservation accounts in Lake Powell. The remainder of FY25 was spent engaging in Basin State meetings and in discussions with Reclamation. Modeling and technical analysis occurred throughout FY25 to support each element of the Post-2026 process. Key tasks included an analysis of hydrologic shortage, refinement of the UDS alternative, simulation of initial alternatives released by Reclamation, and independent modeling of Utah-specific concepts.

FY26 Work Plan

Modeling work will continue in FY26 to support the ongoing Basin States negotiating process in parallel with the ongoing NEPA process for Post-2026 efforts. Anticipated work could include refinement of policy alternatives, analysis of alternatives in the Draft EIS, and continued technical support to the Upper Basin technical team in support of the Basin State negotiations.

Project Information

- Funding source: in-kind contributions by CUWCD
- Budget:
    - FY26: $312,000
- Services: Pre-existing, multi-year contract with Precision Water Resources Engineering established through a competitive procurement process by CUWCD. Renewed sole source contract (5 years) will begin on July 1, 2025.

- Timeline: FY26 – FY30

Key Partners

- Precision Water Resources Engineering (contractor)
- Upper Colorado River Commission and Upper Division States (interstate technical collaboration)
- Division of Water Rights (technical collaboration)
- Division of Water Resources (technical collaboration)
- Bureau of Reclamation (technical collaboration)
- Lower Division States (interstate technical collaboration)
- Central Utah Water Conservancy District (in-kind contributions, technical collaboration)

6.3 Mainstem Transit Loss Study

Description

The Upper Division States individually and collectively must investigate the feasibility of a Demand Management Program as outlined in the 2019 Upper Basin Drought Contingency Plans (DCPs). Feasibility considerations include, among other program elements, 1) verification of and accounting for the actual volume of conserved consumptive use and 2) conveyance of the conserved consumptive use to appropriate destinations and accounting for associated conveyance losses. Several of the Authority's activities address intrastate aspects of drought mitigation, in particular the Demand Management Pilot Program (see Section 7.6) that could inform a potential interstate demand management program; however, there is a need to explore these concepts at the interstate scale, as well.

Through the UCRC IIJA process, the Authority, together with the other three Upper Division States, identified the need for a modeling investigation on select reaches of the Colorado River and key tributaries with the goal of better-defining transit losses between upstream Colorado River Storage Project (CRSP) initial units and Lake Powell. Priorities include better constraining mainstem riparian ET estimates, developing strategies to integrate riparian ET estimates into existing modeling tools, and understanding infrastructure and modeling needs to better quantify and track water originating upstream along specific reaches of the Colorado and Green Rivers.

Progress to Date

Towards the end of FY24, the UD States worked with UCRC to refine study priorities and develop a scope of work and request for proposals (RFP) to study riparian ET-related transit losses (Upper Colorado River Commission, 2024b). The UCRC released a request for proposals on July 10, 2024, and did not receive any inquiries or submissions by the proposal due date (July 23, 2024). With no proposals received, the UD States and UCRC discussed potential paths forward and decided that a large part of the riparian ET work could be accomplished under related IIJA efforts (OpenET refinements, Incidental Use studies) or by UCRC staff. There was a collective decision not to further pursue the transit loss RFP as initially drafted.

FY26 Work Plan

Currently, the Upper Division States and UCRC do not anticipate pursuing the mainstem transit loss study in FY26. Work related to riparian ET and remote sensing will occur under related projects (e.g., see Sections 5.2-5.4, and 5.6).

Project Information

- Funding Source: NA
- Budget: NA
- Services: NA
- Timeline: FY25, pursued under other IIJA projects in FY26

6.4 Climate & Hydrology Research & Instrumentation

Description

The Authority has a small and flexible budget item to support emerging research when opportunities arise that directly support the Management Plan, in recognition that hydrologic research is iterative and responsive to new discoveries and challenges. Through the UCRC, IIJA funding has also been identified to support limited duration data gathering and studies that facilitate implementation of the Upper Basin Drought Contingency Plan. Three projects are currently supported under this priority:

1 The Authority is financially supporting the operation and maintenance of 15 weather stations across the Colorado River Basin by USU's Utah Climate Center (UCC). Research conducted by the UCC using the 15 weather stations will improve knowledge of variability and predictability of precipitation for forecasting. Precipitation forecasting research increases confidence in water supply and demand forecasts and remotely-sensed evapotranspiration data, supporting better measurement for hydrology and operations planning and drought mitigation implementation.

2 Through the UCRC and in coordination with the USU Extension Service and UCC, the Authority is facilitating IIJA funding for the installation and operation of one weather station within the Navajo Nation in Utah. To maintain continuity, the weather station will be installed and operated by the UCC. In addition to supporting climate resiliency planning for the Navajo Nation, the additional weather station will contribute to a growing network of instrumentation in the Upper Colorado River Basin that supports improved forecasting, trend analysis, validation of modeled metrics, and real time observation of weather phenomena.

3 The Authority is financially supporting Phase II of an Upper Colorado River Basin consumptive use modeling study by Research Triangle Institute International (RTI). The project was initiated by the Colorado River Climate and Hydrology Work Group, with the Authority and several other entities as funding partners. The first phase of the consumptive use modeling effort began in 2021 and compared the State of Colorado's StateCU and StateMod models with Colorado Basin River Forecast Center (CBRFC) models (RTI International, 2023). The second phase began in 2023, runs through 2025, and is expanding this comparison and development of models to New Mexico, Utah, and Wyoming and incorporating remotely-sensed evapotranspiration data. This research initiative will verify similar consumptive use models to improve forecasts and increase consistency between Colorado River Basin states to enable science-based drought mitigation strategies.

Progress to Date

For the three existing Climate and Hydrology Research projects, progress was made as follows:

1 The funding support continued, and research was synthesized with UFN and OpenET data comparison efforts and other relevant Work Plan projects.

2 The USU Extension Service, UCC, the Authority, and UCRC held preliminary discussions on developing the scope of work, addressing permitting needs, and estimating project costs for the Navajo Nation weather station.

3 The project was kicked off, monthly update meetings were held, and modeling efforts progressed. The RTI team coordinated with the Authority's UCRAF team, and DWRi to share knowledge around consumptive use modeling and data sources in Utah.

FY26 Work Plan

The Authority remains committed to tracking and pursuing novel, developing, and best-available science, considering financial support for new research initiatives that support the Management Plan, and pursuing the three existing projects in FY26 as follows:

1 Funding support will continue, and weather station data will be synthesized with UFN and OpenET comparison efforts and other relevant Work Plan projects.

2 A scope of work and contract will be finalized, and permitting requirements will be met. Study outcomes will be synthesized with relevant Work Plan projects including UCRAF, UFN, and OpenET (Sections 5.3, 5.4, 7.3-7.5).

3 Awareness and understanding of existing and emerging research needs will be maintained to support Management Plan priorities and explore project and funding needs with collaborators.

Project Information

- Funding Source:
  - UCC: one-time appropriations, federal IIJA funds ($150,000 Authority; TBD IIJA)
  - RTI: one-time appropriations, $50,000 one-time funds allocated to Climate and Hydrology Work Group upfront for two-year project ($300,000 Total; $25,000 Authority, $25,000 CUWCD in-kind contributions, $75,000 Reclamation, $60,000 Colorado Water Conservation Board, $50,000 SNWA, $25,000 Six Agency Committee of California, $20,000 Central Arizona Water Conservation District, $20,000 Denver Water)
  - Future projects: one-time appropriations and federal IIJA funds
- Budget:
  - FY26: UCC ongoing (Authority): $30,000
  - FY26: UCC (IIJA): Less than $15,000 (estimated, to be determined early FY26)
  - FY26: RTI: no additional costs
  - Total: $215,000

- Services:
    - UCC, Authority: Funding agreement with USU executed July 2022, amended November 2024
    - UCC, IIJA: Funding agreement anticipated between UCRC and UCC
    - RTI: Funding agreement with Southern Nevada Water Authority (SNWA) as the project manager executed June 2023
- Timeline:
    - UCC (Authority) and RTI: FY23 – FY27
- UCC (IIJA): FY26 – FY30

Key Partners

- Utah Climate Center, Utah State University (contractor)
- Utah Geological Survey (technical collaboration)
- OpenET (technical collaboration)
- Upper Colorado River Commission (interstate technical collaboration)
- Colorado River Climate and Hydrology Work Group (other funding partners)
- Colorado Basin River Forecast Center (technical collaboration)
- Division of Water Rights (technical collaboration)
- Division of Water Resources (technical collaboration)
- Central Utah Water Conservancy District (in-kind contributions)
- Southern Nevada Water Authority (funding partner and project manager)
- Research Triangle Institute International (contractor)

6.5 Snowpack, Runoff, & Operations Pilot Project & Research

Description

Snowpack contributes about 95% of Utah's water supply (Utah Division of Water Resources, 2025), making accurate measurement of snowpack necessary for both short-term system operations and long-term planning. Snow telemetry (SNOTEL) data from the Natural Resources Conservation Service (NRCS) has been historically used to forecast the amount of water available to water users in the Colorado River system in Utah. SNOTEL sites measure continuously through time but only represent the area immediately adjacent to the instruments and do not provide a volume of water stored in the snowpack. In contrast, snowpack data collected by Airborne Snow Observatories, Inc. (ASO) covers a full surface area, capturing heterogeneity in snowpack across mountainous landscapes and providing a Snow Water Equivalent (SWE) volume estimate on the day(s) the measurement occurs, and continuously via integrated snowpack modeling (Airborne Snow Observatories, 2025). These data are assimilated to constrain a WRF-Hydro runoff forecast model. ASO is the sole licensee from NASA/JPL/Caltech to commercialize snow surveys with their software suite. ASO products have been tested and operationalized in other Western states but have not yet been tested in Utah before this effort.

The Authority is conducting "Flakes, Flights, and Forecasts: Snow Measurement Enhancements in the Uinta Mountain Headwaters" as the first-ever ASO Pilot Project in Utah. The Pilot Project consists of a snow-free survey and three snow-on surveys per year for three years in the Uinta Mountain Headwaters (Figure 3), generating spatially complete maps of snow depth, snow water equivalent, and snow albedo through remotely-sensed data, coupled with modeling of snowpack evolution and runoff forecasts. The Pilot Project also involves integration of data into the Strawberry Aqueduct Collection System (SACS) operational model and the UCRAF planning model. This Pilot Project will enable the best-available snow measurement and modeling to provide reliable water supply forecasting to a key watershed in Utah for 1) optimized flood control operations of federal facilities, 2) short- and long-term water management decisions, 3) environmental protection, 4) drought mitigation and resilience, and 5) dissemination of results to other watersheds throughout Utah.

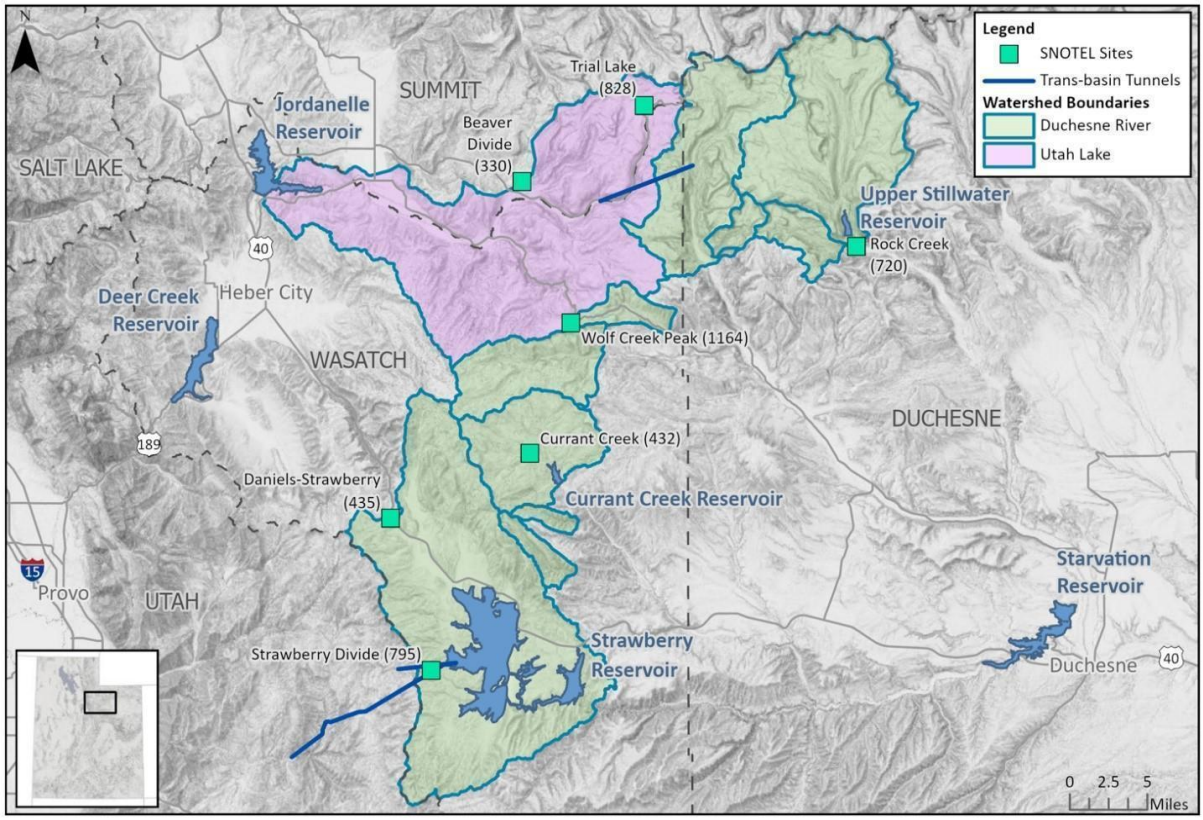


Figure 3. ASO Uinta Mountain Headwaters Pilot Project study area and key infrastructure.

Progress to Date

In March 2023, Reclamation announced a funding opportunity through the Snow Water Supply Forecasting Program for emerging snow monitoring technologies. In response to the funding opportunity, the Authority, as the lead applicant, partnered with Central Utah Water Conservancy District (CUWCD) and DWRe to propose and provide matching funds for the Pilot Project to test ASO in Utah. Horrocks Engineering provided grant proposal preparation management, funded by CUWCD. TNC, Jordan Valley Water Conservancy District, Duchesne County Water Conservancy District, and Utah's four members of the United States House of Representatives provided letters of support for the Pilot Project. The proposed Pilot Project received a Notice of Grant Award (NGA) from Reclamation on January 16, 2024. In FY25, LRE Water was procured as the Pilot Project's grant administration technical consultant, funded through the grant budget, to support coordination, evaluation, and federal grant reporting of the Pilot Project.

A snow-free survey of the study area was conducted by ASO in October 2023, with pre-award spending authorization from Reclamation to ensure the project stayed on schedule. During the peak snow and runoff seasons for 2024 and 2025, ASO conducted the three snow-on surveys of the Pilot Project per year, with supporting ground surveys conducted by the NRCS (Figure 4, 2025). ASO produced data

reports, iSnobal model reports, and WRF-Hydro model reports for each survey, and iSnobal model update reports and runoff forecast values in between surveys. The project team began to compare ASO data and models with other snow and runoff models and integrate ASO data into the Strawberry Aqueduct Collection System (SACS) model. LRE Water developed a Work Plan for their assessment of the project, and a data storage system on GCP through the Authority's participation in the DWRe-GCP Enterprise Agreement.

Data and reports can be found via the Airborne Snow Observatories, Inc. data portal (data.airbornesnowobservatories.com).
Visit the Authority's Flakes, Flights, and Forecasts webpage (cra.utah.gov/airborne-snow-survey-pilot-project).

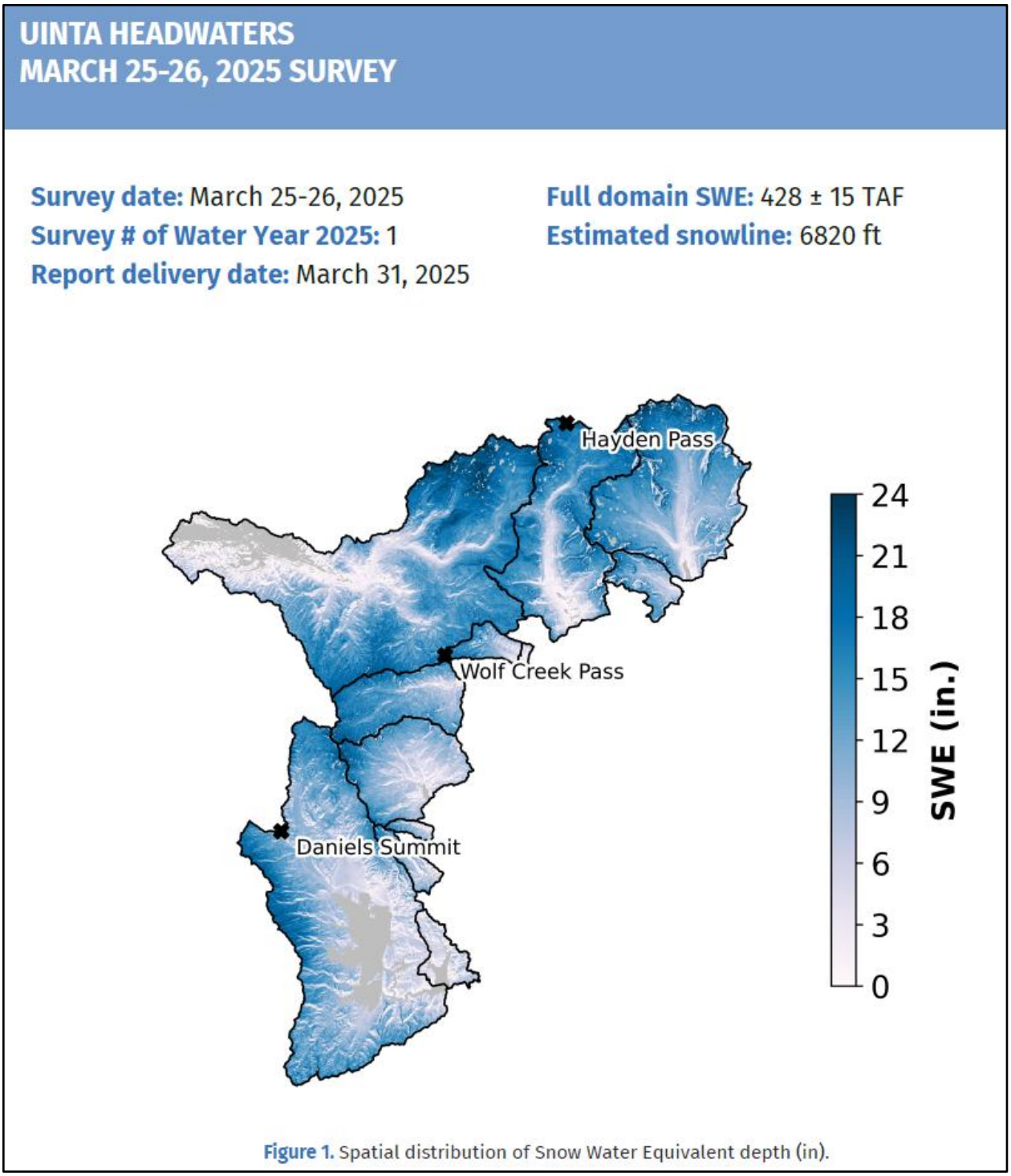


Figure 4. Map of snow water equivalent distribution in the study area measured during the first snow-on survey of 2025.

FY26 Work Plan

In FY26, analysis of the first two years of data, including comparison with other datasets and integration into SACS and UCRAF models will continue, with an emphasis on developing an understanding of how ASO data can be applied to water management decision-making. In the spring of 2026, three snow-on surveys will be conducted and associated data production, modeling, and analysis will follow. Comparison between ASO data and the Temperature Profile (Cold Content) Sensors described in Section 6.6 will also occur. Lessons from the first two years of data collection will be applied to FY26 efforts. Early results from the project will be communicated to key collaborators, including the NRCS and the Colorado Basin River Forecast Center (CBRFC). All project efforts will be coordinated with DWRe's new Wings Over Weber ASO pilot project.

Project Information

- Funding Source: one-time appropriations, CUWCD, DWRe, federal WaterSMART funds
- Budget:
    - FY26: $617,000 ($582,000 for ASO, $35,000 for LRE Water; $201,000 from Authority, $78,000 from CUWCD, $31,000 from DWRe, $307,000 from WaterSMART)
    - Total: $2,000,000 ($650,000 Authority, $250,000 CUWCD, $100,000 DWRe, $1,000,000 WaterSMART)
- Services:
    - Grant Award from Reclamation to the Authority
    - Funds transfer from CUWCD
    - Funds transfer from DWRe
    - Sole source contract with Airborne Snow Observatories, Inc.
    - Competitively procured agreement with LRE Water executed September 2024
- Timeline: FY24 – FY27

Key Partners

- Airborne Snow Observatories, Inc. (contractor)
- LRE Water (contractor)
- Bureau of Reclamation (co-funder)
- Central Utah Water Conservancy District (co-funder, technical collaboration)
- Utah Division of Water Resources (co-funder)
- Natural Resource Conservation Service (technical collaboration)

6.6 Snow Temperature Profile (Cold Content) Sensors

Description

Collaboration between the Airborne Snow Observatories (ASO) team and the Natural Resource Conservation Service (NRCS) Utah Snow Survey has identified in situ measurement of snowpack cold content, which is not currently part of standard SNOTEL or ASO ground measurement protocols, as a dataset that could substantially improve both ASO and SNOTEL datasets and forecasting. Cold content is related to the energy required to obtain snowmelt and is a function of snowpack depth and temperature. Through the UCRC, the Authority is pursuing a IIJA-funded instrumentation grant to support testing of snow temperature profile sensors for snowpack analysis in the Uinta Mountain Headwaters. Snow temperature profile sensors will be installed and maintained by NRCS staff at existing SNOTEL stations within Utah's Uinta Basin ASO Pilot Project study area, and data will be shared with UCRC, the Authority, and ASO and explored in conjunction with ASO forecasting and modeling products.

Progress to Date

In FY25, the Authority worked with ASO and NRCS to develop a scope of work and identify desired SNOTEL stations within Utah's Uinta Mountain Headwaters ASO project area to be instrumented with snow temperature profile sensors. Because this project is pursued with IIJA funds, the scope of work and associated contract were reviewed by the Upper Division States and UCRC. The IIJA-funded portion of this project covers sensor costs only. All other work, including installation and maintenance of the sensors by NRCS and evaluation of the data by ASO, is in-kind and in support of the Authority's existing Uinta Mountain Headwaters ASO project, respectively.

FY26 Work Plan

Following the execution of a contract between UCRC and NRCS, snow temperature profile sensors will be purchased by UCRC from Beadedstream, Inc., who manufactures custom temperature sensors for environmental and infrastructure applications. Snow temperature profile sensor cables will be installed and maintained as an in-kind contribution from the Utah Snow Survey. The sensor cables will be installed early FY26 during routine maintenance at existing SNOTEL stations. Evaluation of temperature profile data with ASO data and modeling products will occur during water year 2026, which aligns with the Authority's third and final year of the current Uinta Mountain Headwaters ASO project (Section 6.5). All comparison and evaluation work will be performed by ASO under the Authority's existing ASO contract. A final report summarizing temperature profile data and utility to ASO modeling products will be prepared by ASO, with assistance from the Uinta Mountain Headwaters ASO project team, and provided to UCRC and the Upper Division States.

Project Information

- Funding Source: federal IIJA funds

- Budget:
    - FY26: $31,345
- Services: Agreement between UCRC and NRCS
- Timeline: FY26 – FY30

Key Partners

- Upper Colorado River Commission and Upper Division States (interstate technical collaboration)
- Airborne Snow Observatories, Inc. (technical collaboration)
- Natural Resource Conservation Service (contractor)

6.7 Radar Gap Filling Pilot Project

Description

An understanding of climate, weather, and hydrologic parameters is critical for informing water resources management. Many tools and datasets are available to characterize these processes at the point-scale (e.g., weather stations, rain gages, SNOTEL stations, etc.) and over larger scales (e.g., Airborne Snow Observatories and other remotely sensed products). One technology commonly used to characterize weather events over large spatial scales is radar. Using radio waves, radar can detect the type, particle shape, location, and other properties of precipitation events. Currently, Utah relies on only three radars for coverage across the state—two in Utah (Promontory Point/northern Utah, Cedar City/southern Utah) and one in Colorado (Grand Junction, western Colorado). Each radar only has an effective range of 60 km and is susceptible to terrain blocking and cloud overshooting, leaving an outstanding gap in coverage over most of the Colorado River Basin in Utah. Through the UCRC, the Authority is facilitating IIJA funding support for a Radar Gap Filling Pilot Project led by DWRe. The goal of the Radar Gap Filling Pilot Project is to test the utility of enhanced radar coverage for detecting and characterizing precipitation events, improving and validating weather and streamflow forecasting models, and enhancing water management operations.

Progress to Date

In FY25, Authority staff collaborated with individuals at DWRe to prepare a scope of work for the Radar Pilot Project. The draft scope underwent several refinements throughout the year due to changes in the radar service provider, the initial number of radars in the pilot project, and the total project cost based on potential in-state funding partners. Within the UCRC IIJA context, the Authority identified the Radar Pilot Project as being a project of interest to Utah. The UCRC granted preliminary consideration for funding, contingent upon approval of the scope of work and a successfully executed contract.

FY26 Work Plan

Given the Authority's role in securing IIJA funding for this project, FY26 efforts will primarily focus on facilitating the review and approval of the scope of work by the UCRC and Upper Division States, development and execution of a funding agreement/contract for the use of IIJA funds, and navigating compliance processes through the UCRC. Beyond securing this funding, all other project implementation responsibilities for the Radar Pilot Project will be managed by DWRe.

Project Information

- Funding Source: federal IIJA funds
- Budget:
    - FY26: NA (Expenditure of IIJA funds is not anticipated until FY27)
    - Total: $975,000 ($375,000 IIJA, $375,000 DWRe, $225,000 UDOT)

- Services: Agreement between UCRC and Climavision or DWRe
- Timeline: FY26 – FY29 (Radars anticipated to be operational FY27 – FY29)

Key Partners

- Upper Colorado River Commission and Upper Division States (interstate technical collaboration)
- Division of Water Resources (project lead)
- Climavision (anticipated contractor/ Radar provider)
- National Oceanic and Atmospheric Administration/ Colorado Basin River Forecast Center (technical collaboration)

7.1 Agricultural Water Resilience Study

Description
The Authority evaluated potential opportunities and risks for agricultural water resilience through a study by Jacobs Engineering Group (Jacobs), funded by CUWCD. This study investigated the potential for conservation of consumptive use within the Colorado River system in Utah and CUWCD service area through five analysis steps: Water Resource Inventory, Water Demand Analysis, Quantify the Possible, Assess Economic Impacts, and Develop Prioritization Criteria. Outcomes from the study will inform the feasibility of drought mitigation programs and support prioritization of the various drought mitigation strategies. The study concluded at the end of FY24, and outreach efforts concluded in FY25.

Progress to Date
Technical memoranda have been produced, reviewed internally and externally, finalized for each of the five analysis steps, and shared with collaborators.

Visit the Authority's Agricultural Water Resilience webpage to access an executive summary and technical memoranda (https://cra.utah.gov/agricultural-water-resiliency-study/).

FY26 Work Plan
No further work is planned for this project, but results will continue to be used to inform Drought Mitigation efforts such as the Utah Demand Management Pilot Program (Section 7.6).

Project Information
- Funding Source: in-kind contributions from CUWCD
- Budget:
    - FY26: no additional costs
    - Total: $689,000
- Services:
    - Task Order 1: Agreement between CUWCD and Jacobs following a competitive procurement process
    - Task Order 2: Amended Agreement between CUWCD and Jacobs, with Authority consultation, expanding geography and adding economic analysis
- Timeline: FY23 – FY25

Key Partners
- Jacobs Engineering (contractor)
- M.Cubed (subcontractor)
- Central Utah Water Conservancy District (in-kind contributions, project management, technical collaboration)
- Utah State University Extension (technical collaboration)
- Division of Water Resources (technical collaboration)

- Division of Water Rights (technical collaboration)
- OpenET (technical collaboration)
- WestWater Research (technical collaboration)

7.2 Emery County Irrigation Efficiency Study

Description

As Utah and the other Upper Division States contemplate agricultural water conservation projects, it will be increasingly important to understand potential long-term trade-offs and overall impacts associated with various irrigation efficiency enhancements, and how those impacts can be measured at different temporal (e.g., monthly, annual, interannual) and spatial (e.g., field, basin) scales. The goal of this effort is to analyze historical data from Emery County, Utah, to understand the long-term impacts that have resulted from canal (unlined to pressurized pipe) and irrigation (flood to sprinkler) conversions over the past thirty years. This project will use a combination of remotely sensed and in-situ data to assess 1) how changes in irrigation practices affect the consumptive use of irrigated fields, as measured by OpenET, 2) the extent to which changes in irrigated practices impact the presence and extent of riparian and incidental use areas, and the effectiveness of OpenET in detecting these changes, and 3) how changes in irrigation practices impact other components of the water balance including streamflow, diversions, and reservoir storage and release.

Progress to Date

In early FY25, the decision was made to pursue the Emery County Irrigation Efficiency study through the UCRC using IIJA funding. As such, the Authority worked with UCRC staff to develop a request for proposals and associated scope of work, which was first reviewed by Utah entities (DWRi, DWRe, UGS, EWCD) and then by the Upper Division States through the UCRC IIJA Incidental Use Work Group. The RFP was released on December 11, 2024 (Upper Colorado River Commission, 2024c), and proposals were evaluated by the IIJA Incidental Use Work Group on January 31, 2025. Following negotiations, a contract was executed on March 20, 2025, between UCRC and OpenET, with University of Nebraska-Lincoln and Evapotranspiration Plus, LLC as subcontractors. A kick-off meeting was held in Salt Lake City on May 16, 2025.

FY26 Work Plan

Work on the Emery County Irrigation Efficiency study will continue as outlined under the contract. In FY26, tasks will focus on reviewing, compiling, and modifying existing consumptive use and vegetation productivity datasets for agricultural, riparian, and incidental use areas in the study area. Data compilation will be followed by several analyses to understand the impact of irrigation changes on ET and different measures of vegetation productivity. Coordination meetings are anticipated between Utah entities and the Upper Division States.

Project Information

- Funding Source: federal IIJA funds
- Budget:
    - FY26: $166,640
    - Total: $349,9970

7. Drought Mitigation | Agricultural Water Resilience Research

- Services:
    - Competitive procurement process to engage technical services conducted through the UCRC
    - Agreement between UCRC and OpenET
- Timeline: FY25 – FY27

Key Partners

- Upper Colorado River Commission and Upper Division States (interstate technical collaboration)
- Emery Water Conservancy District (technical collaboration)
- UCRAF Project Team (technical collaboration)
- Division of Water Rights (technical collaboration)
- Division of Water Resources (technical collaboration)
- OpenET (contracted research entity)
- University of Nebraska-Lincoln (subcontracted research entity)
- Evapotranspiration Plus, LLC (subcontractor)
- Additional entities to be identified as the project develops

7.3 Duchesne River Basin

Description

The Authority is developing a multi-year, multi-phased Utah Colorado River Accounting and Forecasting (UCRAF) Decision Support Tool (DST) beginning with the Duchesne River Basin. The UCRAF-DST is a drought mitigation planning tool, and models water supply according to priority using a RiverWare(c) rule-based simulation and accounting model. UCRAF provides a comprehensive understanding of current water rights and water usage of a system (Phase 1) and serves as a planning tool to evaluate how drought mitigation measures (e.g., changes in crop types, irrigation methods, water reduction methods, water rights transfer, etc.) affect water availability and water rights (Phase 2). The Duchesne River Basin UCRAF Pilot will help support drought mitigation efforts in the Duchesne Basin and will inform the development of subsequent UCRAF models for other regions within the Colorado River Basin in Utah.

Progress to Date

FY25 was the third and final year of the initial UCRAF contract. Throughout FY25, work continued on the two major elements of the Duchesne River Basin UCRAF model—the Diversion Runoff Calculator (DRC, a Python and geospatial-based model) and the RiverWare model. The DRC for the Duchesne River Basin was mostly finished in FY24, so efforts in FY25 consisted of refining existing tools (e.g., ArcGIS Pro and ArcPy tools) and updating input data (e.g., DWRi Water Rights Network). Work also occurred to ensure that DRC output was compatible, aggregated properly, and could accommodate scenario changes in the RiverWare model. One major change that occurred in FY25 was an update of the DRC from version 1 (grid-based) to version 2 (vector-based). Version 2 of the DRC enables model runs for specific canals or fields without needing to run the entire basin and also uses irrigation efficiencies from the Utah State Extension Office (Utah State University Extension, n.d.). For documentation, the project team collaborated to prepare a journal article documenting the assumptions, input data, and application of the DRC component of the UCRAF model (Follum et al., 2025). The article is titled “Development of the Diversion Runoff Calculator to Estimate Agricultural Water Consumption and Irrigation Diversions at the Field- to Basin-Scale in Northeastern Utah” and was published in the Journal of Irrigation and Drainage Engineering. Lastly, a thorough google-site user guide was developed for the DRC.

Primary work for the Duchesne Basin RiverWare model consisted of developing the water rights accounting framework in RiverWare and entering water rights into the model. This work included an improvement to the water rights aggregation, such that the number of accounts in the model reduced from 667 to 420 which simultaneously increased the flexibility of the model to incorporate new water rights into the model. The project team also added additional users along the Strawberry Aqueduct Collection System (SACS), added release logic for Starvation Reservoir, and verified that the model was simulating within reason. An in-depth report was also produced that documents the development, assumptions, structure, and validation of the RiverWare model. Staff from Precision Water Resources Engineering also presented in February 2025 about administrative processes in the UCRAF model at the RiverWare User Group conference in Boulder, Colorado, and Authority staff

presented on UCRAF in September 2024 at the California Water and Environmental Modeling Forum in Folsom, California. The project team continued holding quarterly workshops and had regular check-ins with DWRi.

As the modeling components in UCRAF were completed, the project team was able to explore different drought mitigation scenarios in the model. To understand the impact of a change (e.g., temporary fallowing), the baseline model must first be run and then compared to the "change case" scenario over the period of the model run (e.g., 2000-2022). The first hypothetical change case scenario considered for the Duchesne Basin UCRAF model involved temporarily fallowing fields along the mainstem of the Duchesne, the Lake Fork River, and the Uinta River. This change case was chosen to strategically test the capabilities of the DRC and the RiverWare model along each river, and to replicate the notion that irrigators who volunteer to participate will come forth from various regions within a basin. The second hypothetical change case tested different drought mitigation actions such as temporary fallowing by priority date, piping canals, changing crop type, and changing irrigation methods. All results were described in a technical memorandum and visualized in a PowerBI dashboard.

FY26 Work Plan
Building on the initial UCRAF contract, which concludes at the end of FY25, a new sole-source contract is planned to support continued efforts into FY26. Activities in FY26 primarily include model updates and maintenance and support on related Authority projects. See Section 7.5 for more detailed information.

Project Information

- Funding source: one-time appropriations
- Budget:
    - FY26: See Section 7.5
    - Initial Contract, FY23 – FY25: $1,651,000 (Total for Duchesne, San Rafael, and Price River Basin UCRAF models)
    - New Contract, FY26 – FY27: See Section 7.5
- Services:
    - Pre-existing multi-year contract established through a competitive procurement process. A sole source contract was issued to build on and maintain the continuity of previously completed work.
    - Initial contract executed July 2022 and amended June 2023
    - New sole source contract planned for execution, July 2025 (see Section 7.5)
- Timeline:
    - Initial contract: FY23 – FY25
    - New contract: FY26 – FY27

7. Drought Mitigation | Utah Colorado River Accounting & Forecasting

Key Partners

- Precision Water Resources Engineering (contractor)
- Follum Hydrologic Solutions (subcontractor)
- Division of Water Rights (technical collaboration)
- Division of Water Resources (technical collaboration)
- OpenET (technical collaboration)
- Desert Research Institute (technical collaboration)

7.4 San Rafael & Price River Basins

Description

Following successful progress on the UCRAF pilot in the Duchesne Basin, the Authority has expanded development of the UCRAF model to the San Rafael and Price River Basins. Many of the tools and modeling approaches are similar to the Duchesne Basin UCRAF model, with the two main modeling components being a Diversion Runoff Calculator (DRC, a Python and geospatial-based model) and a RiverWare model. Consistent with the Duchesne Basin Pilot, model development consists of data collection and organization, development of a baseline model to characterize the current system (Phase 1), and development of capabilities within the Phase 1 model to explore the impact of drought mitigation measures (Phase 2). The San Rafael/Price UCRAF model will help facilitate drought mitigation planning efforts and is important given ongoing conservation engagement in this region (e.g., SCPP, DMPP, AG-DRIP, Price River Water Bank Pilot, etc.).

Progress to Date

Work on the San Rafael/Price Basin UCRAF models included several similar elements to the Duchesne Basin including Version 2 of the DRC, model documentation, coordination meetings with DWRi and others, and further development of the DRC and RiverWare models. The DWRi distribution model for the Price River Basin was heavily relied upon for both development (commissioner data, model logic, system structure) and verification of the Price Basin UCRAF model. The Price UCRAF model was extended to simulate a historical period from 1991 through 2022 using both observed input data and data that was developed to extend the run period where observed data was not available, which was verified against the DWRi distribution model. In addition to observed data being replaced with DRC-derived input data, rule logic was also implemented into the Price UCRAF model so that the system can be reoperated using different sequences of hydrology, reservoir logic, etc.

While development of the DRC for the San Rafael system spanned 1991-2023, development of the RiverWare model was limited to 2018-2023 due to availability and accuracy of historical data. Because of this, a significant portion of FY25 was spent cleaning and developing historical data for diversions, reservoirs, and gages throughout the San Rafael basin to inform the natural inflow calculation. This process required several meetings with representatives of Emery Water Conservancy District (EWCD) and DWRi to develop institutional knowledge and quality control available data. Diversion data was developed alongside an in-depth analysis highlighting discrepancies from different data sources to facilitate conversations with EWCD and DWRi, which allowed PWRE to select appropriate datasets for model input. These collaborative meetings resulted in agreed upon techniques to compute inflows based on available outflow and storage data that honor annually reported values of reservoir storage and outflows.

Like the Duchesne Basin, two hypothetical change cases were explored for the San Rafael and Price UCRAF models. The hypothetical change case for the San Rafael basin considered temporarily

fallowing fields simultaneously along Ferron Creek, Cottonwood Creek, and Huntington Creek. The change case for the Price Basin was based on projects submitted as part of the Utah Demand Management Pilot Program application process and tests the utility of UCRAF in modeling realistic drought mitigation projects. Both scenarios explore the protection of water in the river under a "drought mitigation" account as well as storage forbearance in reservoirs.

FY26 Work Plan

Building on the initial, expanded UCRAF contract, which concludes at the end of FY25, a new sole-source contract is planned to support continued efforts into FY26. Activities in FY26 primarily include model updates and maintenance and support on related Authority projects. See Section 7.5 for more detailed information.

Project Information

- Funding source: one-time appropriations
- Budget:
    - FY26: See Section 7.5
    - Initial Contract, FY23 – FY25: $1,651,000 (Total for Duchesne, San Rafael, and Price River Basin UCRAF models)
    - New Contract, FY26-FY27: See Section 7.5
- Services:
    - Pre-existing multi-year contract established through a competitive procurement process. A sole source contract was issued to build on and maintain the continuity of previously completed work.
    - Initial contract executed July 2022 and amended June 2023
    - New sole source contract planned for execution, July 2025 (see Section 7.5)
- Timeline:
    - Initial contract: FY23 – FY25
    - New contract: FY26 – FY27

Key Partners

- Precision Water Resources Engineering (contractor)
- Follum Hydrologic Solutions (subcontractor)
- Division of Water Rights (technical collaboration)
- Division of Water Resources (technical collaboration)
- OpenET (technical collaboration)
- Desert Research Institute (technical collaboration)

7.5 Ashley Creek, Brush Creek, and Colorado River System

Description

The Authority is pursuing a new UCRAF contract to continue advancing Utah's position in Post - 2026 negotiations, Provisional Accounting activities (Section 5.6), and to maximize the Authority's outcomes of the Utah Demand Management Pilot Program (Section 7.6). UCRAF is a decision support tool that allows the Authority to explore concepts for drought mitigation programs in Utah and demonstrates the likelihood and conditions under which drought mitigation activities will result in conserved water conveyed through the system. Continued development of UCRAF will help facilitate engagement with the Basin States and the federal government under the Provisional Accounting MOU (Section 5.6) and will provide proof of concept for conveying conserved water to Lake Powell, which is critical given Utah's downstream position relative to the other Upper Division States. Expanded UCRAF coverage will also accommodate drought mitigation planning for a wider array of water users across the Colorado River Basin in Utah. Therefore, the Authority is seeking a new UCRAF contract focused on four key tasks (Figure 5):

Buildout of UCRAF for Brush Creek and Ashley Creek Systems

The Authority is pursuing development of a full UCRAF-DST for the Brush Creek and Ashley Creek systems due to proximity to the Green River, ongoing conservation interest (e.g., DMPP), and availability of irrigated acres (~43,000 irrigated acres) (Utah Division of Water Resources, 2023). Phase 1 of the Brush Creek and Ashley Creek (BCAC) UCRAF Model will include development of a DRC and a RiverWare rule-based simulation and accounting-enabled model to simulate system operations. Phase 2 of the BCAC UCRAF Model will allow for evaluation of the impact of drought mitigation actions such as temporarily fallowing fields, lining/piping of canals, changing crop types, changing irrigation application methods, and storage forbearance. Similar to the initial UCRAF contract, two change cases will be developed and analyzed in detail as part of Phase 2.

DRC Buildout for Upper Colorado River Basin in Utah

The Authority's new UCRAF contract will include the development of the Diversion Runoff Calculator (DRC) for the remainder of the Colorado River Basin in Utah (Figure 5). While the DRC produces input data for individual RiverWare models, a standalone DRC still provides the ability to explore changes in consumptive use, diversion, and return flows resulting from drought mitigation actions. This task includes compiling the network of fields connected to canals or stream reaches for the Colorado River Basin in Utah either by obtaining data through DWRi's Water Right Network (WRN), or when not available, by developing proxy networks that would ultimately be replaced by DWRi's WRN. The underlying datasets (WRN, Water Related Land Use, etc.) would then be incorporated into a DRC developed for the remainder of the Colorado River Basin in Utah, which would provide estimates of consumptive use, diversions for fields serviced by a canal, and runoff.

Colorado River System RiverWare model

While individual UCRAF models facilitate detailed analysis of drought mitigation actions within a

basin, there is a need to demonstrate the conveyance of conserved water generated within Utah and

by other Upper Division States to Lake Powell. This task would involve developing a RiverWare model that simulates the mainstem of the Green River from Flaming Gorge to the confluence with the Colorado River, as well as the Colorado River from the Colorado-Utah State Line USGS gage to the USGS Hite gage at Lake Powell. In addition to modeling the mainstem of the Green and Colorado Rivers, this model would also encompass tributary inflows entering each of these mainstem rivers within Utah as well as model inflows to Utah as they cross the state boundary. Additionally, the RiverWare model would include an accounting framework to simulate conveyance of drought mitigation water alongside natural flow. To facilitate interstate planning, estimates of conserved water could be input from basin-specific UCRAF-DST models (Duchesne, Price, San Rafael, Ashley Creek/Brush Creek), DRC estimates, or from information and model output provided by other Upper Division States. Conceptualization and simulation of different methods of transit loss would occur in this model.

Maintenance and Updates

This task provides ongoing maintenance and support for the Duchesne, San Rafael, and Price UCRAF models. Activities include updating model components and supporting data, performing additional simulations as requested, and providing training and support to Authority staff as they become familiar with the model. This support extends to potential collaborations with other Utah projects or groups and model adjustments based on collaborator feedback. This task supports existing tools developed during the initial UCRAF contract and can be adapted for tools in the amended contract.

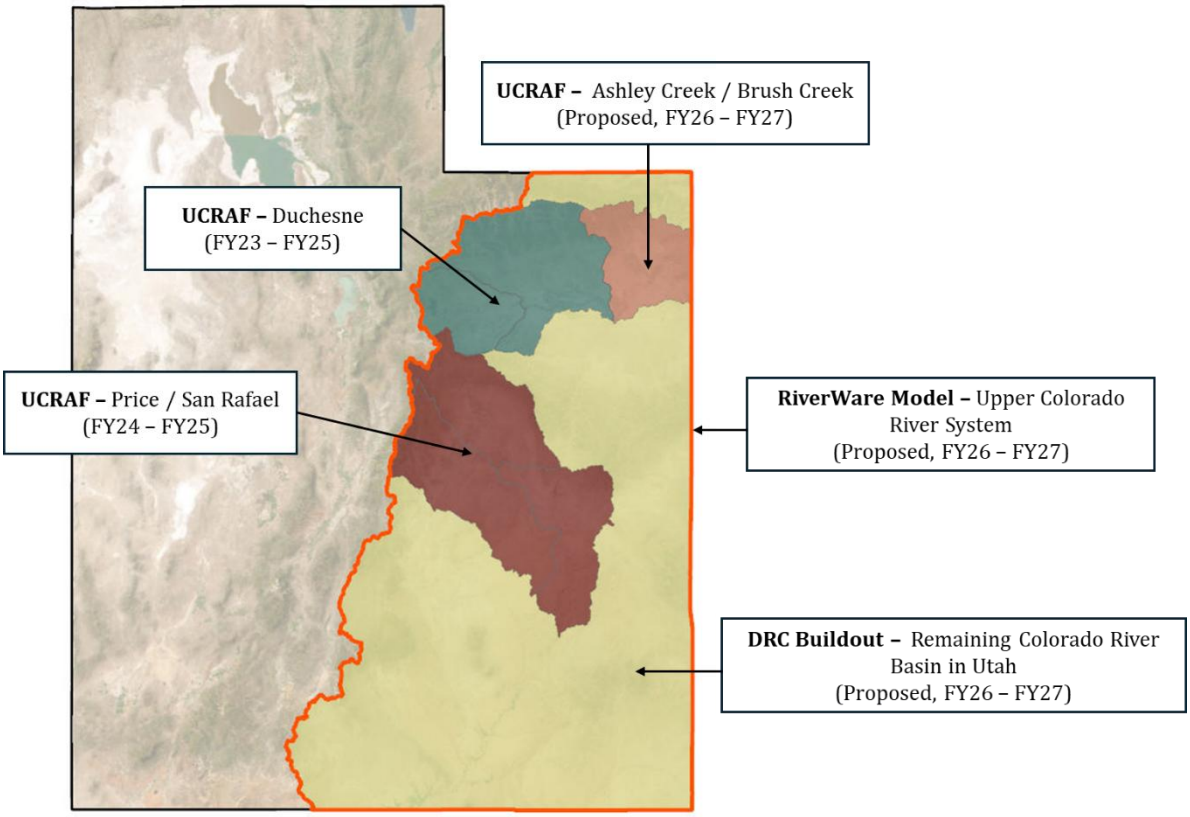


Figure 5. Distribution of UCRAF modeling efforts across the Upper Colorado River Basin in Utah.

FY26 Work Plan

Contingent upon approval of the FY26 Work Plan by the Authority Board, a new contract will be executed between Precision Water Resources Engineering and the Authority with work to begin in early FY26. Work under the new UCRAF contract in FY26 will relate to development of the physical RiverWare workspaces for the BCAC RiverWare model and the Colorado River System RiverWare model. Efforts will also focus on collecting and organizing input data for the BCAC and system-wide DRC and updating, as needed, models completed under the initial UCRAF contract. Coordination with DWRi staff and others will continue for issues pertaining to the WRN dataset, administrative processes, and data availability.

Project Information

- Funding source: one-time appropriations
- Budget:
  - FY26: $640,198
  - New Contract, FY26 – FY27: $1,257,116 (Total for renewed contract)
- Services:
  - Pre-existing multi-year contract established through a competitive procurement process. A sole source contract was issued to build on and maintain the continuity of previously completed work.

    - New sole source contract planned for execution, July 2025
- Timeline:
    - New contract: FY26 – FY27

Key Partners

- Precision Water Resources Engineering (contractor)
- Follum Hydrologic Solutions (subcontractor)
- Division of Water Rights (technical collaboration)
- Division of Water Resources (technical collaboration)
- OpenET (technical collaboration)
- Desert Research Institute (technical collaboration)

7.6 Utah Demand Management Pilot Program

Description

The Upper Basin Demand Management Storage Agreement (DMSA), an element of the 2019 Drought Contingency Plan Authorization Act (P.L. 116-14), prescribes that the Upper Division States of Utah, Colorado, Wyoming, and New Mexico, "must investigate the feasibility of developing and implementing an Upper Basin Demand Management Program," (Upper Colorado River Commission, 2022). The DMSA further states that the purpose of an Upper Basin Demand Management Program will be to temporarily reduce consumptive uses in the Upper Basin to help assure continued compliance with Article III of the Colorado River Compact without impairing the right to exercise existing Upper Basin water rights in the future. Moreover, the Upper Division States have committed to temporary, voluntary, and compensated conservation as an element of their proposal (UDS Alternative) for the coordinated operations of Lake Powell and Lake Mead post-2026.

Utah Code 63M-14-204 states that the mission of the Authority is to "protect, conserve, use, and develop Utah's waters of the Colorado River system" (State of Utah, 2025), and that the Authority may develop a Management Plan to ensure that Utah continues to live within the state's apportionment of the Colorado River system. During the 2023 Legislative Session, the Utah Legislature appropriated $5,000,000 in one-time funds to the Authority for Agricultural Resilience Pilot Projects under the Management Plan. The Authority is using these appropriations to administer the Utah Demand Management Pilot Program (DMPP), a key element of the Management Plan.

DMPP will reduce water depletion through temporary, voluntary, compensated, and protected water conservation actions, and test delivery of subject water to a reservoir located partially or entirely within the Colorado River system as per Utah Code Section 73-3-30(4) for the purpose of protecting Utah's right to use water under the 1922 Colorado River Compact (State of Utah, 2025). Furthermore, DMPP will help Utah fulfill its obligation under the DMSA to investigate the feasibility of such a program and support Utah's commitment under its UDS Alternative. If programs like DMPP are successful, the DMSA authorizes the Secretary of the Department of the Interior to make Unfilled Storage Capacity at the CRSPA Initial Units, such as Lake Powell, available for use by the Upper Division States in perpetuity. A Memorandum of Understanding was executed between Reclamation and the UDS in December 2024 authorizing provisional accounting to quantify the total amount of reductions in use of or demand for water supplies under this type of pilot program (Upper Colorado River Commission, 2024), (Section 5.6).

DMPP currently has five Objectives: (1) reduce water depletion, (2) quantify reduced depletion using a combination of methods, (3) understand conditions under which water users will reduce depletion and participate in a demand management program, (4) identify the state and federal regulatory processes that ensure reduced depletion can be distributed and stored in a pre-

authorized reservoir, and (5) determine the feasibility and risks of storing conserved water over multiple years. The Authority is committed to using each pilot project to learn about drought mitigation best practices, and to synergize pilot projects with other programs to maximize the use of resources and minimize duplication of efforts. The Authority will closely coordinate DMPP with the Key Partners listed in this section, and with other projects in this Work Plan.

Progress to Date

In FY24, the Authority conducted a competitive procurement process to engage an engineering consultant to support management and technical consulting for DMPP. Jacobs Engineering Group was awarded the contract in March 2024 with Utah State University Extension, Precision Water Resources Engineering, Clyde Snow & Sessions, Hansen Allen & Luce, and M.Cubed as subconsultants (collectively the Jacobs Team).

From contract execution through FY25, the Authority and the Jacobs Team developed the DMPP by holding a Consultant Kick-Off Workshop, establishing a Scope of Work Management Framework, holding a Collaborator Kick-Off Workshop, and holding a Conceptualization, Selection Criteria, Outreach, and Solicitation Workshop. From the workshops, three pilot project types were chosen to pursue: partial or full season temporary fallowing, irrigation system conversion, and storage forbearance or lease changing. For each of the three pilot project types, the Jacobs Team evaluated appropriate compensation rates in dollars per acre-foot per year of conserved depletion and wrote technical memoranda documenting their approach. Then, based on the workshop outcomes and compensation evaluation, application forms and selection criteria were created. Targeted outreach was conducted to interested potential participants in fall 2024, and the Authority accepted applications between December 12, 2024, and January 15, 2025. The Jacobs Team provided an estimate of depletion reduction for the type of pilot project each applicant was interested in pursuing and documented their methods in a technical memorandum. Each applicant was required to conduct a water right change application pre-consultation with DWRi or if the applicant was a shareholder, they had to obtain written permission from their water company to participate in DMPP.

The Authority received 27 applications proposing to conserve up to about 22,608 acre-feet each year for two years, at a cost of up to $6,378,840 each year for two years. 19 applications for partial or full season temporary fallowing were received, 0 applications for irrigation system conversions were received, and 8 applications for storage forbearance or lease changing were received. Applications were scored based on the scoring criteria and reviewed by an evaluation committee with representatives from the Authority, the Jacobs Team, the Great Salt Lake Commissioner's Office, DWRe, and Utah Department of Agriculture and Food (UDAF). Jacobs produced a memo documenting the scoring process and final application scores that was approved by the evaluation committee and informed a recommendation from staff for application selection to the Authority Board. The Authority Board selected 15 applications grouped into 4 pilot projects, to conserve up to about 22,371 acre-feet over two

years, at a cost of up to $4,254,690 over two years (Table 5). Selection was based on a combination of application scores, pilot project location, available budget, and consideration of relationship building with potential participants. To be implemented in 2025, each selected pilot project must have submitted a water right change application to DWRi, and each selected pilot project must have an approved water right change application from DWRi in order to be implemented in 2026.

Early pilot project implementation began at the end of FY25, including submission of water right change applications, execution of implementation agreements and verification plans, development of Pilot Project Plans for the Jacobs Team to support work beyond the obligations of each participant for each project, commencement of depletion reduction activities, flow measurement with USGS (Section 5.2), and verification of implementation, and consideration of DMPP projects under Provisional Accounting (Upper Division States 5.6).

The Authority and UDAF executed a memorandum of understanding during FY25 to ensure effective program coordination and to maximize existing resources within state government.

Table 5. Summary of DMPP projects selected by the Authority Board. Approved change applications are required for selected projects to proceed for the 2026 irrigation season.

POSSIBLE RANGE						
	Depletion Reduction Estimate (acre-feet)			Compensation Estimate		
PROJECT	2025	2026	2025 & 2026	2025	2026	2025 & 2026
Fallowing - SE Tributary 1	2,613	2,304	4,917	$ 1,019,070	$ 898,560	$ 1,917,630
Fallowing - E Green River	2,227	2,227	4,454	$ 868,530	$ 868,530	$ 1,737,060
Storage - SE Tributary 1	1,055 - 2,000	1,055 - 2,000	2,110 - 4,000	$158,250 - $300,000	$158,250 - $300,000	$316,500 - $600,000
Storage - E Tributary 1	4,500	4,500	9,000	$ -	$ -	$ -
Total	10,395 - 11,340	10,086 - 11,031	20,481 - 22,371	$2,045,859 - 2,187,600	$1,925,340 - $2,067,090	$3,971,199 - $4,254,690

FY26 Work Plan

In FY26, the Authority and the Jacobs Team will work with participants to implement and verify pilot project activities. Verification for the 2025 irrigation season will include site visits, measurement and record keeping by participants, and remote verification using OpenET. The Jacobs Team will implement Pilot Project Plan activities, including comparison of projected versus actual depletion reductions, and analysis of the distribution and accounting of pilot program water in accordance with Implementation Agreements in the absence of approved change applications for 2025. Implementation of pilot projects for 2025 will be coordinated closely with Key Partners listed in this section, and with other projects in this Work Plan.

In parallel to implementation of 2025 irrigation season pilot projects, the Authority will develop and implement a second cycle of applications for DMPP. To have consultant support for the second DMPP cycle, the Authority plans to execute a Task Order #2 with the Jacobs Team. The Authority will gather feedback from Key Partners, unsuccessful 2025 applicants, and others as relevant before finalizing a framework for the second DMPP cycle. The

The Authority will work with the Jacobs Team to refine DMPP elements including a Pilot

Program Framework document, a Request for Proposals, and a streamlined application and review process. The Authority will administer the second DMPP cycle with available funds and will research funding opportunities for possible future program years. Only projects with an approved change application, either from the first or second DMPP cycle, will be allowed to proceed for the 2026 irrigation season.

The Authority will continue to maintain its commitment to coordination and collaboration by working closely with entities running similar water conservation projects and connecting with local water users, water managers, and environmental organizations. The Authority will consult closely with DWRi to ensure defensible water conservation measurement, distribution, and accounting activities, while maintaining water users' water rights. In evaluating and implementing projects, the Authority and Jacobs will carefully consider the potential social, economic, legal, and environmental impacts of projects on Utah's water and communities. All pilot projects will be implemented in coordination with activities under the Provisional Accounting project (Section 5.6).

Project Information

- Funding Source: one-time appropriations
- Budget:
    - FY26: $3,100,000 ($2,345,000 project implementation, $755,000 Jacobs Team completion of Task Order #1, Task Order #2)
    - Total: $6,089,000 (Jacobs Team and project implementation)
- Services:
    - Competitively procured agreement with Jacobs Engineering Group executed March 2024
    - Memorandum of Understanding executed with Utah Department of Agriculture and Food
    - Implementation Agreements with participants
- Timeline: FY24 – FY27

Key Partners

- Jacobs Team (consultant)
- Agricultural water managers and water users (project proponents)
- Division of Water Rights (technical and legal support, possible administration support)
- Division of Water Resources (program coordination, data coordination)
- Utah Department of Agriculture and Food (program coordination)
- Great Salt Lake Commissioner's Office (program coordination)
- Utah Farm Bureau (local knowledge, support for project proponents)
- Agricultural Advisory Council (local knowledge)
- Trout Unlimited (local knowledge, support for project proponents)
- The Nature Conservancy (local knowledge, support for project proponents)
- OpenET (technical collaboration)

- Utah Geological Survey (technical collaboration)
- United States Geological Survey (technical collaboration)
- Upper Colorado River Commission (program coordination)

7.7 AG-DRIP: Agricultural Water Demonstration, Research, & Implementation Pilot Program

Description

The Authority strives to balance proactive water conservation measures with the best available science and the needs of the agriculture community. Water conservation programs already exist under SCPP 2023 and 2024, Utah Department of Agriculture and Food's Agricultural Water Optimization Program, the Utah Demand Management Pilot Program, and similar federal and non-government efforts. Given the need to balance meaningful water conservation with sustained agriculture, and the variety of water conservation strategies and opportunities available, the Authority and CUWCD have partnered with USU Extension to implement the Agricultural Water Demonstration, Research, & Implementation Pilot Program (AG-DRIP) to support water user education. The goal of AG-DRIP is to develop and implement an agricultural water pilot program to engage, enable, and invest in agricultural producers and support innovation, validation, and adoption of current and emerging water use and conservation practices to achieve greater operational resiliency. AG-DRIP participants will develop operation-specific Irrigation Management Plans (IMPs) to identify the full suite of water conservation methods and funding mechanisms available. Participants will be incentivized to implement their IMP and report water use. Finally, AG-DRIP will validate the success of efforts by helping water users collect and evaluate data and make adjustments where needed.

Progress to Date

In FY23, AG-DRIP was developed through collaboration with USU Extension, CUWCD, Jacobs, and the Authority. Program development was informed by the experience of all the collaborators, early results from USU's Optimizing Water Use in Agriculture by Stacking Conservations Practices Project, and the Jacobs Agricultural Water Resilience Study under the FY23 Work Plan. AG-DRIP was established through funding agreements between USU Extension, the Authority, and CUWCD. Early outreach efforts began through news articles and announcements in relevant conferences and committees.

In the first two years of the program, FY24 and FY25, AG-DRIP enrolled 47 farms (Figure 6) across the Colorado River system in Utah, and the CUWCD service area. Ongoing outreach was conducted to current and potential participants, including monthly participant meetings, workshops at the 2024 and 2025 Utah Water Users Association Conference, water manager field days, on-farm field days, and winter participant workshops. Incentives were provided to participants, including the purchase and installation of on-farm water meters, weather stations, and soil moisture sensors, and incentive credits were established at local irrigation supply and seed supply companies. USU AG-DRIP Coordinators conducted water, soil, and irrigation system sampling and analysis at participating farms. IMPs were developed by participants with support from USU.

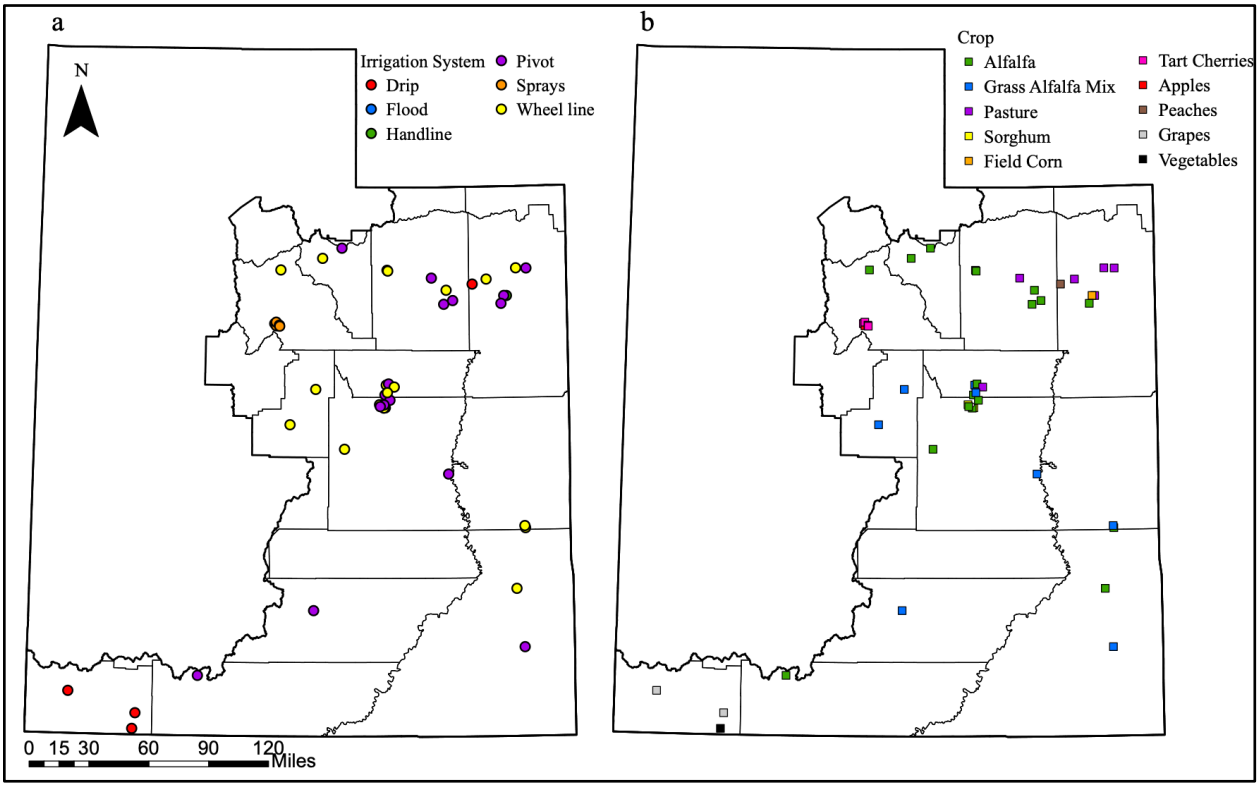


Figure 6. Map of AG-DRIP projects enrolled during the first and second years of the program, showing (a) the types of irrigation system each participating field uses, and (b) the crop type of each participating field.

Visit USU Extension's AG-DRIP webpage (https://extension.usu.edu/ag-drip/).
Visit the Authority's AG-DRIP webpage (https://cra.utah.gov/ag-drip-agricultural-water-demonstration-research-and-implementation-pilot-program/).

FY26 Work Plan

USU Extension will continue work on each of the seven program tasks: (1) establish the program, (2) develop and disseminate education materials, (3) develop training and networking resources, (4) develop IMPs, (5) invest in equipment, alternative crops, and incentives for monitoring water use and reporting on water optimization progress, (6) build networks and provide water measurement and management training for water managers, and (7) evaluate program. Each year for five years, USU Extension will enroll 25-32 farms in AG-DRIP and assist each farm with development and reporting of IMPs. Up to 20 participating farms may enroll a second field in the program. Program outcomes will be tracked, evaluated, and reported as relationships are built, instrumentation is installed, and engagement and conservation data are collected.

7. Drought Mitigation | Agricultural Water Resilience Initiatives

Project Information

- Funding Source: one-time appropriations and in-kind contributions from CUWCD
- Budget:
    - FY26: $1,000,000 ($500,000 Authority, $500,000 CUWCD in-kind contributions)
    - Total: $5,000,000 ($2,500,000 Authority, $2,500,000 CUWCD in-kind contributions)
- Services:
    - Funding agreement between USU and the Authority executed May 2023, amended August 2024
    - Funding agreement between USU and CUWCD for in-kind contributions to the Authority executed May 2023, amended August 2024
    - Participation agreements between USU and participants
- Timeline: FY23 – FY27, possible extension beyond FY27 with Board authorization

Key Partners

- Utah State University Extension (contractor, program management)
- Central Utah Water Conservancy District (in-kind contributions, joint program oversight with the Authority, technical collaboration)
- Jacobs Engineering (technical collaboration)
- Utah Department of Agriculture and Food (inter-program coordination)
- Utah Agricultural Water Optimization Program (inter-program coordination)
- Water Users and Irrigation Companies (to be identified - program participants, local knowledge)
- Utah Farm Bureau (program coordination and outreach)

7.8 Pelican Lake Subsurface Drip Irrigation Pilot Project

Description

The Authority and CUWCD have both identified the need to develop drought mitigation measures in the Colorado River system in Utah to increase resilience against warming and drying climatic conditions. Additional research is needed to inform water managers and water users on the efficacy and tradeoffs of various drought mitigation measures that programs may employ, particularly changes to consumptive water use, or depletion, following irrigation system conversions to subsurface drip irrigation (SDI) systems.

The Pelican Lake Subsurface Drip Irrigation Pilot Project (SDI Pilot Project) will compare water consumption of a study alfalfa field converted from center pivot sprinkler irrigation to subsurface drip irrigation with a neighboring control alfalfa center pivot field over three irrigation seasons. The SDI Pilot Project goal is to quantify any change in consumptive use of water that occurs when irrigating alfalfa using SDI compared to a traditional irrigation method (e.g. sprinkler) within the Uinta Basin using both direct water balance measurements and remote sensing. The SDI Pilot Project will also improve understanding of SDI system management requirements and any changes in crop yield when a conversion to SDI is made.

Progress to Date

In FY24, the opportunity for the SDI Pilot Project (Figure 7) was identified and scoped and agreements were executed. In FY25, the SDI system was installed in the study field by AES in summer 2024, and a new stand of alfalfa was planted and germinated in both the study field and the control field. UGS installed their "mobile" EC station on the study field (Section 5.3), and USU installed an LI-710 "alternative" EC station on each field. Ten piezometers were installed by Snowshoe Engineering. USU also installed flow meters on each irrigation system, an array of soil moisture sensors in each field, and a weather station at the site. Jacobs Engineering Group was brought on by CUWCD to support the development of a Pilot Project Plan to ensure coordination between all project partners.

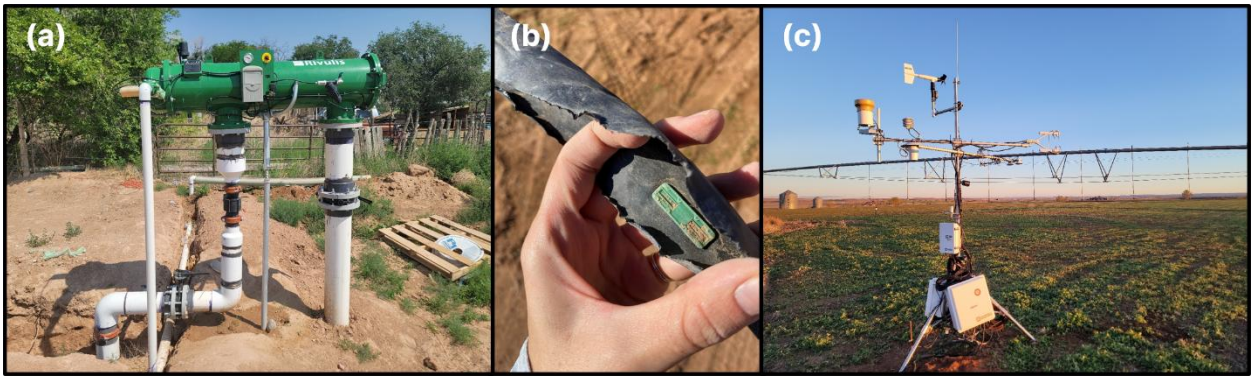


Figure 7. (a) SDI filtration system, (b) SDI tape opened to show water dispenser, (c), EC station on study field.

7. Drought Mitigation | Agricultural Water Resilience Initiatives

FY26 Work Plan

The study field will be irrigated with subsurface drip irrigation throughout the 2025, 2026, and 2027 irrigation seasons with support from the Landowner and AES. Both the study field and a control field will be maintained and worked by the Landowner, and operational records will be maintained. Instruments will be maintained, and early data will be analyzed by USU, and UGS will maintain its EC station and manage station data. USU will work with the Landowner to understand crop yield and field maintenance parameters and will begin to evaluate the overall water balance and economic impact of SDI conversion on the study field. Jacobs Engineering Group will continue to support coordination, and early outcomes of the project will be reported by USU.

Project Information

- Funding Source: one-time appropriations and matching funds from CUWCD
- Budget:
    - FY26: No additional funds
    - Total: $291,000 allocated ($145,000 Authority, $146,000 CUWCD)
- Services:
    - Funding Agreement between Authority and CUWCD
    - Services Agreement between CUWCD and AES
    - Services Agreement between CUWCD and Jacobs Engineering Group
    - Services Agreement between CUWCD and Snowshoe Engineering
    - Services Agreement between AES and Private Landowner
    - Services Agreement between AES and USU
- Timeline: FY24 – FY27, possible extension beyond FY27 with Board authorization

Key Partners

- Central Utah Water Conservancy District (matching funds, project management, technical collaboration)
- Utah State University Extension (contractor)
- Jacobs Engineering Group (contractor)
- AES International PLLC (contractor)
- Private Landowner (contractor)
- Snowshoe Engineering (contractor)
- Utah Geological Survey (contractor)
- OpenET (technical collaboration)
- Utah Department of Agriculture and Food (technical collaboration)
- Division of Water Resources (technical collaboration)
- Division of Water Rights (technical collaboration)

7.9 System Conservation Pilot Program (SCPP)

Description
The UCRC administered the federally funded SCPP in 2023 and 2024 with the Authority facilitating the program in Utah both years (UCRC, 2024d). SCPP provides municipal, industrial, and agricultural water users an opportunity to conserve consumptively used water through temporary, voluntary, and compensated projects. SCPP 2024 featured a narrowed and focused scope of eligible projects to those that enable exploration of Demand Management feasibility and/or projects that support innovation and local resilience in water conservation. The Authority has closely evaluated attributes of SCPP for relevance and application in a potential long-term demand management program that would involve the distribution and accounting of conserved water to storage locations.

Progress to Date
Federal reauthorization of SCPP was granted for two years as part of the 2023 Omnibus Appropriations Bill, and $125,000,000 in federal funds from the Inflation Reduction Act (IRA) of 2022 was granted to the UCRC from Reclamation. The UCRC reauthorized and conducted SCPP for 2023 only, and again reauthorized SCPP for 2024 in September 2023 and released a Request for Proposals in October 2023.

In 2024, based on lessons learned from 2023, a fixed-firm compensation of $150 per acre-foot of conserved consumptive use (CCU) was established for storage forbearance projects, and a fixed-firm compensation of $506 per acre-foot of CCU was established for commodity-based projects in Utah, with a propose-and-justify compensation structure maintained for municipal and industrial project types. SCPP in 2024 included 12 public opportunities in Utah to learn about the program: 5 in-person information sessions across the Colorado River system in Utah (Green River, Price, Vernal, Roosevelt, Duchesne), 5 webinars, a presentation to the Ag Optimization Committee, and a presentation to the Utah Water Task Force.

For 2023 and 2024, proposed projects were selected based on criteria outlined in the UCRC-Reclamation SCPP Funding Agreement Facilitation Exhibit. For 2023 and 2024, System Conservation Implementation Agreements were executed by the UCRC and the participants for selected projects in the spring, and implementation and verification began at the outset of the 2023 or 2024 irrigation season. For the 2024 SCPP, DWRi accompanied the Authority on field verification. SCPP projects for 2023 and 2024 are summarized in Table 6. The Authority provided documentation of lessons learned for 2024 to UCRC in the fall of 2024.

Visit the Authority's SCPP webpage (https://cra.utah.gov/system-conservation-pilot-program/).
Visit the UCRC's SCPP webpage and access summary reports (http://www.ucrcommission.com/system-conservation-pilot-program-in-2024/).

Table 6. Summary of SCPP 2024 projects for all Upper Colorado River Basin states and Utah.

Total:	4-State	Utah
2023		
Selected Projects	64	20 (31% of total)
Project Types	Ag, Municipal, Industrial	Ag, Municipal, Industrial
Estimated Conserved Volume (Acre-Feet)	37,810	15,090 (40% of total)
Total Compensation	$15,969,035	$5,437,255 (34% of total)
Average Weighted Price Per Acre-foot	$422	$360
Price Per Acre-Foot Range	$150 - $631 (Reclamation)	$150 - $650 (with Utah contribution)
2024		
Selected Projects	110	31 (28% of total)
Project Types	Ag, Municipal, Industrial	Ag, Municipal, Industrial
Estimated Conserved Volume (Acre-Feet)	64,070	22,351 (35% of total)
Total Compensation	$28,831,557	$9,954,819 (33% of total)
Price Per Acre-Foot	$150 Storage Forbearance $506 Utah Commodity $509 Colorado Commodity $492 Wyoming Commodity $300 New Mexico Commodity	$150 Storage Forbearance $506 Utah Commodity

FY26 Work Plan

At the time of FY26 Work Plan development, SCPP is not currently reauthorized by Congress, so no additional work is planned. As information becomes available from the UCRC about future programs, the Authority will support facilitation of those programs in alignment with the Management Plan.

Project Information

- Funding Source: one-time appropriations and federal IRA funds administered by the UCRC
- Budget:
    - FY26: no additional Authority costs for FY26
    - Total: $105,000 Authority (2023 only), up to $125,000,000 IRA
- Services:
    - Funding Agreement between the UCRC and Authority executed June 2023
    - Participation agreements between the UCRC and participants
- Timeline: FY23 – FY27

7. Drought Mitigation | Agricultural Water Resilience Initiatives

Key Partners

- Upper Colorado River Commission (program administrator)
- Wilson Water Group (program support contracted with UCRC)
- Upper Basin States Agencies: Colorado Water Conservation Board, Wyoming State Engineer's Office, New Mexico Interstate Stream Commission (program facilitation in respective states)
- Trout Unlimited (support for program participants)
- Division of Water Rights (technical collaboration, local knowledge)
- Utah Program Participants
- Bureau of Reclamation (funding)

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