



Boulder County Hazard Mitigation Update Report 2023

For credit under the Community Rating System, this report must be distributed to the media and be made available to the public. Notification of the availability of the report will be sent to the media that cover Boulder County via a press release. Copies of this report and the 2022 Plan Update are available for review at the Office of Disaster Management for the City of Boulder & Boulder County or on the website (BoulderODM.gov).

For this mitigation plan, goals were defined as broad-based public policy statements that:

- Represent basic desires of the community.
- Encompass all aspects of community, public and private.
- Are nonspecific, in that they refer to the quality (not the quantity) of the outcome.
- Are future-oriented, in that they are achievable in the future; and
- Are time-independent, in that they are not scheduled events.

Goals were defined before considering how to accomplish them so that the goals are not dependent on the means of achievement. Thus, implementation cost, schedule, and means are not considered in the goal statements which form the basis for objectives and actions that will be used as means to achieve the goals. Objectives define strategies to attain the goals and are more specific and measurable. During the 2022 plan update process, the HMPC reviewed the 2016 goals and objectives and concluded that the goals previously identified needed to be changed. A significant goal setting meeting developed new goals and the highlight is adding a climate change goal to the plan (Goal 5). The 2022 goals and objectives identified by the HMPC are listed below.

Goal 1: Reduce the Loss of Life and Personal Injuries from Hazard Events.

- Continue to manage development in areas, including property acquisitions to remove development from hazardous locations, pursuing relocation/elevation actions for flood- at risk properties, and providing enforcement measures following disasters to ensure that all redevelopment and recovery activities follow existing development codes. Continue programs to further identify hazards including incorporating future uncertain climate predictions.
- Continue programs to further identify hazards including, but not limited to, flood after fire erosion, wildfire, wind, drought, debris flows, rock fall, etc. and assess risk associated. Provide timely notification and direction to the public of imminent and potential hazards.
- Provide timely notification and direction to the public of imminent and potential hazards, including installing rain gauges, soil saturation sensors and stream monitoring systems for early warning identification of pending flooding situations and debris flows. Continue public education programs to improve resident's ability to make informed decisions based on their hazard risks.
- Continue to manage development and mitigation efforts in hazard-prone areas.
 - Add Inclusivity and Affordable Housing, list such areas, identify, and prepare for impacts, and enhance early warning systems.
 - Add resiliency component and expand beyond flooding situations i.e., tornado and differentiate between detections versus warning.

Goal 2: Reduce Impacts of Hazard Events on Property, Critical Facilities/Infrastructure, and the Environment

- Continue to manage development and placement of structures in hazard-prone areas, including applying land use regulations to minimize exposure to potential hazards and expanding current wildfire mitigation and defensible space programs on both public and private lands. Create incentives and continue to provide assistance for the public to

mitigate hazards on their own property.

- Protect existing property to the extent possible through regulations, codes, education, cooperative agreements, hazard reduction projects, and other means. Continue to manage development and protect existing properties in hazard-prone areas through regulations to minimize exposure to potential hazards.
- Protect infrastructure and critical facilities to minimize loss of services following a hazard event including installation of backup generators and other vital infrastructure at critical county facilities.
- Create incentives for the public to mitigate hazards on their own property through education, cooperative land acquisitions, Elevation and relocation programs, Community Wildfire Protection Plans, TDRs and TDCs, and other means as they become available or are created. Restore natural function of environmental processes. Or restore the natural function of environmental processes.
- Continue to reduce flood losses through compliance with NFIP requirements; continue to comply with CRS requirements, where applicable (i.e., Boulder County, City of Boulder Longmont, and Louisville). NFIP is mandatory and CRS is not. Monitor progress and implement adaptive management as needed to incorporate new and improved best practices including those resulting from future uncertain climate predictions.

Goal 3: Strengthen Intergovernmental Coordination, Communication, and Capabilities Regarding Mitigating Hazard Impacts

- Promote planning efforts that foster cooperation and coordination among jurisdictions, agencies, and organizations involved in hazard mitigation.
- Establish and maintain processes and resources to incorporate mitigation and resiliency into recovery efforts following a hazard event.

Goal 4: Improve Public Awareness and Preparedness Regarding Hazard Vulnerability and Mitigation

- Enhance public education efforts regarding hazards and risk in Boulder County and the role of the public in mitigation.
- Continue engaging the public in hazard mitigation planning and implementation.
- Combine mitigation education efforts with existing governmental and nongovernmental outreach programs.
- Incorporate the most up to date climate predictions with all whole community mitigation programs and projects.

Goal 5: Address Hazard Identification in the Context of Climate Change

- Strive to identify and address common issues related to hazard mitigation and climate changes.
- Monitor the ever-changing environment and continue to identify new or changing hazards.
- Address hazard identification in the context of climate change.

Mitigation Action Title	Jurisdiction	Priority	Goals	Hazards	Status	
Multi-Hazard Actions						
Boulder County						Update
Mechanical Treatment of Boulder County Parks and Open Space Forests	Boulder County Parks & Open Space	High	Goal 2	Wildfire	In Progress	BCPOS Forestry staff treated approximately 116 acres at Hall Ranch as part of the COSWAP funded St. Vrain Forest Health Partnership. In addition, 10 acres were thinned by the BCSO Fire Crew at Sherwood Gulch, and in-house operations completed 2 acres of patch cuts at Reynolds Ranch.
Restoration of Fire as an Ecological Process within Boulder County Parks and Open Space Forest	Boulder County Sheriff & Parks and Open Space	Medium	Goal 2	Flood, Debris Flows & Wildfire	In Progress	Under guidance of BCPOS Forestry, and BCSO Fire Management burned across several County properties in 2023. 50 acres were treated at Hall Ranch in the fall, and 40 machine piles burned at Sherwood/Caribou Ranch. Project were all dependent on weather/fuels conditions.
Fire Management within the Boulder County Parks and Open Space (BCPOS) System	Boulder County Sheriff & Parks and Open Space	Medium	Goal 2	All Hazards	In Progress	In addition to the completed work done listed above BCSO Fire Management was also able to complete a handful of ditch and agricultural burns along BCPOS easements in eastern Boulder County. There was one wildfire at Walker Ranch Open Space this year which was caused by lightning. Fire was caught at about .1 of an acre.
Landscape Restoration and Climate Change Adaptation	Boulder County Parks & Open Space	Medium	Goal 2	All Hazards	In Progress	In addition to the 116 acres of open space forest restoration of the COSWAP project described above. BCPOS staff oversaw the rest of the COSWAP grant which completed 304 acres of treatments on City of Longmont land and private land. Approximately 1 acre at Williams-Merlin and 1.5 acres at Caribou-Mud Lake were direct seeded with about 50,000 limber pine seeds, to promote limber pine on the landscape. In addition, limber pine seed collected from trees on Boulder County Open Space was sent off to nurseries to grow approximately 2,000 seedlings for planting in 2024. These trees will be used to restore limber pine that is species of special concern in Boulder County. Planting 824 willow poles, shrubs, and pollinator plants to restore 850' of shoreline at Twin Lakes.

						<p>Seeding 3.5 acres and planting 784 alkali tolerant plants at Little Gaynor Lake to reduce bare soils.</p> <p>Planting 585 container plants along the St. Vrain at the Niwot Ditch Diversion project for floodplain and PMJM habitat and seeded 1.5 acres of upland habitat.</p> <p>Working with contractors to seed nearly 40 acres at the Lyons quarry on Hall 2, including 9 acres of floodplain.</p> <p>Assisted Public Works with seeding and planting of wetland plugs at a wetland mitigation project at Hwy. 287 and Isabelle Road.</p> <p>Cut and treated 1,043 non-native trees (crack willow, Russian olive, Siberian elm, and black locust across multiple riparian restoration sites.</p> <p>Soil Health Grant Program gave out \$200,000 to 19 tenants improving management on 3100 acres of land through application of compost & biochar, planting of cover crops, integrating livestock and reducing tillage practices.</p> <p>Soil Revolution Conference hosted 215 in-person registrants for a conference focused on plant diversity and their relation to nutrition for livestock, building soil health with fungal-rich compost, fine tuning soil health practices and application, building climate resilience with soil health, and farm economics and good financial habits.</p>
Research and Monitoring the Health and Resiliency of Boulder County Parks and Open Space (POS) Forest and the impact of POS Management	Boulder County Parks & Open Space	Medium	Goal 2	Flood, Debris Flows & Wildfire	In Progress	<p>Installed and monitored 25 transects across 3 Significant Natural Communities to capture a baseline health assessment.</p> <p>Continued monitoring of extreme rain events as they may cause effects to Heil Valley Ranch which burned in 2020.</p>
Boulder County Wildfire Mitigation Requirements for New Homes and Remodels	Boulder County Community Planning & Permitting, Wildfire Partners	Medium	Goal 1, 2, & 4	Wildfire	In Progress	<p>Boulder County is working on an update of its building code related to wildfire mitigation requirements for new homes and remodels, following the geographic expansion of these requirement to include the entire county in 2022. In 2023, our team of Wildfire Mitigation Specialists helped 27 new home, 52 addition, and 23 deck permits perform the required wildfire mitigation, conducting on-site assessments and inspections and</p>

						providing on-going technical assistance and oversight. The team completed 43 assessments for individuals applying for short-term and vacation rental licenses in 2023. To date, we have performed 143 Wildfire Partners assessments specifically for these rental licenses. The wildfire mitigation team is also responsible for reviewing planning dockets for possible ways to mitigate the risk of loss of life and property from wildfires. The wildfire mitigation team provided 80 planning docket referrals in 2023
Boulder County Wildfire Partners and Defensible Space	Boulder County Community Planning & Permitting, Wildfire Partners	High	Goal 1, 2, & 4	Wildfire	In Progress	In 2023, Boulder County used grant funds from the Colorado Forest Service to support our voluntary home assessment program in the western portion of the county. In 2023, Wildfire Partners completed 404 total assessments and issued 243 Wildfire Partners Certificates.
Boulder County Wildfire Partners and Grinder	Boulder County Community Planning & Permitting.	Medium	Goal 1, 2, & 4	Wildfire	In Progress	Boulder County Parks and Open Space staff continue to implement free community grinding projects.
Boulder County Forest Health Education and Outreach Program	Boulder County Community Planning & Permitting.	Medium	Goal 1, & 4	Wildfire	In Progress	In addition to recruiting new participants and conduction assessments and inspections in the field, staff provide on-going education and outreach for the more than 3,000 participants in the program. Wildfire Partners sends a monthly newsletter and regular updates and communications to 2,334 partners via email and social media postings. Staff developed new technological tools and administrative systems to increase data accuracy, decrease response time, and increase staff productivity. Implementation of these automation activities will reduce the staff time needed to assist participants by approximately 55%. Wildfire Partners also worked to switch our home assessment app and report to ESRI's Survey123 to improve efficiency and program administration.
May Wildfire Awareness Month	Boulder County Community Planning & Permitting.	Medium	Goal 1, 2, 3, & 4	Wildfire	In Progress	Wildfire Partners is launching a public awareness campaign and rebate program in May and June. We have received a FEMA HMGP grant to help fund the campaign. We redesigned the Wildfire Partners website and logo.

						<p>We have hired consultants to develop the campaign and administer the rebate program.</p> <p>For May Wildfire Awareness Month, we are also launching our Youth Helping Vulnerable Individuals and Communities Campaign. Wildfire Partners has worked with TEENS Inc. and Mile High Youth Corps to provide free mitigation services to residents in need. We received a \$75,000 grant from the Fire Adapted Communities Learning Network to hire a coordinator for this program and offer 20 weeks for free mitigation services to vulnerable individuals and communities in collaboration with TEENS Inc., and Mile High Youth Corps.</p>
Boulder County Community Chipping Program	Boulder County Community Planning & Permitting.	Medium	Goal 1 & 4	Wildfire	In Progress	<p>Boulder County has had a chipping program since 1993. With funding from the Wildfire Mitigation Tax, we expanded the program and now offer free chipping service to all residents in Boulder County (incorporated and unincorporated areas) with a minimum of five participating residents. Boulder County hired a chipping coordinator in June and launched the program in August. In 2023, 53 applications were approved, 472 homes participated, and approximately 2,173 cubic yards of slash material was hauled away during this short season. The program and its six chipping contractors received fantastic reviews from happy participants—obtaining an average of 4.8 out of 5 stars.</p>
Acquisition of Flood-prone Properties	Boulder County Community Planning & Permitting.	Medium	Goal 1 & 2	Flood	In Progress	<p>The county’s “Floodplain Partners” program (funded by a 2020 FMA Advance Assistance Grant) determined that it was not feasible to establish an annual Flood Mitigation Assistance (FMA) grant program for property acquisition. However, the county will pursue acquisition of flood-prone properties as opportunities arise. In 2023, no flood-prone properties were acquired.</p>
Elevation of Flood-prone Structures	Boulder County Community Planning & Permitting.	Medium	Goal 1 & 2	Flood	In Progress	<p>The county’s “Floodplain Partners” program (funded by a 2020 FMA Advance Assistance Grant) determined that it was not feasible to establish an annual Flood Mitigation Assistance (FMA) grant program for structure elevation. However, the county continues to work with property</p>

						owners on the elevation of existing structures. In 2023, the county focused on working with a manufactured home community to elevate Substantially Damaged structures, but no structures have been elevated yet.
Integration of Land Use and Mitigation Plans	Boulder County Community Planning & Permitting.	Medium	Goal 1, 2, 3 & 4	Flood, Wildfire, Landslide, and other Geologic Hazards	In Progress	This is an ongoing effort, as the Code and Comprehensive Plan are updated over time integrating hazard mitigation into these documents occurs. The county has a current effort underway to rezone the intensive zone districts in the flood prone areas around Lyons. Upcoming efforts to update the Comprehensive Plan include updating the Natural Hazards element.
Debris Flow / Landslide Early Detection and Warning System	Boulder ODM.	High	Goal 1 - 5	Flood, Wildfire, Landslide, and other Geologic Hazards	In Progress	A pilot study was implemented in 2022-2023 to install and upload soil moisture monitoring feeds for access in the Vieux/AEM Vflo alerting platform for Fourmile Creek and Geer Creek watersheds. Alerts were set up to indicate if soil moisture exceeded 70%. These alert levels were not reached/triggered but daily soil moisture reports were received and monitored in association with rainfall (predicted and actual) and stream flow elevations (predicted and actual). The County will revisit this system in 2024 and decide if further County-wide investment beyond the pilot projects should be advocated.
Implementation of Watershed Master Plan Projects	Boulder County Parks and Open Space, Public Work's, and CP & P	High	Goal 1,2,3, & 4	Flood	In Progress	<< <i>Public Works is not involved in Watershed Master Plan Projects as Floodplain has move to CP&P</i> >> POS has a consultant under contract to finalize the design and construction documents for restoration of South St. Vrain Creek at Hall Ranch 2 Open Space. In addition, the POS is partnering with The Watershed Center on a design-build creek restoration project further downstream along South St. Vrain Creek. Both projects were identified in the St. Vrain Creek Watershed Master Plan and included in the post-flood 30% creek restoration design funded by CDBG-DR. The goals of each project are to increase resilience, improve public safety, and enhance habitat values. BCPOS continued work on Boulder Creek with Mile High Flood District to construct the Howell Ditch diversion to

						be more flood resilient and simultaneously restore a segment of the creek to improve ecosystem function. Construction will begin in 2024 or 2025.
Boulder County Community Forestry Sort Yards	Boulder County Parks & Open Space	Medium	Goal 1,2 & 3	Wildfire	In Progress	The CFSY program managed by BCPOS operated for 203 days last year and accepted 7,165 loads of material. Those loads consisted of approximately 857 tons of slash, 346 tons of wood, 121 tons of chips, and 200 tons of yard debris. 1,784 properties participated in the CFSY program in 2023.
Boulder County Youth Corps Forestry and Fire	Boulder County Parks & Open Space	Medium	Goal 1, & 2	Wildfire	In Progress	BCPOS Forestry Youth Corps and volunteers combined to thin approximately 10 acres of lodgepole pine regeneration in patch cuts at Reynolds Ranch.
Flood Hazard Studies and Flood Hazard Mapping	Boulder County Community Planning & Permitting.	Medium	Goal 1,2 & 5	Flood, Landslide Subsidence	In Progress	The Colorado Hazard Mapping Program (CHAMP) has been updating flood hazard information for streams most affected by the 2013 flood. In 2023, FEMA released revised Preliminary Flood Insurance Rate Maps (FIRMs) based on CHAMP data and appeals. The county then conducted two outreach meetings to inform residents of upcoming changes to the FIRMs. A Flood Hazard Study of Bullhead Gulch is also underway, led by Mile High Flood District and supported by the county. In 2023, the hydrology portion of the study was completed, and work began on the hydraulic analysis. The made its Fluvial Hazard Zone mapping (produced by the Colorado Water Conservation Board) available online and worked on making the data public.
Floodplain Management Program Updates and Flood Education/Outreach	Boulder County Community Planning & Permitting.	Medium	Goal 3, 4, & 5	Flood	In Progress	Implementation of the Resiliency Study continues. Floodplain regulations in the Land Use Code were updated in 2023 to prohibit camping the floodplains, clarify flood protection measures for agricultural structures, and other minor code updates. Floodplain outreach in 2023 included: two community meetings related to upcoming changes to Flood Insurance Rate Maps (FIRMs); a presentation to local realtors; and annual flood season mailings to all floodplain property owners.

						Also in 2023, the floodplain program completed their Community Rating System 5-year cycle visit, maintaining Class 4 status.
Incorporate identified resiliency actions including projects, policies, and programs into transportation plans, codes, or standards	Boulder County Public Works and CP & P	High	Goal 1,2,3 & 4	All Hazards	In Progress	This is a perpetual effort on the part of CPP, as the Building Code, Land Use Code and Comprehensive Plan are updated over time integrating hazard mitigation and resiliency into these documents. For example, Boulder County has historically had stringent Building Code requirements related to the wildfire risks in the mountainous areas of Boulder County. After the Marshall Fire, Boulder County focused some attention on the ignition resistance requirements for exterior materials in the plains. As a result of this effort, and in alignment with the latest industry research on the subject, we expanded the requirements and have dramatically reduced the vulnerability of new homes to wind-bourn embers in the plains of Boulder County. Public Works is updating the Multimodal Transportation Standards in 2024 and will include resiliency components in the new document.
Replace or Upsize Structures to Improve Resilience	Boulder County Public Works	High	Goal 2	Flood or Dam Failure	In Progress	Structures are upsized as condition replacement is warranted. Proactive upsizing is not possible due to funding reductions.
Sugarloaf Rd improvements	Boulder County Public Works	High	Goal 2	Landslide	In Progress	Project Completed in 2023.
Continue Involvement in Climate Adaptation Planning Process	Boulder ODM / BOCC	Medium	Goal 1,4 & 5	All Hazards	In Progress	Maintaining the relationship and supporting initiatives as ODM is needed.
Community Hazards Education and Preparedness Plan	Boulder ODM	Medium	Goal 1,3, & 4	All Hazards	In Progress	Implemented virtual and in person trainings throughout the year. Develop new preparedness programs related to alert and warning, evacuations, risk profiles and protective measures to take.
Wildfire Partners – Eastern County Expansion Program	Boulder County Community Planning & Permitting.	High	Goal 1-5	Wildfire	In Progress	Supporting CWPP efforts as a focus on the Eastern county is in development. Working with fire departments to develop conflagration management plans.
Prince Lake No. 1 Dam Rehabilitation	Boulder County Parks & Open	High	Goals 1 & 2	Dam Failure	In Progress	Design of the rehabilitation project is complete and has been approved by the State Engineer. An HMGP grant

	Space (owner) Partner: Dam Safety Branch, Division of Water Resources, Department of Natural Resources, State of Colorado					application has been submitted to FEMA through DHSEM. Anticipating starting construction in 2024 or 2025 with a duration of about 8 months. This project will greatly reduce flood risk downstream of the dam.
Off-Channel Water Body Hazard Mitigation and Resiliency Measures on Open Space	Boulder County Parks & Open Space, Public Works and Community Planning & Permitting.	Medium	Goal 2	Flooding and Erosion	In Progress	This mitigation focus is within Parks and Open Space and does not require involvement of Public Works. Work continues to reservoirs along St. Vrain Creek on POS lands impacted by 2013 flood. In 2023, boundary fencing was installed to protect infrastructure and project's LOMR was approved by FEMA. Operations & maintenance agreements is being finalized that, for one, outlines emergency operations plan for reservoir-related structures owned by multiple entities. Basin-wide planning for future opportunities to increase resilience that incorporated off-channel water bodies continues with St. Vrain & Left Hand Water Conservancy District.