COLORADO
Colorado Water Conservation Board
Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Kirk Russell, P.E., Chief, Finance Section

DATE: November 20-21, 2024 Board Meeting

AGENDA ITEM: 21a. 2025 Projects Bill
(1-12) Non-Reimbursable Project Investments

Staff Recommendation
Staff recommends the Board approve funding for all of the Non-Reimbursable Project Investments listed below from the CWCB Construction Fund for inclusion in the 2025 Projects Bill.

Introduction/Background
The Finance Committee reviewed the Projects Bill - Non-Reimbursable Investment (NRI) applications on September 17, 2024. The Committee supported the projects listed below and recommended them for formal Board approval En-Bloc. If approved, these NRIs will be provided to the Projects Bill sponsors for inclusion in the 2025 CWCB Projects Bill. Data Sheets for each project are included. No formal presentations regarding these items will be made except for #12 – Statewide Turf Analysis, unless requested.

(1)	Satellite Monitoring/Maintenance Program (Continuation)	Statewide	$380,000
(2)	Floodplain Risk Management (Continuation)	Statewide	$500,000
(3)	Weather Modification Permitting Program (Continuation)	Statewide	$500,000
(4)	Litigation Fund (Budget of $1,992,000) (Refresh)	Statewide	$2,000,000
(5)	Colorado Mesonet Enhancements (Continuation)	Statewide	$200,000
(6)	Water Forecasting Partnership Project (Continuation)	Statewide	$2,000,000
(7)	Arkansas River Decision Support System (Continuation)	Arkansas	$300,000
(8)	Technical Assistance for Federal Cost-Share Program (Continuation)	Statewide	$500,000
(9)	DSS Model Enhancements to Support the ColoradoWater Plan (Continuation)	Statewide	$1,000,000
(10)	Technical Update and BIP Updates (Continuation)	Statewide	$4,500,000
(11)	Colorado Watershed Restoration – Wildfire Ready Watersheds (Continuation)	Statewide	$5,000,000
(12)	Statewide Turf Analysis *	Statewide	$1,400,000
		Total	$18,280,000

* Presentation will be made at the Board Mtg

Attachments: Data Sheets

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Satellite Monitoring/Maintenance Program

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PROJECT DETAILS	
Project Cost:	$380,000
NRI Funding Recommended:	$380,000
Funding Source:	Construction Fund
Project Type:	DWR Streamgaging
Type of Grantee:	State Agency

LOCATION	
Benefits:	Statewide
Water Source:	Various
Drainage Basin:	All Basins

This project entails the continued, long-term operational viability of the State Satellite Linked Monitoring System and Stream Gage Refurbishment Program, which is administered by the Division of Water Resources (DWR). This program currently encompasses about 700 satellite stream gaging stations that require continued replacement of outdated data collection platforms, upgrades to transmission components, and refurbishment of the associated infrastructure. In addition, many existing gaging stations need to be modified to provide critical stream flow data for both flood and low flow monitoring. Changes in technology, which will ultimately increase reliability and real time data transmission rates, will require the DWR to continue to upgrade the system in the future. In addition, this project provides annual maintenance for the Arkansas River Basin Compact Lysimeter Research Project. The costs associated with the continued refurbishment and operational viability of the Satellite Monitoring System is currently approximately $330,000 per year. The cost associated with the Lysimeter Project is approximately $50,000 per year. The total project cost is $380,000.

Purgatoire River at Fisher's Crossing Stream Stage Radar Installation

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Floodplain Risk Management

Colorado Water Conservation Board

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PROJECT DETAILS	
Project Cost:	$7,159,294
NRI Funding Recommended:	$500,000
Funding Source:	Construction Fund
Project Type:	Leverage Funds for Grants
Type of Grantee:	State Agency

LOCATION	
Benefits:	Statewide
Water Source:	Various
Drainage Basin:	All Basins

Colorado has received over $70 million in federal grant dollars for floodplain mapping activities as part of the floodplain Map Modernization/Risk Map Program (Program) initiated by FEMA since 2003. The FEMA funds are supplemented by CWCB and local cost-share dollars to perform the map update work to create updated digital floodplain maps and flood risk tools. The initial Program funds authorized in the 2003 and all subsequent Construction Fund Bills have provided past required non-federal matching dollars, as well as associated projects for leverage. The State funds are further leveraged by local cost share dollars and in-kind services from many communities to obtain additional related information and project assistance. The total funding amounts have been instrumental in keeping Colorado as a lead state within FEMA Region 8 and will continue to benefit Colorado communities in the future. It is expected that significant FEMA funding will continue as long as the Program exists. Program deliverables will become part of the Flood Decision Support System (DSS) to increase data capture and enhance Colorado's decision support tools.

The Program impacts the entire state, and the objective is to develop updated watershed-based and/or countywide floodplain maps using information based on high quality data and current engineering technology within a digital environment. The use of GIS technology will be employed for all new countywide studies for ease of distribution, updating and viewing. The table below summarizes funding expected to be approved by FEMA for Federal Fiscal Year 2024, which starts October 1, 2024 and ends September 30, 2025.

Grant Description	FEMA Funding	Grant Description	FEMA Funding
FY24 CTP Project Management	$2,298,554	Ouray County Phase 2	$268,959
SW Area Phase 2 Add'l	$844,134	Moffat County Ph 2/3 Add'l	$81,953
Alamosa Ph 2	$387,641	Custer County Ph 3	$174,979
Montrose County Ph2, Yr1	$479,082	Gunnison County Ph3	$563,598
Weld County Ph2, Yr1	$836,130	FY24 COMS	$260,384
LOMR Review	$919,880		
Total FEMA Funding:	**$7,115,294**		

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Weather Modification Permitting Program

Colorado Water Conservation Board

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The CWCB has had grants since 2004 for water district sponsored cloud seeding programs developed after the early 2000s drought. In 2007, State-to-state agreements were signed to provide grants in Colorado. CWCB distributes grants from the CWCB, New Mexico Interstate Stream Commission, Southern Nevada Water Authority, Central Arizona Water Conservation District, and California Six Agency Committee. CWCB funding leverages pledged match funding from Lower Basin States water users. This funding helps meet CWCB goals to have industry standard equipment in operation for efficient and effective programs.

PROJECT DETAILS	
Project Cost: $1.5M (matching from Lower Basin States and local sponsors)	
NRI Funding Recommended:	$500,000
Funding Source:	Construction Fund
Project Type:	Snowpack Augmentation
Type of Grantee:	State Agency

LOCATION	
Benefits:	Statewide
Water Source:	Various
Drainage Basin:	All Basins

In 2022, CWCB permitted the most recent weather modification program in the St. Vrain and Left Hand drainage, Colorado's first permitted weather modification program targeting the front range. Currently, CWCB is working with Desert Research Institute on two feasibility studies; one for the Yampa/White/Green Basin and one for the Arkansas River Basin. Once these studies are complete, the hope is to permit two new weather modification program in the coming years.

Since 2007, the Lower Basin Water Users (Southern Nevada Water Authority, California Six Agency Committee, Central Arizona Water Conservation District, and New Mexico) have funded weather modifications activities specifically to augment snow in the Colorado River Basin. Each year, including state funds, about $1.5M is spent on supporting current operations, upgrading equipment, and financing various weather modification studies around the state.

Effective cloud seeding requires siting cloud seeders high onto ridges in areas of good airflow to ensure the silver iodide particles are regularly transported into clouds. We have had success at helping upgrade programs with new high elevation seeders at: Winter Park, Grand Mesa, Crested Butte, above McPhee Reservoir, near Mancos, and Telluride. These seeders are now owned by water districts. It has been clearly demonstrated that low elevation manually operated seeders are not particularly effective at getting seeding material into the clouds. High elevation seeding equipment is needed. Colorado has high elevation terrain and siting remote generators at high altitudes is vital for effective seeding.

The CWCB has been facilitating successful multi-state collaborations to benefit local water supplies and downstream compact obligations for years. Most recently, the Bureau of Reclamation awarded a $2.4 Million dollar grant to bolster cloud seeding programs in Utah, Wyoming, and Colorado. As we move forward, Colorado must continue to investigate and pursue opportunities for collaboration between basins to benefit multiple watersheds and thus the entire state as a whole.

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Litigation Fund

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PROJECT DETAILS	
Project Cost:	$1,992,000
NRI Funding Recommended:	$1,992,000
Funding Source:	Construction Fund
Project Type:	Legal Support
Type of Grantee:	State Government

LOCATION	
Benefits:	Statewide
Water Source:	N/A
Drainage Basin:	All Basins

Section 37-60-121(2.5) provides that the Colorado Water Conservation Board is authorized "to expend, pursuant to continuous appropriation and subject to the requirements of paragraph (b) of this subsection (2.5), a total sum not to exceed the balance of the litigation fund, which is created, for the purpose of engaging in litigation…to defend and protect Colorado's allocations of water in interstate streams and rivers…" Paragraph (b) of section 121(2.5) provides: "pursuant to the spending authority set forth in paragraph (a) of this subsection (2.5), moneys may be expended from the litigation fund at the discretion of the board if (I) with respect to litigation, the Colorado Attorney General requests that the Board authorize the expenditure of moneys in a specified amount not to exceed the balance of the fund for the costs of litigation associated with one or more specifically identified lawsuits meeting the criteria set forth in paragraph (a) of this subsection (2.5)."

The CWCB has received a letter from Attorney General Phil Weiser stating that a total of $1,992,000 will be needed in FY 24/25 to adequately defend in negotiations; litigation; and other processes the State's apportionments under the Compacts. The funds will be allocated as follows:

1) Colorado River Basin: $1,025,000 for FY 24/25
2) Republican River Basin: $40,000 for FY 24/25
3) South Platte River Bain: $155,000 for FY 24/25
4) Rio Grande Basin: $492,000 for FY 24/25
5) Arkansas River Basin: $280,000 for FY 24/25

The CWCB will request a refresh of the Litigation Fund up to $2,000,000 each year through annual appropriations in order for the Board to respond to unforeseen legal challenges.

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Colorado Mesonet Enhancements

Colorado Water Conservation Board

November 2024 Board Meeting

The Colorado Climate Center was established by the state in 1974 through the Colorado State University Agricultural Experiment Station to provide information and expertise on Colorado's complex climate. Through its program of Climate Monitoring, Climate Research and Climate Services, the Center is responding to many climate related questions and problems affecting the state today. One way the Center monitors the climate is through CoAgMET, a network of over 90 stations statewide tracking agricultural weather and Colorado's climate. The Climate Center is located at Colorado State University within the Department of Atmospheric Science.

PROJECT DETAILS	
Project Cost:	$450,000
NRI Funding Recommended:	$200,000
Funding Source:	Construction Fund
Project Type:	Data Collection/Maint.
Type of Grantee:	State Agency

LOCATION	
Benefits:	Statewide
Water Source:	Various
Drainage Basin:	All Basins

This project builds on recent work that has improved the quality, accessibility, and usability of meteorological data collected by the Colorado Agricultural Meteorological Network, CoAgMET (also known as Colorado's Mesonet). CoAgMET is rapidly maturing as Colorado's Mesonet, providing high quality weather data targeted for use in water planning, management, conservation and education. In recent years the network has expanded to 96 stations (6 of these measure temperature and humidity only in support of Colorado's wine industry.) Nearly all stations now report data every 5 minutes, and that data is transmitted in real time to the public and a wide range of users including the National Weather Service. A data API was developed in recent years that makes data access much easier, and a new website is expected to be launched later in 2024 that will be much more user-friendly. The CoAgMET data are used for a broad range of applications, including irrigation planning, drought monitoring, water availability calculations, real-time weather monitoring, and much more. This proposed project will further enhance CoAgMET data and will increase its uses for understanding the climate of Colorado, especially in relation to stakeholder needs in the water and agriculture sectors.

High-quality weather and climate data are often taken for granted, yet enhancing and maintaining a growing network requires sustained financial support. Support from CWCB over the past decade has enabled the development of CoAgMET from a small network of stations primarily used for agricultural research, to a top-quality state mesonet that continues to grow and advance. This includes incorporating the stations from the Colorado Regional Climate Reference Network, which were gifted to CSU by the National Weather Service; adding new measurements like all-weather precipitation and 10-meter wind speed at select stations and revamping the data dissemination platforms. CWCB funding will allow for further effective enhancements to the CoAgMET network, improved delivery of data and new products for water use planning and climate change monitoring. They will improve real-time monitoring capabilities to improve severe weather warnings and emergency management applications. ***Importantly, this grant funding will allow CoAgMET to continue to qualify for federal funds through the National Mesonet Program to support critical operations and maintenance needs***.

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Water Forecasting Partnership Project

Colorado Water Conservation Board

November 2024 Finance Board Meeting

PROJECT DETAILS	
Project Cost:	$4,300,000 (matching will be sought)
NRI Funding Recommended:	$2,000,000
Funding Source:	Construction Fund
Project Type:	Data and Modeling Upgrades
Type of Grantee:	State Agency

LOCATION	
Benefits:	Statewide
Water Source:	Various
Drainage Basin:	All Basins

The water forecasting partnership project began in the FY2016/2017 under SB 16-174. This original authorization appropriated $300,000, and was reauthorized in both HB17-1248 and SB18-218 for $800,000 each fiscal year. This project was most recently funded at $450,000 in HB22-1316, $1,000,000 in SB23-177 and $2,000,000 in HB24-1435. Staff requests $2,000,000 be appropriated for continuation of this work in FY 2025/2026. The new funds will be used to complete the projects described under the blue heading. The goal of this program is to acquire new data and refine water supply forecasting statewide.

The FY23/24 round of funding leveraged $2,436,972 in total match. $800,000 came from the Upper Colorado River Commission, $1,636,972 came from local stakeholders. These stakeholders are participants in a central group called the Colorado Airborne Snow Measurement Group (CASM). $1,800,000 from FY24/25 is being used to leverage Federal Funds through the Bureau of Reclamation's Snow Water Supply Forecasting Program, $200,000 is being used to provide support for CWCB Staff to administer the program for the next 5 years. Staff anticipates similar match levels for FY25/26, and will be working to seek additional match.

FY 2025-26 Proposed Funding			
Location	**Item**	**Cost**	**Notes**
Statewide	Colorado Airborne Snow Measurement Group Pilot Project Support (continuation)	$1,800,000	Partner with the stakeholders in the Colorado Airborne Snow Measurement group to conduct multiple LiDAR/Spectrometer flights in pilot basins to determine ideal flight numbers per season. Flights will be determined by a larger group representing areas across the State. This group includes Denver Water, Northern Water, Dolores Water, USGS, and the Colorado River District.
Statewide	Forecasting Study	$200,000	The purpose of this study is to find out what models can currently handle high resolution snow water equivalent data, and what is going to work best for the stakeholders. This study will be designed in FY24/25.
Total Request:		**$2,000,000**	

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Arkansas River Decision Support System

Colorado Water Conservation Board

November 2024 Board Meeting

PROJECT DETAILS	
Project Cost:	$7,590,000
NRI Funding Recommended:	$300,000
Funding Source:	Construction Fund
Project Type:	Decision Support System
Type of Grantee:	State Agency

LOCATION	
Benefits:	Arkansas River Basin
Water Source:	N/A
Drainage Basin:	Arkansas River Basins

The Arkansas River Decision Support System (ArkDSS) project began in the FY2011 under HB 11-1274. This original authorization appropriated $500,000, and a total of $3,700,000 has been authorized to date (including $200,000 for the Feasibility Study). Of those original appropriations, $945,884 remains unencumbered. Staff requests $300,000 be appropriated for continuation of this work in FY 2025. The new funds will be used to complete the tasks described ($1,100,000 total) in the table below. The goal of this phase of ArkDSS is to acquire groundwater data, process and synthesize existing groundwater data, and to develop a groundwater model of the Arkansas River Basin. Funds are also required for updates and ongoing maintenance of the prior phases of the ArkDSS, including StateMod modeling and administrative tools. Goals specifically listed in the Arkansas River Decision Support System Feasibility Study include:

- Evaluate and quantify the hydraulic connection between the aquifers (shallow and deep) and the Arkansas River and associated tributaries.
- Characterize the shallow and deep aquifer systems in the upper basin (shallow alluvial and deep basin-fill aquifers) and in the lower basin (shallow alluvial and deep Dakota/Cheyenne/Raton Basin/Denver Basin aquifers) and the hydraulic interaction between the two types of aquifers.
- Provide information on the location and timing of groundwater return flows to the Arkansas River and tributaries.
- Characterize groundwater flow and yields of various aquifer systems and provide information on the water budget elements (e.g., evapotranspiration, recharge, and pumping) for each aquifer system.
- Provide maps and tools to show historical and predicted groundwater levels and properties.

FY 2025 Proposed Funding			
Location	**Item**	**Cost**	**Notes**
Arkansas River Basin	Compile existing aquifer parameter data and create spatial tools to display	$325,000	Aquifers to develop spatial tools may include the Lower Arkansas River Alluvial (Pueblo-Stateline), Upper Arkansas River (Salida-Buena Vista), Fountain Creek, the Dakota, and the Southern High Plains Aquifers.
Arkansas River Basin	Begin development of MODFLOW groundwater model based on existing modeling work performed by either Colorado State University (CSU) or Principia Mathematica Inc. (PMI)	$300,000	Colorado (PMI as Contractor) developed a groundwater model for the Lower Arkansas River (Pueblo – Stateline) as part of Kansas vs. Colorado litigation that could be updated with current data. Colorado State University has developed two proprietary groundwater models for sections of the Lower Arkansas River. Depending on state of existing modeling, additional funding may be required.
Arkansas River Basin	Gather aquifer data through drilling of monitoring wells and performance of pumping tests, monitoring of water levels using dataloggers, and performance of streambed conductance tests	$300,000	The above two tasks may identify locations where additional aquifer data is needed. Depending on needs, additional funding may be required.
Arkansas River Basin	Updates and ongoing maintenance of the prior phases of the ArkDSS, including StateMod modeling and administrative tools	$175,000	StateMod modeling, StateCU modeling, scenario planning, Arkansas River Colors of Water Tool, and Arkansas Basin Water Operations Dashboard

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Technical Assistance for Federal Cost-Sharing (TAFC) Program

Colorado Water Conservation Board

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PROJECT DETAILS	
Project Cost:	$500,000
NRI Funding Recommended:	$500,000
Funding Source:	Construction Fund
Project Type:	Grant Program
Type of Grantee:	State Agency

LOCATION	
Benefits:	Statewide
Water Source:	Various
Drainage Basin:	All Basins

The Technical Assistance for Federal Cost-Sharing (TAFC) Program helps water users secure and employ federal funding for Water Projects in Colorado. While historic levels of funding has been made available by the Federal Government in recent years, there is a barrier to accessing those funds for many organizations and governments with limited technical and financial capacity. The TAFC Program provides grants to hire consultants or otherwise fund the resources necessary to develop high-quality, competitive applications for federal funding and ensure that that fundings is employed on high-impact water projects.

Over the last two years, the CWCB has administered the Local Capacity Grant Program which is extremely similar to the TAFC Program. The Local Capacity Grant Program was established with a $5M appropriation of American Rescue Plan Act Funds in Spring 2022. The Local Capacity Grant Program has made eighteen awards and will make several more before funding expires in December 2024. Because the development of federal grant applications often takes many months or years, the full return on investment for the Local Capacity Grant Program is not yet available. However, preliminary results suggest that the ROI may be sixteen dollars of federal awards for every one dollar or Local Capacity Grant award funds.

Before the Local Capacity Grant Program was established, the TAFC Program regularly funded as part of the Projects Bill appropriations. This was the case in 2014, 2015, and 2017.

The funding requested herein will be used to provide technical assistance grants to entities applying for federal cost-share programs, and to successful applicants to use in design and project management of specific project elements when federal funding for those activities is limited. In these cases, federal program guidelines restrict what federal funds may be used for, and TAFC funds may be used as applicant cost-share for those specific tasks. For example, certain NRCS programs disallow use of funds for project management and stakeholder coordination costs. TAFC funds can be used for these important tasks so that project proponents can devote federal funds to allowable expenses such as project construction costs. CWCB has employed this approach with previous funding sources devoted specifically to the RCPP program.

By providing grants for technical assistance to prepare applications in past programs, the CWCB and partner institutions have improved the success rate of Colorado water users applying for these federal funds. In addition, by providing funds for engineering design and environmental compliance activities by the successful applicants, CWCB has helped accelerate the actual implementation of projects, and preserved federal grant funds for project construction.

Federal programs which provide incentives for greater efficiency include the USDA Regional Conservation Partnership Program [RCPP] which is offered statewide, the Colorado River Basin Salinity Control Program which is available throughout Western Colorado, and the Gunnison Selenium Management Program which is only available in the Gunnison Basin below the Aspinall Unit. These funds may also be used to leverage funds from the Bureau of Reclamation's WaterSMART program, and EPA cost-share programming, such as application preparation and technical assessment for potential Section 319 Nonpoint Source Management Program grants.

These technical assistance funds will increase the success rate of applicants for competitive federal grant funds and thus will be highly leveraged. In addition, successful participants in these federal programs have, and will continue to have, a strong incentive to use the CWCB loan program to finance a portion of the non-federal implementation costs.

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DSS Model Enhancements to Support the Colorado Water Plan

Colorado Water Conservation Board

November 2024 Board Meeting

This request is request for a critical initiative of statewide interest, essential for water supply planning. This funding will support work required by the Colorado Water Conservation Board (CWCB) and will extend across the state to bring more power and accuracy to future modeling efforts. As CWCB prepares for the next Water Plan update, it will refine models based on feedback from the 2019 Technical Update and extend the period of record of the models to include the most recent and accurate information.

PROJECT DETAILS	
Project Cost:	$1,000,000
NRI Funding Recommended:	$1,000,000
Funding Source:	Construction Fund
Project Type:	Modeling
Type of Grantee:	State Agency

LOCATION	
Benefits:	Statewide
Water Source:	Various
Drainage Basin:	All Basins

Project Summary

The potential model enhancements proposed as a part of this effort are for the South Platte DSS, North Platte DSS, and the Rio Grande DSS. The Arkansas and West Slope DSS are currently being refined in combination with other efforts. The Republican River is not addressed because the Republican River Compact accounting is updated annually, and the data will be available for the next Technical Update. The estimated timeline for this work is 2025- 2026, meaning funding must soon be secured for this effort.

South Platte DSS Updates ($700,000 across six subtasks)

The project involves several key tasks to enhance the SPDSS model. The work will extend the model's data period by at least 10 years by integrating recent climatic, hydrologic, and water use data. It will incorporate new groundwater pumping and augmentation data to improve model accuracy. It will identify and gather water supply and demand data for selected municipalities to better represent them in the model. It will involve developing detailed agricultural and municipal water use models for the Cache La Poudre River. It will create a “Baseline” dataset reflecting current demands and supplies for various planning scenarios. Finally, it will include an update to the SPDSS model documentation to incorporate these revisions and enhancements.

North Platte DSS Update ($50,000)

Consultants will extend the NPDSS consumptive use and surface water modeling datasets with the latest available data, include agricultural uses from the Laramie and Sand Creek River basins, and update the North Platte River Basin Water Resources Planning Model User’s Manual.

Rio Grande DSS Update ($175,000)

During the 2019 Technical Update, Colorado was developing rules and regulations for sustainable groundwater use in the Rio Grande, which resulted in litigation. Consequently, the 2019 Technical Update opted for a high-level approach to estimate impacts of climate-adjusted conditions on the agricultural crop demands. Now, to update the model in accordance with the new rules, a surface model allocation model or a mass balance analysis for each watershed are options that will be considered. The modeling approach chosen in the Rio Grande basin will be documented in this task, specifically noting that these efforts are for planning purposes only and cannot be used for litigation or administrative purposes.

Climate Data Extension ($75,000)

The 2019 Technical Update's Planning Scenarios projected varying levels of warmer and drier conditions by 2050, based on data from 1950 to 2013. To prepare for the next Technical Update, the models must be refined and extended using new data and stakeholder input to update the scenarios & timeframes. This refinement process will also extend the climate-adjusted conditions to align with the updated models.

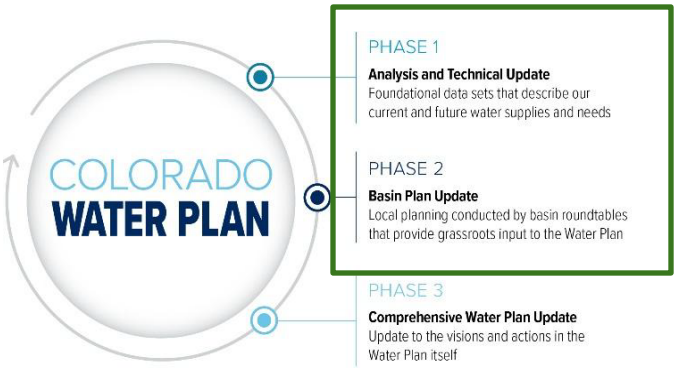
A grant is requested for this crucial statewide effort, which is mandated by law. The General Assembly requires the Colorado Water Conservation Board (CWCB) to develop and regularly update the Colorado Water Plan to guide the conservation and development of the state's water resources, as specified in Section 37-60-106.3, C.R.S. Although this task is legally required, it is not funded by statute. Therefore, funding must be sought through the Projects Bill, which supports important statewide initiatives. The data generated from this work is essential for water providers, agricultural producers, and environmental and recreational interests throughout the state, and it supports local planning efforts for each of the nine basin roundtables.

PROJECT DETAILS	
Project Cost:	$4,500,000
NRI Funding Recommended:	$4,500,000
Funding Source:	Construction Fund
Project Type:	Planning/Study
Type of Grantee:	State Agency

LOCATION	
Benefits:	Statewide
Water Source:	Various
Drainage Basin:	All Basins

Project Summary

The CWCB's Water Supply Planning (WSP) Section leads the development and implementation of the Water Plan through a three-phased, multi-year process that prioritizes inclusive stakeholder engagement. The next Water Plan update will be finalized in 2033. To do this, CWCB must initiate the Tech Update and Basin Implementation Plans (BIPs) as early as next year to develop updated data, modeling, information, actions, and processes that inform the Colorado Water Plan. This NRI request will support streamlined, cost-effective procurement of contractor support for these 2 foundational steps. While we expect this to be a combined contract, approximate costs for each phase are below.



The Analysis and Technical Update($2,300,000)
This effort evaluates baseline data to determine existing and future water demands and supplies. As part of this analysis, key water supply and demand drivers and trends will be analyzed to evaluate major changes over time. The last Technical Update was completed in 2019, but included some data from much earlier - as far back as 2012. The proposed approach will significantly advance planning by integrating up to date population, climate, modeling and other data from partner agencies like the Division of Water Resources. It will also include a range of updated scenarios that consider the effects of climate change on water supply. As in past efforts, CWCB will use a Technical Advisory Group (TAG) process to develop methodologies and assumptions for analysis. Once finalized, Technical Update findings will be delivered to basin roundtables to kick off the updates to the Basin Implementation Plans. The timeframe estimated to complete this work is from mid-2025-2029.

The Basin Implementation Plan (BIP) Update ($2,200,000)
This effort will begin once the Technical Update is completed and will focus primarily on updating basin challenges, goals, and the strategic vision for the basin (a BIP strategy document). This is a shift to a more streamlined effort that was strategically facilitated by the format of the 2022 BIPS and the creation of the Project Database, which can be updated by basin roundtables annually and reduce the cost, time, and effort within the BIPs. Additionally, it allows basins to focus on the strategies and components that offer the most valuable input for informing the Water Plan update. The estimated timeline to complete this work is 2029-2031.

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Colorado Watershed Restoration Program

Colorado Water Conservation Board

November 2024 Board Meeting

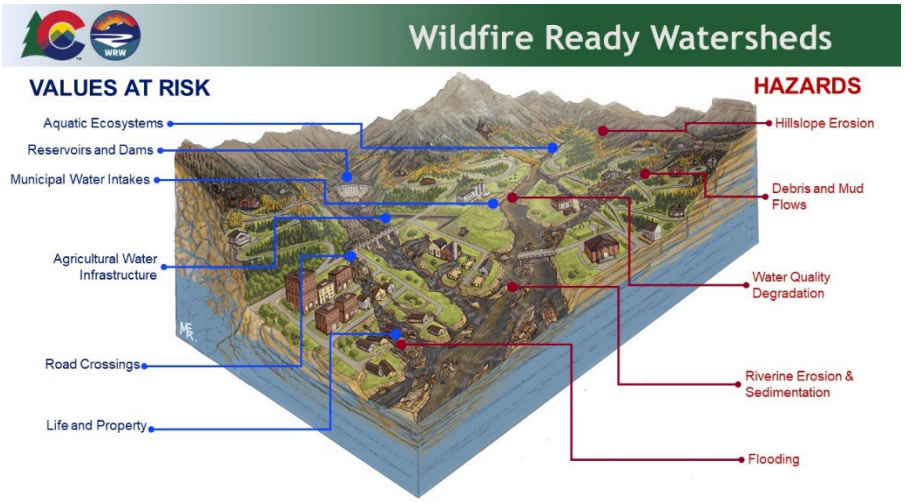
The Colorado Watershed Restoration Program (CWRP) was established through Board action in September 2008. Its objective is to provide planning, engineering, and construction services for watershed and stream restoration and protection. The services come as direct technical support from CWCB staff and consultants and grant funding support for plans, designs, and projects. The CWCB supports stakeholders that demonstrate:

PROJECT DETAILS	
Project Cost:	$18,000,000
NRI Funding Recommended:	$5,000,000
Funding Source:	Construction Fund
Project Type:	Plans and Projects
Type of Grantee:	State Agency

LOCATION	
Benefits:	Statewide
Water Source:	Various
Drainage Basin:	All Basins

- ✓ Commitment to collaborative approaches, involving locally and/or regionally based diverse interests within the watershed, with participation open to all interested parties in the watershed.
- ✓ Commitment to restoring or protecting ecological processes that connect land and water while protecting life and property from flood hazards
- ✓ A strategy to plan and implement for projects intended to restore and/or protect the water and lands within the watershed, mitigate flood hazards, or integrate a multi-objective approach.
- ✓ Broad support for the project, including support from relevant local, state, and federal agencies
- ✓ Ability to provide match support (in-kind and cash)

The purpose of CWRP in this instance is to support capacity, planning, engineering, and implementation of projects designed to protect values at risk from post wildfire hazards such as debris flow, increased runoff, hillslope erosion, flooding, and fluvial hazards (erosion, deposition, and channel migration). There is great need to continue planning by completing Wildfire Ready Action Plans in priority areas. As the plans are finished, the need increases as mitigation actions, i.e. implementation projects, are scheduled for design and construction. These projects oftentimes serve multiple objectives to protect values at risk from post-wildfire hazards, protect flow regimes, impart resiliency at landscape scales, enhance ecological structure and function, and protect water quality.



Currently there are thirteen Wildfire Ready Action Plans in progress with another ten anticipated to begin before the end of 2024. The plans will identify dozens of mitigation projects with implementation timelines of near (3-7 years), mid (7-15 years), and long term (>15 years).

If grant funding is approved, CWCB staff will develop amended guidelines for Board approval before releasing the funds under the Colorado Watershed Restoration Program.

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Statewide Turf Analysis

Colorado Water Conservation Board

November 2024 Board Meeting

As Colorado pursues the removal and replacement of nonfunctional turf, only estimates about the total amount of irrigable turf are available. This grant request will support an analysis to answer key questions related to the amount of irrigable turf in Colorado, a statewide water matter. Understanding the total amount of irrigable turf, nonfunctional turf, tree canopy, other vegetation types, and pools in Colorado's populated areas is a matter of statewide interest because it will allow for a better understanding of the outdoor landscape water use, possible water savings form turf replacement and the associated costs.

PROJECT DETAILS	
Project Cost:	$1,400,000
NRI Funding Recommended:	$1,400,000
Funding Source:	Construction Fund
Project Type:	Mapping/Study
Type of Grantee:	State Agency

LOCATION	
Benefits:	Statewide
Water Source:	Various
Drainage Basin:	All Basins

Program Details

While Colorado has a reasonable understanding of the breakdown of different indoor municipal water uses, much less is known about how outdoor municipal water is used. A statewide turf and landscape evaluation and analysis, if conducted, would provide a wealth of information about the acres of turf (functional and nonfunctional), tree canopy, shrubs, and impervious surfaces in developed and populated areas. Understanding where municipal outdoor water goes can empower state and local decision-makers to make informed choice around turf replacement efforts.

This analysis would answer key questions related to statewide water matters by enhancing understanding of the total area of irrigable turf across various land use categories (e.g., commercial, residential, and recreational properties). The analysis can also provide missing information on other types of vegetation in populated areas that can inform the Analysis and Technical Update to the Colorado Water Plan (Technical Update). The goal is to produce a report that details the amount of irrigated turf, nonfunctional turf, tree canopy, and other vegetation. Accurate irrigable turf data will help the state, counties, and communities better assess the amount, replacement costs and potential water savings of replacing nonfunctional turf.

CWCB staff has worked to refine municipal landscape composition estimates based on a pilot turf analysis in Denver County and resources like the Denver Council of Regional Governments (DRCOG) data, BBC Analysis, and existing aerial imagery. This work produced a high level of accuracy as it generally confirmed Denver's assumed numbers of approximately 6,000 acres of nonfunctional turf (of which one third/2,000 acres will be targeted for removal)., It would be advantageous to use a similar process to verify or refine earlier estimates that there is a maximum potential of 20,000 AF in water savings from nonfunctional turf replacement over 10 years of investment.

At the request of the CWCB Board, CWCB staff conducted a population density analysis based on Colorado's covered entities[1] and Turf Replacement Grant Program funding recipients to determine the prioritized scope of a statewide mapping effort. The study showed that mapping 29 counties comprising 95% of the state's population would be nearly equivalent in cost to mapping the entire state due to economies of scale. Focusing on this subset of cities for approximately the same costs is not as valuable as a full statewide analysis that can support the upcoming Technical Update by providing a better understanding of the potential water savings that could be gained through turf replacement

[1] In Colorado, a covered entity is a public or private entity that is legally required to provide water to customers and has a total demand of at least 2,000 acre-feet. This includes municipalities, agencies, and utilities.