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September 30, 2022

Water for Colorado, its nine partner organizations, and the thousands of constituents we represent across Colorado want to thank you for your efforts to update the Colorado Water Plan. The Water Plan and this update are essential components of our state's efforts to meet the unprecedented challenges we face in addressing water security, climate change, and river health in Colorado.

Following a detailed review of the plan, we applaud the Colorado Water Conservation Board (CWCB) for the Plan's upfront, honest acknowledgement of climate change's impact on Colorado's river and water supplies. We were also pleased to see the high priority given to green and natural infrastructure strategies and techniques, as well as the inclusion of the River Health Assessment model. **The Plan's linkage of land use planning with water policy as well as the high priority it places on collaboration with the agricultural sector are all crucial.** We thank you for these additions to the Plan and look forward to working with the CWCB and other state agencies and partners in assisting with ongoing implementation.

Some of the general themes throughout our attached technical comments include:

- Unlike the original 2015 Plan, the update contains many recommendations for state and partner action, but **few if any measurable objectives or clear targets to track progress over time.** The 2015 measurable objectives have been removed from the update making it nearly impossible to understand the progress that we know has been made in the past seven years, or to identify places where Colorado may be falling short. Without metrics, the Plan lacks accountability and while the stated vision is to "achieve greater resilience in each of 4 action areas by 2050," there are no benchmarks, timelines, or prioritization that would allow Coloradans to determine whether progress is actually being made over the next decade. In recognition of the growing need to conserve water in all sectors, the new Plan should at least include measurable conservation goals, including at least 1% per year per capita reduction in water demand in the municipal sector.

- There is a recognition that CWCB needs approximately \$3.85B to implement this Plan by 2050, with \$2.35B expected from Proposition DD leaving a shortfall of \$1.5B or approximately \$50M per year. It is not clear how this will be addressed in the face of declining severance tax revenues. However, the IJA and IRA have currently made available unprecedented amounts of federal funding for water infrastructure, conservation, and ecosystem restoration. **The Plan should include greater detail on Colorado's plans to access and quickly spend these one-time resources while also identifying opportunities for future revenues to address statewide needs.**
- Nature-based solutions are a critical tool to address a broad range of challenges from food security to disaster risk, and the benefits of natural water infrastructure (e.g., healthy functioning lands, forests, rivers, and wetlands) are key to resilient water planning. We applaud the CWCB for increasing this Plan's focus on green infrastructure solutions and encourage a more robust adoption of them throughout the plan.
- Despite inclusion of a full section on Thriving Watersheds, **water for the environment and recreation remains only a secondary focus of the Plan. The vision for this section suggests that streams and watershed health should be "considered" in state water resource planning activities. While we agree that should be a minimum requirement, it doesn't go nearly far enough. Environmental flows and watershed health must also be a coequal goal of state water resource planning itself – not just a secondary consideration. To that end, environmental and recreational water "gaps" must be recognized and evaluated side by side with other consumptive water demands.** The development of a new River Health Assessment Framework represents an important first step here, but the Plan needs action items to address the impacts to the natural environment and the outdoor recreation economy.
- We appreciate the language in the Plan reemphasizing the importance of equity, diversity, and inclusion. To bolster that focus, the Plan must also include actions to ensure an equitable water future for all Coloradans. Specifically, additions should be made to recommend expanded access to water forums, including the Basin Roundtables, CWCB Board, and IBCC, for individuals and perspectives that have been historically disenfranchised and underrepresented.
- In a time of unprecedented drought, the need for collaborative solutions between states, Tribal nations, water users, and the Republic of Mexico is even greater. In the face of calls from the federal government for the Colorado River Basin states to reduce water consumption and a public that is increasingly aware of the gap between our water



supply and our water demand, this Plan must focus primarily on strategies for managing consumptive uses and opportunities for water users and communities to remain resilient in the face of extended droughts, wildfires, and climate change. The Plan should recognize the need to prioritize significant conservation from all water use sectors. Colorado can and must lead in the development of innovative solutions for the state and the Colorado River Basin, as a whole.

The plan would benefit from expansion and revision as described in more detail below throughout all four of the designated sections: Vibrant Communities, Robust Agriculture, Thriving Watersheds, and Resilient Planning. We offer the attached recommendations for your consideration.

Sincerely,

Water for Colorado

- Matt Rice, American Rivers
- Abby Burk, Audubon Rockies
- Molly Mugglestone, Business for Water Stewardship
- Josh Kuhn, Conservation Colorado
- Brian Jackson, Environmental Defense Fund
- Alex Funk, Theodore Roosevelt Conservation Partnership
- Aaron Citron, The Nature Conservancy
- Drew Peternell, Trout Unlimited
- Bart Miller, Western Resource Advocates

cc:

- | | |
|-----------------|----------------|
| Russ Sands | Heather Dutton |
| Jaclyn Brown | Celene Hawkins |
| Greg Felt | Robert Sakata |
| Paul Bruchez | Kate Greenberg |
| Jessica Brody | Heather Dugan |
| Steven Anderson | Kevin Rein |
| Curran Trick | Phil Weiser |

Attachment

LEVERAGING FUNDING

There is a recognition that CWCB needs approximately \$3.85B to implement this Plan by 2050, with \$2.35B expected from Proposition DD, leaving a shortfall of \$1.5B or approximately \$50M per year. It is unclear how this shortfall will be addressed in the face of declining severance tax revenues and increasing project costs due to ongoing supply-chain disruptions and other external factors.

The Infrastructure Investment and Jobs Act (IIJA) and Inflation Reduction Act (IRA) have made available unprecedented amounts of federal funding for water infrastructure, conservation, and ecosystem restoration that can be used to increase the pace and scale of Colorado Water Plan implementation. The Plan touches on these opportunities and several of the steps Colorado is taking to leverage these funds throughout but should include greater detail on Colorado's plans to access and quickly spend these one-time resources while also identifying opportunities for future revenues to address statewide needs. Specifically, CWCB, in partnership with collaborating agencies, should expand on Agency Action 5.7 and commit to developing a detailed, interagency Colorado Water Plan funding strategy that identifies and resolves funding obstacles (e.g., limited capacity, lack of technical assistance), includes the interagency framework for increasing grant funding access and opportunities (Agency Action 4.6), and provides recommendations for better coordinating funding between federal, state, and local agencies and Tribes to leverage federal funds

We are encouraged to see that the CWCB will support funding for applicants seeking state technical or financial support for initial project planning, baseline environmental studies, feasibility studies, and initial stakeholder involvement. Navigating funding opportunities and applying for grants can also be time and resource intensive for many water users, and organizations, particularly those in more rural areas and within disadvantaged communities. These pre-project development activities are critical and typically lead to developing more collaborative, multi-benefit project proposals that are competitive for state and federal funding. Funding opportunities for pre-project development activities are minimal compared to public funding for "shovel-ready" projects. A lack of funding options for pre-project development is frequently cited as a universal barrier for a wide range of water projects, including agricultural irrigation improvements and ecosystem restoration efforts.

The establishment of the Federal Technical Assistance Grants for Colorado Water Projects Program, established using American Rescue Plan Funds under HB22-1379, provides \$5 million in federal funding to support technical assistance grants that will enable Colorado to be more

competitive for federal funds available through IJA and IRA. While this resource is in its early stages, we anticipate that there will be high demand for these funds across the state. Therefore, we encourage CWCB to include a recommendation in the Plan that recognizes the value of these investments and a commitment to continue evaluating opportunities in making these technical assistance resources post-2024 (e.g., when funds must be obligated).

VIBRANT COMMUNITIES

We are pleased to see that the Vibrant Communities section of the Plan emphasizes the advancement and acceleration of municipal water conservation, integrated water and land use planning, and One Water solutions. Many of the partner and agency actions identified will help Colorado build communities that are resilient in the face of climate change, population growth, and the unprecedented water shortages we're facing in the Colorado River basin. As the CWCB adds resources—both funding and staffing—to implement the Plan, implementation of the Vibrant Communities recommendations should be a top priority for funding and implementation both at that state-wide level and inside each sub-basin around the state.

We appreciate this opportunity to offer recommendations that could further strengthen or expand these actions in a few important ways:

1. ***New storage should focus on innovative options that avoid increasing overall consumptive use from our rivers.*** The Plan does well to focus on the need for innovative new storage, including ways to enable collaborative water sharing and underground storage (Vibrant Communities' Agency Action 1.9). But, in light of current and projected Colorado basin shortages as well as other river basins that are already water-short, new storage that leads to increased overall consumptive use from our rivers should be avoided. ***Colorado's 2015 Water Plan stated a measurable objective of increasing storage by 400,000 AF by 2050 and the Plan update recognizes that given completed and soon to be completed storage projects across the state, this goal has been met well ahead of schedule (p. 1-4). The dramatic recent impacts of climate change on our water supplies suggest it is irresponsible to deplete more from our state's rivers. While we appreciate the Plan's emphasis on innovative, multi-purpose storage such as aquifer recharge and intention to facilitate challenging discussions around TMDs, it should go further in this list of options, and be clear that significant cost-effective investment in water conservation, integrated water and land use planning, and water reuse should be the state's top priorities for meeting our communities' water supply needs and that any new storage projects that increase consumptive use from Colorado's rivers should be a last resort.*** Investments in water conservation and reuse are in line with public opinion with Colorado College's recent State of the Rockies poll finding that 81 percent of voters in Colorado River states support

conserving water over new storage and diversions to cities, particularly where those new diversions involve moving water from rivers in more rural communities to more populous ones.

- 2. Water conservation and integrated planning should be further emphasized and prioritized as our cheapest, fastest, and most reliable form of new supply.** The Draft Plan states, “overall our population will continue to grow and drive increased demand.” (p. 6-7) **The Plan should avoid perpetuating this oft-repeated assertion that population growth must equate to increased water demand.** Significant investment in water conservation not only reduces per capita water demand, it also has the potential to reduce *overall* water demand even in the face of population growth and climate change, thus avoiding or greatly downsizing the need for additional water supplies and storage.

Several examples show this trend toward decoupling population growth from water demand. The City of Fort Collins grew by 6% between 2000 and 2015 yet saw total water use reductions of 14%. The City of Denver grew by 17% during the same time period yet saw total water use reductions of 28%. And the City of Colorado Springs saw unprecedented growth of 92% since the mid-80s, yet the city is using about the same amount of water today as it was 40 years ago. In fact, the Plan even states: “While Colorado’s recent efforts to save water through efficiency and conservation *have kept water demands steady in spite of growth*, water demands are projected to increase and our water supplies will be stretched.”

With significant new investment in myriad water conservation and integrated planning best practices available to us, we can and will continue to keep municipal water demand steady in spite of growth and climate change. We are a long way from reaching saturation or a point of diminishing returns when it comes to water conservation and integrated water and land use planning. The state’s per capita demand was 164 gpcd per the 2019 Technical Update, yet the City of Aurora – a leader in municipal water conservation – has reduced its gpcd to just 115 and is still investing heavily in conservation. Similarly, the Town of Castle Rock has also achieved a gpcd of 114 as of 2021 and has set what the Town characterizes as an “achievable goal” of reducing per capita water use to 100 gpcd by 2050.

We recommend updates to the following sections to reflect this feedback:

- *6-7 Partner Actions, Thoughtful Storage*: In particular, “Thoughtful Storage” text should be updated to acknowledge that many communities have sufficient storage to meet demand if investments in water conservation and land use planning are prioritized.

- *6-7 Partner Actions, Meeting Future Water Needs:* Under the “supplies that provide reliable and safe drinking water” bullet point, **content should be added to acknowledge that pursuing acquisition of senior agricultural water rights and TMDs should be a last resort given their negative impact on the environment, recreation, and agriculture.**
 - *6-18 1.9 Agency Action, Develop a study for new and existing water storage opportunities:* We recommend CWCB modify this agency action as it relates to proposing state funding for projects that would lead to greater consumptive use. **Municipalities should endeavor to meet their supply needs through significant investment in water conservation, integrated water and land use planning and reuse that is on par with the cost of the new storage project. If storage is still needed after the dedicated pursuit of all of these options, then individual studies should be considered at that time that include an assessment on the impact of new withdrawals and increased consumptive use on environmental and recreational flows.**
 - *6-19, 1.10 Agency Action, Create a positive discussion space for tough conversations consistent with the IBCC’s Conceptual Framework on analyzing transmountain diversion projects in the Technical Update.* **The environmental NGO community would like to have a seat at the table at these stakeholder discussions alongside East and West Slope water users. TMDs impact river flows, wildlife, and recreation and, as such, it’s important that environmental advocates are included in these discussions.** Further, in light of increasing demands to reduce water use in the face of climate change and declining flows, the real environmental and socio-economic impacts associated with new or expanded TMDs, and the increasing cost/complexity of these projects compared with water-saving alternatives, CWCB and IBCC should implement the Conceptual Framework as included in the 2015 Water Plan and enter these stakeholder discussions with the **strictest scrutiny of any new or expanded TMD proposal.**
3. ***Our biggest municipal water conservation opportunity in Colorado is reducing outdoor water demand, in both existing development and in new development.*** Nearly 50% of municipal water in Colorado is used for landscape irrigation, a large percentage of which is applied to high water use, non-essential turf. Beyond that, unlike indoor water use, outdoor water use is largely consumptive and limits reuse of return flows. In the face of climate change, as our cities face hotter and drier summers, we are still able to significantly reduce municipal demand by transforming our landscapes to be climate appropriate and drought tolerant. Colorado must be bold in re-envisioning what our landscapes and communities look like in the coming years and in taking the necessary steps to achieve this landscape transformation while maintaining vibrant urban landscapes and tree canopies. The state and local communities must take a three-pronged approach:

- **First, communities need to adopt and enforce codes that significantly reduce the installation of non-functional, cool season turf in new development. Aurora’s recent non-functional turf limits ordinance should be included in the Plan as a model for other Colorado communities and CWCB should commit to supporting and incentivizing communities to adopt water wise landscaping standards.**
- **Second, we must accelerate the replacement of non-essential, high water use turfgrass with water wise landscaping through voluntary incentives and even mandatory local requirements,** as is the case for Southern Nevada Water Authority. The Plan should recognize the recent MOU signed by Aurora Water, Denver Water, and Pueblo Water committing to reducing non-functional turf by 30% as an important objective that other cities should commit to. To scale-up turf replacement **we must ensure that CWCB’s Turf Replacement Program is funded at levels sufficient to meet what we anticipate will be very high demand.** We must also encourage cities to invest at scale in these programs through revenue bonds, environmental impact bonds, state revolving fund loans and performance contracting. The guide developed by Western Resource Advocates and WaterNow Alliance – with CWCB grant support – on [Financing the Future: How to Pay for Turf Replacement in Colorado](#) should be referenced in the Plan as a resource on capitalizing turf conversion programs.
- Third, we must ensure that all landscape and irrigation professionals have the training and certification they need to design, install, and maintain water wise landscapes as efficiently as possible, and to ensure the long-term health and viability of those landscapes. **CWCB has a key role to play in accelerating landscape and irrigation professional certification through investing in statewide training opportunities and supporting the establishment of a statewide landscape and irrigation professional licensing program.**

We recommend updates to the following sections to reflect this feedback:

- *6-8 Partner Actions, Healthy Lands:* Under “planning for and creating low water use landscapes”, include conservation-oriented tap fees as a strategy for incentivizing low water landscapes. Under “Urban agriculture”, **acknowledge that urban agriculture serves as both a water conservation tool – when compared to high water use turfgrass – and a green infrastructure/stormwater management tool and that cities should be developing water and land use policies that encourage more widespread urban agriculture. In particular, municipalities can update their turf replacement programs to allow for urban agriculture and review and update land use codes to incentivize and remove any barriers to urban agriculture.** Finally, include a new bullet point specifically encouraging cities to develop and/or scale-up

turf replacement program incentives in their communities by applying for CWCB's Turf Replacement funding or taking advantage of the financing opportunities described above.

- *6-16 Agency Action 1.7, Identify turf replacement options that support transformative landscape change:* **We very much support the CWCB's goal to research and develop a Colorado standard for turf replacement best practices.** We would, however, like to see this agency action broadened to encompass expanding **landscape transformation in Colorado** through turf replacement, water wise landscaping standards, and landscape and irrigation professional certification opportunities. Specific agency actions to achieve this transformation include: **Working with DOLA to create a statewide model landscape ordinance as a resource for cities, ensuring CWCB's Turf Replacement program is fully funded to meet demand, and dedicating resources towards creating statewide landscaping and irrigation professional training opportunities and supporting the creation of a statewide landscape and irrigation professional licensing program.** Additionally, the section should be amended to remove "stormwater swales" as an important function for high water use turf. Native turf grass varieties can be effectively planted in stormwater swales that use a fraction of the water used by high water turf.
 - *6-17 Agency Action 1.8, Develop a statewide spatial landscape feasibility assessment for supply and demand drivers:* The results of this spatial analysis will be incredibly valuable to Colorado communities assessing their landscape transformation opportunities and the impact of climate change on water supplies, and we would like to see these efforts fully funded. The need for infrared data and planimetric land use cover analysis goes well beyond DRCOG's region and CWCB should provide financial support for this effort statewide in urban and suburban communities. Additionally, we recommend that CWCB provide a cost estimate for scaling up the Colorado Airborne Snow Measurement (CASM) across the state to assist with future planning efforts.
4. **Reusing water, when legally allowable, is also critical to stretch existing supplies as much as possible.** Significant progress has been made in the past few years to modify Colorado's water quality regulations to increase the ways in which water can be reused. In October 2022, there is a water quality rulemaking hearing scheduled to adopt direct potable reuse regulations. These changes cement Colorado's role as a leader in reuse and help ensure that municipal water providers with fully consumable water supplies are able to reuse them in ways that make sense for their community. With these new and expanded regulations comes the need for additional regulatory oversight. **The state should ensure that CDPHE**

has the resources needed to appropriately oversee potable, non-potable, and greywater reuse.

We recommend updates to the following section to reflect this feedback:

- *6-14 Agency Action 1.5, Strategically expand water reuse and develop a water reuse progress report:* Add a commitment to ensuring adequate Water Quality Control Commission (WQCD) staffing to administer new Direct Potable Reuse (DPR) projects in Colorado. We anticipate that a new DPR rule will be adopted by the WQCC at their October 11, 2022, Rulemaking on this topic. The new rule is crucial to expanding reuse, but just as critical will be providing adequate state oversight. The Colorado Department of Public Health and Environment's (CDPHE) WQCD will need additional permanent staff to administer and oversee DPR to ensure its successful implementation. The Water Plan should identify this need and support the state allocating and sustaining additional WQCD staffing levels.
5. *The Plan should set measurable objectives for municipal water conservation and integrated water and land use planning.* While a one-size-fits-all approach, such as a single gpcd target, is likely not valuable for Colorado communities, **the Plan needs to set measurable municipal water goals that the State can use to assess progress.** These metrics can then be expanded upon through *Agency Action 1.1: Define, benchmark and institutionalize water-saving communities*, moving forward. Measurable objectives should be listed under a new section within Vibrant Communities and include:
- 1% per year reduction in per capita use. As demonstrated by the successful and sustained water use reduction examples included above, this level of conservation is feasible for Colorado cities to meet or exceed and would continue on the path set out in the 2015 Plan for meeting a significant and achievable state-wide conservation goal of 400,000 acre-feet by 2050.
 - State and local investment in turf replacement incentives grow by at least 50% annually to help support the [recent commitment](#) by several Front Range utilities to accelerate the removal of non-functional turf.
 - 75% of Coloradoans live in communities that limit non-essential turf in new development. Based on a sampling of the twenty largest Colorado communities, currently eight have standards in place that limit non-essential turf representing approximately 25% of Colorado's population.
 - Colorado Water Loss Initiative is expanded considerably (Agency Action 1.3), and all covered entities conduct water loss auditing annually and submit reports to the CWCB.

6. **Recreational and environmental amenities should be recognized in the Plan as critical economic and social drivers for maintaining vibrant communities.** Recreation and the environment should be included as a key reason to invest in water conservation and reuse where savings from reduced demand and usage can then be used to benefit recreational and environmental opportunities. A key aspect of integrating recreation, in particular, into the One Water approach is identifying and applying legal tools to protect conserved water allowing it to benefit recreation and the environment, rather than being diverted for other consumptive needs. The Plan should recognize the importance of community prioritization and investment in habitat restoration, watershed protection and wildfire restoration activities, recreational in-channel diversions, and more. We believe the Recreational In-Channel Diversion Program (RICD) statute is critical for many local community recreational economies, but could be improved. Specifically, many of the state’s smaller communities cannot afford to build an artificial control structure, nor is that necessary to protect recreation that is already occurring on the river. **We suggest greater flexibility for securing recreational water rights that does not require pouring concrete to build an artificial control structure.** We believe these comments should fall within the “Thoughtful Storage,” section under partner actions (6-5 and 6-33) and including RICDs in Action 3.7.

We recommend updates to the following sections to reflect this feedback:

- *6-7 Meeting Future Water Needs, Supplies that provide reliable and safe drinking water:* **Include recreation alongside the environment and agriculture for cities' careful consideration when it comes to new supplies.**
- *6-7 Meeting Future Water Needs.* Include a new partner action that supports “innovative opportunities to protect river flows for recreation.” State government lacks expertise in determining flow recommendations supporting recreational needs among efforts to protect and enhance river recreation opportunities. NGO partners, academia, and others are needed to provide expertise and ensure the \$18.8B river recreation economy continues to grow and support diversifying local and regional economies throughout the state.
- *6-8 Healthy Lands, Holistic planning for urban landscapes that improve quality of life:* Include the importance of community investment in stream habitat restoration, watershed protection and recreational in-channel diversions.
- *6-9 Integration Across Action Areas, Thriving Watersheds:* Recognize the need to identify legal mechanisms, in addition to the ISF program, to shepherd conserved water instream to benefit recreation and the environment.

7. **Acknowledge and prioritize agency resources towards underserved communities.** The Vibrant Communities sections should include an equity lens and acknowledge that some

under-resourced and historically disproportionately impacted communities will need more support from the state than others to achieve water supply resiliency in the face of climate change and growth.

We recommend updates to the following sections to reflect this feedback:

- *6-11 Agency Action 1.2: Enhance municipal water efficiency reporting and data integration.* This action should be updated to include an **evaluation of how changes in municipal reporting may positively or negatively impact low-income communities.** The state should provide financial or technical resources to these communities to support them in meeting water efficiency reporting requirements.
- *6-13 Agency Action 1.4: Coordinate funding opportunities for conservation, safety and aging infrastructure.* **This action should be updated to indicate that coordination among the state agencies will leverage the CDPHE’s EnviroScreen and other mapping tools to identify historically disproportionately impacted communities. CWCB should strategically work to prioritize addressing priority projects in those communities.**
- *6-15 Agency Action 1.6 Promote outdoor One Water strategies for integrated land use planning.* CWCB and other collaborating agencies should **use the EnviroScreen Tool and other mapping tools to determine disproportionately impacted communities experiencing cumulative impacts of air and water pollution. Agencies should then target outreach for funding opportunities related to One Water strategies to these communities.** The Sonoran Institute’s Growing Water Smart Program, Colorado’s Basin Roundtables, the CWCB’s and DOLA’s Colorado Water and Land Use Planning Alliance, and WaterNow Alliance’s Project Accelerator should all prioritize the inclusion of disproportionately impacted communities.

RESILIENT PLANNING

The Resilient Planning section contains many strong ideas that will certainly help ensure Colorado’s ability to adapt to increasing climate demands. Developing a water security roadmap is an excellent identified action to strategically assist planning at the county level. Additionally, the calls for public investments in multi-benefit water projects that enhance recreational and environmental opportunities while sustaining other important water values such as agriculture and an increased focus on climate adaptation are essential. Finally, the draft’s inclusion of language and actions associated with equity, diversity, and inclusion is critically important, and we were pleased to see that the draft had been translated into Spanish. The creation of an interagency environmental justice mapping working group as well as a framework for increasing grant funding access and opportunities will make helpful strides, as well.

We appreciate this opportunity to offer recommendations that could further strengthen or expand these actions in a few important ways. **Our recommendations fall into three key categories: (1) the importance of creating a water security roadmap, (2) recreation, (3) equity, diversity, and inclusion.** We also outline a variety of partner and agency actions that can ensure the successful implementation of our recommendations.

Part I: Water Security Roadmap

- 1) ***Add sequencing to the Water Security Roadmap Toolkit:*** Developing a water security roadmap is an essential identified action to strategically assist planning at the county level and should be supported by many other actions identified in the Plan. However, we are concerned that without proper sequencing, valuable information will not be included in the Water Security Roadmap Toolkit, which could adversely impact early adopters who utilize the Toolkit to develop Roadmaps.

By way of example, below are a few actions that should be included in the toolkit, but not knowing the sequencing of developing these actions could result in the toolkit being developed without them, and thus a missed opportunity:

- *Action 1.1:* Develop a framework for a range of targets for municipal water-savings and identify solutions to create greater resilience for municipal demands.
- *Action 2.4:* Streamline collaborative water sharing agreements allowing for supplies to be identified in years of severe drought.
- *Action 3.4:* Develop scenario planning methodology for forest health to inform water planning of water supply risks.
- *Action 4.4:* Support an interagency environmental justice mapping working group prioritizing the greatest needs for the State's most vulnerable communities.

- 2) ***Increase clarity around implementation:*** In addition to clarifying sequencing of actions within the Plan, we also would like to see greater clarity around how this toolkit will be implemented. Many of the State's 64 counties do not have capacity, or the expertise to create a water security roadmap. Will CWCB, DOLA, or NGOs be counted on to provide technical assistance? And if so, how will that expertise be delivered, on what timeline, and how will the agencies ensure sufficient capacity to meet demand? Clarification of these questions will provide assurance that the Water Security Toolkit becomes a useful tool rather than an unrealized idea.

Part II: Recreation:

1) **Reaffirm that water-related recreation values are generally not in conflict with meeting consumptive demands and are a cross-cutting issue:** Throughout the Plan, there are references that increasing demands and declining supply may lead to conflicts between continuing to meet municipal, industrial, and agricultural water needs while maintaining or enhancing environmental and recreational resources. **While the Plan does include a commitment to work towards reducing these conflicts between water uses, we believe that this framing in general sets a tone that consumptive and nonconsumptive water needs must be in competition with each other or that addressing recreational and environmental water needs must be at the expense of other water uses.**

We don't agree with these narratives and assumptions and would encourage the Plan to reflect the numerous examples of where there is mutual benefit for recreation and other water users in working together. **Examples include the Colorado Water Trust's purchase of water out of Stagecoach Reservoir to support instream flows and have additional benefits for both recreational use in Steamboat Springs and downstream agricultural water users.** Recreational reaches on the Upper Colorado River can benefit from senior downstream water rights such as the Shoshone Hydropower project and Cameo call in the late summer when flows would otherwise be too low for boating. The increase in streamflow benefits the robust whitewater boating economy of communities throughout that river corridor. Similarly, operations on the Poudre River have shown increased boatable days from reservoir operations and deliveries to downstream users.

While coordinated reservoir operations are an important tool for mitigation and restoring flows to impacted reaches of the river, flow management for the benefit of the environment and recreation should not be categorized as a reason to develop new water projects. There are ample opportunities to utilize existing facilities to benefit instream values while still providing much needed water for agricultural, municipal, and industrial uses.

Additionally, recreational use of water is a widely cross-cutting issue. We understand that the four action areas are intended to be interconnected, however **the handling of recreation solely in the Thriving Watersheds action area tends to leave out the importance of the outdoor recreation economy supported by on-water recreation, mental and physical health benefits of access to "blue space," and the impact of healthy rivers on vibrant communities for all Coloradans.** Throughout the Plan, recreation is primarily identified, along with the environment, as at risk from declining

streamflows. While this is very true, this fails to fully quantify and illustrate how recreational use of rivers and streams supports the state's economy and is dependent on resilient infrastructure and vibrant communities and therefore recommend including our suggested language and actions around the importance of recreation within the Resilient Planning sub-topic.

2) ***Include the Colorado Outdoor Recreation Industry Office as a collaborating agency:***

Overall, we're encouraged to see a whole-of-government approach included in the Plan, which is necessary to address the scale of water resource challenges facing Colorado. For the final draft we recommend including the Colorado Outdoor Recreation Industry Office (OREC) as a collaborating state agency given their role in supporting constituents, businesses, and communities that rely on the continued health of the outdoor recreation economy. OREC also engages the outdoor recreation industry in conservation for sustainable and inclusive access to lands, waters, and climate. Along with CPW, OREC also supports regional coalitions working to preserve and enhance recreation while conserving public lands and waters. We encourage CWCB to engage with OREC in updating the recreation and conservation elements of the Colorado Water Plan and developing a framework for working in a more formal partnership with OREC moving forward. Specifically, we encourage more regular CWCB engagement with OREC to develop and evaluate multi-benefit recreation project proposals for CWCB funding, identify CWCB project proposals for OREC funding potential, assess recreational flow needs, and advocate for OREC to become a non-voting ex officio member of the CWCB to provide additional communication between agencies on water-related matters concerning recreation.

3) ***Add a CWCB recreation liaison to spearhead a collaborative working group and establish a framework for protecting river-related recreation:***

The state's river recreation economy is an important economic driver, especially for communities on the Western Slope, yet there are many looming threats to its viability under a hotter and drier climate. To overcome these challenges a collaborative working group should be created to find equitable solutions addressing the threats to river-based recreation. The CWCB, despite the socio-economic importance of water-related outdoor recreation to Colorado, currently lacks a dedicated program or staff member focusing on water-related outdoor recreation issues. This lack of capacity has been cited as a significant barrier to supporting more recreation-focused water project development for CWCB funding, ensuring recreational values and priorities are included in state and local planning efforts, and providing communities with assistance in evaluating tools and approaches to enhance recreational flows and infrastructure. The staffer could **serve as**

CWCB's liaison to OREC regional meetings, assist communities and stakeholders in evaluating strategies to enhance recreational flows, including by providing support to the development of new cooperative reservoir release programs which are currently limited to specific geographies, and providing additional capacity to support public land and water conservation initiatives such as the Colorado Outdoor Partnership and the locally funding groups through the regional partnerships. We encourage CWCB to commit within the Update to bring on a dedicated recreation liaison/expert or work with DNR, CPW and OREC to evaluate opportunities for a cross-agency position. This position could **support the development of environmental and recreational projects and provide a commitment to align funding across agencies to implement these plans.**

- 4) **Address recreation flows and temperatures:** Adequate flows to sustain recreation and environmental water needs must be a top priority for CWCB. **As the Plan notes on page 5-4, climate change and aridification will contribute to significant temperature-driven river flow declines, which will disproportionately impact recreation and river health. Already, declining flows and increasing water temperatures are prompting an increase in the frequency and duration of recreational river closures on popular river stretches. While these closures are an important tool for wildlife management agencies to protect fisheries and the environment, they also have a detrimental impact on tourism and regional economies, force recreationists into increasingly smaller areas, and without strict compliance, often still result in damaging impacts to aquatic habitat.**

Recreational flows in particular are at risk given the lack of secure water rights absent the creation of a whitewater park and subsequent Recreational In- Channel Diversion (RICD), as mentioned on page 5-27. **RICDs are an imperfect mechanism to establish secure water flows to support recreation values as many communities lack the resources or desire to build a whitewater park or participate in a lengthy water court process. RICDs also may not be suitable for all rivers and the heavily engineered structures required for a RICD appropriation can impact the environment. As such, we recommend that the final update include specific actions CWCB will take to address recreational flows, including mitigating summer recreation closures.** Specific actions may include initiating a study to support alternatives or modifications to RICDS as a mechanism to provide more secure recreational flows for all communities; convening a series of workshops with stakeholders to develop collaborative policy and programmatic recommendations including evaluating a new recreation focused CWCB initiative that can provide additional technical support to communities to define gaps in environmental and recreational water supply; provide for discussion around needs for

new mechanisms to enhance flows for recreation; and prioritizing and addressing recreational flow and infrastructure priorities.

- 5) ***Expand the Colorado low head dam inventory:*** We appreciate the Update's reference to the Colorado Department of Natural Resources Low Head Dam Inventory Program on page 6-34 and the public safety and environmental impacts of these ubiquitous structures, which include diversion dams and grade control structures. Statewide there are 1041 of these structures, which have contributed to 13 recorded fatalities. Incidents involving these structures are increasing with growing public participation in water-related recreation. Improvements to diversion structures can generate significant public, socio-economic, and environmental benefits. We support CWCB agency action 1.4 to coordinate funding opportunities for conservation, safety, and aging infrastructure and recommend that CWCB include low-head dams into that coordination effort; utilizing DNR's existing inventory as one resource to help prioritize public investments in infrastructure modernization. American Whitewater¹ and the Southeast Aquatic Resource Partnership² are developing low-head dam/barrier prioritization tools that the state should utilize in directing public investments. Further, we **recommend that the CWCB commit to work with other collaborating agencies to secure sufficient funding to scale the existing low-head dam program to ensure communities have adequate access to information, public safety equipment such as signage, and resources to rehabilitate structures.**
- 6) ***Include recreation into watershed planning:*** We support the CWCB's stated goal that at least 80% of the 94 sub basins in Colorado have active and integrated plans with a pipeline of projects that support environmental needs. **We recommend that CWCB specifically include recreational-focused project studies in these comprehensive planning efforts.** These recreation planning efforts may include evaluation of boatable days; enhancing river access; and studying recreational uses and flow needs. **Further, we encourage that CWCB specifically prioritize and increase public investments in implementing the 26 existing approved stream management plans in Colorado as these plans contain collaboratively developed multi-benefit water projects that include enhancements to diversion structures and recreation infrastructure.** According to a River Network report, 68% of recommended projects and strategies in these plans have yet to be initiated due to a lack of capacity and resources. **In addition, we recommend that all future plans include environmental and recreation flow target recommendations as the same report found that only 6% of plans include environmental flow targets and**

¹ https://lynkertech.shinyapps.io/aw_lhd_app/#section-ranking

² <https://connectivity.sarpdata.com/>

only 1% include recreation flow targets. Finally, we encourage CWCB to work with OREC and the outdoor recreation community, to incorporate recreational values and opportunities into the development of the Colorado River Health Assessment Framework, prioritizing future regions for management plans, and within the planned interagency watershed planning platform.

- 7) **Identify the water supply gap for recreation:** Colorado's outdoor recreation industry depends upon healthy watersheds and rivers. Healthy, clean, and flowing rivers support quality recreational use. Climate change presents a significant threat to the long-term viability of Colorado's water-based outdoor recreation economy. Recent climate [data](#) shows significant declines in flows for Colorado's rivers, particularly rivers such as the San Juan (30% decline) and Dolores (21% decline). Enhancing the resilience of Colorado's watersheds to climate change, through actions such as the use of nature-based solutions, can help mitigate impacts from natural disasters to Colorado's recreation economy. Colorado's public lands and waters are the outdoor industry's infrastructure.

In Chapter 3 page 24, the Environmental Flow Tool is discussed. As a part of many SMPs, IWMPs, and BIP updates, flow needs for recreation were defined. Due to the importance of our water resources and watersheds on local economies, the recreational water needs gap must be quantified or otherwise represented in some way. Other needs or uses of water – agriculture, municipal, industrial – describe the gap between current conditions/needs and future water supply projections. This gap analysis can and should be completed for recreational water needs.

- 8) **Constructive approaches to storage and water development:** The Plan notes that new water development and storage will be necessary to provide a reliable source of supply to support people and the economy, including sustaining environmental and recreational flows. Further, the Update calls for investments in both new water development and conservation. **While storage and water development certainly play an important role in supporting environmental and recreational flows through efforts such as cooperative reservoir release programs, storage, and other water development projects such as transmountain diversions also have significant negative impacts on recreation and river health.** These impacts include reductions in flow and poor river connectivity. As such, we recommend that the final update include a framework to guide public investments that prioritize and sequence public funding to support the rehabilitation of existing storage infrastructure, compliment with nature-based solutions (NBS) and naturally distributed storage (NDS) as mentioned in our

comments in the Thriving Watersheds section, and water conservation and efficiency before committing limited public resources to the development of new water storage and transmountain diversion projects. As evidenced by the public opposition to the recent San Luis Valley export proposal, these types of projects should receive much higher scrutiny before public funding is provided to them, particularly in light of projected reductions in flows due to climate change, the fact that many river basins are overallocated, and that new development will likely have significant socio-economic and environmental impacts. With these considerations in mind, the CWCB should prioritize and sequence public investments towards rehabilitating existing storage infrastructure and increasing water conservation and efficiency programming, which may delay the need for additional, costly, and controversial new water development.

Part III: Equity Diversity and Inclusion:

- 1) ***Bolster commitment to equity, diversity, and inclusion through funding.*** Funding is passively referenced throughout the Plan but more needs to be done to ensure that existing and future funding streams are captured and spent strategically to meet our diverse needs, especially the needs of under-resourced and disproportionately impacted communities. The **Colorado Department of Natural Resources should establish a Chief of Equity, Diversity, and Inclusion to focus on equitable sharing of investments to disproportionately impacted communities.** Currently the systemic inequities are too widespread to be solved without a dedicated position working with stakeholders to identify needs, solutions, and prioritization of community investments.

- 2) ***Include a strategy for bringing in a larger range of voices and working towards creating greater resilience to climate driven drought, floods, and wildfires for the most vulnerable communities:*** While we applaud that equity language is used throughout the Draft, the Plan doesn't specify who is leading this work or how it will be done. We can look at examples of native and indigenous practices that work to improve resiliency. The Acequia water management practices in the San Luis Valley are a great example. Disproportionately impacted communities need to be part of the solutions to combat climate change and water insecurities. We must **set aside 40% of grant funding to go to the most vulnerable communities identified by the Colorado EnviroScreen. This should be 40% of funding for projects, education, and outreach specifically being geared towards, or specifically having a large impact on communities of color similar to the federal Justice 40 Executive Order signed by President Biden.** We recommend that these set-asides are included in the development of an interagency framework for increasing grant funding opportunities (Agency Action 4.6) and discussed in the

development of a more strategic funding plan to leverage federal resources (Agency Action 5.7). Representation in these conversations must not repeat historical exclusion and misrepresentation. We urge you to work in a spirit of lifting up those who are most at danger of impacts from climate change and water shortages as a way to lift up the entire community.

- 3) **Increase outreach:** To make meaningful progress around greater equity, diversity, and inclusion, **education and outreach programs should be improved to reach Latino communities and other disproportionately impacted communities. For example, the Statewide Water Education Action Plan (SWEAP) addresses education and outreach goals that support all Coloradans in understanding the State Water Plan. However current entities such as Water Education Colorado, Basin Roundtable Public Education Participation Outreach (PEPO) committees are not reaching communities of color** (Chapter 4.5 of the Water Plan). Under Agency Action 4.2 regarding the development of a grassroots universal handbook, we also encourage the CWCB to include stronger directions to Basin Roundtables to adopt measures that will support broad agency commitments to equity, diversity, and inclusion such as continuing to offer virtual attendance options, opportunities for public engagement, and processes for cultivating new voices on the Basin Roundtables. We need to ensure that education and outreach is targeting Coloradans in the language that they are comfortable learning in.

- 4) **Enhance the IBCC's commitment to diversity:** In the Colorado Water Plan Draft it states that "the Interbasin Compact Committee (IBCC)" provides an important, diverse, and balanced forum for policy input across Colorado" yet we know that historically marginalized groups and disproportionately impacted community voices have not been appointed to the Committee. The state should commit to adding **greater diversity to the membership of the IBCC so that its composition more broadly reflects the true make-up of all Coloradans.**

Recommended Partner Actions

Thoughtful Storage (page 6-45): Enhancing connections between headwaters streams and their floodplains can enhance natural storage of water in the soil and groundwater. This can reduce risks from flooding and wildfire, protecting infrastructure, as well as buffer the impacts of drought on streamflows and water supplies. We recommend including language on Natural Distributed Storage here to make the essential connection of this Thoughtful Storage section to the other Thoughtful Storage sections throughout the Plan, including language on Nature Based Solutions in each one.

Meeting Future Water Needs (page 6-45): In this section, there is no mention of collaborative water sharing agreements (CWSAs). We believe that CWSAs with agricultural users can provide a flexible water supply for communities while supporting the economic vitality of agriculture. We recommend that the final Plan include mention of CWSAs in this section.

Healthy Lands (page 6-46): In the *Support for natural and working lands* section, the term “**Natural Climate solutions**” is mentioned, but exists as the first and only use of the term throughout the Plan. That term grows more essential as we look for ways to work in conjunction with nature to build resilience. We recommend using the increasingly important term *natural climate solutions* more frequently throughout the Plan and explicitly referencing the state’s Natural and Working Lands Strategic Plan to Reduce Greenhouse Gas Pollution when discussing this important topic.

Recommended Agency Actions:

- *Action 4.5 (6-52) - Convene workshops on water and climate vulnerability, adaptation, and resilience*
 - Make sure that these convenings prioritize community participation from those communities identified as disproportionately impacted as well as prioritize identifying solutions that include watershed health and resiliency, rather than only focusing on climate impacts.
 - Think through how prioritization of projects and use of tools included in Thriving watershed section (such as FHZ, wildfire ready watersheds, other planning tools) can help to inform these workshops
- *Action 4.10 (6-55) - Create a drought resiliency toolkit*
 - Include nature-based solutions and the importance of healthy headwaters to drought resilience.
 - The action item focuses on providing local communities with drought planning tools/info to create a “water security roadmap.” But, in most cases, municipalities don’t have the authority to implement these plans on federal forest lands where most of Colorado’s water originates. CWCB should provide additional guidance for local communities to help them navigate the diversity of land ownership and jurisdictions to allow them to work effectively with large public and private landowners.

ROBUST AGRICULTURE

We are pleased to see that the Robust Agriculture section of the Plan emphasizes the importance of collaborative partnerships with the agricultural sector. Many of the partner and agency actions identified will help Colorado maintain its rich agricultural heritage while increasing resilience to climate change and drought. We celebrate many updates in this section, from **changing the term from Agriculture Transfer Methods to Collaborative Water Sharing Agreements**, thus recognizing that these tools are collaborative and voluntary and generate multiple benefits for all parties, to expanding peer-to-peer programs to provide producers with the information and experiences necessary to inform their decisions to voluntarily adopt water-use efficiency and conservation practices.

We also see opportunities for improvement throughout the Robust Agriculture section. We appreciate this opportunity to offer recommendations that could further strengthen or expand the actions presented.

General recommendations

The Robust Agriculture section should increase its focus on strategies for managing water demands and the benefits of conservation efforts, promoting broader climate adaptation and resilience strategies, and prioritizing increasing efficiency improvements that can provide localized flow enhancements. As the Plan itself addresses, in the face of drought and climate change, Coloradans will have to live with less, so we need to ask ourselves: What will resilient agriculture look like in the future?

Meeting future water needs requires both creative approaches and working with farmers and ranchers to scale the adoption of water-use efficiency and conservation practices that result in enhanced environmental flows and benefits. In the face of climate change and declining water supplies, we also need to support new approaches to keeping agriculture and agricultural communities economically vital, including **researching more drought resistant varieties of forage crops, growing different crops that require less water, and growing higher value crops on less acreage, as well as supporting the marketing infrastructure to support these approaches.** **Enhancing forage quantity and quality through wet meadow restoration and better grazing management can also improve productivity with existing water supplies.** It is important to look holistically at the economic vitality of farms, ranches and communities and focus on sustaining prime food and fiber producing agricultural lands in the face of climate change and declining water supplies. The state and its partners need to find feasible ways to support producers in adopting new, innovative strategies to continue to thrive in a drier future.

Recommended Partner Actions

Wise Water Use (page 6-22): In the *Conveyance* and *On-farm efficiency improvements* sections, we strongly recommend adding the positives associated with these investments for producers including: (a) reduced labor costs, (b) storage benefits, (c) more beneficial use for crop production, (d) protection for water service disruptions, (e) more efficient/predictable water deliveries for water users on a ditch system, among others. On the Western Slope and in the Arkansas Basin, these improvements also address water quality enhancements (key focus of the Colorado River Basin Salinity Control Program and selenium reduction for ESA). **While it is fair to note that efficiency improvements in some cases negatively affect return flows, it is important to note that they can also provide localized streamflow benefits.**

Additionally, for both the *Efficiency* and *Lower-water use cropping* sections, the CWCB should include ways to address remaining legal and policy barriers to adopting conservation and efficiency practices. **We recommend two ways in which the CWCB could address these barriers:** (a) exempting efficiency improvements/savings from abandonment and not penalizing producers who switch to lower water use crops with HCU penalties; (b) providing more investments in measurement devices to account for water savings from these practices may be helpful, along with expanded technical assistance to support decision-making to adopt new crops.

Healthy Lands (page 6-22): In the *Natural and working lands and greenhouse gas emissions* section, we recommend that the CWCB adds reference to the state's [Natural and Working Lands Strategic Plan to Reduce Greenhouse Gas Pollution](#). CWCB should ensure that recommendations in the final Water Plan are consistent with recommendations in the Natural and Working Lands Strategic Plan. We recommend focusing on small but important potential greenhouse gas co-benefits of avoiding conversion of agricultural lands, certain cover cropping practices, improved grazing management, reforestation, and wetland restoration.

Integration Across Action Areas (page 6-23): We recommend that, in the *Thriving Watersheds* section of this call-out box, the Plan also include information about how nature-based solutions (e.g., restoring wetlands and riparian areas) can benefit agricultural producers by promoting natural storage, enhancing range condition, and providing drought mitigation.

Recommended Agency Actions

2.1 Peer-to-Peer Programming: Peer-to-peer programming can be an effective strategy for providing producers with the information and experience necessary to inform their decisions to voluntarily adopt water-use efficiency and conservation practices.

Recommendations:

- We recommend that the CWCB strategy for expanding these programs focus on existing programming, such as the *Colorado Master Irrigator Program*, which provides a multi-disciplinary approach to providing important information and enabling producers to build communities of practice with research, extension, and private industry partners. The Colorado Master Irrigator Program addresses key shortcomings in more traditional peer-to-peer programming efforts that can fail to adopt water-use efficiency and conservation practices absent adequate incentives or follow-up monitoring/evaluation of practice adoption. The Colorado Master Irrigator Program addresses these shortcomings by providing participation stipends that encourage producer attendance and engagement and by making program graduates eligible for discounts on irrigation efficiency equipment and federal financial assistance opportunities. Further, the program includes an extended monitoring component that measures how program graduates conserve water following the course.
 - The Colorado Master Irrigator Program is rapidly expanding from the Republican Basin to include the San Luis Valley and Southwestern Colorado. We encourage CWCB, and other state partners, to continue dedicating public funding to the program in partnership with other public and private entities. Maintaining and expanding the Colorado Master Irrigator Program should be a central component of the strategy called for under Agency Action 2.1, or, alternatively, be the focus of the action.
- We further recommend that CWCB and CDA work with important partners such as Colorado State University and USDA Climate Hubs to expand the program's curriculum to include regionally-appropriate water conservation and resilience strategies, such as (a) deficit irrigation, (b) regenerative agricultural practices, (c) restoring wetland and riparian buffers to promote natural water storage, (d) revenue opportunities for converting more marginally productive land to new uses, and (e) conversion to lower-water or drought-resistant crop varieties.
- CWCB, along with other partners, should develop guidance and best management practices to help increase conservation and efficiency upgrades in situations where the producer doesn't own the land or water. According to the National Young Farmers Coalition (NYFC), nearly 25% of producers in the state operate on lands they do not own. This creates inherent challenges and can result in significant disincentives for conservation and efficiency upgrades, since management decisions are largely outside of the producer's control. For example, the producer may desire to be more efficient but the water right holder may have concerns about using less water and risks of abandonment. The final Plan should address these challenges.

2.2 Capacity Building Efforts and Leadership Development: We support the CWCB's recognition that developing the next generation of agricultural producers and professionals will be important to cultivate new and diverse perspectives in addressing Colorado's water resource challenges. Young farmers and ranchers are underrepresented in Colorado's water policy-making bodies, such as the Basin Roundtables and boards of various water management entities. New and young farmers may be eager to engage more in water resource issues. Still, they often lack the resources to meaningfully participate in discussions as they tend to operate smaller, labor-intensive farming operations and marketing channels that preclude participation in water deliberative processes for most of the year.

Recommendations:

- To address the challenges mentioned above, we recommend that CWCB continue to evaluate opportunities to make the Basin Roundtables and other public water deliberative forums more accommodating to individuals and organizations that lack resources to attend and participate in discussions, perhaps maintaining virtual participation opportunities and providing participation stipends for individuals and organizations to attend public water meetings.
- Further, we recommend that the CWCB and CDA adopt a formal *Young Farmer Water Fellowship Program*, based on the existing CWCB-funded initiative led by the NYFC. NYFC's Colorado Young Farmer Water Fellowship Program is designed to provide next-generation producers with the skills necessary to take a more active role in water planning, including running for seats on local water boards and commissions. Program participants are also provided with important information concerning water policy and planning in Colorado and state and federal funding opportunities for climate-smart agriculture and water conservation practices. Program participants must seek a position on a water decision-making body as part of the course.
- We recommend that the final Plan include a reference to the NYFC program or call for the development of a more formal state water leadership training program geared to providing younger farmers and ranchers with the tools necessary to take on water leadership positions in Colorado. This latter program should be developed to accommodate a diverse range of agricultural voices including acequias, Tribes, urban farmers, and other historically underserved and underrepresented producers.

2.3 and 2.4 Collaborative Water Sharing Agreements: Overall, our organizations again appreciate the change of terminology from Alternative Transfer Methods (ATMs) to Collaborative Water Sharing Agreements (CWSAs), as the latter better describes the collaborative and voluntary nature of these tools. This is a crucial distinction from other water transactions that may result in the "buy and dry" of irrigated agriculture without considering

local, regional, and state-wide socio-economic and environmental impacts. Further, our organizations are encouraged to see the Plan include partner and agency actions encouraging the development of additional CWSAs, which continue to emerge as effective tools for addressing multiple water resources challenges, including meeting growing water demands, enhancing augmentation supplies, and drought impact mitigation.

Our organizations are also generally supportive of both Agency Actions 2.3 and 2.4, which would address key barriers to CWSA adoption.

Recommendations:

- Under Agency Action 2.3, we encourage CWCB to evaluate a cooperative agreement model with local and/or regional partners to help facilitate CWSA outreach and project development. Successful examples that could be models include CWCB's current arrangements with the River Network to support the development of new stream management and integrated water management plans and the Colorado Water Trust to facilitate voluntary water acquisitions benefiting instream flows.
- CWCB should set aside a portion of Colorado Water Plan funds for CWSAs to support these cooperative arrangements and project development opportunities, as well as to expand outreach and education efforts on the impacts and benefits of CWSAs to agriculture and communities.
- Our organizations also look forward to working with CWCB to develop online resources to support CWSA development and other resources such as the CWSA toolbox and DWR outreach to water users mentioned in Agency Action 2.4.

In addition to the above, we offer the following recommendations considering CWSAs in the final update:

- The CWCB, in the final version of the Colorado Water Plan, should create a standalone CWSA section or call-out box between the Vibrant Community and Robust Agriculture sections that reflects the diversity of CWSAs. CWSAs, while predominantly designed as an alternative to more traditional "buy-and-dry" activities to sustain irrigated agriculture, should also encompass other innovative voluntary water-sharing opportunities that don't necessarily involve agriculture as the source of supply. Examples include municipal leasebacks and surplus leasing programs like those offered by the City of Greeley. These municipal programs provide important water resources for sustaining irrigated agriculture but have historically not been included in discussions around ATM development and support.
- Overall, given the diversity of CWSA opportunities in Colorado, we recommend that CWCB move existing CWSA Agency Actions into a dedicated section of the Plan, which

could create an opportunity to expand other robust agricultural actions. Alternatively, we recommend that CWCB highlight these other CWSA approaches throughout the final Plan, perhaps on page 5-25 which generally discusses CWSAs, and provide a clear statement that Colorado Water Plan funding for CWSAs can support a broader range of voluntary water-sharing activities.

- The final Colorado Water Plan should incorporate additional policy recommendations from the CWCB report entitled [Alternative Transfer Methods in Colorado: Status Update, Framework for Continued Support, and Recommendations for CWCB Action](#) published in July 2020. The ATM Report was developed with extensive input from the Basin Roundtables, past and current ATM participants, and other experts in Colorado’s water community. The report provides a suite of collaboratively developed policy recommendations that would reduce significant barriers to CWSA adoption, including: (a) reducing regulatory uncertainty by allowing agricultural lands participating in a CWSA to be eligible for protections from abandonment and historical consumptive use penalties in a subsequent water court proceeding, (b) encouraging flexible dry-up agreements that allow for continued irrigation of properties with alternative water sources, and (c) working with municipal water providers to review their water dedication policies, which may be contributing to “buy-and-dry” practices.
- Further, we recommend that CWCB move forward with an evaluation of existing CWSA administrative tools, such as Interruptible Water Supply Agreements and the Lease-Fallow Pilot Program, to identify opportunities for combining or standardizing administrative tools. This could help prospective CWSA participants better navigate their options while providing more flexibility to accommodate a broader range of CWSAs.

2.5, 2.6, and 2.10 Climate Adaptation Planning and Assistance: These three agency actions all touch on a need to provide financial and technical assistance to communities to develop and implement plans focusing on sustaining agriculture in the face of significant water resources challenges such as urbanization, large-scale “buy-and-dry”, natural hazards, and climate change. **Our organizations support CWCB working with partner agencies, including DOLA and CDA, to provide communities with resources to make informed decisions around agriculture and climate adaptation as water supplies dwindle, which may force some irrigated land out of production.** For example, both the Republican and Rio Grande Basins are working to retire irrigated acreage at significant scales and are beginning to evaluate alternative agricultural operations such as dry-land farming. However, climate change and drought could lessen the financial viability of dry-land farming, and simply retiring irrigated acreage without mitigation could generate significant environmental and public health impacts.

Recommendations:

- CWCB, along with other partners, should develop guidance and best management practices to help increase conservation and efficiency upgrades in situations where the producer doesn't own the land or water.
- We encourage CWCB to work with other federal and state agencies, stakeholders, and partners to develop a more comprehensive, programmatic approach to assisting communities and ag producers in navigating drought and water-induced changes in agriculture to ensure that rural communities continue to thrive while also promoting food security, enhancing fish and wildlife habitat, and achieving sustainable water management objectives.
- One model for consideration is [*California's Multi-benefit Land Repurposing Program*](#), which seeks to increase regional capacity to work with agricultural producers and communities to reduce reliance on groundwater while providing community health, economic well-being, water supply, habitat and climate benefits. The program supports implementation of California's Sustainable Groundwater Management Act, which requires communities to develop plans to reduce groundwater overdraft. The program supports this effort by providing regional block grants to develop agricultural adaptation strategies, such as transitioning to less water intensive crops or perennial systems, creating multibenefit water recharge areas, and transitioning marginal ground to native habitat, which could in turn help a producer become eligible for ecosystem service payments.
- While this program is simply presented as a model, a similar coordinated program within Colorado that provides block grants to regional entities in water-stressed agricultural regions to develop adaptation plans and projects that achieve water conservation objectives while providing community and environmental public benefits could be a helpful resource as communities navigate changes associated with declining water supplies. This program could also encourage additional research on new technologies and drought-tolerant crops and involve working within regional and local food systems to pinpoint how to establish new markets and infrastructure for more resilient agricultural practices.

2.7 Federal Assistance for Groundwater-Dependent Regions: Enhancing access to federal programming and resources to support water conservation and water-use efficiency in the agriculture sector will be important in light of the significant water resource challenges facing Colorado. Our organizations support CWCB's commitment to work with federal agencies and other stakeholders to explore ways to overcome current barriers to accessing federal water conservation programming. These efforts are timely given the unprecedented amount of federal funding available through the Infrastructure Investment and Jobs Act (IIJA) and the Inflation Reduction Act (IRA) and the need to deliver these funds to support on-the-ground

water conservation measures in a timely and efficient manner (e.g., IJA funds being only available through the federal fiscal year 2026).

Recommendations:

- The upcoming Farm Bill discussions in 2023 will be an important opportunity to address current barriers to accessing federal conservation assistance. Our organizations welcome working with CWCB to address these federal barriers, because improving program delivery would also achieve important co-benefits for the environment and recreation.
- In particular, our focus has been on improving Reclamation's WaterSMART program, which has several barriers, including a high cost-share requirement, lengthy contracting processes, and significant costs associated with environmental compliance. Other important federal programs in need of immediate improvements include USDA's Regional Conservation Partnership Program (RCPP) and the Water Management Entity provisions of the Environmental Quality Incentives Program (EQIP), both of which can support water conservation and efficiency initiatives at regional scales, but have been hindered by complicated application and contracting processes, as well as inadequate staffing and staff capacity.
- Further, while we understand the critical challenges facing groundwater-dependent regions in the state, we encourage CWCB to expand the focus of this action to improve access to federal programs to other regions of Colorado in need of immediate assistance in mitigating long-term drought impacts to surface as well as groundwater supplies. For example, Southwestern Colorado farmers and ranchers, including the Ute Mountain Ute Tribe, continue to grapple with significantly reduced surface water allocations from the Dolores River Project. These reduced deliveries forced many irrigators to either leave fields fallow or scale back production. Working with USDA to address the programmatic issues to address both ongoing surface and groundwater availability challenges therefore is warranted and could help producers reliant on declining surface water supplies to adapt to sustain some agricultural production while using less water.

2.8 Agricultural Infrastructure Funding: Our organizations appreciate CWCB's recognition of several important barriers to accessing public funds for multi-benefit water infrastructure improvements, including difficulty navigating public funding opportunities, securing matching funds, and inadequate organizational capacity to apply for and administer public funding opportunities. While these challenges are certainly relevant to agricultural water projects, the same barriers are a challenge for a broader range of water users and stakeholders including, but not limited to, Tribes, acequias, smaller municipalities, and forest and watershed collaborative organizations. According to a study by Headwaters Economics, these barriers to

funding are most apparent in rural communities, which also generally struggle with mitigating natural hazard impacts to important infrastructure such as reservoirs and wastewater treatment facilities.³

Recommendations:

- We recommend that CWCB expand Agency Action 2.8, or include an Agency Action in the Resilient Planning section, acknowledging that these barriers to accessing public funding to implement water projects are universally experienced across other types of water users and entities and that CWCB should build upon existing efforts and programs to address these barriers.
- Specifically, we encourage CWCB to include the following recommendations in the final version of the Update:
 - **Multi-Benefit Coordinator Program:** CWCB, in 2021, awarded a Colorado Water Plan Grant to the River Network to pilot a Multi-Benefit Project Coordinator Program in the Yampa and Southwestern Basins. The objectives of the pilot include providing agricultural organizations with resources to increase the pace and scale of developing multi-benefit water infrastructure projects by providing more dedicated capacity to smaller agricultural water providers that may otherwise lack the resources to navigate or apply for public funding. The pilot program has been a success in both the Yampa and Southwest Basins, providing landowners with technical assistance to carry out projects that integrate watershed adaptation and resilience benefits. These coordinators help build trust and capacity in rural, agricultural areas, and could supplement the extension of technical assistance that will be offered by CWCB's new regional project support positions. Collectively, the coordinators have helped cultivate 50 projects to move towards applications for public funding. Overall, our organizations recommend that CWCB continue financially supporting the pilot program, leveraging investments to assist the four new regional CWCB project support positions by allowing additional public and private entities to assist in project development. Additional capacity is warranted given the unprecedented amount of federal funding available through IIJA and the IRA for water projects. The pilot program could be modeled after the California Department of Conservation's Watershed Coordinator Grant Program, which provides funding

³ <https://headwaterseconomics.org/equity/rural-capacity-map/>

to support project coordinator positions and the development of plans and projects to improve watershed health.

- **Permanently Authorize the Capacity-Building Program:** Our organizations are also encouraged by the recent development of dedicated resources within CWCB to offer capacity-building resources to support the development of grants for federal funding opportunities. House Bill 22-1379, utilizing funds from the American Rescue Plan Act (ARPA) State and Local Fiscal Recovery Fund, provides \$5 million for capacity-building grant programs to allow CWCB to support local entities through contract technical assistance and direct local capacity grants to develop applications for federal funds under IJJA and other federal programming to advance Plan objectives. While these are still new resources, our organizations have heard tremendous interest from watershed organizations and other partners about the importance of capacity support. Given that all capacity grants must be executed by the end of 2024 (and spent by the end of 2026), our organizations recommend that the final update include a commitment to sustaining this program post-2024, perhaps introducing dedicated funding through the annual projects bill process to support continued capacity building. This recommendation could build on the existing project bill request for the Technical Assistance for Federal Cost-Share Program. Further, we recommend that the CWCB model the program after the Colorado River District's new Accelerator Grant program, which provides a dedicated source of funding to support grant writing, feasibility, design, environmental review, and engineering support for federal funding applications. Collectively, our organizations believe these types of programmatic efforts will go a long way to leveraging additional resources to support projects in line with the Colorado Water Plan.

2.9 Agriculture Water Quality: This action needs clarification. As stated, it is not clear if the section is meant to address problems with the quality of water producers have available to them, or producers' impact on downstream water quality, or both.

Recommendation:

- The language in this section should be adjusted to clarify the focus and goal of this section. The CWCB should directly address reducing agricultural impacts to water quality. One way to do this would be to make employing best management practices for addressing relevant water quality problems a condition of other state grant assistance.

THRIVING WATERSHEDS

We are pleased to see that the Thriving Watersheds section of the Plan recognizes the threats of climate change-induced impacts that are resulting in hotter and drier conditions, as well as other natural hazards, such as wildfire. We appreciate the shared stewardship ethos and the goal that 80% of the 94 subbasins (HUC 8) have active and integrated plans with corresponding plans for developing and implementing a pipeline of projects that support environmental and recreational needs. We also appreciate many of the identified actions such as development of a Colorado River Health Assessment Framework, comprehensive stream construction guide, and enhanced funding for watersheds, environment, and recreation, among several others. As demands increase and the impacts of drought and climate change continue, we must be proactive to better manage our watersheds and ensure our rivers remain resilient in the face of climate change. We must also ensure that they are prioritized when considering other actions to address broader water security needs.

There are many excellent actions for partners and agencies included in this section. However, the planning horizon for the different actions is quite long and there are limited metrics associated with them. Vision (6-3) includes the statement that the Plan hopes to “achieve greater resilience in each of 4 action areas by 2050” and also mentions on pages 3-40 that the “planning horizon is through 2050.” To help track progress, we recommend the CWCB to shorten this timeline and establish more specific near-term dates and targets on pages 1-9 and 6-3 (as well as other relevant places) to assist in accountability for the overall vision and each action area.

We appreciate this opportunity to offer five overarching recommendations that will result in healthier rivers and more resilient watersheds.

1) The Plan should describe the benefits of healthy rivers and watersheds and provide a more specific reference to the risk facing Colorado’s waterways. Colorado’s rivers and watersheds are essential for Colorado’s water-resilience against climate change, and they support our way of life and enhance our statewide water security. **Maintaining and restoring the health of Colorado’s waterways is crucial as climate change impacts continue to adversely affect water resources for people and nature.**

We appreciate the CWCB staff and board for the work that went into drafting and identifying the vision, partner actions, and agency actions for the Thriving Watersheds section. Rivers and watersheds are critical to our way of life in Colorado and support all aspects of our economy. The Vision statement (6-5 and 6-32) acknowledges the importance of rivers and watersheds, which we appreciate and agree with. As currently drafted, the Vision states that water

resources planning *should* consider the conditions of forests, streams, etc. However, we believe water resource planning *must* consider conditions of forests, streams, etc. in the vision. Our rivers, streams and forests provide many benefits to Colorado – including climate resilience – and cannot be an afterthought.

The vision should also incorporate projects that are designed specifically to address environmental goals and benefits, not just those that are multi-benefit. This sentence (6-32) could be improved upon to achieve this goal, “Rather than implementing a patchwork of watershed health projects, our efforts must increasingly seek to create more opportunities for multi-benefit projects.” We believe it’s not either/or, but instead a strategic approach to achieve both environmental and multi-benefit projects. However, the follow through for actions and metrics — both partner and agency — are unclear and, as currently drafted, do not create space for projects that are uniquely focused on addressing environmental goals.

The Summary of Statewide Findings (3-26) should be edited to include more specific reference to the increasing drought and climate change risk to Colorado’s waterways, critically low flows and to acknowledge this risk will grow, and the challenge that it represents for wildlife and fish, recreation opportunities, and the economy. The Plan should recognize to a greater degree the critical role that Colorado’s instream flow (ISF) program plays in maintaining and improving stream flows necessary for Colorado’s watersheds to thrive. **However, as rivers are warming and flows decrease, we are reminded that many ISF rights are insufficient in priority date,** flow rate, and/or timing, to protect the fish and wildlife they were appropriated to maintain. In those cases, it will be critical to apply other solutions, which may include securing senior water rights leases and floodplain restoration upstream of the ISF if the stream is incised.

In addition to actions detailed in 3.7 – “reduce barriers to participation in the Instream Flow Program” – the Plan should reference the need for a review of the instream flow program and recommendations for the state to increasingly use its existing authority to acquire high priority water rights in the amounts truly necessary to maintain *and improve* the health of Colorado’s rivers and streams.

While challenging, we must identify the water supply gap for the environment. Healthy, clean, and flowing rivers benefit all the state’s water users. However, climate change represents a significant threat to the long-term viability of Colorado’s rivers. [Recent climate data](#) show significant declines in flows for Colorado’s rivers, particularly rivers such as the San Juan (30% decline) and Dolores (21% decline). Enhancing the resilience of Colorado’s watersheds to climate change, through actions such as the use of nature-based solutions, can help mitigate impacts from natural disasters to Colorado’s rivers. Examples of nature-based solutions most relevant in this context are strategically restoring degraded incised headwater streams/wetlands/wet meadows in watersheds critical to drinking water supplies.

In Chapter 3 page 24, the Environmental Flow Tool is discussed. As a part of many SMPs, IWMPs, and BIP updates, non-consumptive flow needs were defined. Due to the importance of healthy rivers and watersheds for local economies, the water supply gap to meet environmental needs must be quantified or otherwise represented in some way. Other needs or uses of water – agriculture, municipal, industrial – describe the gap between current conditions/needs and future water supply projections. **A gap analysis of some kind should also be completed for environmental water use to ensure that environmental water needs are considered directly in water supply planning activities rather than being only a secondary consideration in these forums.**

We also suggest highlighting the challenges that are associated with meeting ISF junior water rights and developing actions to ensure ample water is available to benefit the environment and fish. For example, enrolling into a temporary lease or loan is extremely complex and can be costly for the water right holder. The Plan doesn't mention this challenge and we believe addressing this barrier is fundamental toward ensuring rivers are not depleted to meet other needs. The final Plan should also recognize and prioritize other methods for supporting flows, such as dedicating annual funding for leases, loans, and acquisitions of water to the CWCB's ISF program via the annual projects bill or other methods. We also see opportunities with re-timing reservoir releases to times that are most beneficial to the health of rivers for environmental and/or recreational needs.

Additionally, we are very supportive of Action 3.2 and believe a stream construction guide will benefit our rivers and streams. This is a much-needed attempt to provide a guide for Colorado stream construction best management practices which we assume will guide project application design and development, and inform funding approval/rejection. Given there is a wide margin for stream restoration or construction, we encourage the inclusion of process-based restoration in this framework. As it reads currently, the language appears limited to form-based restoration work that's being done by entities having to work in streams due to infrastructure needs (e.g., roads, canals, etc.). We also think the action would benefit from a list of currently available local, state, and federal funding opportunities to support stream restoration in Colorado and opportunities to leverage funding sources to increase the pace and scale of projects.

Finally, another important strategy for protecting and restoring rivers is the collection and access of data. Unfortunately, river health and condition data are not consolidated in a publicly accessible way. This is an overarching problem hindering or preventing agencies and other partners from developing strategies to support healthy rivers and/or restore those in need.

While Action 3.8 aims toward solving that problem, the Water Planning Hub is at the watershed level and insufficient as a singular data clearinghouse for rivers. We encourage CWCB to work with CPW to determine which agency is responsible for being a data repository and to include this in Action 3.10. When doing so it will be important for data to be included that addresses both environmental and recreational needs.

2) The Plan should further incorporate nature-based solutions and healthy natural water infrastructure as a drought and climate resilience tool.

We appreciate the CWCB's inclusion of nature-based solutions and actions to restore stream health in the Plan update. **However, we believe there is an opportunity to include additional references to the importance of nature-based solutions and healthy natural water infrastructure as a drought and climate resilience tool.** Currently, these concepts are mentioned in Chapters 3, 5 and 6, but could be bolstered by additional information about the benefits of nature-based solutions. We suggest defining key terms in Chapter 3 as they are used in the Plan and how they help achieve resilient rivers and watersheds.

- **Natural water infrastructure** are the source watershed streams, wetlands, and meadows that capture the annual snowmelt and storm events and provide critical drinking water for communities across the West. In the Western United States, 65% of the drinking water supply comes from forested watersheds. Forests and their natural water infrastructure also serve as natural reservoirs; enhancing drought resilience through soil moisture storage and groundwater recharge helps sustain river base flows in the summer.
- **Natural climate solutions** are actions to protect, sustainably manage and restore natural and modified ecosystems in ways that mitigate climate change, while also addressing other societal challenges. Among the most cost-effective strategies to benefit rivers and the surrounding landscapes is by utilizing our natural systems to bolster resilience against drought, wildfire and floods. Natural climate solutions focus on carbon dioxide mitigation such as protection of healthy meadows or restoration of meadows which store more carbon than degraded meadows.
- **Nature-based solutions (NBS)** are actions to protect and sustainably manage and restore natural or modified ecosystems to provide human wellbeing and ecological benefits, and address a broader range of societal challenges from food security to disaster risk, including climate change. They include practices like restoration, conservation, and other innovative solutions that lead to the sustainable management of source watershed floodplains, wetlands, and wet meadows.
- **Natural water storage** are actions that restore degraded natural meadow systems to improve local aquifer recharge, surface water to ground water cycling, and water

retention, reconnect historic floodplains, and support productive meadows and riparian ecosystems, also known as naturally distributed storage (NDS). This is a lower-impact and currently underutilized form of storage provided by healthy stream systems. Just as snowpack has historically provided a natural storage reservoir, healthy and restored wetlands in the headwaters can play an important role in attenuating water runoff from snow and storm events that can contribute to late season streamflows.

There are several opportunities throughout the Plan to mention the ecosystem service benefits of nature-based solutions and healthy natural water infrastructure. These benefits include drought⁴ and flood resilience; wildfire resilience⁵; improved water quality⁶; increased forage⁷; reduced sedimentation⁸; and improved habitat⁹.

- (3-15) The Plan should mention that NDS provides benefits from healthy or restored wetlands, floodplains, beaver complexes and NDS should be included as one of the “drought responses.” Additional information to incorporate is that NDS is a strategy to increase resilience to a changing climate, specifically related to drought and wildfire. Additional benefits of NDS include reduction of sedimentation to downstream hard infrastructure (e.g. reservoirs and diversion structures), and attenuating snow and storm runoff that can result in extending later season flows.
- (3 17-19) Add an explanation of the benefits of healthy natural water infrastructure and NDS and incorporate a similar diagram to that of return flows on page 3-17 to increase understanding of the benefits of natural storage.
- (3 24- 25) Include additional information about the benefits of restored, healthy stream systems, such as resilience against drought, fire, and floods; reduced sedimentation; improved water quality; and recharged groundwater. An illustration or visual of the difference between a healthy versus unhealthy system would help to illustrate the need for restoration.

⁴ Larsen, A., Larsen, J., & Lane, S., (2021). Dam builders and their works: Beaver influences on the structure and function of river corridor hydrology, geomorphology, biogeochemistry and ecosystems, *Earth-Science Reviews*; Hood, G. & Bayley, S., (2008). Beaver mitigate the effects of climate on the area of open water in boreal wetlands in western Canada, *Biological Conservation*.

⁵ Fairfax, E., & Whittle, A. (2020). Smokey the Beaver: beaver-dammed riparian corridors stay green during wildfire throughout the western United States. *Ecological Applications*.

⁶ Thomas, S. et. al., (2021). The importance of oxbow lakes in the floodplain storage of pollutants, *Geology*; Puttock, A., Graham, H. A., Carless, D., & Brazier, R. E. (2018). Sediment and nutrient storage in a beaver engineered wetland. *Earth Surface Processes and Landforms*.

⁷ Silverman, N. L., Allred, B. W., Donnelly, J. P., . . . Naugle, D. E. (2018). Low-tech riparian and wet meadow restoration increases vegetation productivity and resilience across semiarid rangelands. *Restoration Ecology*, and [It Was War. Then, a Rancher's Truce With Some Pesky Beavers Paid Off. - The New York Times \(nytimes.com\)](https://www.nytimes.com/2022/09/06/us/politics/beaver-dams-riparian-restoration.html) Sept 6, 2022.

⁸ Puttock, A., Graham, H. A., Carless, D., & Brazier, R. E. (2018). Sediment and nutrient storage in a beaver engineered wetland. *Earth Surface Processes and Landforms*.

⁹ Bouwes, N., Weber, N., Jordan, C. E., . . . Pollock, M. M. (2016). Ecosystem experiment reveals benefits of natural and simulated beaver dams to a threatened population of steelhead (*Oncorhynchus mykiss*). *Scientific Reports*.

- (5-14) Include the benefits of natural water infrastructure within the Watershed Planning subtopic to ensure watershed planning is considering the environmental benefits and the ecosystem services of improving stream health.
- (5-21) Incorporate NDS in the section for Water Storage, particularly the sedimentation and erosion benefits it provides for downstream hard infrastructure such as reservoirs, and include NDS in the “Opportunities for storage” call out box.
- (5-26) Describe further what process-based restoration (PBR) is and how it differs from form-based restoration. PBR restores natural river processes (hydrology, sediment routing, nutrient cycling) by reconnecting incised degraded streams with their floodplains and adjacent wetlands (if historically present) so that more frequent inundation of the floodplain occurs. Providing additional information – including details about PBR demonstration projects as well as links to resources (such as [Utah State University’s Restoration Consortium](#) that has a number of resources including the Low-Tech Process-Based Restoration of Riverscapes Design Manual) – would also be useful in scaling up these efforts.
- (6-32) Include a call-out box within the Thriving Watersheds intro explaining what PBR is and the benefits, similar to the “What is Shared Stewardship” call out box.

Incorporating the benefits of NDS and healthy natural water infrastructure into the Plan is important to provide an understanding of why natural storage is another critical tool in the toolbox. The Plan needs to provide leadership on how Colorado can work towards reducing an over-reliance on traditional storage, which is much more costly, requires significant maintenance, and negatively impacts the natural environment.

Under the Thriving Watershed’s “Thoughtful Storage” section (6-33), we strongly recommend striking the language about the need for augmentation in environmental projects such as stream restoration. We recommend replacing that sentence to instead incorporate language about the importance of natural water storage and the benefits it provides, including benefits for existing water infrastructure. This could point back to the callout box on NBS or a reference to the Water Storage section of tools in Chapter 5. When designed and implemented thoughtfully, using best practices including outreach to private property and water rights owners, stream restoration should not injure downstream water rights. Highlighting the potential need for augmentation could unnecessarily create a chilling effect for projects. If a project in fact causes injury, we recognize it would need to be modified. However, the Plan should not presuppose this result and state that augmentation plans may be required. Instead, mentioning the need for stakeholder outreach to identify and respond to local needs, as well as regulatory compliance, should be sufficient to avoid implying support for projects that could cause injury. There is significant state and federal funding available to implement these projects

and great urgency surrounding the development of these projects that help to bolster Colorado's resilience.

3) The Plan should prioritize investments in wildfire mitigation and preparedness and watershed restoration to secure water supplies as our state becomes hotter and drier. We applaud the effort to create a wildfire ready watersheds framework and believe this action will help protect our water supplies. The section should more clearly reference the importance of restoration efforts such as process-based restoration and protection of natural water infrastructure working in tandem with more traditional ecological forest health methods such as forest thinning and prescribed burns. Additionally, the more traditional forest health methods should be specifically designed and implemented in a manner which preserves watershed health (including potential impacts from erosion).

Efforts to prioritize watersheds should be done in coordination with other agencies and their planning processes, including the USFS and their 10-Year Wildfire Fireshed Risk Update, as well as the Colorado State Forest Service and their State Forest Action Plan. We would also like to see a role for local governments, NGOs, and other partners to be involved in determining which watersheds to prioritize. As currently drafted, the Plan lacks clarity around the coordination between interagency and external stakeholder engagement. To ensure the final framework has widespread adoption, stakeholder input needs to be included and timelines for how and when the prioritization of watersheds will occur should be incorporated. Finally, the Wildfire Ready Watershed framework should be mentioned in Agency Action 4.10 – Creation of a Drought Resiliency Toolkit – with specific metrics such as a certain number of watersheds prioritized, plans created and projects designed.

To further secure our natural water infrastructure and water supplies, we recommend including additional information on 5-6 about watershed restoration techniques that support forest health. Specifically the Plan should include reference to and recommend process-based restoration and nature-based solutions to improve resilience as a wildfire reduction technique that occurs in parallel with more traditional forest health measures like thinning and prescribed burning. A 2020 study of large western US wildfires found that riparian vegetation around beaver complexes had a three times greater rate of survival than around stream segments without beavers. Treatments such as beaver mimicry structures or beaver restoration are being found to provide important fire breaks and, in some instances, help ecosystems rebound more quickly post-wildfire.¹⁰ Examples from the Cameron Peak Fire in Colorado and other locations in Idaho and California have shown that beaver complexes may experience a less intense fire or

¹⁰ Fairfax, E., & Whittle, A. (2020). Smokey the Beaver: beaver-dammed riparian corridors stay green during wildfire throughout the western United States. *Ecological Applications*.

create fire refugia for wildlife. Emerging science also indicates that intact or restored forested riverscapes also function as filters for ash and other fire-produced pollutants that enter waterways, maintaining water quality for wildlife and people, and reducing post-fire sedimentation impacts on built infrastructure.¹¹ Healthy stream corridors provide higher survivorship of post-fire mature trees, providing valuable seed sources for recovery.

To ensure that the state's most vulnerable communities have funding to support wildfire risk reduction efforts, we suggest connecting Action 3.3 with Action 4.4 – Interagency Environmental Justice Mapping Working Group and Action 4.6 – Developing Interagency Framework for Increasing Grant Funding Access. Doing so ensures the state's most vulnerable communities are identified and funding is strategically allocated to increase those communities' resilience to the impact of climate change.

4) The Plan should expand the Fluvial Hazard Zone Mapping Program as it is important for protecting our state's most vulnerable human and natural communities. We commend the CWCB for developing the Fluvial Hazard Zone (FHZ) program and for including natural water infrastructure in Action 3.5. We do believe there are opportunities to expand the program to further protect our most vulnerable communities. CDPHE's EnviroScreen Tool can be used to help with prioritization of communities that could benefit from an FHZ analysis. The Plan should more clearly reference how this effort connects with FEMA and the state Hazard Mitigation Plan which plays an important function in aligning federal funding for pre-hazard mitigation. The state hazard mitigation Plan is currently being updated. We encourage CWCB to work with the Colorado Division of Homeland Security and Emergency Management to align priorities and encourage the further integration of nature-based solutions into the state's broader hazard mitigation strategy.

5) The Plan should further discuss how Colorado will leverage the historic amount of federal funding that is being made available to address drought in the Colorado River Basin. We would like to see more information on the importance of building capacity within organizations at the local and state level to ensure that available funds are secured and prioritized for smart water projects in Colorado. We commend CWCB for creating new positions to help promote and spend state and federal funding for locally developed water projects and support efforts to provide grants and financial assistance to scale organizational capacity to access federal funds. More information should also be included on how Colorado can leverage available federal funds to address the Challenges, Risks, and Funding Shortfalls outlined in Chapter 5 such as improving water quality, replacing aging infrastructure, and improving forest health. Action 5.7,

¹¹ [Beaver Dams Help Wildfire-Ravaged Ecosystems Recover Long after Flames Subside](#). Isobel Whitcomb. February 2022.

Strategically Fund the Colorado Water Plan and Find Opportunities to Leverage Funding, is the appropriate place to reference ideas around capturing once in a generation federal funds.

The draft language related to Action 3.6 , *Enhance Water Plan grant funding*, does not articulate a clear goal for how CWCB wants to spend these dollars over the next decade and lacks metrics to measure success. We would like to see a focus and more details on aligning the Plan Grant Programs and other state funding with federal funding opportunities to maximize leveraging of these dollars to support Plan implementation. Extending the CWCB's Federal Technical Assistance Grant Program, established under HB22-1379, past 2024 can further support capacity/partnerships and increase scale of projects including more, larger-scale naturally distributed storage and grants supporting increasing the scale of applying nature-based solutions. With the passage of the Inflation Reduction Act (IRA), which authorizes funding for some federal programs through 2031, extending these state-level capacity-building resources will help Colorado remain competitive for federal funding.

POST 2026 COLORADO RIVER OPERATIONS & DEMAND MANAGEMENT

5.4 Support Colorado's Commissioner in the negotiations for the post-2026 reservoir operations: The Colorado River is in crisis and we commend Colorado's Commissioner for recent statements clearly articulating the need for additional conservation throughout the Basin. We have also been very pleased to see Colorado more directly engaging with Tribal representatives on water and Colorado River issues. As we get closer to 2026, we encourage the Commissioner to bring Colorado's recognition of the importance of protecting both consumptive demands and improving the health and function of our rivers and watersheds to the negotiating table. This more holistic approach to managing water resources should help build additional resilience to climate change impacts into our delicate river systems than we've experienced under the current operating guidelines.

5.5 Support ongoing efforts related to the Demand Management Feasibility Investigation: With an Upper Colorado River Commission (UCRC) demand management feasibility determination due in the coming months, we encourage the CWCB to take all low- and no-regrets actions as quickly as possible to provide Colorado water users with needed clarity and flexibility in the face of growing water shortages. Conservation in all sectors will be critical along with improvements to Colorado's forests and natural infrastructure, investment into water use efficiency improvements, and resources to support transitions to lower water use landscapes, products, and energy sources. The CWCB should engage with partners to remove barriers to the development of a demand management program so that it can be implemented quickly if and

when the UCRC and other upper basin states agree. New funding and incentives for conservation should also be developed to accelerate statewide water use reductions to more sustainable levels as we look towards increasing aridity and climate-stressed waterways into the future.

OVERALL WATER PLAN ACCESSIBILITY RECOMMENDATIONS

- We recommend that the CWCB improve the table of contents to be more robust in an attempt to help readers understand where key ideas and topics are in the document. Alternatively, the Plan could include an index at the end of the report noting page numbers where important topics can be found.
- Define green infrastructure the first time it's used (page 3-15) and then in subsequent mentions of the term, include a reference back to the definition. (e.g., "See page 3-15 for definition of green infrastructure.")