



**UPPER EAGLE REGIONAL
WATER AUTHORITY**

M E M O R A N D U M

TO: Board of Directors
FROM: Diane Johnson, Communications & Public Affairs Manager
DATE: May 19, 2022
RE: May 26, 2022, Board Meeting

GOVERNED BY:

The Metropolitan
Districts of:
Arrowhead
Beaver Creek
Berry Creek
EagleVail
Edwards

The Town of Avon

This memorandum shall serve as notice of the Regular Meeting of the Board of Directors of the Upper Eagle Regional Water Authority:

**Thursday, May 26, 2022
8:30 a.m.**

This meeting will be held in-person for board members only

Walter Kirch Room
Eagle River Water & Sanitation District Vail office
846 Forest Road
Vail, Colorado

Public participants may continue to use Microsoft Teams for virtual attendance.

Call-in information is available prior to the meeting by emailing info@erwsd.org.

C:
ERWSD Managers

Board Materials via Email:
Caroline Bradford, Independent Consultant
Steve Coyer, Mountain Star
Catherine Hayes
Melissa Nelson, Berry Creek Metropolitan District
Bill Simmons, Beaver Creek Metropolitan District



**UPPER EAGLE REGIONAL
WATER AUTHORITY**

BOARD OF DIRECTORS REGULAR MEETING
Thursday, May 26, 2022
8:30 a.m.
Walter Kirch Conference Room

AGENDA

GOVERNED BY:

The Metropolitan
Districts of:
Arrowhead
Beaver Creek
Berry Creek
EagleVail
Edwards

The Town of Avon

- 1. Oaths of Office**☼
 - 1.1. Certificate of Appointment by Beaver Creek Metropolitan District
 - 1.2. Certificate of Appointment by Edwards Metropolitan District
- 2. Disclosure of Potential Conflicts of Interest***
- 3. Election of Officers**☼
 - 3.1. Chair and President
 - 3.2. Vice Chair / Vice President
 - 3.3. Secretary
 - 3.4. Treasurer
 - 3.5. Assistant Secretary/Treasurer
- 4. Consultant/Guest Introduction**
- 5. Public Comment**•
- 6. Action/Other Items**
 - 6.1. Minutes of Meetings – Approval or Modification
 - 6.1.1. Minutes of Apr.28, 2022, Regular Meeting☼
 - 6.1.2. Minutes of Apr. 28, 2022, Joint Meeting with ERWSD☼
 - 6.2. Designate Representative to Eagle Park Reservoir Company☼
 - 6.3. Board Committee Appointments☼
 - 6.4. Information Reports
 - 6.4.1. Development report*
 - 6.4.2. Authority April Meeting Summary – draft*
 - 6.4.3. Contract Log*
- 7. Strategy Items**
 - 7.1. Board Member Input
- 8. General Manager Report – Linn Brooks**
 - 8.1. GM Information Items
 - 8.2. Business Administration Report – David Norris
 - 8.3. Operations Report – Siri Roman*
 - 8.3.1. Construction Cost and Market Update – Jeff Schneider *
 - 8.4. Engineering and Water Resources Report – Jason Cowles
 - 8.4.1. Unallocated water update*
 - 8.5. Communications and Public Affairs Report – Diane Johnson*

☀ Action Item Attachment

* Informational Attachment

† Confidential Attachment

- Public comment of items not on the agenda is limited to three minutes per person on any particular subject for which public comment is accommodated, pursuant to §18-9-108, C.R.S.

9. General Counsel Report – Kathryn Winn

10. Water Counsel Report – Kristin Moseley

10.1. Legislative update

11. Executive Session pursuant to §24-6-402(4)(b) and (e), C.R.S.

11.1. Water Counsel Review of Matters in Negotiation – Kristin Moseley

11.1.1. Mill Creek Spill update – Steve Bushong†

11.1.2. Bolts Ditch legislation update†

11.1.3. Eagle River MOU update†

11.2. General Counsel Review of Matters in Negotiation – Kathryn Winn†

12. Adjournment

This is a hybrid meeting. For Microsoft Teams information to join the meeting, please contact info@erwsd.org prior to the meeting.

OATH OF OFFICE

I, _____, will faithfully support the Constitution of the United States and of the State of Colorado, and the laws made pursuant thereto, and will faithfully perform the duties of the office of Director of the Upper Eagle Regional Water Authority upon which I am about to enter.

Signature

STATE OF COLORADO

)

) ss.

COUNTY OF EAGLE

)

Subscribed and sworn to before me this _____ day of _____, 2022,
by _____.

Person authorized to administer oaths (County Clerk and Recorder, Clerk of the Court, Court Judge, Notary Public, any Officer of the Board or any person designated by the Board, or any other person authorized to administer oaths)

Title: _____

May 18, 2022

MEMORANDUM

VIA EMAIL

TO: All Water Authority & District Board Members

FROM: Kathryn Winn & Jim Collins



RE: **Disclosure of Potential Conflicts of Interest**

It is important to disclose to the Colorado Secretary of State and to the Board of your respective entity any **possible** conflicts of interest. While legally required by Statute, this is equally important to blunt any political issue.

Possible Conflicts occur when an entity with which you are associated has some possibility of associating with the District or Authority. This includes a volunteer Board or Councilmember position; an employer; or any activity with either the District or Authority in which you have a personal financial interest.

So, please list any and all associations which someone might complain about and send to us. We will prepare a draft letter for you to review and ultimately sign. We will then file for you electronically.

We have a much longer Conflict of Interest Memo and Questionnaire form if you wish to see it, but this is its essence.



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MEMORANDUM

TO: Board of Directors
FROM: Diane Johnson, Communications and Public Affairs Manager
DATE: May 22, 2022
RE: Election of Officers

The election of board officers is the third item on the May 26 agenda. Section 8, paragraph e of the Authority Bylaws, states (in part), "The Board of Directors shall elect from its membership a Chair and President, Vice Chair/ Vice President, Secretary, Treasurer, and Assistant Secretaries and/or Assistant Treasurers who shall be the officers of the Board of Directors and of the Authority."

Subsequent paragraphs of the Bylaws describe the board offices and responsibilities as follows.

Chair and President. The Chair shall preside at all meetings. The Chair shall also be the President of the Authority. The President is authorized to sign all contracts, deeds, notes, debentures, warrants and other instruments on behalf of the Authority when authorized by Board action. The Chair shall assist the General Manager in interpreting Board direction, represent the Authority at official functions, and assist in developing agendas for Board meetings as required. Otherwise, the Chair shall have no greater authority than any other Board member.

Vice Chair/Vice President. The Vice Chair is also Vice President is also authorized to sign all contracts, deeds, notes, debentures, warrants, checks, and other instruments on behalf of the Authority.

Secretary. In the absence of the Chair, the Secretary shall preside at all meetings. The Secretary (or designee) shall be responsible for the records of the Authority; may act as Secretary at meetings of the Board and record all votes; shall be responsible for composing a record of the proceedings of the Board in a visual text format that may be transmitted electronically and kept for that purpose, which shall be an official record of the Board; and shall perform all duties incident to that office. The Secretary shall be the custodian of the seal of Authority. The Secretary shall have the authority to affix such seal to and attest all contracts and instruments authorized to be executed by the Board.

Treasurer. The Treasurer (or designee) shall be authorized to invest or cause to be invested all surplus funds or other available funds of the Authority in permitted investments authorized by law or as specified by the Board. The Treasurer shall be chairman of the Budget Committee and of the Audit Committee. The Treasurer shall keep or cause to be kept strict and accurate accounts of all money received by and disbursed for and on behalf of Authority in permanent records.

Assistant Secretaries and/or Treasurers. The Assistant Secretaries and/or Treasurers shall have all powers of the offices of Secretary and/or Treasurer, as applicable, in the absence of such officers. The Assistant Secretaries and/or Treasurers are also authorized to sign all contracts, deeds, notes, debentures, warrants, checks, and other instruments on behalf of the Authority.

Current Officers: **Chair and President** – George Gregory;

Vice Chair/Vice President – Sarah Smith Hymes; **Secretary** – Kim Bell Williams;

Treasurer – Geoff Dreyer; **Assistant Secretaries and/or Treasurers** – Mick Woodworth



BOARD ACTION REQUEST

TO: Boards of Directors
FROM: Diane Johnson, Communications & Public Affairs Manager
DATE: May 26, 2022
RE: Designate Representative to Eagle Park Reservoir Company board of directors

Summary of Subject: Along with other necessary organizational items after special district elections, the Authority and District boards designate their respective representative to the Eagle Park Reservoir Company board of directors.

Discussion and Background: Per the Eagle Park Reservoir Company bylaws, the Eagle River Water & Sanitation District and Upper Eagle Regional Water Authority, as shareholders of "not less than 1,000 shares of the Class A common stock of the corporation" are each entitled to nominate and elect one director to the EPRC board of directors.

EPRC directors must be a shareholder (or representative of a shareholder). The current Authority and District representatives to the EPRC board are George Gregory and Steve Coyer, respectively.

Alternatives: None. The boards must designate a representative.

Legal Issues: None.

Budget Implication: None.

Recommendation: Board member decision.

Suggested Resolution and Motion: I nominate _____ as the Authority/District representative to the Eagle Park Reservoir Company board of directors.

Attached supporting documentation: none.



BOARD ACTION REQUEST

TO: Boards of Directors
FROM: Diane Johnson, Communications & Public Affairs Manager
DATE: May 26, 2022
RE: Board Committees

Summary of Subject: As the first meeting after the May 3 special district elections, it's a good time to review committees of the Authority and District boards.

Discussion and Background: The current list of committees and committee members is attached if board members are interested in adjusting committee memberships.

Alternatives: Leave committees as is.

Legal Issues: None.

Budget Implication: None.

Recommendation: Board member decision.

Suggested Resolution and Motion: I move to approve board committee changes, as discussed. OR, I move to make no changes to the board committees.

Attached supporting documentation:

- Board committee list



BOARD COMMITTEES

DISTRICT

<i>Audit/Budget</i>	Dick Cleveland Steve Coyer
<i>Employee Housing</i>	Steve Coyer Dick Cleveland
<i>Retirement Plans</i>	Bob Warner Linn Brooks David Norris
<i>Organizational Development</i>	Bob Warner Dick Cleveland
<i>Facilities Master Plan</i>	George Gregory Bob Warner


JOINT

<i>Water Quality</i>	Sarah Smith Hymes (A) Timm Paxson (D)
<i>Rules and Regulations</i>	Kim Bell Williams (A) Bob Warner (D)
<i>Water Supply Planning</i>	Sarah Smith Hymes (A) Mick Woodworth (A) Kate Burchenal (D) Steve Coyer (D)
<i>Climate Action Plan</i>	Sarah Smith Hymes (A) Kate Burchenal (D) Timm Paxson (D)

(A) = Authority, (D) = District

AUTHORITY

<i>Audit/Budget</i>	Geoff Dreyer George Gregory
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New Development Report May 2022							
Projects Requiring Water Rights Dedication		Type of Use	SFEs Proposed	Location	Projected Water Demand Annual Acre-Foot Augmentation (AF)	Development Approval Process Step:	Construction Approval Process Step:
	Authority						
	Edwards River Park PUD	Mixed Use	440+com	Edwards	61.8	3. Cond. Capacity	0. Conceptual
	Margaux PUD	Residential	32	Edwards	3.56	2. Water Analysis	0. Conceptual
	Mountain Hive	Residential	188	Edwards	10.5-15.2	3. Cond. Capacity	0. Conceptual
	NorthStar PUD Amendment	Commercial	TBD	Edwards	3.7	5. Water Service Agreement	1. Plan Review
	Riverwalk Edwards Ammendment	Residential	18	Edwards	1.8	3. Cond. Capacity	N/A
	Vogelman Parcel (Carwash)	Mixed Use	1.5	Edwards	1.1-2.6	2. Water Analysis	1. Plan Review
	Warner Building 2 Conversion	Residential	13.25	Eagle-Vail	0.07	3. Cond. Capacity	N/A
	West End PUD Ammendment	Residential	335	Edwards	34.3	2. Water Analysis	0. Conceptual
	District						
	534 E Lionshead Circle - Elevation	Residential	12	Vail	0.49	2. Water Analysis	0. Conceptual
	500 E Lionshead Circle - Legacy	Residential	23	Vail	0.31	2. Water Analysis	2. Plan Approval
	Aura (Miradoro)	Residential	10	Vail	0.83	1. Connection Application	1. Plan Review
Projects Under Construction	Authority						
	140 W Beaver Creek Blvd	Residential	112	Avon	--	N/A	0. Conceptual
	185 Elk Track	Residential	4	Beaver Creek	--	N/A	4. Warranty Period
	Avon Hotel Development (Traer Tract J)	Commercial	85.05	Avon	--	6. Ability to Serve Letter	1. Plan Review
	CMC Student Housing	Residential	36	Edwards	--	4. Water Rights Allocation	1. Plan Review
	CVC Clubhouse Residences	Residential	9	Edwards	1.34	6. Ability to Serve Letter	2. Plan Approval
	6 West Apartments (formerly Via)	Residential	120	Edwards	12.56	6. Ability to Serve Letter	4. Warranty Period
	ECO School District Housing	Residential	37	Edwards	3.7	1. Connection Application	2. Plan Approval
	Fox Hollow Amended PUD	Mixed Use	108	Edwards	14	6. Ability to Serve Letter	1. Plan Review
	Frontgate (CO World Resorts)	Mixed Use	84	Avon	2.6	6. Ability to Serve Letter	2. Plan Approval
	Kudel Parcel	Residential	4	Edwards	2.4	6. Ability to Serve Letter	2. Plan Approval
	Maverik Gas Station	Commercial	2.6	Avon	1.03	6. Ability to Serve Letter	2. Plan Approval
	McGrady Acres	Residential	24	Avon	--	N/A	2. Plan Approval
	Piedmont	Residential	240	Avon	--	N/A	4. Warranty Period
	Riverfront Lot 1	Residential	53	Avon	--	N/A	2. Plan Approval
	Riverfront Village	Residential	59	Avon	--	N/A	4. Warranty Period
	Stillwater	Residential	21	Edwards	1.7	6. Ability to Serve Letter	4. Warranty Period
	Stolport Restaurant (Traer Tract J)	Commercial	TBD	Avon	--	6. Ability to Serve Letter	1. Plan Review
	Swift Gulch	Residential	42	Avon	Under Review	1. Connection Application	0. Conceptual
	Tract Y- Metcalf Road	Residential	54	Avon	Under Review	1. Connection Application	1. Plan Review
	District						
	3010 Basingdale (Phase II)	Residential	2	Vail	--	N/A	4. Warranty Period
	841/851 Main St Minturn	Residential	4	Minturn	--	N/A	4. Warranty Period
	Belden Place (1200 Block Main St)	Residential	41	Vail	N/A	N/A	2 Plan Approval
	Highline (Double Tree Expansion)	Residential	43.65	Vail	0.79	6. Ability to Serve Letter	1. Plan Review
	North Minturn PUD	Residential	184	Minturn	--	N/A	1. Plan Review
	Red Sandstone Parking Garage	Infrastructure	N/A	Vail	--	N/A	4. Warranty Period
	The Residences at Main Vail	Residential	72	Vail	0.81	6. Ability to Serve Letter	2. Plan Approval
	S. Frontage Rd Roundabout	Infrastructure	N/A	Vail	--	N/A	2. Plan Approval
	Vail Mountain View Phase II	Mixed Use	37	Vail	--	6. Ability to Serve Letter	N/A
	VVMC Phase II-East Wing	Commercial	--	Vail	--	N/A	2. Plan Approval
	Vail Marriott Residence Inn	Mixed Use	75	Vail	--	N/A	2. Plan Approval
Process	Construction Approval Process Steps:	0. Conceptual	1. Plan Review	2. Plan Approval	3. Acceptance	4. Warranty Period	5. Final Acceptance
	Development Approval Process Steps:	1. Connection Application	2. Water Demand Worksheet Analysis	3. Conditional Capacity to Serve Letter	4. Water Rights Allocation	5. Water Service Agreement	6. Ability to Serve Letter



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The Town of Avon

M E M O R A N D U M

TO: Board of Directors
FROM: Diane Johnson, Communications & Public Affairs Manager
DATE: May 20, 2022
RE: Summary of Authority's Apr. 28, 2022, Board Meetings

The following is a summary of items discussed at the Apr. 28, 2022, Authority Board Meeting and Joint Meeting with the Eagle River Water & Sanitation District board.

Board members present and acting were Chair George Gregory, Secretary Kim Bell Williams, Treasurer Geoff Dreyer, Pam Elsner, Mick Woodworth, and alternate director Eric Heil.

Meeting Minutes The board approved the minutes from the Mar. 24, 2022, regular and joint meetings.

Quarterly Financial Report Jim Cannava discussed the report and noted the Authority plans to issue bonds later this year, subject to need and market factors.

Human Resources Update Linn Brooks noted that the HR update was included in the Authority packet to share information about the Eagle River Water & Sanitation District's Classification and Compensation Study, the high cost of living, and other challenging conditions. Tom Borawski reviewed his report and shared data relative to cost-of-living and wage differences, plus an extremely challenging housing market, even while the District is an employee housing leader.

COVID-19 wastewater surveillance program Rob Ringle said the District joined the Colorado SARS-CoV-2 Wastewater Surveillance Collaborative in March and provided various details about its operations and how wastewater staff participate in the state program.

Eagle Park Reservoir Company meeting Siri Roman said the EPRC board discussed the East Fork Pump Station project, fiscal year 2023 budgeting, and director transitions.

Unallocated water Linn Brooks noted the unallocated water report continues to show that the Authority has 51.19 acre-feet of *unrestricted* in-basin reservoir storage remaining, which includes 25AF pledged by the District.

Eagle River Valley State of the River meeting Diane Johnson said the annual State of the River event will return this year on June 2 at Colorado Mountain College. The District is again collaborating with the Colorado River District to host and produce the event.

House Bill 22-1363 Kathryn Winn said the proposed bill would have changed many Colorado special district requirements, but it no longer has an impact on service districts after recent substantial changes to the bill.

Legislative update Kristin Moseley updated directors about bills on water speculation, turf replacement, and banning PFAS in products, and noted the Interim Water Resources Review Committee will become the Water Resources and Agricultural Review Committee.

**The following is a summary of items discussed at the Apr. 28, 2022, Joint Meeting
with the Eagle River Water & Sanitation District board of directors.**

Bolts Lake update	Kathryn Winn said District and Minturn representatives are working towards an IGA to address the town's 1041 land use requirements for Bolts Lake.
Water Demand Management	Linn Brooks presented a proposed Water Demand Management plan for 2022, which includes: acquiring needed staff and skillsets; water efficiency rebates with emphasis on turf replacement; development of water budgets and outreach to customers providing the rationale for aggressive water conservation efforts. The boards approved sending a letter to all customers requesting that they significantly reduce outdoor watering to support Authority and District efforts to reduce total water use in response to diminishing water supply due to a warming climate.
Joint Resolution re Bolts Ditch	Both boards approved a Joint Resolution in support of expanding the use of Bolts Ditch, which may require federal legislation and is supported by the town of Minturn.
Reimbursement Resolution	Each board approved a Resolution declaring its "official intent" to reimburse its respective entity for certain expenditures related to construction and acquisition costs of the Bolts Lake Reservoir project.

2022 JOINT CONTRACT LOG FOR UPPER EAGLE REGIONAL WATER AUTHORITY & EAGLE RIVER WATER & SANITATION DISTRICT

Contract Number	Original Contract Executed	Change Order signed on:	Project Name	Contractor	Contract Amount	Project Manager	Account Number	Status Notes
22.15.031	04/20/22		ERWSD/UERWA WST & BPS Hatch Improvements	Western Water Solutions LLC	\$50,000.00	N. Nemcanin	10.3.2.20.09.019 & 20.1.2.00.00.043	Open/Contract Expires 12/31/22
22.15.040	05/12/22		Water Production and Treatment Masterplan 2022	Carollo Engineers, Inc.	\$263,900.00	J. Beairsto	20.1.2.00.00.133 & 10.3.2.20.09.016	Open/Contract Expires 12/31/22
22.15.044	Pending		Various Geotechnical Services	Kumar & Associates, Inc.	\$50,000.00	N. Nemcanin	10.3.9.20.20.520 & 20.1.9.00.35.500	Open/Contract Expires 12/31/22

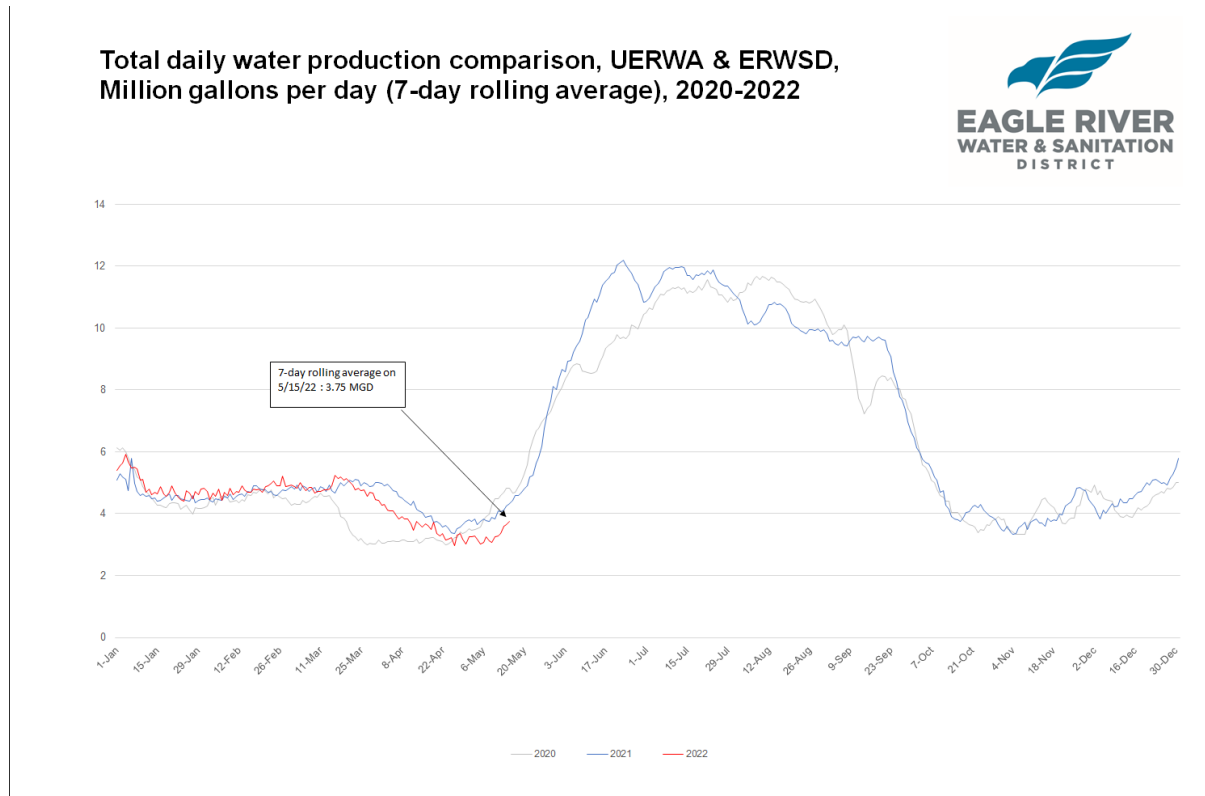


OPERATIONS MONTHLY REPORT MAY 2022

WATER

Brad Zachman

The system-wide water production comparison was updated through May 15. System production and demands are picking up as the irrigation season begins.



The Avon Drinking Water Facility (ADWF) was placed into service on May 15 after a brief shutdown period to complete a variety of planned maintenance projects including replacement of a sodium hypochlorite chemical storage tank. The Edwards Drinking Water Facility (EDWF) is offline and will remain out of service until after Spring runoff.



Old Sodium Hypochlorite Tank Removed



New Tank Installed

A contract has been issued for the Water Treatment and Production Master Plan. The team is starting to compile historical operational data to fulfill initial data requests.

The District's CDPHE Sanitary Survey has been scheduled for Aug. 24-26. The operations teams will be working over the next four months to prepare for the three-year inspection.

The new Cordillera (Fenno) groundwater treatment facility successfully operated at a limited production rate from Apr. 15 through May 6. The facility was taken back out of service between May 9 through May 20 to allow the project team to install the permanent power distribution panel and complete equipment testing. Substantial completion of the project is expected by the end of May.

A well screen repair was made to Vail groundwater well R4 on May 11. The well is out of service for motor and pump replacements. The new drop pipe, pump and motor has been ordered. The work is scheduled to be completed in early June.



Well R4 Screen Repair on May 11

The Eagle Park Reservoir (EPR) is filling rapidly. The East Fork Pump Station (EFPS) started seasonal operation on May 10. This is about two weeks earlier than last year. EFPS pumps water into EPR from the East Fork and is operated during dry years when there is concern that EPR will not completely fill by the primary Chalk Mountain Ditch intake.



EFPS Intake Before and After Snow Removal on May 10

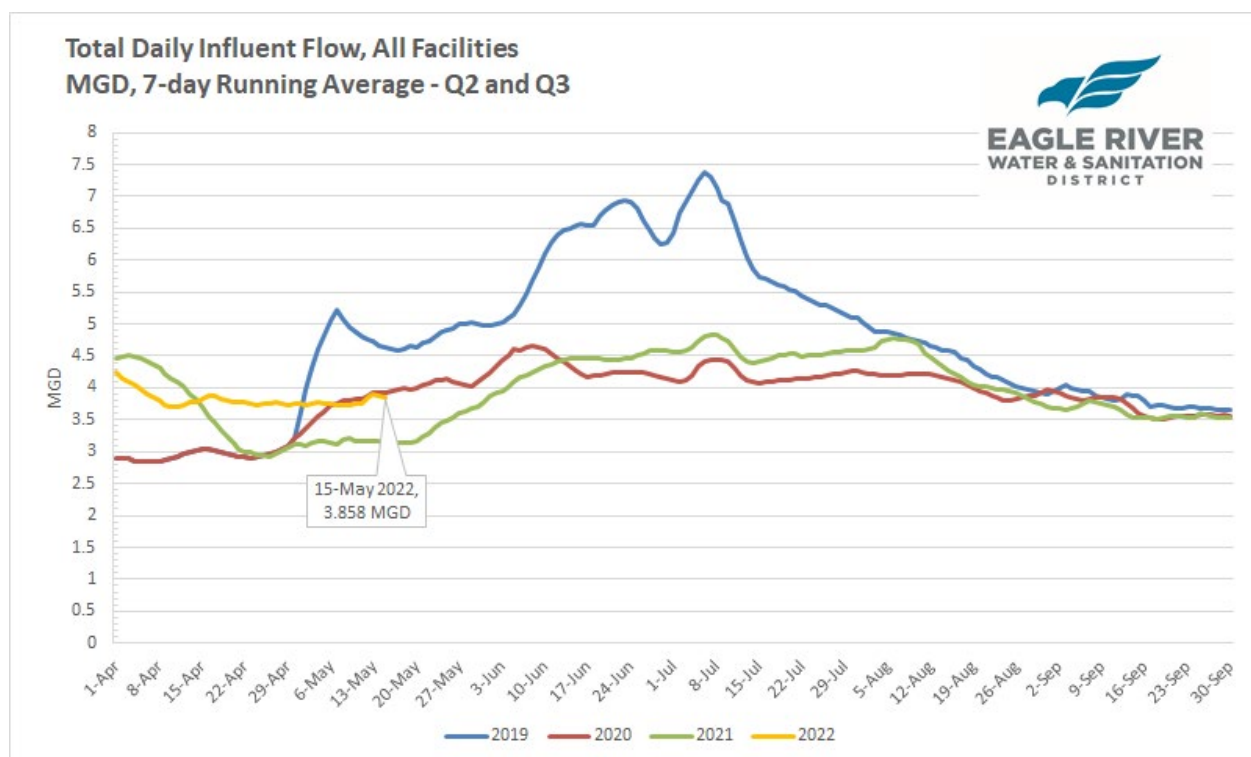


EPR (Left) and EFPS (Right) on May 16 (note the rapid snow melt compared to May 10)

WASTEWATER

Rob Ringle

Cumulative influent flow at the three wastewater (WW) facilities has dropped to near annual low levels, as typical for late April and early May. Flows did remain slightly higher through the end of April this year, relative to past years, which is likely related to the later closing dates for Beaver Creek and Vail ski areas. Flows have begun to trend up slightly over recent weeks, which is indicative of a normal increase in inflow and infiltration (I&I) from runoff. Influent flows and organic loading will likely remain low until early-June, although some bump over the upcoming Memorial Day weekend is likely.



Vail WW and department leadership staff have contributed significantly to ongoing design and permitting efforts for the Vail WW Master Plan Improvements project. This includes detailed schedule, plan, and specification reviews related to the early work package, which involves utility and site work in preparation for the new generator and transfer switch. The project is proceeding with the Construction Manager at Risk (CMAR) accelerated delivery method in accordance with prior board approval. PCL Construction has been contracted for pre-construction services, which will establish the guaranteed maximum price for the multiple scope packages. The majority of project work is scheduled to be completed in 2023.

Vail WW operations staff have also worked to adapt facility operations to the decrease in influent organic loading. This involves removing several secondary process basins from service, and dewatering and cleaning those basins. One of the two secondary clarifiers has also been removed from service.



Vail WW Aeration Basin 3. Dewatered for cleaning and inspection

Avon WW operations staff continued to be involved in process adaptation and commissioning efforts related to the Nutrient Upgrade Project work. These efforts have recently been focused on the grit removal, odor control, and aeration control systems. Staff have continued to work to optimize these systems for several weeks after each respective system is brought online. Despite the conflicting demands of construction, and the lack of some critical process systems that are yet to be installed, staff have operated the facility to produce effluent meeting the upcoming criteria for nutrients (total phosphorus, total inorganic nitrogen) in the month of April.

The Edwards WW operations staff completed the entry and evaluation of the final tank in the ATAD solids digestion process. The entry was intended to evaluate the condition of the tank in regard to settled solids. The rain event that occurred in Avon on Jul. 22, 2021, caused a large inflow of mud and inorganic sediment to the collection system, and this material impacted the solids digestion operations at Edwards WW for several weeks after. The tank was removed from active service in the fall of 2021, and the remaining liquid content was managed this spring.



Condition of Edwards WW Final Solids Handling Tank

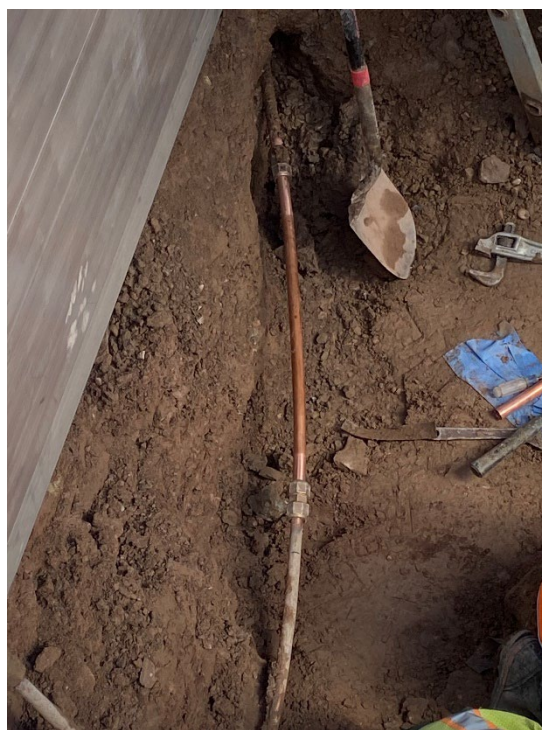
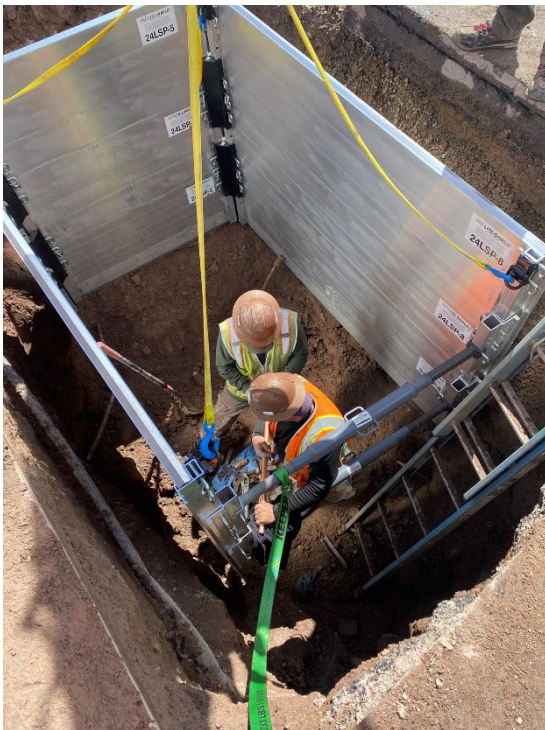
Inspection revealed 1-2 ft of settled solids. Tank cleaning is challenging due to the tank sidewall height of over 20 ft. and the potentially hazardous air quality that can occur inside the tank when the settled material is disturbed. Staff are working with potential contractors on quotes for tank cleaning service.

WW operations staff met with Carollo Engineers to kickoff the WW Master Plan Update effort. The work is largely focused on identifying opportunities for nutrient removal at Edwards WW to allow the District to meet the 2029 schedule date for compliance with effluent nutrient limits at this facility. The work also involves the conditions assessment of existing systems at this facility, and an evaluation of long-term compliance strategies for all three WW facilities.

FIELD OPERATIONS

Niko Nemcanin

During our bi-annual sounding of the distribution system in Wildridge, a leak was detected at Flat Point cul-de-sac. After further investigation leak was located and repaired on May 4, 2022.





It was opportunity to test our new equipment – trench shield, traffic barriers and portable restroom on trailer.

Together with the Water department, Field Operations crew was involved in Traer Creek tank draining for anticipated final work on tank.

Our crew went through a commercial driving license (CDL) defensive/safe driving school, part of the training was driving a SkidTruck. This training was organized though Colorado Special District Property and Liability Pool, with the help of our safety team.



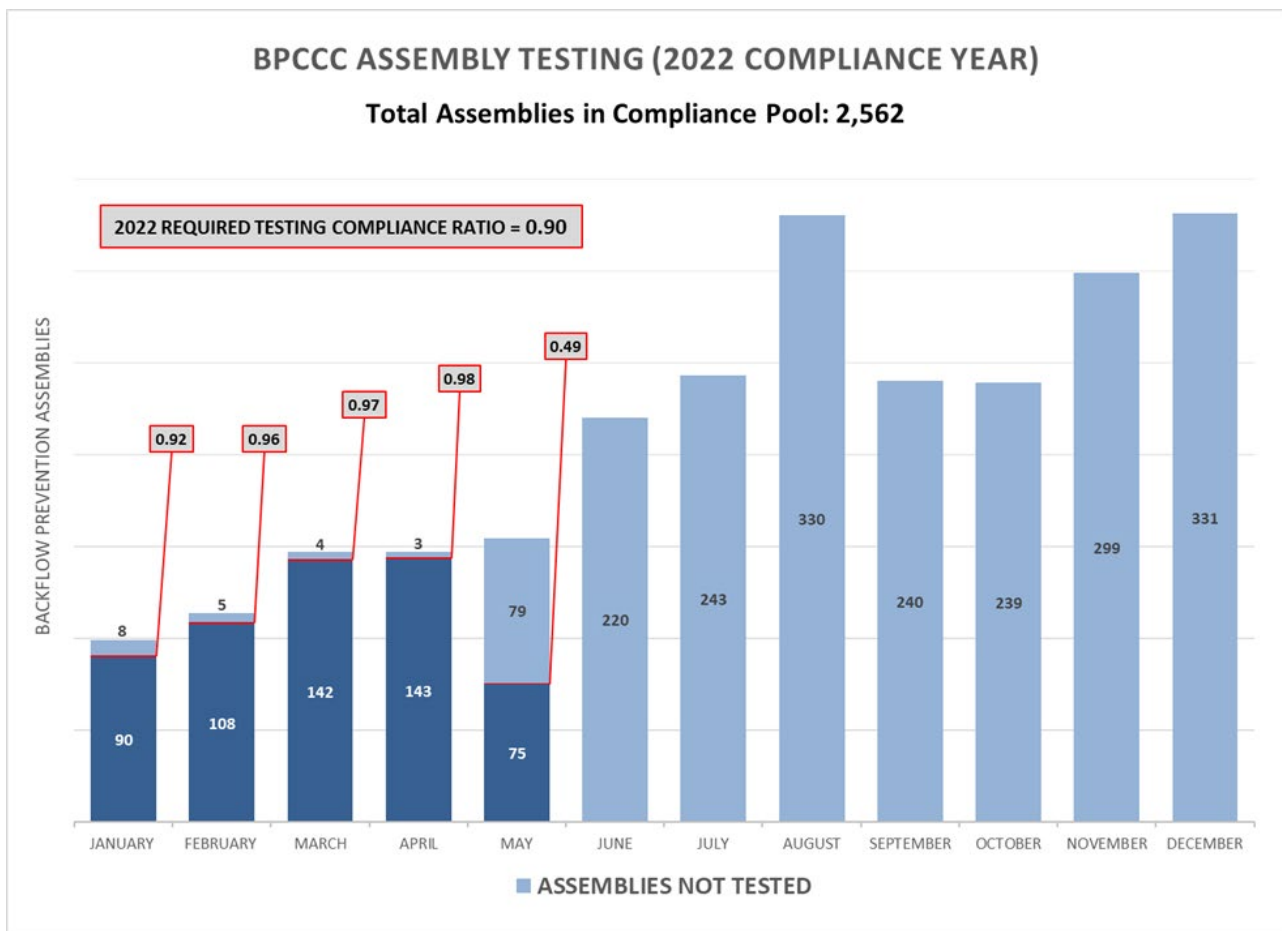
UTILITY SERVICES

Shane Swartwout

Backflow Prevention and Cross Connection Control

The BPCCC team has completed the 2021 CDPHE BPCCC Annual reports for both the District and the Authority. In preparation for the District Sanitary Survey, the team has also recently completed a comprehensive audit of all 649 compliance accounts. This ensures the information regarding the survey results and the assemblies located at each property are accurate and updated.

BPCCC Program Compliance Status (Updated 5-17-2022)



Meter Services – Advanced Metering Infrastructure Status (Updated 5/17/2022)

The meter services team has reached 90% AMI in the District, and 82% AMI in the Authority. The team has found these remaining meters very difficult to schedule since most of the homeowners live out of the state. These are also some of the oldest meters in our system which adds to the difficulty to get the meters replaced.

Report Date:	5/17/2022
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AMI SYSTEM STATUS	ERWSD	UERWA	TOTAL
(1) Total No. of Meters	3186	6801	9987
(2) No. of AMI Meters	2881	5549	8430
(3) System Percentage of AMI Meters	90%	82%	86%
Meters Remaining to Reach 100% AMI	305	1252	1557

Fleet and Facilities

As part of the vehicle replacement program, the team has outfitted two new Chevrolet Silverado 2500's for the Field Operations department. Staff accessorized the service trucks by installing power inverters, auxiliary LED lights, step bars, seat covers, fire extinguishers, toolboxes, mounted vises, and custom fabricated steel tool racks and safety handles.



Clean Water. Quality Life.™

846 Forest Road Vail, Colorado 81657 Tel (970) 476-7480 Fax (970) 476-4089 erwsd.org

ENGINEERING

Jeff Schneider

WATER PROJECTS

Radio Telemetry Unit (RTU) System Upgrades

Carter Keller

General Project Scope: This project is a systematic approach to install standardized communication equipment to increase the reliability of the telemetry system throughout the distribution system (82 sites) and develop a standard (i.e., non-proprietary) telemetry platform to allow competitive pricing for upgrades, replacement, and system maintenance. Implementation is anticipated over a three-year period with a highly detailed sequence and schedule to limit distribution system disruptions.

Project Update:

Contractors will start construction in the Edwards area as weather permits. Commissioning of phase three sites is scheduled to start May 16. Spring commissioning schedule consists of seven sites, two in Edwards and five in Cordillera. Completion of the spring schedule is set for June 30. Preliminary construction is underway such as conduit and concrete work to support construction of towers and equipment racks.

Traer Creek Water Storage Tank

Mark Mantua

General Project Scope: This project consists of the replacement of the Traer Creek Water Storage Tank. In addition to the tank replacement, the scope includes piping, appurtenances, and selective replacement of identified equipment including the RTUs and control cabinets.

Project Update: Electrical improvements and telemetry installation are nearly complete and commissioned. District staff completed draining the tank to the sanitary sewer in an effort to recover the testing water. The contractor is addressing deficiencies in the dome and water quality sampling line. A third-party testing consultant has been retained to perform ultrasonic testing on the dome roof to ensure no structural deficiencies. District staff is currently reviewing closeout documentation provided by the contractor. This project is under budget and on track to be substantially complete in summer 2022.

Avon Drinking Water Facility (ADWF) PLC Upgrades

Jenna Beairsto

General Project Scope: This project includes replacement of two of the programmable logic controllers (PLCs) at ADWF. Additionally, a new server room will be constructed within the facility. All programming and PLC logic will be reverse engineered to determine required updates and improvements associated with the modification and replacement of the existing PLCs.

Project Update: In spite of poor bidding results last month, the District is in the process of contracting with Hensel Phelps to implement this project. The negotiated price is over \$600,000

and 20% less than the only bid received, but exceeded the engineer's estimate by nearly 100%. Procurement will begin as soon as the Contractor is under contract for all major equipment. Construction of the server room is expected to start later this year.

Edwards Spur Road Phase 2 Water Main

Mark Mantua

General Project Scope: The Edwards Spur Road Phase 2 consists of two projects. The first is installation of 1,700 linear feet of water main that was installed in conjunction with the CDOT Edwards Spur Road project. The second is installation of a water main that will run parallel and under the railroad tracks to connect the Edwards Drinking Water Facility to the water main that was previously installed during the 2019 Spur Road project and to a main near Miller Ranch Road. The project will alleviate hydraulic issues in the Edwards low pressure zone.

Project Update: The contractor has installed approximately 400 linear feet of 24" pipe which connects a 16" distribution main to the Edwards Drinking Water Facility. Approximately 1,600 linear feet remain before the final tie-in. The contractor replaced defective pipe which was identified as necessary due to manufacturing defects.

Fenno Wellhouse and Raw Water Conveyance

Jeffrey Schneider

General Project Scope: The project consists of complete replacement of a small treatment facility in Cordillera that treats water from seven groundwater wells and pumps into the distribution system. The previous facility did not meet electrical code, had some safety concerns, and was generally at the end of its useful life. Improvements to the wells and raw water piping are also included in this project.

Project Update: The partial startup of the treatment system was successfully completed, with the Owner taking partial occupancy of the station on April 18. Water and OTS teams put in long hours with the construction team and the system ran for nearly three weeks in a temporary configuration with only one fault. More importantly, the treated well water pumped into the distribution helped improve water quality and the May sampling event saw a marked improvement in disinfection byproducts (DBPs). On May 9, the station was taken out of service and the permanent main breaker panel that had been subject to supply chain delays was installed. Testing of the remaining equipment is underway and we anticipate beginning to run the entire station in auto-mode starting May 18. We are beginning contract closeout procedures, including review of as-builts, startup, training, and punchlist walkthroughs. The substantial completion date is May 26 and final completion three weeks later.

Water Production and Treatment Masterplan

Jenna Beairsto

General Project Scope: The masterplan will be a wholistic look at all production and treatment facilities system-wide including treatment plants and wells. The goal is to do a thorough risk-based analysis and provide a roadmap for future capital project implementation in light of threats from

climate change, low stream flows, wildfires, etc. along with a detailed condition assessment of existing assets.

Project Update: Carollo is under contract for the masterplan and has begun review of the existing hydraulic model data. The District is working on gathering all data and information requested by Carollo to get the project underway. A kickoff meeting with project stakeholders will be scheduled by the end of May.

Arrowhead Transmission Main & Valve Vault

Mark Mantua

General Project Scope: This project consists of the replacement of 2,300 linear feet of water transmission main and a valve vault which both serve Arrowhead Tank 1. The existing ductile iron transmission main pipe is severely corroded and is nearing the end of its service life. The valve vault will reduce operational issues in the water distribution system. The new valve vault will include a new flow control valve allowing Arrowhead Tank 1 to hydraulically balance better with the Cordillera Valley Club (CVC) tank.

Project Update: District staff has decided to review an alternate alignment for this project proposed by the Construction Review Team in Cresta Road to explore elimination of creek crossing. Additional survey and geotechnical work is underway along the Cresta Road alignment. Once this survey and Geotech work is complete, the design engineer will provide 30% level design plans and a final recommendation for the final design.

Avon Wastewater Treatment Facility (WWTF) Fire Flow Improvements

Melissa Marts/
Woodson Spring

General Project Scope: The Avon WWTF Fire Flow Improvements consist of two major components. The first is installation of 1,100 linear feet of 12" water main down Millie's Lane and into the Avon WWTF site. The second is modifications within the Avon Drinking Water Facility (DWF) to transfer water from the high zone to the low zone. The project will bring the Avon WWTF into compliance with fire flow requirements and address a long-standing deficiency.

Project Update: The pipeline subcontractor, 360 Civil, installed a valve in the Liftview Apartment complex water main loop on May 10, involving a scheduled water outage for Liftview and the Avon WWTF property. The valve will reduce the number of customers affected by future water outages during the project. Moltz Construction and 360 Civil are in the process of permit review and equipment procurement for the tie in and crossing of West Beaver Creek Blvd. Material delays will push back the 16-inch tie-in from May 17 to May 24. Other portions of work are scheduled for later in the summer and are tightly coordinated with AWWTF Nutrient Upgrades Project critical precast concrete deliveries and crane demobilization.



New valve installed

Project site after installation

WASTEWATER PROJECTS

Avon Wastewater Treatment Facility (AWWTF) Nutrient Upgrades

Melissa Marts

General Project Scope: The Avon WWTF requires upgrades to meet Regulation 85, which requires a reduction of the concentrations of nitrogen and phosphorus in the effluent. The scope of this project includes the following: addition of 0.6 million gallons of aeration basin capacity, a new secondary clarifier, structural modifications to the existing aeration basins to remove the existing double-tees and replace with a building structure, a new odor control study and system, and other improvements throughout the facility. This project also includes improvements identified in a 2017 condition assessment in other process areas throughout the facility.

Project Update: The precast concrete superstructure was set over the secondary clarifier. This was the most difficult building erection of the project, requiring transportation and lifting of 50,000 pound, 80-foot long double tee members. The project team is preparing for a 2 am facility shutdown to connect the new secondary clarifier effluent pipe. The team performed adhesion testing to determine the necessary wall preparation for shotcrete in aeration basin 1 and we were able to streamline preparation while still meeting all quality parameters. Shotcrete is scheduled to be applied the week of May 17 – 26. Construction progress continues on modifications to primary sedimentation basin 1, installation of internal mixed liquor and return activated sludge pumps, and preparation for startup of the secondary clarifiers. Although the process is running on a modified version of the final configuration, the Avon WWTF is already removing more phosphorous than it has historically and meeting Regulation 85 effluent limits.



Secondary Clarifier Building Double Tee



Secondary Clarifier Building Erection

Dowd Junction Collection System Improvements

Jenna Beairsto

General Project Scope: The project consists of four major components, all of which are at the end of their useful lives: the aerial interceptor crossing at Dowd Junction; Lift Station 4, which conveys all of Minturn's wastewater; the aerial interceptor crossing at the Minturn Road bridge; and the force main downstream of Lift Station 4. The project will also include capacity for growth in its respective service areas, most notably the Minturn area improvements.

Project Update:

West Vail Interceptor Aerial Crossing: The Contractor will mobilize to the site to finish work associated with this contract on May 23. The bridge will be delivered to the site in pieces in early June. The Contractor will begin installation of the pipe supports and pipe on the bridge before assembling the bridge and flying it in to place in July. Final utility work will follow the bridge work. Contract negotiations are underway for the price associated with the extension of contract schedule due to global supply chain delays last year. We are currently coordinating with all permitting agencies about the restart of work through the 2022 constructions season.

Lift Station 4 and Force Main Replacement: This project combines three packages of work into one large project. Package A includes the lift station 4 replacement, package B is replacement of the exiting force main with two 8" HDPE force mains, and package C in partnership with Eco Trails (Eagle County) to connect the bike trails from the lift station to the West Vail Interceptor crossing. Despite the lack of bidders, we successfully negotiated pricing from two general contractors and issued Notice of Award for the Project to Gould Construction. The District is finalizing an intergovernmental agreement (IGA) with Eagle County for the work associated with package C and overlap of general conditions. Gould is expected to mobilize to begin construction this summer. The work will begin with the upstream gravity sewer installation and the lift station civil and structural work. Despite cost escalations, the ERWSD portion of the work is surprisingly close to our estimates.

Vail Wastewater Treatment Facility (VWWTF) Master Plan Improvements

Melissa Marts

General Project Scope: A condition assessment of the Vail WWTF conducted as part of the 2017 Master Plan identified various upgrades required to keep the facility in reliable and operable condition. The scope includes a new, larger diesel generator and associated electrical, structural repairs in the aeration basin, equalization, and clarifier rooms, replacement of the aging ultraviolet (UV) system, and construction and installation of an external facility bypass.

Project Update: Due to long lead times of crucial electrical equipment that provides backup power to the VWWTF, the project team issued an early-out generator/ automated transfer switch (ATS) package for PCL Construction to develop a Guaranteed Maximum Price (GMP) proposal. The exterior modifications related to the generator/ATS package will be presented to the Town of Vail Design Review Board on May 18. Additional exterior modifications included in the main design package will be brought to the Design Review Board in August. Long equipment lead times also necessitate early procurement of membrane diffusers and ultraviolet (UV) disinfection equipment. Black and Veatch is working on the 60% main package design submittal, scheduled to be delivered end of May.

GENERAL CAPITAL

Vail Office Remodel

Jenna Beairsto

General Project Scope: The project will provide a safe and secure singular entry point for facility visitors by reconfiguring the vestibule entrance. The scope also includes reconfiguring and reorganizing of the Vail Administration Office. Most of the construction will be concentrated on the south half of the first floor; however, reorganization will occur building wide. In addition to the front entrance, the project will provide improved ADA access to the building. Several departments will shift within the lower level to allow for additional office and meeting space. The project includes cubicle and office furniture purchase and replacement for some of the improved areas.

Project Update: The Contractor and their subcontractors completed all interior work associated with the project. Final punch list items associated with the furniture contractor are ongoing, pending delivery of final cubicle components to close out their portion of work. Exterior improvements including painting and new signage are scheduled to begin in mid-June. Maverick has been contracted to replace additional carpet in the public locations on the lower level of the building.



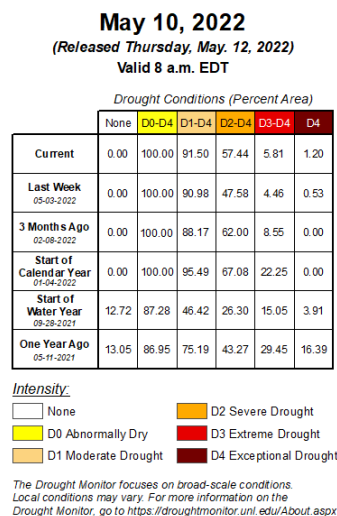
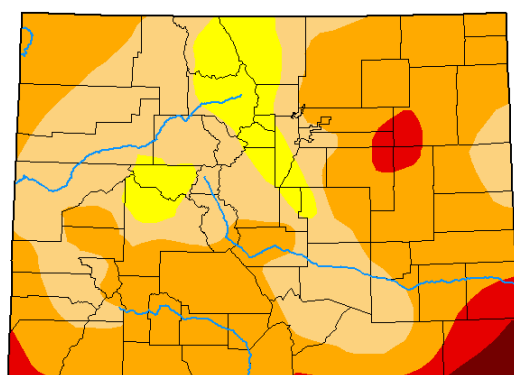
Progress in the new customer service area Progress in the new utility services area

WATER RESOURCES

Len Wright

The latest Drought Monitor shows that Colorado has regions experiencing all levels of drought, as shown below in Figure 1. Eagle County is nearly completely in “D1” including the entire Eagle River Watershed, as shown below in Figure 2.

U.S. Drought Monitor Colorado



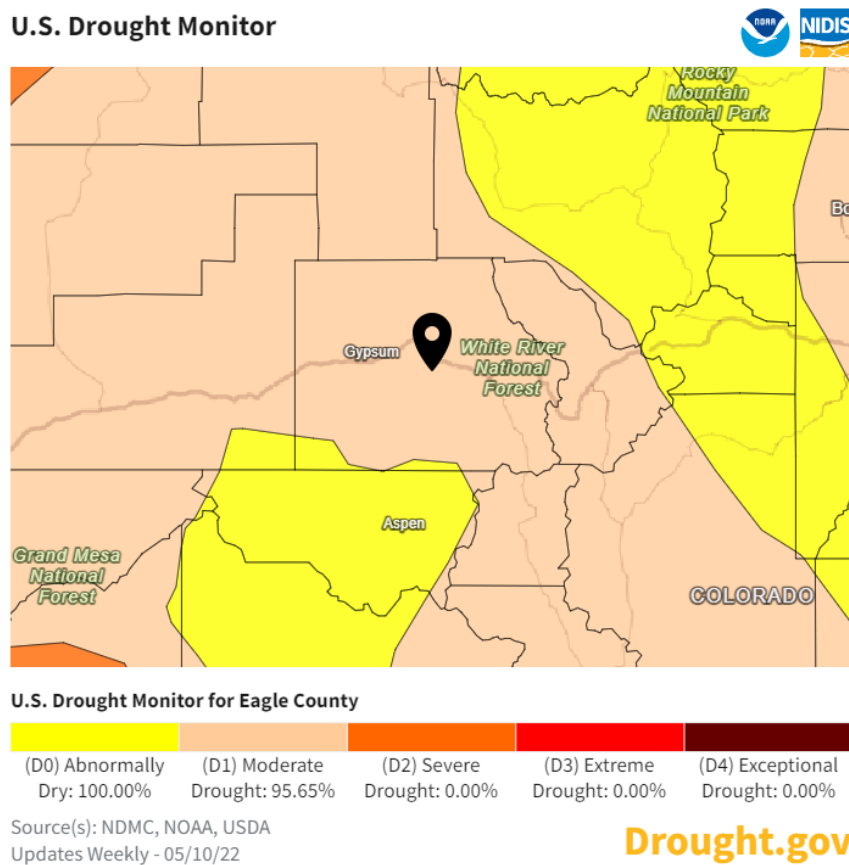
Author:
David Simera
Western Regional Climate Center



droughtmonitor.unl.edu

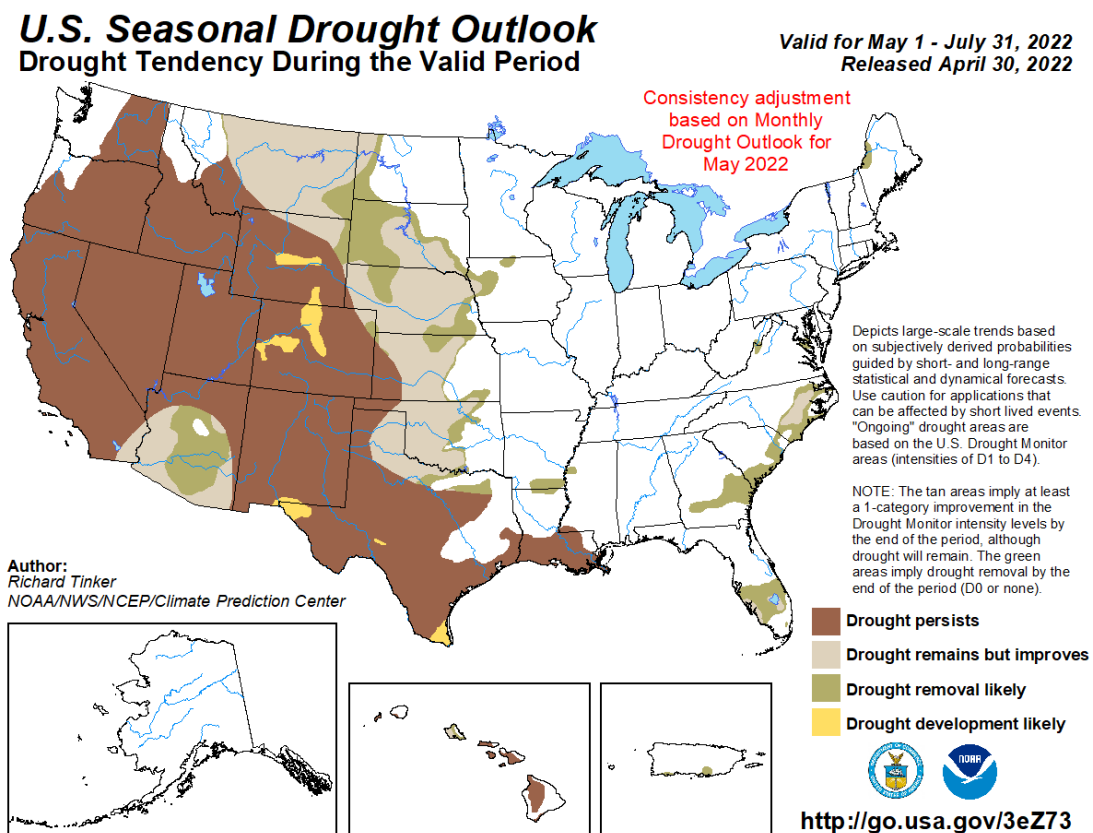
Figure 1. Colorado Drought Monitor, May 10, 2022.
(<https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?CO>).

Figure 2. Eagle County Drought Monitor, May 10, 2022 (NOAA, NIIDIS).



The seasonal drought outlook is expected to remain or worsen in Colorado through July 2022 based on current NOAA climate predictions for temperature and precipitation.

Figure 3. US Seasonal Drought Outlook through June 30, 2022 (NOAA).



Peak Snow Water Equivalent ended near or below average for all local Eagle River SNOTEL sites as well as Copper Mountain. Snow Water Equivalent (SWE) and water year-to-date cumulative precipitation for the Eagle River Basin gages are shown in Figures 4 and 5. The five individual local SNOTEL stations are shown in Figures 6-10.

Figure 4. Eagle River Basin SNOTEL stations, 5/18/22 (Beaver Creek, McCoy Park, Fremont Pass, Vail Mountain).

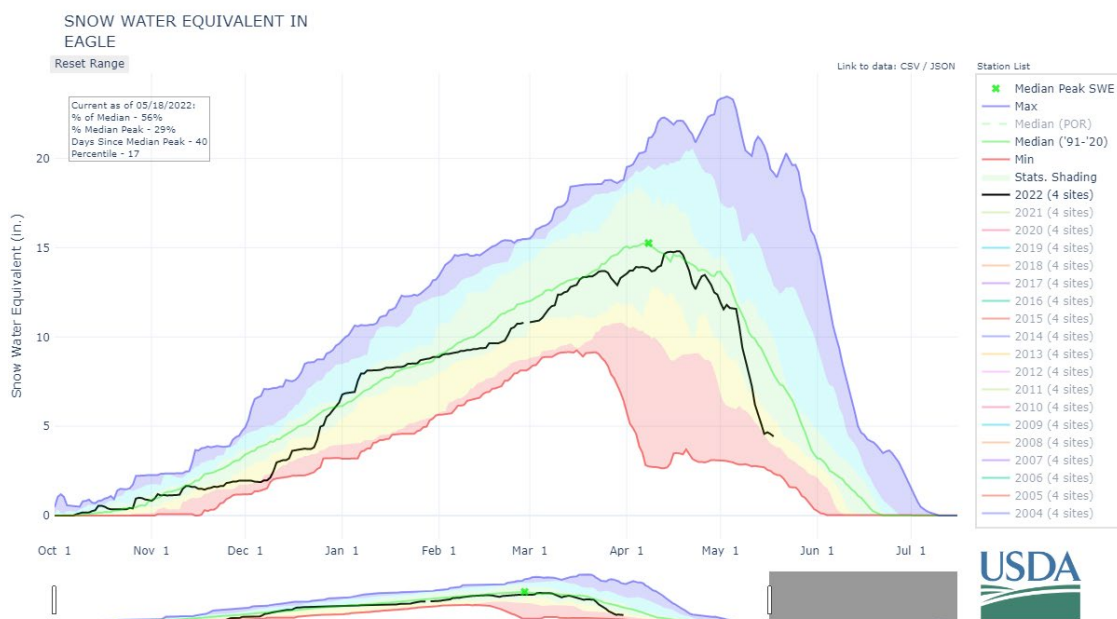


Figure 5. Cumulative precipitation for the Eagle River Basin, Water Year 2022 (NOAA/CBRFC).

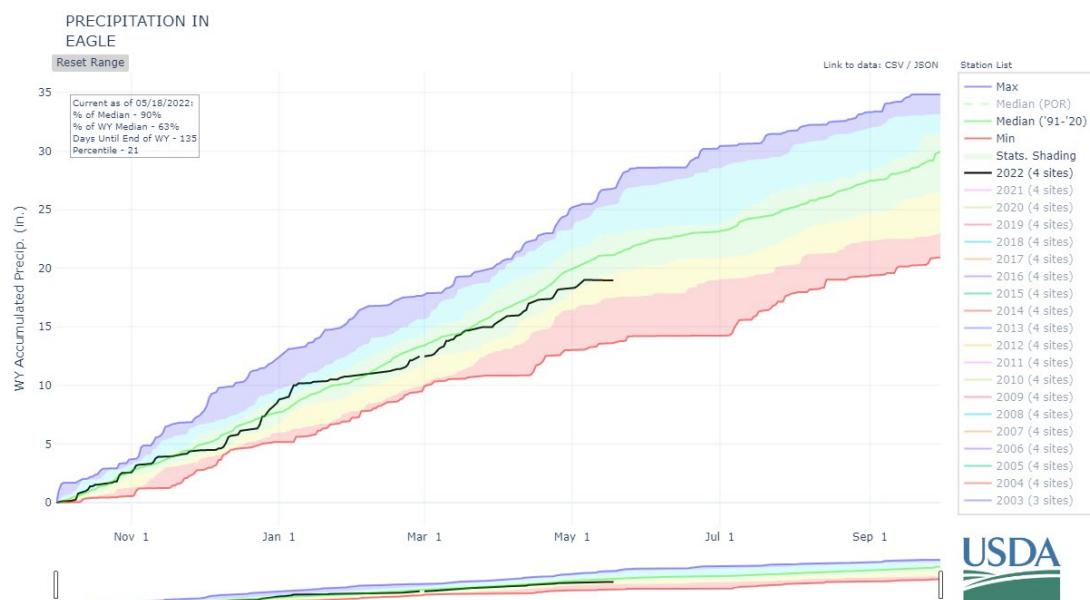


Figure 6. Snow Water Equivalent, Beaver Creek Village SNOTEL, May 17, 2022 (USDA).

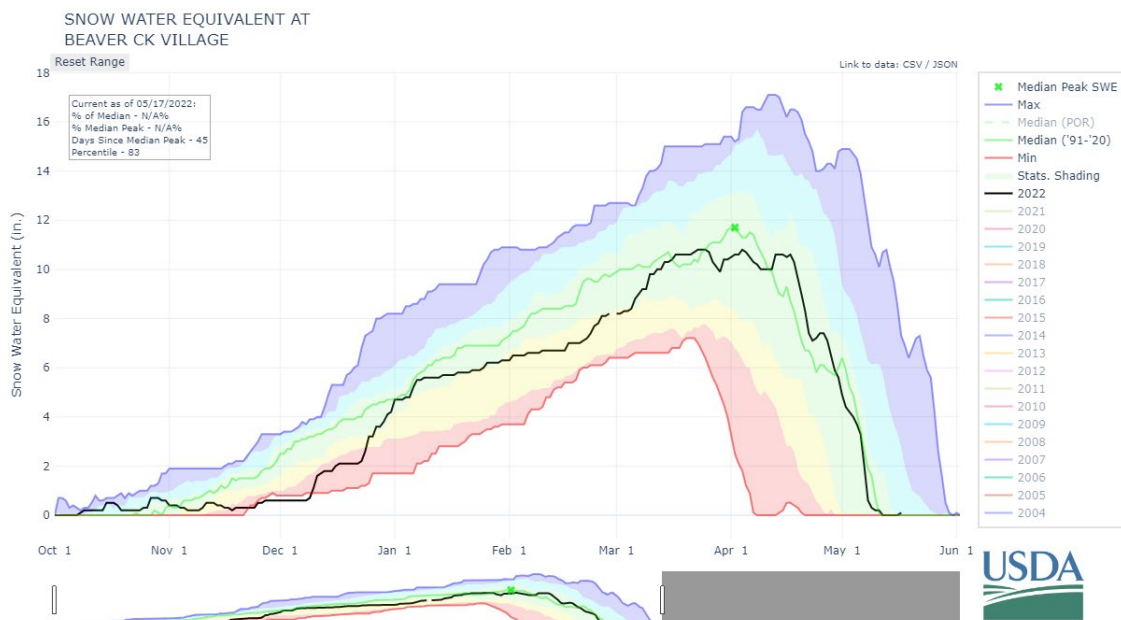


Figure 7. Snow Water Equivalent, McCoy Park SNOTEL, May 17, 2022 (USDA).

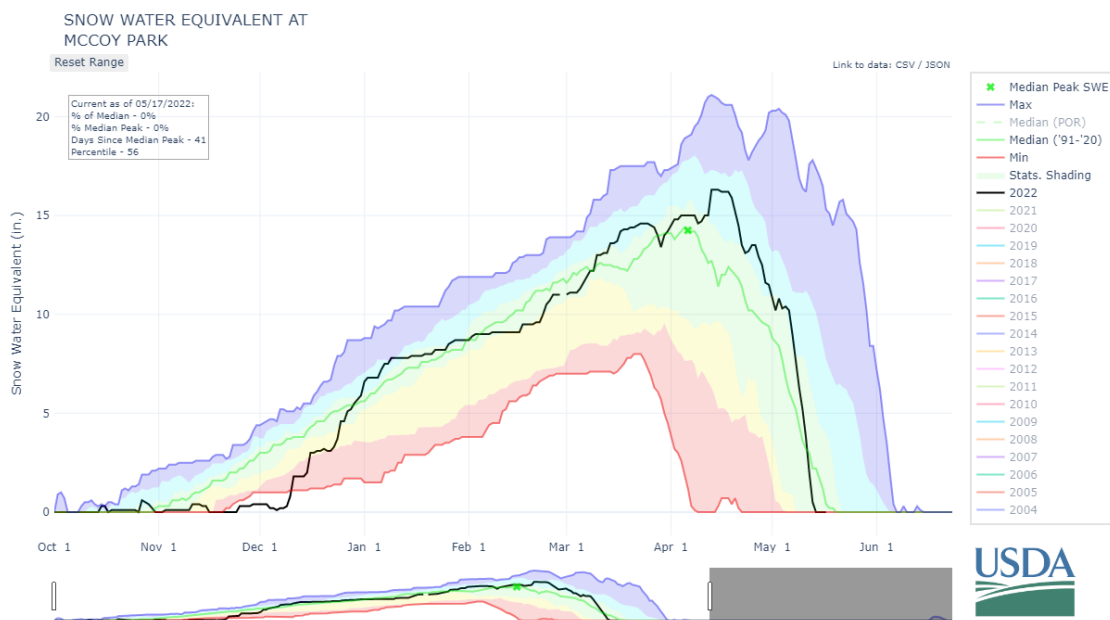


Figure 8. Snow Water Equivalent, Fremont Pass SNOTEL, May 17, 2022 (USDA).

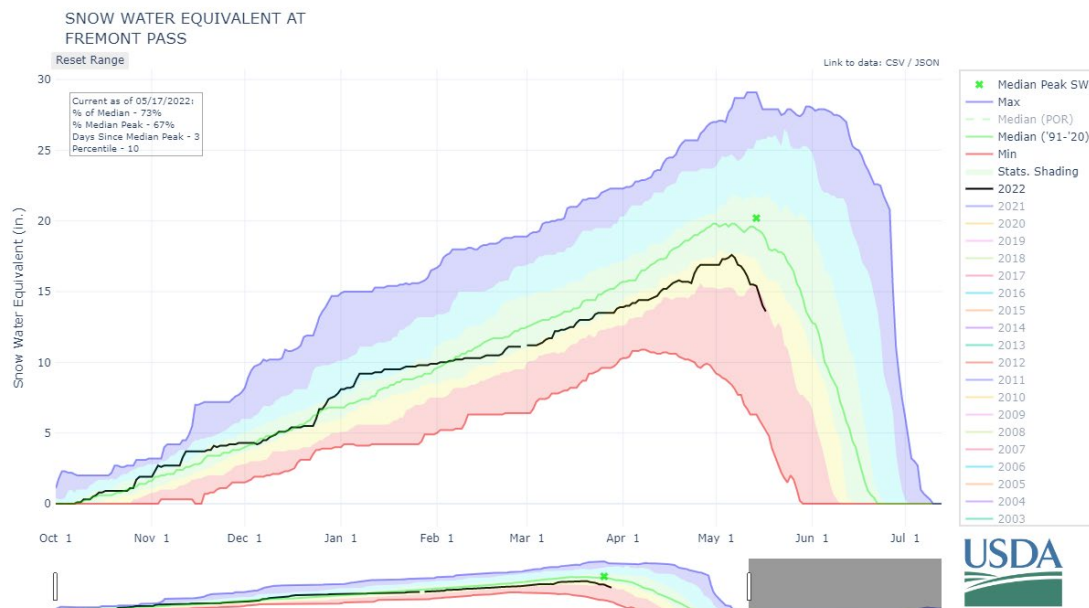


Figure 9. Snow Water Equivalent, Copper Mountain SNOTEL, May 17, 2022 (USDA).

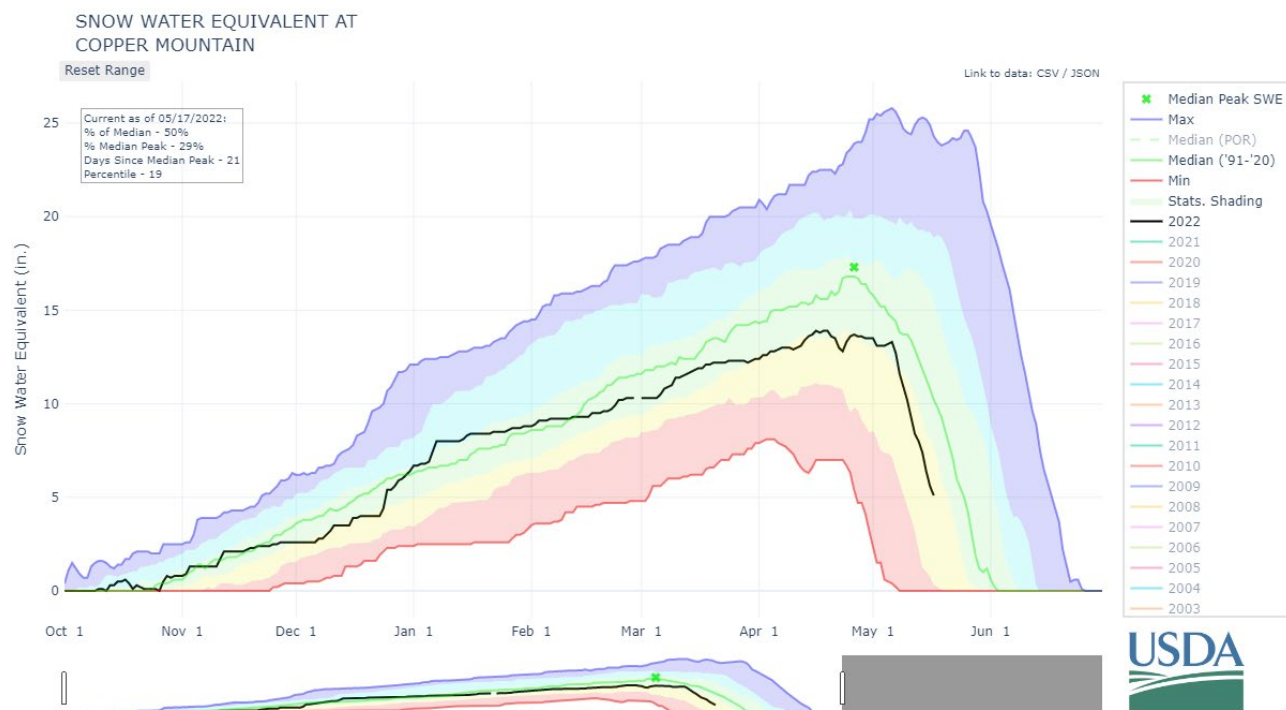
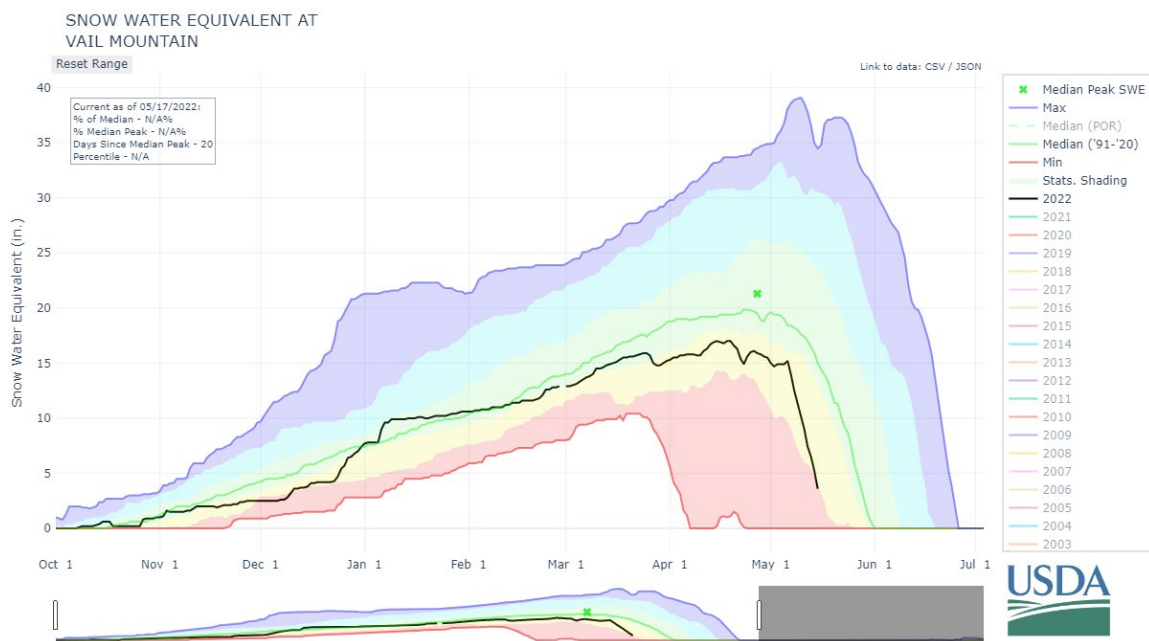


Figure 10. Snow Water Equivalent, Vail Mountain SNOTEL, May 17, 2022 (USDA).



Streamflows remain low, even for the typically low-flow winter season. Stream hydrographs plotted from the USGS gages on Gore Creek above Red Sandstone Creek and the Eagle River at Avon are shown below in Figures 11 and 12.

Figure 11. Streamflow for Water Year-to-Date 2022, Gore Creek (CBRFC).

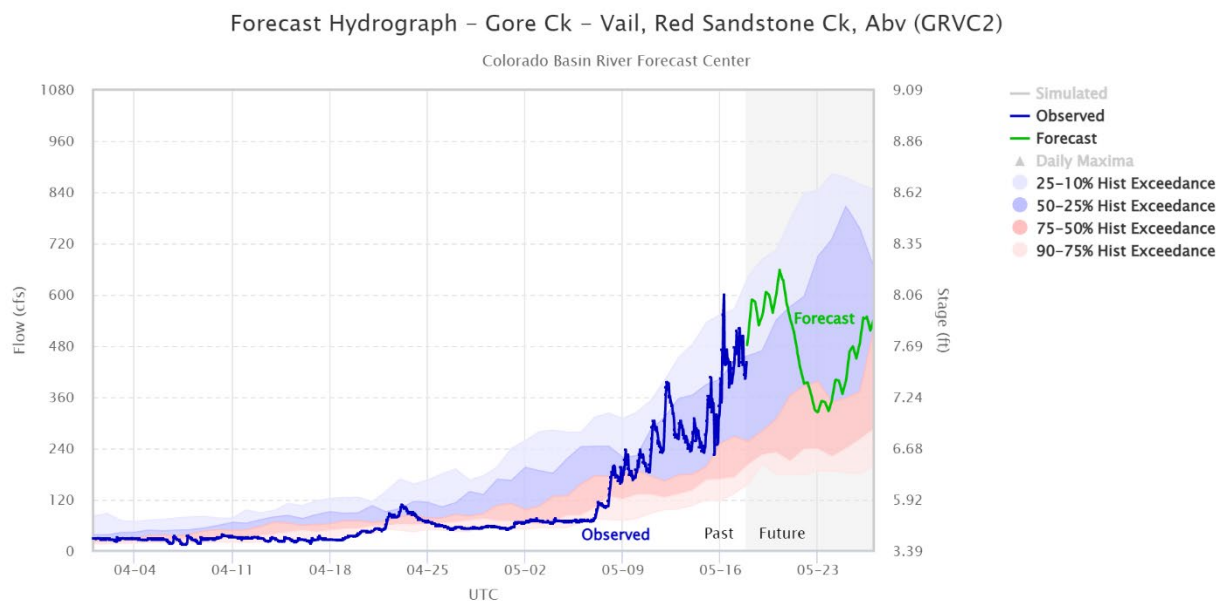
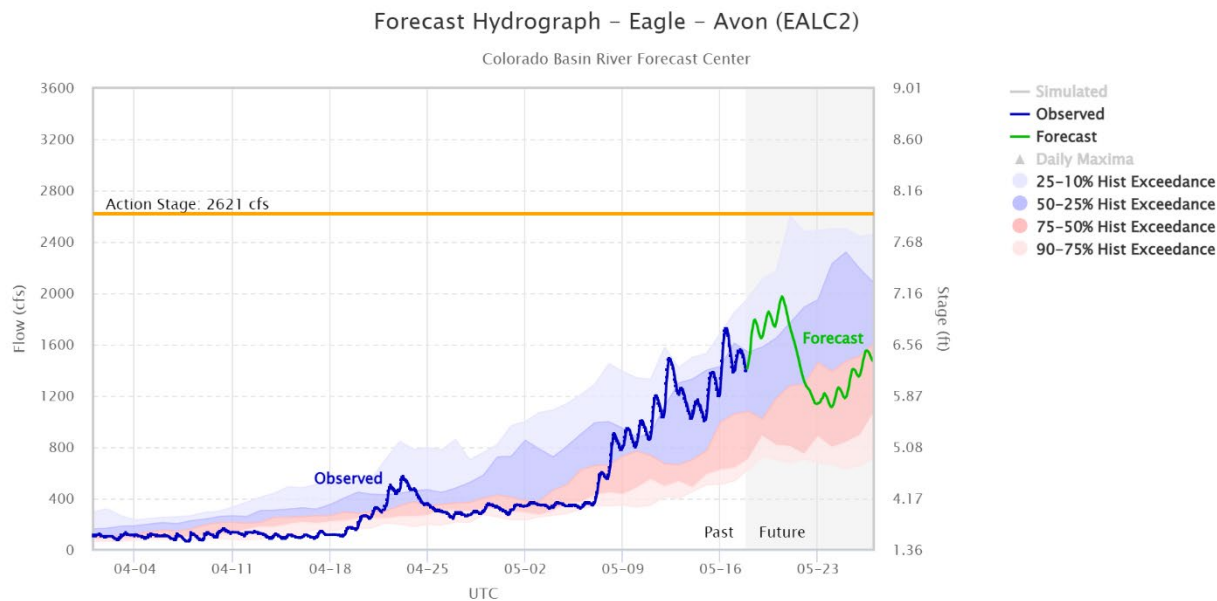


Figure 12. Streamflow for Water Year-to-Date 2022, Eagle River at Avon (CBRFC).



ERWSD and UERWA storage accounts are shown in Table 1 as of May 1, 2022.

Table 1. ERWSD and UERWA Storage accounts as of May 1, 2022 (Helton and Williamsen).

Reservoir	ERWSD		UERWA		TOTAL	
Green Mountain	542.58	58%	398.37	73%	940.95	63%
Black Lakes	9.30	2%	9.30	3%	9.30	2%
Eagle Park	430.38	99%	676.86	99%	1107.25	99%
Homestake Res	164.23	66%	38.42	15%	202.66	40%
Wolford Mtn	500.00	100%	599.95	84%	1099.95	91%

Current year reservoir storage is shown below in Figure 13, and may be compared with last years storage accounting shown in Figure 14. Currently the sum of District and Authority accounts are below the April 2021 values.

Figure 13. Current Water Year, Sum of Storage Accounts (Helton and Williamsen, 2022).

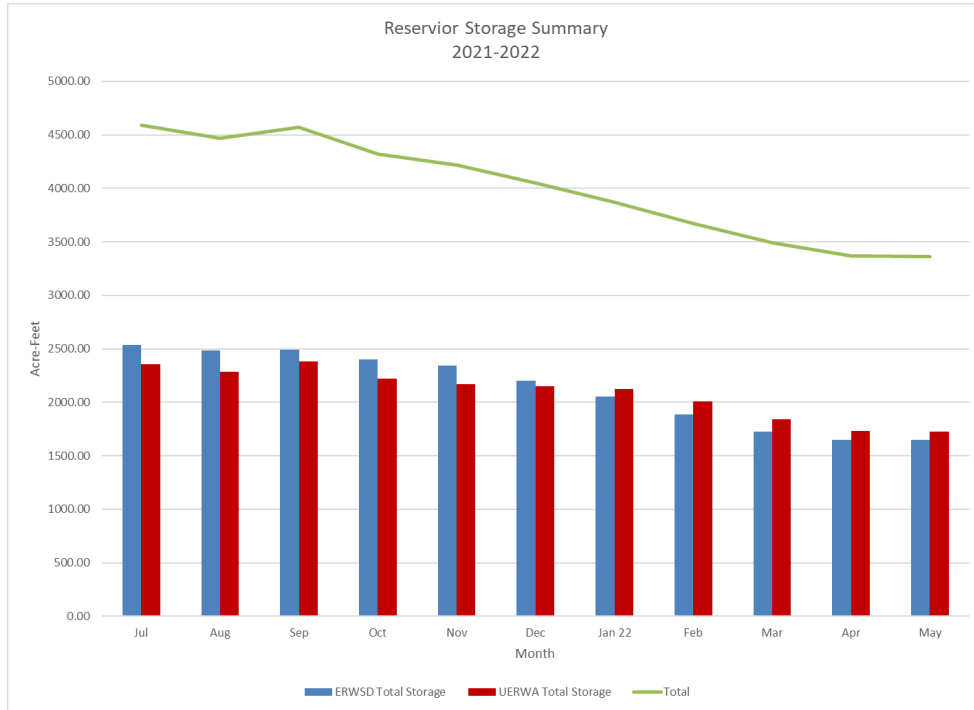
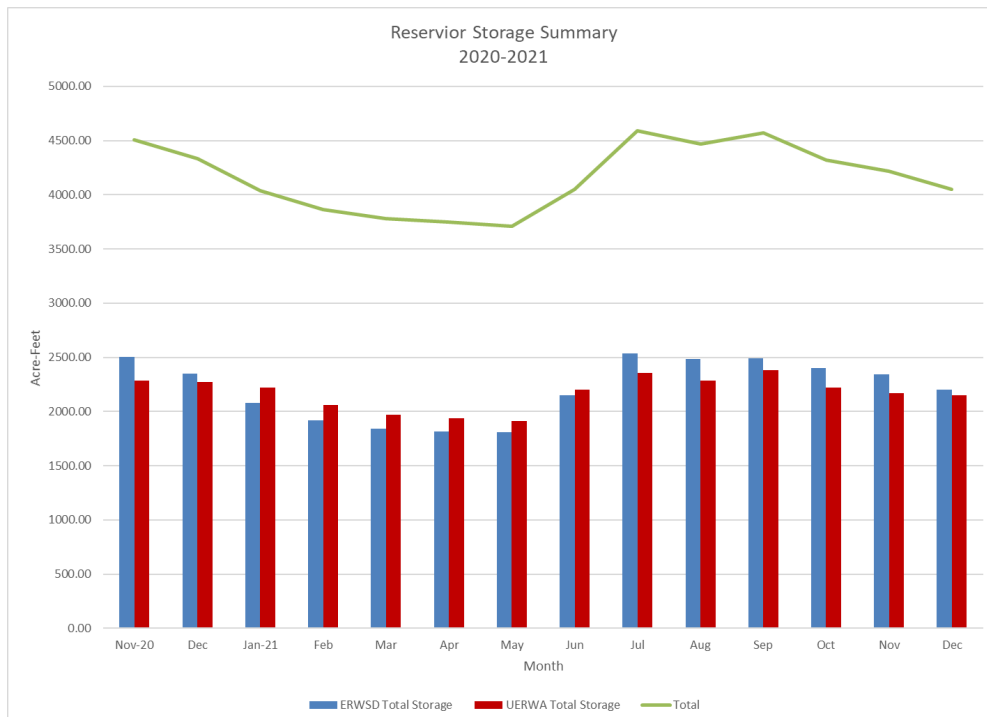
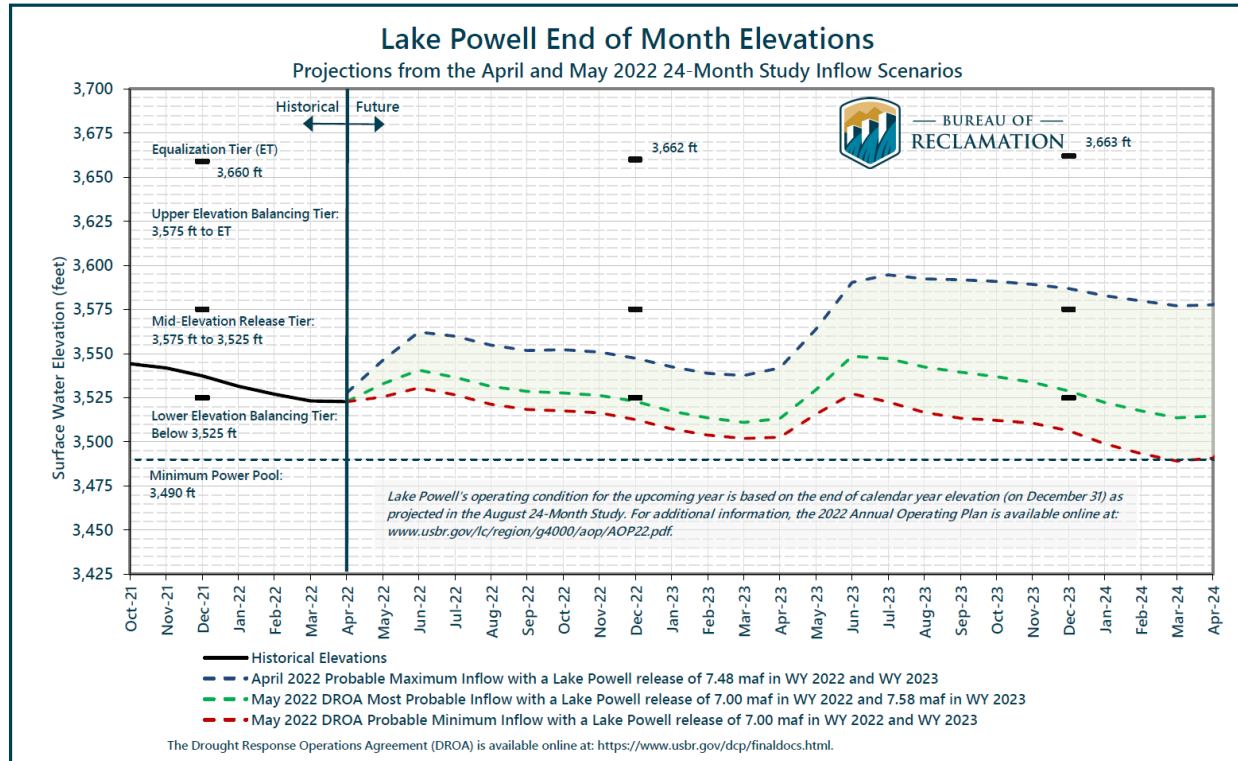


Figure 14. Previous Water Year (2020-2021), Sum of Storage Accounts (Helton and Williamsen, 2022).



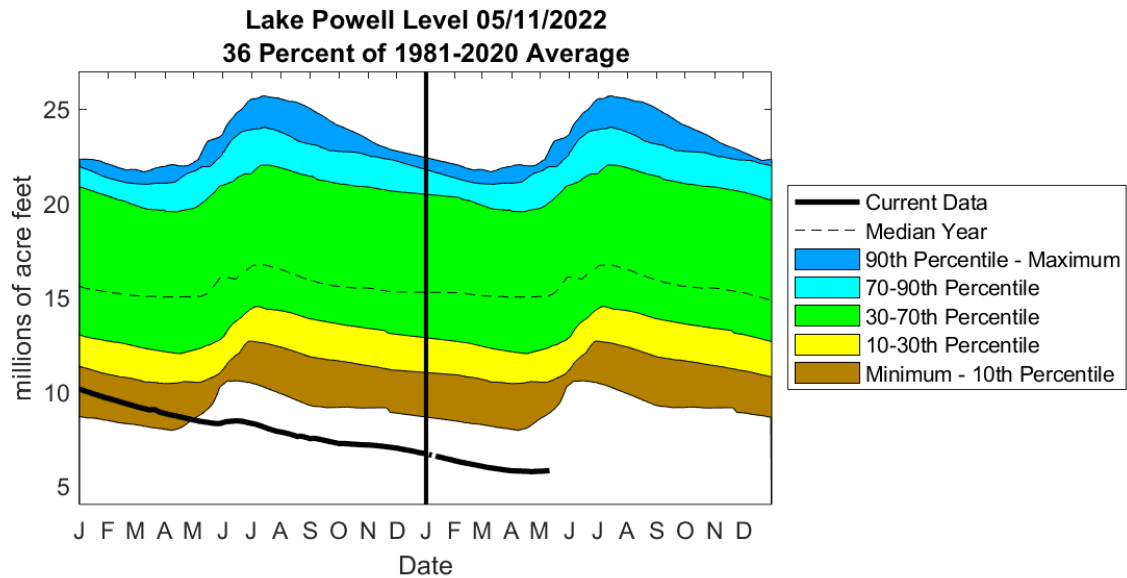
Current projections by the US Bureau of Reclamation for Lake Powell indicate water levels may drop to the power pool elevation over the next 24 months. The current modeled level projection is shown below in Figure 15. The green line represents the water elevation if average hydrologic, river and operations conditions persist over the next 24 months.

Figure 15. USBR Predicted Water Elevation (May 2022).



The unprecedented conditions currently seen in Lake Powell are clearly depicted in Figure 16, where current levels (Black Line) are at historic lows, below the lowest percentile band of previously recorded levels.

Figure 16. USBR Measured and Historic Water Elevation on Lake Powell (May 2022).



Current long-range forecasts from the National Weather Service show average conditions are expected for the next three months. Current maps are shown in Figures 17 and 18.

Figure 17. Three-month precipitation outlook (NOAA 2022).

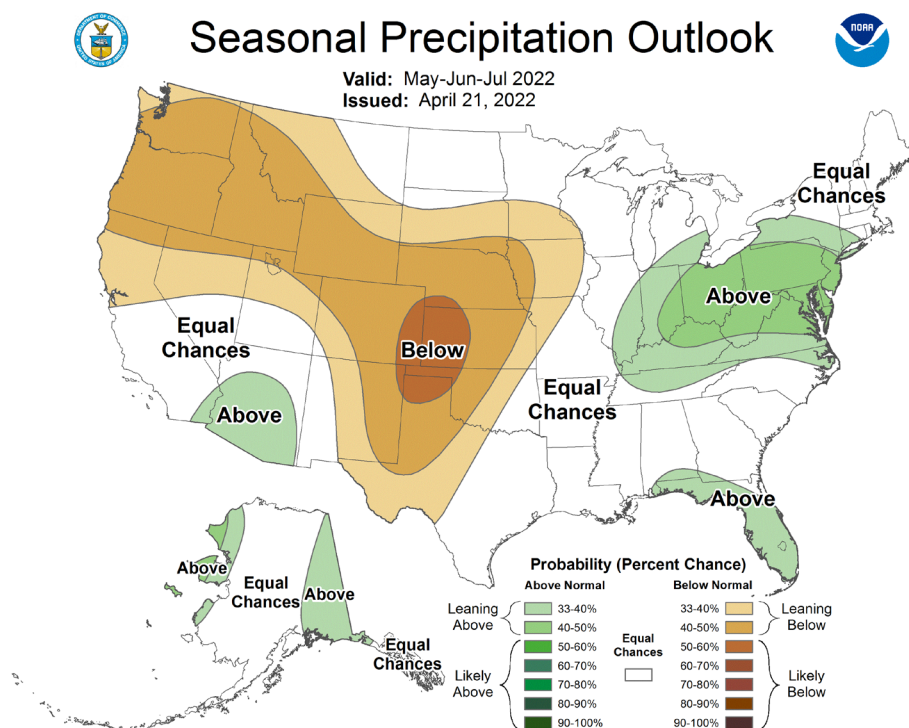
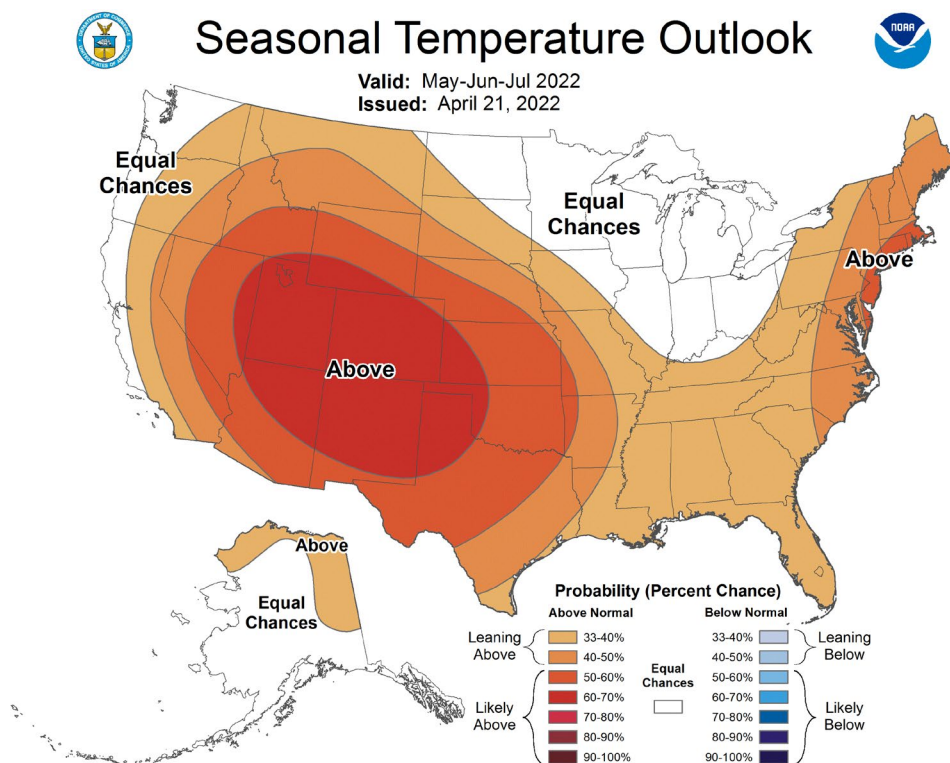


Figure 18. Three-month temperature outlook (NWS 2022).





MEMORANDUM

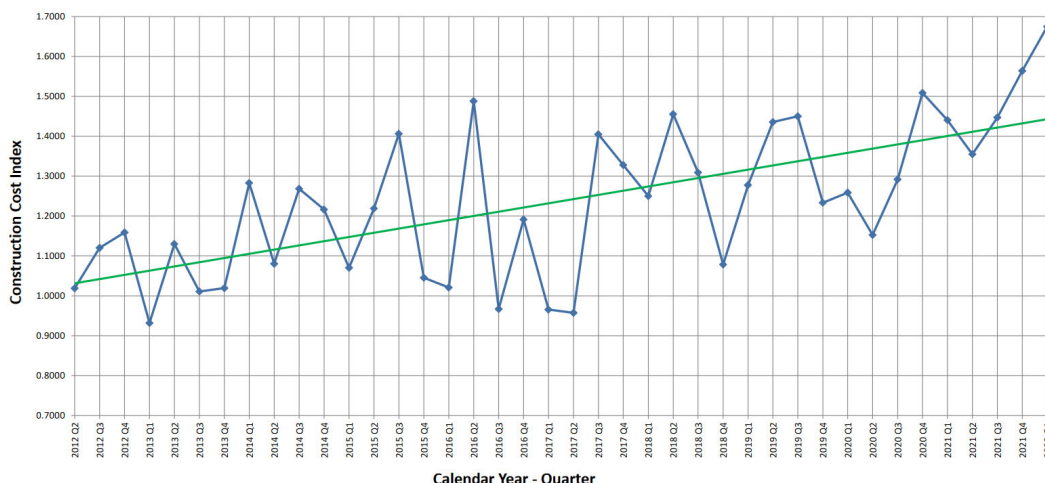
TO: Board of Directors
FROM: Jeffrey Schneider, P.E.
DATE: May 18, 2022
RE: Construction Cost and Market Update

Summary of Subject: This memorandum is to accompany a brief presentation on construction market conditions including cost escalation, material availability and lead times, and shortage of skilled labor. Those factors are exaggerated in our small and competitive Eagle County construction market. Industry trends show dramatically escalating prices with fewer bidders; those trends are continually felt in our Capital Improvements Program. Several projects' budgets and schedules were impacted by these issues.

Discussion and Background: Nationwide, we are experiencing dramatic labor shortages and cost escalation in all sectors. Well-publicized semiconductor shortages affected many industries and last year's PVC pipe shortage and plywood cost escalations were all over various news outlets. The situation seems to have worsened, with housing costs at record-breaking highs and costs of gas and diesel fuel soaring. Recently, stainless steel is seeing major supply issues and cost increases since Russia is a major supplier of nickel, a key alloy material. Unemployment in the construction industry is also setting records for being near all-time lows.

On a statewide-level, Colorado Department of Transportation (CDOT), Engineering News-Record, and Mortenson provide objective, index-style data indicating that the historic construction price escalations that began during the pandemic appear to be continuing. The 1st Quarter CDOT Construction Cost Index Report, Effective March 31, 2022, reports a 31.79% relative increase from last year. Its index, which began in 2012 with a reference point of 1.00, has risen to 1.6748. Figure 1 below shows the index since it began.

Figure 1: CDOT CCI Overall (source CDOT)



CDOT's data reflects the dramatic seasonal fluctuations in highway work, but the overall trend indicates dramatic cost increases. The index is comprised of unit pricing from CDOT projects for earthwork, concrete pavement, asphalt pavement, structural concrete, and reinforcing steel. While not 'apples to apples' with our typical projects, it nonetheless paints a similar picture for water utility work, and earthwork, structural concrete, and reinforcing steel are major components of our larger capital projects.

Another good resource for construction industry data is the Engineering News Record (ENR) Construction Cost Index. Figure 2 below is a snapshot of Builders Cost Index (BCI) and Construction Cost Index (CCI) beginning when things were 'normal' before the pandemic, although their data goes back to 1978.

Figure 2: Denver Market BCI and CCI since March 2020

YEAR	MONTH	BCI	%CHG	CCI	%CHG
2022	May	6269.45	+16.5	8589.63	+10.4
2022	April	6233.95	+17.2	8554.13	+10.8
2022	March	6191.70	+17.2	8511.88	+10.8
2022	February	6110.37	+16.2	8430.55	+10.1
2022	January	6021.13	+14.9	8418.76	+10.2
2021	December	5948.13	+14.3	8345.76	+9.8
2021	November	5871.97	+12.8	8269.59	+8.7
2021	October	5830.22	+12.4%	8227.84	+8.5%
2021	September	5781.97	+11.6	8179.59	+7.9
2021	August	5714.19	+1.09	8138.79	+7.4
2021	July	5546.00	+7.0	7943.60	+4.8
2021	June	5536.25	+7.0	7933.85	+4.8
2021	May	5379.40	+3.9	7777.00	+2.7
2021	April	5320.92	+2.8	7718.50	+1.9
2021	March	5284.83	+2.3	7682.40	+1.6
2021	Feb	5257.83	+2.0	7655.40	+1.4
2021	Jan	5239.12	+1.7	7636.68	+1.1
2020	Dec	5205.78	+1.3	7603.33	+0.9
2020	Nov	5207.06	1.2%	7604.60	0.8%

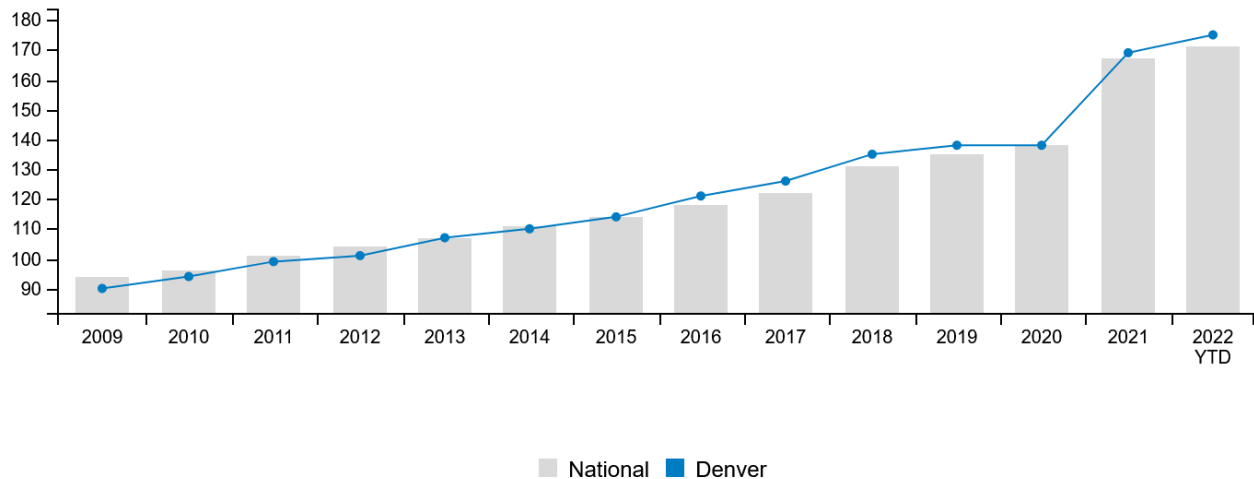
2020	Oct	5186.02	+1.3	7583.57	+0.5
2020	Sept	5182.52	+1.4	7580.07	+0.6
2020	Aug	5178.18	+1.3	7575.73	+0.6
2020	July	5182.68	+1.7	7580.23	+0.8
2020	June	5175.47	+1.1	7573.02	+0.4
2020	May	5177.50	+5.3	7575.05	+0.6
2020	April	5175.00	+5.7	7572.55	+0.8
2020	March	5166.00	+6.0	7563.54	+1.1

The indices use local prices for Portland cement and lumber and national prices for structural steel. BCI accounts for wages for specialty trades such as carpenters and bricklayers, and the CCI uses general laborers only. Extrapolating the 'mountain factor' from the Denver market, one could assume that Eagle County is experiencing higher costs than reflected in the Denver data.

Mortensen, one of the nation's largest general contractors, keeps their own cost data indices. Figure 3 below shows their construction cost index, using data beginning in 2009.

Figure 3: Mortensen Construction Cost Index

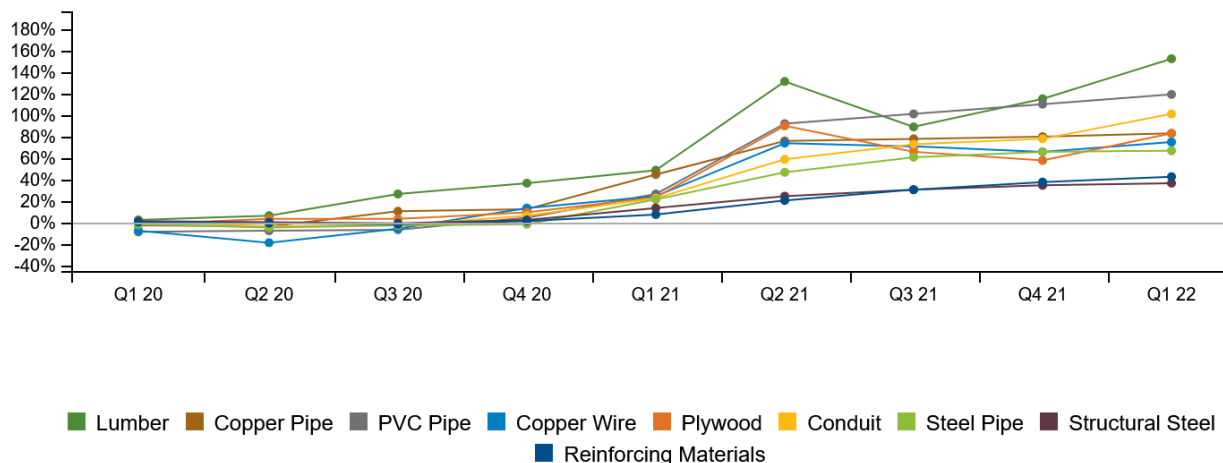
(JANUARY 2009 = 100)



Mortensen reports that more recently, the Denver market has experienced construction costs increases of over 20% in the last twelve months, compared with over 18% nationally. In addition to labor shortages, material cost escalations are a large contributor to the cost escalation. Figure 4 below shows the percent cost increase since 1st quarter 2020 for the Denver market.

Figure 4: Material Cost Increases (Source: Mortensen Construction)

(Cumulative Q1 2020 to Q1 2022)



These national and sometimes international pressures have an impact on our local community, and in particular, on our capital program. As stated many times to the Boards and indicated in the budget process, we are in the midst of an unprecedented investment in our water and wastewater system infrastructure. This investment is largely driven by regulatory compliance deadlines, climate-driven water resource challenges, emergency preparedness and resiliency, and proactive replacement of our aging infrastructure. Under 'normal' or 'pre-pandemic' economic conditions, this need for investment would have considerable impact on our ratepayers. With cost escalations, the impacts are increasing and the benefits, i.e. the projects we can implement are decreasing. In fact, there is concern that the recent federal infrastructure funding bills may not have the 'once in a lifetime' impact that it intended due to escalating construction costs.

In addition to cost escalations, we have had difficulties in generating multiple contractor bids despite increased outreach during the project advertisement phase. Many of our larger, more specialty projects such as treatment plant and general contractor work typically involve large Front Range general contractors. With our higher housing costs and lack of a local skilled workforce from which to draw, combined with an abundance of work on the Front Range, many contractors are deterred by potential risk and higher costs in our market in favor of projects closer to where they are based. Lately some of our schedule windows and milestones in our projects have not lined up with material lead times, and vendors who used to honor quotes for 90 days are honoring quotes for only a few hours.

Below is a list of some recent examples of how supply chain and bidding difficulties have affected ERWSD and UERWA capital projects, and perhaps more importantly, how we are navigating these challenging conditions to deliver projects to our operations teams and ratepayers.

Project Name: *Dowd Junction Collection System Improvements: West Vail Interceptor*

Impact(s): Supply chain disruptions in steel and ductile iron pipe (DIP) pushed the aerial crossing project schedule into 2022 from 2021. Cost escalation also affected the same materials.

Resolution: Extend project schedule, currently negotiating cost of second mobilization and resulting general condition costs.

Project Name: *Dowd Junction Collection System Improvements: Lift Station 4 and Force Main Replacement (including ECO Trail connection)*

Impact(s): No bids received on bid day despite extensive solicitation and excellent turnout at pre bid meeting. Project risk deterred many contractors because they had ‘easier’ work to pursue. Material and equipment cost escalation over long schedule duration also increased contractor risk.

Resolution: Reached out to two contractors who showed interest in bidding but withdrew. Were able to negotiate guaranteed maximum price proposals from two firms and are currently under contract with Gould Construction. Schedule pushed well into 2023 and some in-contract risk contingency for unknowns and cost escalation built-in.

Project Name: *Fenno Wellhouse*

Impact(s): Supply chain disruption (semiconductors) led to a 9-month delay in delivery of the main distribution panel electrical equipment. Contractor submitted a ‘force majeure’ notice.

Resolution: Schedule extension from November 2021 to May 2022. Cost impacts relatively minor and mostly attributable to schedule extension and additional engineering costs due to more startup activities.

Project Name: *Avon Drinking Water Facility (ADWF) PLC Upgrades*

Impact(s): Only one bid received for project at nearly three times the engineer’s estimate. Estimate was outside of acceptable ranges and did not reflect market conditions.

Resolution: Negotiated a lower price with different general contractor, pushed schedule to fall 2023 due to long lead times of key equipment and short seasonal windows.

Project Name: *East Fork Pump Station Electrical Improvements*

Impact(s): Two bids received but both were over 40% above budget.

Resolution: Renegotiated the project, modified specification requirements, implemented contractor value engineering ideas, and owner-purchased key equipment through direct vendor purchase order, thereby taking on risk. Project on track for July 6 mobilization, close to original schedule.

Many of these contractors we are seeking prefer alternative-delivery work since the risks are more known and quantified up front; this type of contracting draws more sophisticated and talented contractors that compete on their qualifications rather than a traditional ‘low bidder.’ Three of the projects listed above, Dowd Junction Collection System (both phases) and ADWF PLC upgrades, had unsuccessful bid phases, and despite aggressive bidder interest campaigns, we received zero and one bid, respectively. Also, all four projects listed above were designed and advertised as Design-Bid-Build delivery method projects.

Our path forward on these unsuccessfully bid projects was to leverage relationships with contractors and sit down at the table to discuss and allocate project risks such as schedule, seasonal milestones, and unknowns such as cost escalations and material lead times, similar to an alternative delivery approach.

This led to a productive effort and resulted in both projects being under contract. Unfortunately, this work occurred at the end of project bidding after a full design effort. Contractor involvement throughout the design would have identified risk, provided more cost saving ideas, and more accurate estimating. Fortunately, those projects are awarded in a Guaranteed Maximum Price (GMP) format, with in-budget contingencies and an open-book approach, greatly reducing the risk of budgetary increases and change orders.

Cost escalations due to global issues are certainly outside of our and our contractors' control. We can, however, gain more certainty of how these issues affect our projects by utilizing alternative delivery or Integrated Project Delivery, such as Design-Build or construction manager at risk (CMAR). Below is a list of how other projects have benefitted from alternative delivery:

Project Name: *Avon WWTF Nutrient Upgrades*

Major Benefit: By far largest capital project on record for ERWSD. Cost certainty throughout the project design phase led to certainty in revenue and bond forecasting. Project awarded at onset of pandemic, but was not subject to price increases due to contractor procurement. On track to finish under budget and on schedule.

Project Name: *Radio Telemetry Unit (RTU) Upgrades*

Major Benefit: Varying work at each site requires tight coordination and procurement windows. Multi-year implementation split into single year phases. Negotiated costs annually have come in under budget.

Project Name: *Vail WWTF Master Plan Improvements*

Major Benefit: Initiating early procurement of critical electrical equipment prior to final design of full project. Able to have good cost certainty in time for this year's budget cycle and next ERWSD bond.

In order to adapt to and navigate through these challenging times, we need to modify our approach. Those adaptations include utilization of alternative delivery methods on more projects, especially those that are bond funded. We are also stepping back and completing major master plan efforts in the collection and water treatment operational sectors. While these efforts will in no doubt result in a list of needed improvements, we believe it will properly prioritize the best value projects for our long term needs rather than reacting to 'squeaky wheels. We are also actively pursuing grant funding and other partnership opportunities to help ease the burden on our ratepayers. Our annual budget process used to rely on well-established unit pricing with modest annual cost escalation; a recent pipeline project in Avon was bid at \$1,100 per linear foot; nearly double what the 'ballpark' unit pricing contained in the 2020 Distribution System Master Plan would have suggested.


References/Suggested Reading

<https://www.agc.org/news/2022/05/06/construction-employment-stalls-industry-unemployment-rate-falls-45-percent-lowest-ever-april>

<https://www.circleofblue.org/2022/world/inflation-weighs-on-u-s-water-utilities/>



MEMORANDUM

TO: District and Authority Boards of Directors
FROM: Jason Cowles, P.E. 
DATE: May 20, 2022
RE: Director of Engineering & Water Resources Report

Authority Unallocated Water Update

The Authority's unallocated water is still currently projected at 227.31 acre feet. This includes 51.19 acre feet of unrestricted Eagle Park Reservoir water, which includes the 25 acre feet pledged to the Authority by the District. It also includes 78.13 acre feet of Eagle Park Reservoir water committed to workforce housing, and 97.98 historic irrigation season consumptive use credits.

We have two pending requests within the Town of Avon that we are evaluating water dedication requirements for. At this time, they are not yet reflected in the unallocated water projection. One involves the development of 52 housing units on Tract Y in the Mountain Star 3rd filing. The other involves the development of a 195-room extended stay hotel adjacent to the Sheraton Mountain Vista Resort that exceeds the Town's allocation of SFEs to the property. I'll have enough information on these to include preliminary projections next month.

Community Water Plan Update

Attached is a draft summary of the May 9 Community Water Plan stakeholder meeting facilitated by Peak Facilitation and Lotic Hydrologic. The stakeholders in attendance were tasked with developing causal chains for the water related values of importance identified by the community in the early phases of the water plan including drinking water, agricultural water use, recreation, and wildlife and biodiversity. Causal chains were developed by identifying desired outcomes for each of the values, driving factors that influenced those outcomes either positively or negatively, and potential intervention points to influence the driving factors to achieve the desired outcome. The causal chains will be documented by the facilitators and utilized in conjunction with analysis of the modeling results to develop objectives for the plan in future stakeholder meetings.

Lotic Hydrologic continues to analyze modeling results provided from the District and Authority's hydrologic model. Preliminary results of their analysis have been shared with the technical group and we are working through some reporting errors with Lotic. Once these are resolved, Lotic will re-run their analysis and present to the technical group and stakeholder groups to inform the development of objectives.

Wolcott Development

Last month, I reported that we had provided a preliminary letter outlining the process to obtain water and wastewater service from the District for a proposed PUD Sketch Plan submittal to Eagle County for development on the Chris Joufflas property on the valley floor in Wolcott. Since then, we have been contacted by two different developers performing due diligence on adjacent properties that are under contract. We have meetings scheduled this week with each of the parties to discuss their plans and the process for providing water and wastewater service if they move forward on the purchases. We will also be meeting with representatives of the Eagle County community development department to discuss the process for 1041 permitting. I will be prepared to discuss at the District's meeting next week.

Attachments

- Authority Surplus Augmentation Supply, Updated 2022-03-16
- Eagle River Community Water Plan Stakeholder Group May 9, 2022 Meeting Summary Draft

Authority Surplus Augmentation Supply

Updated: 3/16/2022 by JEC

	HCU's, acft	In-basin Reservoir Storage, acft	In-basin Reservoir Storage, acft	Out-of-basin Reservoir Storage, acft	Total HCU & In-Basin Storage, acft
	Summer only	Affordable Housing Reserve	Unrestricted		
Modeled Augmentation Surplus¹	105.70	87.40	127.30		320.40
Projects with Ability to Serve Letters					
Club Residences at CVC	0.04		1.04	0.03	1.08
Current Augmentation Surplus²	105.66	87.40	126.26		319.32
Augmentation Projections for Projects in Land Use Entitlement Process					
Edwards River Park PUD	5.52	9.27	53.54	1.89	68.32
Mountain Hive	1.27		13.56	0.39	14.83
NorthStar PUD Amendment	0.45		3.16	0.09	3.61
Warner Building Dormitories	0.02		0.02	0.01	0.04
Riverwalk PUD Guide Amendment	0.07		1.67	0.05	1.74
Brown PUD	0.35		3.12	0.09	3.47
Total Pending Augmentation	7.68	9.27	75.06	2.52	92.01
Projected Augmentation Surplus	97.98	78.13	51.19		227.31

Notes:

1) Modeled Augmentation Surplus based on June 25, 2020 unallocated model runs adjusted for Edwards River Park changes.

2) Current Augmentation Surplus Projection considers all projects with Ability to Serve Letters to be allocated.

3) Projects in Land Use Entitlement Process have Conditional Capacity to Serve Letters but have not yet received land use approvals or completed the Authority's water rights dedication process.

3) Affordable Housing Reserve In-basin Reservoir Storage is Eagle Park water transferred to UERWA by Eagle County and can only be used for affordable/workforce housing projects.

4) Unrestricted In-basin Reservoir Storage includes 25 acft pledged by ERWSD.

5) Out-of-basin Reservoir Storage supplies include 711 acft Wolford Mtn. Res. Contracts and 475 acft Green Mtn. Res. Contracts.

6) The Authority's existing commitment of 34.3 acft of augmentation for the West End PUD is included in the modeled augmentation surplus.

Eagle River Community Water Plan (ERCWP) Stakeholder Group
May 9, 2022, from 1:00 pm to 4:00 pm
500 Broadway St., Eagle, CO and Zoom
Meeting Summary - Draft

ATTENDANCE

In-person participants: Tyler Benton, Jason Cowles, James Dilzell, Bill Hoblitzell, Brendon Langenhuizen, Seth Mason, Maria Pastore, Scott Schlosser, Richard Van Gytenbeek, and Len Wright

Virtual participants: Kate Berg, Justin Hildreth, Jack Holmes, Ryan Maecker, Melissa Matthews, Maureen Mulcahy, Melanie Smith, and Lyle Whitney

Facilitation: Samuel Wallace and Izzy Sofio

ACTION ITEMS

Seth Mason	Review and refine the causal chains to revise the objectives of the ERCWP.
Samuel Wallace and Izzy Sofio	Create diagrams of the causal chains to distribute to the Stakeholder Group.

ERCWP OVERVIEW AND UPDATE

Seth Mason, Lotic Hydrological (Lotic), provided an overview of the ERCWP and the planning effort to center participants in the activity of the meeting. Below are key points from his overview

- The purpose of today's meeting is to build causal chains to refine the objectives of the ERCWP and eventually develop actions and strategies.
- The scope of the planning effort is the main stem of the Eagle River near Minturn to its confluence with the Colorado River, and the main stem of Gore Creek. The geographic scope does not include Homestake Creek.
- The goal of the ERCWP is to "consider past, present, and future human and ecosystem river health values to identify opportunities to correct historical degradation and prevent and mitigate against non-desirable future conditions."
- Throughout the planning effort, the ERCWP completed, or is still completing, the tasks explained below to think about how different activities and components relevant to the plan relate to one another.
 - First, the ERCWP engaged the broader community via meetings, workshops, surveys, outreach campaigns, and one-on-one interactions at local recreational centers. These efforts provided an understanding of the values that the broader community place on the river, informing the list of priority issues related to streams and rivers in the planning effort to focus on in the planning effort. The priority issues identified by the community included: 1) wildlife and biodiversity, 2) drinking water, 3) angling, 4) recreational boating, 5) outdoor amenities, 6) aesthetics and viewsapes, 7) agriculture, and 8) snowmaking.
 - Second, the ERCWP evaluated the existing conditions of streams and rivers in the planning area. The evaluation incorporated U.S. Geological Survey (USGS) research publications about aquatic life, water quality, and streamflow, Eagle River inventory and assessment, the Eagle River Watershed Plan, the Gore Creek Water Quality Improvement Plan, the Gore Creek Strategic Action Plan, and the Brush Creek Management Plan. The evaluation allows the ERCWP to characterize recreational use and environmental benefits/services in the planning area.

- Third, the ERCWP is conducting scenario testing (i.e., climate change, population growth, and new infrastructure). This is the work that Lotic and the Core/Tech Group have been working on over the last several months. The modeling scenarios, which the Stakeholder Group reviewed in their graphical format in December, are outcomes of this effort to inform the planning effort. This includes water use, hydrology, and the various demand scenarios.
- The ERCWP utilizes the current and future scenarios for streamflow and other variables, along with recreational and environmental preferences, to create an image of how components of the river that people value may change in the future. At the next meeting, Seth will provide modeling results of additional analyses to characterize water use by scenario for various recreational and environmental needs.
- Ultimately, the ERCWP intends to identify and evaluate alternatives and actions based on the modeling results and community values and perceptions to create a future for the Eagle River watershed that accounts for how changes will impact the goods and services the river provides and how to mitigate any negative impacts.

CAUSAL CHAIN EXERCISE

Participants worked in small groups to build out causal chains based on the issues identified by the community. Samuel Wallace, Peak Facilitation Group (Peak), provided an overview of the causal chain exercise. Below is the intent and a set of directions for the exercise.

Intent

- In this exercise, stakeholders will build causal chains for the different issues of concern identified by ERCWP stakeholders and the public.
- Lotic will develop a refined list of objectives for the ERCWP based on the causal chains and previous draft objectives.
- Stakeholders will use the causal chains refined by Lotic to identify actions or strategies that lead to desired outcomes at a future meeting.

Directions

- Meeting participants split into the following groups:
 - A virtual group focusing on “recreation,” which included angling, recreational boating, outdoor amenities, aesthetics and views, and snowmaking,
 - An in-person group focusing on wildlife and biodiversity,
 - And an in-person group focusing on drinking water and agricultural water supply.
- For this exercise, groups will build out causal chains using yellow stickies to indicate driving variables or influential factors, blue stickies to indicate target attributes or values, green stickies to indicate issues/intervention points (i.e., boost, decouple, and reduce), and red stickies to indicate desired outcomes.
- Stakeholders will dive deeper into the actions and strategies at a future meeting.

CASUAL CHAIN EXERCISE SMALL GROUP REPORT-OUTS

A representative from each small group provided report-outs on major takeaways or an overview of the causal chain process. Below are key points from the reports.

Drinking Water and Agriculture

- This small group worked with the following target attributes: 1) affordable water supply, 2) resilient municipal water supply, 3) sustainable, economically viable productive agriculture, and 4) open spaces/ watersheds.

- Many elements in the causal chain relate to degraded water quality and the increasing demand for municipal water supply.
- Water supply redundancy and source water redundancy are two mechanisms to address water quality threats. For example, the Eagle River Water and Sanitation District (ERWSD) utilizes a combination of ground and surface water in their system, which is beneficial because when surface water quality is poor, either after a wildfire or a spill event from transportation on I-70, ERWSD can shut down the surface water intake and turn on groundwater intake.
- Water quality can be negatively impacted by urban runoff, mine runoff, wildfire impacts, and more. Degraded water quality increases water treatment costs, creating a less affordable water supply.
- Water managers are aware of and actively discuss and plan for several of the driving variables.
- There needs to be enough agriculture to sustain the agricultural services economy. The cost of materials, impacts of inflation, pressures to sell their land, and impacts of drought on non-senior water rights holders threaten the agricultural economy and its benefits. One potential strategy to decrease the likelihood of that cycle is to maintain and protect agricultural exemptions.
- Agriculture contributes to open spaces and views as agriculture provides open land. River and transportation corridors also contribute to open space and views.
- Decoupling the relationship between population growth and demand for municipal water within the existing population was noted. Potential strategies to decouple that relationship include water conservation education/campaigns and land and water use planning.

Recreation

- This small group worked with the following target attributes: 1) local quality of life, 2) local tourism revenue generation, and 3) local job opportunities.
- Success in this category depends on the audience. For example, local skiers could define success by increased snowfall and more days of skiing. A tourist coming to ski could define success by simply skiing, no matter the snow.
- Throughout the Eagle River Valley (the Valley), there are different recreational opportunities connected to specific locations (e.g., there may be areas of the river more suitable for boating). This causal web aimed to simplify recreation rather than address each unique recreational detail.
- The small group added wildfire because of its ability to impair human health via decreased recreational opportunity and decreased air quality. Increased avalanche risk is another impact that affects recreation.
- The small group added hunting, as hunting is an economic driver and because wildlife relies on water. Both hunting and angling overlapped with the wildlife and biodiversity category.
- Equitable access to recreation for all communities was an identified desired outcome.
- There is infrastructure throughout the Valley for community and recreationally focused events. It is important this infrastructure is maintained to improve the local quality of life, local tourism revenue generation, and local job opportunities.
- In the context of this exercise, an increase in tourism is positive. Tourism can create an increase in access to funding and educational opportunities. However, there is a need to balance an increase in tourism so that it does not surpass visitation thresholds.
- The Valley is an inspiring location, attracting individuals who come to enjoy the landscape.

Wildlife and Biodiversity

- The following target attributes for this small group include, 1) native trout health, 2) sport fishery health, 3) riparian health, and 4) terrestrial wildlife.
- The main driving variables within this causal chain were water quality and water quantity.
- Climate change, due to its uncertain nature, is an identified challenge relating to wildlife and biodiversity. For example, although climate change will likely generate negative impacts, there are years when it may generate higher streamflows, increasing sediment scour and supporting trout health.
- Channel connectivity is a critical component of native trout and sport fishery trout habitat. It allows trout to move about freely, spawn in their desired locations, and create places where native trout are protected from competition. It is specifically important for Cutthroat trout to have without competition to protect their genetic integrity.
- Sport fisheries provide economic benefits. Creating a habitat where sport fishery fish can naturally maintain their population can positively impact the economic benefit of sport fisheries.
- One potential strategy to positively impact riparian health is to enhance riparian projects along the Eagle River and determine baseline metrics so that riparian health variables are consistently measured.

Clarifying Discussions

- Organizing the actions and strategies that come out of the causal chain relationships reach-by-reach will allow the ERCWP to capture the unique characteristics of the different locations within the ERCWP planning area and a more nuanced ability to mitigate potential negative outcomes.
- Identifying metrics for the outcomes in the causal chains will help the ERCWP evaluate and measure success.
- Modeling the impacts of the Homestake Reservoir to avoid floods that occurred in Germany, for example, is another important component to include in the ERCWP.
- Many fish die every year due to degraded fish infrastructure (i.e., ditches and fish entrainment). Improved fish infrastructure, which is in concert with channel network connectivity, is one possible strategy or action going forward to decrease the number of fish deaths.

NEXT STEPS

- Samuel and Izzy Sofio, Peak, will create online versions of the causal chains created by the in-person participants and distribute all three of the chain diagrams.
- Lotic will refine the casual chains and incorporate the concepts into refined objectives. Stakeholders will have the opportunity to provide comments on the refined objectives. Lotic plans to present the refined objectives with the modeling output results if the modeling output results are ready at that time.
- The Stakeholder Group will discuss actions and strategies to respond to the target attributes and relationships identified in today's exercise at the next Stakeholder meeting.



MEMORANDUM

TO: Boards of Directors
FROM: Diane Johnson, Communications & Public Affairs Manager
DATE: May 26, 2022
RE: Communications and Public Affairs Report

Eagle River Valley State of the River meeting

Eagle River Water & Sanitation District will again host the Eagle River valley version of the Colorado River Water Conservation District's "State of the River" meetings that occur annually throughout their 15-county service area. We worked with the River District in 2011 to create this forum in the Eagle River valley and have led its coordination since.

The meeting will be held at 5:30 p.m., Thursday, June 2, at Colorado Mountain College in Edwards. The format will follow previous ones, with information tables and food available at 5:30 p.m. to be followed by a variety of speakers from 6 to 8 p.m.

The Eagle River Valley State of the River meeting is FREE and open to the public, though space is limited. We strongly encourage people to register via [this form](#) on the River District's [website](#).

Supplemental info – electronic only

1. May 19 LA Times: [*With severe drought, an urgent call to rework the Colorado River's defining pact*](#)