

Interbasin Compact Committee

February 23, 2021 IBCC Meeting



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Colorado Water
Conservation Board

Department of Natural Resources

OPENING PROCEDURE

- Recording Check
- Call to Order
- Quorum Check
- Agenda Review
- Meeting Minutes Review



CWCB DIRECTOR WELCOME



Rebecca Mitchell

PEPO REPORT



Lisa Darling & Robert Sakata

IGNITE-STYLE PRESENTATIONS



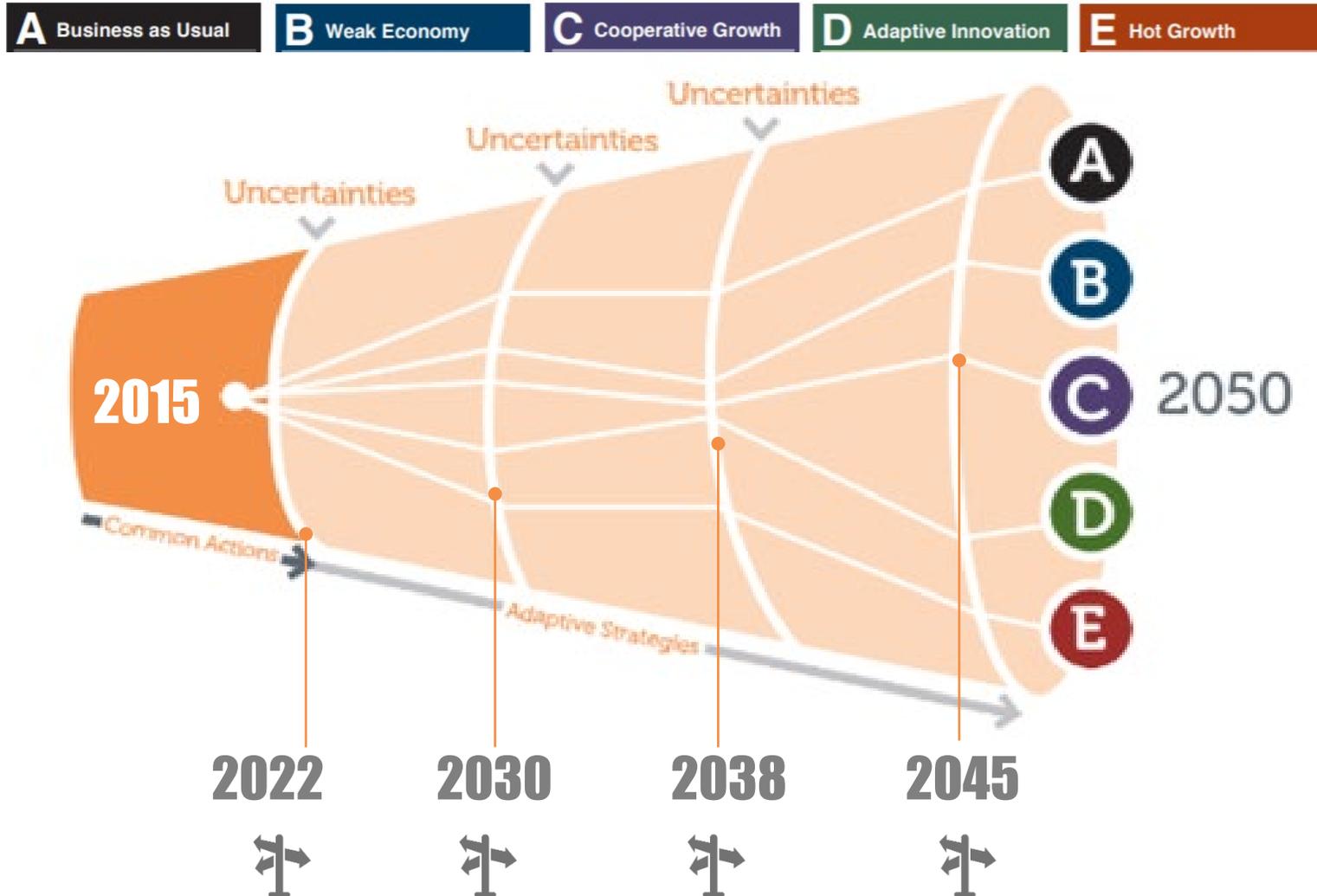
WATER PLAN UPDATE PLANNING

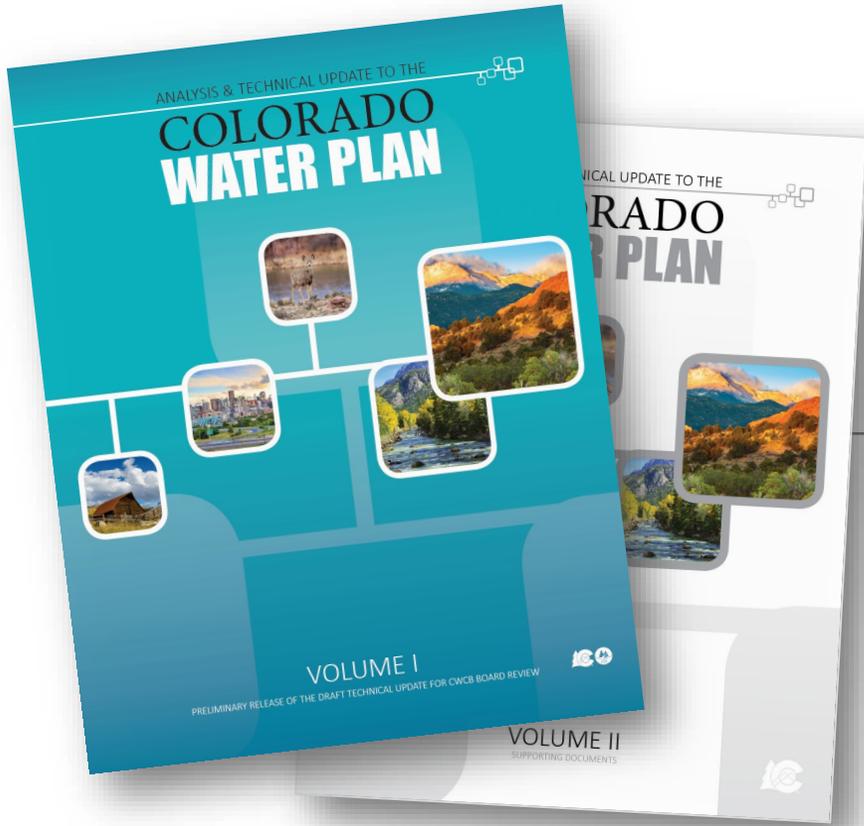
Russ Sands - CWCB



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SCENARIOS & UPDATE CYCLE





**BASIN
IMPLEMENTATION
PLAN UPDATES**

WATER PLAN UPDATE

2019

2021

2022

PHASES OF THE WATER PLAN UPDATE

SCOPING

DRAFTING

FINALIZING

PHASE 1

OCT 2020 - JUN 2021

PHASE 2

JUL 2021 - MAR 2022

PHASE 3

APR 2022 - DEC 2022

Learn more at engageCWCB.org



ATMs, AGRICULTURE & THE WATER PLAN

Alex Funk - CWCB



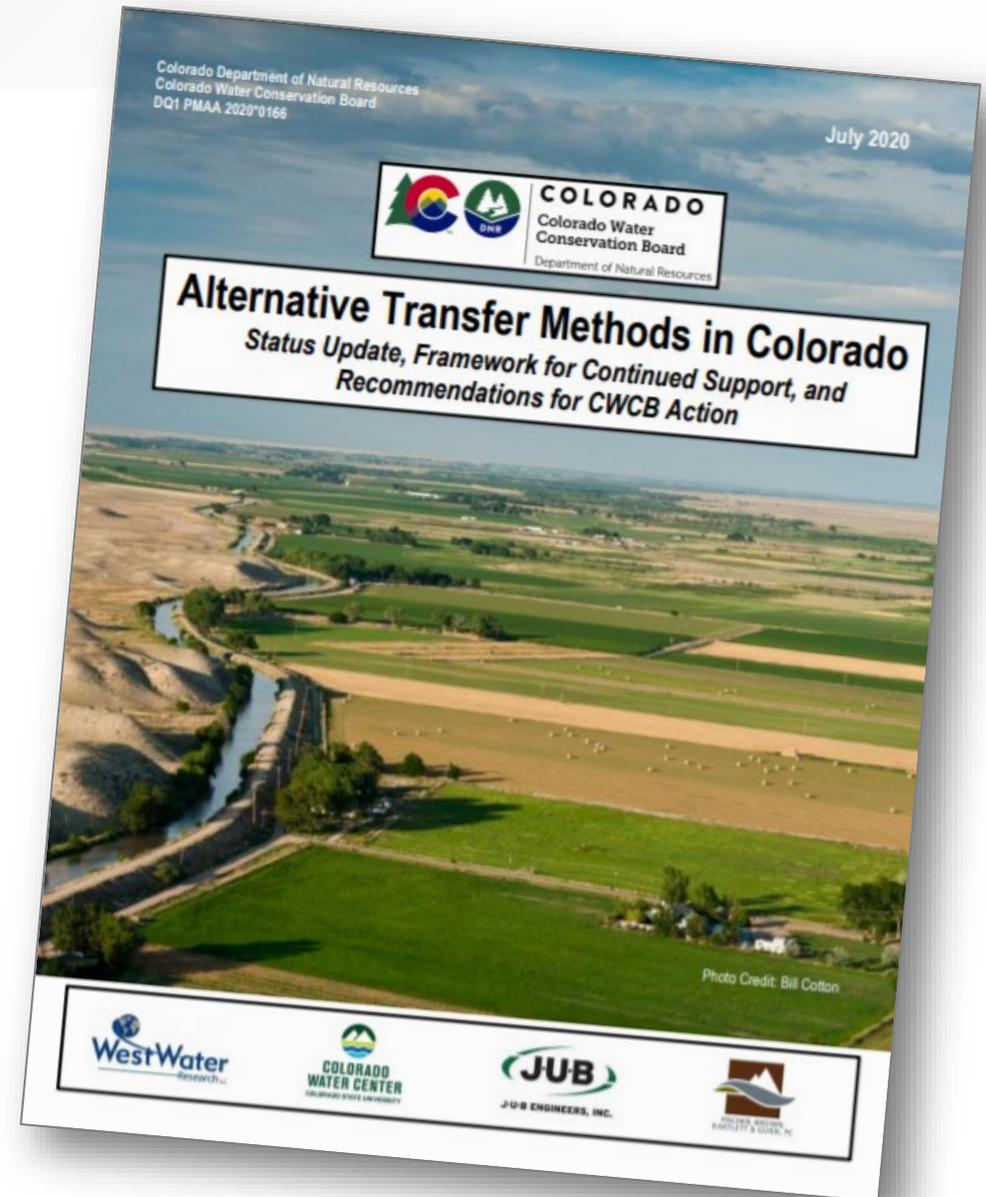
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ATM STATUS UPDATE

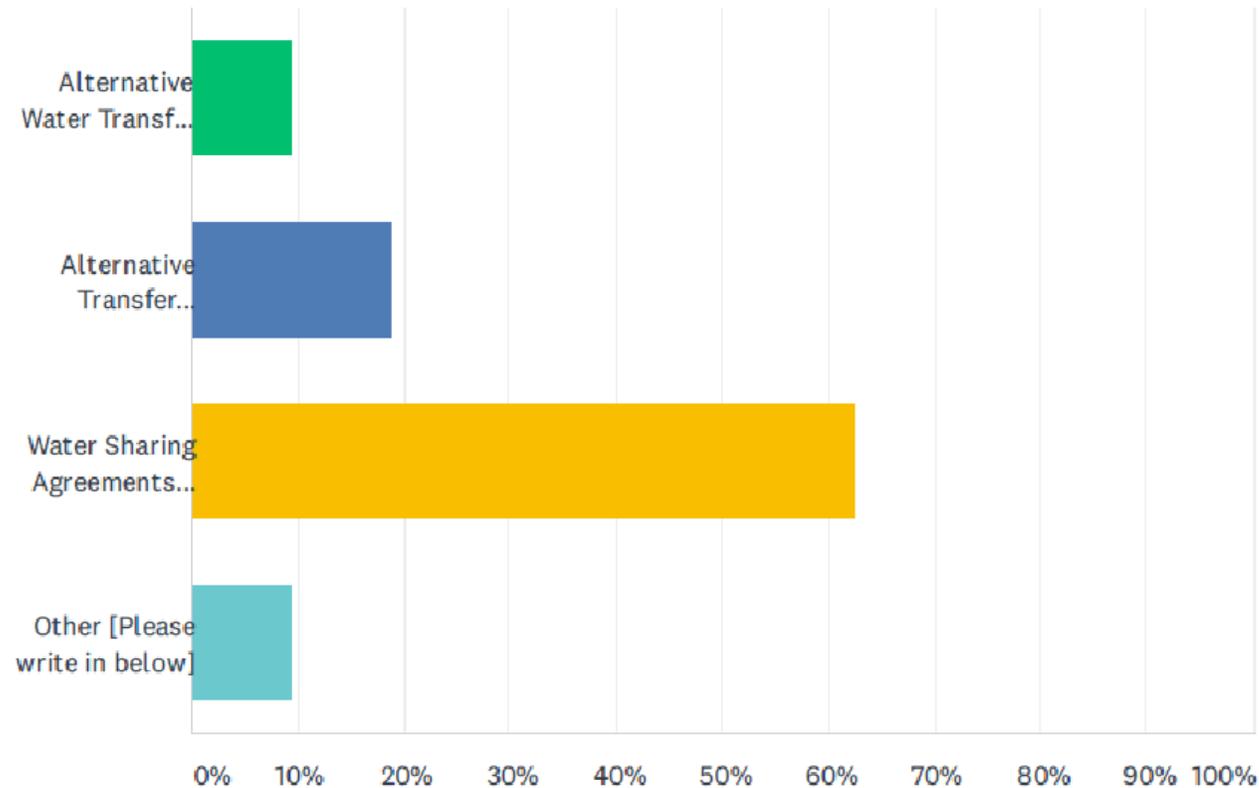
- Socio-economic impacts of buy-and-dry and permanent agricultural dry-up remains a challenge for rural communities
- Utilization of alternative transfer methods is becoming more diverse state wide
- Maintain state investment in alternatives to buy-and-dry, but expand beyond alternative transfer methods (e.g. water dedication policies, land use planning)
- Expand technical assistance and education resources to encourage ATM development; address structural barriers



WATERNOW ALLIANCE SURVEY

Q6 Which of the following terms do you prefer to describe Alternative Transfer Methods?

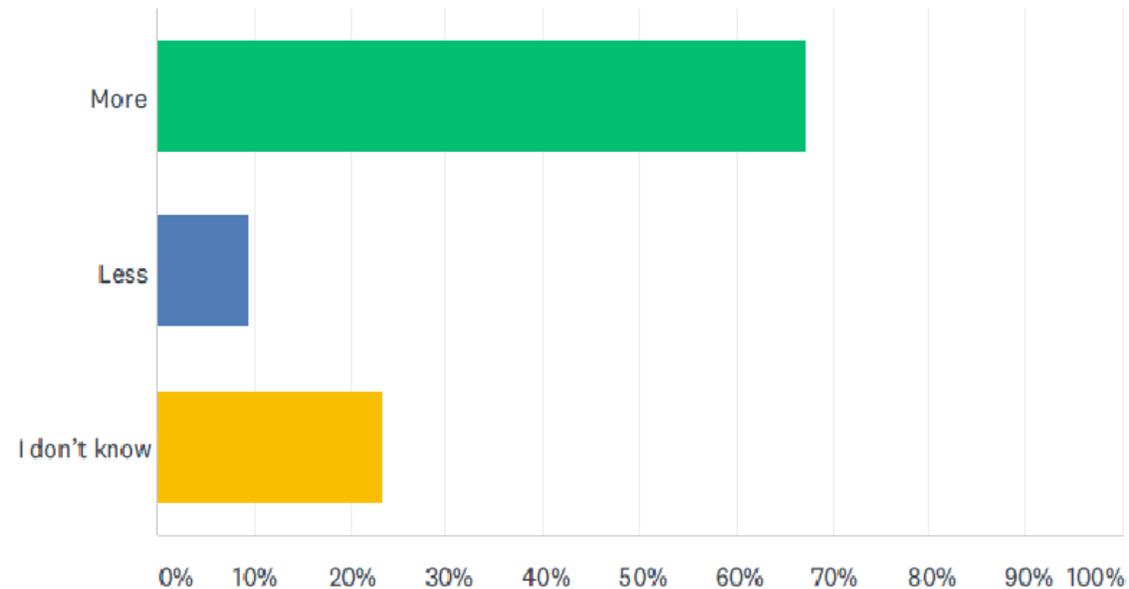
Answered: 64 Skipped: 0



WATERNOW ALLIANCE SURVEY

Q7 If CWCB were to move forward with new terminology describing alternative water-sharing activities, should that term encompass a broader suite of water-sharing/leasing activities beyond agricultural-to-urban transfers such as, but not limited to, municipal, industrial, and environmental water leasing programs that have not traditionally been supported under CWCB's ATM program?

Answered: 64 Skipped: 0



AGRICULTURAL SCOPING

- **Emerging issues and opportunities**
 - Economic viability and resiliency in face water supply challenges
 - Highlight public benefits and ecosystem services
 - Infrastructure enhancement (e.g. storage, funding)
- **Workshops, virtual engagement, surveys**
 - Workshop series on agricultural water management issues
 - March 3rd – Ogallala Aquifer
 - March 17th – Irrigation Infrastructure
 - Co-facilitation of these events and outreach efforts

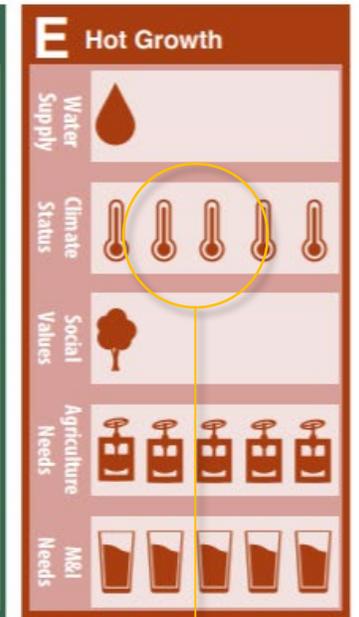
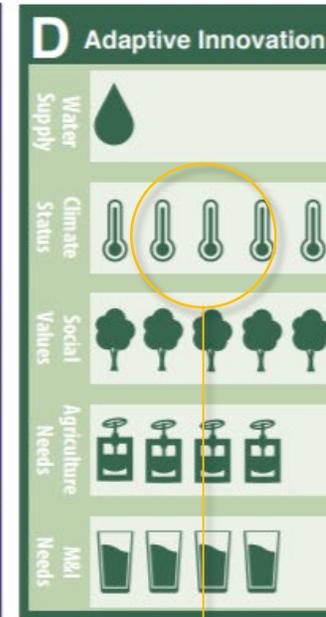
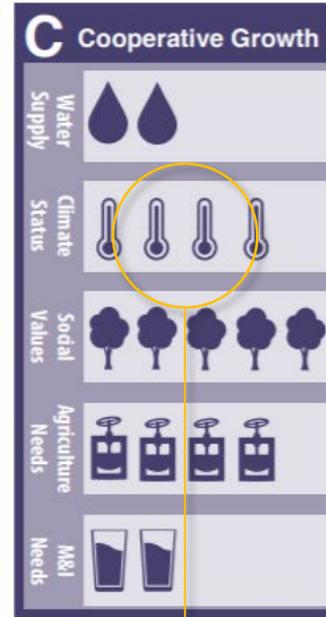
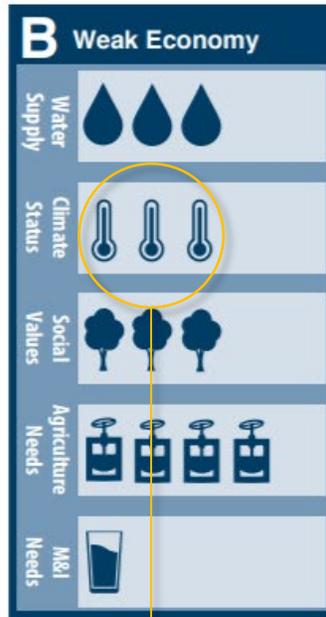
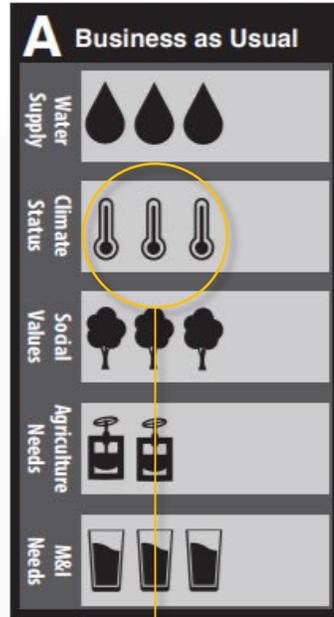
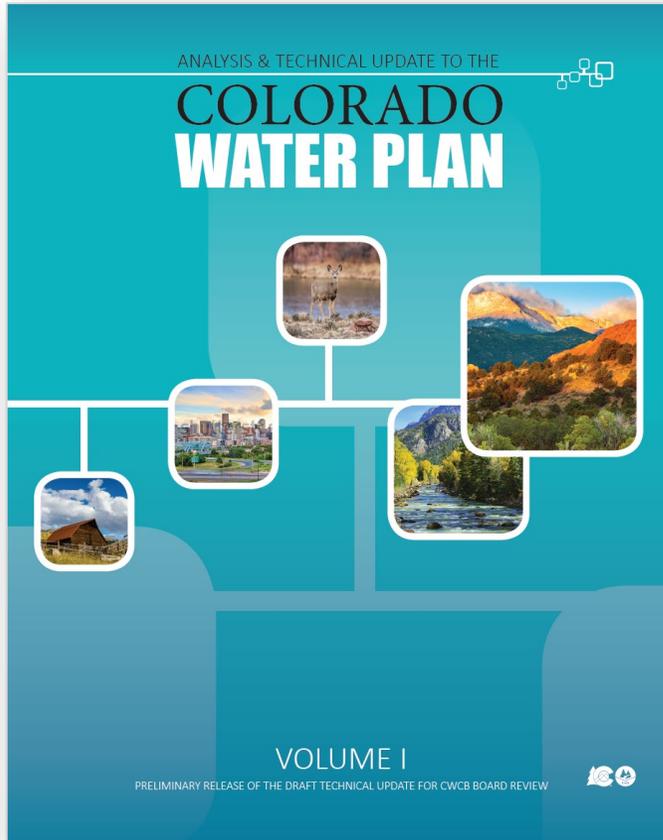
CLIMATE SCENARIOS & THE WATER PLAN

Megan Holcomb - CWCB



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CLIMATE SCENARIOS



NO CLIMATE CHANGE

MODERATE CLIMATE CHANGE

SIGNIFICANT CLIMATE CHANGE

NO CHANGE

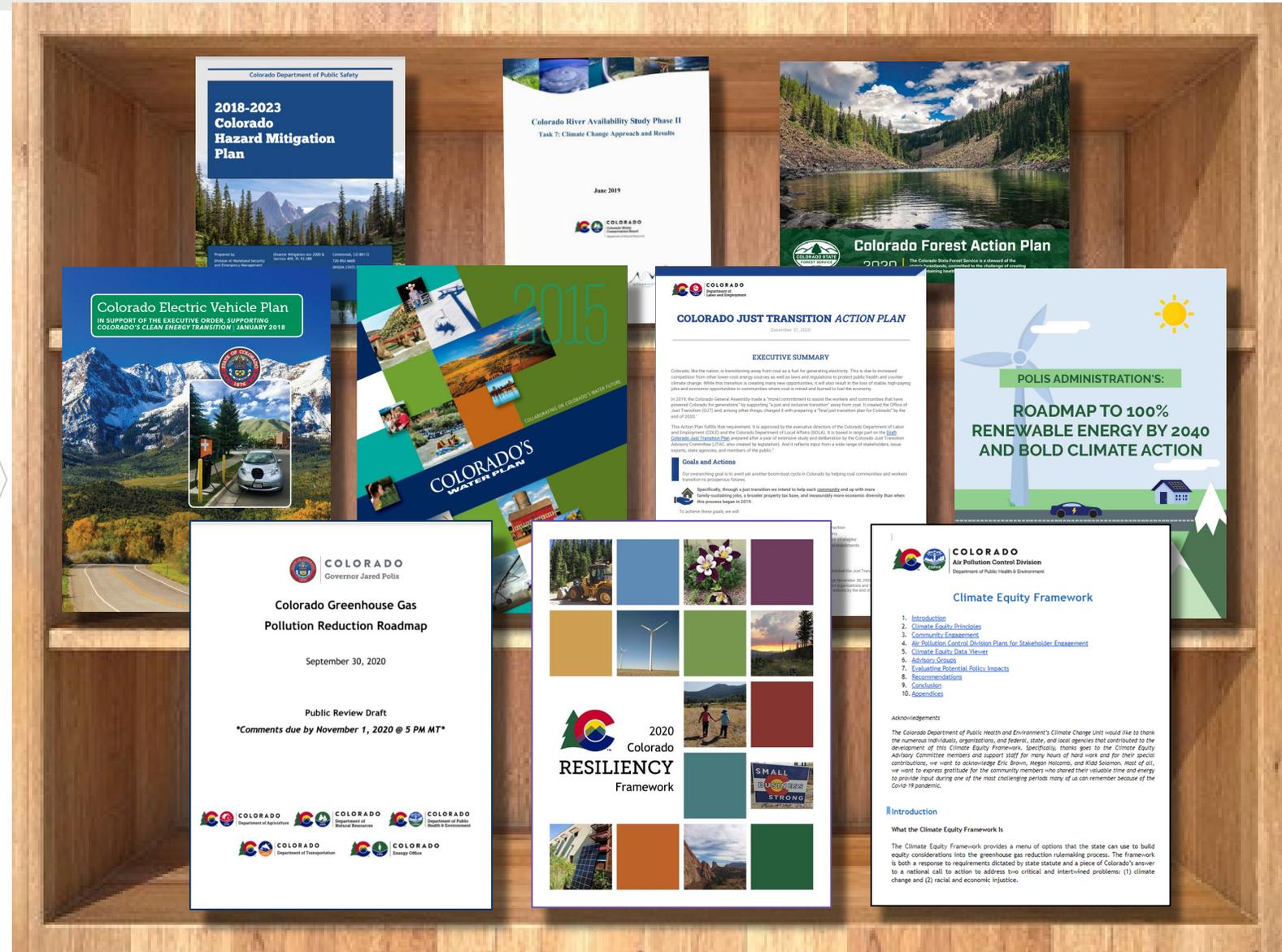
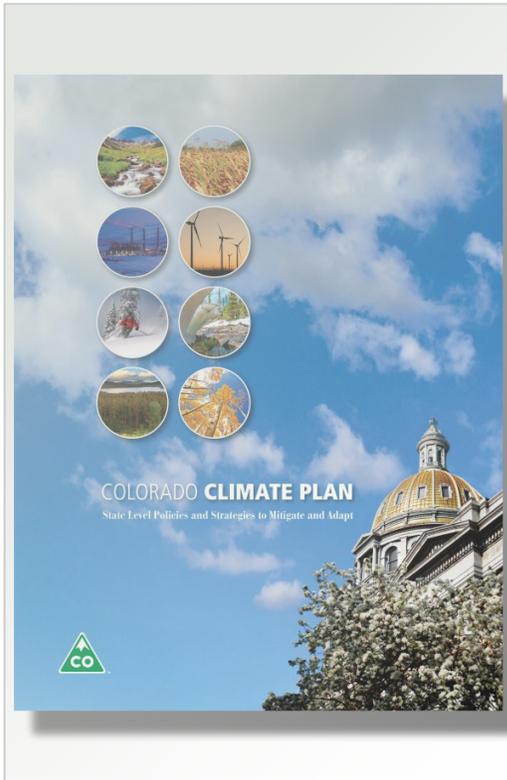
+ 3.8 °F

& 5% increase in precip.

+ 4.2 °F

& 1% decrease in precip.

STATE PLANS: Mitigation & Adaptation



STATE ADAPTATION TOOLS



ENTER: Future Avoided Cost Explorer (FACE: Hazards)

Project Overview Case Studies Study Methods FAQs



Colorado Water Conservation Board Colorado Hazard Mapping & Risk MAP Portal Search Portal

HOME FLOOD HAZARD LIBRARY MAP FAQs COMMUNITY RATING SYSTEM (CRS) CALENDAR LiDAR CO HAZARD MAPPING COLORADO RISK MAP

Welcome to the Colorado Hazard Mapping & Risk MAP Portal page. From this portal you can access various resources and websites using the links below.

Flood Hazard Library Map



WILDFIRE RISK PUBLIC VIEWER

Getting Started Reference Layers Explore Map Themes Identify Fire Intensity County Summary



Rebuild and Re-energize

Local Government Toolkit for a Resilient Clean Energy Future

November 9, 2020



Climate Equity Data Viewer BETA Version

Using data to prioritize community engagement efforts

CDPHE | February 10, 2021

DROUGHT

- [Collection of Drought Resources](https://cwcba.colorado.gov/drought)
(cwcba.colorado.gov/drought)
- [2021 Climate Outlook](#)
- [2020 Drought Stories](#)
(bit.ly/codroughtreport)
- [2020 Agricultural Drought Summary](#)



[The New Normal](#) [2020 Conditions In Review](#) [Virtual Drought Tour](#) [Resilience In Action](#)

The New Normal

What exactly does that mean? Ask a Colorado farmer and you are likely to hear a common word: **dry**.

Our agriculture communities bear the brunt of our drying landscapes. Deeply connected to ecosystem conditions and the lasting impacts of past droughts, Colorado producers are on the front lines of drought and a changing climate.

On the heels of an intense 2018 drought and in the midst of the COVID-19 pandemic, 2020's drought disaster hit agricultural producers hardest. And climate outlooks are clear: these conditions are expected to continue well into spring. Should hot and dry conditions persist into 2021, more economic sectors and urban regions will feel the arid squeeze of prolonged, multi-year drought.

2020 Conditions In Review

Water Year 2020 was the third driest water year on record, trailing only 2002 (1st) and 2018 (2nd). The 2020 drought demonstrated how dry years accumulate soil moisture deficits across the landscape. **With poor soil conditions, even historically average winter snowpack years may not translate into average spring runoff.** Major drivers of the severe drought in 2020 included absent monsoon seasons, accruing soil moisture deficits, record high temperatures, and near record evaporative vegetation demands (high winds and hot temperatures).

A running loop of the 2020 [U.S. Drought Monitor](#) below shows steady declines in conditions throughout the spring and summer, with Severe (D2) and Extreme

FOREST HEALTH STUDY & WATER PLAN

Matt Lindburg – Brown & Caldwell



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Objective

Create alignment with respect to water-focused forest health related activities that are happening in each basin and how they integrate into the BIP and Water Plan updates.

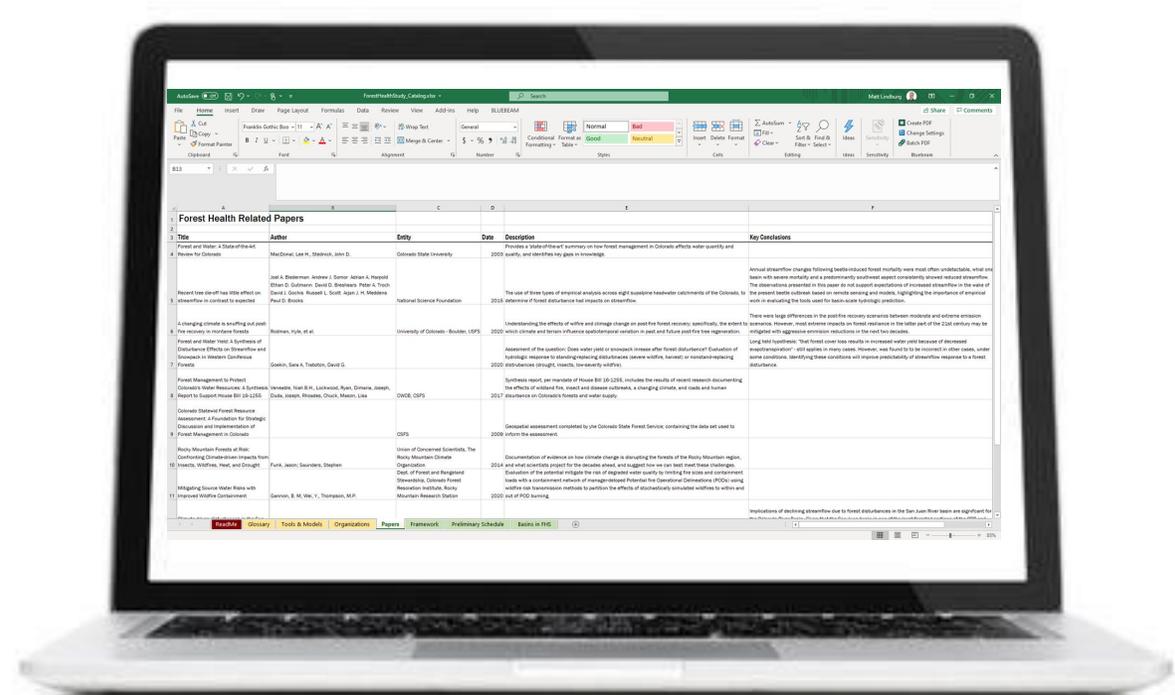
Process

- 1** Explore the State of the Science
 - Existing Working Groups
 - Challenges
 - Tools
- 2** Consolidate Information and Collaborate
- 3** Inform the Roundtables and Stakeholders
- 4** Develop Actions and Projects

Current Status

Collecting Information

- Glossary of Terms
- Forest Health Organizations
- Tools and Models
- Papers
 - Focusing on conclusions and outstanding issues

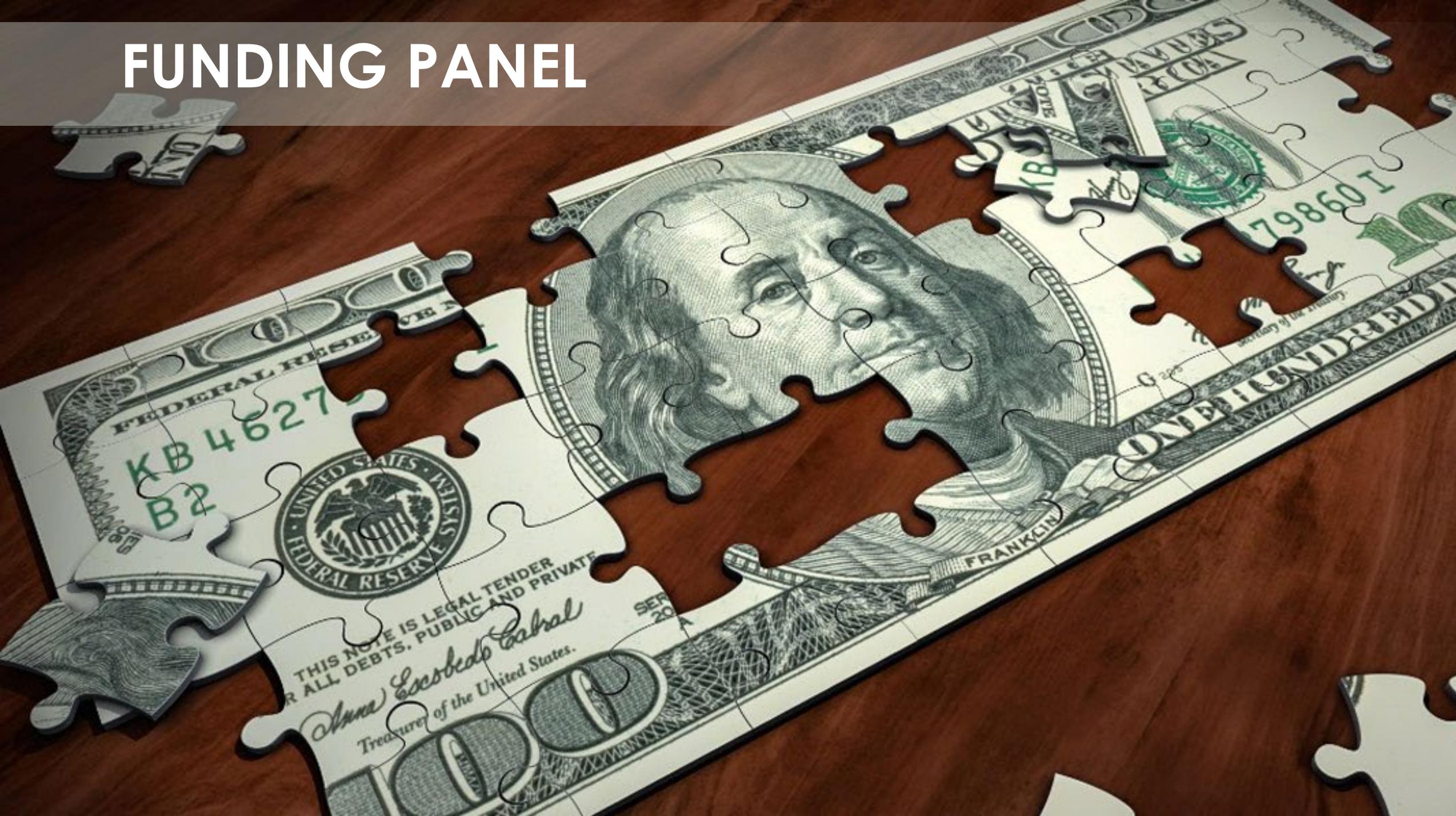


QUESTIONS?



QUESTIONS?

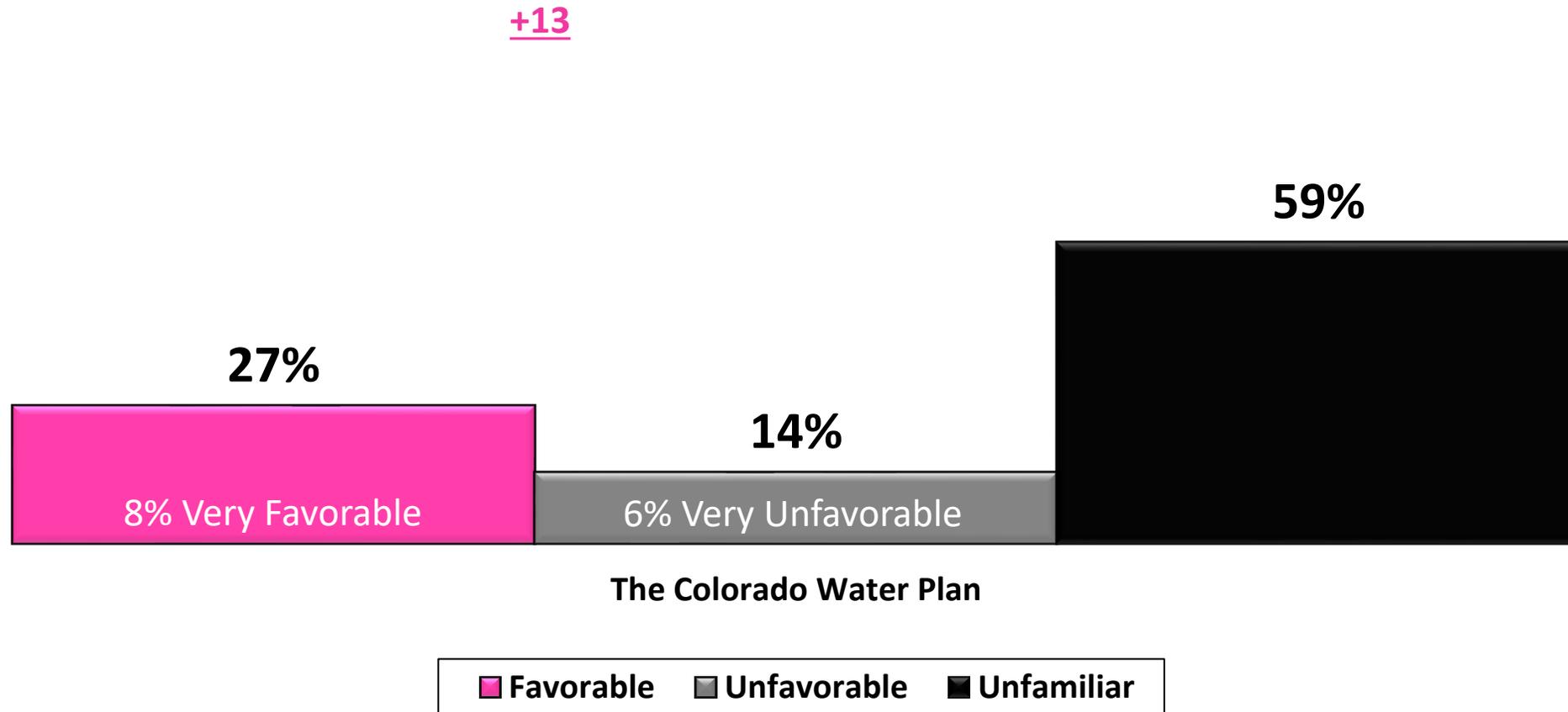
FUNDING PANEL





Colorado Voters' Views of Funding Water

Nearly three-in-five voters are unfamiliar with the Colorado Water Plan.



Now I'm going to read the names of some public figures. After I read each one, please tell me if you have a very favorable opinion, somewhat favorable, somewhat unfavorable, or very unfavorable opinion of that person?

Voters would like **MORE** money put into conserving and protecting Colorado's water resources.

Colorado should put more money
into conserving and protecting our water

55%

Colorado is putting enough money
into conserving and protecting our water

23%

Don't know enough to say one way or
the other

20%

Which one of the following best describes how you feel about the amount of money that Colorado is putting towards conserving and protecting our water resources?

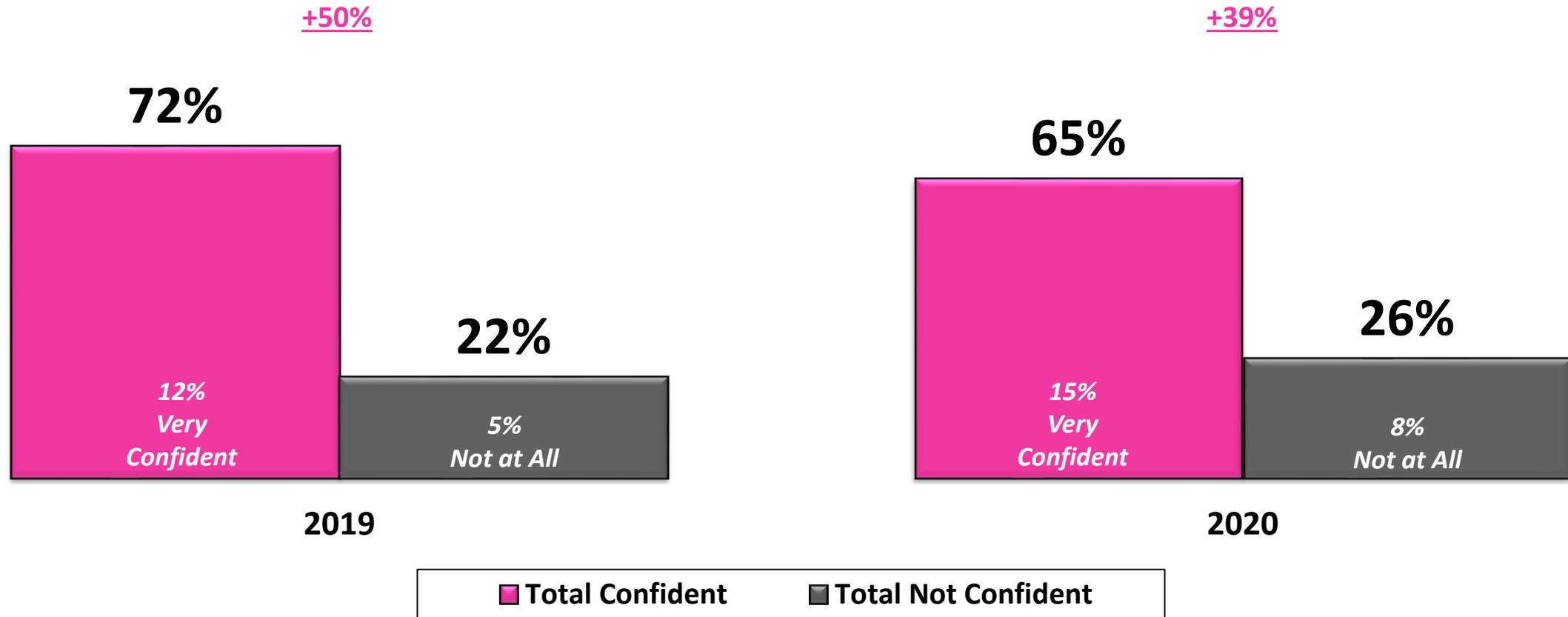
Reasons respondents said we need more funding for water:

- We're giving away our water to other states 18%
- Water is important 15%
- Population growth 15%
- Water is scarce / need to conserve it 12%
- Need to have clean, healthy and safe water 11%
- We live in a dry state / droughts 11%
- Climate change will affect water 8%

Reasons respondents said we are putting enough money into water:

- We have a lot of water / everything seems fine 25%
- Current technology/conservation projects/infrastructure 14%
- They're wasting the money we have for water 12%
- Already have enough money/we're taxed enough for it 8%
- Other states are taking our water/giving away water 7%
- Proposition DD just won 5%

Who is asking for the funding matters. Confidence in the Colorado River District to handle taxpayer money wisely was consistently solid.



How confident would you say you are that the locally based board of Colorado River District handles taxpayer money wisely? Would you say you are...

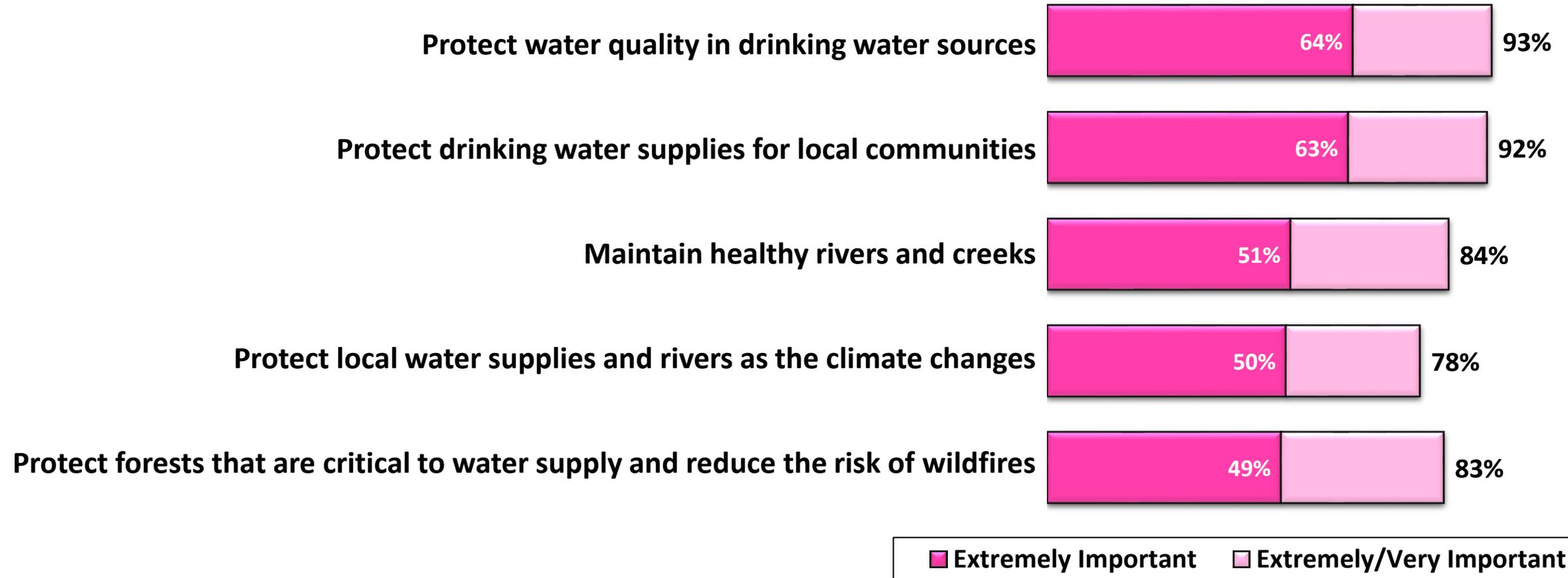
What you fund and how you say it that aligns with residents' priorities is very important. For example, in Western Colorado keeping water and ag were highest.

Funding Ranked by Extremely/Very Important

	Extremely/ Very Important	Extremely Important
Protecting drinking water supplies for Western Colorado Communities	92%	61%
Fighting to keep water on the West Slope	89%	55%
Protecting water supplies for West Slope farmers and ranchers in order to sustain local food production	88%	50%
Ensuring water security for current and future water users on the West Slope	87%	50%
Protecting West Slope water supplies in times of increasing unpredictability and rising temperatures	82%	51%
Maintaining river levels and water quality for fish and wildlife on the West Slope	82%	49%
Assisting farmers and ranchers modernize irrigation systems on the West Slope	76%	38%
Ensuring adequate water to support recreation and the businesses who rely on rafters, fishermen, and outdoor recreation enthusiasts	65%	31%

I am going to read a list of projects that could continue to be funded if voters approve this proposal. Please indicate for each one how important it is to you personally that each project be funded: Is it extremely important, very important, somewhat important, or not important to you that funding is dedicated to that purpose?

In St. Vrain/LH Creek district, protecting drinking water quality/supplies and forest health resonated (even before fires), while farms were not top tier.



The following is a list of projects that could continue to be funded if voters approve this proposal. Please indicate for each one how important it is to you personally that each project be funded: Is it extremely important, very important, somewhat important, or not important to you that funding is dedicated to that purpose?

Top messages for a statewide funding proposal are growth, future generations, drought and fire.

Statements in **Support** of the Ballot Questions
Ranked by % Very Convincing

Very
Convincing

Population Growth: Colorado's population will continue to grow, but our water supply will not. At current usage rates, Colorado's water supply will not keep up with Colorado's population into the future. We must take action now - to conserve and protect our water to ensure that there is enough for everyone. ^^ **50%**

Leave Water For Children: Water is critical to the life of our state. We owe it to future generations to fix our water problems and restore our rivers to healthy levels before they get even worse. We should leave our children and grandchildren with enough water to meet their needs. ^ **44%**

Plan For The Next Drought: In the last drought, streams hit all-time lows, and future droughts will be even worse. We need a plan in place to protect our rivers, wildlife, and our drinking water supplies before the next drought hits. ^^ **43%**

Protect Forests and Communities From Wildfires: By better managing forests, we can reduce the threat and intensity of future wildfires – while protecting Colorado's forests and communities from the destruction and death caused by catastrophic wildfires. ^^ **40%**

Now I'd like to read you some statements that some people have made about why they would SUPPORT the ballot questions we've been discussing. After I read each statement, please tell me how convincing it is as a reason to SUPPORT the measure – very convincing, somewhat convincing, not very convincing, or not at all convincing.

^Split Sample E, N=301

^^Split Sample F, N=299

Distrust of government and lack of urgency are compelling against a statewide tax.

Statements **OPPOSED** to the Ballot Questions
Ranked by % Great Deal

Great Deal

Blank Check Spending: Because this ballot question is a statutory law, the Colorado state legislature can use the money from a more than \$100 / \$200 million dollar tax increase in any way they want. It will end up being used to fund a jumble of government programs that haven't even been defined yet, sweetheart projects for politician's special interest groups, instead of what the voters intended it to be used for. That's more than \$100 / \$200 million dollars in blank check government spending. ^

39%

Wait and See: Proposition DD, which was just passed by a slim majority of voters, does not have any real requirements as to how the money should be spent or on what water projects it should fund. Let's wait and see how well the state does in spending the water money we just gave them before we give them any more money.

35%

Now I'd like to read you some statements that some people have made about why they would OPPOSE the ballot questions we've been discussing. After I read each statement, please tell me how much it concerns you – a great deal, quite a bit, just somewhat or not at all.

^ Half of respondents heard "\$100 million", the other half heard "\$200 million"



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BREAK



Demand Management Feasibility Investigation Update

Amy Ostdiek

Deputy Section Chief

Federal, Interstate, and Water Information Section



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Step II Work Plan

Purpose, Need, and Background

- 2018 Support and Policy Statement
- 2019 Work Plan

Overarching Goals

- Achievability
- Worthwhile for Colorado
- Advisability

Engagement and Process

- Public engagement
- Board updates
- Tribal Nations
- IBCC

Tasks

- Framework
- Existing body of work and new opportunities



Step II Work Plan

Framework

- Initial draft of framework concepts in early 2021
- Board discussion

YOU ARE
HERE

- Iterative review process with IBCC, Tribal Nations, NGOs, Stakeholders, Water Users, others
- Revise framework accordingly
- Identify what may work, what may not work

Identification of existing information and new opportunities

- CWCB staff collaboration
- Discussion with other groups

- Incorporate relevant information into framework
- Identify outstanding questions
- Collaboratively consider opportunities and how to implement with existing programs and funds

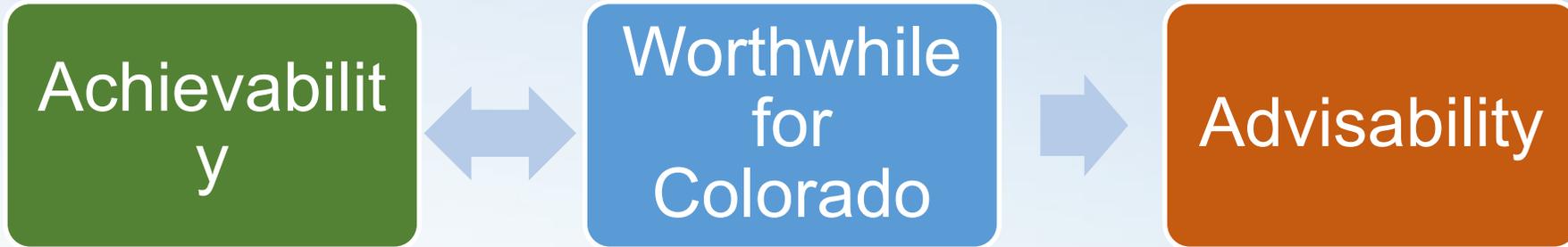


Guiding Principles

- Demand Management **not a foregone conclusion**
- Framework is **not** a Demand Management program, but rather a starting point for discussion
- Commitment to exploring the issues in a **collaborative and open process**
- Ongoing engagement with **Tribal Nations**
- If a program is established, it will be run by the state for the **benefit of the whole state and its water users**



Framing the Feasibility Analysis



Can we create a Demand Management program pursuant to the terms of the Demand Management Storage Agreement that works on the ground?

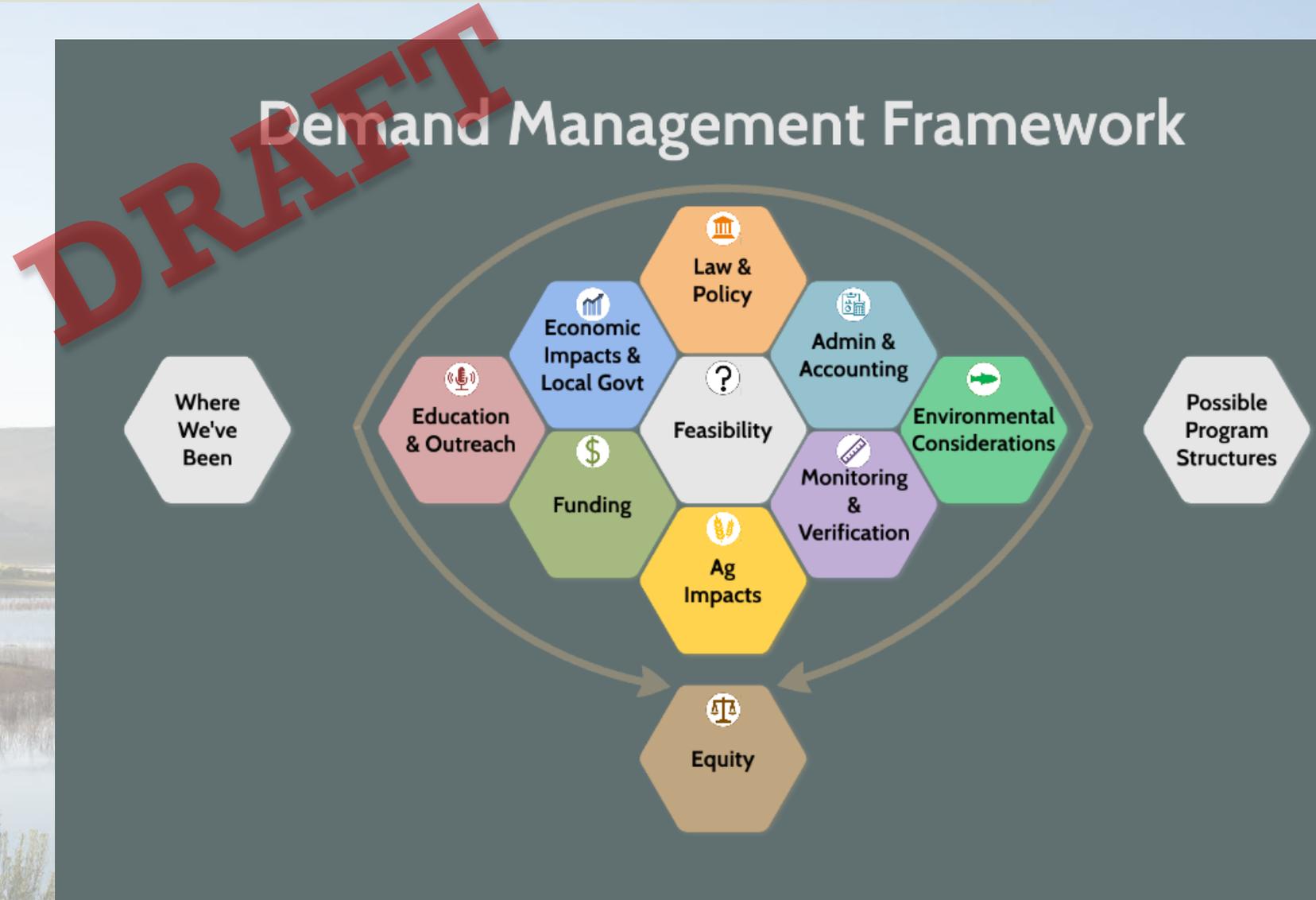
Can we design an equitable program that creates a net benefit for Colorado and avoids or mitigates adverse impacts?

Is Demand Management the right tool to protect Colorado's water users considering broader strategy and other priorities?



Task: Develop Framework

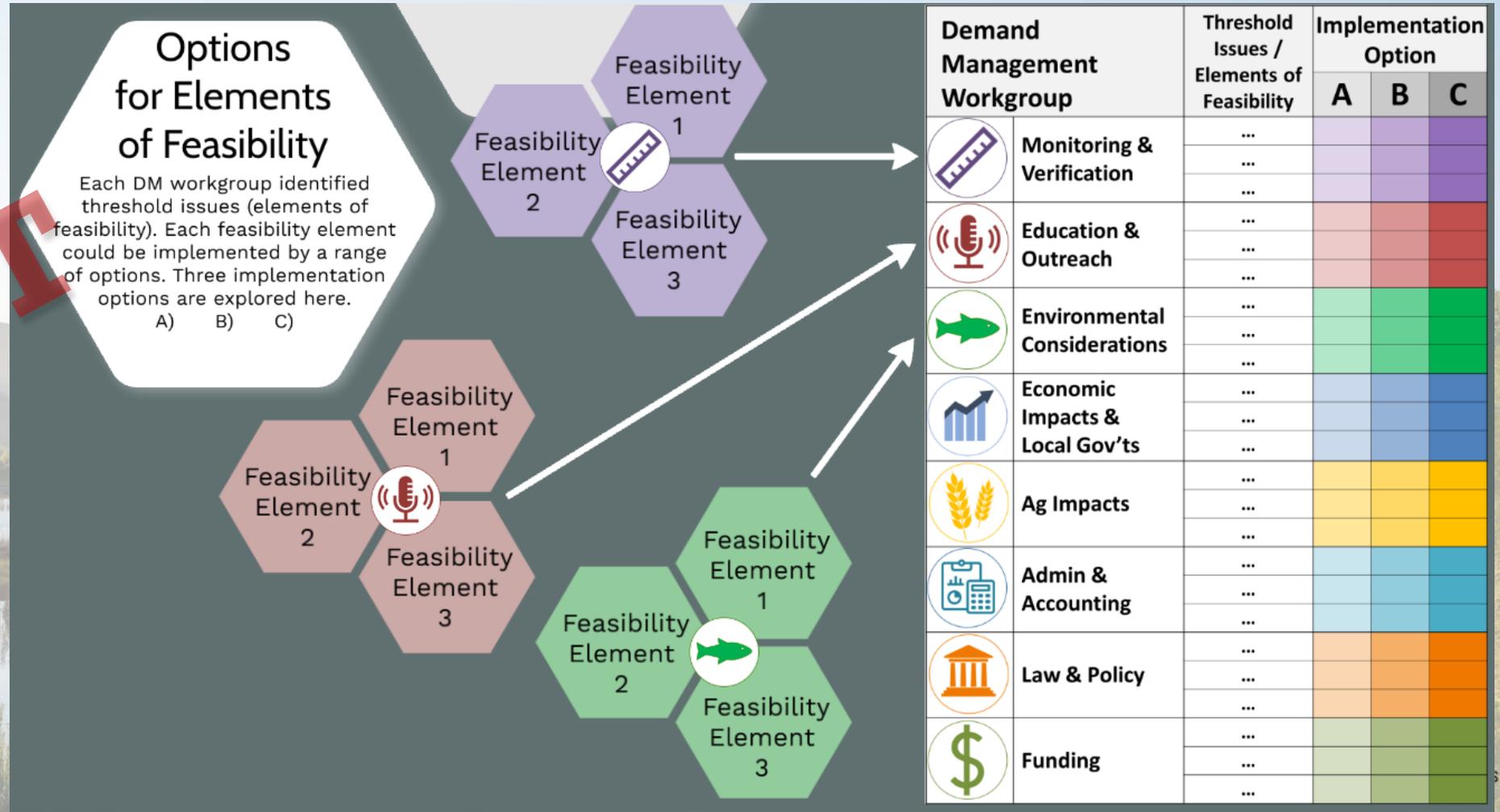
Goal: Show potential Demand Management program designs and initiate iterative discussions across the state about what may work, what may not work, and ultimately whether Demand Management is achievable and worthwhile.



Task: Develop Framework

Workgroup input → *Key threshold issues* → *Implementation options*

DRAFT



Example: Education & Outreach

DRAFT

Education & Outreach



The Education and Outreach (E&O) workgroup identified many challenges in helping the State explore threshold questions related to communication, education, and outreach needs around a potential Demand Management program. Based upon their input, E&O work should engage targeted stakeholders to inform a program's design and understand barriers to its success.

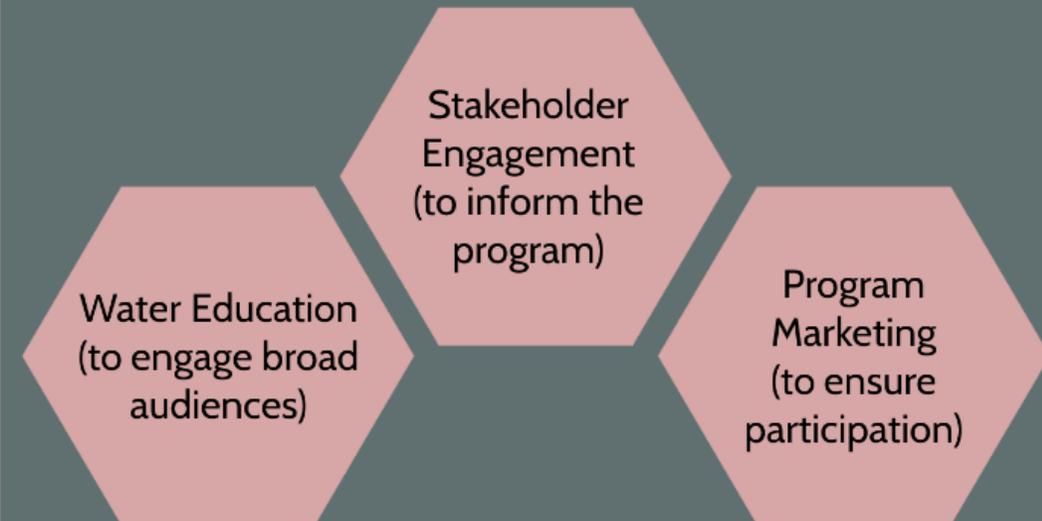
Workgroup Priority Considerations:

- Equity and inclusion are guiding principles
- Determine target audiences and existing communication channels
- Develop a communications plan with clear target audiences for each clearly defined stages of program development
- Prioritize transparency and diverse engagement
- Define key terms and regularly review message consistency
- Work with Public Education Participation and Outreach (PEPO) to create strong messaging and communications tools statewide

Should a program be established by the State, the **objectives of E+O are to:**

- A) facilitate public discourse on the benefits and impacts;
- B) engage and tailor a DM program to local needs; and
- C) motivate participation in a DM program.

THRESHOLD ISSUES & ELEMENTS OF FEASIBILITY



Example: Education & Outreach

DRAFT

	A	B	C
Water Education <i>to engage statewide audiences</i>	Detailed website resources, press releases, media interviews, and educational tasks and resources delegated to partner organizations	CWCB partners with various entities to implement education activities, a communications plan, and informational services like webinars	New staff or funds allocated to education, including additional travel for strategic teaching efforts rooted in general water education and broad-scale communications
Stakeholder Engagement <i>to inform the program</i>	CWCB develops a Demand Management program based on input received through existing engagement channels	CWCB leads public input process leveraging the Board, Roundtables, IBCC, conservation districts, etc. to inform a Demand Management program	CWCB and third-party neutrals lead an iterative engagement process with evolving program options and multiple program designs that meet local needs
Program Marketing <i>to ensure participation</i>	A marketing plan is implemented by CWCB as needed to target audiences using existing communication avenues	CWCB partners with local actors to assist with program marketing and implements a proactive, targeted marketing plan	CWCB opens local offices with staff who serve as liaisons to participants; CWCB engages in extensive marketing campaign while playing a direct role in assisting with applications

Example: Monitoring & Verification

DRAFT

Monitoring & Verification



If Colorado implements a DM program, monitoring & verification (M&V) activities to quantify the water that was physically and administratively (legally) available and returned to the stream will be a cornerstone of future DM activities and operations.

DM Program should align with the 4 M&V Guiding Principles.

M&V Guiding Principles:

- 1) M&V must be honest, accurate, and defensible.
- 2) M&V must be protective of other water uses.
- 3) M&V must be simple, easy, and as flexible as possible while meeting the first two principles.
- 4) Participation must result in added water to the Colorado River Basin system, not just a re-timing of Colorado River Basin depletions.

THRESHOLD ISSUES & ELEMENTS OF FEASIBILITY

Agricultural DM Project

Measurement of water returned to stream

Consumptive use analysis

Estimation of residual field consumptive use

Return flow maintenance

Transmountain DM Project

Measurement of water returned to stream

Verify conserved consumptive use occurs on the East Slope

Coordination of benefits

Example: Monitoring & Verification

(Agricultural projects)

DRAFT

	A	B	C
Measurement of water returned to stream	Bypass of diversions easily determined or moderate estimate of amount of CCU provided	Diversion of irrigation supply into ditch for measurement in a flume, then returned to stream	Diversion of irrigation supply into ditch with multiple real-time recording devices + remote monitoring diversions and returns
Consumptive use analysis	DWR Lease Fallow Tool used to estimate CCU	Site-specific CCU analysis - available diversion or other data	Detailed site-specific engineering analysis
Estimation of residual field consumptive use	Complete fallowing, removal of deep rooted crops, management practices to prevent inadvertent irrigation/incidental CU	Full or split fallow with measurement of groundwater levels/soil moisture	Split fallow, irrigation of lower CU crops, or deficit irrigation with ongoing measurement of applied irrigation supplies, soil moisture, and remote sensing
Return flow maintenance	Bypass of diversions or immediate delivery of CU and return flow portions of irrigation supply after measurement	Unit response functions determine timing of delayed return flows to stream; replace in time	Site-specific study used to determine historic return flow patterns + recharge pond with measurement device to maintain



Example: Monitoring & Verification

(TMD projects)

DRAFT

	A	B	C
Measurement of water returned to stream	Bypass of diversions easily determined or moderate estimate of amount of CCU provided	Diversion of transmountain supply for measurement in a flume, then returned to stream	Diversion of transmountain supply with real-time recording devices + remote monitoring diversions and returns
Verify conserved consumptive use occurs on East Slope	Water user provides accounting showing reduction of West Slope deliveries did not result in additional West Slope diversions at another location or time	Water user provides accounting showing reduction of West Slope deliveries was offset by an East Slope supply or a demand reduction	Water user maintains double accounting records to confirm DM activity in one year wasn't offset by retiming/increased future depletions
Coordination of benefits	Show increase in streamflow after bypassing TMD	Temporary storage in West Slope reservoir, time release to provide additional benefits	Long-term storage in West Slope reservoir for multi-benefit planned release



Example: Environmental Considerations

DRAFT

Environmental Considerations



The workgroup emphasized that if Colorado sets up a DM program, it should have a secondary goal of achieving, as much as feasible, a net environmental benefit over time, and across hydrologic conditions and geographies.

Environmental Considerations Guiding Principles:

A DM program should:

- 1) Provide opportunities for projects with net environmental benefits that would not be available under potential Compact administration.
- 2) Not harm the environment (build in considerations to minimize adverse environmental effects).
- 3) Evaluate project environmental benefits and impacts without creating an unnecessarily burdensome process for applicants.
- 4) Identify project impacts/benefits to environmental resources, including:
 - **Flow regimes:** magnitude, frequency, duration, timing, rate of change of hydraulic conditions, instream flow or other flow target, etc.
 - **Water quality:** temperature, salinity, dissolved oxygen, etc.
 - **Affected habitat and/or species:** critical stream reaches, critical land/riparian areas, species impacted, etc.
 - **Alignment with Other Plans/Efforts:** Watershed Management Plan(s), Basin Implementation Plan, CO River Cutthroat Conservation Strategy, etc.

THRESHOLD ISSUES & ELEMENTS OF FEASIBILITY

Assessing the net impact or benefit of a project (quickly and simply)

Strategies to incentivize benefits

Measuring or quantifying benefits or impacts during project operation

How potential impacts or benefits are considered

Strategies to avoid, offset, or mitigate any negative impacts

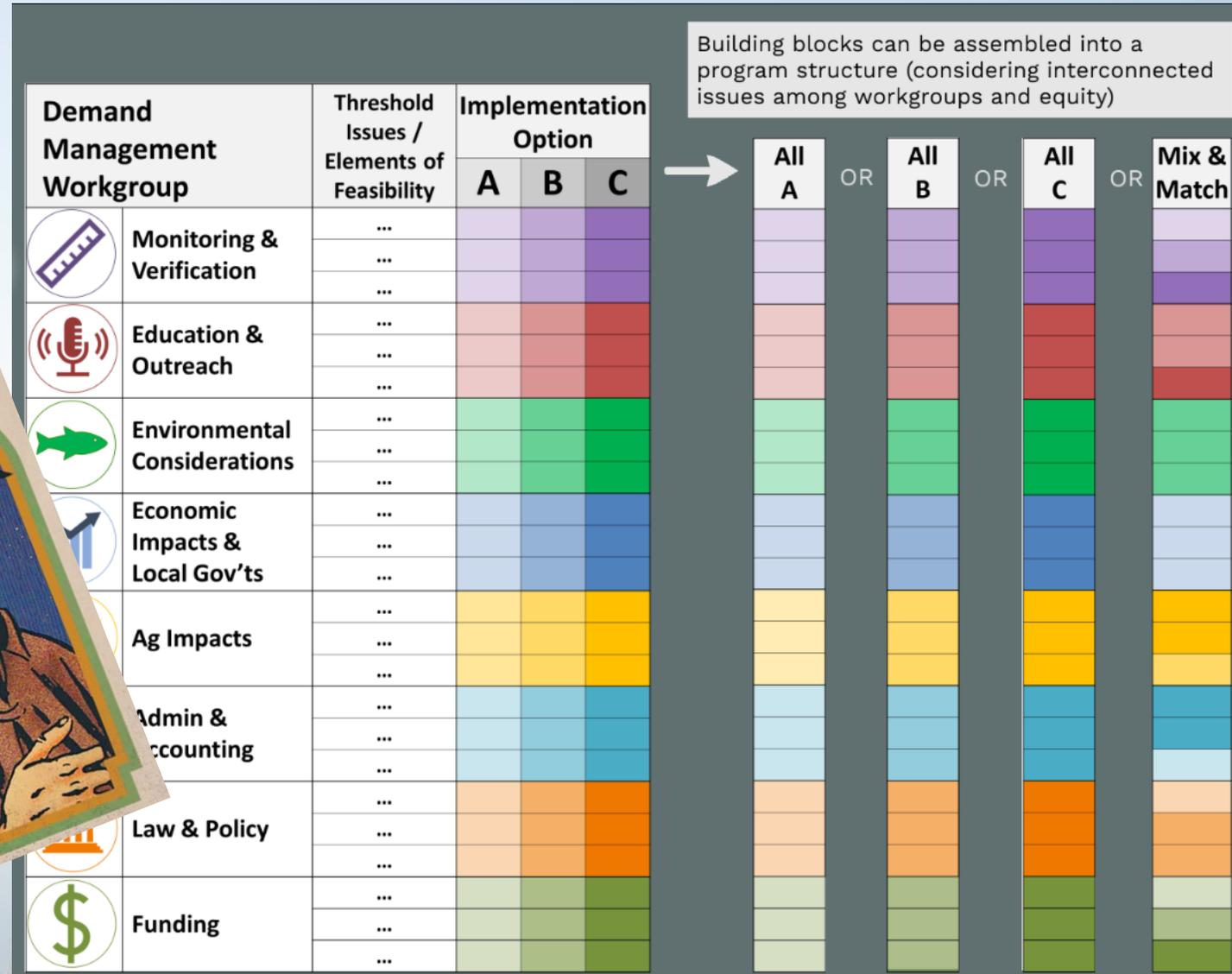
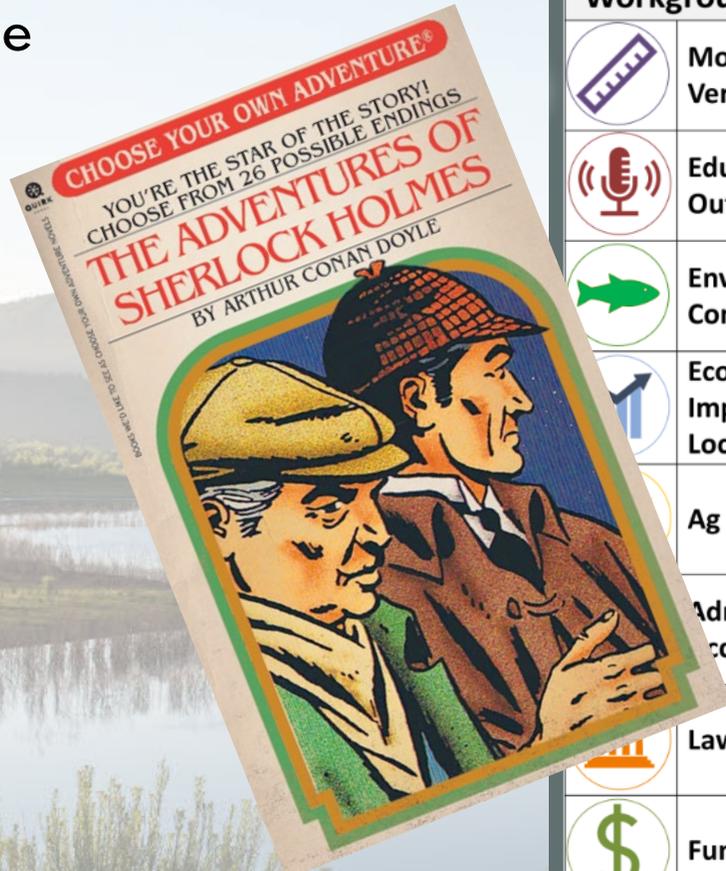
Example: Environmental Considerations

	A	B	C
How potential impacts or benefits are considered	Projects reviewed to ensure compliance with relevant environmental laws. Flow, water quality, habitat, species benefits not considered beyond this	Potential impacts to environmental resources identified and associated risk evaluated, addressed as possible	Comprehensive list of potential impacts and benefits analyzed. Process in place for public stakeholder engagement for large projects
Assessing net impact or benefit	Projects reviewed to ensure compliance with relevant environmental laws. No other net environmental impact or benefit assessment	List of environmental considerations evaluated and net benefit or impact evaluated qualitatively	Comprehensive list of environmental considerations evaluated and project ranked accordingly
Strategies to incentivize benefits	No incentives	Preference and/or additional monetary or program incentive for projects with net benefit	Rankings of impact/benefit used to analyze potential projects
Strategies to avoid, offset, or mitigate negative impacts	Projects reviewed to ensure compliance with relevant environmental laws, but no plan to avoid or mitigate negative impacts	Identify opportunities for partnership to evaluate program as a whole and consider options for environmental value added	Evaluate individual projects for specific partnership and other opportunities to add environmental value
Measuring or quantifying benefits or impacts during project implementation	No additional measurement structures or monitoring efforts required above what is deemed necessary to verify CCU	Impacts and benefits evaluated qualitatively, measurement/monitoring as necessary	Impacts and benefits evaluated quantitatively, enhanced measurement/monitoring as necessary



The Framework: putting it together

- A, B, C options from each workgroup will be developed
- Various program designs considered
- Tradeoffs, equity considerations, other issues identified
- Iterative discussion



Task: Demonstration Projects

Framework

- Initial draft of framework concepts in early 2021
- Board discussion

- Iterative review process with IBCC, Tribal Nations, NGOs, Stakeholders, Water Users, others
- Revise framework accordingly
- Identify what may work, what may not work

Identification of existing information and new opportunities

- CWCB staff collaboration
- Discussion with other groups

YOU ARE
HERE

- Incorporate relevant information into framework
- Identify outstanding questions
- Collaboratively consider opportunities and how to implement with existing programs and funds



Demonstration Projects

- Using **existing programs and funding sources.**
- Goal to **not send measurable amounts of water to Powell.**
- Looking for win-win opportunities for **on-the-ground learning.**



THANK YOU

Amy Ostdiek

Deputy Section Chief

Federal, Interstate, and Water Information Section

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**Colorado Water
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Department of Natural Resources

Group Discussion

From your perspective, what needs to be included in the framework?



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Group Discussion

From your perspective, what are the essential equity considerations to be captured in the framework, noting that this will be an iterative process with additional detail added as we go?



Group Discussion

*For those who wish to participate,
brainstorm potential demonstration
project opportunities*



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Closing Remarks



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Thank you.

Next meeting June 23, 2021