Upper Gunnison River Water Conservancy District

210 West Spencer Avenue, Suite A • Gunnison,
Colorado 81230Telephone (970) 641-6065 •
www.ugrwcd.org

BOARD OF DIRECTORS
AGENDA - REGULAR MEETING
Monday, August 25, 2025 at 5:30 p.m.
https://us02web.zoom.us/meeting/register/tZMvde-spjMuGNN11XAH7bnDyPTZDy79k9QE

MISSION STATEMENT
To be an active leader in all issues affecting the water resources of the Upper Gunnison River Basin.

5:00 p.m. **Dinner Served**

5:30 p.m. 1. **Call to Order**

5:31 p.m. 2. **Agenda Approval**

5:32 p.m. 3. **Administration of Oath of Office by Judge Kellie Starritt**

5:38 p.m. 4. **Resolutions 2025-03 and 2025-04 honoring former Directors Stacy McPhail and Julie Nania**

5:48 p.m. 5. **Consent Agenda Items:** Any of the following items may be removed for discussion from the consent agenda at the request of any Board member or citizen.

- Approval of July 28, 2025 Minutes
- Monthly Budget Summary
- Consideration of Expenses

5:50 p.m. 6. **Treasurer's Report**

6:05 p.m. 7. **2026 DRAFT Budget Review**

- Discussion of 2026 UGRWCD Action Plan
- Preliminary Estimate of Assessors' Valuations

6:25 p.m. 8. General Counsel Update

6:35 p.m. 9. Basin Water Supply Update

6:45 p.m. 10. General Manager, Staff and Committee Updates

- General Manager's Update
  - Action: Approval of EHOP for All District Employees
  - Action: Approval of Letter of Comment Homestake Alternatives Analysis
  - Action: Approval of Final DCP Drought Plan
- Taylor Local User's Group Update
  - August 5, 2025 Meeting Summary
- Scientific Endeavors

7:30 p.m. 11. Miscellaneous Matters

- Report on Colorado Water Congress Summer Conference
- Date for New Director Orientation

7:35 p.m. 12. Citizens Comments

7:38 p.m. 13. Future Meetings

7:40 p.m. 14. Summary of Meeting Action Items

7:45 p.m. 15. Adjournment

Note: This agenda is subject to change, including the addition of items or the deletion of items at any time. All times are approximate. Regular meetings, public hearings, and special meetings are recorded, and action can be taken on any item. The Board may address individual agenda items at any time or in any order to accommodate the needs of the Board and the audience. Persons with special needs due to a disability are requested to call the District at (970) 641-6065 at least 24 hours prior to the meeting.

RETURN TO AGENDA

AGENDA ITEM 3

Administration of Oath

AGENDA ITEM 4

Resolution 2025-03 & 2025-04 Honoring Stacy McPhail and Julie Nania

RESOLUTION 2025-03
HONORING STACY McPHAIL FOR SERVICE

WHEREAS, Stacy McPhail served on the Board of Directors of the Upper Gunnison River Water Conservancy District (District) from June 2018 to June 2025; and

WHEREAS, Ms. McPhail has displayed a devotion to the governing of the Upper Gunnison River District, serving as a valuable member of the District's Executive Committee, Education and Outreach Committee, Chair of the Watershed Management Planning Committee and as Vice President of the Board of Directors June 2019 to August 2024 and President August 2024 to June 2025; and,

WHEREAS, Ms. McPhail has proven her allegiance to the protection of Gunnison ranch lands and water resources as the executive director of the Gunnison Ranchland Conservation Legacy since 2015, and has proven her ongoing commitment to protect the interests of all Upper Gunnison River Basin water users and the watershed; and

WHEREAS, Ms. McPhail was instrumental in helping develop and launch the District's Watershed Management Plan, which includes over 50 projects or tasks designed to improve water security for all users in the Upper Gunnison River Basin; and

WHEREAS, with her background as both a botanist and experienced cattle rancher, Ms. McPhail was able to develop a trusted relationship with other agricultural producers in the valley, which led to increased participation and conversations with ag producers on important District Issues, and

WHEREAS, Ms. McPhail also was able to reach some of the youngest future water users of the Gunnison valley by initiating "Ag Venture Days" for all 4th graders in the Gunnison Watershed School District, demonstrating first-hand the importance of agricultural production and conservation of water, and other natural resources to the school students.

NOW, THEREFORE BE IT RESOLVED, that the members of the Board of Directors of the Upper Gunnison River Water Conservancy District express their gratitude and appreciation for the many years of valuable service rendered by Ms. McPhail to the District and citizens of the Upper Gunnison basin; and,

BE IT FURTHER RESOLVED, that the Secretary is hereby directed to provide a copy of this resolution to Ms. McPhail in appreciation of her leadership and service to the District and water users.

We, the undersigned officers of the Board of Directors of the Upper Gunnison River Water Conservancy District, do hereby certify that the foregoing resolution was duly adopted by a vote of the members present at the meeting of the Board of Directors on the 25th of August 2025.

UPPER GUNNISON RIVER
WATER CONSERVANCY DISTRICT

ATTEST:

_____
Don Sabrowski, President

_____
Rebie Hazard, Secretary

RESOLUTION 2025-04
HONORING JULIE NANIA FOR SERVICE

WHEREAS, Julie Nania served on the Board of Directors of the Upper Gunnison River Water Conservancy District from June 2017 to June 2025; and

WHEREAS, Ms. Nania served as a valuable member of the District's Legislative, Grant, Education and Outreach, and Watershed Management Planning Committees; and,

WHEREAS, Ms. Nania has been resolute in her opposition to actions that would negatively impact the interests of water users in the Upper Gunnison basin, particularly as she was crowned the 45th Annual "Red Lady" and advocated to prevent the destruction of the public lands on Red Lady peak through 2024, when permanent legal protections against mining were put into place; and

WHEREAS, Ms. Nania worked to protect the waters of the Upper Gunnison basin through a number of collaborations to conserve water resources or by pushing back on activities that degrade area watersheds through her former role as Program Director for the High Country Citizens Alliance; and

WHEREAS, Ms. Nania is respected for her continued commitment to resolving water concerns and protecting water rights and resources for water users through her current role as director of the Cold Harbour Institute, and through her service as the board president of the Colorado Water Trust.

NOW, THEREFORE BE IT RESOLVED, that the members of the Board of Directors of the Upper Gunnison River Water Conservancy District express their gratitude and appreciation for the many years of valuable service rendered by Ms. McPhail to the District and citizens of the Upper Gunnison basin; and,

BE IT FURTHER RESOLVED, that the Secretary is hereby directed to provide a copy of this resolution to Ms. Nania in appreciation of her leadership and service to the District and water users.

We, the undersigned officers of the Board of Directors of the Upper Gunnison River Water Conservancy District, do hereby certify that the foregoing resolution was duly adopted by a vote of the members present at the meeting of the Board of Directors on the 25th of August 2025.

UPPER GUNNISON RIVER
WATER CONSERVANCY DISTRICT

ATTEST:

_____
Don Sabrowski, President

_____
Rebie Hazard, Secretary

RETURN TO AGENDA

AGENDA ITEM 5

Consent Agenda Items

Upper Gunnison River Water Conservancy District
Board of Directors Regular Meeting Minutes
Monday, July 28, 2025 at 5:30 p.m.

The Board of Directors of the Upper Gunnison River Water Conservancy District (UGRWCD) conducted a regular Board meeting on Monday, July 28, 2025, at 5:30 p.m. at the Upper Gunnison River Water Conservancy District, 210 West Spencer, Suite A, Gunnison, Colorado and via Zoom video/teleconference.

Board members present: Rosemary Carroll (via Zoom), Joellen Fonken, Rebie Hazard, John Perusek, Camille Richard, Don Sabrowski, Andy Spann, Brian Stevens, Jeff Writer, and Brooke Zanetell.

Others present:

Amanda, Aulenbach, Wet Meadows Program Director
Alex Baca, Seasonal Employee
Sonja Chavez, UGRWCD General Manager
John McClow, UGRWCD General Counsel
Alana Nichols, UGRWCD Water Resources Fellow
Greg Peterson, Colorado Ag Water Alliance
Beverly Richards, UGRWCD Office/Senior Program Manager
Tom Rozman, Colorado Division of Water Resources
Tom Stoeber, Thomas Stoeber CPA
Sue Uerling, UGRWCD Administrative Asst./Communications Specialist
Katie Walton-Day. U.S. Geological Survey
Ari Yamaguchi, Water Resources Specialist

1. CALL TO ORDER

President Don Sabrowski called the meeting to order at 5:30 p.m.

2. AGENDA APPROVAL

Director Joellen Fonken moved and Director Rebie Hazard seconded approval of the agenda as circulated. The motion carried.

3. CONSENT AGENDA ITEMS:

Director Camille Richard moved and Director John Perusek seconded approval of the consent agenda items. The motion carried.

4. TREASURER'S REPORT

Treasurer John Perusek stated that in addition to what was included in his report, he has found that current interest rates are higher with bonds, but they have shorter call dates.

5. DISCUSSION WITH TOM STOEBER CPA REGARDING 2024 AUDIT

District CPA, Tom Stoeber, referred to the memorandum provided by the General Manager and included in the packet. The District's current auditor has been performing the District's audit for fourteen years. The recommendation of management is to try to find a new government auditor, consistent with best practices of changes auditors every 5-7 years. He recommended choosing a firm that is familiar with governmental accounting standards (GAS) and understands water districts and the types of grants that the District manages. He noted that currently, there are no such firms in Gunnison. Staff noted that the cost is likely to be substantially higher than what the District has been paying. The cost will also increase depending on the number of auditors who come with the firm and their location which will affect travel and accommodation expenses.

In addition, management is seeking board authorization to contract with Stoeber, CPA, to incorporate additional randomized inspections of accounts payable and receivable and government reporting. This step provides an additional external check of the District's financial operations in the case that we cannot find another auditor and it may also bring down the cost of hiring a new auditing firm.

General Counsel John McClow said the District is required by law to have an annual audit.

Director Brooke Zanetell moved and Director Rebie Hazard seconded the motion to authorize the General Manager to release a Request for Proposal (RFP) to try to find a new government auditor; and to authorize the General Manager to modify the District's contract with Stoeber-CPA in 2026, to incorporate random sampling of accounts receivable and payable and government reporting, help with Management's Discussion & Analysis (MD&A), and preparation of audit footnotes, etc., to strengthen our reporting and external controls. The motion carried.

6. 2026 BUDGET – BUDGET OFFICER APPOINTMENT

Director John Perusek moved and Director Camille Richard seconded the motion to appoint General Manager Sonja Chavez as the District's Budget Officer for 2026.

7. PRESENTATION ON "Blue Mesa Reservoir Harmful Algal Bloom Study Results" by Katie Walton-Day

Katie Walton-Day with USGS presented data and results of the Harmful Algal Bloom (HAB) Study performed in Blue Mesa Reservoir. Below are some highlights of the research study:

- The project began in 2021 with discrete water sampling in Sapinero, Cebolla, and Iola basins.
- All three of these basins feed into Blue Mesa Reservoir and have different depth levels from shallow in Iola Basin to over 200 feet in Sapinero Basin.
- The objectives of the study included looking at when these blooms occurred, what the characteristics of the blooms include, and can these occurrences be monitored with remote sensing.
- The scientific drivers for the study included possible reasons for the blooms including increased nutrient loading, increased temperatures, and historically low water levels.
- The study identified possible causes for HAB development, and these include long term increases in air and water temperatures
- Results showed no major trends of nutrient loading but the presence of geogenic phosphorus was identified; and the increase of shallow, warm areas and/or turbulence as a result of reservoir management, likely recruiting algae from bottom sediments to favor HAB development.
- The study has also included the use of remote sensing.
- A final report and summary of publications will be provided by December 1, 2025.

8. PRESENTATION ON "Agriculture & Water; The Future of Colorado" by Greg Peterson, Colorado Ag Water Alliance (CAWA)

Greg Peterson with CAWA provided a presentation about the Edge of Field Water Quality Monitoring project coordinated and funded by the CAWA. Below are some highlights included in his presentation:

- The Edge of Field Water Quality Monitoring Project was a stakeholder driven process developed in 2022 to provide data on non-point source nutrient management associated with agricultural operations.
- Project now includes Mountain Meadow cow calf operations including one in the Upper Gunnison River Basin on Tomichi Creek.
- The objective of the project is to aid in developing best management practices that support nutrient management and water quality issues.

- The project monitored inflows, outflows, sediment, phosphate, nitrogen and other agricultural nutrients. The soil was also sampled annually for fertility.
- The project tested different methods associated with fertilizer application, the use buffer strips and characterized trends and impacts of flood irrigated mountain meadow systems on runoff water quality.

Additional information on the study can be found: USGS Edge of Field Monitoring

9. GENERAL COUNSEL UPDATE

Stream Access Conversations Happening at the State Level: General Counsel John McClow reported that staff will share the link for the stream access workshop hosted by Colorado Water Congress State Affairs Committee, and which will occur on August 12th , 2025.

New Board Member Orientation: General Counsel and staff are continuing to edit the Board members' manual and are preparing for the new board member orientation scheduled to happen in September. Date to be determined.

10. BASIN WATER SUPPLY REPORT

Senior Program Manager Beverly Richards reported that the current precipitation has not improved drought conditions and that conditions have not further declined. The previous 30 days did see some precipitation but mostly to the south and east of Gunnison County. The next seven days could see some improvement in precipitation, particularly in Saguache County where some areas could see up to two inches. Streamflows are still well below the historical average for the most part, but some gage sites are now recording higher percentages of that average indicative of low flows at this time of year. She also presented a streamflow decadal graph from the Gunnison Basin Round Table that shows the current 2020's decadal average total streamflow at the Gunnison River near Grand Junction which is well below the average of the Dust Bowl years in the 1930s.

11. GENERAL MANAGER STAFF AND COMMITTEE UPDATES

Wet Meadows Technician Contract Extension: General Manager Sonja Chavez referred to the memorandum in the packet regarding extending the contracts for the Wet Meadows Technicians. The cost of the employment extension will be fully covered by federal grants. Since the cost exceeds her $10,000 authority and given that this cost was not included in the 2025 budget, this requires Board approval.

Director Camille Richard moved and Director Brian Stevens seconded approval of the contract extension for the Wet Meadows technicians as proposed. The motion carried.

Employee Home Opportunity Program (EHOP) Review: General Manager Chavez and General Counsel McClow shared a memorandum and Excel spreadsheet showing details of how the EHOP would be administered by the District. There was some discussion about how District staff who do not qualify for the EHOP program or will not be using the program might receive an equitable benefit to those proposed by the program. General Manager Chavez offered to research alternative benefit options for these staff members and will bring them back to the board.

Director Joellen Fonken moved and Director John Perusek seconded the motion to finalize and implement the UGRWCD EHOP as part of the District's benefit package and to research alternate benefits options for staff who do not qualify for or who will not use the EHOP. The motion carried.

Taylor Local User's Group (TLUG): TLUG Chair Don Sabrowski reported that the TLUG representatives are in a transition period where the irrigators are not diverting because they are drying out fields for haying and recreators are wanting higher flows for rafting/boating through the end of August. He noted that this may be a real challenge as water supplies and inflow continue to deteriorate. The next meeting is August 5th at 8:30 a.m.

Gunnison Basin Roundtable (GBRT): There were a couple of guest speakers at the July 21st meeting, including Rebecca Mitchell, Upper Colorado River Commissioner and the Bureau of Land Management's related to the Escalante Ranch Acquisition Project. Staff will send a copy of this presentation to the Board.

Scientific Endeavors: Director Rosemary Carroll said that she had nothing further to report at this time and that she appreciated the presentation given by Katie Walton-Day.

12. MISCELLANEOUS MATTERS

General Manager Chavez reminded the Board of the Colorado Water Congress Conference in Steamboat Springs July 19-21.

13. CITIZEN COMMENTS

Water Commissioner Tom Rozman was asked if he had any updates on the status of the Spring Creek Reservoir dam. To his knowledge, the reservoir had not filled at all during spring runoff due to dam restrictions and problems with the siphons, and they would not be filling it under the current water conditions. He believes the dam is to be inspected on July 30, 2025. General Manager Chavez offered to contact Ryan Unterreiner with the Colorado Parks and Wildlife for further details.

14. FUTURE MEETINGS

Director Brian Stevens asked if a meeting could be scheduled with staff to review the Fire Management section of the Watershed Management Plan final document. General Manager Chavez will reach out to him directly to get his input.

15. SUMMARY OF MEETING ACTION ITEMS

- The registration link for the stream access workshop on August 12, 2025 will be shared with the Board.
- Staff will share the GBRT presentation regarding the Bureau of Land Management's Escalante Ranch Acquisition Project with the Board.
- General Manager Chavez will schedule a meeting with Director Stevens to discuss fire management information included in the Watershed Management Plan.
- General Manager Chavez will contact Ryan Unterreiner regarding the status of dam repairs on Spring Creek Reservoir.

16. ADJOURNMENT

Board President Don Sabrowski adjourned the July 28, 2025 regular Board Meeting at 7:56 p.m.

Respectfully submitted,

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Rebie Hazard, Secretary

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Don Sabrowski, President

Upper Gunnison River Water Conservancy District
Monthly Budget Summary 2025

	Jul 25	Jan - Jul 25	YTD Budget	% of Budget
Ordinary Income/Expense				
Income				
Asp Water Sales	2,317.33	27,634.04	25,000.00	110.54%
Rent Income	3,275.00	19,650.00	43,500.00	45.17%
Cloud Seeding Income	0.00	100,750.00	124,500.00	80.92%
Interest Income	23,133.84	131,422.79	50,000.00	262.85%
Property Tax Income	358,334.73	2,071,708.88	2,204,862.00	93.96%
Reimbursed Exp Income	12,660.62	47,973.83	42,000.00	114.22%
Watershed Mgmt Income				
CWCB PEPO 2025-0557	0.00	8,219.80	25,000.00	32.88%
WMP CWCB PO 2023-3317 Income	0.00	20,897.27	94,401.00	22.14%
CWCB 2022-2085 (Restoration)Inc	0.00	0.00	52,837.00	0.0%
HAB Phase 1 - CRWCD CFP Funds	17,502.00	17,502.00		
HAB Phase 2 - CFP 2024-82	0.00	0.00	35,004.00	0.0%
BOR DCP 2023-24 $140,480	39,619.55	57,555.12	84,049.00	68.48%
Total Watershed Mgmt Income	57,121.55	104,174.19	291,291.00	35.76%
Wet Meadows Income				
TNC02-2025 UGRWCD	2,537.32	27,226.30		
TNC-UTV	0.00	311.02	25,064.00	1.24%
BLM GNA 140L1724	0.00	0.00	88,746.00	0.0%
US BLM Grant #L254AC00687-00	12,498.18	19,285.35	122,712.00	15.72%
ATBC Grant Income	5,310.91	32,336.46	24,895.00	129.89%
FWS Sage Brush Ecosystem Income	10,716.55	85,120.73	106,060.00	80.26%
USFS PA 2022 Income	6,574.26	10,932.92	17,945.00	60.93%
Wet Meadows Income	37,637.22	175,212.78	385,422.00	45.46%
WQ Monitoring Inc	0.00	35,328.00	46,319.00	76.27%
Vehicle Income	0.00	1,073.80	10,000.00	10.74%
Additional Contribution Reserve	0.00	0.00	457,435.00	0.0%
Miscellaneous Income	0.00	2,275.00		
Total Income	494,480.29	2,717,203.31	3,680,329.00	73.83%
Expense				
1 Op X				
Admin.Travel & Exp.	5,210.91	11,023.63	35,000.00	31.5%
Audit Expense	0.00	0.00	10,000.00	0.0%
Accounting & Professional Fees	4,570.00	25,319.18	45,000.00	56.27%
BOD Expenses	0.00	4,144.84	15,000.00	27.63%
BOD Mileage	265.30	1,400.00	5,500.00	25.46%
BOD Mtg Fees	1,200.00	5,100.00	13,360.00	38.17%
Bonding and Insurance	0.00	25,903.00	15,500.00	167.12%
Building Rep/Maint	262.00	1,494.54	10,000.00	14.95%
CAM	813.75	3,184.16	7,500.00	42.46%
Computer Exp	2,156.66	25,229.79	32,200.00	78.35%
Copier Expenses	71.05	1,999.22	7,000.00	28.56%
County Treasurers' Fees	10,518.28	61,868.56	75,000.00	82.49%
Spencer Bldg Reserve Contrib	0.00	10,000.00	10,000.00	100.0%
Dues, Memberships&Subscriptions	740.69	12,155.91	17,260.00	70.43%
Legal Publication	775.69	2,961.39	5,000.00	59.23%
Manager's Discretionary	1,240.71	10,667.02	25,000.00	42.67%
Meeting Expenses	299.08	1,815.42	5,000.00	36.31%
Office Cleaning	630.00	4,770.00	6,200.00	76.94%
Office Supplies & Misc Expenses	2,210.28	12,189.51	10,000.00	121.9%
Payroll Exp	88,699.85	594,516.73	1,005,511.00	59.13%
Postage	224.00	1,560.10	1,500.00	104.01%
Telephone	310.10	5,191.49	9,000.00	57.68%
Utilities	1,008.14	5,479.35	6,000.00	91.32%
Vehicle Expense	229.87	3,279.19	3,500.00	93.69%
Total 1 Op X	121,436.36	831,253.03	1,375,031.00	60.45%

Upper Gunnison River Water Conservancy District
Monthly Budget Summary 2025

2 Non-Op X				
Aquatice Nuisance Species	0.00	3,595.00	20,000.00	17.98%
Asp Subordination Report	0.00	5,604.40	6,000.00	93.41%
Aspinall Contract Costs	0.00	21,578.53	21,000.00	102.76%
Gunnison County Hazardous Waste	0.00	2,000.00	2,000.00	100.0%
Consulting/Engineering	3,431.25	14,163.54	50,000.00	28.33%
Coal Creek Watershed Coalition	0.00	17,000.00	17,000.00	100.0%
Donation Dust on Snowpack	0.00	3,500.00	3,500.00	100.0%
Drought Contingency Cont	0.00	13,691.67	30,000.00	45.64%
Grant Program	0.00	143,457.48	555,000.00	25.85%
Gunnison River Festival	0.00	12,000.00	12,000.00	100.0%
Endanger Fish Recovery Program	0.00	3,750.00	3,750.00	100.0%
Lake Fork Conservancy	0.00	0.00	10,000.00	0.0%
LSC Expenses	13,649.00	13,649.00	13,464.00	101.37%
Public Outreach	3,590.00	25,162.07	41,270.00	60.97%
Regional Water Supply Imp. Exp.	14,868.07	221,463.65	488,375.00	45.35%
Strategic Planning	0.00	0.00	30,000.00	0.0%
Taylor Park Projects Exp	0.00	7,436.00	7,500.00	99.15%
Watershed Mgmt X				
CWCB Pepo 2025-0557	222.87	9,694.67	25,000.00	38.78%
CFP Multi Project	0.00	4,217.50		
CWCB 2023-3317 (WMP Phase 3)	3,994.05	26,398.82	105,000.00	25.14%
HAB Phase 1 Expense	0.00	0.00		
HAB Phase 2 Expense	12,500.00	12,500.00	35,000.00	35.71%
CWCB 2022-2085 (Restoration)	0.00	0.00	52,837.00	0.0%
USBR Drought Contingency	3,874.59	58,931.68	94,696.00	62.23%
Watershed Mgmt X - Other	0.00	1,442.43		
Watershed Mgmt X	20,591.51	113,185.10	312,533.00	36.22%
Wet Meadow X				
TNC 02-2025 UGRWCD Expense	0.00	2,806.76		
TNC-UTV	0.00	25,000.00	25,064.00	99.75%
BLM L24AC00687	0.00	490.50	122,712.00	0.4%
BLM GNA 140L1724	0.00	4,889.89	88,746.00	5.51%
AtBC #2024-3842	0.00	49.17	24,895.00	0.2%
ATBC Expense	286.93	3,477.19		
FWS Sage Brush Ecosystem Exp	0.00	5,102.98	106,060.00	4.81%
USFS PA 2022 Expense	0.00	4,431.97	17,945.00	24.7%
Wet Meadows Miscellaneous	388.07	1,869.34	10,000.00	18.69%
Wet Meadow X - Other	0.00	817.60		
Wet Meadow X	675.00	48,935.40	395,422.00	12.38%
WQ Monitoring	46,475.00	92,950.00	207,484.00	44.8%
Total 2 Non-Op X	103,279.83	763,121.84	2,226,298.00	34.28%
Capital Outlay Expense				
Xeriscaping	5,252.05	6,574.41	25,000.00	26.3%
Spencer Unit A Reno	0.00	0.00	20,000.00	0.0%
Spencer Unit C Reno	0.00	2,391.14	10,000.00	23.91%
Capital Outlay Expense	5,252.05	8,965.55	55,000.00	16.3%
Contingency	0.00	0.00	24,000.00	0.0%
Total Expense	229,968.24	1,603,340.42	3,680,329.00	43.57%
Net Income	264,512.05	1,113,862.89	0.00	100.0%

4:54 PM
08/12/25
Accrual Basis

Upper Gunnison River Water Conservancy District
Expenses For Approval (Paid & Payable)
July 2025

Date	Name	Account	Amount
Lake San Cristobal WAE			
07/14/2025	Lake San Cristobal WAE	72150 · Asp Water Sales	130.00
Total Lake San Cristobal WAE			130.00
AARP Medicare Rx			
07/01/2025	AARP Medicare Rx	74166 · Medical Insurance	104.70
Total AARP Medicare Rx			104.70
Alan Wartes Media LLC			
07/31/2025	Alan Wartes Media LLC	80512 · Public Ed./Advertising	180.00
07/31/2025	Alan Wartes Media LLC	80548 · Legal Publication	337.09
Total Alan Wartes Media LLC			517.09
Andy Spann BOD			
07/31/2025	Andy Spann BOD	81602 · BOD Mtg Fees	100.00
07/31/2025	Andy Spann BOD	81601 · BOD Mileage	9.80
Total Andy Spann BOD			109.80
Anthem			
07/01/2025	Anthem	74166 · Medical Insurance	389.14
Total Anthem			389.14
Applegate Group, Inc.			
07/31/2025	Applegate Group, Inc.	81520 · Consulting/Engineering	3,431.25
Total Applegate Group, Inc.			3,431.25
Ari Yamaguchi {Vendor}			
07/31/2025	Ari Yamaguchi {Vendor}	80554 · Admin.Travel & Exp.	25.12

Upper Gunnison River Water Conservancy District
Expenses For Approval (Paid & Payable)
July 2025

Date	Name	Account	Amount
Total Ari Yamaguchi {Vendor}			25.12
Atmos Energy			
07/31/2025	Atmos Energy	Utilities - Unit A	38.46
07/31/2025	Atmos Energy	Utilities - Unit A	39.85
Total Atmos Energy			78.31
Beverly Richards			
07/01/2025	Beverly Richards	74166 · Medical Insurance	185.00
Total Beverly Richards			185.00
Brian Stevens			
07/31/2025	Brian Stevens	81602 · BOD Mtg Fees	200.00
Total Brian Stevens			200.00
Brooke Zanatell BOD			
07/31/2025	Brooke Zanatell BOD	81602 · BOD Mtg Fees	100.00
Total Brooke Zanatell BOD			100.00
Camille Richard BOD			
07/31/2025	Camille Richard BOD	81602 · BOD Mtg Fees	100.00
07/31/2025	Camille Richard BOD	81601 · BOD Mileage	78.40
Total Camille Richard BOD			178.40
Capital Business Systems, Inc.			
07/31/2025	Capital Business Systems, Inc.	80541 · Copier Expenses	681.34
Total Capital Business Systems, Inc.			681.34
CEBT			

Upper Gunnison River Water Conservancy District
Expenses For Approval (Paid & Payable)
July 2025

Date	Name	Account	Amount
07/01/2025	CEBT	74166 · Medical Insurance	5,221.10
Total CEBT			5,221.10
Chase - United Credit Card			
07/31/2025	Chase - United Credit Card	81258 · Vehicle Expenses - Toyota Highl	30.89
07/31/2025	Chase - United Credit Card	81257 · Vehicle Expenses - Toyota Tacom	198.98
07/31/2025	Chase - United Credit Card	81559 · Postage	224.00
07/31/2025	Chase - United Credit Card	CWCB 2023-3317 (WMP Phase 3)	65.30
07/31/2025	Chase - United Credit Card	80554 · Admin.Travel & Exp.	4,243.04
07/31/2025	Chase - United Credit Card	81558 · Computer Software	382.70
07/31/2025	Chase - United Credit Card	80557 · Office Supplies & Misc Expenses	128.65
07/31/2025	Chase - United Credit Card	80547 · Manager's Discretionary	777.14
07/31/2025	Chase - United Credit Card	Wet Meadows Miscellaneous	38.07
07/31/2025	Chase - United Credit Card	Xeriscaping	172.44
07/31/2025	Chase - United Credit Card	82530 · Meeting Expenses	299.08
07/31/2025	Chase - United Credit Card	82556 · Dues, Memberships&Subscriptions	19.99
07/31/2025	Chase - United Credit Card	ATBC Expense	3.68
Total Chase - United Credit Card			6,583.96
City of Gunnison			
07/31/2025	City of Gunnison	Utilities - Unit A	47.48
07/31/2025	City of Gunnison	Utilities - Unit A	332.70
07/31/2025	City of Gunnison	Utilities - Unit A	127.29
07/31/2025	City of Gunnison	Utilities - Unit A	422.36
Total City of Gunnison			929.83
City of Gunnison Parks and Rec Dept.			
07/31/2025	City of Gunnison Parks and Rec Dept.	Local School Involvement	750.00
Total City of Gunnison Parks and Rec Dept.			750.00

Upper Gunnison River Water Conservancy District
Expenses For Approval (Paid & Payable)
July 2025

Date	Name	Account	Amount
Cold Harbour Institute			
07/31/2025	Cold Harbour Institute	Wet Meadows Miscellaneous	350.00
07/31/2025	Cold Harbour Institute	74180 · Staff Development	700.00
Total Cold Harbour Institute			1,050.00
Colorado River Water Conservation Dist.			
07/31/2025	Colorado River Water Conservation Dist.	CWCB Pepo 2025-0557	141.02
Total Colorado River Water Conservation Dist.			141.02
Crested Butte News			
07/31/2025	Crested Butte News	80548 · Legal Publication	399.00
Total Crested Butte News			399.00
Don Sabrowski BOD			
07/31/2025	Don Sabrowski BOD	81602 · BOD Mtg Fees	100.00
07/31/2025	Don Sabrowski BOD	81601 · BOD Mileage	44.80
Total Don Sabrowski BOD			144.80
Fullmer's Ace Hardware			
07/31/2025	Fullmer's Ace Hardware	Xeriscaping	273.30
07/31/2025	Fullmer's Ace Hardware	ATBC Expense	283.25
07/31/2025	Fullmer's Ace Hardware	80557 · Office Supplies & Misc Expenses	122.16
Total Fullmer's Ace Hardware			678.71
GEI Consultants			
07/31/2025	GEI Consultants	CWCB 2023-3317 (WMP Phase 3)	1,533.75
07/31/2025	GEI Consultants	CWCB 2023-3317 (WMP Phase 3)	2,395.00
Total GEI Consultants			3,928.75

Upper Gunnison River Water Conservancy District
Expenses For Approval (Paid & Payable)
July 2025

Date	Name	Account	Amount
GL Computer Service, Inc.			
07/31/2025	GL Computer Service, Inc.	81543 · Computer Repair/IT Support	750.00
Total GL Computer Service, Inc.			750.00
Golden Eagle Trash Service			
07/31/2025	Golden Eagle Trash Service	84550 · CAM	93.75
Total Golden Eagle Trash Service			93.75
Gunnison Bank and Trust			
07/09/2025	Gunnison Bank and Trust	80517 · Accounting & Professional Fees	5.00
Total Gunnison Bank and Trust			5.00
Gunnison Materials LLC			
07/31/2025	Gunnison Materials LLC	Xeriscaping	241.65
Total Gunnison Materials LLC			241.65
Gunnison Middle School			
07/31/2025	Gunnison Middle School	Local School Involvement	2,500.00
Total Gunnison Middle School			2,500.00
Humana			
07/01/2025	Humana	74166 · Medical Insurance	91.00
Total Humana			91.00
Jeff Writer BOD			
07/31/2025	Jeff Writer BOD	81602 · BOD Mtg Fees	200.00
07/31/2025	Jeff Writer BOD	81601 · BOD Mileage	84.00
Total Jeff Writer BOD			284.00

Upper Gunnison River Water Conservancy District
Expenses For Approval (Paid & Payable)
July 2025

Date	Name	Account	Amount
Joellen Fonken BOD			
07/31/2025	Joellen Fonken BOD	81602 · BOD Mtg Fees	100.00
07/31/2025	Joellen Fonken BOD	81601 · BOD Mileage	7.00
Total Joellen Fonken BOD			107.00
John McClow			
07/01/2025	John McClow	74166 · Medical Insurance	185.00
07/15/2025	John McClow	80554 · Admin.Travel & Exp.	1,048.60
Total John McClow			1,233.60
John Perusek BOD			
07/31/2025	John Perusek BOD	81602 · BOD Mtg Fees	100.00
Total John Perusek BOD			100.00
Lake San Cristobal Water Activity Ent			
07/31/2025	Lake San Cristobal Water Activity Ent	84540 · LSC Expenses	185.00
07/31/2025	Lake San Cristobal Water Activity Ent	84540 · LSC Expenses	13,464.00
Total Lake San Cristobal Water Activity Ent			13,649.00
LexisNexis			
07/31/2025	LexisNexis	82556 · Dues, Memberships&Subscriptions	720.70
Total LexisNexis			720.70
Lightspeed Voice			
07/31/2025	Lightspeed Voice	80534 · Telephone	310.10
Total Lightspeed Voice			310.10
Melinda McCawmedia			

Upper Gunnison River Water Conservancy District
Expenses For Approval (Paid & Payable)
July 2025

Date	Name	Account	Amount
07/31/2025	Melinda McCawmedia	CWCB Pepo 2025-0557	81.85
Total Melinda McCawmedia			81.85
Midnight Marketing Solutions LLC			
07/31/2025	Midnight Marketing Solutions LLC	81558 · Computer Software	797.00
07/31/2025	Midnight Marketing Solutions LLC	Public Outreach - Misc Expenses	80.00
Total Midnight Marketing Solutions LLC			877.00
New Morning Improvement, LLC			
07/31/2025	New Morning Improvement, LLC	Office Cleaning	630.00
Total New Morning Improvement, LLC			630.00
Pinnacol Assurance			
07/23/2025	Pinnacol Assurance	74200 · Work Comp Ins	558.00
Total Pinnacol Assurance			558.00
QuickBooks			
07/01/2025	QuickBooks	81558 · Computer Software	100.00
07/17/2025	QuickBooks	80557 · Office Supplies & Misc Expenses	201.88
Total QuickBooks			301.88
Rebie Hazard-BOD			
07/31/2025	Rebie Hazard-BOD	81602 · BOD Mtg Fees	100.00
07/31/2025	Rebie Hazard-BOD	81601 · BOD Mileage	41.30
Total Rebie Hazard-BOD			141.30
RigNet Inc			
07/31/2025	RigNet Inc	85540 · Cloud Seeding	38.45

Upper Gunnison River Water Conservancy District
Expenses For Approval (Paid & Payable)
July 2025

Date	Name	Account	Amount
Total RigNet Inc			38.45
Rosemary Carroll - BOD			
07/31/2025	Rosemary Carroll - BOD	81602 · BOD Mtg Fees	100.00
Total Rosemary Carroll - BOD			100.00
SCJ Alliance			
07/31/2025	SCJ Alliance	Xeriscaping	4,481.50
Total SCJ Alliance			4,481.50
Silver World Publishing			
07/31/2025	Silver World Publishing	Advertising Radio & Newspapers	80.00
07/31/2025	Silver World Publishing	80548 · Legal Publication	39.60
Total Silver World Publishing			119.60
Sonja Chavez			
07/31/2025	Sonja Chavez	80554 · Admin.Travel & Exp.	39.20
07/31/2025	Sonja Chavez	Xeriscaping	83.16
07/31/2025	Sonja Chavez	80547 · Manager's Discretionary	142.77
Total Sonja Chavez			265.13
Strategic by Nature			
07/31/2025	Strategic by Nature	85554 · USBR Drought Contingency	2,812.09
Total Strategic by Nature			2,812.09
Summit Landscapes LLC			
07/31/2025	Summit Landscapes LLC	84550 · CAM	720.00
Total Summit Landscapes LLC			720.00

Upper Gunnison River Water Conservancy District
Expenses For Approval (Paid & Payable)
July 2025

Date	Name	Account	Amount
The Paper Clip			
07/31/2025	The Paper Clip	80557 · Office Supplies & Misc Expenses	1,757.59
Total The Paper Clip			1,757.59
Thomas N Stoeber, CPA			
07/31/2025	Thomas N Stoeber, CPA	80517 · Accounting & Professional Fees	4,565.00
Total Thomas N Stoeber, CPA			4,565.00
U.S. Geological Survey			
07/31/2025	U.S. Geological Survey	H20 Budget & Return Flow Study	14,829.62
07/31/2025	U.S. Geological Survey	85560 · WQ Monitoring	46,475.00
07/31/2025	U.S. Geological Survey	HAB Phase 2 Expense	12,500.00
Total U.S. Geological Survey			73,804.62
Visionary Broadband			
07/31/2025	Visionary Broadband	81556 · Internet	126.96
Total Visionary Broadband			126.96
Western Slope Fire & Backflow			
07/31/2025	Western Slope Fire & Backflow	Building Rep/Maint - Unit A	262.00
Total Western Slope Fire & Backflow			262.00
Wilson Water Group			
07/31/2025	Wilson Water Group	85554 · USBR Drought Contingency	1,062.50
Total Wilson Water Group			1,062.50
No name			
07/25/2025		72156 · Miscellaneous Income	0.01

Upper Gunnison River Water Conservancy District
Expenses For Approval (Paid & Payable)
July 2025

Date	Name	Account	Amount
Total no name			0.01
TOTAL			138,748.60

UGRWCD	Instrument	Balance	Cost	Interest	Maturity	Date
Account Name: LPL Bonds	**Type**	**7/31/2025**	**Basis**	**Rate**	**Date**	**Callable**
LPL Bond 21 (Fed Farm) CUSIP 3133EL3P7	BOND	344,598.07	345,000.00	0.530%	8/12/2025	8/7/2025
LPL Bond 23 (FEDL) CUSIP 3130ALLD4	BOND	244,708.50	250,000.00	0.900%	3/17/2026	3/17/2025
LPL Bond 24 (FHLB) CUSIP 3130AMDY5	BOND	487,176.50	500,000.00	1.030%	5/20/2026	2/20/2025
LPL Bond 26 (FHLB) CUSIP 3130APBE4	BOND	154,255.04	160,000.00	1.040%	9/30/2026	3/30/2025
LPL Bond 32 (FAMC) CUSIP 31424WH47	BOND	498,841.50	500,000.00	4.290%	7/8/2027	1/8/2026
LPL Bond 31(FHLMC) CUSIP 3134HAV34	BOND	250,142.25	250,000.00	5.000%	12/24/2029	6/24/2025
LPL BOND SUBTOTAL:		***$ 1,979,721.86***	***$ 2,005,000.00***	**2.132%**		
Account Name: LPL Certificates of Deposit						
LPL 31 Morgan Stanley Bank CD CUSIP 61690D4C9	CD	220,330.44	220,000.00	4.040%	5/7/2027	
LPL 32 Morgan Stankey PVT Bank CD CUSIP 61776NSJ3	CD	246,499.40	245,000.00	4.120%	5/22/2028	
LPL 33 Toyota Financial Savings Bank CD CUSIP 89235MSK8	CD	246,176.73	245,000.00	4.080%	5/22/2028	
LPL CD SUBTOTAL:		***$ 713,006.57***	***$ 710,000.00***	**4.080%**		
Account Name: LPL Money Markets Savings						
LPL Money Market Savings Account	M.M. SAVINGS	472,097.11	-	1.000%	N/A	
LPL MM SUBTOTAL:		**$ 472,097.11**				

	INSTRUMENT	Balance	Cost	Interest	Maturity	
Account Name	**TYPE**	**7/31/2025**	**Basis**	**Rate**	**Date**	**Notes**
Community Banks of Colo. Lake City CD 7668	CD	109,228.30	105,015.89	4.01%	11/20/2026	*Updated on an Annual Basis
10520 Gunnison Bank & Trust CD 6637	CD	219,894.70	200,000.00	4.00%	2/26/2030	*Updated on an Annual Basis
10540 Gunnison Bank & Trust MM - Spencer Building Acct. 3589	CHKG	40,638.16		0.50%		
Gunnison Bank & Trust 8756	CHKG	121,972.36				
				Average Mo. Yield		
COLOTRUST PLUS 8001	COLO.	2,337,158.14		4.37%	N/A	
COLOTRUST PLUS UGRWCD EHOP 8003	COLO.	108,909.67		4.37%	N/A	
COLOTRUST PLUS SPENCER BUILDING 8005	COLO.	81,522.26		4.37%		
COLOTRUST PRIME 4001	COLO.	6,478.14		4.23%	N/A	
10200 Petty Cash	PETTY	79.90		N/A	N/A	
MISCELLANEOUS BANK & COLOTRUST SUBTOTAL:		**$ 3,025,881.63**				
TOTAL UGRWCD		**$ 6,190,707.17**				

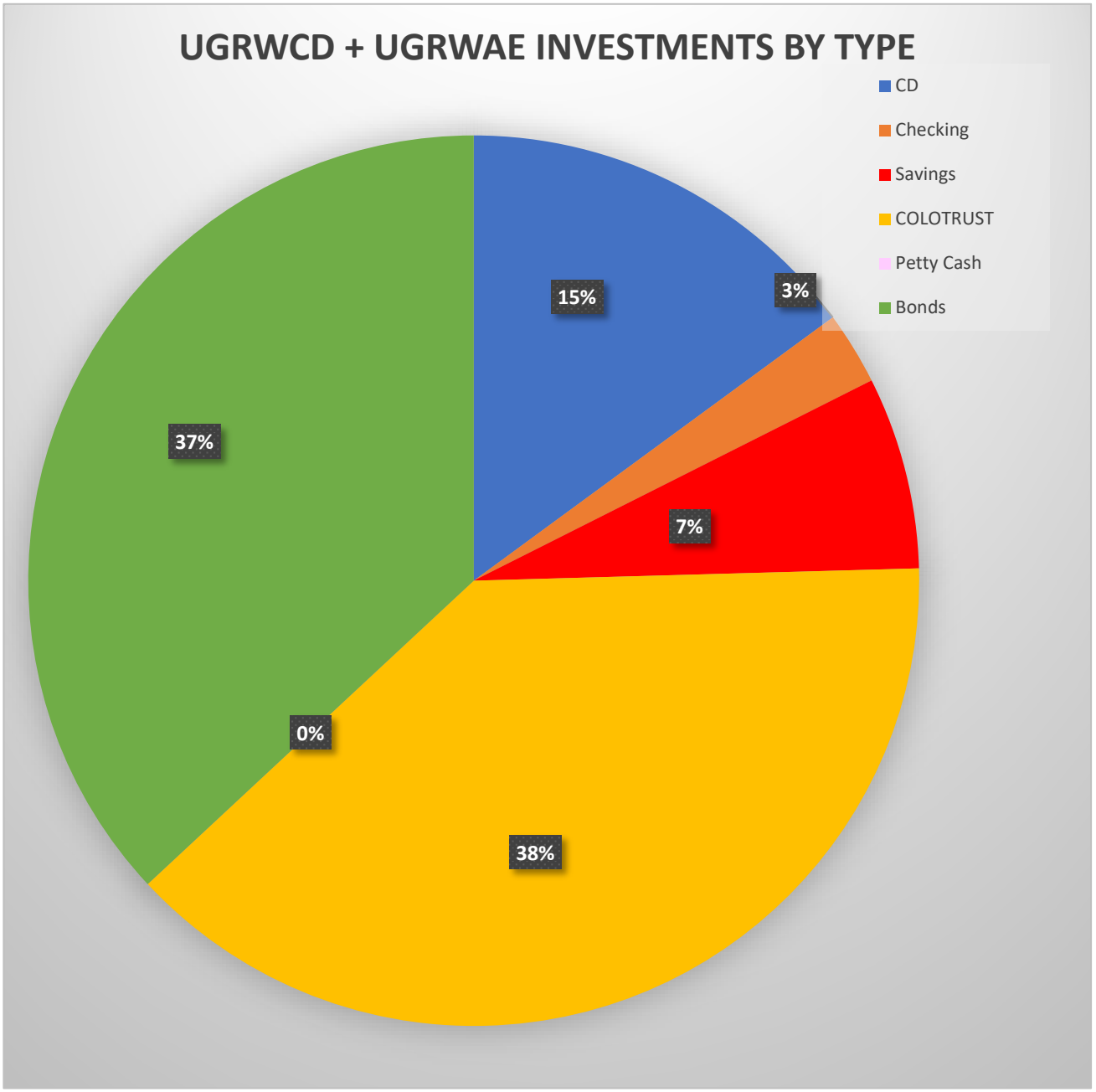
UGRWAE	INSTRUMENT	Balance	Cost	Interest	Maturity	Date
Account Name	**TYPE**	**7/31/2025**	**Basis**	**Rate**	**Date**	**Callable**
LPL Bond CUSIP 3136GAAY5 (FNMA)	Bond	299,975.70	300,000.00	5.00%	2/21/2030	11/21/2025
LPL Bond CUSIP 31424WK43 (FAMC)	Bond	298,843.20	300,000.00	4.28%	7/16/2030	7/16/2027
Gunnison Bank & Trust 8764	CHKG	22,295.27				
COLOTRUST PLUS 8002	COLO.	154,360.36		4.37%	N/A	
MISCELLANEOUS BANK & COLOTRUST SUBTOTAL:		**$ 775,474.53**				
Account Name: LPL Money Markets Savings						
LPL Money Market Savings Account	M.M. SAVINGS	15,491.26	-	0.250%	N/A	
LPL MM SUBTOTAL:		**$ 15,491.26**				
TOTAL UGRWAE		**$ 790,965.79**				

TOTAL UGRWCD + UGRWAE	$ 6,981,672.96

Total UGRWCD and UGRWAE by Bank			Total UGRWCD & UGRWAE by Investment Type		
			CD	15%	1,042,129.57
LPL Financial	$ 3,779,135.70	54%	Checking	3%	184,905.79
Community Banks of Colo.	109,228.30	2%	Savings	7%	487,588.37
Gunnison Bank & Trust	404,800.49	6%	COLOTRUST	39%	2,688,428.57
COLOTRUST	2,688,428.57	39%	Petty Cash	0%	79.90
Petty Cash	79.90	0%	Bonds	37%	$ 2,578,540.76
TOTAL ALL SOURCES	$ 6,981,672.96	100%	Total	100%	$ 6,981,672.96

UGRWCD & UGRWAE INVESTMENTS BY TYPE

CD	15%	$	1,042,129.57
Checking	3%	$	184,905.79
Savings	7%	$	487,588.37
COLOTRUST	39%	$	2,688,428.57
Petty Cash	0%	$	79.90
Bonds	37%	$	2,578,540.76
Total	**100%**	**$**	**6,981,672.96**



RETURN TO AGENDA

AGENDA ITEM 6

Treasurer's Report

MEMORANDUM

TO: Board of Directors

FROM: John Perusek, Treasurer
Beverly Richards, Office Manager

DATE: August 25,2025

SUBJECT: Treasurer's Report (August)

Following is a summary of financial activity within the District during the month of August.

I. General Fund Investment Outlook

A. LPL Bond 21 originally invested at $345,000 at 0.540% matured on 08/12/25. We reinvested these funds plus $55,000 from the LPL money market savings account into a 5-year, $400,000 Farmers Mac bond with 2-year call protection to 8/12/27. This bond will earn 4.04% interest.

B. UGRWCD has exceeded budgeted interest income by 162.85 percent at the time of this report.

II. ColoTrust Information

Since August 1st we have received a total of $66,260 to date from property tax deposits.

III. Audit Information

The 2024 Audit submission was extended to September 30, 2025 due to additional review needed by staff and Stoeber CPA. Following the review, revised documents were forwarded to Paul Miller for inclusion into the final draft audit document.

AGENDA ITEM 7

2026 DRAFT Budget Review

RETURN TO AGENDA

UPPER GUNNISON RIVER WATER CONSERVANCY DISTRICT

General Fund Budget January 1 - December 31, 2026 V1.

		2024 Actual	2025 Budget	2026 Budget	
	REVENUE				
1	Aspinall Water Contract Sales	$ 26,662	$ 25,000	$ 27,000	based on 2025 actual
2	Building Rental Income	$ 19,985	$ 43,500	$ 40,000	based on actual
3	Interest on Investments (includes banks & bonds)	$ 127,343	$ 50,000	$ 110,000	based on 2025 actual to date
4	Property Tax (includes specific ownership & interest & penalties)	$ 2,320,130	$ 2,204,862	$ 2,315,101	5%
5	Reimbursed Income	$ 34,260	$ 42,000	$ 45,500	Based on 2025 YTD
6	Regional Water Supply Income	$ -	$ -	$ 410,898	
7	Watershed Management Income	$ 212,029	$ 291,291	$ -	
8	Wet Meadows Income	$ 200,088	$ 385,422	$ -	
9	Water Quality Monitoring Income	$ 42,393	$ 46,319	$ 36,563	
10	Vehicle Income	$ 2,671	$ 10,000	$ 60,000	Includes new vehicle income
11	Additional Contribution from Reserve Fund	$ -	$ 457,435	$ 122,142	
	TOTAL REVENUES	**$ 2,985,562**	**3,555,829**	**$ 3,167,204**	
	EXPENDITURES				
	Operating Expenses				
12	Admin Travel and Expenses	$ 24,404	$ 35,000	$ 36,750	5%
13	Audit	$ 6,500	$ 10,000	$ 25,000	Est for new auditor
14	Accounting Services	$ 40,678	$ 45,000	$ 47,250	5%
15	BOD Expenses	$ 10,623	$ 15,000	$ 15,750	5%
16	BOD Mileage	$ 2,930	$ 5,500	$ 5,775	5%
17	BOD Mtg Fees	$ 11,700	$ 13,360	$ 14,030	5%
18	Bonding and Insurance	$ 14,567	$ 15,500	$ 30,000	Based on 2025 actual to date
19	Building Rep/Maintenance	$ 6,637	$ 10,000	$ 10,000	same
20	CAM	$ 6,705	$ 7,500	$ 7,500	same
21	Computer Expenses	$ 17,043	$ 32,200	$ 38,400	5 computers to replace
22	Copier Expenses	$ 3,985	$ 7,000	$ 7,000	same
23	County Treasurers' Fees	$ 66,760	$ 75,000	$ 75,000	Based on 2025 YTD
24	Spencer Avenue Business Park Annual Buidling Reserve Contribution	$ 10,000	$ 10,000	$ 10,000	same
25	Dues, Memberships, Subscriptions	$ 14,150	$ 17,260	$ 18,000	Based on 2025 YTD
26	Legal Publications	$ 4,492	$ 5,000	$ 5,000	same
27	Manager's Discretionary Budget	$ 10,405	$ 25,000	$ 25,000	same
28	Meeting Expenses	$ 4,076	$ 5,000	$ 5,000	same
29	Office Cleaning	$ 8,078	$ 6,200	$ 8,000	Based on 2025 ytd
30	Office Supplies & Expenses	$ 12,982	$ 10,000	$ 10,000	Remove Computer Equipment
31	Payroll Exp	$ 815,670	$ 1,005,511	$ 1,108,205	5%, 13% Medical
32	Postage	$ 987	$ 1,500	$ 1,500	same
33	Telephone	$ 9,163	$ 9,000	$ 10,000	based on 2025 actual
34	Utilities	$ 9,717	$ 6,000	$ 9,000	based on 2025 actual, Unit A only
35	Vehicle Expenses	$ 2,769	$ 3,500	$ 65,000	Based on 2025 actual to date
	TOTAL OPERATING EXPENSES	**$ 1,115,020**	**$ 1,375,031**	**$ 1,587,160**	
	Non-Operating Expenses				
36	Aquatic Nuisance Species	$ -	$ 20,000	$ 20,000	same
37	Asp Subordination Report	$ 6,309	$ 6,000	$ 7,500	increase
38	Aspinall Contracts	$ 18,914	$ 21,000	$ 24,000	based on actual sold at $69.14
39	Gunnison County Hazardous Waste	$ -	$ 2,000	$ 2,000	same
40	Consulting/Engineering	$ 19,913	$ 50,000	$ 50,000	same
41	Coal Creek Watershed Coalition	$ 10,000	$ 17,000	$ 17,000	same
42	Colorado Dust on Snow	$ 3,500	$ 3,500	$ 3,500	same
44	District Grant Program	$ 200,708	$ 555,000	$ 300,000	still need unspent funds amount
45	Gunnison Conservation District	$ -	$ 10,000	$ 10,000	annual contribution
46	Gunnison River Festival	$ 11,000	$ 12,000	$ 13,000	increase
47	Endangered Fish Recovery Program	$ 3,750	$ 3,750	$ 3,750	same
48	Lake Fork Conservancy	$ 10,000	$ 10,000	$ 10,000	same
49	Lake San Cristobal Expenses	$ 13,972	$ 13,464	$ 13,464	same
50	Public Outreach and Education	$ 46,218	$ 41,270	$ 56,530	proposed
51	Regional Water Supply Improvement	$ 397,273	$ 488,375	$ 682,500	anticipated costs
52	Strategic Planning	$ -	$ 30,000	$ 45,000	increase
53	Taylor Park Project Expense	$ 7,436	$ 7,500	$ 8,200	same
54	Watershed Management Expense	$ 433,354	$ 312,533	$ -	
55	Wet Meadows Expense	$ 98,091	$ 395,422	$ -	
56	Water Quality Monitoring	$ 190,548	$ 207,484	$ 244,600	3.5%
	TOTAL NON-OPERATING EXPENSES	**$ 1,470,988**	**$ 2,206,298**	**$ 1,511,044**	
57	Capital Outlay Expense	$ 181,803	$ 55,000	$ 45,000	Unit A Reno, Xeriscaping
58	Contingency	$ -	$ 24,000	$ 24,000	same
	TOTAL EXPENSES	**$ 2,767,810**	**$ 3,660,329**	**$ 3,167,204**	
	REVENUES UNDER/(OVER) EXPENDITURES	**$ (846,300)**	**$ -**	**$ -**	

RETURN TO AGENDA

AGENDA ITEM 8

General Counsel Update

RETURN TO AGENDA

AGENDA ITEM 9

Basin Water Supply Update

MEMORANDUM

TO: UGRWCD Board Members

FROM: Beverly Richards, Water Supply Planning Manager

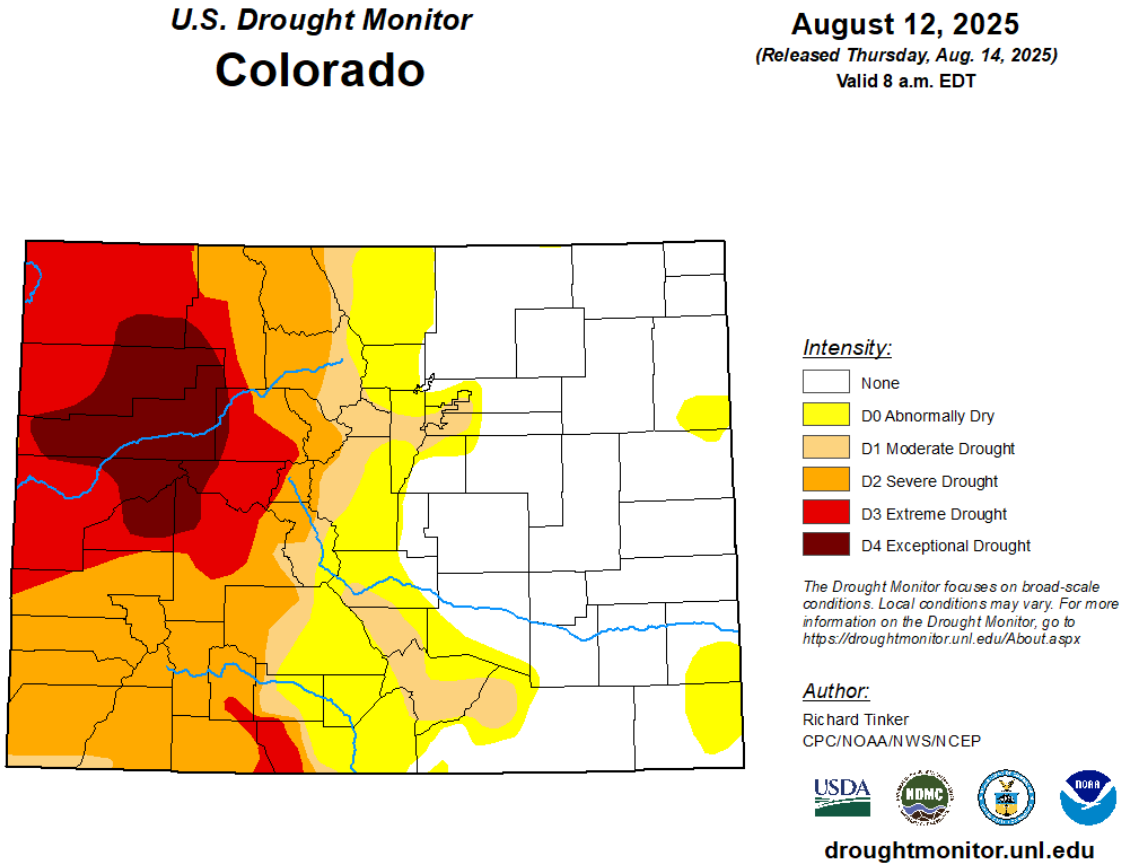
DATE: August 15, 2025

SUBJECT: Basin Water Supply Information

The information supplied as part of this memorandum is a monthly feature and includes information about drought, precipitation, soil moisture, streamflow, and reservoir storage.

Current Conditions – Drought

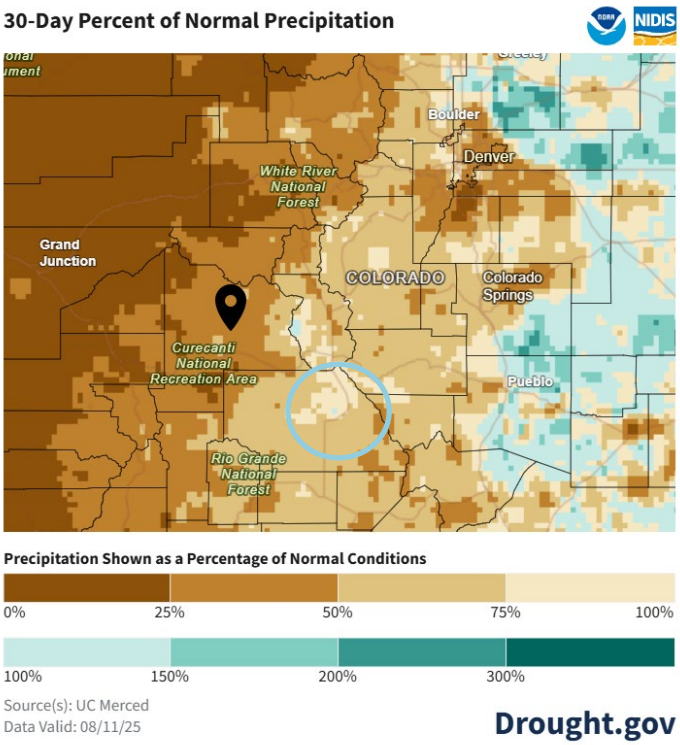
According to the *Drought Monitor* dated *August 12, 2025*, **Gunnison County** continued to see degradation in drought conditions over the past month. These drought categories are determined by precipitation, temperature, and soil moisture and are reflected in the map provided below. For August to date the County is now experiencing severe (D2) to exceptional (D4) drought conditions. There is only a small amount (3.56%) of the county that remains in moderate (D1) drought conditions. The severe category went from 77% to 47% over the past month. However, the extreme (D3) category increased from 22% to 39% in that same time frame. Also, for the first time since 2021, 10.56% of the County has now moved into the exceptional (D4) category. As the map shows, areas to the north and west of Gunnison County have also moved into this category as indicated by the dark red color on the map.



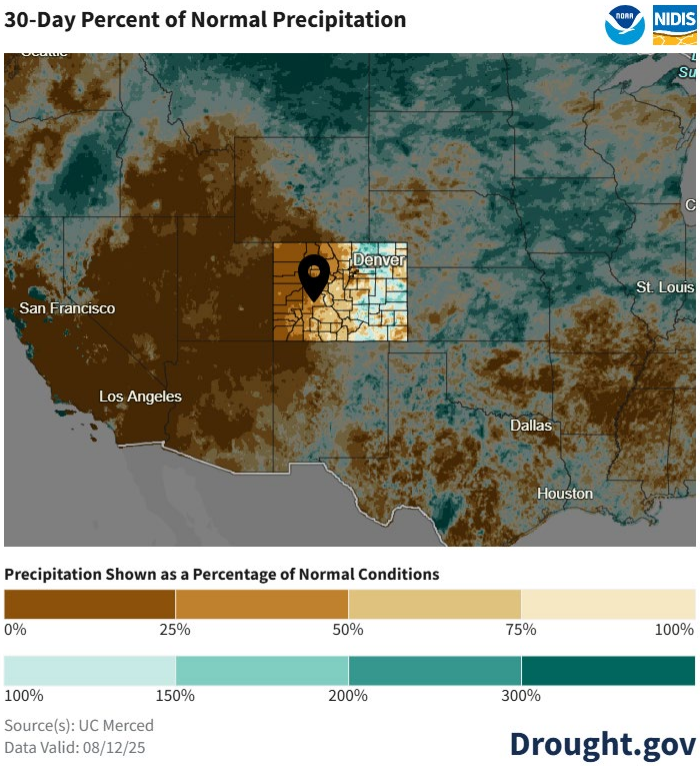
Drought conditions in **Saguache County** have seen some improvement. In August, 49% of the county moved into abnormally dry (D0) conditions. However, in the western portion of the county, 51% of the area remains in the moderate (D1) to severe (D2) categories. **Hinsdale County** also saw some degradation in drought conditions as 100% of the County moved into the severe (D2) category.

Precipitation

The map below represents the percentage of normal precipitation for the past 30 days. The warmer colors indicate lower percentages of precipitation and cooler colors indicate higher percentages. The precipitation in the basin over the past 30 days (July 12 through August 11) has been in the range of no precipitation in small portions of Gunnison County to 150% in a small area of Saguache County as indicated by the blue color on the map (*Drought.gov, August 11, 2025).* This lack of precipitation has added to the degradation in drought conditions throughout the basin.

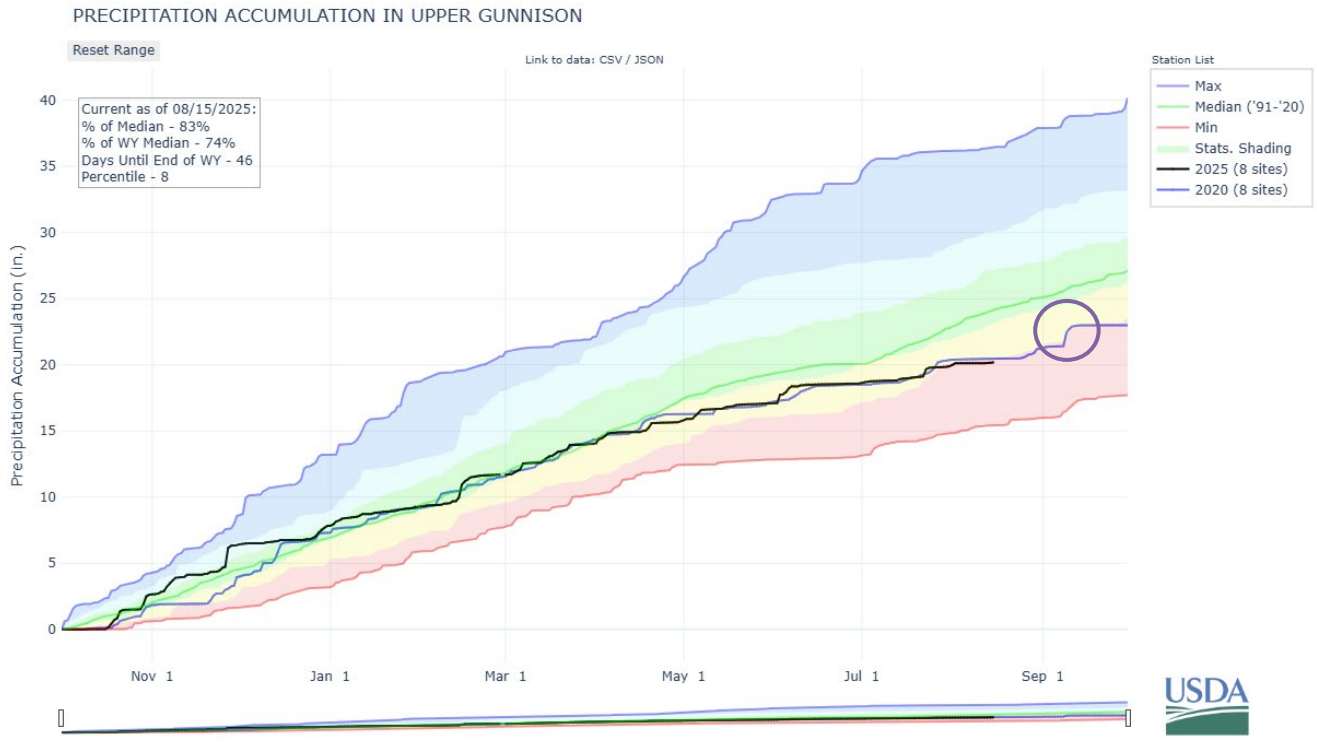


As shown in the figure provided below, this lack of precipitation extends throughout a major portion of the southwestern United States. (*Drought.gov, August 12, 2025).*

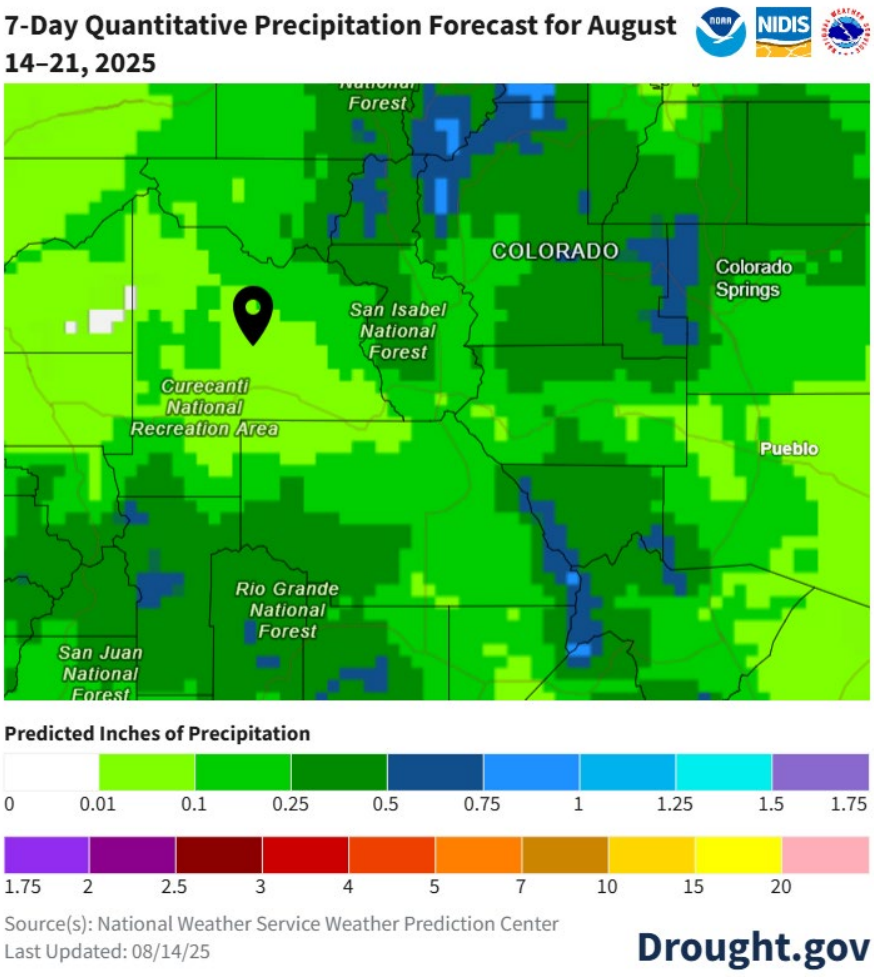


The precipitation trend graph provided below for the entire Upper Gunnison Basin is compiled from data from eight SNOTEL sites located in the basin where precipitation is measured. For the entire water year to date (*NRCS, August 15, 2025*) precipitation has remained relatively unchanged since July 23 and is currently at 83% of the median for this date. The total precipitation amount for the Upper Gunnison Basin is 20.5" of accumulation and the median amount is 24.2".

Also included is comparison information with 2020 since precipitation amounts continue to trend with that year. The dark purple line is 2020 which also had 20.5" of precipitation for this date. As also shown on the graph, there was slight increase to 22.9" on September 8, 2020 which was the date of a snow and windstorm that occurred that year.

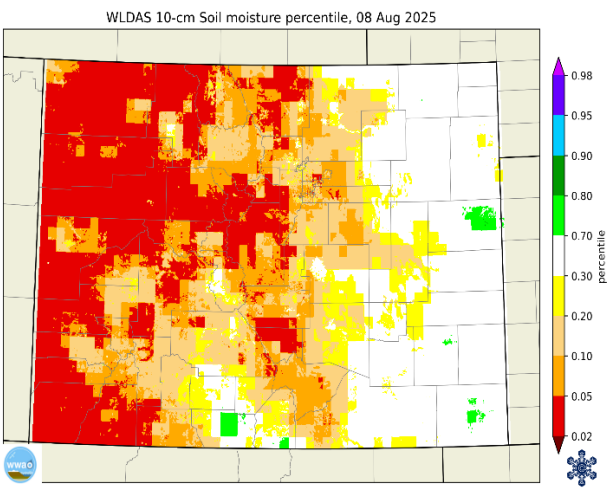


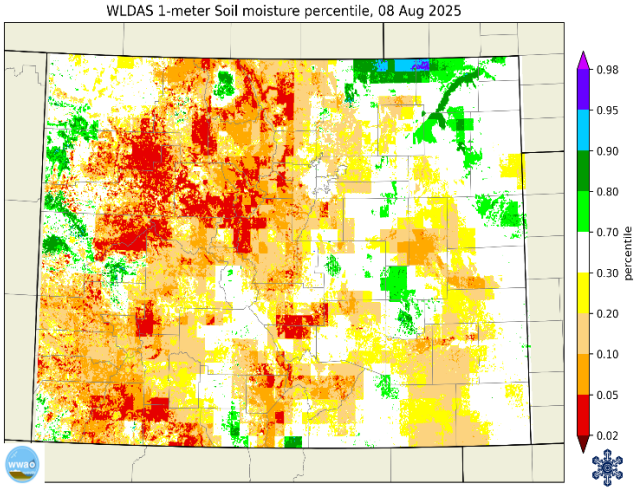
The 7-day quantitative forecast (August 14-21) for the Upper Gunnison Basin (*Drought.gov, August 14, 2025)* indicates that precipitation amounts are forecasted to range from 0.01" to 0.75" of precipitation in a small area of Hinsdale County as indicated by the dark blue colors on the map.



Soil Moisture

Provided below are current soil moisture maps for the State *(Colorado Climate Center, August 8, 2025)*. These maps include soil moisture percentiles at 10 centimeters (left) and 1 meter (right) depths. The warmer colors represented on the maps are lower percentiles and the cooler colors are higher. The maps show that soil moisture in the basin ranges from the 2nd percentile (red) to small areas of the 80th percentile (green) at the 1 meter depth in Saguache County. For the most part, soil moisture is very dry which is a disadvantage going into the winter season.





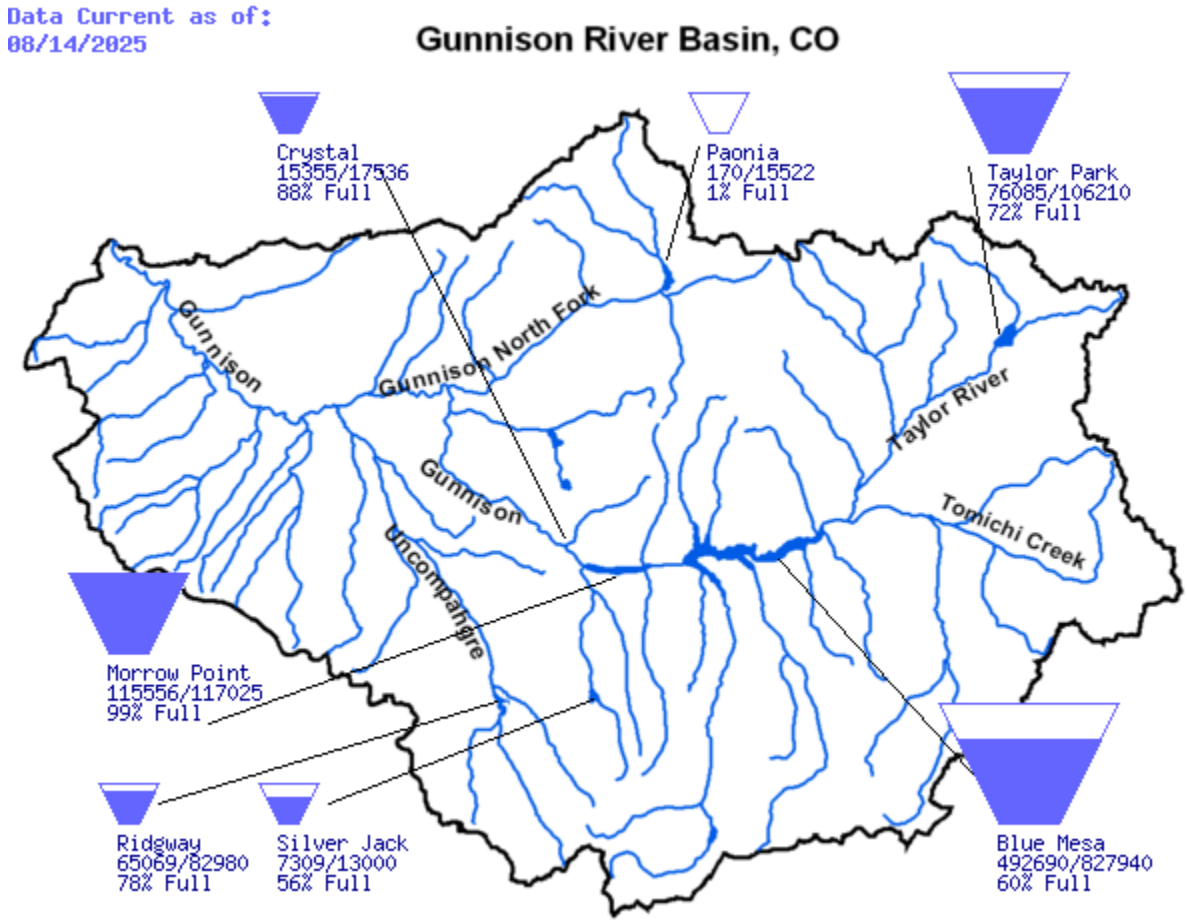
Streamflow

Current streamflow information for the basin is provided in the table below (*CDSS, August 15, 2025).* As you can see, all the listed sites are below the historical average for August 15. Also included is the percentage of the historical average showing that streamflow throughout the basin continues to be below this average. Though this is the case, the averages are closer to the average streamflow typical for this time of year which is reflective of baseflow conditions. There are currently instream flow calls on the Slate River and the Lake Fork and releases are being made from both Meridian Lake Reservoir and Lake San Cristobal.

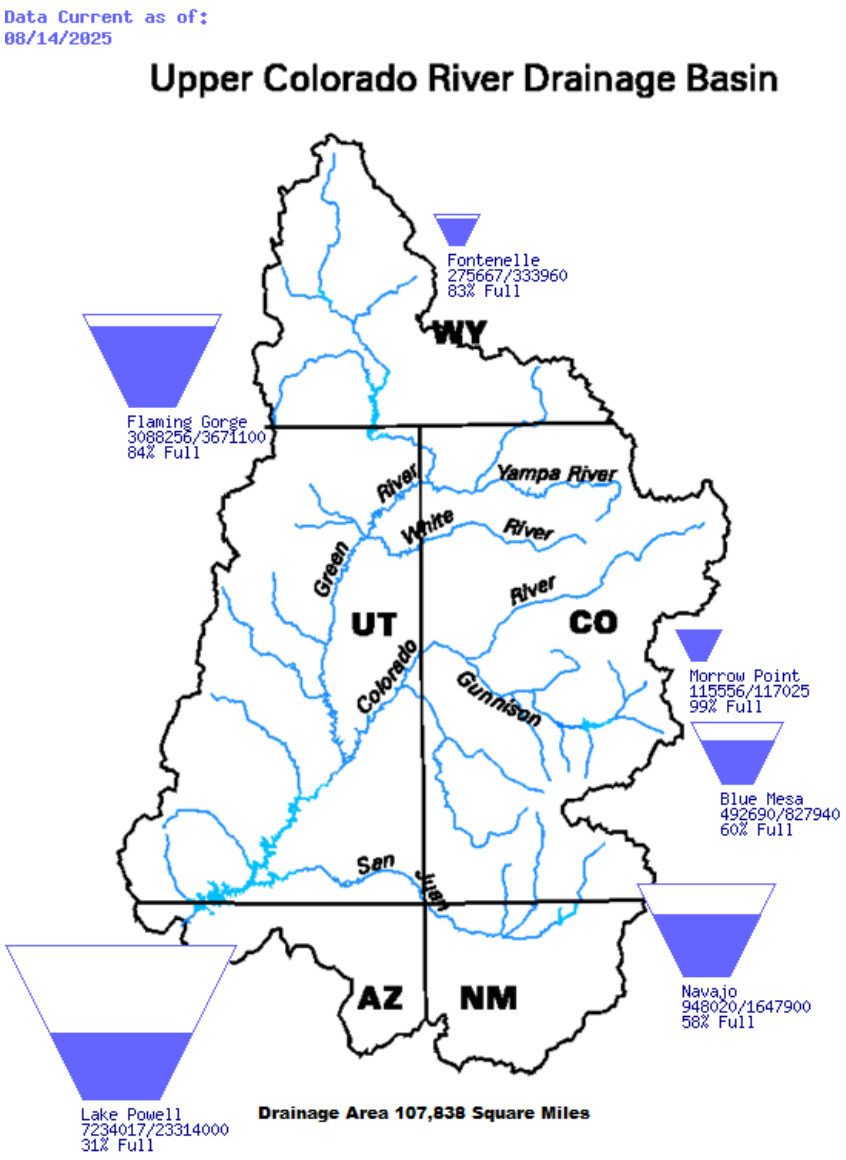
Station Name	August 15 (cfs)	Historical Average August 15(cfs)	Percentage of Historical Average (%)
Gunnison River near Gunnison	442	703	63
Tomichi Creek at Sargent's	28	38	74
Tomichi Creek at Gunnison	56	158	35
Taylor River at Taylor Park	38	79	48
Taylor River blw Taylor Park Res.	256	337	76
Taylor River at Almont	347	404	86
Slate River abv Baxter Gulch	9	34	26
East River blw Cement Creek	58	174	33
East River at Almont	93	218	43
Lake Fork blw Lake San Cristobal	39	71	55
Henson Creek at Lake City	34	74	46
Lake Fork at Gateview	91	194	47

Reservoir Storage and Operations

Reservoir storage in the entire Gunnison Basin is 66%, which is a decrease of 18% from the July report. As shown in the tea-cup diagram provided below, this is due in part to Paonia Reservoir being completely drawn down as per normal seasonal operations, though this did not occur until September last year. Reservoirs in the Upper Gunnison Basin include Taylor Park and Blue Mesa, which are at 72% and 60% full, respectively. The total reservoir storage amount in the Upper Gunnison basin is also 66% full, which is a decrease of 8% from July. (*USBR, River Basin Tea-cup Diagrams, August 14, 2025)*.



Reservoir storage in the Upper Colorado River Basin is 69% full, which is a decrease of 3% from the July report. This is reflected in the tea-cup diagram provided below dated August 14, 2025.



Aspinall Unit Operations

The following information is from the Aspinall Unit Operations webpage (*US Bureau of Reclamation dated August 8, 2025).*

The July unregulated inflow volume to Blue Mesa was 44,000 acre-feet, which is 41% of normal. Unregulated inflow volumes forecasted for Blue Mesa for the next three months (August, September, October) are projected to be: 35,000 acre-feet or 61% of average, 25,000 acre-feet or 71% of average, and 25,000 acre-feet or 71% of average, respectively.

The forecasted WY2025 unregulated inflow volume to Blue Mesa is projected to be a total of 658,000 acre-feet which is 73% of average and is a decrease of 16,000 acre-feet from the July report. The water supply period (April-July) for 2025 is currently forecasted to have an unregulated inflow volume of 409,000 acre-feet (63% of average) which is a decrease from the July report of 6,000 acre-

feet. At the end of the water year, storage in Blue Mesa is projected to be 420,658 acre-feet which will be 51% of capacity. This amount is approximately 51 feet from full pool with 407,000 acre-feet of unfilled storage.

The next Aspinall Unit Operations Group meeting will be held remotely on August 21, 2025 at 1:00 p.m. and District staff will attend. Staff will provide updates from this meeting.

Taylor Reservoir

The Taylor Local Users Group met on July 10, 2025. Conor Felletter from the US Bureau of Reclamation presented the August 1 forecast report to the group.

The April to July runoff forecast for Taylor Park Reservoir decreased by 600 acre-feet from the July forecast which was 62,000 acre-feet. The final observed inflow volume for the April to July period is 61,200 acre-feet which is 65% of average. The forecasted inflows for August and September has decreased by 1,200 acre-feet from the previous report provided, 5,900 for August and 5,300 for September. The observed maximum fill was 92,691 which occurred in late June.

Based upon the current operational release plan, the October 31st content would be 61,481 acre-feet of storage, which would provide a buffer of approximately 500 acre-feet above the minimum storage level target outlined in the decree for a dry year that water users could work with the remainder of the season.

As part of the operations plan for Taylor Park Reservoir, releases will remain at 300 cfs through August 15th, 2025, at which time it will decrease to 250 cfs through September 4th, 2025, pending available hydrology and the September 2025 forecast.

Proposed Operation
Taylor Park Reservoir
August forecast = 65% (61,000) af
August 4, 2025

Month	Inflow ac-ft	Average Inflow cfs	Outflow ac-ft	Average Outflow cfs	EOM Content ac-ft	EOM Elevation ft
					70,820	
Nov 1-15	2,820	95	2,630	88	71,014	9310.70
Nov 16-30	2,530	85	2,680	90	70,869	9310.61
Dec 1-15	2,500	84	2,790	94	70,581	9310.43
Dec 16-31	2,560	81	2,740	86	70,405	9310.32
Jan 1-15	2,310	78	2,550	86	70,166	9310.17
Jan 16-31	2,200	69	2,700	85	69,657	9309.85
Feb 1-15	2,130	77	2,400	86	69,388	9309.68
Feb 16-28	2,020	73	2,450	88	68,962	9309.41
Mar 1-15	2,180	73	2,510	84	68,631	9309.20
Mar 16-31	2,960	93	2,660	84	68,930	9309.39
Apr 1-15	4,680	157	2,770	93	70,837	9310.59
Apr 16-30	5,410	182	2,960	99	73,284	9312.10
May 1-15	7,040	237	3,320	112	77,011	9314.34
May 16-31	10,800	340	5,610	177	82,201	9317.35
Jun 1-15	16,360	550	6,870	231	91,957	9322.71
Jun 16-30	8,550	287	8,250	277	91,994	9322.73
Jul 1-15	4,550	153	8,860	298	87,692	9320.41
Jul 16-31	3,770	119	9,400	300	82,060	9317.27
Aug 1-15	2,860	96	8,790	300	76,125	9313.82
Aug 16-Sept 4	2,910	92	7,930	250	71,098	9310.76
Sep 5-15	2,590	87	6,690	225	66,997	9308.15
Sep 16-30	2,700	91	6,690	225	63,006	9305.51
Oct 1-15	2,510	84	4,120	138	61,398	9304.42
Oct 16-31	2,490	78	2,410	76	61,481	9304.48

61,160 = April-July inflow
65% of normal
92,691 = Maximum Content

preliminary

David Gochis of Airborne Snow Observatories, Inc., presented the WRF/ASO ensemble model forecast. It was noted that the current inflow forecasts for August and September were relatively close to the amount forecasted by the CBRFC, just 4,500 acre-feet higher than their model forecasted. The WRF-Hydro model forecast shows that 8,900 acre-feet will occur in August, and 6,800 acre-feet of inflow will occur in September.

David said baseflows in the Upper Taylor River Basin continue to drop and the August-September inflow forecast for the tributaries are currently at 9.2 kaf for the Taylor River above Taylor Reservoir, 4.0 kaf for Texas Creek, and 2.0 kaf for Willow Creek flowing into the reservoir. Soil moisture data was gathered from the SnoLite stations, and all the sites had low values. The recent storm near the Trail Creek SnoLite station provided some moisture but this did not penetrate to the deeper moisture probe. There was some refresh occurring at the Cottonwood Pass and Mirror Lake sites, but conditions continue to remain dry. Conditions in the model tended to be wetter this year, but the current forecasts are consistent with the information provided by the CBRFC.

The TLUG group discussed the proposed operations plan based on information provided in the forecasts. The group agreed that releases should drop to 250 cfs on August 15 where they would remain through September 4 subject to a mid-month August forecast. The next monthly meeting is scheduled for September 5, 2025 at 8:30 a.m.

Lake Powell Operations

The following information on Lake Powell and Lake Mead was provided from the US Bureau of Reclamation on August 15, 2025.

WASHINGTON — The Bureau of Reclamation released the August 2025 24-Month Study, reaffirming impacts of unprecedented drought in the Colorado River Basin and pressing the need for robust and forward-thinking guidelines for the future. The study provides an outlook on hydrologic conditions and projected operations for Colorado River reservoirs over the next two years and sets the 2026 operating conditions for Lake Powell and Lake Mead.

"This underscores the importance of immediate action to secure the future of the Colorado River," said Reclamation's Acting Commissioner David Palumbo. "We must develop new, sustainable operating guidelines that are robust enough to withstand ongoing drought and poor runoff conditions to ensure water security for more than 40 million people who rely on this vital resource."

Lake Powell's elevation on Jan. 1, 2026, is projected to be 3,538.47 feet—approximately 162 feet below full pool and 48 feet above minimum power pool. This places the reservoir in the Mid-Elevation Release Tier, with a planned release of 7.48 million acre-feet of water for water year 2026, October 1, 2025, through September 30, 2026. If hydrologic conditions worsen, the water year release volume may be reduced in accordance with the 2024 Record of Decision for the Supplement to the 2007 Interim Guidelines.

Lake Mead is projected to stay in a Level 1 Shortage Condition, with an expected elevation of 1,055.88 feet—20 feet below the Lower Basin shortage determination trigger. This condition necessitates significant water reductions as indicated by the 2007 Interim Guidelines and the Lower Basin Drought Contingency Plan in the United States and Minute 323 and the Binational Water Scarcity Contingency Plan in Mexico. This calls for Arizona to contribute 512,000 acre-feet, about 18% of its annual apportionment, Nevada to contribute 21,000 acre-feet or 7%of its annual apportionment, and Mexico to contribute 80,000 acre-feet or 5% of its annual allotment.

Current guidelines, including the 2007 Interim Guidelines, 2019 Drought Contingency Plans, and international agreements Minutes 323 and 330—are all set to expire at the end of 2026, leaving a critical void that must be filled with comprehensive strategies that address current and future challenges.

"As the basin prepares for the transition to post-2026 operating guidelines, the urgency for the seven Colorado River Basin states to reach a consensus agreement has never been clearer. We cannot afford to delay," said Department of the Interior's Acting Assistant Secretary for Water and Science Scott Cameron. "The health of the Colorado River system and the livelihoods that depend on it are relying on our ability to collaborate effectively and craft forward-thinking solutions that prioritize conservation, efficiency, and resilience."

In June, Cameron called on the seven Colorado River Basin states to submit the details of a preliminary operations agreement by mid-November and share a final seven state agreement on that

proposal by mid-February 2026, with the goal of reaching a final decision next summer to begin implementation in the 2027 operating year.
In the meantime, near-term operating guidelines approved last year provide additional strategies to reduce the risk of reaching critical elevations at Lake Powell and Lake Mead. These short-term tools, available through 2026, include conserving 3 million acre-feet or more of water in the Lower Basin and the potential to reduce release from Lake Powell. Under the Drought Contingency Plan, Upper Basin drought response operations could also include sending additional water to Lake Powell from upstream reservoirs.

"These short-term tools will only help us for so long," Cameron emphasized. "The next set of guidelines need to be in place. We remain committed to this effort and will continue to invest in infrastructure improvements and system water reuse and conservation efforts as we move forward toward viable solutions."

The Department and Reclamation continue meeting regularly with the basin states and Tribal Nations to collaborate on the Post-2026 Operating Guidelines as part of their continued commitment to ensuring water security and promoting long-term sustainability in the Colorado River Basin. For more information on the August 2025 24-month Study, visit the following link: https://www.usbr.gov/lc/region/g4000/riverops/24ms-projections.html.

AGENDA ITEM 10

General Manager, Committee and Staff Updates

MEMORANDUM

TO: Board of Directors

FROM: Sonja Chavez, General Manager

DATE: August 25, 2025

SUBJECT: General Manager Report

I. Employee Home Opportunity Buying Program (EHOP)

Background: At the July 28, 2025, UGRWCD Regular Board meeting, the Board approved the proposed UGRWCD EHOP and directed executive management to investigate options for providing equal access to housing assistance for all UGRWCD staff.

After significant discussion, management is proposing that the UGRWCD EHOP be open to all full-time employees who have been at the District for at least one-year and are successfully carrying out their job duties and meeting their performance standards and goals. The modified UGRWCD EHOP is attached.

RECOMMENDATION FOR BOARD ACTION**:** Approve the adoption of the modified UGRWCD EHOP to provide access to *all* full-time employees in good standing.

II. Water Quality & Quantity Update

A. Homestake Mining Company DSV Alternatives Analysis Memorandum

Background: UGRWCD staff are participating in a technical stakeholder committee related to evaluation of the Homestake Mining Company (HMC) application for a Discharge Specific Variance (DSV) for uranium discharge into Indian Creek. As part of that process, an evaluation of the prepared alternatives analyses (AA) for managing or reducing concentrations is being conducted by the Colorado Department of Public Health and Environment, Water Quality Control Division.

UGRWCD staff, Ari Yamaguchi (Water Resources Specialist) and the General Manager are recommending that UGRWCD send the attached letter requesting supporting data related to the AA as well as analysis of an additional alternative

for managing mine-discharge by piping waste to a lower elevation, more easily accessible Ion Exchange treatment site.

RECOMMENDATION FOR BOARD ACTION: Direct the UGRWCD General Manager to transmit the attached letter of comment related to alternatives for managing mine waste discharge.

III. Upper Gunnison Basin Drought Plan

Background: UGRWCD has been working with community water users over the past 18 months to develop an Upper Gunnison Basin Drought Plan. The UGRWCD Board received a formal introduction to the plan and were provided with a preliminary draft at the June 23rd, 2025, Regular Board Meeting. The Draft Plan was then released for official public comment from July 1 through July 30, 2025. All public comments have been addressed and the attached *Draft Final Upper Gunnison Basin Drought Plan* is ready for submission to the U.S. Bureau of Reclamation for final review and approval consistent with grant requirements.

RECOMMENDATION FOR BOARD ACTION: Approve the *Draft Final Upper Gunnison Basin Drought Plan* for submission to the U.S. Bureau of Reclamation.

IV. Four Parties & Taylor Local Users Group (TLUG) Update

Verbal update provided by TLUG Chair, Don Sabrowski. Also attached are the August 5, 2025, TLUG draft meetings minutes and the unofficial CBRFC mid-month forecast for August 15, 2025.

V. Scientific Endeavors

Verbal update from Director Rosemary Carroll.

Upper Gunnison River Water Conservancy District

Employee Home Ownership Program - EHOP

Eligible Borrowers: Regular, permanent, full-time employees of the District, who have been employed by the District for at least one year and who are satisfactorily meeting performance goals and standards for their position~~, and who are making their first home purchase since becoming an employee of the District, or experiencing a status change requiring relocation or change of ownership~~[1] are eligible. EHOP is limited to one employee loan per household.

Eligible Property: The property must be the employee's primary and full-time residence. To be eligible, the home must be attached to a foundation and conform to all prevailing building code standards. This requirement includes a single-family home, condominium, townhome, duplex, or modular home or manufactured home on a permanent foundation, taxed as real property. The property must be located within the boundaries of the District.

Income Threshold: None

Loan Amount: The EHOP loan may be up to 20% of the purchase price, not to exceed $100,000.00, depending on the ability of the employee and any co-borrower to repay the loan.

Compatible Loans: The employee and any co-borrower must qualify for primary loan financing through a reputable lending institution offering terms acceptable to both the employee and the District. The EHOP loan may be used in conjunction with Conventional and VA loans. FHA, Subprime, and other non-conforming products are not permitted.

Loan-to-Value: The maximum combined primary loan and EHOP loan-to-value ratio allowed is 105% of the property's purchase price.

Employee Investment: The employee and any co-borrower must provide a minimum investment of at least 1% of the purchase price, with a minimum investment of $3,000.00.

Forgiveness: Upon the fifth anniversary of the EHOP loan, twenty percent of the principal balance will be forgiven by the District. Upon the tenth anniversary of the EHOP loan, an additional twenty percent of the original principal will be forgiven. Upon the fifteenth anniversary of the EHOP loan, an additional twenty percent of the original principal will be forgiven. The

[1] ~~Examples: divorce or death of spouse.~~

maximum total forgiveness is sixty percent of the original principal of the EHOP loan. Each EHOP loan forgiveness requires maintaining all conditions for program eligibility.

Any principal balance forgiven by the District will be reported to the IRS as "Other Employee Compensation" in the month in which forgiveness is granted and is subject to payroll taxes and withholding.

Repayment: The EHOP loan will bear interest at a rate equal to the average rate of return on all certificates of deposit and bonds held by the District as of the date of the employee's loan application. Monthly payments of interest on the unpaid principal balance will be made over a fifteen-year period. At that time, the outstanding principal balance will be due and payable in full. Before maturity, repayment of the outstanding principal balance is required upon cessation of employment, property sale, refinance of the primary loan, transfer of title, or the home is no longer occupied as the employee's primary residence. There will be no prepayment penalty.

Subordination Requests: Subordination in the case of refinancing the primary loan will be reviewed on a case-by-case basis. Approval may be granted at the discretion of the District's General Manager and General Counsel.

Use of Funds: EHOP loan funds may be used for down payment, closing costs, and prepaid items related to the primary loan.

Loan Fees: $450 Origination Fee to Impact Development Fund is due at the time of loan closing.

Collateral: A subordinate lien on the property.

Pre-Qualification: The Employee must pre-qualify for a conventional or VA first mortgage before applying for participation in the EHOP Program.

RETURN TO GM REPORT RETURN TO AGENDA

Upper Gunnison River Water Conservancy District

August 25, 2025

Via Email: Grady Colgan and Blake Beyea

Re: Alternatives Analysis Related to Homestake Mining DSV Request

Dear Mr. Colgan and Mr. Beyea,

The Upper Gunnison River Water Conservancy District (UGRWCD) has been participating in the technical stakeholder input process related to the Alternatives Analysis (AA) submitted by Homestake Mining Company (HMC) on October 16, 2024, to the Colorado Department of Public Health & Environment (CDPHE) in pursuit of a Discharger-Specific Variance for Uranium discharge to Indian Creek which sits within our political boundary and impacts water quality within our District.

Specifically, UGRWCD provides the following input:

1) The Alternatives Analysis (AA) states that any actions involving National Environmental Policy Act (NEPA) or any other support from the US Forest Service (USFS) is considered "outside the control" of HMC. The UGRWCD would like to see meaningful engagement with the USFS in these discussions, including but not limited to a USFS review of any alternatives that were excluded from the AA for this reason.

   UGRWCD understands that the USFS may have previously expressed "disinterest" in opening a road to the site, but that does not imply an unwillingness or inability of USFS to support reasonable actions that would protect the adjacent ecosystem and downstream water users including support of NEPA.

2) The ion exchange (IX) method is claimed to be not feasible due to difficulty with site access in the winter and the power demands of an on-site system. UGRWCD would like to see the data and information associated with this alternative (e.g., nearest three phase power and associated cost estimate).

3) Finally, on August 15, 2025, UGRWCD discussed with Homestake (telephone conversation between UGRWCD Water Resource Specialist, Ari Yamaguchi, and Dave

210 West Spencer Avenue, Suite A • Gunnison, Colorado 81230
Telephone (970) 641-6065 • www.ugrwcd.org

Wykoff, HMC) about exploring an alternative where water is piped from the outflow point(s) directly to an IX system at or near Marshall Pass Road which may present new options for accessing three phase electricity and eliminate challenges associated with winter access as described below.

a. Installing IX technology adjacent to Marshall Pass Road would significantly reduce the issue of inaccessibility in the winter. There are conflicting reports of whether Marshall Pass Road is plowed in the winter, as Saguache County stated by phone that the entire road is plowed, while Mr. Wykoff stated by phone that that is not the case. Regardless, access may be more feasible under this alternative than what has been deemed infeasible at the outflow point. Furthermore, Mr. Wykoff stated that the lower road melts out roughly two months earlier than the site, allowing for regular vehicle access for a longer portion of the year.

    i. If Marshall Pass Road is indeed consistently unplowed, and if snowmobile access would still be too unreliable, further investigation will be necessary to determine what it would take to support consistent plowing, such as securing support from some combination of Saguache County, CDOT, Homestake itself, or other entities.

b. The AA states that a semi-active IX system would require 185 ft of gravity-head pressure to function. SW-33, the lowest point and final outfall, sits at an elevation of 9,850'. A pipe that follows Indian Creek Road would either terminate at the USFS boundary (elevation 8849', roughly 1000' below SW-33), or continue into a State Land Board parcel and terminate at Marshall Pass Road (elevation ~8798', or 1052' below SW-33). Because this potential alternative relies on gravity-head pressure, it would demand less power than the pump that would be necessary if IX were installed onsite; solar power feasibility should be reexamined for this alternative. If lined power would still be necessary, installation would likely be more feasible than the on-site alternative, as Marshall Pass Road is a county road and leads directly to the town of Sargents. Other energy sources should also be considered under this alternative.

In closing, we appreciate CDPHE's and HMC's consideration of this input, and we look forward to continuing participation in the technical stakeholder input process.

Sincerely,

Sonja Chavez
General Manager

Cc: Dave Wykoff, Homestake Mining Company

RETURN TO GM REPORT

RETURN TO AGENDA

UPPER GUNNISON DROUGHT PLAN

AUGUST 2025

UPPERGUNNISONDROUGHTPLAN.ORG

Upper Gunnison River Water Conservancy District

ACKNOWLEDGEMENTS

The Upper Gunnison River Water Conservancy District Board of Directors would like to thank all who participated in the 2025 Upper Gunnison Drought Plan (UGDP) development process. The U.S. Bureau of Reclamation, Upper Gunnison River Water Conservancy District, and numerous third-party contributors funded this plan. The Project Team would like to extend special thanks to the members of the Planning Task Force for their regular participation in meetings, cooperation, patience, and assistance in preparing the Plan.

The U.S. Bureau of Reclamation funded this Plan through a WaterSMART Drought Contingency Planning Grant with an agreement number of R23AC00102-01. Lee Traynham and Casey Smith acted as the Grants Officer Technical Representatives for the U.S. Bureau of Reclamation.

The Upper Gunnison Drought Plan was prepared by a Project Team, consisting of:

- Harris Water Engineering, Inc.(co-lead)
- ElephantFish, LLC
- Strategic By Nature, Inc. (co-lead)
- Sunshine Creatives, LLC
- Wilson Water Group

DISCLAIMER

The Upper Gunnison Drought Plan was commissioned and funded by the Upper Gunnison River Water Conservancy District with partial funding from a U.S. Bureau of Reclamation Drought Contingency Planning Grant; however, while the District provided general direction and input, the plan was ultimately a product of a diverse Upper Gunnison River Basin water user community stakeholder group and does not necessarily represent any position of the District.

HAVE QUESTIONS? CONTACT UGRWCD

To learn more about current drought conditions or the plan itself, visit uppergunnisondroughtplan.org.

To learn more or get involved in the Upper Gunnison Drought Plan's implementation, please reach out to UGRWCD or visit their website.

CONTENTS

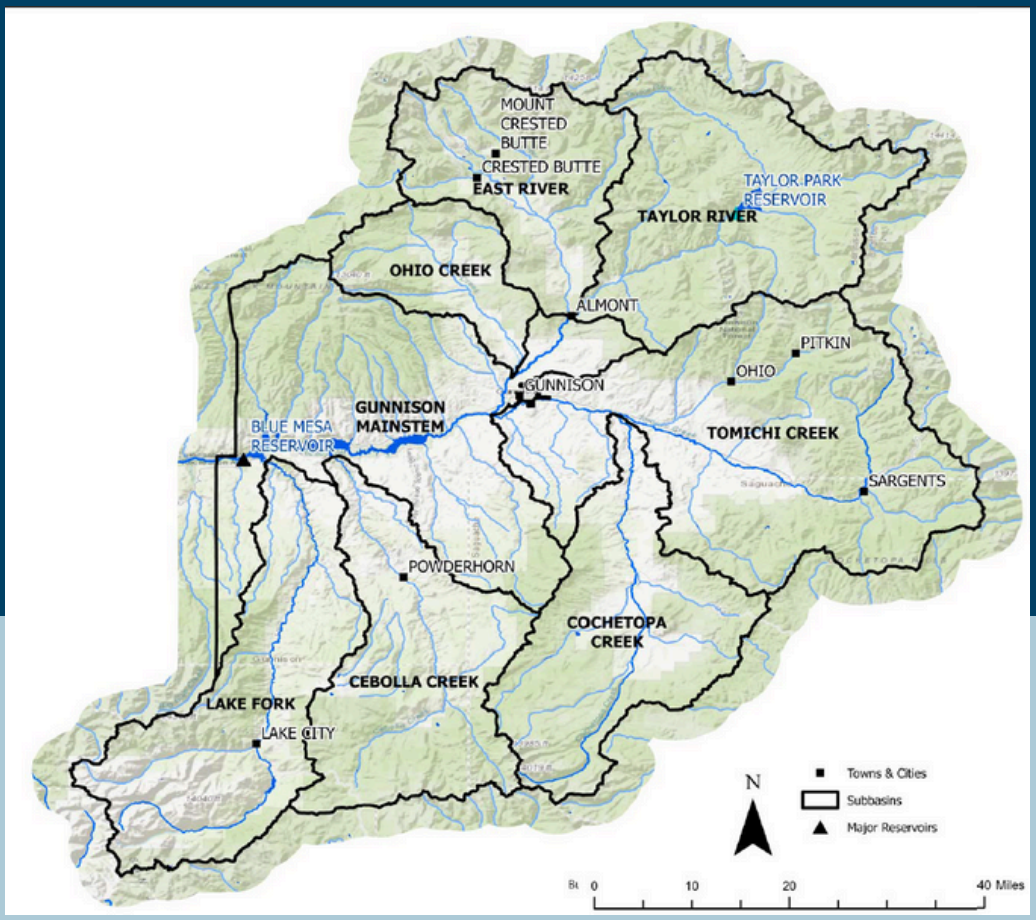
APPENDICES

Executive Summary

The Upper Gunnison River Water Conservancy District (UGRWCD or District) embarked on a Drought Contingency Planning process from 2023 to 2025. Approved by the District Board of Directors on [redacted], the "Upper Gunnison Drought Plan" charts a course for the Upper Gunnison River Basin water users to build long-term resilience to drought.

The Upper Gunnison Drought Plan took special care to engage stakeholders at every step of the process. First, a Task Force representing the diverse water use sectors in the planning area was established. The Task Force provided guidance and input throughout the planning process, as well as at key milestones. In addition to the Task Force, the Project Team engaged stakeholders by participating in a Stakeholder Assessment (Appendix E), hosting three public meetings, and conducting a series of water sector workshops to engage local community stakeholders further. A total 102 unique individuals participated in the process over the two year planning period.

Figure 1. Map of the Upper Gunnison River Basin



WHAT IS A DROUGHT CONTINGENCY PLAN?

The purpose of a Drought Contingency Plan is to help water users answer these questions:

- How will we recognize the next drought in the early stages?
- How will drought affect us?
- How can we protect ourselves for the next drought?

The planning process was funded in part by the Bureau of Reclamation's Drought Response Program (Program) with cash match provided by the District and in-kind match provided by participating participating stakeholders (water managers and water users). The purpose of the Program is to create a proactive approach for non-federal partners to prepare for and respond to drought. The Upper Gunnison Drought Plan:

- Covers water users within the District's boundary in the Upper Gunnison River Basin, above Blue Mesa Reservoir. Note that the Upper Gunnison Drought Plan is a community-level planning effort and is not the same as the Colorado River Drought Contingency Plan, which covers strategies to manage water shortages and reservoir levels in Lakes Powell and Mead.
- Considers all water use sectors - agricultural, environmental, industrial, municipal, and recreational.
- Embraces collaborative planning approach by engaging many diverse water users and stakeholders.
- Creates an actionable plan that enables drought planning and resilience projects to be eligible for future funding opportunities.
- Was led by a Task Force of diverse stakeholders that represent various water users, community agencies, and organizations. For a list of Task Force members, please visit Appendix D.

RECOGNIZING DROUGHT

The Upper Gunnison Drought Plan developed a drought monitor to communicate, by subbasin, drought conditions based on a classification system and various data sources. To update the monitor, the District will evaluate streamflow, air temperature, precipitation, snowpack, soil moisture, snow water equivalent measurements, water supply forecasts, and reservoir storage on a monthly basis to determine drought classifications.

The drought monitor assesses the available data for the Upper Gunnison River Basin to determine overall drought conditions. A summary of these drought monitoring benchmarks by subbasin is generated as conditions for each month's variable are added. These results are displayed on the UGDP website via a drought dashboard and will be updated monthly. The results are summarized by subbasin, and for basins with multiple benchmark inputs for a single month, the average of these inputs is shown.

Figure 2. Upper Gunnison Drought Plan Monitoring Map

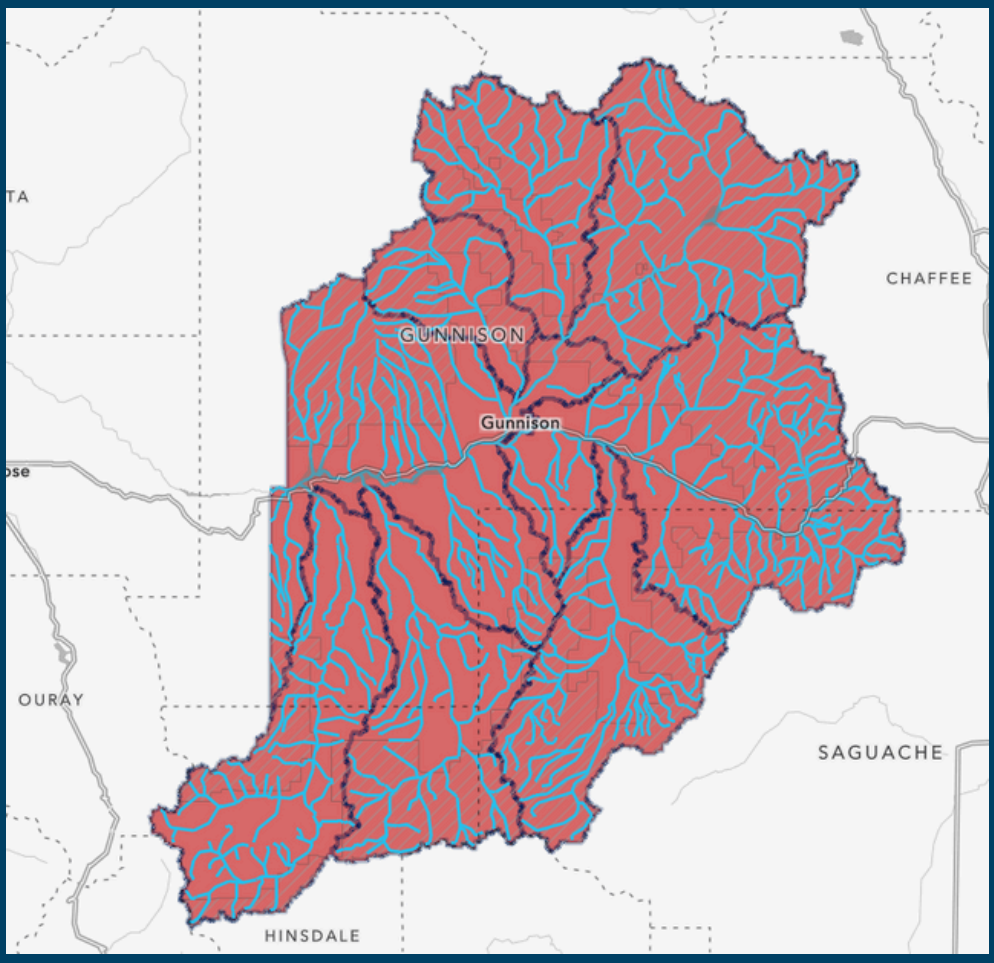
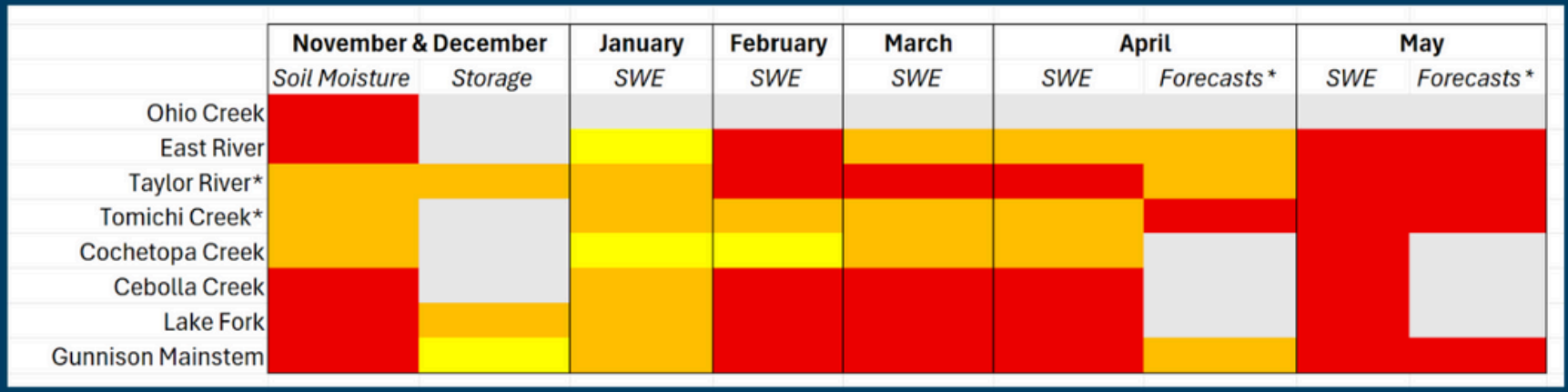


Figure 3. Upper Gunnison Drought Tracking Table

2025 Drought Tracker Results



	November & December		January	February	March	April		May	
	Soil Moisture	*Storage*	*SWE*	*SWE*	*SWE*	*SWE*	*Forecasts**	*SWE*	*Forecasts**
Ohio Creek									
East River									
Taylor River*									
Tomichi Creek*									
Cochetopa Creek									
Cebolla Creek									
Lake Fork									
Gunnison Mainstem									

*For basins with more than one benchmark input for a single month, the average of the inputs was used to complete the table

*SWE = Snow Water Equivalent

Drought Level 0	Each monthly variable was estimated as having “Average” conditions
Drought Level 1	Some monthly variables were estimated as having “Dry” conditions
Drought Level 2	Some monthly variables were estimated as having “Extremely Dry” conditions

DROUGHT VULNERABILITY

Every water user in the Upper Gunnison River Basin is acutely aware of drought risks and has directly felt its impacts. These are summarized here:

AGRICULTURE	• Damage to crop quality • Decreased productivity/income • Increased weeds	• Loss of water in grazing allotments • Reduced forage in grazing allotments • Concern for wildfire
RECREATION	• Shorter seasons • Decreased user experience • Increased operational difficulty	• Stress on fish: angler pressure • Stress on fish: lack of habitat • Stress on fish: increase water temp
MUNICIPAL + INDUSTRIAL	• Potable water for outdoor uses • Need for better treatment technology • Pressure on water availability	• Increased opersational costs • Need for redundant supply • Need to modify diversions at flow
ENVIRONMENTAL	• Aridification of landscape • Increased risk of wildfire • Decreased flows, wetlands, riparian areas	• Decreased wildlife abundance • Increase in nonnative species • Increased contaminant concentration
OTHER	• Increased workloads/burn out • Intensive land management • Increased user conflict	• Community is stressed out • Collective economic impacts • Collaboration is necessary

Drought vulnerabilities can be described as the characteristics of how water is used that may make a water user or water sector more or less vulnerable to drought. In the Upper Gunnison River Basin, the following vulnerabilities were identified:

- Aging agricultural infrastructure
- Reliance on flood irrigation limits on-ranch drought resilience opportunities
- Ecological pressures and degradation
- Recreation primarily relies on flow, there are concentrated uses during drought, which can cause conflict
- Singular municipal water sources
- Increasing municipal water system costs
- Diversity of water users rely on the river
- Lack of understanding of the water system and administration among water users
- Social/health reliance on/influenced by access to nature/outdoor resources
- Climate change, variable climate
- Location in the watershed headwaters, which leads to fewer storage opportunities
- Limited water supply
- Out of basin pressures

GOALS AND GUIDING PRINCIPLES

To address these vulnerabilities and stave off a bleak water future, the Task Force, with stakeholder input, set the following goals and guiding principles for the planning process:

Goals:

- Increase the Upper Gunnison River Basin's resilience to drought.
- Preserve diverse community values such as safe/quality drinking water, thriving agriculture/ranching, ecosystem health/resilience, and a strong outdoor recreational economy.
- Create an actionable and adaptable plan that considers the guiding principles listed below.

Guiding Principles:

- Advance a collaborative approach to share responsibility, leverage resources, and connect with similar initiatives.
- Be proactive and prepare for the future, taking early action for long-term solutions.
- Compromise and be creative in looking for win-win and multi-benefit actions and solutions.
- Strive for alignment/support and compromise from all stakeholders.
- Be respectful of water users and water rights, and ensure shared responsibility for conserving water.
- Respect the cultural differences in each subbasin and ensure that water users are supported in implementing actions.
- Protect and enhance the community's natural and built water infrastructure.
- Use data to inform decision-making.
- Design solutions that consider each subbasin's unique hydrology and ecology (land and water-based species).
- Promote a shared and consistent message.
- Inspire community action and a shared responsibility through education.

MITIGATION ACTIONS

Mitigation actions are activities that will **build long-term resilience** to drought, mitigate risks posed by drought, decrease sector vulnerabilities, and reduce the need for response actions. These are **long-term actions** that water users, stakeholders, and the public implement to protect themselves from drought and drought impacts. They occur regardless of drought conditions and can happen at any time.

The Upper Gunnison Drought Plan identified 17 mitigation actions that span all water sectors and are presented in order of priority determined by the Task Force. Prioritization allows decision-makers to focus on the most urgent needs, implement the most cost-effective solutions, target actions that provide the most significant overall resilience, and support existing endeavors. For these actions to be effective, community champions must take the lead in implementing them. The actions will be considered by the responsible entities and pursued if and when each entity decides, in its sole discretion, to do so. The UGDP is intended to promote collaboration and cooperation to more effectively mitigate drought in the entire basin.

Table 1. Prioritized Mitigation Actions

ID	Name	Description	Action Type	Timeframe to Implementation
HIGH PRIORITY				
A2	Agricultural Infrastructure and Water Management Improvements	Improve irrigation water delivery and on-ranch efficiencies where appropriate.	Project	3-5 years
A4	Agricultural Communication and Education	Facilitate community education around agricultural practices and water use	Education	0-2 years
E4	Water Supply Forecasting Tools	Improve forecasting tools, including data collection.	Education & Project	3-5 years
E1	Basin-Wide Action Plans	Support continued engagement in workgroups and planning processes relating to drought mitigation.	Engagement	0-2 years
E2	Drought Outreach Strategy	Develop outreach strategies for specific audiences and water sectors. Outreach needs range from sharing water supply forecasts to water administration to education.	Education	0-2 years
M3	Source Water Resiliency	Support municipalities as they pursue projects to increase water supply redundancy and address drought resilience.	Study	0-2 years
W1	Watershed Restoration Activities	Implementation of activities creating drought resilience in natural meadows, riparian zones, and other habitats in the Upper Gunnison River Basin.	Project	0-2 years
MEDIUM PRIORITY				
A1	Agricultural Best Management Practices	Action identifies multiple activities that build upon existing programs, expand applicability, and break down barriers for implementation.	Project	3-5 years
A3	Irrigation Return Flow Study	Study focused on characterizing surface-water and groundwater interactions in the Upper Gunnison River Basin with a focus on agricultural returns flows in the assessed reach(es).	Study	0-2 years
E3	Blue Mesa Reservoir Coordination	Improve communication between the Bureau of Reclamation, Upper Gunnison River Basin water users, National Park Service, and the public.	Engagement	3-5 years
M1	Municipal Provider Collaboration	Improve communication and education among municipal providers across the basin.	Engagement	0-2 years
M2	Drought Response Plan for Municipal Providers	Support municipal providers in the preparation of individual drought response plans.	Education	3-5 years
W2	Coordinated Water Conservation	Support continued voluntary informal coordination among water users throughout the basin during drought.	Project	3-5 years
LOW PRIORITY				
M4	Native Gardens Demonstration Project	Implementing garden demonstration projects that promote wise water use, native plants, manicured high-density replacement programs, and education on water conservation and xeriscaping.	Project	3-5 years
W3	Mitigating Water Quality Impacts	Implement activities that eliminate or reduce water quality impacts during drought.	Education, Engagement, & Project	3-5 years
R1	Resilience Among Recreation Service Providers	Investigate opportunities to help recreation service providers diversify their services in times of drought and improve recreation infrastructure accessibility during low-flow periods.	Engagement	3-5 years
R2	Gunnison Recreation Access Management Plan	Address continuity of management for recreation access.	Study & Engagement	3-5 years

RESPONSE ACTIONS

Response actions are **triggered during specific stages of drought** and implemented to mitigate and reduce the severity of the drought's impacts, whether it is emerging or ongoing. These are taken only in response to a stage of drought to take immediate protection measures, and are **temporary actions** by nature.

The primary response action for the Upper Gunnison Drought Plan is a communication strategy that is tiered based on the drought stage. The desired call to action for each audience is identified below. Note that each drought level builds upon the previous level's actions.

Table 2. Community Call to Action by Drought Level

DROUGHT LEVEL	COMMUNITY	WATER USERS / MANAGERS	DISTRICT
Level 0: Average Conditions	• Learn where your water comes from • Explore drought tools	• Advance mitigation actions • Proactively plan/prepare for future drought years	• Advance mitigation actions • Conduct drought education / awareness
Level 1: Dry Conditions	• Mind your water use, explore tools for using less water • Recreate responsibly, check for drought related closures	• Promote voluntary water saving measures • Communicate approach with constituents / peers	• Host drought awareness stakeholder meetings
Level 2: Extremely Dry Conditions	• Follow watering restrictions	• Enact water restrictions	• Share impacts and stories of resilience

LEADERSHIP AND EVALUATION

The District is the overall champion of this plan, with water users taking the lead to champion many of the mitigation actions. All activities listed in the plan are voluntary. The District and Task Force acknowledge that the key to success for implementation is ongoing communication, collaboration, and mutual support as activities are initiated.

Updates and progress will be shared with the District and posted on the Upper Gunnison Drought Plan website.

The District will host annual stakeholder meetings to monitor progress, share lessons learned, and make appropriate updates to this plan.

Navigating this Plan

The Upper Gunnison Drought Plan (UGDP) follows the framework, otherwise known as the Six Required Elements, provided by the Bureau of Reclamation. The National Drought Mitigation Center's The Basics of Drought Planning: A 10-Step Process was also used to develop the UGDP planning process. For this Executive Summary, the information was condensed to provide the public with a concise overview of the plan's outcomes.

This plan is documented in the following report and on the plan's website. The report contains a chapter for each of the Bureau of Reclamation's Six Required Elements:

1. Drought Monitoring:

Establish a process for monitoring weather and water supply conditions in the seven subbasins to identify and predict droughts, as well as classify and confirm drought intensity.

2. Vulnerability Assessment:

Identify potential drought-related risks, evaluate the risks to critical resources within the planning area, and the factors contributing to those risks.

3. Mitigation Actions:

Identify, evaluate, and prioritize drought actions and activities that will build long-term resilience to drought, mitigate the risks posed by drought, decrease sector vulnerabilities, and reduce the need for response actions.

4. Response Actions:

Identify, evaluate, and prioritize response actions and activities that can be quickly triggered during specific stages of drought and implemented to address and decrease the severity of impacts of an emerging or ongoing drought.

5. Operational and Administrative Framework:

Develop a framework to identify who is responsible for undertaking the actions necessary to implement each element of the plan, including communicating with the public about developments and updates.

6. Plan Development and Plan Update Process:

Document how the plan was developed, including stakeholder engagement and input. Develop a schedule for monitoring, evaluating, and updating the plan.

1. Drought Monitoring

DEFINING DROUGHT

The current drought monitoring processes, including methodologies and the determination of drought, as outlined by UGRWCD and Task Force members, are described in the following sections. Monitoring is conducted at annual and monthly intervals. Long-term monitoring of the data enables the potential recognition of drought cycles, drought recovery cycles, and the development of future improvements to monitoring efforts.

Drought is generally defined as "a deficiency of precipitation over an extended period of time (usually a season or more), resulting in a water shortage." [1] Types of drought may further be defined based on specific regions, needs, or assumptions. To aid in drought classification and monitoring, scientists have identified several types of droughts.

- **Meteorological Drought** is usually an expression of precipitation's departure from normal over some period. Meteorological measurements are the first indicators of drought.
- **Hydrologic Drought** refers to deficiencies in surface and subsurface water supplies. It is measured by streamflow and by the levels of lakes, reservoirs, and groundwater. There is a time lag between a lack of precipitation and less water in streams, rivers, lakes, and reservoirs, so hydrological measurements are not the earliest indicators of drought. When precipitation is reduced or deficient over an extended period, this shortage will be reflected in declining surface and subsurface water levels.
- **Socioeconomic Drought** occurs when physical water shortage starts to affect people, individually and collectively. Or, in more abstract terms, most socioeconomic definitions of drought associate it with the supply and demand of an economic good.
- **Agricultural Drought** occurs when there is not enough soil moisture to meet the needs of a particular crop at a particular time. Agricultural drought happens after meteorological drought and hydrological drought. Agriculture is usually the first economic sector to be affected by drought.
- **Ecological Drought** occurs when natural ecosystems are altered or degraded in such a manner as to impact critical functions of these ecosystems.

While these are good definitions for areas that depend on rainfall for their moisture, 80 percent of surface water supplies in Colorado are derived from snowpack. Through the Upper Gunnison Drought Planning (UGDP) process, a more practical definition of drought was used: "When the river has less water than average and the needs of the community and environment are not met."

> **"When the river has less water than average and the needs of the community and environment are not met."**

This section describes methodology for monitoring, classifying conditions of drought, and tracking drought for the Upper Gunnison River Basin.

[1] National Integrated Drought Information System. "Drought Basics." Accessed April 21, 2025. https://www.drought.gov/what-is-drought/drought-basics#defining-drought.

RECENT HISTORY OF DROUGHT

The Gunnison River Basin contributes approximately 16% of the annual natural streamflow within the entire Upper Colorado River Basin. A 2013 study indicated that streamflow within the Gunnison Basin would decrease by 15% through 2099[1]. Today, climate scientists indicate that warming temperatures will drive streamflow decreases of 20% by midcentury and 35% by the end of the century. [2]

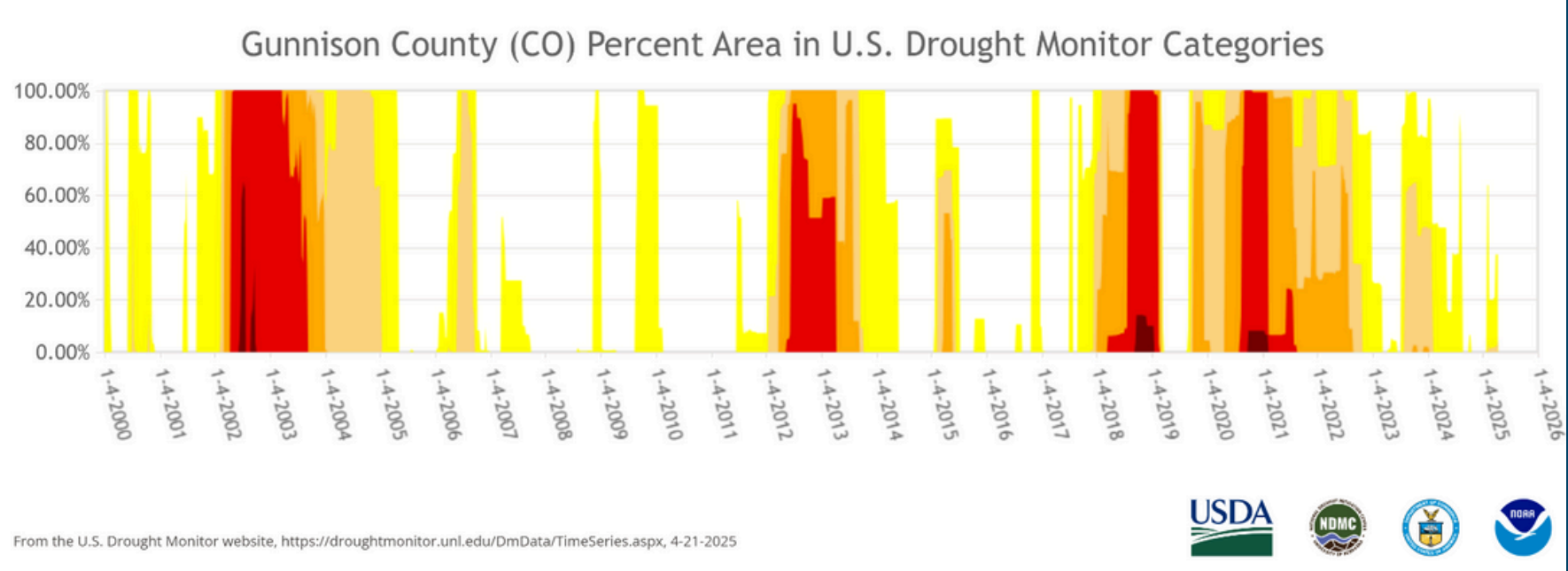
Many residents of the Upper Gunnison River Basin look back on the years of 2002, 2003, and 2004 as the worst drought on record. These years brought to light the vulnerabilities within the basin. Snowpack conditions were significantly below-average and would have been classified as a level 2 drought based on the UGDP drought classifications. By April 1, 2002, the snow water equivalent was around 52% of average. This low snowpack led to stream gages recording record low flows. On the Gunnison River at Gunnison, the average flow in September was the lowest since 1924.[3]

Blue Mesa Reservoir is located on the mainstem of the Gunnison River, with all of the Upper Gunnison River Basin's subbasins contributing to the reservoir's inflow. The next set of drought years, 2012 and 2013, demonstrated exacerbated impacts of drought on reservoir storage, leaving Blue Mesa Reservoir at 41% full. Due to this prolonged period of drought in the Upper Colorado River Basin, an agreement for drought response operations (DROA) was authorized by the four upper basin states (Colorado, New Mexico, Utah, and Wyoming), the Upper Colorado River Commission, and the Secretary of the Interior. This agreement allowed for releases from Blue Mesa Reservoir to occur in August 2021 to increase water levels at Lake Powell to protect hydropower generation at Glen Canyon Dam. Due to the timing of releases, in late summer and in a drought year, Blue Mesa Reservoir was 25% full, the lowest level in its history since the reservoir was filled (excluding an intentional release in the 1980s caused by a huge snowpack).

The U.S. Drought Monitor publishes historical drought conditions across the United States. Over the last 20 years, the Upper Gunnison River Basin has experienced frequent and prolonged multi-year droughts. As evidenced by Gunnison County's data, the area experienced severe to exceptional drought conditions from 2002 to 2004, 2011 to 2013, 2015, and 2018 to 2023. These conditions have stressed the vegetation within forests, increasing susceptibility to disease and bark beetle infestations, resulting in extremely dry soil conditions in the top meter across the entire Upper Gunnison River Basin. This has reduced streamflow runoff volume, caused earlier and more rapid seasonal snowmelt, and increased wildfire risk. In addition, six out of the last eight years have seen below-average Upper Gunnison River Basin snowpack. For example, on Oct. 13 of 2020, all the areas within the UGRWCD's boundary were in extreme drought or worse, with the top 1 meter of soil classified as very dry.[4]

[1] Miller, W. P., G. M. DeRosa, S. Gangopadhyay, and J. B. Valdés (2013), Predicting regime shifts in flow of the Gunnison River under changing climate conditions, Water Resour. Res., 49, 2966–2974, doi:10.1002/wrcr.20215.
[2] Bradley Udall, Jonathan Overpeck, 2017 The twenty-first century Colorado River hot drought and implications for the future
[3] Colorado Division of Water Resources. (2002). 2002 Annual Report. https://spl.cde.state.co.us/artemis/nrserials/nr5101internet/nr51012002internet.pdf
[4] National Drought Mitigation Center. (n.d.). Map Archive | U.S. Drought Monitor. Retrieved April 21, 2025, from https://droughtmonitor.unl.edu/Maps/MapArchive.aspx

Figure 4. Gunnison County Percent of Area in U.S. Drought Monitor Categories



Abnormally Dry	Moderate Drought	Severe Drought	Extreme Drought	Exceptional Drought

MONITORING DROUGHT

The Upper Gunnison River Basin is a snowmelt-dominated basin. Figure 5 below shows an example hydrograph. Streamflow varies throughout the year, but typically follows a predictable pattern. During the winter months, the basin experiences cold temperatures, and snowpack accumulates in the mountains. Streams are primarily fed by groundwater. Streamflows are low and relatively constant from day to day. Some streams may freeze over or form ice along their banks. Drought conditions may be challenging to detect, as the streams are typically low. In extreme drought years, dry conditions from the previous seasons may cause the groundwater contributions to streams to be lower than in average years.

In the spring, temperatures begin to rise and the snowpack begins to melt. Spring storms may bring snow or rain to the basin. Streams shift from groundwater sources to surface water sources as the snowmelt generates overland runoff. The hydrograph has a "rising limb" as streamflow increases. Drought conditions may be forecasted based on the amount of snowpack and other physical conditions in the basin. In years with very low snowpack, streamflow levels may be low. Water users expect the rising limb of the hydrograph. They may begin to experience shortages when the rising limb does not occur or after peak snowmelt runoff occurs and the declining limb begins sooner than expected. The slope of the "rising limb" and "falling limb", such as its steepness or duration, may also induce future drought conditions.

In the summer, temperatures are warm, and the snowpack completely melts off. Streams continue to be fed primarily by snowmelt runoff. In the late summer, groundwater contributions and rainfall events from the monsoon become more critical. Monsoons are defined as a seasonal shift in wind patterns that bring increased moisture and rainfall, primarily in the months of July through September. The hydrograph reaches a peak and begins to decline. The "falling limb" is typically longer than the rising limb. The Drought conditions may be observed based on the daily streamflow levels. Water users expect higher streamflow in early summer and may begin to experience shortages if streamflow levels are below average.

In the fall, temperatures begin to cool. Streams are primarily fed by groundwater and the occasional rainfall event. Streamflow levels continue to decline. Drought conditions may be observed based on the daily streamflow levels.

To help illustrate these seasonal patterns, data from the Lake Fork at Gateway, CO (USGS 09124500) gage was used to display streamflow over time graphically in Figure 5. Data from the Cochetopa Creek below Rock Creek near Parlin, CO (USGS 09118450) gage was used in Figure 6. Figures 5 and 6 below show these hydrographs. The following figure also illustrates the average annual streamflow in relation to snowpack accumulation.

Figure 5. Example Hydrograph Year Types

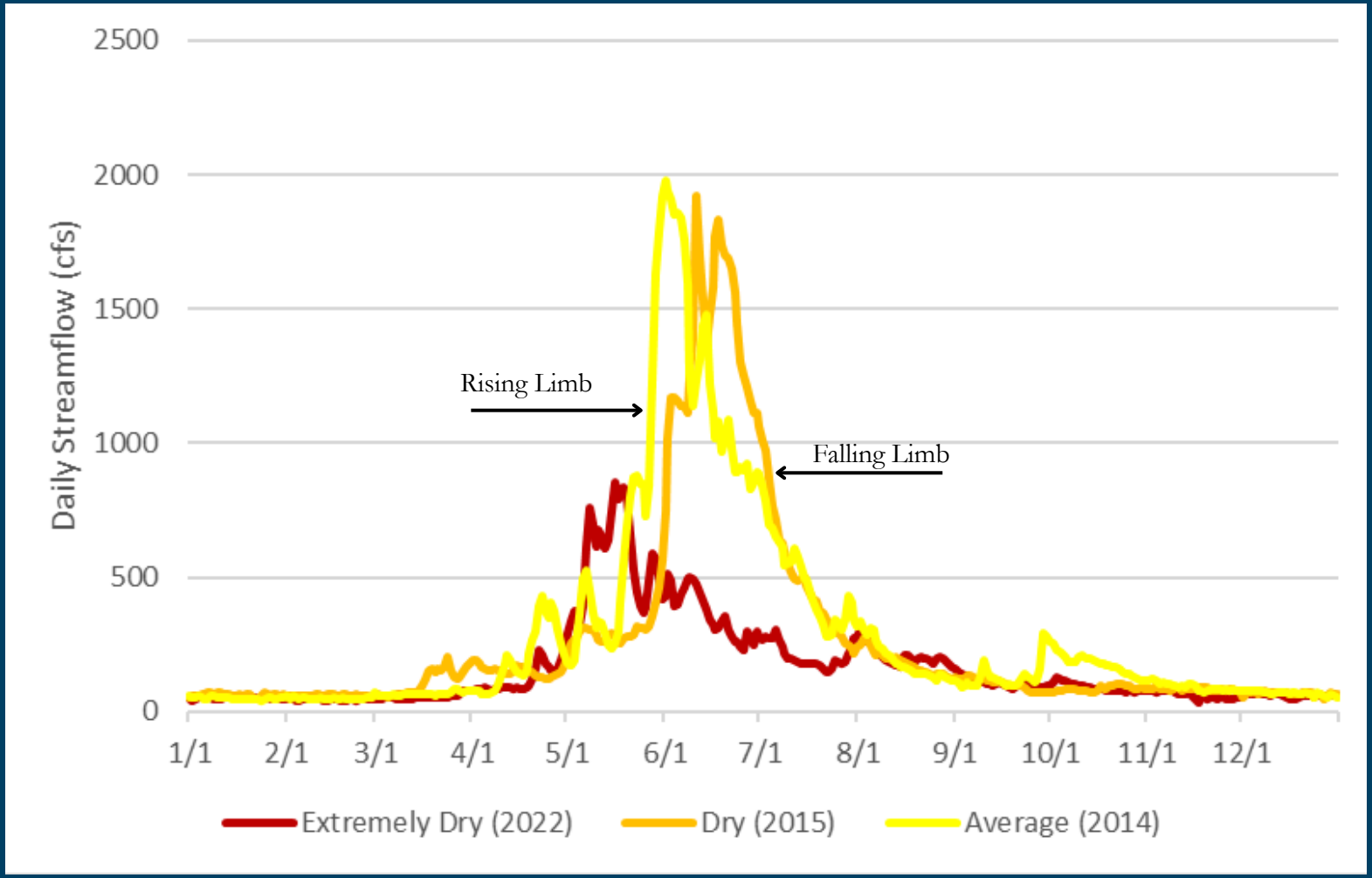
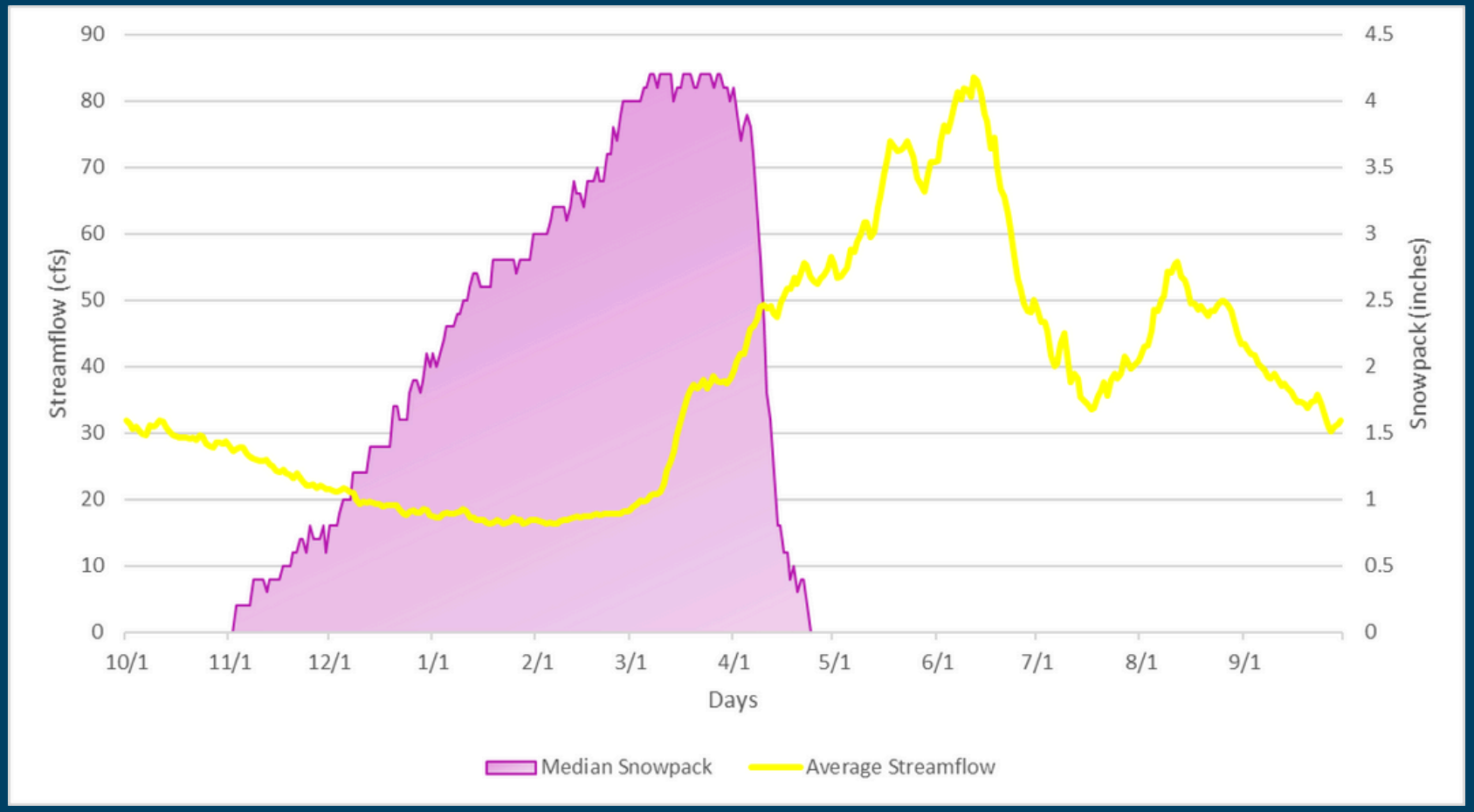


Figure 6. Example Hydrograph with Snowpack Accumulation



Due to the pattern of the hydrograph, drought conditions will look different throughout the year. To monitor current drought and predict future drought conditions in the streams and rivers, the following variables can be evaluated:

- Streamflow,
- Air Temperature,
- Precipitation,
- Snowpack,
- Soil Moisture, and
- Reservoir Storage.

Measuring and monitoring these variables provides data on current conditions and historical information, informing forecasting tools. These variables have different units of measurement. For example, snowpack is measured in inches of snow depth, while reservoir storage is measured as acre-feet. Equipment used to collect this information often includes climate stations, stream gages, automated snow weather stations, satellite imagery, airborne sensor-operated flights (ASO), and remote sensing. These variables help inform water managers and users throughout the year. Water managers may also rely on field snow course surveys, spring source production, monitoring of dust on snow events, and other visual observations to inform decisions.

For example, dust on snow influences snowmelt by reducing snow's albedo, its ability to reflect sunlight. These events act as a catalyst, absorbing solar energy and driving the snowmelt process to start earlier and be faster than what naturally occurs. Using observations from these events, data from nearby automated snow weather sites, and weather forecasts, forecasters can evaluate how these events may influence snowmelt timing and rates during the runoff season.

During the UGDP process, the Task Force and stakeholders identified drought monitoring data sources. This information is used to provide details about drought conditions, precipitation, snowpack, and reservoir storage. Data sources for these variables vary from national to regional agencies, providing a range of sources. Table 3 summarizes data sources by variables used to monitor drought.

Local and national forecast providers utilize data collected from these sources to provide snapshots of current conditions, evaluate past years, and generate forecasts. Table 4 summarizes when each type of variable is most applicable when monitoring drought conditions. Multiple forecast providers may use some of the same data collections. The figure below shows the locations of measurement stations used to collect this data.

Table 3. Drought Monitoring by Data Source

Data Source(s)	VARIABLES					
	Temperature	Precipitation	Streamflow	Snowpack	Soil Moisture	Reservoir Storage
National Integrated Drought Information System (NIDIS)	Y	Y			Y	
Colorado Basin River Forecast Center (CBRFC)	Y	Y	Y	Y	Y	Y
National Resource Conservation Services (NRCS)		Y	Y	Y	Y	Y
Division of Water Resources (DWR)			Y			
U.S. Geological Survey (USGS)	Y		Y			
CoAgMET	Y	Y			Y	
National Oceanic and Atmospheric Association (NOAA)	Y	Y				
Colorado Decision Support System (CDSS)	Y	Y	Y	Y		Y
ASO Flight/Snowpack Collections				Y		
WRF-Hydro Modeling	Y	Y	Y	Y	Y	Y
Bureau of Reclamation (BOR)						Y
Rocky Mountain Biological Laboratory (RMBL)	Y		Y		Y	
Center for Snow and Avalanche Studies (CODOS)		Y	Y	Y		

Table 4. General Timestep for Data Collection

Month	Variables(s)	Type of Forecast(s) and Provider(s)	Frequency	Use(s)		
				Current Conditions	Historical Data	Future Conditions
November - December	Temperature Precipitation Soil Moisture Reservoir Storage	U.S. Drought Monitor	Weekly; Thursdays	☑	☑	☑
		CBRFC Soil Moisture	Yearly; November 15	☑	☑	☐
		BOR Reservoir Content	Daily	☑	☑	☐
February - July	Streamflow Temperature Precipitation Soil Moisture Snowpack	U.S. Drought Monitor	Weekly; Thursdays	☑	☑	☑
		NRCS Snow Water Equivalent	Daily	☑	☑	☐
		Seasonal Water Supply by CBRFC and WRF-Hydro Modeling	Monthly; As flights are completed by ASO, Inc.	☐	☑	☑
March - April	Streamflow Temperature Precipitation Soil Moisture Snowpack	U.S. Drought Monitor	Weekly; Thursdays	☑	☑	☑
		NRCS Snow Water Equivalent	Daily	☑	☑	☐
		Seasonal Water Supply by CBRFC and WRF-Hydro Modeling	Monthly; As flights are completed by ASO, Inc.	☐	☑	☑
May - July	Streamflow Temperature Precipitation Soil Moisture Snowpack	U.S. Drought Monitor	Weekly; Thursdays	☑	☑	☑
		NRCS Snow Water Equivalent	Daily	☑	☑	☐
		USGS and CDSS Streamflow	Daily	☐	☑	☐
August - October	Streamflow Temperature Precipitation Reservoir Storage	U.S. Drought Monitor	Weekly; Thursdays	☑	☑	☑
		BOR Reservoir Content	Daily	☐	☑	☐
		USGS and CDSS Streamflow	Daily	☐	☑	☐

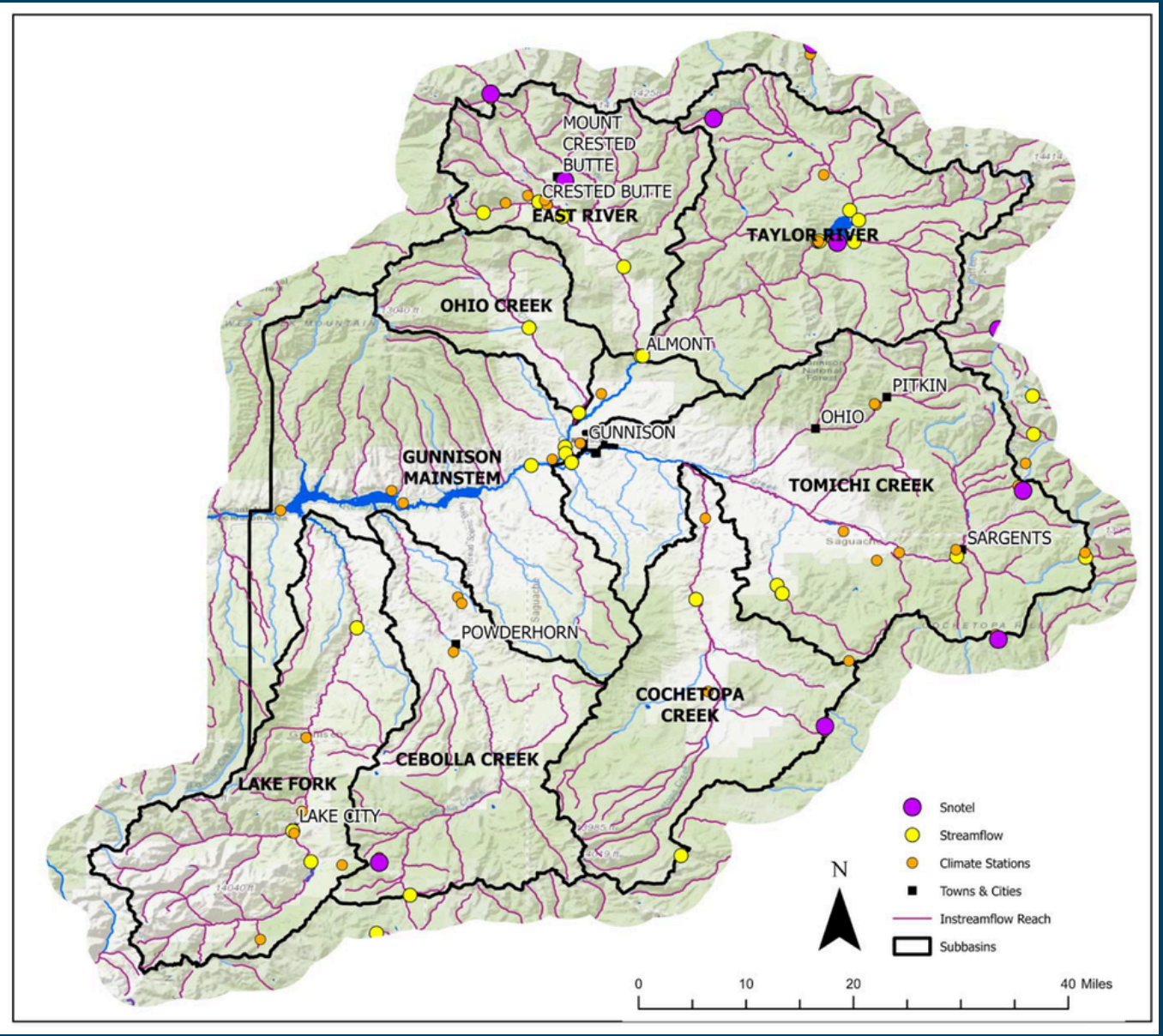
DROUGHT MONITORING BY SUBBASIN

The Upper Gunnison River Basin consists of seven subbasins that ultimately join the Gunnison River mainstem upstream of or within Blue Mesa Reservoir. Each subbasin has unique characteristics that affect local drought impacts. The Upper Gunnison River Basin Watershed Management Plan (WMP) provides a detailed description for each subbasin. These sections include:

- Basin characteristics, including various maps and figures showing watershed boundaries, including HUC-12 drainages, geologic features, stream gages, instream flow reaches, and active diversions.
- Data assessments of streamflow measurements, climate data, irrigated acres, water rights, diversion records, irrigation practices, return flow parameters, impacts of storage, reservoir management, and augmentation plans.
- Assessing current uses for different water sectors.

Given the robust information available from the WMP, this drought plan only provides basin characteristics and assessments that are associated with drought monitoring. Currently, most sub-basins have existing data collection sites, but many could benefit from additional drought monitoring equipment. In the following subsections, the available data sources for variables, primary values (as defined in the WMP), drought quantification based on available data, and the identification of information gaps are described for each subbasin.

Figure 7. Station Locations in the Upper Gunnison River Basin



Ohio Creek

- **Primary value** is agriculture.
- Total acres 102,110 in the basin with approximately 12,765 acres irrigated.
- Approximately 66 percent of the land within the basin is public.
- There are eight decreed instream flow water rights.
- **Minimal water storage** exists with only 350 acre-feet for maintaining minimum natural lake levels, recreation, livestock, and wildlife.
- There are **two active stream gages** located in the basin.
- The Colorado Basin River Forecast Center (CBRFC) provides forecasts for water supply availability at the Gunnison River near the Gunnison gage location, which is downstream of the confluences of Ohio Creek and the Gunnison River.
- **This basin lacks SNOTEL sites** and climate stations.
- The Colorado Water Conservation Board (CWCB) plans for a remote cloudseeding generator that will benefit this basin.

East River

- **Primary values** are agriculture and recreation, with municipal uses (Crested Butte and Mt. Crested Butte) and industrial uses (snowmaking at Crested Butte Mountain Resort).
- Total acreage is 185,160 acres with approximately 7,875 acres irrigated.
- Approximately 78 percent of the land within the basin is public.
- There are 28 decreed instream flow water rights.
- **Minimal water storage** exists, with only 4,000-acre feet of storage, with the primary use of minimum natural lake levels. This basin is home to the Meridian Lake Reservoir, which is used to augment wells and ponds in the basin.
- There are **five active stream gages,** two of which operate seasonally (approximately April 1 to Nov 15).
- There **are two active climate stations**.
- There **is one active SNOTEL site**: Butte site is located northwest of Crested Butte Mountain at an elevation of 10,190 feet.
- The CBRFC provides forecasts for water supply availability above the confluence of the East River and the Gunnison River near Almont.
- ASO, Inc. provides airborne snowflights and water supply forecasting using the WRF-Hydro Model.

Taylor RIver

- **Streamflow** is regulated by Taylor Park Reservoir.
- **Primary value** is recreation.
- Total acreage is 305,550 acres with approximately 773 acres irrigated.
- Approximately 95 percent of the land within the basin is public.
- There are 18 decreed instream flow water rights.
- **Water storage** exists within Taylor Park Reservoir with a total storage capacity of 106,200-acre feet for the downstream purposes of irrigation, enhanced fisheries, and recreation. Hydroelectric power is generated as releases are made for downstream purposes.
- There are **five active stream gages** located in the basin.
- There are **two active climate stations**.
- There are **two active SNOTEL sites**: Park Cone is located north of Park Cone Mountain at an elevation of 9,600 feet, and Upper Taylor is located north of Mount Tilton at an elevation of 10,710 feet.
- The CBRFC provides forecasts for water supply availability on the Taylor River at Almont and at Taylor Park Reservoir gage locations.
- WRF-Hydro Modeling for Taylor Park Reservoir inflow is conducted regularly. This water supply forecast information is used to inform water management operations for the reservoir.
- ASO, Inc. provides airborne snowflights for this basin.

Tomichi Creek including Cochetopa Creek

- **Primary value** is agriculture.
- Total acreage of Tomichi Creek is 452,920 acres with approximately 18,584 acres irrigated. Total acreage of Cochetopa Creek is 250,580 acres with approximately 6,459 acres irrigated.
- Approximately 85 percent of the land within Tomichi and 93 percent of the land within the Cochetopa basins are public.
- There are 43 decreed instream flow water rights.
- **Minimal water storage** exists with about 3,000 acre feet for maintaining minimum natural lake levels, recreation, livestock, and wildlife.
- There are **five active stream gages** located in the basin.
- There are **seven active climate stations**.
- There are **three active SNOTEL sites**: Sargents Mesa site is located east of Sargents Mesa Mountain at an elevation of 11,490 feet, Porphyry Creek site is located along Porphyry Park Road (County Road 2378) at an elevation of 10,760 feet, and Cochetopa Pass site is located near the intersection of Cochetopa Road and Cantonment Road at an elevation of 10,020 feet.
- The CBRFC provides forecasts for water supply availability at Tomichi Creek at the Gunnison gage location.

Cebolla Creek

- **Primary values** are agriculture and recreation.
- Total acreage is 250,160 acres with approximately 2,792 acres irrigated.
- Approximately 90 percent of the land within the basin is public.
- There are 21 decreed instream flow water rights.
- **Minimal water storage** exists with only 270 acre-feet for maintaining minimum natural lake levels, recreation, livestock, and wildlife.
- There are **two active climate stations**.
- There is **one active SNOTEL site**: Slumgullion site is along Colorado Highway 149 at an elevation of 11,440 feet.
- **This basin lacks** stream gages.

Lake Fork

- **Primary values** are agriculture and recreation with municipal and industrial uses.
- Total acreage is 276,850 acres with approximately 1,566 acres irrigated.
- Approximately 82 percent of the land within the basin is public.
- There are 33 decreed instream flow water rights.
- **Minimal water storage** exists with just over 2,000 acre-feet for recreation, livestock, wildlife, and augmentation purposes. This basin is home to Lake San Cristobal that has 14,000 acre-feet of storage decreed for minimum lake levels. The lake also has active storage for other uses including augmentation.
- There are **three active stream gages** located in the basin.
- There are **two active climate stations**.
- The CBRFC provides forecasts for water supply availability at Lake Fork at Gateview gage location.
- **This basin lacks SNOTEL sites**.

Gunnison Mainstem

- **Primary values** are agriculture, municipal uses, and recreation.
- Total acreage is 399,550 acres with approximately 10,996 acres irrigated.
- Approximately 79 percent of the land within the basin is public.
- There are 18 decreed instream flow water rights.
- **Water storage** exists along the mainstem in Blue Mesa Reservoir. This on-channel reservoir has a total capacity of 940,700 acre-feet. It is located downstream of most subbasins in the Upper Gunnison River Basin, with Lake Fork and Cebolla Creek entering the reservoir from the south.
- There are **three active gages** located in the basin.
- The CBRFC provides forecasts for water supply availability at the Gunnison River near the Gunnison gage location and Blue Mesa Reservoir.
- **This basin lacks SNOTEL sites**.

DROUGHT CLASSIFICATION

Since the Upper Gunnison River Basin's available water supply is driven primarily by snowmelt, the UGDP emphasizes snow water equivalent (SWE) totals as a vital data point when monitoring drought and is the foundation of the drought tracker. The Task Force participated in an exercise to determine the hydrologic classification, triggers, and thresholds related to annual and monthly snow water equivalent totals.

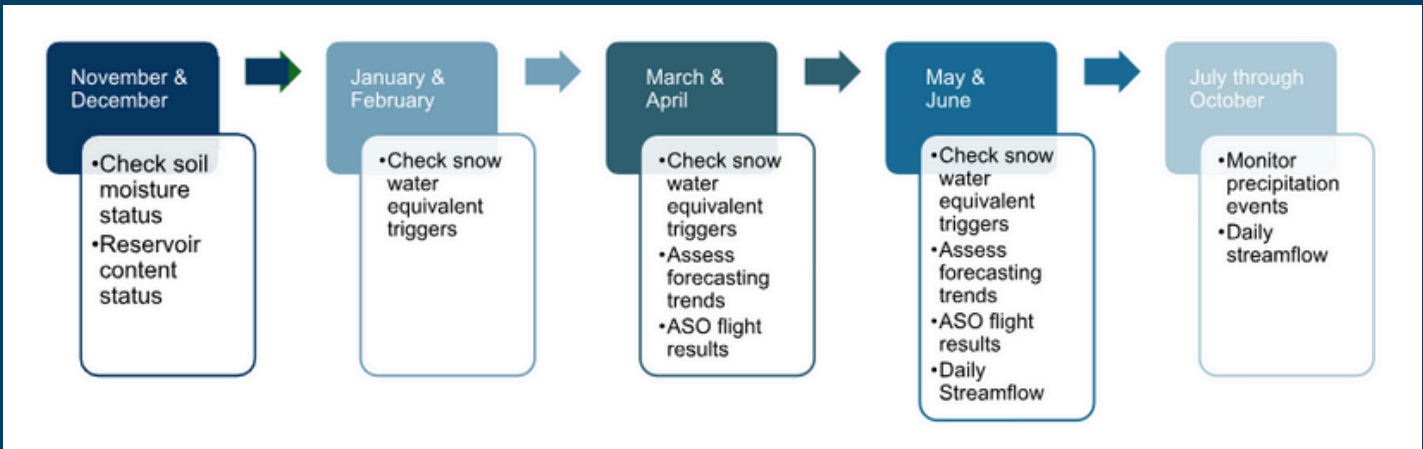
The Task Force established the hydrologic classifications and thresholds to be used for drought tracking in the UGDP. These classifications are more conservative than the percentiles traditionally used. One goal of the UGDP is to educate the community on drought risks and impacts. By setting conservative thresholds, the community can be proactive when addressing drought and learning how to adapt to the changing climate. Additional details about these thresholds and hydrologic classifications used for variables and data sources may be found in Appendix A.

TRACKING DROUGHT

The UGRWCD supports and participates in multiple water-supply monitoring activities in the Upper Gunnison River Basin. UGRWCD and a consortium of partners provide financial support for airborne LiDAR snowflights and WRF-Hydro Model forecasting for the Taylor Basin and the East/Slate Basin, and fund long-term stream gauging within the basin. The Taylor Local Users Group (TLUG) uses forecasts to inform management decisions for Taylor Park Reservoir. These forecasts are the leading standard in water supply forecasting at this time. However, they are labor-intensive and expensive, limiting the geographic scope to just the two highest water-producing basins. The UGDP supports achieving this level of forecasting across the entire Upper Gunnison River Basin in the future.

UGRWCD provides its Board of Directors with monthly memoranda on basin water supply information, including information about drought, precipitation, soil moisture, snowpack, and reservoir storage. In addition to this information, the UGRWCD will utilize water supply forecasting tools and other relevant data to monitor and track drought. Updates to the Board and public will increase in frequency as drought levels are declared. Drought tracking will occur on an annual basis regardless of drought stage for the subbasins of the Upper Gunnison River Basin.

Figure 7. Drought Monitoring Timeline and Benchmarks



As snow accumulates throughout the winter, the UGRWCD uses the following timeline to track the likelihood of drought in the Upper Gunnison River Basin during the upcoming water year. The drought tracker will be shared on uppergunnisondroughtplan.org under "Drought Conditions." The tracker will be updated monthly to determine what stage of drought the Upper Gunnison River Basin is experiencing at that time.

The monthly inputs for the drought monitoring benchmarks are described below. Based on the drought classifications developed by the Task Force, the results of each month's input will be presented based on the hydrologic classification scale.

- **Drought Level 0** – Each monthly variable was estimated as having "Average" conditions.
- **Drought Level 1** – Some monthly variables were estimated as having "Dry" conditions.
- **Drought Level 2** – Some monthly variables were estimated as having "Extremely Dry" conditions.

The drought tracker evaluates the available data for the Upper Gunnison River Basin to assess overall drought conditions. A summary of these drought monitoring benchmarks by subbasin is generated as conditions for each month's variable are added. These results are displayed on the UGDP website and will be updated monthly. The results are summarized by subbasin and for basins with more than one benchmark input for a single month, the average of the inputs is shown.

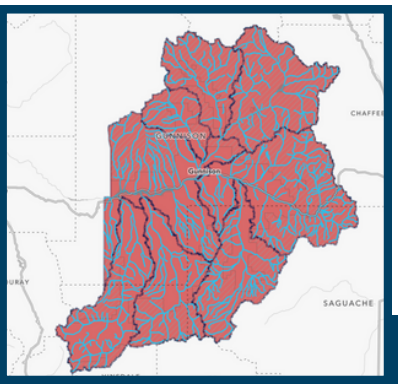


Table 5. 2025 Drought Tracker Results**

	November & December		January	February	March	April		May	
	Soil Moisture	*Storage*	*SWE*	*SWE*	*SWE*	*SWE*	*Forecasts**	*SWE*	*Forecasts**
Ohio Creek									
East River									
Taylor River*									
Tomichi Creek*									
Cochetopa Creek									
Cebolla Creek									
Lake Fork									
Gunnison Mainstem									

*For basins with more than one benchmark input for a single month, the average of the inputs was used to complete the table.
**Time period shown is only for snow accumulation and start of runoff period. To see tracker in its entirety, visit the UGDP website.

Potential activities for releasing this tracker results and drought status updates at each drought level may include:

- **Drought Level 0** – Data for each variable will be collected and published. The UGRWCD will host an annual UGDP meeting in April each year.
- **Drought Level 1** – Data for each variable will be collected and published. The UGRWCD will host an annual UGDP meeting in early June when May updates to the drought tracker result in Level 1 conditions. Activate the drought communication plan as described in Section 4: Response Actions.
- **Drought Level 2** – Data for each variable will be collected and published. The UGRWCD will host UGDP meetings in July and August when the June updates to the drought tracker result in Level 2 conditions. Routine meetings may continue into the spring and summer as needed.

2. Vulnerability Assessment

The vulnerability assessment was informed by the stakeholder assessment (Appendix F) and reviewed/discussed by the Task Force. Responses are generally organized by impacts, vulnerabilities, and risks associated with drought. Drought impacts are defined as direct consequences that result from decreased water availability, whereas vulnerabilities refer to pre-existing or future conditions that increase susceptibility to drought.The following subsections include summaries from the assessment. This section also quantifies economic impacts due to drought, a hydrologic assessment of drought, and addresses climate change impacts.

IMPACTS OF PAST DROUGHTS

As part of the stakeholder assessment, a series of questions was asked to better understand what drought impacts participants have experienced. Many impacts cut across water sectors and users. These impacts are summarized below by category.

Agricultural Impacts

- Decreased productivity on grass pasture fields and damage to crop quality are some of the most common impacts from drought. Drought impacts plants by creating water stress within the plant, which in turn affects its growth, metabolism, and ability to absorb essential resources.
- Pastures and grazing areas are also impacted by drought due to the increased presence of weeds.
- Droughts reduce stream flow and dries up seeps and springs, which cattle depend on for drinking water. This requires the ranchers to haul water to the cattle or move the cattle to areas with access to water before the cattle have eaten the available grass.
- Drought increases ranchers' concerns over wildfire risk.
- It may take multiple years to recover from damages due to drought on pastures and rangelands.
- Potential loss of water rights could impact water security.
- Drought creates financial strains, causing ranchers to make challenging decisions regarding culling their herd size, land management, and the need for supplemental feed.
- When drought renders one pasture unusable, the additional work and costs required to get the land productive again in future years are substantial.
- When flows are low in the river, in-river manipulation is needed to divert water. This poses challenges in ensuring that in-river work does not impact downstream users. Manipulating their diversions in drought years may cause reaches of the river to go dry when diverting water rights.
- All these negative impacts can increase community conflict, increase the stress on cattle, the mental health of the labor force, and business costs.

Watershed and Recreation Impacts

- Climate change and drought have increased the aridification of the landscape. Aridification causes a long-term reduction in water availability, leading to decreased streamflow, lower groundwater levels, and a decline in overall water quality due to increased concentration of pollutants. This sustained drying fundamentally alters the natural hydrologic cycle, diminishing the basin's capacity to support ecosystems and human needs.
- Recreation-focused participants identified shortened recreation seasons and stress on fisheries as the common impacts from drought.

- Many participants identified the impact of drought on overall fish health. These impacts ranged from a lack of adequate habitat to increasing water temperatures to an increasing number of anglers/users in a specific reach.
- Opportunities for recreational experiences decrease during drought. This has an impact on the local and regional economies, labor force, and river safety.
- Drought impacts water quality in multiple ways. Decreased stream flows generally concentrate pollutants and elevate water temperatures. Prolonged drought may exacerbate impacts from historic abandoned mines by increasing the rate of metals released from mineralized rock and sediment.
- In rivers and streams, a lack of scouring flows and/or elevated nutrient concentrations may increase algal growth.
- In lakes and reservoirs, elevated water temperatures and decreased water levels often increase the likelihood of harmful algal blooms, which can lead to swim beach closures and impact aquatic life. In some instances, these conditions can also cause fish kills.
- Degradation due to drought occurs across the landscape from wetlands to the forest canopy. It can take multiple years for the ecosystem to recover from drought (e.g. beetle kill).
- Drought conditions severely impact terrestrial wildlife by reducing access to food and water, affecting the health of the population, disturbing habitats, and increasing competition for resources.

Municipal and Industrial Impacts

- Municipal providers noticed increased pressures on water availability, the need for water supply protection, and the development of redundant water supplies.
- Municipal providers noticed an increase in potable water use for outdoor irrigation during drought.
- Drought impacts treatment technologies and costs by altering source water quality due to reduced water availability, increased likelihood of harmful algae blooms, and water temperatures. These impacts lead to more complex and costly treatment processes to provide safe drinking water and to protect the natural environment.

Overarching Impacts

- The increased risk of wildfire due to drought is a concern shared by everyone.
- Increased conflict between water users occurs during drought due to the decreased water supply. This can be observed on small scales, such as conflicts between individual water users diverting from the same stream, and on large scales, such as conflicts between the needs of the environment and those of the human population.
- The quality of life and the mental health of the community are major concerns during drought. Many people call the Upper Gunnison River Basin home because of their love for the great outdoors. The far-reaching impacts of drought affect everyone.

Economic Impacts - Qualitative

- Drought significantly impacts the Upper Gunnison River Basin's economy, primarily due to the basin's reliance on agriculture, outdoor recreation, and tourism.
- Decline in tourism and recreational use can lead to decreased revenue for local businesses, including hotels, restaurants, and recreational service providers.
  - Summer recreation is impacted when drought lowers reservoir levels (such as Blue Mesa or Taylor Park Reservoirs), impacting boating and fishing opportunities.
  - Winter recreation is impacted by reduced snowpack, which causes shorter ski seasons, closed terrain, and canceled ski trips.
- For agriculture, drought reduces water availability for irrigation, harming crop production and livestock ranching. This leads to decreased agricultural output, lower incomes for farmers and ranchers, and potential job losses in related sectors.
- When drought occurs, the entire community experiences economic impacts. When recreational opportunities are decreased, this leads to fewer visitors in the region. The businesses that would benefit from these visitors lose revenue and may struggle to retain a labor force. Additionally, agencies relying on permitting fees have seen a decrease in revenue.
- Drought exerts significant economic pressure on municipal water providers, impacting both their revenues and expenditures, and ultimately affecting the affordability and reliability of water services.

Economic Profile of the Region

- The 2022 census of agriculture reported for Gunnison County a total value of $16,882,000 for livestock and $4,408,000 for forage.
- The county reported a total of 16,299 head of cattle with 124 beef operations.
- The county reported that 106 operations produced 46,610 tons of forage.
- The 2023 economic impacts of commercial river rafting in the Upper Gunnison River Basin total over $2,260,000 in direct expenditures, with an economic impact of $5,802,152.[4]
- The economic contributions of outdoor recreational activities in Colorado during 2023 showed that wildlife-related activities generated $3.585 billion on the Western Slope, with residents being responsible for $2.19 billion of this total. [5] Gunnison County is one of 20 counties on the Western Slope.

[4] Colorado River Outfitters Association. (n.d.). Annual Commercial River Use Report. [3]Colorado Parks and Wildlife. (2024). Colorado SCORP 2023 Economic Contributions (CPW-22-02 FINAL 2024-09-26). [1]National Integrated Drought Information System. "Drought Basics." Accessed April 21, 2025. https://www.drought.gov/what-is-drought/drought-basics#defining-drought.

[5] Colorado Parks and Wildlife. (2024). Colorado SCORP 2023 Economic Contributions (CPW-22-02 FINAL 2024-09-26). [1]National Integrated Drought Information System. "Drought Basics." Accessed April 21, 2025. https://www.drought.gov/what-is-drought/drought-basics#defining-drought.

VULNERABILITIES

As part of the stakeholder assessment, a series of questions was asked to gain a better understanding of what makes the Upper Gunnison River Basin vulnerable to drought and how these impacts are represented in its communities. Many vulnerabilities cut across water sectors and users. These vulnerabilities are summarized below by category. Drought impacts are defined as direct consequences that result from decreased water availability, whereas vulnerabilities refer to pre-existing or future conditions that increase susceptibility to drought. Vulnerabilities are summarized below by water sector.

Agricultural Vulnerabilities

- The carrying capacity of the landscape used for agricultural purposes is reaching capacity. This causes vulnerability during drought years, including fewer forage opportunities, disruption of grazing, and lack of grazing locations, making it difficult to support existing livestock.
- Existing agricultural diversion structures and delivery systems are vulnerable due to age and labor-intensive practices because they are not automated, resulting in slower response times.
- Water users who are less efficient may be more vulnerable to drought.
- Many agricultural irrigators feel increasingly isolated as development intensifies, and they worry that they are no longer welcome in the community.

Environmental and Recreational Vulnerabilities

- Drought impacts the overall health of the watershed and forests. Continued forest degradation due to drought makes it difficult for conservation and management activities to keep pace and effectively address these impacts.
- Habitats are vulnerable to economic pressure from future developments, recreational activities, and agricultural uses with a lack of protection (e.g., conservation easements, land designations, etc.).
- Recreational opportunities become less available, and there is an increase in concentration of use in certain areas due to drought.
- Recreation in the basin experiences stresses due to infrastructure limitations and failures, water availability, and an increase in river users who lack proper information and education on user etiquette and safety.
- Drought increases the probability of wildfire by creating dry vegetation. Droughts typically correspond with hot air temperatures, which increase potential risks for high-intensity and rapid spreading wildfire events.
- Beetle kill infestations exacerbate drought vulnerability by reducing forest health, leading to decreased water retention in the landscape and increased susceptibility to wildfire, further stressing already limited water resources.

Municipal and Industrial Vulnerabilities

- Municipal water providers with limited sources of water are more vulnerable to drought because they lack the flexibility, redundancy, and alternative supplies to compensate for reduced water availability from those few sources, making them highly susceptible to shortages and increased operational challenges.
- Municipal water providers' raw water sources and infrastructure may be located on private property or public lands, not owned by the municipal water provider. This is a vulnerability because they do not have as much control over the water quality or health of the watershed when they do not own the property.
- Municipal water providers may have junior water rights, making it difficult to maintain or access. During droughts, they may not be able to utilize their total allotment due to water administration when senior water rights holders place calls.
- Increasing source water collection and treatment costs will impact water providers' ability to provide reliable, safe drinking water.
- Decreased revenue due to limited water supply.
- Decreased stream flows may increase treatment costs at wastewater treatment facilities in order to comply with permit requirements.

- Many communities have not yet implemented water reuse measures or other techniques to curb water use (e.g., tiered rate structures, landscaping restrictions, drought policy, and water restrictions). Higher overall water demand increases the probability of water shortages.
- Grant and other funding possibilities to implement, and educate the public are not always available.
- Together water and wastewater treatment costs affect the overall affordability of the community.

Overarching Vulnerabilities

- Climate change intensifies drought conditions by increasing temperature and altering precipitation patterns. These changes affect snowpack and runoff timing and may increase the frequency of dust-on-snow events, which can impact runoff timing.
- Decreasing water availability reduces groundwater recharge, which is an important factor in agricultural and municipal water use.
- Subbasins' locations in the watershed headwaters lead to fewer storage opportunities.
- The mental health of the community is vulnerable to drought due to the stress and uncertainty associated with prolonged drought.
- The Upper Gunnison River Basin may become more vulnerable to drought due to large-scale drought impacts in the Upper Colorado River Basin. There are larger policies that can impact the Upper Gunnison River Basin, such as the implementation of DROA activities.

FUTURE RISKS AND CONCERNS

As part of the stakeholder assessment, a series of questions was asked to understand better the community's concerns, potential areas of risk, and anticipated future impacts related to drought. Many concerns are cross-cutting across water sectors and users. These concerns are summarized below by category.

Agricultural Concerns

- Agriculture water users are concerned about the future possibilities of "buy and dry" and how more drought may increase non-agricultural demands for water. The term "buy and dry" refers to the practice of a non-agricultural water user buying water rights from agricultural users and transferring the water to another use. This action may lead to the loss of agricultural lands, western heritage, impacts on the local economy, and environmental consequences.
- Future droughts may impact a rancher's ability to manage their existing herd, leading to a reduction of their herd size, which directly correlates with revenue potential. While several strategies may be implemented to manage the situation, ultimately, ranchers may need to make tough decisions to protect the core of their herd and the long-term health of their irrigated lands and grazing areas.
- Reduced crop production during a drought exacerbates the drought's impacts on ranchers and their livestock by increasing the costs of sustaining herds over the winter and through prolonged droughts periods.

Environmental Concerns

- The carrying capacity of the landscape for all uses is a concern. Drought can impact the ability of landscapes to support life by reducing water availability, decreasing food production, causing habitat degradation, and increasing overall stress for all uses. These impacts may lead to population declines or ecosystem imbalances.
- When stream flows are reduced, water quality is likely to decline.
- Species movements, both native and nonnative, could be impacted when habitat and water supply become less available.
- Wildfire risk increases with drought.
- Future droughts may create conditions that favor the establishment, spread, and persistence of noxious weeds. While some weeds may be suppressed in the short term, long-term consequences exist.
- Drought weakens the forest by stressing vegetation and causing forest degradation, which makes the forest more susceptible to disease and fire. This reduces the forest's ability to mitigate drought, which makes it more susceptible to drought. This devastating cycle has far-reaching consequences for all users.

Municipal and Industrial Concerns

- Many residents in the Upper Gunnison River Basin rely on domestic (household) wells, which pump groundwater from alluvial and bedrock aquifers. The aquifers are recharged through precipitation percolation and by subsurface irrigation return flows. Decreasing water availability will reduce these sources of recharge and lower the aquifer level. Residents may need to deepen their wells or find alternative sources of water.
- Municipal providers requested assistance in sharing a consistent message about water availability to their residents and visitors.

- Decreased stream flows may create more stringent permit limitations for point source dischargers to protect existing water quality. To meet these limitations, wastewater treatment facilities may need to upgrade existing treatment systems or install additional treatment which in turn affects ratepayers and the overall affordability of our communities.
- Future development will require additional water. This will impact water supplies as the community grows both in the municipal services areas and in rural areas.

Overarching Concerns

- Water administration will become more frequent as drought becomes more severe. Some water users will need to learn how to manage water under Colorado water law when "free river" conditions no longer exist.
- With the need for tighter water administration, stricter rules may apply to the measurement of water rights.
- Federal, state, and local priorities are constantly changing and if priorities shift away from drought, there could be less support to advance drought resilience. For example, changes in federal policy/funding could reduce incentives to advance drought resilience projects or initiatives.
- Drought is a stressful time. Concerns were raised about how collaborative efforts may break down or fatigue may set in when jumping from one drought crisis to the next.
- Water users in the Upper Gunnison are adapted to the current hydrology of the river system. Drought disrupts the timing of water, from precipitation to return flows, and will have wide-reaching impacts in the future. This change in timing will impact water users' ability to use water at the time, place, and in the quantity needed.
- The amount of precipitation that falls as snow is likely to change, along with the rate and duration of snowpack accumulation. Such changes will alter streamflow, but longer growing seasons, increased water uptake by plants, and losses to evaporation will increase the magnitude of these changes.

HYDROLOGIC ASSESSMENT

The Upper Gunnison River Basin has experienced extremely variable hydrology in recent decades. When evaluating this variability through time, the Gunnison River near Gunnison (UGSS 09114500) stream gage was used. This gage was used to best represent the overall climate impact on the Upper Gunnison River Basin. Four tributaries contribute to the Gunnison River above this gage: Ohio Creek, Taylor River, East River, and Tomichi Creek downstream of its confluence with Cochetopa Creek. For a more detailed account of how climate variability occurs on a subbasin scale, refer to the Upper Gunnison River Watershed Management Plan.

The Gunnison River near Gunnison stream gage has a period of record from October 1, 1910, to the present day, with missing data from water years 1928 through 1944. The annual streamflow varies significantly depending on the snowpack and summer monsoon rains. Figure 8 shows the extreme variability that has occurred in the past. Using the hydrologic classification described in the Drought Monitoring section, 2018's total annual flow would be classified as an "extremely dry" year, while 2019's total yearly flow would be classified as a "average" year. The annual streamflow in this "average" year of 2019 (706,700 acre-feet) was three times higher than the annual streamflow in the "extremely dry" year of 2018 (252,400 acre-geet). This example (Figure 9) demonstrates the hydrologic extremes the basin experiences within only two years.

The 10-year running average of annual streamflow hit an all-time low in 2007 due to five consecutive years of dry climate and hydrology. Since 2000, the Gunnison River has experienced more "below average years than any other 23-year period since measurements began in 1910. Using the hydrologic classification described in the Drought Monitoring section, since 2000, only nine years have been classified as "average" out of 25 years.

Figure 8. Gunnison River near Gunnison Annual Streamflow (Period of Record 1954-2024)

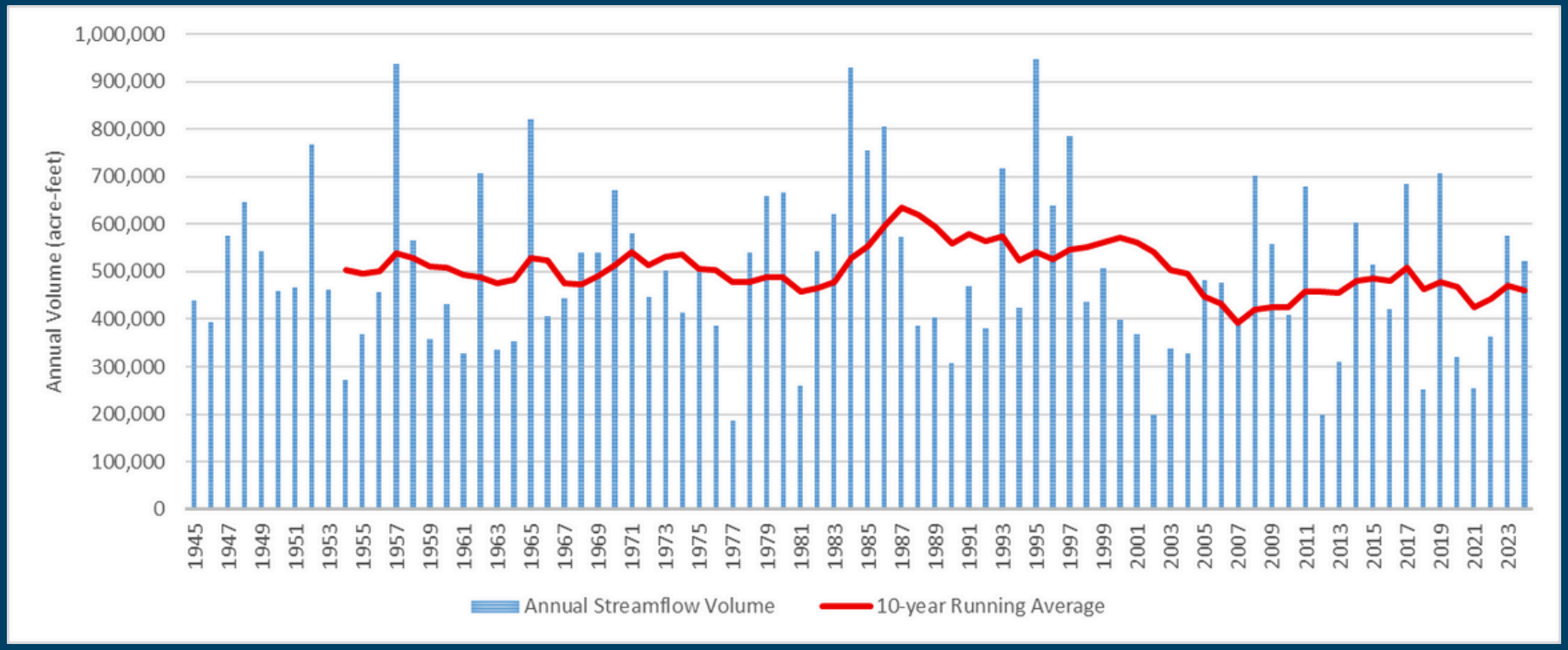
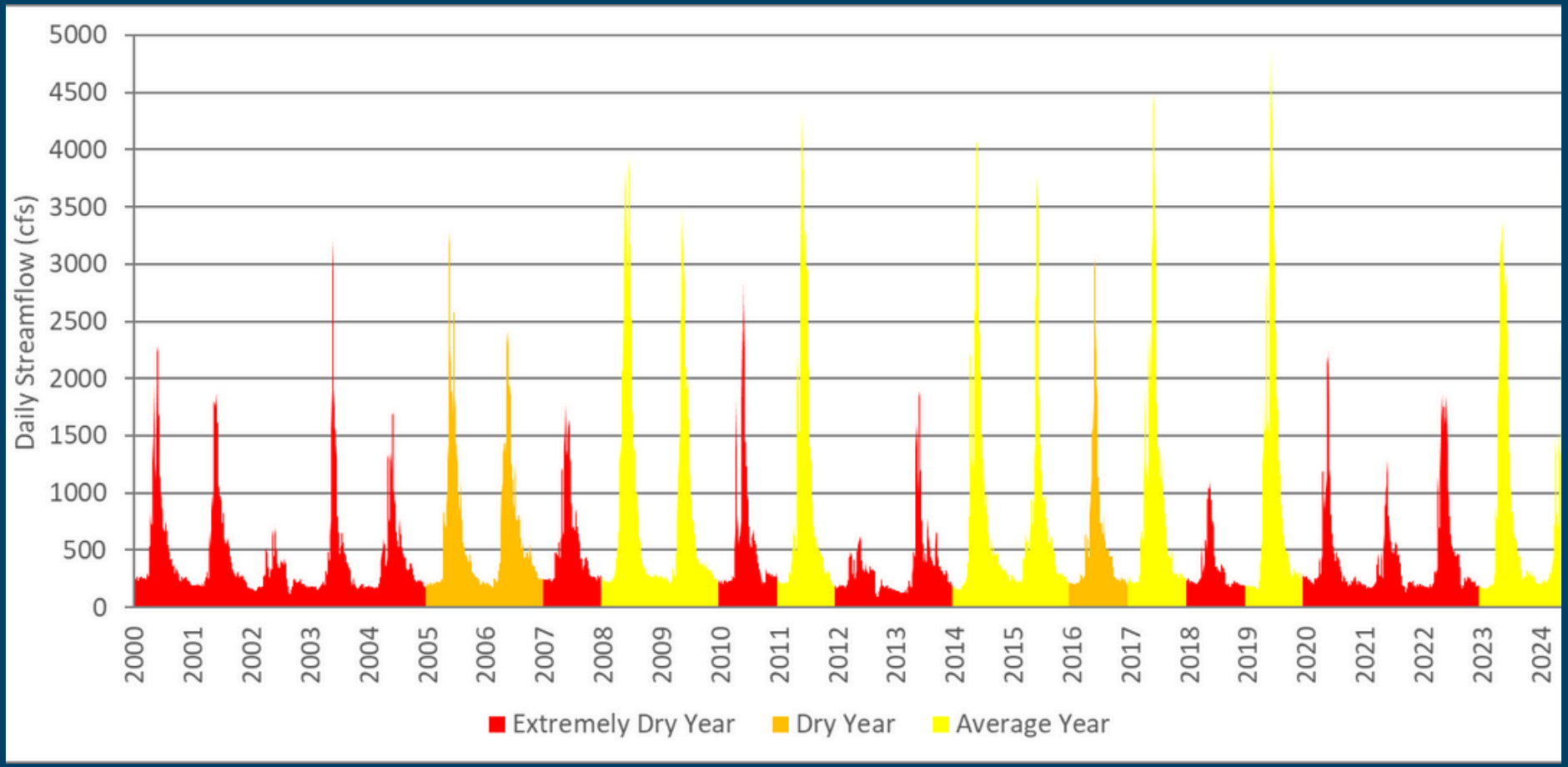


Figure 9. Gunnison River near Gunnison Daily Streamflow (Period of Record 2000-2024)



WEATHER TRENDS

Other hydrologic trends may be evaluated to understand climate change and its future impacts in the Upper Gunnison River Basin. Precipitation and temperature are two key drivers of drought monitoring. Understanding these trends may help water managers and users determine the actions that should be implemented to mitigate and become more resilient to drought.

The seasonal precipitation and temperature historical data in Gunnison were evaluated. The NOAA climate station, Gunnison 3 SW, historical data was used to assess weather trends in the UGDP. Annual precipitation is the total precipitation during the irrigation season (May through September) plus the total precipitation during the winter season (October through April). The total precipitation during the irrigation season is dependent on the monsoon patterns in the fall. Key takeaways about precipitation trends in the Upper Gunnison River Basin are:

- Precipitation appears to be even more variable year to year than temperature.
- There does not appear to be a long-term trend in precipitation volume.

As with hydrology, temperatures are highly variable year by year. The increased temperature during the irrigation season equates to increased crop irrigation demands. Both the irrigation season and winter season temperatures have been trending slightly warmer; however, this region has not experienced as significant a temperature increase as other areas in the west.

- The average irrigation season temperature from 2000 to 2022 is 0.6 degrees Fahrenheit warmer than the average from 1894 to 1999.
- The average winter season temperature from 2000 to 2022 is 0.2 degrees Fahrenheit warmer than the average from 1984 to 1999.

Figures 10, 11, 12, and 13 show total seasonal precipitation and average seasonal temperatures in inches.

Figure 10. Irrigation Season Total Precipitation (May-September; Period of Record 1948-2024)

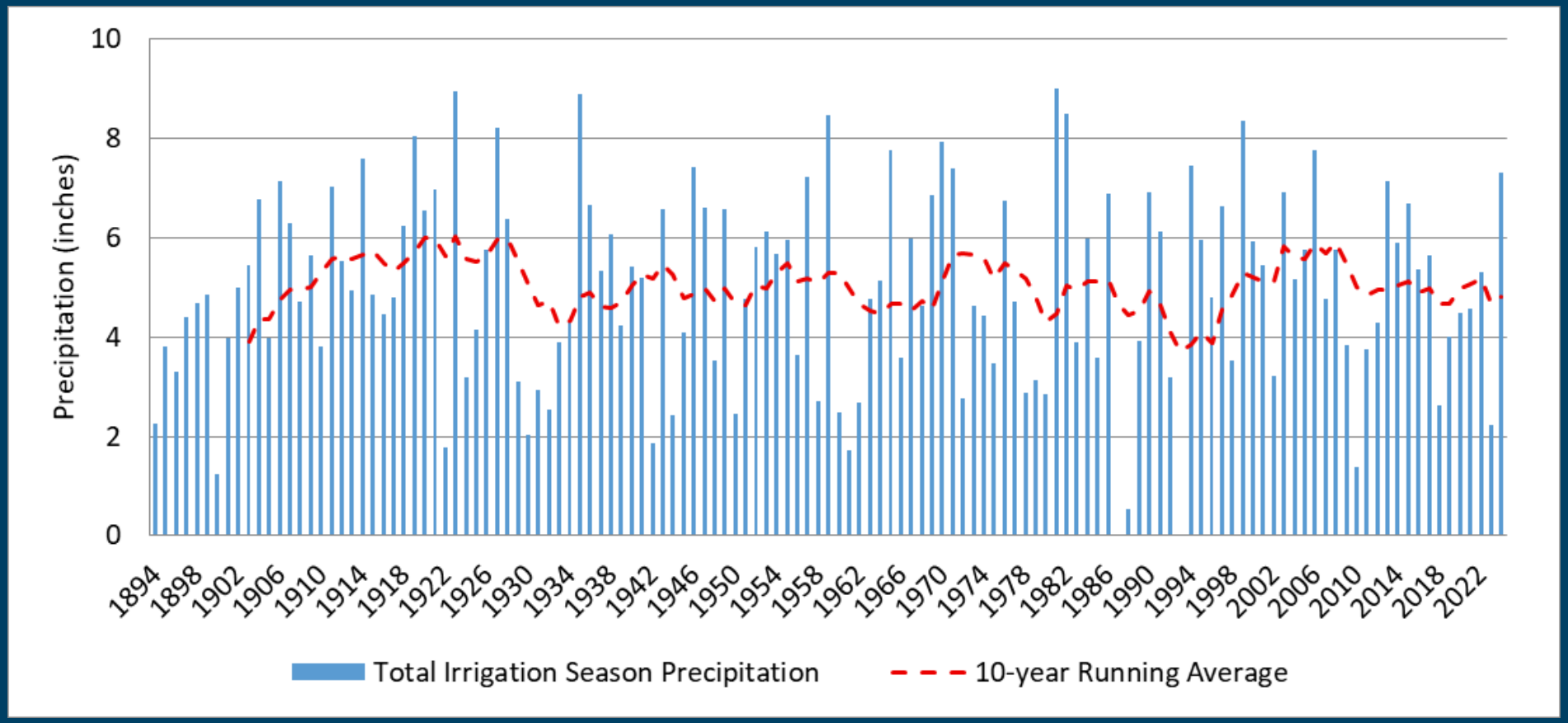


Figure 11. Non-Irrigation Season Total Precipitation (October-April; Period of Record 1948-2024)

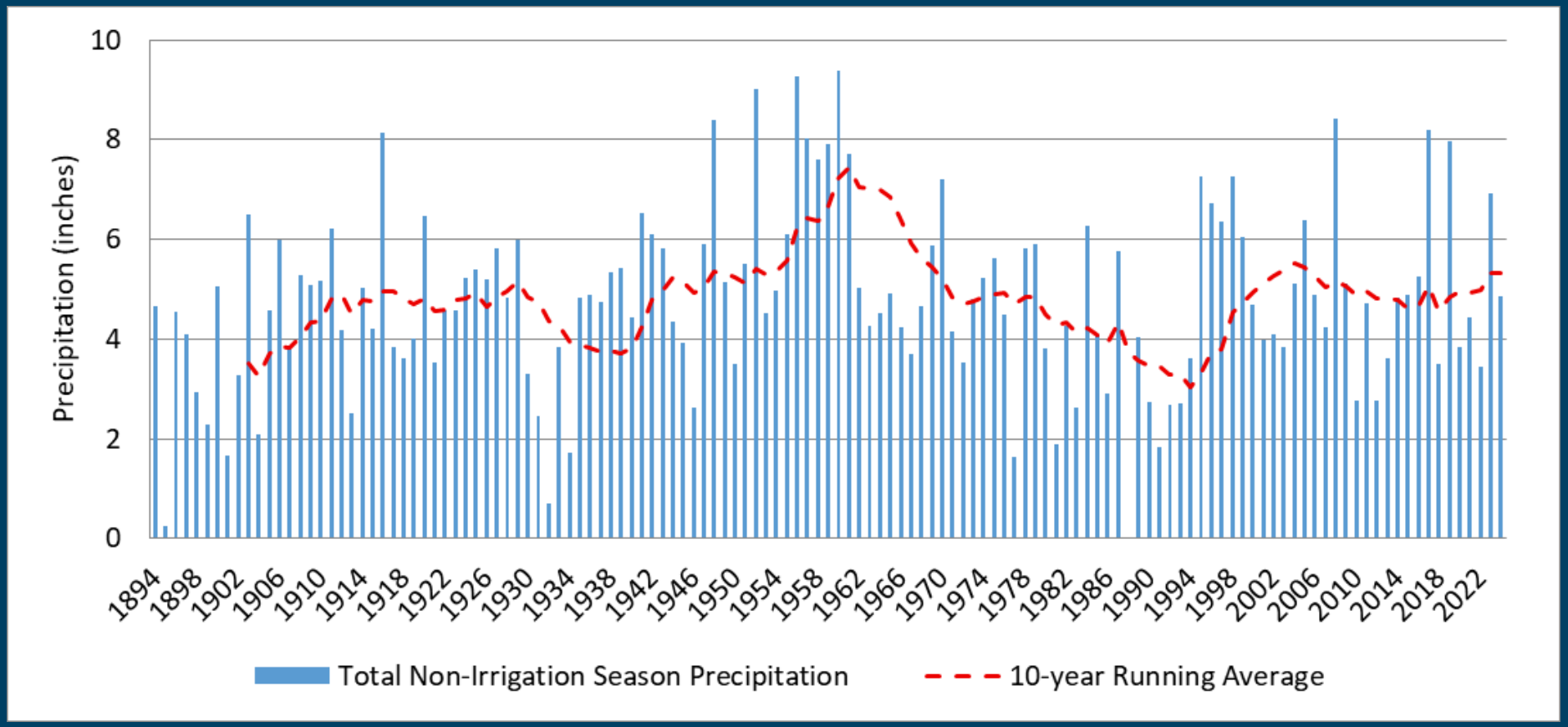


Figure 12. Average Irrigation Season Temperature (May-September; Period of Record 1894-2024)

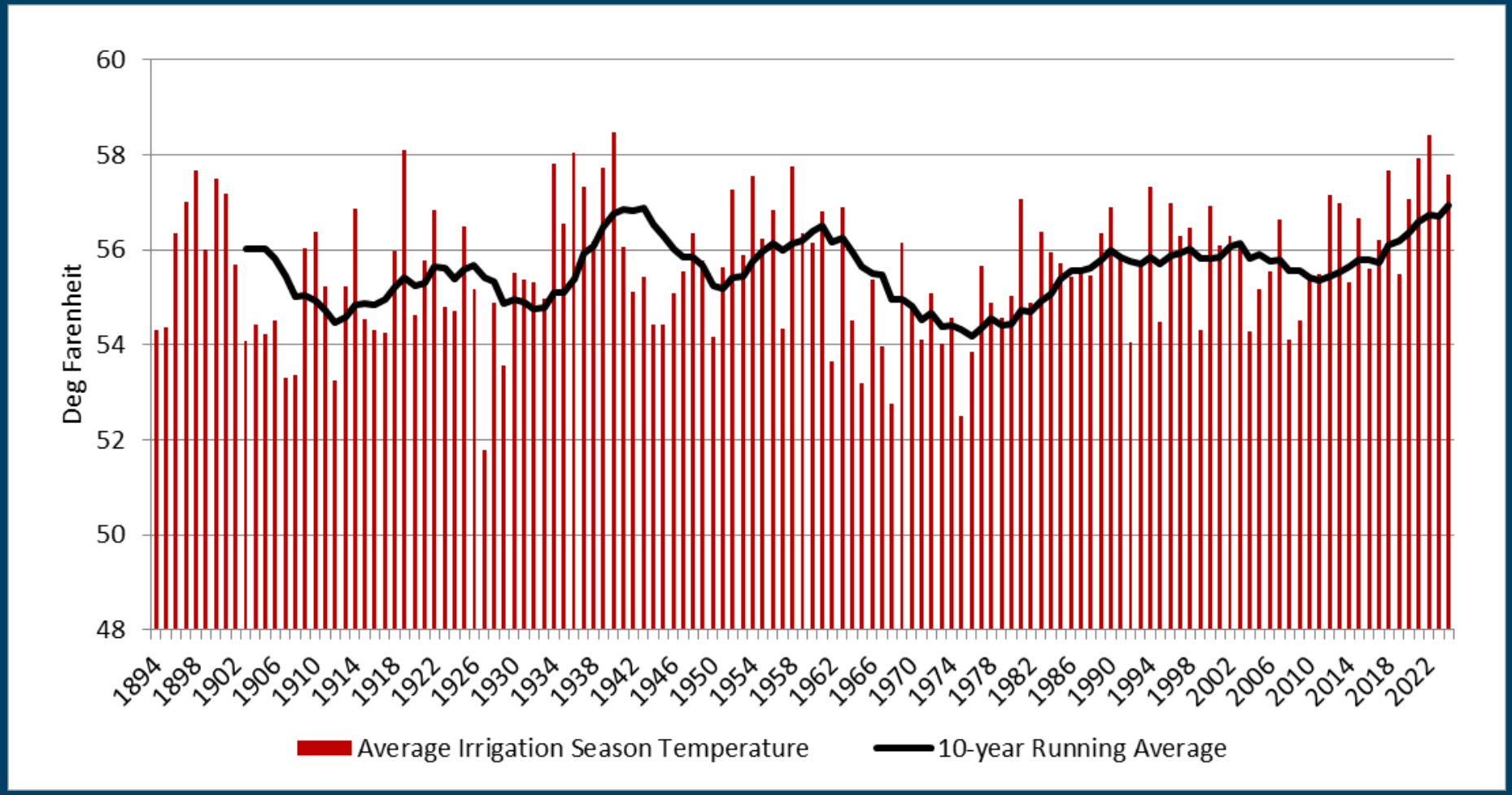
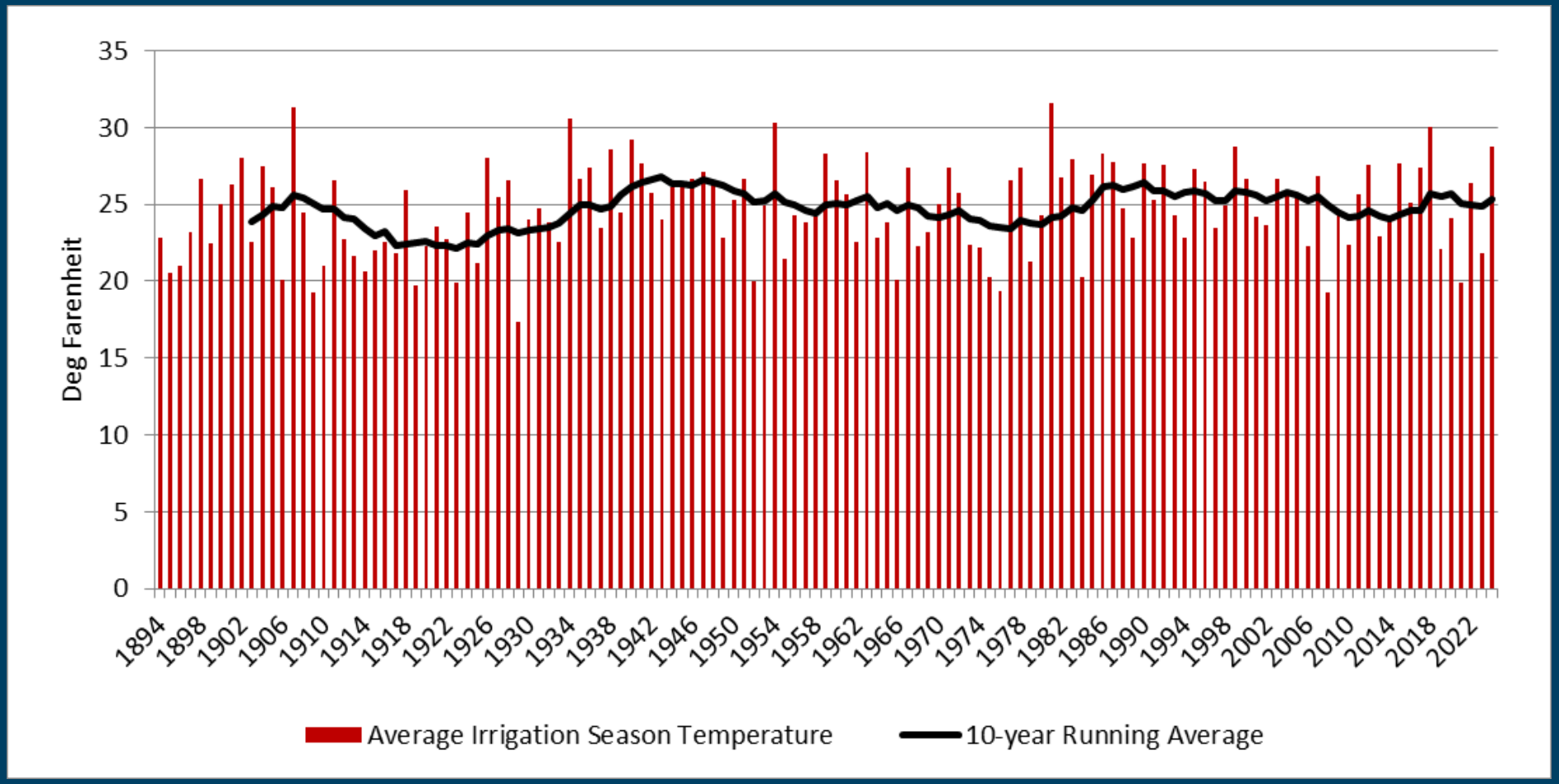


Figure 13. Average Non-Irrigation Season Temperature (October-April; Period of Record 1894-2024)



HYDROLOGIC TRENDS BY SUBBASIN

While it is easy to summarize the overall trend for the basin using the Gunnison mainstem gage, many subbasins have their own unique trends as it relates to hydrology and how future climate change may impact that subbasin's characteristics.

The **Ohio Creek** subbasin experiences hydrological shortages in the late irrigation season regardless of the hydrologic year. This creek is known as a "working" river where a significant portion of the water is diverted for irrigation purposes. This subbasin is expected to experience quicker runoff conditions as the temperature increases which will further limit water availability during the irrigation season and result in larger crop shortages and economic impacts to the agricultural community. These increased pressures on the water supply may lead to conflict and/or competition among water users.

The **East River** subbasin is expected to experience quicker runoff conditions as temperatures increase. This will reduce the period during which users can enjoy optimum recreational flows. Decreased precipitation will impact the winter snowpack, reducing skiing opportunities and their associated economic benefits to the region. These increased pressures on the water supply may cause costs to rise for municipal water providers and lead to increased conflict and/or competition between water user types.

The **Taylor River** subbasin is home to Taylor Park Reservoir which regulates flows in the basin. The primary purpose of the reservoir is to supply supplemental irrigation water to the Uncompahgre Valley Water Users Association. The District holds a second fill water right in the reservoir to support local irrigation and recreation. The Taylor Local User Group (TLUG) consists of representatives of local water users who meet regularly during the spring and summer to review hydrology and propose reservoir operations and jointly adopt a plan for reservoir releases for the upcoming year. The reservoir release and bypass agreements are robust and flexible, allowing for agricultural uses, in-stream ecological benefits, and reservoir recreation opportunities to exist. Carry-over storage accumulated during above-average water years is made available in subsequent dry years for these purposes. The reservoir provides some protection from year-to-year drought impacts. During the recent 22-year period, the reservoir has served its intended purpose by providing sufficient water each year. However, it is unclear if the reservoir could meet the intended purposes during more than five consecutive dry years.

The **Tomichi Creek**, including the **Cochetopa Creek** subbasin, has similar water uses to the Ohio Creek subbasin. In addition to irrigated agriculture, the fisheries are an important characteristic. As temperatures increase, quicker and reduced runoff conditions will further limit water availability, resulting in crop shortages and economic impacts. Changes in historical irrigation practices in the subbasin could reduce return flows and impact water availability for fisheries and downstream users.

The hydrologic trends of the **Cebolla Creek** and **Lake Fork** subbasins are similar to each other. The trends surrounding temperature and precipitation will impact the subbasins similarly to other subbasins. These two subbasins, along with the Taylor and East Rivers subbasins, are primarily public lands (approximately 85 percent), so changes in hydrology will impact wildlife considerably.

ASSESSING CLIMATE CHANGE

The Colorado Water Conservation Board prepared a Technical Update to the Colorado Water Plan (CWP) in 2019 (Tech Update). The Tech Update provided the underlying water supply and demand analysis used for estimating future climate scenarios in the Colorado Water Plan and Basin Implementation Plans. The Tech Update developed five planning scenarios to estimate future water supply availability and demands. Some of the planning scenarios utilized the "In-Between" and "Hot and Dry" climate-adjusted hydrology. These two climate-adjusted hydrologies were developed initially as part of the multiphase Colorado River Water Availability Study (CRWAS) and are the best available climate science for the Upper Gunnison River Basin. For the UGDP, the "In-Between" and "Hot and Dry" climate conditions are used. Together, these represent a range of plausible future climate conditions and are appropriate for this level of planning.

Table 6 below summarizes the "In-Between" and "Hot and Dry" future climate conditions. The future climate conditions were developed by combining the output from 10 different Global Circulation Models, based on the severity of climate impacts on crop irrigation requirement (CIR) and annual streamflow volume. High stress conditions occur when runoff is low and CIR is high, whereas low stress conditions occur when runoff is high and CIR is low. More detailed explanations of climate impacts can be found in several documents, including the Colorado Climate Plan, the Colorado Water Plan, and the foundational work of the multiphase Colorado River Water Availability Study (CRWAS).

Table 6. Climate Change Assumptions for Analysis[6]

		Climate Stress Impact on 2050 Future Condition			
CWP Planning Scenario Name	**CRWAS Project Name**	**Crop Irrigation Requirements**	**Runoff**	**Average Annual Temperature**	**Average Annual Streamflow Change**
Cooperative Growth*	In-Between	Moderate (50th percentile)	Moderate (50th percentile)	+3.78 °F	1% decrease
Hot Growth**	Hot and Dry	High (75th percentile)	Low (25th percentile)	+4.15 °F	11% decrease

*This is defined as the 50th percentile for both natural flows and crop irrigation requirements. This scenario represents the middle of the range in severity with increases and decreases in demands and flows relatively similar to each other.

**This is defined as the 75th percentile for crop irrigation requirements and the 25th percentile for natural flows. In short, there is increased crop irrigation requirements with decreased runoff.

[6] Colorado Water Conservation Board. Colorado Water Plan – Analysis and Technical Update. (2019)

Annual simulated streamflow totals from these scenarios for the Gunnison River near Gunnison stream gage are shown in Table 7 below based on the defined hydrologic thresholds in the UGDP. While the number of average water supply years is relatively the same for each scenario, the frequency of drought will increase under both future conditions.

Table 7. Climate Change Planning Scenario Thresholds (Period of Record 1975-2013)

Percentile (max)	Threshold Volume (acre-feet/year)	Hydrologic Classification	Historical Years	"In Between" Years	"Hot & Dry" Years
0.3	419,000	Extremely Dry	16	20	23
0.5	498,000	Dry	5	3	3
0.7	637,000	Average	18	16	13

ADDRESSING CLIMATE CHANGE

The UGDP comprises a suite of tools, strategies, and guidance that enable water users and decision-makers to monitor conditions, assess risks, and implement appropriate actions based on drought severity. The plan draws on both scientific data and community expertise, offering a clear structure for drought response at multiple levels—from basin-wide coordination to sector-specific recommendations.

Importantly, the UGDP integrates climate variability and long-term change into water management planning. By building local capacity and offering shared resources, such as monitoring dashboards, drought stage triggers, and communication templates, the plan supports a more resilient and water-aware Upper Gunnison River Basin.

To respond to the variable water supply, the UGDP establishes both mitigation and response actions to support the basin in becoming more drought resilient. These actions are listed in the next section and were developed to respond to vulnerabilities described above. As the actual effects of climate change and population growth unfold over the future decades, the potential impact(s) will be continually monitored.

3. Mitigation Actions

INTRODUCTION

The following mitigation actions aim to mitigate the risks posed by drought. This section describes actions that can be implemented before a drought to better utilize the available water supply and/or make water users and the landscape more resilient to drought. The actions will be considered by the responsible entities and pursued if and when each entity decides, in its sole discretion, to do so. The UGDP is intended to promote collaboration and cooperation to more effectively mitigate drought in the entire basin.

As the list of actions was developed and refined, overarching themes were identified to help group similar actions. Some mitigation actions initially listed were determined to be outside the scope of drought planning activities. The list was refined based on local knowledge and expertise solicited during the vulnerability assessment and outreach through public meetings and water sector-specific workshops.

- **Education, Outreach, and Collaboration:**

  This category represents actions focused on education and outreach needs, including the sharing of information and data. Every water sector expressed the need for better education for existing and new residents. A need exists for more integration of research and data from various organizations and businesses, as well as more data collection and equipment installation.

- **Agricultural Resilience:**

  This category represents actions focused on making agricultural water users resilient to drought.

- **Environmental Resilience:**

  This category represents actions focused on restoring natural habitats, addressing environmental needs, and engaging communities.

- **Recreational Resilience:**

  This category represents actions focused on addressing recreational needs and engaging communities.

- **Municipal Resilience:**

  This category represents actions focused on municipal providers investing in water-efficient infrastructure, diversifying water sources, and implementing robust water conservation programs.

EVALUATION PROCESS

The preliminary list of actions included over 60 mitigation and response actions, which are listed in Appendix B. These actions were discussed at multiple Task Force meetings, a public meeting, and seven water sector-specific workshops. Based on the input received at these meetings, the action list was consolidated to 17 actions. Many actions were combined to create a single action or tabled due to a lack of interest or applicability at this time.

With 17 actions identified to help mitigate drought, prioritization remains essential due to limitations in resources, time, and capacity. Prioritization allows decision-makers to focus on the most urgent needs, implement the most cost-effective solutions, target actions that provide the greatest overall resilience, and support existing endeavors. This process ensures that efforts are aligned with the UGDP goals and that progress is made toward creating drought resilience in the Upper Gunnison River Basin.

To help the Task Force prioritize actions, further investigation was completed to identify action champions, barriers to implementation, and mitigation benefits. Using the above criteria, actions were ranked and prioritized. The table below displays each action's priority, brief description, area of focus, and estimated timeframe to begin implementation. Actions are categorized by high, medium, and low priority; they are in no particular order within a single priority.

Evaluation criteria were used to prioritize the list of actions considered for this UGDP process. Input from the Task Force and stakeholders helped develop goals and prioritization criteria.

Goals of the Upper Gunnison Drought Plan

- Increase the Upper Gunnison River Basin's resilience to drought.
- Preserve diverse community values such as safe/quality drinking water (built infrastructure), thriving agriculture/ranching, ecosystem health (natural infrastructure), fire resilience, and a strong recreational economy.
- Create an actionable and adaptable plan.

Priority Criteria

- Does the action align with the UGDP goals and principles?
- Does the cost of action impact the ability to implement an action?
- Does the action have a lead champion?
- Does the action's champion and partners have the capacity for implementation?

Secondary Criteria

- Is the action in alignment with the goals of the community where the action is proposed?
- Does the action have positive impacts on water, people, and ecosystems?
- What are the consequences of no action?
- Does the action have limited benefits or impact?
- How fundable is an action?
- How fundable is an action?
- What is the return on investment for the action?
- Can the action be repeated? Scalable?
- Does the action support existing activities?
- Does the action benefit multiple water sectors?
- What type of community engagement does this action include? Educational opportunities?

Table 8. Prioritized Mitigation Actions

ID	Name	Description	Action Type	Timeframe to Implementation
HIGH PRIORITY				
A2	Agricultural Infrastructure and Water Management Improvements	Improve irrigation water delivery and on-ranch efficiencies where appropriate.	Project	3-5 years
A4	Agricultural Communication and Education	Facilitate community education around agricultural practices and water use	Education	0-2 years
E4	Water Supply Forecasting Tools	Improve forecasting tools, including data collection.	Education & Project	3-5 years
E1	Basin-Wide Action Plans	Support continued engagement in workgroups and planning processes relating to drought mitigation.	Engagement	0-2 years
E2	Drought Outreach Strategy	Develop outreach strategies for specific audiences and water sectors. Outreach needs range from sharing water supply forecasts to water administration to education.	Education	0-2 years
M3	Source Water Resiliency	Support municipalities as they pursue projects to increase water supply redundancy and address drought resilience.	Study	0-2 years
W1	Watershed Restoration Activities	Implementation of activities creating drought resilience in natural meadows, riparian zones, and other habitats in the Upper Gunnison River Basin.	Project	0-2 years
MEDIUM PRIORITY				
A1	Agricultural Best Management Practices	Action identifies multiple activities that build upon existing programs, expand applicability, and break down barriers for implementation.	Project	3-5 years
A3	Irrigation Return Flow Study	Study focused on characterizing surface-water and groundwater interactions in the Upper Gunnison River Basin with a focus on agricultural returns flows in the assessed reach(es).	Study	0-2 years
E3	Blue Mesa Reservoir Coordination	Improve communication between the Bureau of Reclamation, Upper Gunnison River Basin water users, National Park Service, and the public.	Engagement	3-5 years
M1	Municipal Provider Collaboration	Improve communication and education among municipal providers across the basin.	Engagement	0-2 years
M2	Drought Response Plan for Municipal Providers	Support municipal providers in the preparation of individual drought response plans.	Education	3-5 years
W2	Coordinated Water Conservation	Support continued voluntary informal coordination among water users throughout the basin during drought.	Project	3-5 years
LOW PRIORITY				
M4	Native Gardens Demonstration Project	Implementing garden demonstration projects that promote wise water use, native plants, manicured high-density replacement programs, and education on water conservation and xeriscaping.	Project	3-5 years
W3	Mitigating Water Quality Impacts	Implement activities that eliminate or reduce water quality impacts during drought.	Education, Engagement, & Project	3-5 years
R1	Resilience Among Recreation Service Providers	Investigate opportunities to help recreation service providers diversify their services in times of drought and improve recreation infrastructure accessibility during low-flow periods.	Engagement	3-5 years
R2	Gunnison Recreation Access Management Plan	Address continuity of management for recreation access.	Study & Engagement	3-5 years

Table 9. Prioritized Mitigation Actions by Theme

ID	Priority	Name	Description	Action Type	Timeframe to Implementation
Education, Outreach, and Collaboration Actions					
E4	High	Water Supply Forecasting Tools	Improve forecasting tools, including data collection.	Education & Project	3-5 years
E1	High	Basin-Wide Action Plans	Support continued engagement in workgroups and planning processes relating to drought mitigation.	Engagement	0-2 years
E2	High	Drought Outreach Strategy	Develop outreach strategies for specific audiences and water sectors. Outreach needs range from sharing water supply forecasts to water administration to education.	Education	0-2 years
E3	Medium	Blue Mesa Reservoir Coordination	Improve communication between the Bureau of Reclamation, Upper Gunnison River Basin water users, National Park Service, and the public.	Engagement	3-5 years
Agriculture Resilience Actions					
A2	High	Agricultural Infrastructure and Water Management Improvements	Improve irrigation water delivery and on-ranch efficiencies where appropriate.	Project	3-5 years
A4	High	Agricultural Communication and Education	Facilitate community education around agricultural practices and water use.	Education	0-2 years
A1	Medium	Agricultural Best Management Practices	Identifies multiple activities that build upon existing programs, expand applicability, and break down barriers for implementation.	Project	3-5 years
A3	Medium	Irrigation Return Flow Study	Study focused on characterizing surface-water and groundwater interactions in the Upper Gunnison River Basin with a focus on agricultural return flows in the assessed reach(es).	Study	0-2 years
Environment Resilience Actions					
W1	High	Watershed Restoration Activities	Implementation of activities creating drought resilience in natural meadows, riparian zones, and other habitats in the Upper Gunnison River Basin.	Project	0-2 years
W2	Medium	Coordinated Water Conservation	Support continued voluntary informal coordination among water users throughout the basin during drought.	Project	3-5 years
W3	Low	Mitigating Water Quality Impacts	Implement activities that eliminate or reduce water quality impacts during drought.	Education, Engagement, & Project	3-5 years
Recreation Resilience Actions					
R1	Low	Resilience Among Recreation Service Providers	Investigate opportunities to help recreation service providers diversify their services in times of drought and improve recreation infrastructure accessibility during low-flow periods.	Engagement	3-5 years
R2	Low	Gunnison Recreation Access Management Plan	Address continuity of management for recreation access.	Study & Engagement	3-5 years
Municipal Resilience Actions					
M3	High	Source Water Resiliency	Support municipalities as they pursue projects to increase water supply redundancy and address drought resilience	Project	0-2 years
M1	Medium	Municipal Provider Collaboration	Improve communication and education among municipal providers across the basin.	Engagement	0-2 years
M2	Medium	Drought Response Plan for Municipal Providers	Support municipal providers in the preparation of individual drought response plans.	Education	3-5 years
M4	Low	Native Gardens Demonstration Project	Implementing garden demonstration projects that promote wise water use, native plants, manicured high-density replacement programs, and education on water conservation and xeriscaping.	Project	3-5 years

MITIGATION ACTIONS DETAIL

The mitigation actions are described in no particular order. They are categorized by the themes of education, outreach, and collaboration, and by use type: agriculture, environment, recreation, and municipal.

The following details are provided for each action.

- A **general summary** of each action, including collective feedback and perspectives gained from the stakeholder process.
- The **location** of the action.
- Type of action. Action types include **education, engagement, project, and/or study**.
- Actions are categorized by **high, medium, and low priority**; they are in no particular order within a single priority. Prioritization remains essential due to limitations in resources, time, and capacity. The Task Force prioritized actions based on criteria that will allow decision-makers to focus on the most urgent needs, implement the most cost-effective solutions, target actions that provide the greatest overall resilience, and support existing endeavors.
- A generalized **cost estimate** is provided for each action. The ranges used: $0 to $200,000; $200,000 to $1,000,000; and over $1,000,000.
- An approximate **timeframe** to begin implementation. This timeframe ranges from zero to five years, with the assumption that action implementation will extend past this timeframe.
- A description of the action including steps for implementation, data needs, feasibility studies, and modeling results to inform implementation.

The overall purpose of any action is to mitigate the risk posed by drought and build long-term resiliency. Anticipated drought-related benefits in addition to this overarching goal are described.

The success of an action is determined by the ability to overcome its barriers to implementation, such as permitting, cost considerations, or capacity for implementation. The known barriers for each action were described.

For an action to succeed, the lead champion must maintain their role and be persistent throughout the implementation process. In addition to the champion, partners supporting the action are also described.

EDUCATION, OUTREACH, AND COLLABORATION

This category represents actions focused on education and outreach needs, including the sharing of information and data. Every water sector expressed the need for better education for existing and new residents. A wide range of topics could be addressed to varying audiences. Outreach needs will focus on developing communication strategies. Multiple water sectors expressed the need for increased communication among themselves, with other water users, and with the community. Not only are communication strategies needed during drought, but also to provide information on other water-related topics, such as available data, water law, and stakeholder engagement opportunities. This category also promotes collaboration and data sharing to enhance water management in the basin. A need exists for more integration of research and data from various organizations and businesses, as well as more data collection and equipment installation.

E1 – Basin-Wide Action Plans

Summary. The Upper Gunnison River Basin has many existing community drought-related initiatives including but not limited to those indentified below. This action supports continued engagement in workgroups and planning processes relating to drought mitigation through enhanced collaboration and outreach.

LOCATION	FOCUS AREA	COST	TIMEFRAME TO IMPLEMENTATION	PRIORITY
Across the basin, throughout the year	Engagement	$0 - $200,000	Zero to two years	**HIGH**

Gunnison County Community Wildfire Protection Plan

Identifies how wildfire will impact our community and provides clear steps we can take to be more wildfire-ready. The plan provides a common operating picture that organizations and community members in Gunnison County can follow to mitigate against, prepare for, respond to, and recover from wildfire.

LEAD CHAMPIONS + PARTNERS

Gunnison County

IN COLLABORATION WITH:

Representatives from local government, the Colorado State Forest Service, U.S. Forest Service, wildlife experts, non-profit groups, community members, and other stakeholders. The West Region Wildfire Council and the Colorado Forest Restoration Institute at Colorado State University.

The Gunnison County Emergency Response Plan

A comprehensive framework for system-wide emergency management. It addresses roles and responsibilities of emergency management and response agencies in Gunnison County, as well as partner agencies.

LEAD CHAMPIONS + PARTNERS

Gunnison County

The Gunnison County Emergency Management Department develops, maintains, and facilities the updates of various county disaster plans.

Gunnison County Hazard Mitigation Plan

Demonstrates the community's commitment to reducing risks from hazards and serves as a tool to help decision makers direct mitigation activities and resources.

LEAD CHAMPIONS + PARTNERS

Gunnison County

The Gunnison County Emergency Management Department develops, maintains, and facilities the updates of various county disaster plans.

Spruce Beetle Epidemic and Aspen Decline Management Response Project (SBEADMR)

Focuses on creating landscape resilience through landscape-scale treatment. The SBEADMR adaptive management group advises on the implementation and monitoring aspects of this project.

LEAD CHAMPIONS + PARTNERS

U.S. Forest Service

Adaptive management group members include county commissioners, timber industry representatives, conservation groups, water resource managers, recreation, wildlife, education, and at-large community members.

Town of Crested Butte Wildfire Ready Action Plan (WRAP)

The WRAP focuses on the existing drinking water source watershed including alternative water sources while following Colorado Water Conservation Board guidelines for developing a WRAP. Six tasks are proposed for this plan's development process including stakeholder outreach, susceptibility analysis to evaluate risk, hydraulic modeling, pre-disaster planning and post disaster preparedness planning.

LEAD CHAMPIONS + PARTNERS

Town of Crested Butte

Along with input from stakeholders at three proposed public meetings beginning in 2025.

Source Water Protection Plans

Municipalities complete source water protection plans which identify a source water protection area, lists potential contaminant sources and outlines best management practices to reduce risks to the water source.

LEAD CHAMPIONS + PARTNERS

Town of Crested Butte
and
City of Gunnison

IN COLLABORATION WITH:

Numerous stakeholders including local citizens, landowners, private business, water operators, local and state governments, and agency representatives participated in the planning process. Opportunities exist with the Town of Crested Butte and City of Gunnison to implement best management strategies identified in their plans.

The Sustainable Tourism & Outdoor Recreation (STOR) Committee

Structured to be a wide-ranging group that acts thoughtfully, efficiently and proactively to address negative impacts and develops unique approaches to create a sustainable tourism economy and outdoor recreation experience while preserving the natural resources of Gunnison County.

LEAD CHAMPIONS + PARTNERS

Gunnison County Board of Commissioners

19 regular members appointed by the Board of County Commissioners, representing the City of Gunnison, Town of Crested Butte, Town of Mt. Crested Butte, Town of Pitkin, Gunnison County, Colorado Parks and Wildlife, U.S. Forest Service, Bureau of Land Management, National Park Service, Gunnison-Crested Butte Tourism Association, Gunnison County Stockgrowers' Association, Crested Butte Mountain Resort, UGRWCD, and Western Colorado University.

Taylor Local User Group (TLUG)

Consists of appointed representatives from various water interests that meet regularly during the spring and summer to review Taylor Park Reservoir operations and reach a consensus on management recommendations that benefit all users.

LEAD CHAMPIONS + PARTNERS

UGRWCD

IN COLLABORATION WITH:

Boating, Water Recreation, Wade Fishing, Irrigation, Property, and Taylor Placer. Support is provided by the Bureau of Reclamation, the Colorado River Water Conservation District, and the Uncompahgre Valley Water Users Association.

UGRWCD Watershed Management Plan (under development)

Focuses on protecting existing water uses and watershed health in the Upper Gunnison River Basin in the face of changing conditions such as climate change, land development, and population growth. The plan identifies and summarizes water quality and quantity parameters across the basin and proposes potential actions to address resource concerns.

LEAD CHAMPIONS + PARTNERS UGRWCD

Benefits

Participating in committees, workgroups, and planning processes provides valuable opportunities to share information, collaborate on solutions, and build consensus among diverse stakeholders. Participation in multiple processes will help increase the community's general knowledge of water resources as it relates to a specific committee's goals and objectives.

Barriers

Time constraints, overlapping meeting schedules, and the sheer volume of information to absorb can present significant barriers to participating in multiple processes effectively.

Lead Champion and Partners

The lead champion and partners vary for each initiative and are listed above. Task Force members will lead the efforts to increase awareness and participation for these various processes. Opportunities for engagement in these processes will be listed on the UGDP website.

E2 – Drought Outreach Strategy

Summary. The strength of the UGDP lies in its foundation: a collaborative process shaped by the people who live, work, and depend on water in the Upper Gunnison River Basin. Public engagement and stakeholder collaboration are central to the plan's success as a core strategy for building trust, sharing knowledge, and ensuring the plan is practical, inclusive, and community-driven.

To ensure meaningful and accessible engagement, the UGDP will utilize a variety of formats and tools. These tools include annual stakeholder forums, community presentations, interactive workshops, online feedback channels, partnership-driven outreach, and the sharing of resources. For successful implementation, the following engagement goals were identified.

- Foster ongoing dialogue with diverse stakeholders across the basin
- Elevate local voices and perspectives in drought-related planning and response
- Encourage shared responsibility, participation, and ownership of drought actions
- Build trust, transparency, and accountability in decision-making and communication

LOCATION	FOCUS AREA	COST	TIMEFRAME TO IMPLEMENTATION	PRIORITY
Outreach needs exist on a subbasin and regional scale. Location and media type may vary based on audience and topic.	Education	$200,000 - $1,000,000	Zero to two years	**HIGH**

Integrate Stakeholder Planning Processes

Include a section in the Upper Gunnison Drought Plan website and newsletters that highlights ongoing community-driven planning efforts, such as the Gunnison County Emergency Response Plan and Taylor Local User Group. Provide stakeholders with opportunities to engage with these processes by sharing meeting schedules, progress updates, and key milestones.

Encourage Active Participation

Leverage existing channels (e.g., email newsletters, the website, and social media) to inform stakeholders about ways to participate in ongoing planning efforts. This will help foster continuous involvement from various sectors and ensure alignment between drought mitigation actions and local needs.

Drought Messaging

Coordinate with local water users, agricultural producers, municipalities, and conservation organizations to promote mutual understanding and shared responsibilities. Hosting collaborative workshops or roundtable discussions where stakeholders can exchange feedback on planning processes can further support this effort.

Implementation

To implement this goal, action partners will encourage stakeholders to sign up for updates related to ongoing planning processes, ensuring they remain informed and engaged. Partners will collaborate to organize an annual stakeholder forum, where they will discuss and provide input on various planning processes. The UGRWCD will feature a dedicated "Planning and Collaboration" section on the UGDP website under "Resources" that includes details on all ongoing stakeholder engagement processes.

Benefits

This action would benefit the community by providing a single source for information regarding drought and its impacts on the basin. Consistent messaging from partners would help increase the community's general knowledge of water resources and provide opportunties to participate in meaningful actions.

Barriers

The annual cost of implementing multiple communication strategies may impact the success of this action. New roles and responsibilities for action partners could impact an organization's capacity to implement the action over time. The UGDP acknowledges that drought affects people and communities in different ways. Engagement efforts will intentionally:

- Foster ongoing dialogue with diverse stakeholders across the basin
- Elevate local voices and perspectives in drought-related planning and response
- Encourage shared responsibility, participation, and ownership of drought actions
- Build trust, transparency, and accountability in decision-making and communication

Lead Champion and Partners

The UGRWCD will be the lead champion in implementing a communication strategy with Task Force members as partners. Core responsibilities for the Task Force members include:

- Provide strategic guidance to the UGWRCD regarding the ongoing implementation of the UGDP;
- Review and advise plan components such as action levels, monitoring tools, and communication strategies;
- Support alignment between the drought plan and other local or regional water management efforts;
- Promote collaboration and coordination among sectors and jurisdictions within the basin;
- Assist with outreach and engagement, ensuring that plan materials and strategies reach and reflect diverse community perspectives;
- Help identify funding opportunities, partnerships, and future needs to strengthen drought preparedness over time.

The Task Force is instrumental in maintaining the UGDP's dynamic, inclusive nature, and its roots in the priorities of the Upper Gunnison River Basin. The UGRWCD will be responsible for evaluating the success of the activities by tracking participation data and qualitative feedback, providing summary reports following major events and posting them on the website, and incorporating stakeholder feedback.

E3– Blue Mesa Reservoir Coordination

Summary. Improve communication between the Bureau of Reclamation, Upper Gunnison River Basin water users, and the public. The community seeks additional communication around annual operations, management of releases for Drought Response Emergency Releases, and operations associated with winter icing protocol(s).

LOCATION	FOCUS AREA	COST	TIMEFRAME TO IMPLEMENTATION	PRIORITY
Blue Mesa Reservoir is located in the Upper Gunnison River Basin. These types of communication may occur in person or virtually, depending on the content and engagement needs.	Education	$0 - $200,000	Three to five years	**MEDIUM**

- Increased advertisement surrounding the Bureau of Reclamation's Aspinall Unit Working Group. This is a public forum intended to exchange information between Reclamation and the stakeholders of the Aspinall Unit. The workgroup meets three times per year.
- Share information about the management of releases for Drought Response Emergency Releases and operations associated with winter icing protocol(s) on the UGDP website.
- Encourage Reclamation to participate in the annual spring meeting of the UGDP partners.

Potential Benefits

This action would increase awareness about current and forecasted water supply conditions for Blue Mesa Reservoir (which reflects the overall trend for the Upper River Gunnison Basin), reservoir operations, and impacts on recreation and tourism due to drought-related operations.

Potential Barriers

Ensure active engagement with the community in a meaningful way that supports their participation. Consistent attendance from action partners could impact an organization's capacity to participate in the action over time consistently.

Lead Champion and Partners

The UGRWCD will be the lead champion in implementing the steps outlined above. The Bureau of Reclamation is responsible for hosting the three annual meetings. The Bureau of Reclamation manages the water in Blue Mesa while the National Park Service oversees the recreation and land resources. These two partners will collaborate with UGRWCD to implement this action.

E4 – Water Supply Forecasting Tools

Summary. The UGDP recommends continued support to improve local forecasting tools. Technologies, such as forecasting modeling, become more reliable as more data is collected, maintained over the long term, and shared broadly. While many of these tools exist, there is a need for additional information at both local and regional scales. To improve these models, new infrastructure, such as gap weather radar, soil moisture monitoring sensors, stream gages, and/or Snow Telemetry (SNOTEL) sites, should be installed and upgraded. In addition to on-the-ground data collection, emerging technologies such as Airborne Snow Observatories (ASO) flights and monitoring of dust-on-snow events should be incorporated into all local and regional forecasting.

LOCATION	FOCUS AREA	COST	TIMEFRAME TO IMPLEMENTATION	PRIORITY
Improved forecasting tools on a subbasin and regional scale. Location and infrastructure type will vary based on the desired metrics being measured.	Education & Project	$1,000,000 or more	Three to five years	**HIGH**

Specific tools identified during the UGDP process:

Soil Moisture Monitoring

Install soil moisture monitoring sensors as needed in the basin, including monitoring of soil health on public lands to inform grazing practices or within municipal water providers' service areas to inform municipal water demands.

SNOTEL Sites

Expansion of the SNOTEL and SnoLite networks to provide more accurate and localized data across the region. During the UGDP development, the following locations were suggested: Marshall Creek, Aggit Creek, Old Homestead Mine, Indian Creek, Top of Kebler Pass, Double Top, Spring Creek, Gothic, Sawtooth, Cotton Wool, Razor Creek, White Pine, and the West Elks area.

Stream Gages

Install stream gages as needed in the basin; for example, the installation of a stream and stage gage at Gunsight Bridge is needed.

Aerial Snow Surveys

In 2025, UGRWCD along with CWCB and Colorado River Water Conservation District funded airborne snowflights over the East and Taylor watersheds. This information is provided to the Weather Research and Forecasting Model Hydrological modeling system (WRF-Hydro) to develop custom water supply forecasting. Support for additional aerial snow survey flights, both in frequency and location, was expressed during the UGDP development.

Gap Weather Radar

Support of installation, operation, and maintenance of a new weather station located in the Upper Gunnison River Basin.

Benefits

Improving water supply forecasting will help improve water management planning before, during, and after drought periods.

Barriers

The cost of constructing, operating, and maintaining new monitoring equipment, conducting airborne snowflights, and advancing the science necessary to develop replacement forecasting tools may impact the success of this action. Research groups, such as the WRF-Hydro Modeling team at the National Center for Atmospheric Research (NCAR) and ASO, Inc., are working to build, test, and improve new forecasting tools. With sufficient support, these tools may become ready to deploy at scale. New roles and responsibilities for action partners could impact an organization's capacity to implement and manage infrastructure over time. Existing forecasting efforts and data collection may be siloed based on an organization's needs or goals. Sharing data across jurisdictional boundaries is both a barrier and an opportunity for coordination.

Lead Champion and Partners

The UGRWCD is the lead champion for this activity. Partners identified during the plan's development include the following to support data collection, data-sharing, and collaboration efforts.

- Colorado Airborne Snow Measurement Program
- Colorado Airborne Snow Observatory
- Colorado Basin River Forecast Center
- Rocky Mountain Biological Laboratory
- National Center for Atmospheric Research WRF-Hydro Modeling Team
- National Resource Conservation Services
- U.S. Forest Service

AGRICULTURAL RESILIENCE

This category represents actions focused on making agricultural water users resilient to drought. Actions range from infrastructure improvements to investigations of opportunities for collaboration.

A1 - Agricultural Best Management Practices

Summary. The UGDP supports existing tools used for agricultural best management practices as well as the expansion of these activities. Programs and guidance are currently available through the NRCS, federal agencies, and Colorado State University Extension offices. This action identifies multiple activities that, when implemented, create drought resiliency. This all-encompassing action emphasizes that there is no one-size-fits-all solution. The development of a functioning conditions assessment of various efforts could help identify priority areas and focus resources. These different approaches enable flexibility and adaptability in selecting the most suitable actions for specific contexts. This action encompasses three key areas of focus: food supply (rangeland, irrigated pasture, baled hay), water management on public lands, and public land management.

LOCATION	FOCUS AREA	COST	TIMEFRAME TO IMPLEMENTATION	PRIORITY
Activities proposed in the toolkit may be implemented throughout the Upper Gunnison River Basin.	Project	$200,000 - $1,000,000	Three to five years	MEDIUM

Virtual fencing for grazing management

Conduct a feasibility study about virtual fencing and its applicability in the basin. This study should assess alternatives to traditional fencing, including the long-term sustainability of new technologies and their operation and maintenance. Visiting and learning from existing pilot studies (local or outside the basin) could be beneficial for interested parties.

LEAD CHAMPIONS + PARTNERS

Gunnison County Stockgrowers' Association

IN COLLABORATION WITH:

Natural Resources Conservation Service, their Conservation Stewardship Program, and Greater Rocky Mountain Resource Advisory Committee.

Benefits

This tool could have positive impacts on livestock management practices and land management. Virtual fencing would allow for a more precise distribution of livestock on the landscape to minimize impacts on wet areas.

Barriers

Existing infrastructure and technologies could prevent the adaptability of this activity in the Upper Gunnison River Basin. The cost of new equipment and ongoing subscription services for the rancher may prohibit participation. Additionally, the rancher may not have the time to train their cattle to respond to the virtual fencing cues or manage this new approach to cattle management.

Livestock Water Source Improvements

When grazing on federal lands, livestock depend on springs, wells, and other natural water sources. To optimize the grazing conditions, an evaluation could be done to identify areas with water deficiencies and identify alternative watering opportunities on public lands, such as installing new water distribution infrastructure. To protect sensitive water resources and riparian zones, a restoration plan could be developed to manage impacted areas while providing an alternative water source that is located outside the impacted riparian zone or improving aging infrastructure already utilized by livestock.

LEAD CHAMPIONS + PARTNERS Landowners / Permitees

Benefits

Create drought resiliency infrastructure for livestock on public lands while improving water resource management practices.

Barriers

The cost of replacement, operation, and maintenance of infrastructure is a barrier. Staffing of regulator agencies in general is a challenge and may be a hurdle for this activity's implementation. Regulatory hurdles or red-tape may discourage activities.

Pasture Reserves

Investigate pasture reserve banking opportunities. If feasible, identify locations for and implement pasture reserve banks. Opportunities may exist on vacant allotments, during periods of drought, or on properties not currently in use for commercial ranching.

LEAD CHAMPIONS + PARTNERS

Landowners

IN COLLABORATION WITH:

Landowners interested in participating will partner with permittees, such as the Bureau of Land Management or other agencies, on implementing this action.

Benefits

The benefits of pasture reserve banks exist for both ranchers and the environment. Banking could help create more sustainable grazing practices while improving rangeland health and reducing wildfire risk.

Barriers

Barriers to implementing banking opportunities on existing lands, such as location, ownership, and availability, may exist. Legality and enforcement of such a program for participants, landowners, and agencies may limit feasibility.

A2 – Agricultural Infrastructure and Water Management Improvements

Summary. The UGDP supports implementing activities that improve irrigation water delivery and on-ranch efficiencies. This action proposes improving agricultural delivery infrastructure where appropriate. These improvements could include headgate and diversion upgrades, automation, auto tarps, soil moisture sensors, ditch lining, and other enhancements. On-ranch efficiency improvements could focus on improving irrigation application types, drought tolerant pasture mixes, and other management needs.

LOCATION	FOCUS AREA	COST	TIMEFRAME TO IMPLEMENTATION	PRIORITY
Proposed improvements may be implemented throughout the Upper Gunnison River Basin.	Project	$200,000 - $1,000,000	Three to five years	**HIGH**

Specific tools identified during the UGDP process:

Evaluate alternative pasture grass mixes to determine their drought tolerance and impact on production. A pilot study may be conducted to assess feasibility in the Upper Gunnison River Basin while understanding the management requirements of different pasture types. Work with producers to install agriculture on-ranch efficiencies in appropriate locations, such as repairing ditches suffering significant seepage and frequent blowouts, headgate diversion improvements, to improve access to water, and delivery system efficiency.

Benefits

Efficiency improvements may result in more water in the stream, less in-channel manipulation, reduced labor inputs, easier operations for ranchers and land managers, and decreased transit losses. Efficiencies will build long-term drought resilience.

Barriers

Barriers to implementation surround the willingness of ranch and land managers to participate. The cost of improvements may limit participants, as well as ease of installation. Existing geology, geographic location, and site constraints are all barriers to implementation.

Lead Champion and Partners

The UGRWCD and Natural Resources Conservation Service (NRCS) will serve as the lead champion for this action, working closely with ranchers and land managers. The UGRWCD will work with NRCS to find opportunities to streamline and promote NRCS programs. The UGRWCD, when possible, will provide institutional knowledge and information about financial opportunities to support the implementation of actions. In 2024, the UGRWCD awarded $260,106 in grant funds for "projects that will enhance water supply, improve stream and irrigation conditions, conserve water, provide water education benefits, and restore wetlands."

A3 – Irrigation Return Flow Study

Summary. The UGDP supports the ongoing study of flood irrigation practices and basin return flow dynamics and their potential impacts on groundwater and surface water interactions in the Upper Gunnison River Basin. The objective of this study is to characterize and model surface water and groundwater interactions in the Upper Gunnison River Basin with a focus on agricultural return flows in the assessed reach(s). The proposed study will rely on integrated groundwater monitoring, surface-water monitoring, geochemical data collection, interpretation, and modeling.

LOCATION	FOCUS AREA	COST	TIMEFRAME TO IMPLEMENTATION	PRIORITY
The first phase of this study focused on the East River.	Study	$1,000,000 or more	Zero to two years	**MEDIUM**

In the Upper Gunnison River Basin, agricultural irrigation using water diverted from creeks and rivers locally recharges groundwater where irrigation water percolates below the root zone. In some areas, the local groundwater system supplies water to streams when groundwater flows back to the creek or river through the subsurface. This dynamic can affect water supply by providing temporary storage of water and extending streamflow outside the snowmelt runoff season.

Characterization of groundwater/surface-water exchange in the headwaters of the Upper Gunnison River Basin will improve the understanding of potential effects from future changes in water administration or climate.

The objective of this project is to characterize surface-water and groundwater interactions in the Upper Gunnison River Basin with a higher-resolution focus on agricultural return flows in a reach of the East River. Monitoring data will be used to (1) create a groundwater-flow model to simulate recharge, discharge, and surface-water and groundwater interactions and (2) use endmember mixing analysis to estimate the volume of agricultural return flow in the study area.

Benefits

The study's results will provide valuable data to the community on the relationships between surface water and groundwater interactions related to historical flood irrigation practices in the Upper Gunnison River Basin. Increased knowledge will provide water managers with additional information to inform landowners and water managers about short-term and long-term impacts related to drought, potential impacts related to participating in demand management programs, both on-ranch and to the stream system.

Barriers

The cost and capacity to conduct a study of this geographic scope may limit applicability in other subbasins. Available data to inform the study may not exist in other areas of interest in the near-term.

Lead Champion and Partners

The UGRWCD is the lead champion. The UGRWCD is partnering with the USGS to complete this study.

A4 – Agricultural Communication and Education

Summary. The goal of this action is to support the agricultural community by increasing general public awareness around agriculture in the basin, providing opportunities for producers to share their knowledge, and developing new educational materials that are tailored to producers in the Upper Gunnison River Basin. For example, many ranchers and land managers rely on subbasin and regional data to make decisions. This action seeks to make this data more widely available and accessible, especially to newcomers to the basin. This action will raise awareness of opportunities for the agricultural community to work with partners in implementing programs that support improved management practices and drought resilience.

LOCATION	FOCUS AREA	COST	TIMEFRAME TO IMPLEMENTATION	PRIORITY
Each subbasin needs more educational outreach and increased information exchange amongst users and the broader community.	Education	$0 - $200,000	Zero to two years	**HIGH**

Opportunities exist for creating subbasin liaisons, who could be the connection between the larger Upper Gunnison River basin community and its subbasin water users. This person would be a point person for attending public meetings to obtain and share information with the agricultural community and new agricultural water users in their subbasin.

Promote agricultural programs, such as NRCS, that help farmers, ranchers, and other landowners receive financial and technical assistance to become more drought-resilient. Support of irrigation audits and assessments will help individual landowners become more efficient.

Promote CSU Extension office services that help people learn more about gardening, pasture and livestock management, addressing noxious weeds, etc., through the latest research and available resources.

Benefits

This action would increase awareness about available programs, data, and information for the agricultural community. Increased knowledge will help inform decisions made by ranchers and land managers.

Barriers

Many agricultural irrigators feel increasingly isolated as development intensifies, and they worry that they are no longer welcome in the community. Participation by representatives may be challenging due to existing obligations and limited availability.

Lead Champion and Partners

The CSU Extension Office serves as the lead champion for this activity, partnering with the UGRWCD to create an agricultural subbasin liaison. The UGRWCD will collaborate with program partners, including The Natural Resources Conservation Service (NRCS), the Gunnison County Stock Growers Association, and CSU Extension, to offer educational opportunities for the agricultural community.

ENVIRONMENTAL RESILIENCE

This category represents actions focused on increasing and supporting existing environmental resilience actions. Actions range from riparian restoration to mitigating water quality impacts during drought.

W1 – Watershed Restoriation Activities

Summary. The UGDP supports the implementation of activities that create drought resilience in natural meadows, riparian zones, and other habitats within the Upper Gunnison River Basin. Existing activities include erosion control, wet meadows restoration, cheatgrass treatment, and low-tech process-based restoration efforts. These activities focus on habitat resilience across the landscape.

LOCATION	FOCUS AREA	COST	TIMEFRAME TO IMPLEMENTATION	PRIORITY
Activities proposed may be implemented throughout the Upper Gunnison Basin. These activities may occur on private and public lands.	Project	$1,000,000 or more	Zero to two years	**HIGH**

Existing activities include wet meadows restoration, cheatgrass treatment, and low-tech process-based restoration efforts. For each proposed activity, a description, benefits, barriers, action champions, and partners are described below.

Wet Meadows Restoration and Building Project

Natural meadows and riparian habitats within the sagebrush landscape of the Gunnison Basin are resilient and support a sustaining population of Gunnison sage-grouse and other species, biological communities, ecosystem services, and livelihoods in the face of a changing climate. Sustained and long-term community commitment to the stewardship of meadows and riparian areas helps nature and land-based livelihoods adapt to climate change.

LEAD CHAMPIONS + PARTNERS

UGRWCD

IN COLLABORATION WITH:

Local, state, and federal agencies, non-governmental organizations, universities, ranchers, and volunteers.

Benefits

Sustained and long-term community commitment to the stewardship of meadows and riparian areas helps nature and land-based livelihoods adapt to climate change. For example, since 2012, in partnership with other entities, UGRWCD has treated over 120 acres of riparian habitat on public and private lands, along more than 49 miles of stream with over 2,670 structures to enhance Gunnison sage-grouse brood-rearing habitat and increasing ecosystem resilience.[5]

Barriers

Barriers can include capacity for project management and oversight, workforce capacity, consistent funding, and obtaining environmental clearance from public agencies.

Gunnison Basin Cheatgrass Implementation Project

This project will deliver multiple treatments, including wet meadow restoration (150 acres), prioritized cheatgrass treatments (1,000 acres), and other sagebrush restoration outcomes within the Gunnison Basin of Colorado. These deliverables will benefit the federally-listed Gunnison sage grouse and other sagebrush-obligate species. This program could be expanded to other areas in the basin.

LEAD CHAMPIONS + PARTNERS Gunnison County & U.S. Fish and Wildlife Service

IN COLLABORATION WITH: UGRWCD, Colorado Parks and Wildlife, Bureau of Land Management, Colorado Field Ornithologist, Gunnison County, Gunnison County Stockgrowers Association, U.S. Forest Service, and Bird Conservation of the Rockies.

Benefits

Increase watershed health and habitat resilience. Promotes the reduction of wildfire risk.

Barriers

Barriers to date include the capacity for project management and oversight, as well as workforce and consistent funding. Support is needed to help recruit and maintain this position long-term; this coordinator position requires a long-term committee to achieve to be effective.

[5] Upper Gunnison River Water Conservancy District. *UGRWCD Wet Meadows Program*. Retrieved April 21, 2025, from ugrwcd.org/wet-meadows-program/

Low-Tech Process-Based Restoration Efforts

LEAD CHAMPIONS + PARTNERS

UGRWCD

In conjunction with the existing actions listed above, the UGDP proposes a study to determine the effectiveness of low-tech process-based restoration structures by project, location, and type. Another component of the study would be to identify locations in smaller watersheds (i.e., tributaries in sub-basins) that could benefit from this type of restoration that may not normally be a part of existing programs.

Benefits

Determining the effectiveness of past actions will provide local examples of successful implementation and build trust with potential landowners interested in participating. These structures enhance drought resilience by improving water retention, reducing erosion, enhancing groundwater recharge, and improving habitats.

Barriers

It is essential and sometimes challenging to establish trust with landowners to support the construction of low-tech, process-based restoration structures and demonstrate the success of these structures on private lands. The construction of structures is labor intensive. The process of obtaining local, state, and federal permits can be a determinant

W2 – Coordinated Water Conservation

Summary. The UGDP supports continued community-driven, voluntary coordination among water users in areas that experience frequent diminished streamflow during times of drought. A 2018 pilot project led by Trout Unlimited at the Tomichi Creek State Wildlife Area (SWA) serves as an example. The project included six participating irrigation diversions, extensive surface and groundwater modeling, and a voluntary water leasing mechanism to provide short-term relief to the stressful conditions in the fishery that were attributed to drought.

There are numerous lessons learned from the project that can be applied to future opportunities. The pilot project demonstrates that cooperation between different types of water users can find mutually beneficial solutions.

LOCATION	FOCUS AREA	COST	TIMEFRAME TO IMPLEMENTATION	PRIORITY
The UGRWCD Watershed Management Plan identifies other reaches frequently impacted during times of drought.	Project	$0 - $200,000	Three to five years	**MEDIUM**

Tools and resources available to explore opportunities for similar projects include:

- The UGRWCD Watershed Management Plan identifies areas commonly impacted during times of drought. Additional work will need to be completed to prioritize priority reaches that could benefit from these types of coordinated efforts.
- The UGRWCD Irrigation Return Flow Study (A3) can provide valuable information on how irrigation return flows currently benefit surface water.
- Colorado Water Trust provides expertise and technical assistance in understanding and implementing streamflow enhancement mechanisms allowable under Colorado Water Law.
- Colorado Water Conservation Board provides funding to support multi-benefit projects such as coordinated water conservation.

LEAD CHAMPIONS + PARTNERS Trout Unlimited

IN COLLABORATION WITH: Water rights holders, Colorado Water Trust, Colorado Park and Wildlife, UGRWCD and other stakeholders depending on the potential project locations.

Benefits

This action will help maintain flows for fish in reaches during critical times of the year and may have an indirect benefits to recreation in the reach as well.

Barriers

Barriers to water conservation programs include achieving 100% participation in the program, the cost of compensating water right holders for their participation, and the institutional capacity to manage contracts and payments. DWR would not administer the program; therefore, all the water users in the reach of interest need to participate.

Otherwise, the water conserved by an upstream ditch could be legally diverted by a downstream ditch, preventing the increased flows from benefiting the aquatic ecosystem. Ranchers in the Upper Gunnison River Basin want to ranch and grow food, so trading water for money may not always satisfy the needs of the business supported by the water rights, align with the ranchers' way of life, impact long-term productivity of a ranch when fallowed, and may limit the water users' ability to participate. The ability to build trust with water rights holders and landowners may limit opportunities for collaboration. The program must be tailored to the specific needs of both the water users and the environment.

W3 - Mitigating Water Quality Impacts

Summary. The UGDP supports implementing activities that eliminate or reduce water quality impacts during drought. For example, activities could focus on improving discharge concentrations from mining sites without point source discharge permits. Another opportunity could be to work with existing point-source discharge permit holders to ensure requirements are met in times of drought.

LOCATION	FOCUS AREA	COST	TIMEFRAME TO IMPLEMENTATION	PRIORITY
Specific locations for mitigation work will be identified through the workgroup process defined for this action.	Education, Engagement, & Project	$0 - $200,000	Three to five years	**LOW**

A workgroup could be formed to focus on identifying point and non-point sources that have the most significant impact during drought. An assessment could identify locations, impacts, and recommendations for improving water quality, as well as criteria for prioritizing activities addressing these impacts.

The UGRWCD Watershed Management Plan identifies reaches impacted during times of drought. Additional work will need to be completed to prioritize priority reaches that could benefit from these types of coordinated efforts.

Benefits

Addressing water quality from non-point discharge sources could improve water quality and prevent the exasperation of impacts during drought.

Barriers

Capacity barriers exist for both the action's champion and partners but for agencies managing the lands impacted. Staffing of regulatory agencies, in general, is a challenge. Funding for the cleanup of abandoned mine sites is another barrier. Regulatory hurdles may discourage activities.

Lead Champion and Partners

An action champion is unknown at this time. A workgroup comprising the following partners could be formed to spearhead these mitigation efforts: the U.S. Forest Service, Colorado Division of Reclamation, Mining, and Safety, UGRWCD, Coal Creek Watershed Coalition, Lake Fork Valley Conservancy, High Country Conservation Advocates, and the Bureau of Land Management. This workgroup could identify the lead champion(s) based on recommendations from the assessment.

RECREATIONAL RESILIENCE

This category represents actions focused on increasing and supporting existing recreational resilience actions. Actions include diversifying recreational opportunities and developing a recreational management plan.

R1 - Resilience Among Recreation Service Providers

Summary. The UGDP supports investigating opportunities to help recreation service providers diversify their services in times of drought and improve recreation infrastructure accessibility during low-flow or low reservoir periods.

LOCATION	FOCUS AREA	COST	TIMEFRAME FOR IMPLEMENTATION	PRIORITY
Locations may vary based on recreation activity.	Study & Engagement	$0 - $200,000	Three to five years	LOW

Specific opportunities identified during the UGDP process:

- Identify opportunities to make diversification more affordable for recreation service providers.
- Development of campaigns that educate the public on voluntary closures and suggest other recreational opportunities exist despite the closure.
- Improve recreation infrastructure access by making boat ramps and other amenities more accessible in low water years.

LEAD CHAMPIONS + PARTNERS Recreation Service Providers & National Park Service

Recreation service providers could invest in diversifying their business, while the National Park Service may address recreational infrastructure at marinas found at Blue Mesa and Taylor Park Reservoirs.

Benefits

Mitigate the economic impacts of drought on recreation service providers and the community at large. Provide more recreational opportunities during drought periods.

Barriers

Safety issues may prevent some opportunities. The cost of service diversification and return on investment may dissuade outfitters. The cost of improving or modifying access infrastructure or impassable barriers in the river could prevent implementation. The reduction in income and increased cost of labor to maintain and operate marinas, park access, and boat inspection stations when the recreation season shrinks due to lower reservoir content.

R2 - Gunnison Recreation Access Management Plan

Summary. The UGDP supports addressing the continuity of management for recreation access. The access management plan could assess low-head dams and other navigational hazards, collate existing river management plans, identify opportunities for multi-jurisdictional collaboration, and identify needs for access changes in the face of future water availability and use pattern changes. One goal of the plan could be to provide information to users about the ideal times to recreate based on water levels, where recreation can be accessed, what to expect in terms of different management based on land ownership, and education on river etiquette and safety across a wide range of river flows. This work can be aligned with statewide initiatives like the Colorado Water Conservation Board and American Whitewater's Quantifying Recreational Impacts and Identifying Enhancement Opportunities Phase 2.

LOCATION	FOCUS AREA	COST	TIMEFRAME FOR IMPLEMENTATION	PRIORITY
Locations may vary based on recreation activity.	Study & Engagement	$0 - $200,000	Three to five years	LOW

A workgroup could be formed to develop a recreation access management plan for the Upper Gunnison River Basin. The plan should address the following management concerns raised during the UGDP process in order to avoid community conflict:

- Develop a better understanding of where recreation can be accessed at a range of water levels.
- Describe what to expect in terms of different land management practices based on land ownership.
- Educate users on river etiquette and safety across a wide range of flows.
- Address impacts of less water on concentrating use in areas with limited infrastructure. Provide recommendations for co-agency management to create a safer environment for all.
- Identify infrastructure improvements that can be resilient to variable flows. A feasibility study could be conducted to identify bridges of importance, understand opportunities to improve bridges for various recreational activities, and investigate opportunities for funding.

LEAD CHAMPIONS + PARTNERS American Whitewater

IN COLLABORATION WITH: High Country Conservation Advocates as partners. In the short term, project champions and partners could identify which access areas need improvements, secure funding, and discuss the prioritization of actions.

Benefits

The plan will promote and help decrease or disperse recreational activities during drought. The plan will increase awareness surrounding river access and safety in low and high-flow water years.

Barriers

Capacity barriers exist for plan development, implementation and enforcement of the plan given the variety of jurisdictions in the basin. Funding barriers could exist for the development of the plan, implementation of recommended actions, and capacity for implementation and/or enforcement of the plan.

MUNICIPAL RESILIENCE

This category represents actions focused on increasing and supporting existing resilience actions for municipal providers. Municipal providers are defined as cities, towns, or local governments that treat and distribute clean drinking water. These municipal providers are public water systems serving residential and commercial users. Service areas vary dramatically in size, ranging from metropolitan districts to the City of Gunnison.

M1 - Municipal Provider Collaboration

Summary. The UGDP supports an action specific to improving communication and education among municipal providers across the basin. Routine communication among providers, along with a common understanding of each other's systems, goals, and needs, will be beneficial as providers implement drought-resilience activities.

LOCATION	FOCUS AREA	COST	TIMEFRAME TO IMPLEMENTATION	PRIORITY
Locations may vary based on participating municipal providers. Collaboration should occur locally and basin-wide.	Engagement	$0 - $200,000	Zero to two years	**MEDIUM**

An annual municipal meeting should be held to share knowledge, provide updates, and discuss upcoming projects. At these annual meetings, the following topics may be discussed:

- Identify baseline data collection methods that could be consistent across providers.
- Exchange knowledge about emerging technologies, system optimization activities, and data collection methods.
- How best to address their labor force needs individuals and collectively.
- Discuss how water providers are addressing water supply availability for future growth in their service area.
- Exchange knowledge about landscape ordinances, stormwater best management practices, water quality, weed management, fire mitigation and response programs.

Benefits

Collaboration will lead to increased knowledge among providers, peer-to-peer support for programs and activities, and thoughtful municipal growth across the basin.

Barriers

Time constraints, overlapping meeting schedules, and the sheer volume of information to absorb can present significant barriers for participants.

Lead Champion and Partners

The Town of Crested Butte would be the lead champion. Partners include the Town of Mt. Crested Butte, Crested Butte South Metro District, Mt. Crested Butte Water and Sanitation District, City of Gunnison, Gunnison County, Town of Lake City, Western Colorado University, Crested Butte Mountain Resort, and small rural water providers (i.e., special districts or small subdivisions).

M2 - Drought Response Plan for Municipal Providers

Summary. Encourage and support the development of a drought response plan for municipal providers. This planning process would allow municipal water providers to convene routinely to discuss not only drought response actions but also to share information and collaborate on other projects.

LOCATION	FOCUS AREA	COST	TIMEFRAME FOR IMPLEMENTATION	PRIORITY
Locations may vary based on participating municipal providers. Drought planning should occur locally and basin-wide.	Education	$200,000 - $1,000,000	Three to five years	**MEDIUM**

Municipal providers may collaborate or work independently to develop a drought response plan for their customers. Drought response plans may vary from provider to provider, depending on factors such as water supply, demand, distribution system, and capacity needs. Numerous resources are available to help water providers develop these plans, including the Colorado Growing Water Smart Community Self-Assessment and Drought Preparedness Planning: Building Institutional Capacity.

The plan could include analysis of baseline water supply and demand data, identify marginalized communities, develop drought trigger points, define drought response actions, and enforce actions when implemented.

Municipal providers would work together to share the results of their plans and coordination actions when possible.

The long-term goal of a plan would be daily actions that create long-term resilience.

Potential activities for municipal water providers to implement at various stages of drought may include the following. Note that each level of drought builds upon the previous level's activities. Municipal providers may require updates to existing policies before enforcing water restrictions during drought.

- **Drought Level 0** – Conduct an annual meeting of water providers to share lessons learned and other pertinent information. Encourage voluntary water restrictions when possible. Incentivize timely repair for customer water leaks. Implement tiered rate structures.
- **Drought Level 1** – Conduct public notifications regarding diminished water supplies and encourage voluntary water restrictions.
- **Drought Level 2** – Enforce water restrictions for bulk customers, commercial lawns, and residential use.

Benefits

Over time, these drought resilience activities can improve the water conservation culture, allowing people to become more comfortable using less.

Barriers

The cost and capacity to enforce and monitor drought resilience activities are barriers due to staffing constraints. Data gaps exist with baseline information needed to determine drought trigger points.

Lead Champion and Partners

Each water provider will be responsible for developing a drought response plan as they deem necessary. Partners are encouraged to align their plans with those of other providers. These water providers will collaborate in supporting each other's plan development and pursuit of funding opportunities as applicable. Potential providers that could develop a plan include the City of Gunnison, Town of Mount Crested Butte, Town of Crested Butte, Crested Butte South Metro District, Mount Crested Butte Water and Sanitation District, Gunnison County, Town of Lake City, and Western Colorado University.

Table 10 below outlines existing mitigation and response actions that can be incorporated into a drought response plan to enhance drought resilience for municipal providers. Task Force members and municipal representatives identified these activities during the UGDP process.

Table 10. Current Municipal Drought Response Actions*

	Outdoor Water Use	Indoor Water Use	Other Efforts
City of Gunnison	• Potable water uses a tiered rate structure to encourage non-potable use • Code updates for drought-resilient plants/landscaping	• Code update to recommend efficient fixtures	
Town of Mt. Crested Butte	• Water conservation landscape ordinance, emphasizes native plants, limited trees planted	• The indoor water use ordinance requires low flow	• Water is a priority in the 2023 Master Plan • Undertaking sustainability and climate action planning; climate vulnerability study
Town of Crested Butte	• Year-round residential water restrictions (time of day/days of week) • Disconnected parks from treated water system (using raw) • Parks and Open Space Department using drought-resilient plans • Tiered rate structure	• Fixtures and appliances shall comply with Indoor Water Use Efficiency Standards Table • Base allotment is 4,000 gallons per Equivalent Residential Unit • Consumption over the base is a tiered rate structure	• Conserve lands adjacent to watercourses • Source Water Protection Plan • Wildfire Ready Action Protection Plan (Focused on protection of Watersheds for drinking water) • Implementing a project that addresses Coal Creek Dam restrictions and problems with the outlet works. These issues limit the Town of Crested Butte's ability to access its full water rights and supply, impacting environmental flows and downstream agricultural users
Crested Butte South Metro District	*(Identified as an important municipal stakeholder, additional engagement required to complete the table.)*		
Town of Lake City	• The ordinance allows the Board of Trustees to limit the use of town water to specific times, days, and uses	• Tiered rate structure	
Mt. Crested Butte Water and Sanitation District	• Tiered rate structure		
Gunnison County	• Land Use Code in the Wildland Urban Interface for wildfire and tree thinning, fire-resilient building materials		• Switching all county facilities to geothermal and electric power
Western Colorado University	• City ditch water • Reduce non-functioning turf		• Mandated by the State of Colorado to reduce 2% of water supply yearly • Hired Sustainability Director
Crested Butte Mountain Resort - Vail Resorts	• Base area lawn irrigation and snowmaking operations	• Water used for restrooms, food and beverage operations, and drinking water	• Investigating on-site storage opportunities

* This is not an exhaustive list of all water providers in the Upper Gunnison River Basin and municipal focused actions that are creating drought resiliency in the region. For example, Skyland Metropolitan District and other small public water systems are not listed; however, they may be implementing actions similar to ones described above.

M3 – Source Water Resiliency

Summary. Many water providers in the basin are currently implementing actions to help mitigate wildfire risk and drought and create resilience. Each provider is unique in the challenges they face daily or throughout the year. The size of a water provider's service area and the amount of water treated vary significantly across the basin.

LOCATION	FOCUS AREA	COST	TIMEFRAME TO IMPLEMENTATION	PRIORITY
Locations may vary based on participating municipal providers. Current activities exist at the local and basin-wide scale.	Project	$1,000,000 or more	Zero to two years	**HIGH**

Municipal providers are currently addressing drought across five major areas: water supply and vulnerabilities, measurement, redundant supplies, outdoor water use, indoor water use, and other efforts. Table 10 summarizes these activities by municipal provider.

Water Saving Opportunity and Analysis

For the UGDP, a preliminary analysis was conducted to better understand the potential water savings associated with replacing high-density grass with various types of native grasses and plants. To estimate potential evapotranspiration (PET) for bluegrass and native plants, Colorado's Consumptive Use Tool was used. It was assumed that high-density grasses were being well irrigated with an efficiency rate of 85%. An average PET from pasture grass and orchard was used to represent the variety of plants that people may landscape with after removing bluegrass. This includes trees, flowers, and native grasses.

In general, replacing bluegrass one for one with native plants yields minimal savings due to native plants still having water demands. Across three different locations, ranging in elevation from 7,710 feet to 8,856 feet, the primary benefit of conserving water is to replace bluegrass with 25 to 50% native plants, while leaving the remaining area xeriscape, eliminating the need for additional water (i.e., hardscaping). A landscaped area with only 25% native plants and 75% hardscaping allows for a water reduction of almost 80%. While an area with 50% native plants and 75% hardscaping allows for a water reduction of about 55%. See the appendices for additional analysis results.

This information can be used by municipalities to understand if turf grass removal is an appropriate vegetation tool for them.

Benefits

Small changes across each provider equal local and basin-wide water conservation benefits. Increased knowledge about municipal water conservation efforts.

Barriers

When implementing these activities, barriers encountered include regulatory and policy issues, economic factors, infrastructure challenges, public perception, cultural norms, enforcement capacity, and labor constraints.

Lead Champion and Partners

Each provider is the champion for their activities.

Table 11. Current Municipal Source Water Resiliency Actions*

	Water Supply / Vulnerabilities	Measurement	Redundant Supplies
City of Gunnison	• Surface water rights on Gunnison and Tomichi Creek • Diversion structures are needed to improve access to water in low-flow years	• SCADA system on wells • Improve measurement of ditch system and non-potable water uses	• Drilling three additional wells north of town • Surface water storage at new plant for an additional 480 acre-feet
Town of Mt. Crested Butte	*Not a municipal provider and does not manage a public water system*		
Mt. Crested Butte Water and Sanitation District	• Multiple surface water sources on the East River, including ditches • Crested Butte Ltd. Pipeline • Multiple surface water sources on Washington Gulch, including Meridian Lake Park #1 Dam	• Parshall flume on ditches. • SCADA/flow meters at Meridian Lake Park #1 Dam and East River Pump Station	• Long Lake Project, multi-year project to connect Washington Gulch to the Mt. Crested Butte Water Treatment Plant • Use of UGRWCD storage rights in Long Lake
Town of Crested Butte	• Several water rights in upper basin Coal Creek and one Slate River	• Collecting baseline data to inform water planners/managers	• Initiated in 2024 Alternative Water Source option, a multi-year project
Crested Butte South Metro District	*(Identified as an important municipal stakeholder, additional engagement required to complete the table.)*		
Town of Lake City	• Two wells for municipal supply for indoor and outdoor water use • Town diversion off Hensen Creek, not being well utilized	• Flow Meters on both wells. • Parshall flume on ditch diversion	• Lake San Cristobal augmentation water
Gunnison County	*Not a municipal provider and does not manage a public water system*		
Western Colorado University	• City potable water use for outdoor use for part of the season	• Need for SCADA system for outdoor irrigation	• Right in City of Gunnison ditch for outdoor use for part of the season
Crested Butte Mountain Resort - Vail Resorts	• Surface water rights on East River for snowmaking • Spring water for food outlets on mountain	• Flow meters on all water sources	• No redundancy

* This is not an exhaustive list of all water providers in the Upper Gunnison River Basin and municipal focused actions that are creating drought resiliency in the region. For example, Skyland Metropolitan District and other small public water systems are not listed; however, they may be implementing actions similar to ones described above.

M4 – Native Gardens Demonstration Project

Summary. The UGDP supports implementing garden demonstration projects that promote wise water use, native plants, manicured, high-density grass replacement programs, and education on water conservation and xeriscaping.

LOCATION	FOCUS AREA	COST	TIMEFRAME TO IMPLEMENTATION	PRIORITY
Opportunities exist at a local scale. Locations may vary based on water conservation activity.	Project	$0 - $200,000	Three to five years	**LOW**

These water-wise landscaping projects would emphasize the use of drought-tolerant plants and efficient irrigation methods to conserve water. Site-specific plans for a project will need to include a design, methods for soil preparation including landscape cover, maintenance plan, and monitoring to evaluate the success of the project.

Benefits

These projects would promote wise water use, decrease consumptive use, and provide general education on drought-tolerant gardens and landscapes.

Barriers

The cost and capacity to complete a project may limit success, especially the need for ongoing labor to maintain and monitor the project.

Lead Champion and Partners

The UGRWCD is the lead champion for this activity. Local, state, and federal agencies with public buildings and public spaces may have opportunities to implement projects on their properties.

4. Response Actions

DROUGHT RESPONSE COMMUNICATIONS PLAN

Throughout the development of the UGDP, the need for education surrounding drought was commonly expressed by stakeholders and the Task Force alike. Communication is key during any drought, regardless of the severity. Active communication, coupled with educational outreach activities, will provide the community with up-to-date information to help them manage drought impacts effectively. While communication is necessary throughout any water year, during a drought year, communication should be increased in proportion to the decrease in available water supply.

A communication strategy was developed as the primary response action. This action proposed a strategy with communication channels, key messages, and public engagement opportunities identified for various audiences at different stages of drought. The following sections describe the communication strategy with clear goals and objectives. Tables 12 and 13 below summarize the drought response communications. The District is the overall champion of this plan, with water users leading the way in championing many of the mitigation actions. All activities listed in the plan are voluntary. The District and Task Force acknowledge that the key to success for implementation is ongoing communication, collaboration, and mutual support as activities are initiated.

The communication strategy for the UGDP is designed to raise awareness, foster understanding, and encourage active engagement across the Upper Gunnison River Basin. Its primary goal is to ensure that stakeholders, ranging from water managers and agricultural producers to municipalities, recreation groups, residents, visitors, and part-time residents, clearly understand the plan's purpose, tools, and benefits.

The strategy supports broad and meaningful participation throughout the life of the UGDP. It also aims to amplify the plan's impact by sharing lessons learned, highlighting success stories, and promoting collaboration across sectors. Communication efforts will reinforce the UGRWCD's leadership role in basin-wide drought preparedness and resilience.

This strategy serves as a guiding framework for both internal and external communications related to the UGDP. It informs the development of outreach materials, messaging, website content, media engagement, and public updates. It also provides direction for how project advisors and partners communicate, both with one another and community members.

As a living document, the communication strategy will evolve in tandem with the UGDP. As new stakeholders are engaged, additional communication tools are developed, or outreach opportunities emerge, the strategy will be updated to reflect changing needs. Regular reviews will ensure that key messages, materials, and outreach methods remain effective and relevant. Updates will be documented and shared with project partners to maintain alignment and transparency.

The Communication Plan in its entirety may be found in Appendix B. Components included in the appendix but not in the body of the UGDP are as follows:

- Webinar/Education topics based on audience,
- Core content,
- Sector-driven messaging,
- In-depth examples for communication channels, topics, event ideas, and partner channels, (and)
- Key educational messages.

The following subsections are excerpts from the Communication Plan. These components of the plan are focused on responding to drought at the three different stages identified in the UGDP.

Table 12. Community Call to Action by Drought Level

Drought Level / Stage	Community	Water Users / Managers	District
Level 0: Average Conditions	• Learn where your water comes from • Explore drought tools	• Advance mitigation actions • Proactively plan/prepare for future drought years	• Advance mitigation actions • Conduct drought education / awareness
Level 1: Dry Conditions	• Mind your water use, explore tools for using less water • Recreate responsibly, check for drought related closures	• Promote voluntary water saving measures • Communicate approach with constituents / peers	• Host drought awareness stakeholder meetings
Level 2: Extremely Dry Conditions	• Follow watering restrictions	• Enact water restrictions	• Share impacts and stories of resilience

Table 13. Drought Response Action's Communications

Drought Level	Target Audience	Key Messages	Communication Channels	Content Type
Level 0: Average Conditions	General Public	• Encourage proactive planning even when conditions are above normal. • Highlight strong snowpack, healthy streamflow, but still require awareness.	• Social Media • Newsletters / E-blasts • Community Bulletin Boards / Kiosks	• Static posts about year-round water stewardship • Educational columns on the importance of a healthy water year
	Agricultural Producers	• Importance of preparing for potential water scarcity despite strong current conditions. • Continue water-saving practices in anticipation.	• Newsletters • Social Media • Agricultural Meetings	• Best practices for water management • Success stories on efficient water use
	Municipal & Industrial	• Emphasize planning for future droughts. • Reiterate the importance of water conservation for economic stability.	• Email • Local News • Public Service Announcements	• Water conservation tips • Economic impacts of continued water savings
Level 1: Dry Conditions	General Public	• Educate on the importance of continued water mindfulness. • "You can't predict next year, but you can act today."	• Social Media • Local Radio / Podcasts • School and Library Outreach	• Conservation challenge posts • Drought myth-busting PSAs • Educational handouts for water savings
	Agricultural Producers	• Reinforce water-saving tips tailored for neutral conditions. • Highlight local programs (e.g., irrigation audits, rain barrels).	• Newsletters • Social Media • Workshops	• Conservation tips • Tools for measuring water use at the agricultural level
	Municipal & Industrial	• Promote efficient water use as a strategy for both current and future conditions. • Provide guidance on water usage reductions.	• Email • Print Media • Town Hall meetings	• PSA-style drought updates • Ads connecting "average" years with long-term strategies
Level 2: Extremely Dry Conditions	General Public	• Clear explanation of the current drought situation. • "Here's what you can do right now" – specific actions for households and businesses.	• Social Media • Print Media • Community Meetings or Pop-Up Events	• Video clips from community leaders • Carousel graphics showing "Drought Do's and Don'ts"
	Agricultural Producers	• Urge specific drought measures, such as reducing water use for non-essential crops or non-essential ranch activities. • Offer direct updates on drought impacts.	• Newsletters • E-blasts • Community meetings	• "Drought Watch" columns in local papers • Information booths at agricultural markets
	Municipal & Industrial	• Provide clear guidelines on how municipalities and industries should adjust water use. • Encourage a unified approach to water management.	• Email • Press Releases • Public Meetings	• Targeted updates by location/interest • Press kits with drought status and response actions

OBJECTIVES

Objective 1: Build and maintain drought awareness throughout the Upper Gunnison River Basin

- Ensure that water users and community members understand current drought conditions by providing timely, accurate, and locally relevant technical information about water supply, streamflow, snowpack, and other indicators.

- Include broadcasting the recommended drought actions, highlighting champions, and maintaining shared responsibility in maintaining the water supply, protecting ecosystems, and supporting the local economy during drought.

- The UGRWCD will lead efforts to share drought level classifications and associated data to help individuals, organizations, and decision-makers understand basin conditions and prepare accordingly.

    - Through increased awareness and transparency, water users can make informed decisions about modifying operations or implementing voluntary conservation practices during all drought levels.

Objective 2: Foster collaboration and knowledge-sharing between local stakeholders

- Communications should continue the work inspired by the drought contingency planning Task Force: sharing knowledge, resources, experiences, and feedback between the diverse group of stakeholders within the Upper Gunnison River Basin.

- The UGDP will act as a central hub to collect, distribute, and return information about water conditions, user experiences, and drought impacts. This exchange enables more adaptive and coordinated water management strategies while also supporting the continued participation of the Task Force and other stakeholder groups in long-term planning and drought response efforts.

TARGET AUDIENCES

The UGDP is shaped by and intended to serve a broad spectrum of water users, community leaders, and interest groups throughout the Upper Gunnison River Basin. Effective communication and outreach efforts are grounded in the unique characteristics, needs, and roles of each audience.

The following groups have been identified as key stakeholders:

1. Agriculture producers

This audience includes irrigators, ranchers, and ditch companies who are highly vulnerable to drought and already experiencing its effects. Communications should be direct, empathetic, and delivered by trusted messengers, such as fellow agricultural producers or known community leaders. In-person events are critical to reaching these stakeholders.

Messaging should focus on real-world impacts, financial and technical assistance, and how the plan supports agricultural sustainability. It should also recognize the agricultural community's ongoing efforts and their roles as conservation stewards.

2. Municipal and industrial

This group comprises municipal staff, elected officials, and water utility managers responsible for the public water supply and its associated infrastructure.

Clear, actionable guidance and tools that support local planning, water use efficiency, and drought preparedness will be essential. In their outreach and education efforts, there's an emphasis on the cultural response to drought and communicating the value of water to water users.

3. Environmental and conservation organizations

These stakeholders are typically supportive of drought planning and bring a strong focus on ecosystem health, streamflow, and watershed sustainability. Many are already involved in data collection, monitoring, and policy advocacy. They are valuable partners in promoting science-based approaches and may help bridge communication gaps between different interest groups.

4. Recreation and tourism sector

Business owners, organizations, and individuals involved in outdoor recreation (fishing, rafting, skiing, hunting, etc.) have a vested interest in water conditions and seasonal variability. While they may not always be engaged in water policy, drought has direct consequences on their operations and economic viability. Targeted messaging should connect drought impacts to visitor and local experiences, business resilience, and community identity.

5. UGDP Task Force / stakeholders

This includes board members, staff, and regional collaborators who are deeply involved in the implementation of the plan. They serve as ambassadors for the plan and should be equipped with consistent messaging, outreach tools, and regular updates to maintain alignment and momentum.

6. General public

Residents of the Upper Gunnison River Basin have varying levels of awareness and concern about drought. These include residents, second homeowners, students, and visitors within the Upper Gunnison Valley.

Communications should emphasize community resilience, shared responsibility, and simple steps individuals can take to reduce water use and stay informed. Communication efforts and outreach materials will be tailored accordingly, with consideration for each group's unique perspective and preferred format of information delivery. Trusted messengers, visual storytelling, and locally grounded content will be essential tools in ensuring widespread engagement and understanding. These audience categories will also inform the development of future training opportunities, community workshops, and technical resources to ensure that drought planning is inclusive, actionable, and widely understood.

STRATEGIES

The UGDP is built on a foundation of inclusive communication, stakeholder engagement, and knowledge-sharing. Key strategies to support outreach and implementation include:

- **Create and maintain a one-stop web based dashboard** for drought resources within the Upper Gunnison River Basin.

- **Give drought condition updates** to community members and water users throughout the Upper Gunnison River Basin.
- **Advance understanding of drought risk and response** among water managers, municipal leaders, land use planners, utilities, nonprofit organizations, and other decision-makers throughout the Upper Gunnison River Basin.
- **Promote the Upper Gunnison Drought Plan** and its tools, recommended actions, and resources through in-person meetings, community events, online platforms, workshops, and direct engagement.
- **Understand and respond to the unique needs of each subbasin and stakeholder group**, identifying the most effective channels, messaging, and materials for engaging and informing diverse audiences.
- **Educate a broader public audience**, including residents, visitors, and students, about how drought affects the Upper Gunnison River Basin, and what actions individuals, organizations, and communities can take to prepare and respond.
- **Collaborate with media partners**, both local and regional, to share updates, spotlight community efforts, and promote resilience through storytelling and coverage of plan activities and successes.

DATA SHARING AND RESEARCH INTEGRATION

The goal of data sharing and research integration is to enhance water management and decision-making across sectors by facilitating better access to research findings, data, and emerging technologies. Key strategies to support data sharing and research integration, and steps for implementation include:

STRATEGIES:

- **Expand Data Sharing Platforms**: Strengthen the existing drought monitoring tools by collaborating with research groups, academic institutions, and governmental agencies. The plan will promote regular updates and ensure that data from emerging technologies such as ASO flights, soil moisture sensors, and SNOTEL sites is shared transparently with all stakeholders.
- **Encourage Collaborative Research**: Support partnerships with organizations such as the Colorado Airborne Snow Observatory and the National Center for Atmospheric Research to incorporate their research into community education and drought planning. This could include the creation of research briefings or webinars where stakeholders can learn about recent findings and their implications for drought management. Include these materials in newsprint, newsletters, the website, and social media channels.
- **Educational Campaigns on Forecasting**: Develop a series of educational campaigns or explainer videos that show how forecasting models work and the role that new technologies play in improving drought resilience. This will increase understanding and support for continued investment in monitoring tools.

IMPLEMENTATION:

- Update the UGDP website's dedicated section for research and data updates.
- Host bi-annual webinars to present findings from new research or data collection efforts.
- Provide stakeholders with tools and guidance to incorporate new data into their drought management strategies, shared via newsletters, social media, and on the website.
- Send out drought status updates via E-blasts and social media, when applicable.

TAILORED OUTREACH FOR SPECIFIC WATER SECTORS

The goal of tailored outreach for specific water sectors is to ensure that all water sectors and stakeholders receive relevant, sector-specific drought communication and education.

There are two key objectives for tailored outreach:

1. Create content to fit the educational needs of each stakeholder group.
2. Create content that represents what each stakeholder group needs the general public to understand.

Key strategies to support tailored outreach and steps for implementation include:

STRATEGIES:

- **Develop Tailored Content**. Create customized outreach materials and educational content that speaks directly to the unique needs of different sectors. This includes sector-specific factsheets, webinars, and workshops that address the specific challenges and opportunities each group faces during drought conditions.

- **Host Sector-Specific Workshops**. Organize and promote educational workshops or forums where water users from specific sectors can discuss drought risks, share best practices, and learn about available resources.

- **Promote Sector-Driven Messaging**. Collaborate with sector-specific organizations to amplify drought messaging.

IMPLEMENTATION:

- Launch sector-specific campaigns on the website, social media, and email newsletters that feature tailored content for each water sector.
- Host quarterly, bi-annual, or annual webinars or in-person events focused on different sectors' drought management strategies.
- Share sector-specific success stories and testimonials to encourage peer learning and action.

COMMUNICATION CHANNELS

Effective communication requires a multi-channel approach to reach diverse audiences across the Upper Gunnison River Basin. The channels outlined below will be used to share drought information, promote engagement with the UGDP, and build a culture of drought resilience in the region.

Each channel serves a specific purpose and audience, and together they ensure consistent, accessible, and timely delivery of information throughout the basin.

- Upper Gunnison Drought Plan website
- Social media platforms
- Email newsletters
- Local media outreach
- Community events and public meetings
- Partner and stakeholders' channels

KEY MESSAGES

The UGDP was created using input from a diverse group of stakeholders; therein lies the root of the messaging strategy: community.

These messages reflect the plan's commitment to provide drought mitigation and response actions that are representative of the entire Upper Gunnison River Basin's needs. Communications should be clear and designed to inspire action, foster collaboration, and empower the broader community to participate.

These guiding messages can be adapted for different audiences or platforms, but should consistently reflect our tone: collaborative, grounded, and informed. They should also center the goals of the UGDP (refer to the Mitigation Section for goals). See the table at the end of this section for key messages by audience type, communication channels, and content type for each drought level.

TIMELINE

The success of the UGDP depends on thoughtful, timely, and sustained communication efforts. This work plan outlines key phases, tasks, and an annual rhythm to ensure that messaging is proactive, adaptive to conditions, and aligned with community needs and seasonal water cycles.

The communications timeline is divided into four main implementation phases, with core activities recurring each year and scaling up as needed during active drought periods.

Figure 14. PHASE 1: FOUNDATION BUILDING

Goal: Launch outreach infrastructure, raise awareness, and prepare stakeholders for future engagement.
Timeline: Immediate

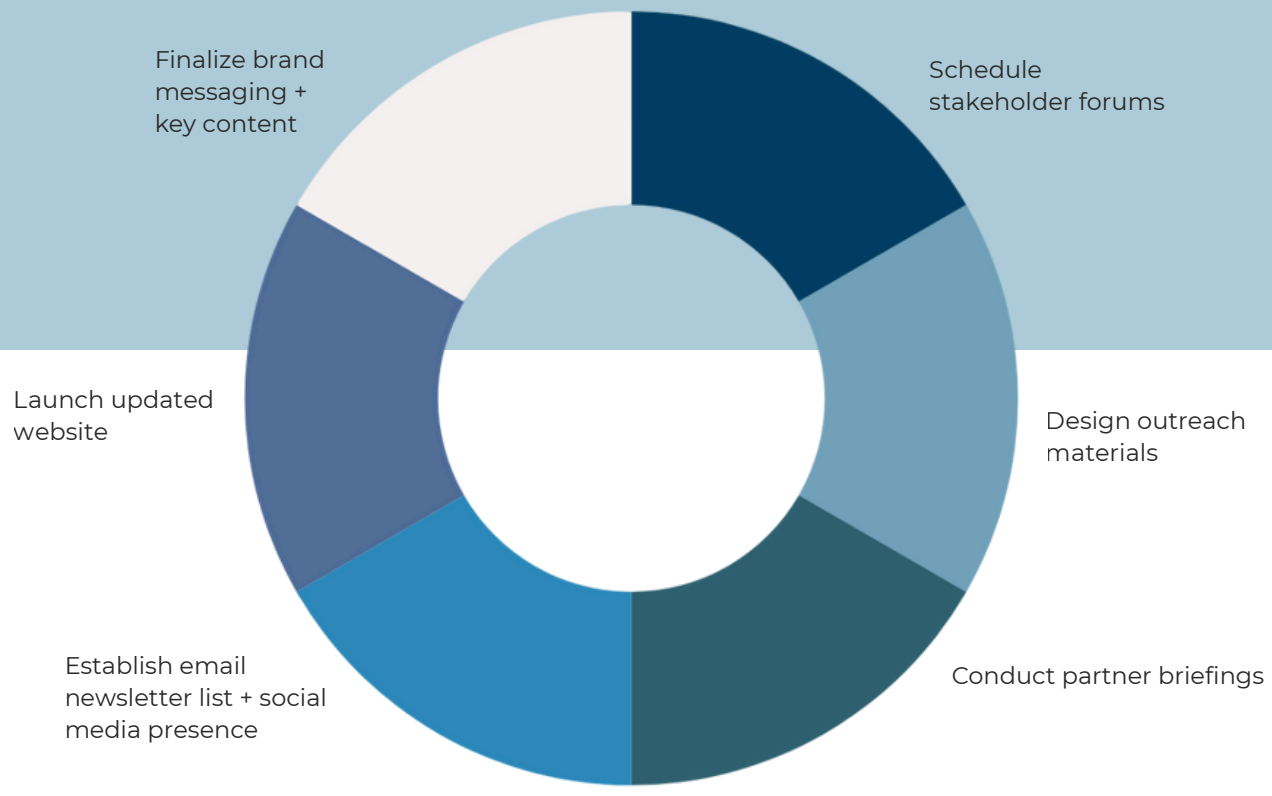


FIGURE 15. PHASE 2: OUTREACH ROLLOUT AND EDUCATION

Goal: Distribute educational materials, expand engagement, and build stakeholder confidence.
Timeline: Short-term

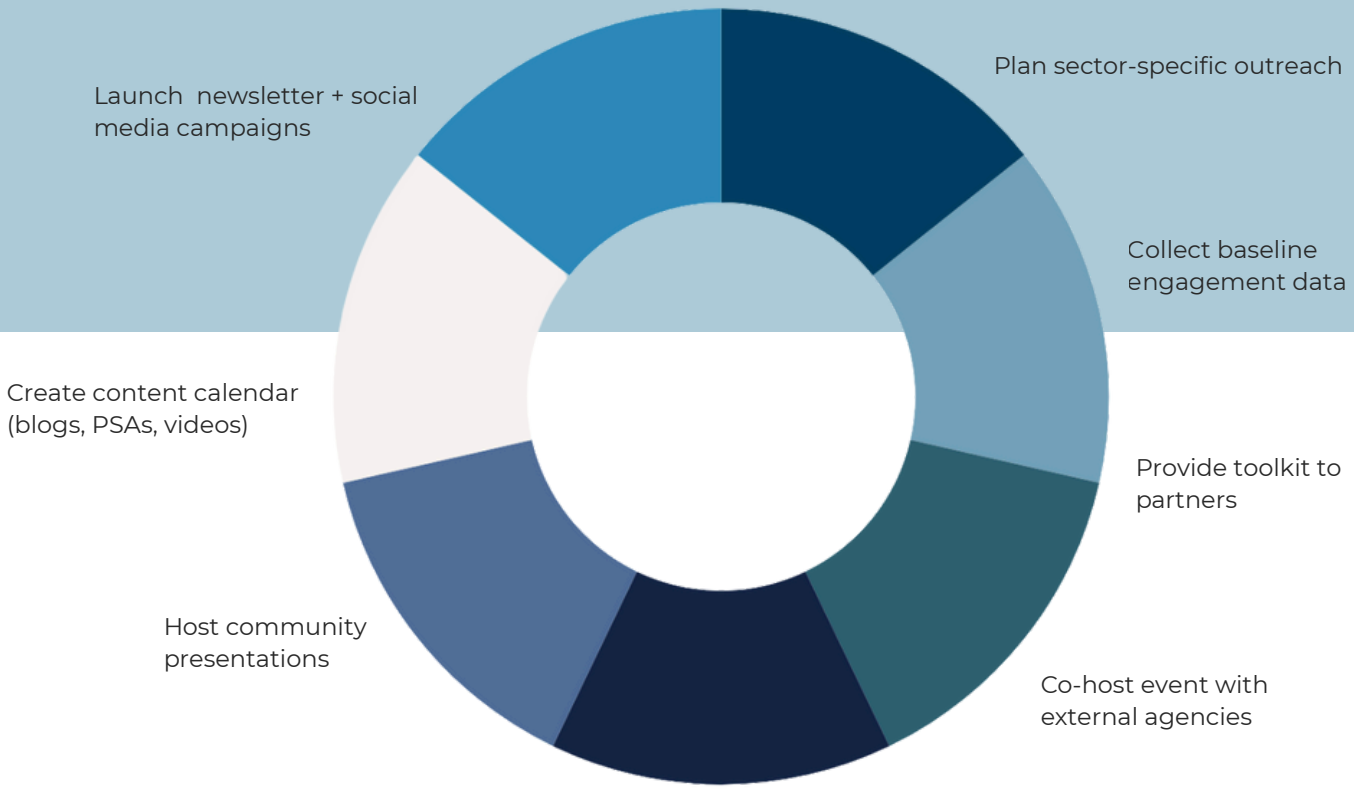


FIGURE 16. PHASE 3: ACTIVE DROUGHT COMMUNICATION

Goal: Provide timely updates, guide public action, and coordinate messaging across sectors.
Timeline: Long-term, flexible duration

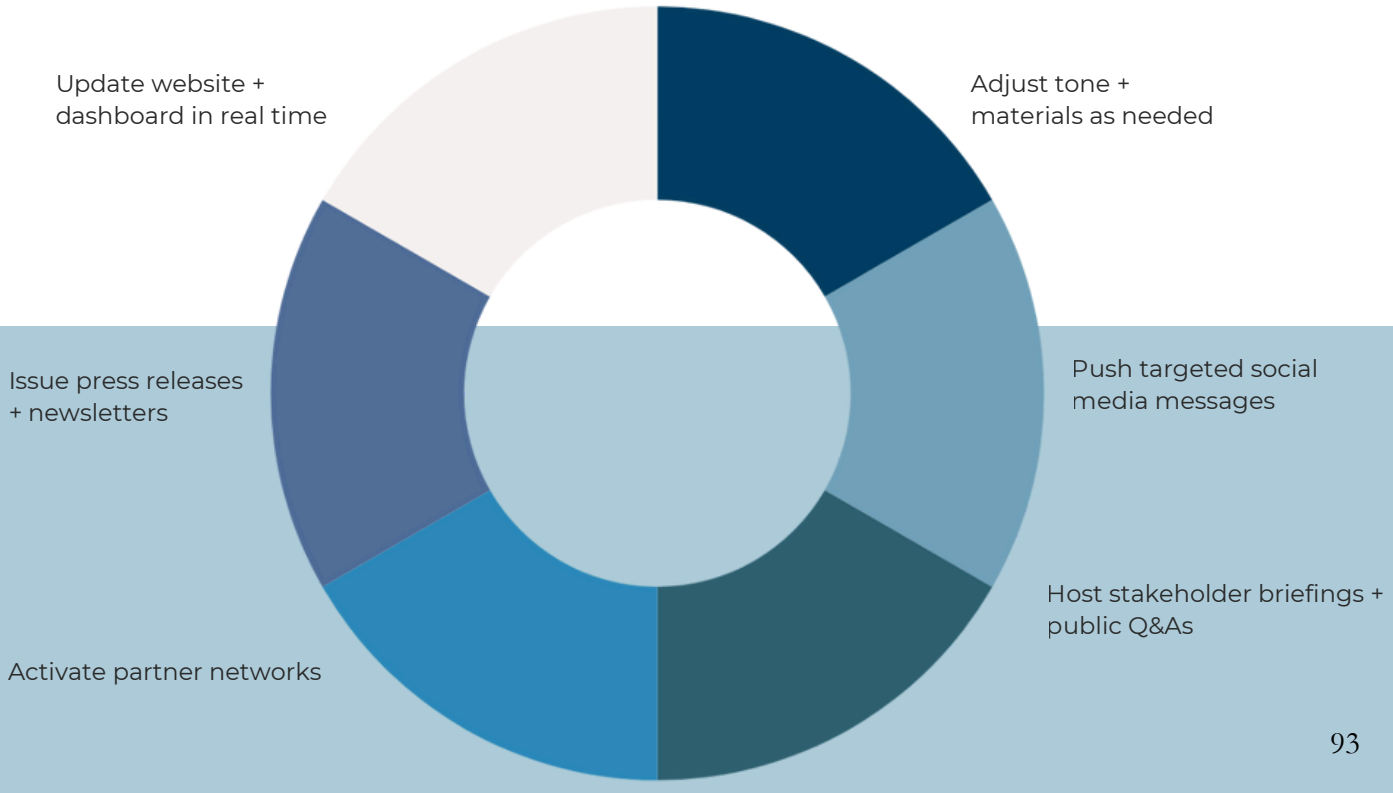


FIGURE 17. PHASE 4: REFLECTION AND REFINEMENT

Goal: Evaluate outreach effectiveness, document learnings, and improve future efforts.
Timeline: Annual

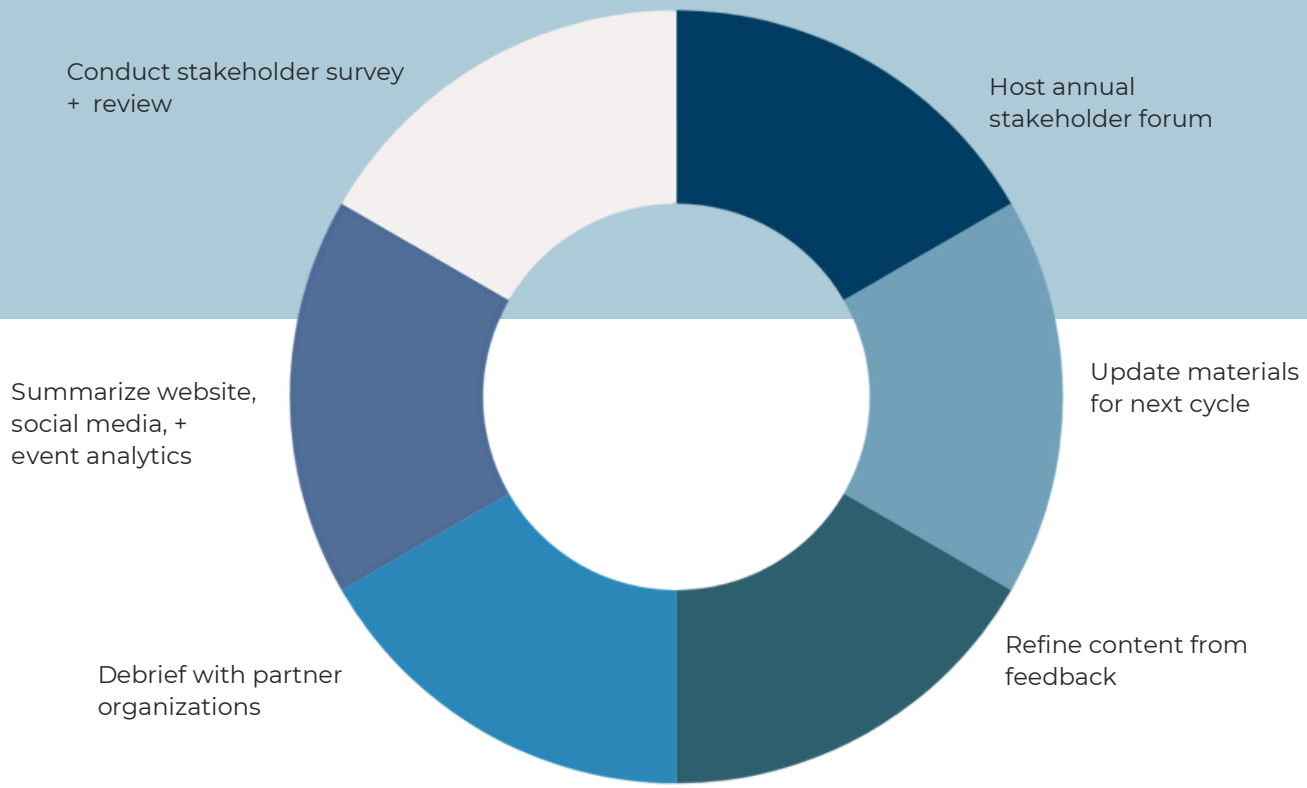


Table 14. Annual Communications Timeline

Season	Focus
Winter	Launch website updates, publish annual report, plan spring messaging, create bi-annual data collection webinar
Spring	Annual stakeholder forum, share snowpack data, irrigation prep, education around drought triggers
Summer	Active outreach during peak use season, potential drought response period, create bi-annual data collection webinar, co-host multi-agency event
Fall	Community reflection, monitoring summaries, prepare off-season materials, release sector-specific campaigns

ONGOING TASKS

- Monitor drought indicators and update messaging accordingly
- Create resources and materials for outreach and education
- Engage with media contacts and provide regular updates
- Attend local and regional events to share the plan information
- Maintain internal coordination with staff, partners, and agencies
- Monthly blogs on the website
- Quarterly newsletters
- As-needed E-blasts with drought-level or event updates

COMMUNICATIONS MONITORING AND EVALUATION

Communications monitoring and evaluation are crucial for understanding the effectiveness of communication efforts and refining them over time. For the UGDP, this means not only measuring how many people are reached, but also how well the District supports understanding, collaboration, and drought-responsive action across the Upper Gunnison River Basin.

This section outlines the tools and methods the UGRWCD will use for evaluating outreach, collecting meaningful feedback, and using insights to strengthen future communication strategies.

EVALUATION GOALS

- Track the reach, engagement, and usefulness of communication activities
- Ensure messages are clear, accessible, and resonant across all stakeholder groups
- Capture feedback that supports continual improvement
- Demonstrate accountability and transparency in public outreach
- Build a shared understanding of what success looks like in drought communication

PERFORMANCE METRICS

Evaluation will be both quantitative and qualitative. Key performance indicators (KPIs) include:

- Website analytics
- Social media and email engagement
- Attendance numbers at public meetings, forums, or presentations
- Types of groups represented (e.g., agriculture, municipalities, conservation)
- Quality of engagement (Q&A participation, feedback received)
- Number of partner organizations actively sharing content
- Use of the communications toolkit by external partners
- Collaborative projects or campaigns initiated during the year
- Stakeholder surveys are conducted annually
- Public feedback forms collected through the website or at events
- Stakeholder surveys are conducted annually

TOOLS FOR MONITORING

- WordPress analytics for website activity
- Built-in insights from social media platforms (Facebook, Instagram, X)
- Mailchimp or a similar platform for tracking newsletter engagement
- Event sign-in sheets and online RSVP tools
- Survey tools (e.g., Google Forms, SurveyMonkey)
- Partner outreach logs or quarterly collaboration check-ins

ANNUAL REVIEW PROCESS

At the end of each calendar year (or drought season), the communications team will:

1. Review all performance metrics and summarize findings in a short internal report.
2. Hold a debrief session with core partners/stakeholders to reflect on what worked, what didn't, and why.
3. Use this feedback to refine messaging, content strategy, and engagement formats for the coming year.
4. Incorporate learnings into updated work plans, outreach calendars, and training materials.

REPORTING AND TRANSPARENCY

An annual Communications Summary will be produced and made publicly available through the Upper Gunnison Drought Plan website. This summary may include highlights, metrics, community success stories, and next steps. Where possible, metrics will be disaggregated by audience type or region to identify gaps or emerging needs.

5. Operation and Administrative Framework

The UGDP was developed through a collaborative process led by the UGRWCD. Under the leadership of the UGRWCD, a Task Force was established to oversee the overall direction of creating the UGDP and organize the involvement of the stakeholders. The Task Force and UGRWCD met monthly to guide consultants on analysis, UGDP work products, and stakeholder outreach efforts. A series of educational presentations was organized to orient Task Force members and establish a common understanding of the diverse water uses in the basin. These presentations are saved on the drought plan website. The Task Force also participated in numerous water sector-specific workshops designed to garner specific input from municipal, agricultural, recreation, environmental, and agency stakeholders. The Task Force determined priorities, evaluated proposed actions, and reviewed the draft plan. The final review of the UGDP and approval will be done by the UGRWCD Board of Directors, with input from the Task Force and stakeholders. To learn more about the Task Force, see Appendix D.

The previous section, Response Actions, describes the strategy for communicating drought with stakeholders and the community. For more details on those communication protocols and procedures, reference Appendix B.

UGDP IMPLEMENTATION

UGRWCD, Task Force members, and stakeholders are responsible for implementing actions specific to the best of their ability, while the implementation timeline may vary based on action type and need. The procedures required to implement actions may vary depending on the action or the champion responsible for implementation. Task Force members may work together to leverage funding opportunities and support the continued process of each other's actions.

Task Force members have identified a response action in the communication plan. Those responsibilities and activities associated with a response action are outlined in the previous section. In addition to these communication plan-associated responsibilities, Task Force members defined roles and responsibilities that their agencies and organizations support regarding drought monitoring and communications (Table 15) and for implementing actions (Table 16) to support the UGDP. Implementation of the defined roles and responsibilities by the responsible entities and pursued if and when each entity decides, in its sole discretion, to do so. This is not an exhaustive list of roles and responsibilities, and Task Force members may define additional implementation actions in the future. The UGDP is intended to promote collaboration and cooperation to more effectively mitigate drought in the entire basin.

Table 15. Task Force Responsibilities for Drought Monitoring and Communications

Entity Responsible	Drought Variables of Concern	Responsibilities	Critical Tasks and Procedures
Coal Creek Watershed Coalition	Water Quality	Share data and summarize data to inform the community.	Continue water quality sampling and reporting to agencies and interested parties
High Country Conservation Advocates	All	Share messaging and continued engagement	Share drought conditions with membership and continue to participate in processes that highlight connections between their work and drought resilience
	All	Current Gunnison Basin Roundtable Environmental Representative	Advocate for funding that supports the goals and actions of the UGDP
Natural Resource Conservation Service & US Geological Survey	Soil Moisture	Soil moisture data collection added to existing sites	The NEPA process is currently being completed by the US Forest Service
Recreational Service Providers	All	Drought education	Provide guides with talking points to educate boaters on drought and its impacts
Rocky Mountain Biological Laboratory	Forecasting	Data sharing	Tapping into RMBL open data work and products being developed
Trout Unlimited	All	Data sharing and partnering	Continue to partner with action champions and others in the basin to secure funding, implement projects, and provide education on drought
U.S. Forest Service	Soil Moisture	Share soil moisture conditions or fire dangers	The fuels team conducts fuel sampling and will share data
	Water Access	Apply grazing management tools to improve sustainable water access on allotments	Provide capacity when working on replacing and installing livestock water tanks
UGRWCD	All	Funding and technical support	Assist in finding funding for equipment, technologies, and help identify priority areas for new infrastructure
Various Upper Gunnison River Basin entities	Stream gages	Funding and stakeholder support	Continue to partner with local, state, and federal entities to fund stream gages throughout the region
Western Colorado University	All	Share the results of faculty and student-led data collection projects	Promote independent studies and research projects that investigate drought

Table 16. Task Force Involvement in Advancing Mitigation Actions

Entity Responsible	Action(s)	Critical Tasks and Procedures
Coal Creek Watershed Coalition	Mitigate Mining Impacts (W3)	Working on protecting water quality in the Coal Creek, Slate River, and Washington Gulch drainages
Colorado Parks and Wildlife	Agricultural resilience actions	Participate when activities are on state lands and implement monitoring of infrastructure on state lands
	Recreational resilience actions	Coordinate permitting for recreation activities and participate in planning discussions
	Watershed Restoration Activities (W1)	Provide capacity for project implementation
High Country Conservation Advocates	Gunnison Recreation Access Management Plan (R2)	Participate in workgroup(s) focused on improving river management and river use coordination.
	Engagement in Basin Wide Action Plans (E1)	Continue to participate in processes and workgroups that support conservation and align with HHCA programs and missions
	Various actions	Participate in outreach activities surrounding actions that align what HHCA programs and mission
Municipal Water Providers	Municipal resilience actions (M1, M2, M3, and M4)	Coordinate quarterly and/or annual meetings with municipal water providers to begin improve communication among attendees and initiate development of municipal drought response plan(s)
National Park Service	Blue Mesa Reservoir (E3)	Serve as communication conduit for Aspinall Unit reservoir activities
	Gunnison Recreation Access Management Plan (R2)	Participate in discussion surrounding management of recreational access
	Agricultural Best Management Practices (A1)	Participate when activities are on National Park Service lands and prioritize best management activities
National Resource Conservation Service	Agricultural Irrigation and Water Management Improvements (A2)	Support action's implementation. Outreach to open-minded producers to try something new and teach others about these successful projects
	Various actions	Participate in outreach activities surrounding actions that align what NRCS programs and education to agricultural users
Recreation Service Providers	Gunnison Recreation Access Management Plan (R2)	Support improving river access and safe river use. Participate in workgroup(s) focused on improving river management and river use coordination.
Town of Crested Butte	Municipal Provider Collaboration (M1)	Assist with implementing municipal-focused actions and collaborate with other water providers.
	Source Water Resiliency (M3)	Promote the town's actions through social media. The Town is currently undertaking a Wildfire Ready Action Plan.
Town of Crested Butte and Coal Creek Watershed Coalition	Native Gardens Demonstration Project (M4)	Support native plantings for landscape and wildfire mitigation. Work with developers to move away from manicured lawns to more drought-tolerant landscapes.
Trout Unlimited	Agricultural Irrigation and Water Management Improvements (A2)	Continue to provide technical assistance and guidance for project development
	Watershed Restoration Activities (W1)	Provide capacity for project implementation
	Mitigate Water Quality Impacts (W3)	Participate in a future workgroup to identify future actions
UGRWCD	Watershed Restoration Activities (W1)	Continue to lead, coordinate, and manage action
	Blue Mesa Reservoir Coordination (E3)	Coordinate with the Bureau of Reclamation regarding outreach (existing and new)
	Irrigation Return Flow Study (A3)	Continue to lead and manage action
	Agricultural Best Management Practices (A1)	Assist in finding funding opportunities for project implementation
U.S. Forest Service	Watershed Restoration Activities (W1)	Participate in project implementation
Western Colorado University	Native Gardens Demonstration Project (M4)	Utilize student clubs and independent study programs to promote opportunities for demonstration projects

6. Update Process

EVALUATION PROCESS

The UGDP is aspirational and viewed as a living document, rather than a static document, and will apply indefinitely into the future. The UGDP should not be considered the last word on mitigation and response actions that may be implemented by the UGRWCD, Task Force members, and/or stakeholders.

The National Drought Mitigation Center's 10-Step Drought Planning Process can guide the evaluation of the UGDP to test the plan's effectiveness. The evaluations will address climatic and environmental aspects, the usefulness of pre-drought planning, and any weaknesses or problems with the UGDP. These periodic assessments of the UGDP and its proposed actions will help keep the plan grounded in reality and ensure that the UGDP is structured to adapt to changing conditions.

MEASURING THE EFFECTIVENESS OF THE UGDP

The UGDP is a proactive and adaptable approach to addressing drought. It is built on the foundation of lessons learned from previous droughts and proposes actions to improve drought resiliency. The Task Force defined three goals for an effective UGDP.

- Increase the Upper Gunnison River Basin's resilience to drought.
- Preserve diverse community values such as safe/quality drinking water (built infrastructure), thriving agricultural and ranching communities, ecosystem health (natural infrastructure), fire resilience, and a strong recreational economy.
- Inspire community action and shared responsibility.

The plan will be measured for effectiveness and adapted based on:

1. Drought monitoring and drought tracking,
2. Ongoing evaluation of progress on mitigation actions and
3. Post drought evaluations.

The UGRWCD, Task Force members, agency partners, and stakeholders are responsible for implementing and measuring the effectiveness of actions they champion to the extent that they determine to undertake such actions. Everyone will work together to measure the effectiveness of the UGDP after a drought to discuss and decide what actions were effective, which were not, and the reasons why some measures may not have been as effective, as a basis for identifying future actions to help manage future drought risk.

ONGOING EVALUATIONS

The ongoing evaluation will track how changes in technology, forecasting, laws, and political context may impact drought risk and the implementation of action. While drought risk may be evaluated frequently, this does not mean the UGDP needs to be updated as often. Using the proactive and adaptable approach, any lessons learned may be implemented without needing to update the plan.

Drought monitoring and tracking will occur on a regular basis, with monthly and bi-monthly benchmarks (as proposed in the Response Actions section), and results will be shared through the UGDP website and drought tracker. Changes in available data, science, and technologies will be updated annually to ensure the accuracy of the drought tracker. The results of the drought tracker will be reviewed and evaluated at the annual UGDP meeting.

Action champions will provide an update on the progress of their mitigation action implementation, and effectiveness will be assessed at the annual UGDP meeting. Input and guidance may be sought at these meetings regarding the implementation needs of specific action. It is assumed that action champions will implement actions to the best of their ability, while the implementation timeline may vary depending on the action type and its specific needs.

POST-DROUGHT EVALUATIONS

A post-drought evaluation is necessary to assess the effectiveness of the UGDP's response actions to a drought. Without an evaluation, it is difficult to learn from past successes and mistakes and identify future needed actions. The evaluation should include:

- Analysis and assessment of climate, hydrology, and environmental impacts;
- Identify any economic or social consequences;
- Assess the extent to which the UGDP's actions were useful (or not) in mitigating impacts; and
- Identify any other weaknesses or problems caused by or not covered by the UGDP.

The UGWRCD will initiate the post-drought evaluation process. Once the evaluation is completed, UGRWCD, the Task Force, and stakeholders should identify any future mitigation and/or response actions that address any outstanding needs. By working together and approaching drought planning as an ongoing process, water users and the community can collectively lessen the potential risks associated with drought.

FREQUENCY OF UPDATES

Drought planning, as stated previously, is an ongoing process that continues to evolve. It is necessary to continually evaluate changing vulnerabilities and how water users and the community may work together to lessen the risk. The UGDP should be updated as needed, which may not occur on a regular basis. At a minimum, the ongoing evaluation should help inform the need for an update and identify the best time for an update.

It is recommended that anytime a post-drought evaluation is prompted, the UGDP should be updated with this latest information. The UGDP will be reviewed annually to assess if conditions have changed that warrant revision. An update process will commence every five years, with the update process expected to require two to three years to complete. When initiating the formal update process for the UGDP, UGRWCD will reconvene the Task Force and solicit input from stakeholders and the community.

MINUTES
Taylor Local Users Group
August 5, 2025, 8:30 a.m.

TLUG Attendees:

TLUG Representatives Present:
Don Sabrowski, TLUG Chair
Ernest Cockrell (Taylor Placer via Zoom)
Roark Kiklevich (Wade Fishing Interests)
Mark Schumacher (Boating Interests)
Andy Spann (Irrigation Interests)
Ryan Birdsey (Flatwater Recreation Interests Via Zoom)
David Fisher (Property Owners Interests Via Zoom)

Other Attendees:
Beverly Richards (UGRWCD)
Sonja Chavez (UGRWCD)
Conor Felletter (USBR)
Giulio Del Piccolo (Colorado Parks and Wildlife)

Attendees Via Zoom:

Ernest D. Cockrell (Taylor Placer)
Dustin Brown (Scenic River Tours)
Jay Whitacre (Irwin Guides)
David Gochis (Airborne Snow Observatory)
Erik Knight (formerly with US Bureau of Reclamation)
Rory Birdsey (Taylor Reservoir Dam Operator)
Doug Forshagen (Crystal Creek Homeowners)

I. Approval of Minutes

Chairman Don Sabrowski called the August 5th TLUG meeting to order at 8:30 a.m. The minutes from the July 10th TLUG meeting were presented for review. Mark Schumacher asked for a change in his statement under Operational Release Recommendations. He asked for the following to be included: *This would allow certainty to rafters and fisherman and will help commercial outfitters with bookings for the remainder of the season.* Mark Schumacher motioned and Roark Kiklevich seconded approval of the July 10, 2025 Meeting Minutes with the suggested change. The motion carried.

II. Upper Gunnison Basin May Water Supply Report - Beverly Richards

Beverly presented a water supply report for the basin for July. Her report highlighted the continuing deterioration of drought conditions in Gunnison County with 44% of the county now experiencing extreme drought conditions. She also discussed the lack of precipitation over the past thirty days and current poor soil moisture conditions throughout the basin. Beverly also noted that current streamflows throughout the basin are low but closer to the average streamflow typical for this time of year which is reflective of baseflow conditions.

III. CBRFC Water Supply Update and USBR Model Forecast – Conor Felletter, USBR

Conor presented data from the August 1st CBRFC forecast. The April to July runoff forecast for Taylor Park Reservoir has decreased by 600 acre-feet from the July forecast. The final observed inflow volume for the April to July time period is 61,200 acre-feet which is 65% of average. Conor also said that the forecasted inflows for August and September have decreased by 2,000 acre-feet from the previous report.

He outlined the proposed operations plan, which includes maintaining a 300 cfs release until August 15th, reducing releases to 250 cfs on August 16th, ramping down to 225 cfs on September 1st, and to 200 cfs by October 1st. Based on the final observed inflow volume, the winter releases will be maintained at 76 cfs.

Based upon the current operational release plan, the October 31st content would be 61,481 acre-feet of storage, which would provide a buffer of approximately 500 acre-feet above the minimum storage level target outlined in the decree for a dry year that water users could work with the remainder of the season.

IV. WRF-Hydro Model Forecast Reports (ASO, Inc.)

David Gochis of Airborne Snow Observatories, Inc., presented the WRF/ASO ensemble model forecast. David noted that the current inflow forecasts for August and September were relatively close to the amount forecasted by the CBRFC, just 4,500 acre-feet higher than the model is forecasting. The model forecast shows that 8,900 acre-feet will occur in August, and 6,800 acre-feet of inflow will occur in September. The East River above Almont is forecasted to have 22,500 acre-feet of inflows with the majority coming the mainstem of the East River and a contribution of only 6,600 acre-feet from the Slate River.

David said baseflows in the Upper Taylor River Basin continue to drop and the August-September inflow forecast for the tributaries are currently at 9.2 kaf for the Taylor River above Taylor Reservoir, 4.0 kaf for Texas Creek, and 2.0 kaf for Willow Creek flowing into the reservoir. David also said he gathered soil moisture data from the SnoLite stations, and all the sites had fairly low values. The recent storm near the Trail Creek SnoLite station provided some moisture but this did not penetrate to the deeper moisture probe. There was

some refresh occurring at the Cottonwood Pass and Mirror Lake sites, but conditions continue to remain dry.

David said that conditions in the model tended to be wetter this year, but the current forecasts are consistent with the information provided by Conor and the CBRFC.

V. Preliminary TLUG Draft Operational Release Recommendations

At this time Don Sabrowski asked Giulio Del Piccolo to provide an update on the status of dam repairs at Spring Creek Reservoir. Giulio indicated that they are currently still under a storage restriction of 28 feet and trying to maintain at 24 feet right now. Challenging to keep at 28 feet due to variable inflow. CPW is currently working with an engineering firm to study options for addressing issues at Spring Creek Reservoir dam including base options of fixing the dam in its current state, cut dam down in size to make safe or remove the dam entirely. There could be others proposed. Study should be complete around March 2026 and a preferred alternative selected, but folks should count on 3-4 years before issue is completely addressed. For more questions, folks can contact Jen Sveboda of CPW.

Giulio noted that he looked temperatures over the past month have been on average 62.8 degrees. Roark Kiklevich noted that these average temperatures only really occurred due to cooler weather conditions that came in, but that temperatures were very warm a number of days and closer to temperatures that should be of concern for the fishery. Giulio indicated that consistent with input provided by Dan Brauch, the optimal date for having stable / unchanging flows for the brown trout spawning so that the eggs are not left high and dry, is October 15th.

Ryan Birdsey asked what the ramp down schedule was for October: Flows will be decreased from 200 cfs to 175 cfs on October 3rd, down to 150 cfs on October 5th, to 125 cfs on October 8th, and down to 100 cfs on October 11th. The releases will remain at 100 cfs (according to current plan) through October 16th when releases will be reduced to the winter flow rate of 76 cfs.

Don Sabrowski asked the TLUG representatives for their preliminary recommendations for releases, and the responses were as follows:

Mark Schumacher suggested that the release remain at 250 cfs through September 15 rather than dropping to 225 cfs on September 1st. He also would like the releases to remain at 300 through August. This would drop the end of year content amount from 61,481 acre-feet to approximately 60,800 acre-feet which is above the 60,000 acre-feet target. These proposed releases could be reevaluated in September. Ernie reminded Mark that the end of year target is actually 61,000 AF and not 60,000 AF.

Conversation continued about the possibility of keeping flows at 250 cfs through September 4th when the group meets again in order to provide flows over Labor Day weekend. The only exception to this proposed flow release would be if the mid-month forecast shows deterioration in inflows in which case the TLUG would meet on the 20th at 10:30 a.m.

Ernie Cockrell said that he is comfortable staying at 250 cfs through September 4th when we meet again unless our unofficial mid-month forecast shows continued deterioration in conditions.

Andy Spann said he would really like to see releases remain at 250 cfs through September 15th but he understands the uncertainty in the forecast. He agreed to the releases as proposed and a reevaluation at our September 4 meeting.

Ryan Birdsey said he is supportive of the operational plan as discussed subject to the mid-month forecast and our September 4th meeting date.

David Fisher – He said he had no additional comments and supports the proposed plan as presented.

Roark Kiklevich agreed to the proposed operational plan as discussed and emphasized the importance of the mid-month forecast and the importance of the flows in August to reduce stream temperatures for the fishery.

In summary it was the consensus and recommendation of the group that flows be dropped from 300 cfs to 250 cfs on August 15th where they would remain through September 4th subject to a mid-month August forecast (Tentative meeting hold date of August 20th). Conor will provide the unofficial August 15th mid-month forecast prior to August 20th (10:30 a.m.) meeting hold date and time. The next official regular meeting will be held on September 4th at 8:30 a.m. in order to make any changes necessary following the September 1 forecast.

Mark Schumacher motioned and Roark Kiklevich seconded approval of the operations plan as described above. The motion carried.

VI. Miscellaneous Matters

Giulio Del Piccolo provided an update on the Spring Creek Reservoir. He said they continue to evaluate the storage restrictions currently in place at the reservoir. They have been maintaining the water level to 24 feet based on those restrictions and this amount is variable due to inflows and leakage. CPW is currently in the process of requesting bids for an engineering study to determine what options are available to fix the issues with the dam in the future. This could include fixing the dam, cutting the size of the dam down, or removing the dam entirely. They hope to have the study completed by March 2026 and will then choose an option to implement. CPW is anticipating that this will involve a 3 to 4 year timeline for completion of the project depending upon the option chosen. Giulio did not know if or when there would be a public comment period for the project, but the current bid process is only for the study component. He also said that Janice Svoboda or Jerimiah Runnel would be the day to day contact for information about the reservoir.

Rory Birdsey said that the power plant has been steady for the last few weeks. There was a power outage but the switches on the bypass releases from the dam have been replaced and are now functioning properly.

Sonja Chavez said that the District has been assessing gap weather radar sites. All the possible sites identified with good coverage do not include the Taylor River basin. The group we have been in discussion with will present their information at the September board meeting. She also said Ari Yamaguchi has scheduled a tour of the hydropower facilities at Taylor Reservoir for October 27, 2025 if anyone is interested in attending.

Sonja has been working with Ernie Cockrell on issues he has been seeing on the Taylor River. It is possible some of these issues have occurred due to avalanches that occurred a few years ago. The sediment associated with the avalanches is impacting macroinvertebrates. They have discussed commissioning a study to look at the issues and this could involve a change to the flushing flows to move the sediment better. The funding for this study could come from the District's grant program or from the CFP program at the Colorado River District.

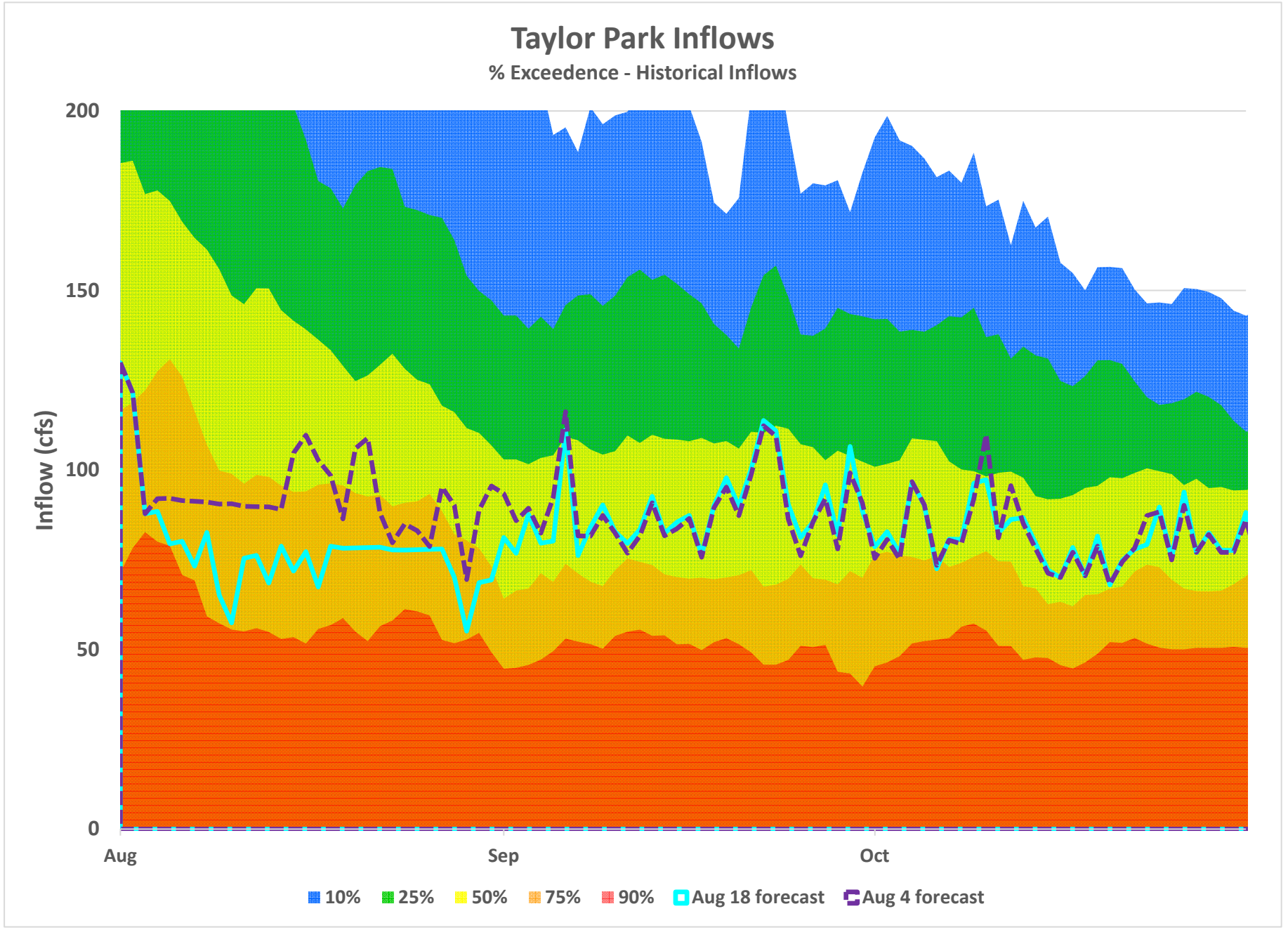
VII. Citizens Comments

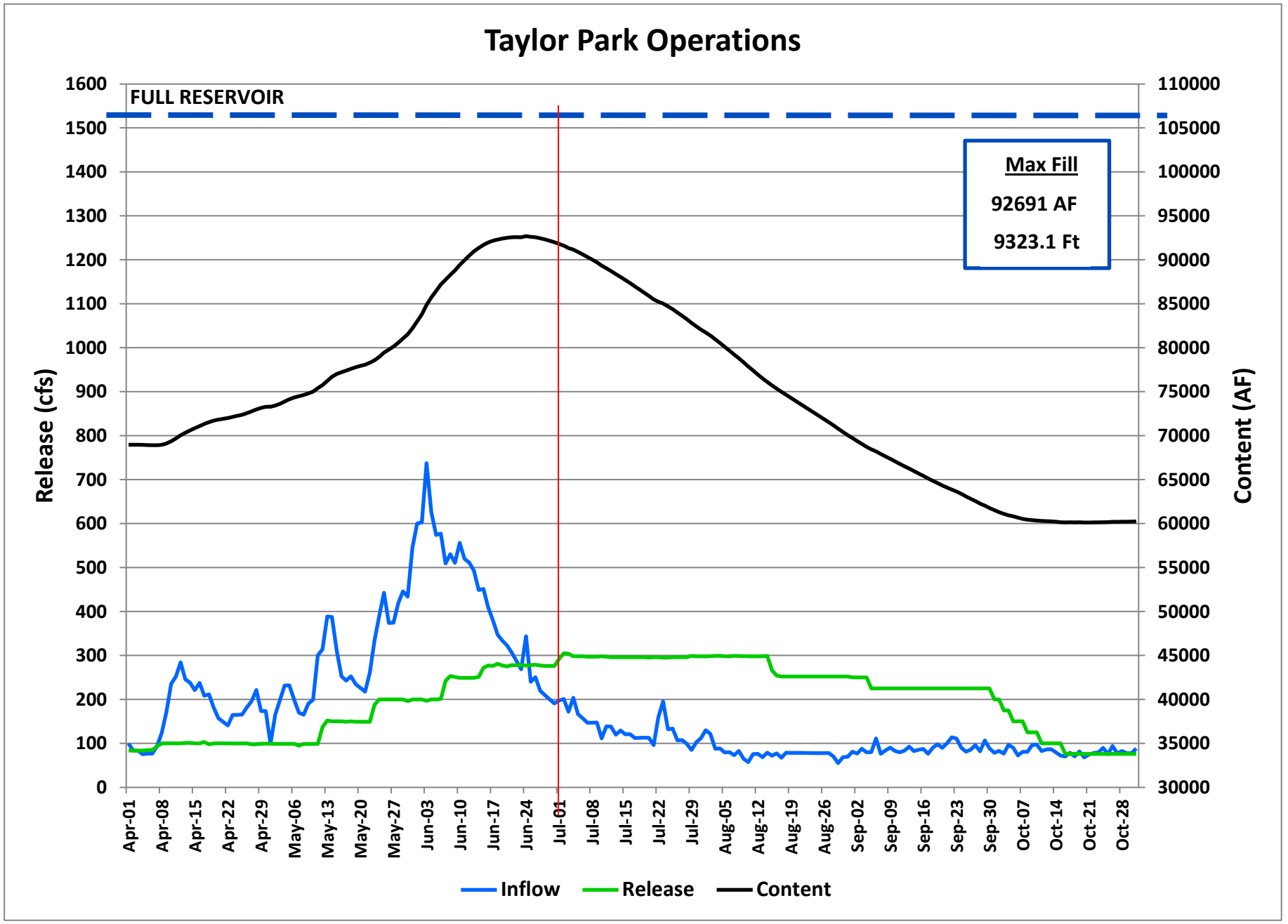
There were no Citizens' Comments

VIII. Next Meeting and Adjournment

There is a tentative meeting scheduled for Wednesday, August 20, 2025 at 10:30 a.m. to discuss the mid-month information that will be provided by Conor Felletter. This meeting will be teleconference only.

The next TLUG meeting was scheduled for Thursday, September 4, 2025 at 8:30 a.m. Chairman Sabrowski adjourned the August 5, 2025 TLUG Meeting at 9:43 a.m.


Taylor Park Inflows
% Exceedence - Historical Inflows
Inflow (cfs)
200
150
100
50
0
Aug
Sep
Oct
10%
25%
50%
75%
90%
Aug 18 forecast
Aug 4 forecast


Taylor Park Operations
FULL RESERVOIR
Max Fill
92691 AF
9323.1 Ft
Release (cfs)
Content (AF)
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
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400
300
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Jun-03
Jun-10
Jun-17
Jun-24
Jul-01
Jul-08
Jul-15
Jul-22
Jul-29
Aug-05
Aug-12
Aug-19
Aug-26
Sep-02
Sep-09
Sep-16
Sep-23
Sep-30
Oct-07
Oct-14
Oct-21
Oct-28
Inflow
Release
Content

Proposed Operation
Taylor Park Reservoir
August forecast = 65% (61,000) af
August 18, 2025

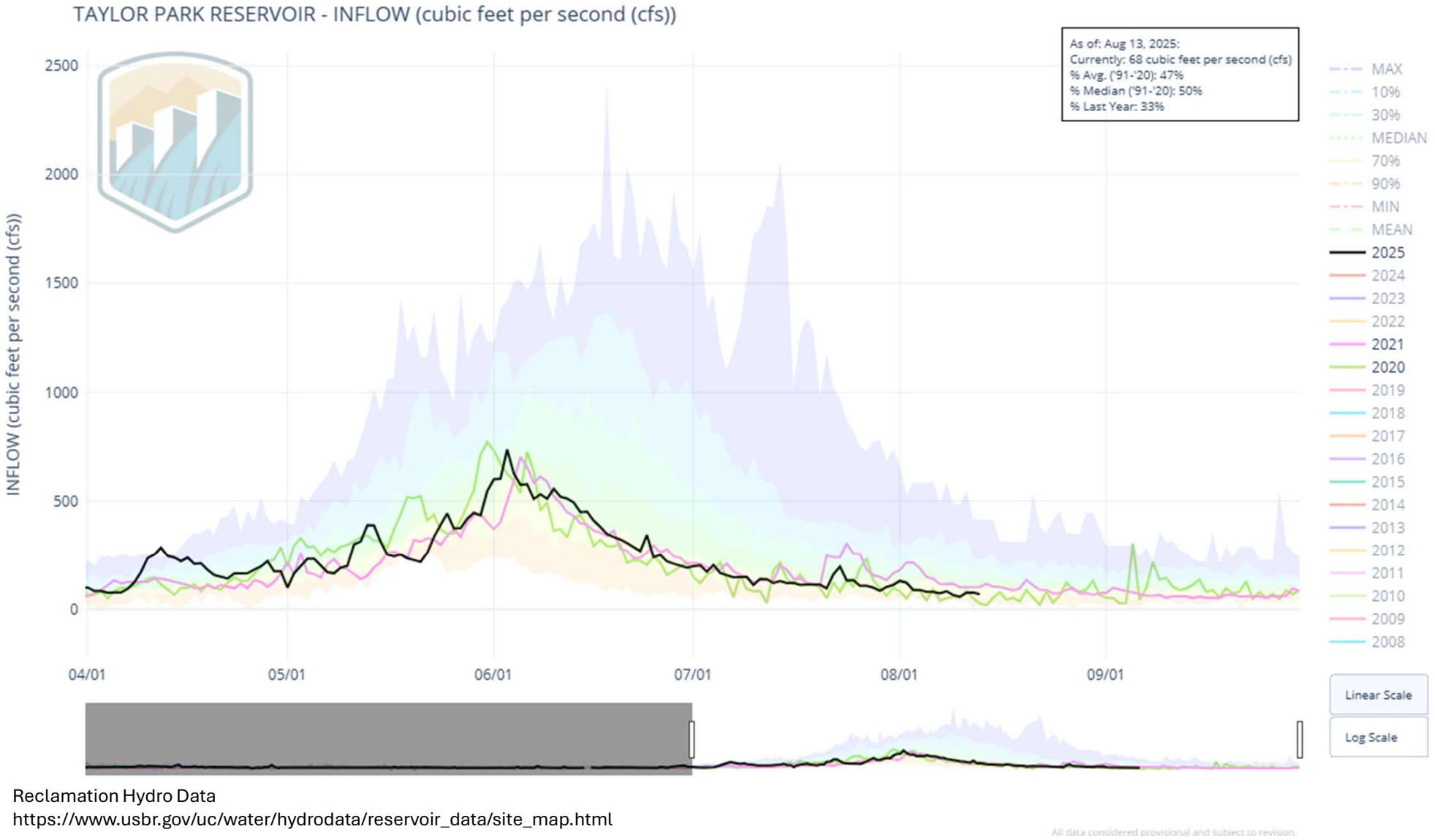
Month	Inflow ac-ft	Average Inflow cfs	Outflow ac-ft	Average Outflow cfs	EOM Content ac-ft	EOM Elevation ft
					70,820	
Nov 1-15	2,820	95	2,630	88	71,014	9310.70
Nov 16-30	2,530	85	2,680	90	70,869	9310.61
Dec 1-15	2,500	84	2,790	94	70,581	9310.43
Dec 16-31	2,560	81	2,740	86	70,405	9310.32
Jan 1-15	2,310	78	2,550	86	70,166	9310.17
Jan 16-31	2,200	69	2,700	85	69,657	9309.85
Feb 1-15	2,130	77	2,400	86	69,388	9309.68
Feb 16-28	2,020	73	2,450	88	68,962	9309.41
Mar 1-15	2,180	73	2,510	84	68,631	9309.20
Mar 16-31	2,960	93	2,660	84	68,930	9309.39
Apr 1-15	4,680	157	2,770	93	70,837	9310.59
Apr 16-30	5,410	182	2,960	99	73,284	9312.10
May 1-15	7,040	237	3,320	112	77,011	9314.34
May 16-31	10,800	340	5,610	177	82,201	9317.35
Jun 1-15	16,360	550	6,870	231	91,957	9322.71
Jun 16-30	8,550	287	8,250	277	91,994	9322.73
Jul 1-15	4,550	153	8,860	298	87,692	9320.41
Jul 16-31	3,770	119	9,400	296	82,060	9317.27
Aug 1-15	2,450	82	8,810	296	75,700	9313.56
Aug 16-31	2,360	74	8,000	252	70,058	9310.10
Sep 1-15	2,530	85	6,890	232	65,691	9307.30
Sep 16-30	2,770	93	6,690	225	61,767	9304.67
Oct 1-15	2,500	84	4,120	138	60,150	9303.56
Oct 16-31	2,500	79	2,410	76	60,242	9303.62

61,160 = April-July inflow
65% of normal
92,691 = Maximum Content

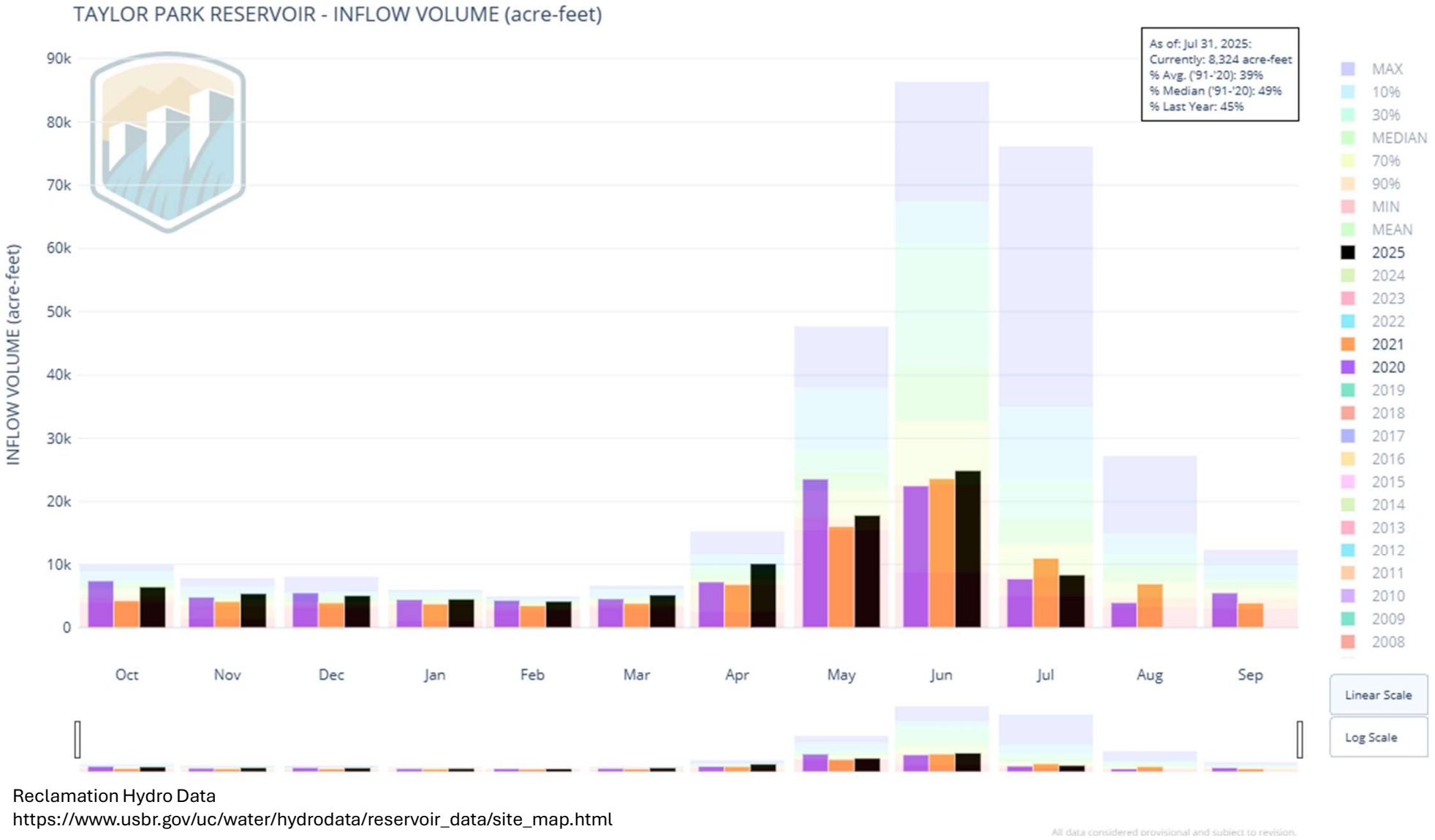
preliminary

Comparison

- These next slides compare 2025 to two similar years, 2020 & 2021. These are my closet analog years.



Reclamation Hydro Data
https://www.usbr.gov/uc/water/hydrodata/reservoir_data/site_map.html



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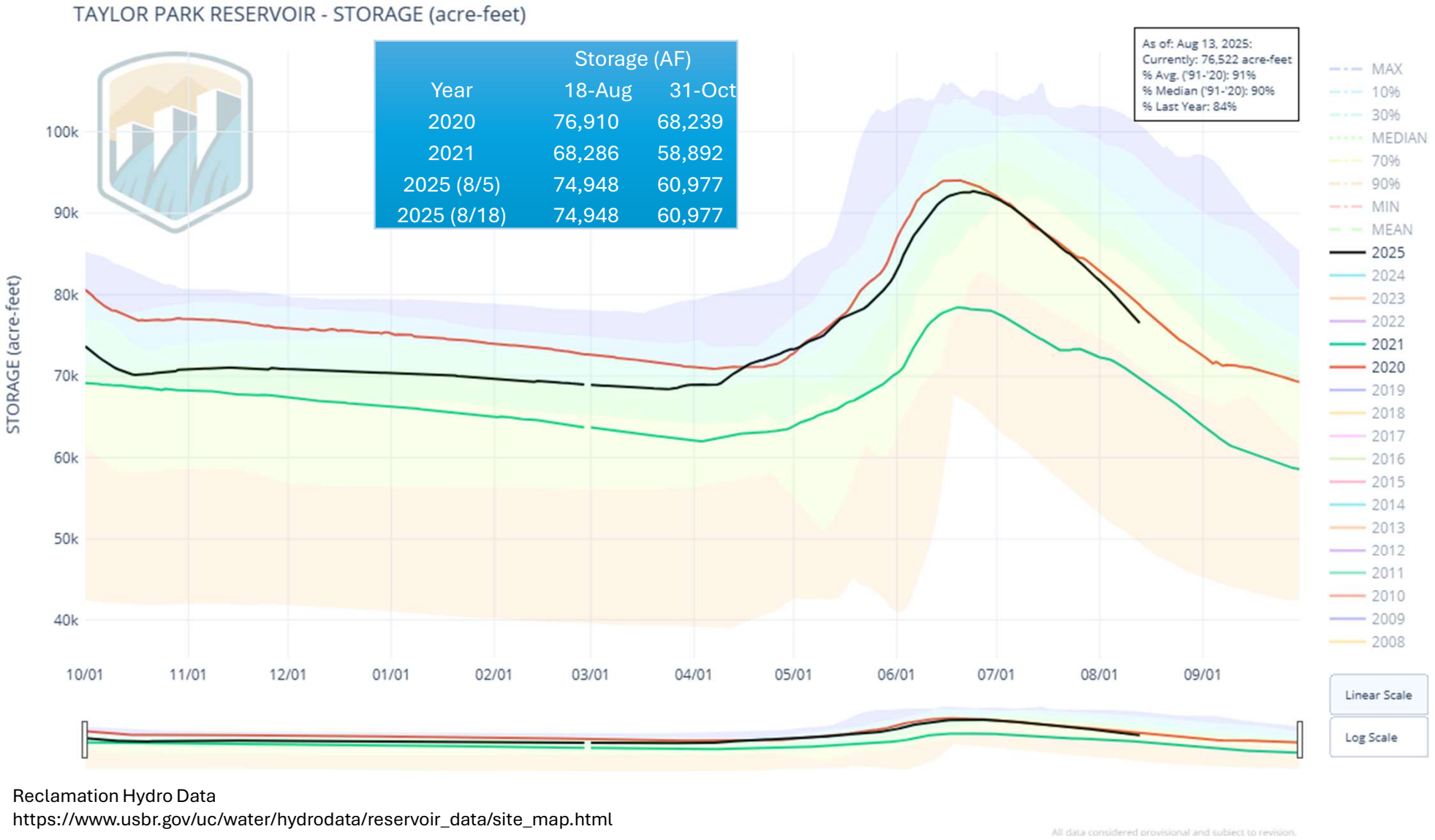

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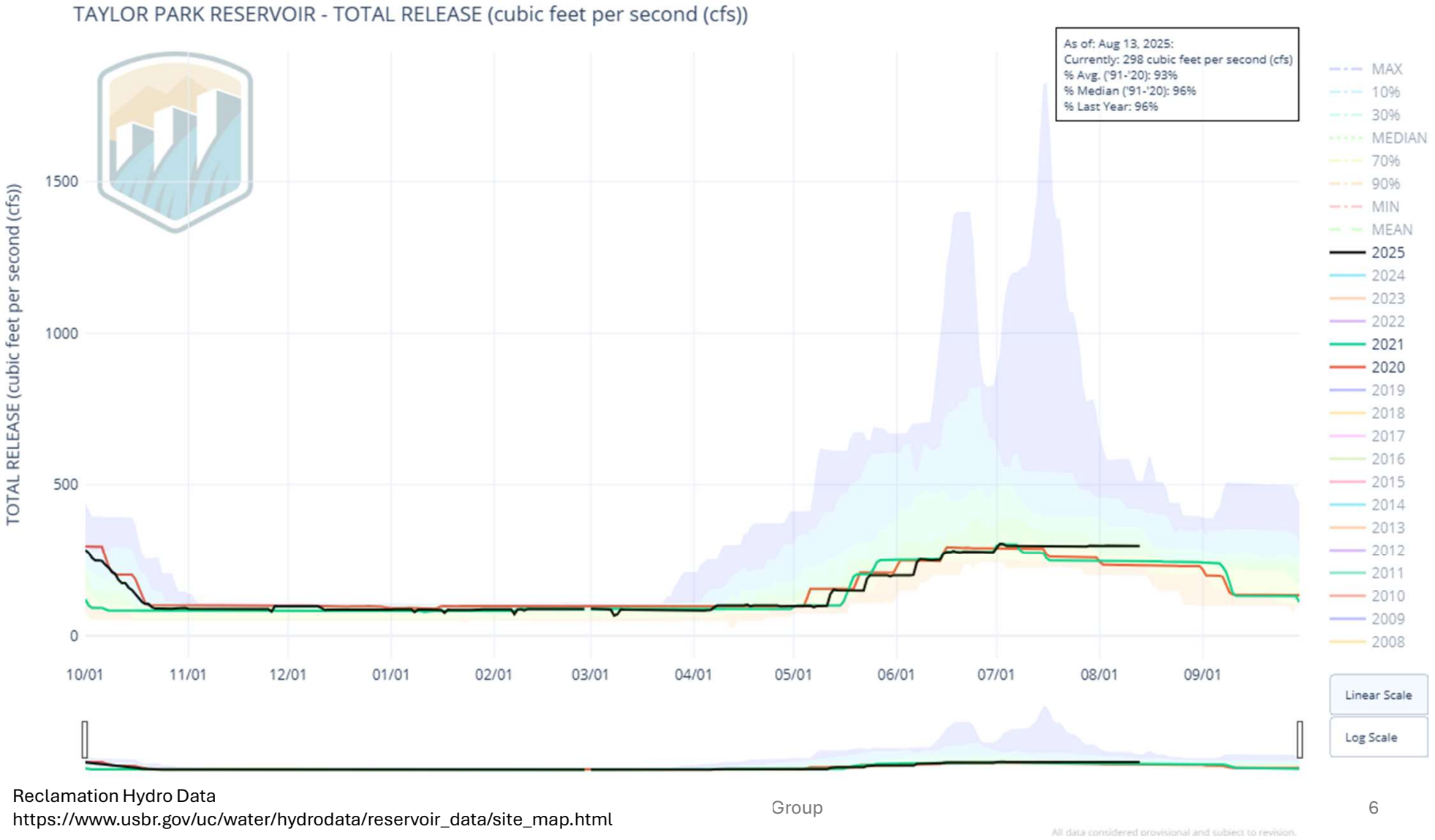
https://www.usbr.gov/uc/water/hydrodata/reservoir_data/site_map.html



Reclamation Hydro Data
https://www.usbr.gov/uc/water/hydrodata/reservoir_data/site_map.html

AGENDA ITEM 10

Scientific Endeavors

AGENDA ITEM 11

Miscellaneous Matters

AGENDA ITEM 12
Citizen Comments

AGENDA ITEM 16

Future Meetings

FUTURE MEETINGS/EVENTS

RETURN TO AGENDA

- Education and Outreach Committee Meeting - August 27, 2025,11:30 AM
- Offices closed for Labor Day - Monday, September 1, 2025
- September TLUG Meeting - Thursday, September 4, 2025, 8:30 AM
- Water Quality Control Meeting - Monday, September 8, 2025, 1 PM
- WMP Committee Meeting - Wednesday, September 10, 2025, 1:30 PM
- Gunnison Basin Roundtable - Monday, September 15, 2025, 3 PM
- UGRWCD September Board Meeting - Monday, September 22, 2025, 5:30 PM
- Colorado River District's Annual Seminar - Friday, October 3, 2025, 8:30 AM
- Taylor Reservoir Hydro Tour - Monday, October 27, 2025, Noon
- UGRWCD October Board Meeting - Monday, October 27, 2025, 5:30 PM

AGENDA ITEM 14

Summary of Action Items

AGENDA ITEM 15

Adjournment