



COLORADO

Recovery Office



One-Year Report

October, 2014

Together. A Stronger Colorado.

STATE OF COLORADO

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John W. Hickenlooper
Governor

October 1, 2014

Greetings:

A year after the rain began to fall in Colorado on September 11, 2013, the sheer scope of Colorado's worst natural disaster is staggering. Ten Coloradans died, 18,000 were displaced from their homes and whole communities were torn apart and washed downstream. In all, the floods caused an estimated \$3 billion in damage to our infrastructure, our housing and our economy.

A year later, our bridges were broken—and we are building them back. Our roads were broken—but now they are open, safe and we will rebuild them better. Our spirits are not broken, and never were. We are stronger, better and more resilient—and looking toward the future.

Coloradans are connected to one another, whether by libraries, hiking trails or watersheds. They roll up their sleeves and get to work. If it's no longer business as usual, they find a new way to do business. And after the floods, they didn't even wait for the rain to stop falling. The real story of the Flood of 2013 is that Coloradans are resilient. Neighbors helped neighbors. Volunteers reached out to help impacted communities. Communities pulled together to begin the long, difficult challenge of rebuilding better and stronger.

Lives were lost. Precious belongings were lost forever. We can't bring them back. But we can rebuild our communities 100 percent, and make them even stronger. That's our commitment.

Throughout the history of our state, we have persisted through natural disasters—floods, wildfires, rockslides, mudslides, blizzards and more. Coming after two years of wildfires that set the stage for our worst disaster ever, the Flood of 2013 once again demonstrated the resiliency of our state, of our people.

Colorado does not shut down. Colorado does not quit. We have learned from what has happened. We have a plan to move forward. We will recover on our terms. That's our commitment to the local communities impacted by the Flood of 2013: we will support their visions by advocating for financial resources and providing the expertise they need for a full recovery.

This report from the Colorado Recovery Office looks at the floods and how we responded as a state, while outlining our vision and strategy for the future.

Sincerely,

John W. Hickenlooper
Governor

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View a movie about flood recovery efforts at www.coloradounited.com



State Highway 72:
September 26, 2013 (above) and
November 11, 2013 (below)



Wastewater Treatment Plant Groundbreaking in Lyons

One year later, this report looks at how Colorado began working toward a long-term recovery. It looks at how state and federal agencies, non-profits, the private sector and citizens of this state collaborated to provide \$1.6 billion in resources (see Appendix) to help those impacted by the floods begin to recover.

More importantly, it looks at the heroic, day-to-day work of Coloradans uniting, demonstrating their resilience and working toward recovery.

Finally it lays out the framework for how the state's long-term recovery support to Colorado's local communities will continue in the weeks, months and years ahead to help them rebuild better, stronger and more resilient. Recovery efforts are focused in five key areas: community and economic recovery, housing, infrastructure, streams and floodplains, and our natural and cultural resources (see below).

Looking forward, the State of Colorado stands ready to continue working side-by-side with local communities to move forward toward a full recovery. The Colorado Recovery Office, created in the wake of the flooding, provides coordination, transparency and an ongoing sense of urgency. A host of state agencies, in partnership with their federal counterparts, provide technical assistance and financial resources stretching across the five identified recovery program areas.

But perseverance and leadership will come from local communities, whose priorities and needs will inform and direct how resources are deployed and how this recovery unfolds.

Together, stronger. Colorado United.

Community and Economic Recovery: The community and economic impact of the floods was as widespread as it was devastating. Economic impact alone was estimated at more than \$555 million. This number, however does not account for the impacts to individuals and families, the workforce, local government resources or the physical landscape of communities.

Housing: The floodwaters destroyed 1,852 homes and damaged an estimated 28,363 others, many of them occupied by low-income families. In August 2014, the total damage to the state's housing was estimated at \$623.3 million.

Infrastructure: Damage to the state's public infrastructure is estimated at \$1.7 billion. While the Colorado Department of Transportation and the National Guard were able to temporarily open the damaged highways by December 1, 2013, the permanent work still will take years to complete. Local communities also face the gargantuan task of rebuilding and repairing their infrastructure.

Streams and Floodplains: Colorado's geographic environment was fundamentally altered, as floodwaters re-charted entire river channels. Debris and sediment accumulated in stream corridors, causing the potential for new catastrophes in the event of future flooding. Nearly 59 miles of stream channel required some form of debris removal. Another 81 miles need varying degrees of bank stabilization or restoration work.

Natural and Cultural Resources: Colorado's unique geography was massively impacted by the floods. Streams, rivers and wildlife, water quality, energy extraction sites, trails, bike paths, agricultural lands, environmentally sensitive areas and historically significant buildings and artifacts were significantly impacted.

Where We Have Been— Enduring Strengths and Challenges

The September floods impacted nearly all aspects of a community—individuals and families, businesses, the economy, parks and open space, public buildings and infrastructure. In turn, the recovery process has required an extraordinary effort from the whole community—all levels of government, the public, businesses and non-profits. These efforts come together into a cohesive and holistic long-range strategy for recovery that:

- Simultaneously incorporates immediate needs and long-term hopes and desires of the state and its communities
- Incorporates “lessons learned” to reduce potential impacts from future disasters
- Utilizes available technical and financial resources to help communities achieve their desired outcomes.

While assessing how best to manage the recovery, the Governor created the Colorado Recovery Office and appointed IHS Chairman Jerre Stead to serve as the state’s Chief Recovery Officer, to coordinate recovery efforts, provide transparency, maintain a united sense of urgency at the state level, advocate for recovery funding and build partnerships among local, state, federal and non-governmental agencies. Additionally, the Governor created a cabinet-level flood working to coordinate the activities of departments across all state government. The Recovery Office and the state team remains deeply engaged in the recovery process.

This chapter is intended to highlight some of the key accomplishments from the first year of this recovery process, as well as the unique challenges faced by local communities, the state and all of the stakeholders engaged in this recovery process.

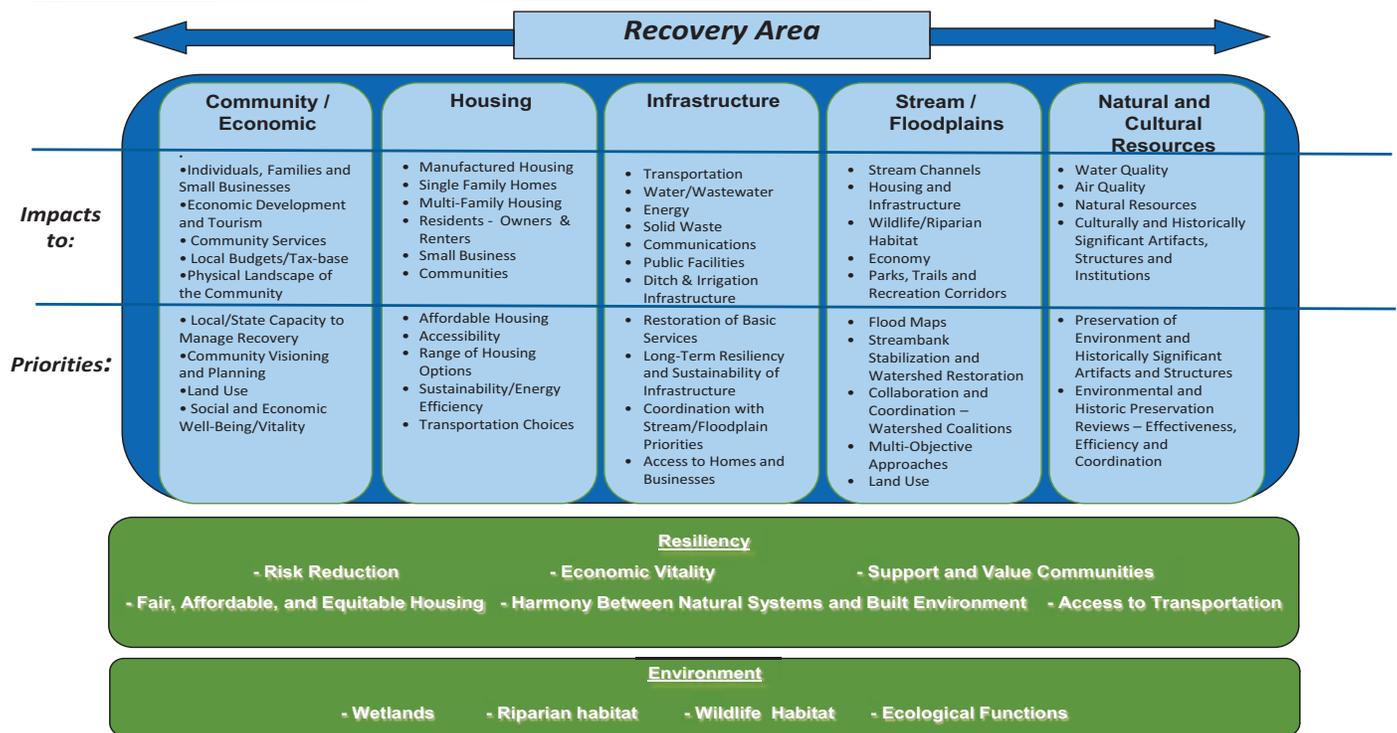
The recovery process can be viewed through the lens of five recovery focus areas:

- Community and Economic Recovery
 - Housing
 - Infrastructure
 - Streams and Floodplains
 - Natural and Cultural Resources

State Agencies Supporting Recovery:

Governor’s Office
Colorado Recovery Office
Department of Agriculture
Department of Corrections
Office of Economic Development and International Trade
Department of Education
Department of Health Care Policy and Financing
Department of Higher Education
Department of Human Services
Department of Labor and Employment
Department of Local Affairs
Department of Military and Veterans Affairs
Department of Natural Resources
Department of Personnel and Administration
Department of Public Health and Environment
Department of Public Safety
Department of Revenue
Department of Transportation
Colorado Energy Office
Office of Information Technology

Colorado's Long-Term Recovery Framework



Challenges:

Local communities, state and federal agencies all encountered unique challenges presented by this disaster.

The floods stretched the capacity and staffing resources of local and state agencies. Both the state and local communities adapted by developing new partnerships in the public, non-profit and private sectors. They also hired, trained and deployed much needed staff to ensure that both disaster recovery work and every-day business continues without interruption.

Some of these challenges include:

- Aligning all flood-impacted communities around infrastructure repairs and watershed restoration activities to ensure that we optimize the opportunity for resilient recovery.
- Creating a multi-disciplinary, multi-sector stream recovery process that includes engagement from private landowners, non-profits, businesses, technical experts and local, state and federal governments.
- Tying energy efficient efforts to housing and public facility rehabilitation projects across multiple impacted communities.

Community and Economic Recovery

The community and economic impact of the floods was as widespread as it was devastating. Economic impact alone was estimated at over \$555 million, not accounting for the impacts to individuals and families, the workforce, or the physical landscape of local communities.



Examples of Support to Local Communities:

- **Coloradounited.com**—the Colorado Recovery Office launched coloradounited.com to provide a single point of contact for all flood-impacted communities to get help, find resources and offer assistance. Coloradounited.com has interactive maps of all flood impacted areas to identify road openings/closings, disaster recovery centers and important information about funding resources.
 - **Coloradounited.com** won the Consumerization of IT in the Enterprise (CITE) award for best use of GIS.
- **Staffing**—Through many state agencies, the state provided support to local governments by loaning staff and assisting in management of disaster assistance centers. This included \$1.1 million in state grants to hire new staff and to enhance local capacity to manage recovery efforts.
- **Federal Match Assistance**—To help provide relief to the budgets of local communities that have—and will continue to be—heavily impacted by disaster relief and recovery costs, the Governor authorized the state to provide half of the non-federal match for multiple federal recovery grant programs.
- **Long-term Recovery Teams**—Provided technical and financial assistance to more than 20 local governments to form local recovery long-term recovery teams and recovery planning projects.
- **Behavioral health support**—Provided crisis counseling and information referral services to more than 102,153 Colorado residents through the Crisis Counseling Program.
- **Secured FEMA Disaster Case Management Grant**—The state successfully applied for and received a \$2.9 million Disaster Case Management grant through the Federal Emergency Management Agency to pay for new staff to supplement local disaster case management activities through long term recovery groups for up to 18 months.
- **Damage evaluations**—the state completed 313 written damage evaluations for residents and businesses detailing recommendations for repairs and information about what consumers can expect from reputable contractors.
- **Mobilized clergy and community**— the DORA Civil Rights Division coordinated with 23 churches or religious organizations, 11 homeless shelters, 10 workforce centers and 17 shelters for domestic violence victims to connect impacted populations in the immigrant community with resources.
- **Regulatory Relief**—the Department of Revenue granted tax extensions to businesses and expedited the issuance of tax clearance letters and waived processing fees in order to expedite delivery of recovery of funds.
- **Assistance to impacted workers**—the state assisted 153 individuals receiving federal Disaster Unemployment Assistance totaling \$329,450.
- **Created Jobs**—The U.S. Department of Labor’s National Emergency Grant Program provided over \$1.3 million in assistance through the state. These funds employ 144 individuals through local workforce centers.





Housing

The September floods impacted families—renters and homeowners alike—across 24 Colorado counties. More than 16,000 homeowners and renters received \$65 million in Individual Assistance from FEMA, and more than \$80 million in low-interest loans from the Small Business Administration, addressing a portion of the estimated \$623.3 million in damages. Additionally, the state set aside \$23 million in the first round of funding from the Community Development Block Grant—Disaster Recovery (CDBG-DR) funding to support household assistance and new construction projects through April 2016.

Examples of Support for Local Housing Recovery Efforts:

- **Disaster Housing Plan**—The Division of Housing successfully activated the state’s Disaster Housing Plan. The plan activates a state-led Disaster Housing Task Force to coordinate disaster housing activities, monitor housing impacts and unmet needs, evaluate complex housing challenges, and make recommendations on housing support activities. The Task Force includes state, federal and local agencies and not-for-profits including the American Red Cross, Colorado Cross Disability Coalition, and Manufactured Housing Association.
- **Weatherization Assistance**—Provided assistance to more than 500 households, including distributing \$300,000 in weatherization grants from the Colorado Energy Office.
- **Housing Relocation Assistance**—Provided housing location services through www.coloradohousingsearch.com and a toll-free call center with services in English and Spanish. The website was updated regularly and provided outreach to landlords in the immediate aftermath of the disaster.
- **Temporary Housing Assistance**—Shortly after the flood, 598 families were temporarily housed in hotels through the FEMA Transitional Sheltering Assistance Program. By Thanksgiving Day 2013, 23 families remained in hotels. By mid-December, all families were able to locate to more permanent housing solutions through coordinated local, state and federal support and individual efforts. As of September 2014, 21 families remain in FEMA temporary housing units.



Infrastructure

The 2013 floods exacted a great toll on federal, state, local and private infrastructure throughout the flood impacted area. Transportation infrastructure, utilities and public facilities were all significantly impacted. Costs to repair infrastructure, as well as to mitigate against future flooding events, is estimated to cost as much as \$2 billion. The focus on infrastructure provided the most basic and critical of services for communities, and initial priority was restoring functionality of those areas. Local communities and the state have and continue to work vigorously to identify cost-effective resiliency measures to reduce risk from future events. To date, FEMA has currently made \$267 million available and the Federal Highways Administration has made \$450 million available to repair flood impacted infrastructure. Additionally, the state allocated \$19.4 million available from the first allocation of Community Development Block Grant-Disaster Recovery funds.



Examples of Support for Local Recovery Efforts:

- **Opened all highways**—The Colorado Department of Transportation (CDOT), under the directive of Governor Hickenlooper, reopened all flood-affected highways by December 1, 2013. In partnership with the construction industry and the National Guard, CDOT established temporary access and connected people back to their homes and business much sooner than expected.
- **CDOT Flood Hotline**—Immediately after the flood CDOT set up a flood hotline, which answered more than 10,000 phone calls from September-December. The CDOT Communications Office was recognized as Public Relations Team of the Year by the Colorado Chapter of the Public Relations Society of America for its efforts in responding to the flood.
- **Regulatory Relief**—To alleviate the shortage of contractors needed for infrastructure recovery, the Governor authorized the suspension of certain regulations to allow qualified out-of-state contractors not otherwise registered in Colorado, to immediately begin work.
- **Cash Advances**—The Governor authorized cash advances to local communities facing cash-flow issues from costly and time-critical infrastructure projects.
- **Response and Recovery Support Missions**—The Division of Homeland Security and Emergency Management, through the State Emergency Operations Center, coordinated and tracked more than 325 response and recovery support missions, including 24 missions utilizing out-of-state personnel and resources to support response and recovery efforts.
- **Water and Wastewater Recovery Grants**—The Department of Public Health and Environment awarded more than \$12 million in water and wastewater recovery grants.
- **Energy Efficiency**—The Colorado Energy Office helped the Town of Lyons access a \$2 million, no-interest loan, to modify its in-the-works energy performance contract to incorporate energy efficiency into repair of its water treatment system.
- **Agriculture Infrastructure Recovery**—Partnered with agricultural producers and water providers to repair 88 percent of state and privately owned water infrastructure damaged in the flood.
- **Dam Inspection**—the Division of Water Resources mobilized more than 100 volunteer professionals to inspect 207 dams to ensure the ongoing safety of the public and emergency responders. In addition, they provided flood warnings to water users so they could prevent damage to livestock and equipment.

Roadway	Date Opened
US36 East	October 1, 2013
SH119 Boulder Canyon	October 7, 2013
US36 North St. Vrain	November 4, 2013
SH72 Coal Creek Canyon	November 11, 2013
US34 Big Thompson Canyon	November 21, 2013
South St. Vrain	November 26, 2013





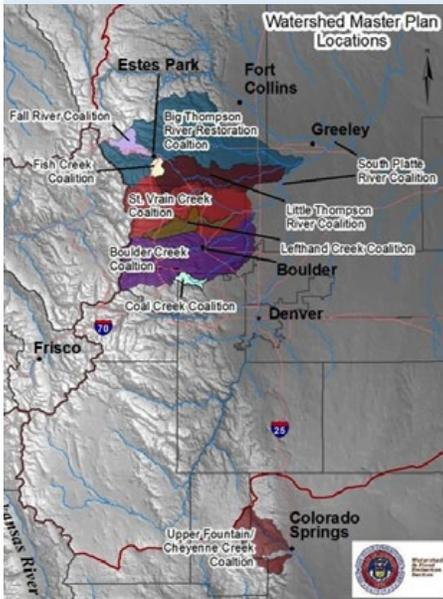
Streams and Floodplains

One can witness the dramatic impact of the Colorado floods by driving any impacted mountain canyons: high velocity floodwaters created new stream channels, eroded stream-banks and left debris fields for miles. A federal-state team evaluated the impacted watersheds shortly after the floods and estimated 59 miles of stream required debris removal, and another 81 miles required stabilization. The work will continue for years ahead and is estimated to exceed \$100 million.

Examples of Support for Local Streams and Floodplain Recovery:

- Nine New Watershed Coalitions—the state supported the creation of nine new watershed coalitions to ensure that the watersheds were rehabilitated through a holistic and cross-regional effort. These coalitions are comprised of local, state and federal government agencies, individual landowners, businesses and not-for-profits, all of whom have a stake in stream recovery from the top of the stream to the plains.
 - Corridor Master Planning—the Colorado Water Conservation Board made \$1.7 million in grants available to the newly established coalitions for watershed master planning.
- Stream Restoration and Debris Removal Grants—the Governor authorized legislation at the end of the 2014 legislative session that set aside funding for stream restoration and debris removal projects. The Colorado Water Conservation Board awarded \$2.29 million to 20 stream restoration and debris removal projects only two and a half months after the Governor signed the legislation.
- Utilized Technology to Support Recovery Projects—In partnership with FEMA and the US Geologic Survey, the state worked to collect Light Detection and Ranging (LiDAR) and photogrammetry data in order to develop post-flood hydrology and hydraulic analyses to help with road and infrastructure reconstruction projects. Additionally, the state utilized this data to develop provisional floodplain recovery maps to help local communities make informed post-flood land use decisions.
- Collaboratively prevented further flooding and erosion—Worked with local communities and FEMA to identify and reduce threats to property and infrastructure due to stream debris and impending spring runoff. Protected private property and infrastructure from potential flooding and erosion through stream stabilization projects funded by the USDA Natural Resources Conservation Service and implemented by local communities with technical assistance from the state.

*The state is tied together
by its geography.
Our communities are
tied together from the
top of the watershed
to the bottom.*



Natural and Cultural Resources

Colorado's landscapes are some of the most beautiful in the world. The floods had a massive impact on streams, trails, bike paths, rivers and wildlife that make up and Coloradans way of life. Additionally the floods impacted water quality, energy extraction sites, agricultural lands, environmentally sensitive areas and historically significant buildings and artifacts.

Examples of Support for Local Natural and Cultural Resource Recovery Efforts:

- Oil and Gas Well Inspection—the Department of Natural Resources inspected 94 percent of 3,024 affected oil and gas wells within 45 days of the flood. By December 2013 all inspections were completed.
- Clean-up Oil and Gas Spill Sites—the Department of Natural Resources oversaw the clean up of 50 oil and gas spill sites.
- Oil and Gas Sites Returned to Production—Ninety-six percent of the 2,637 oil and gas wells “shut-in” after the flood have been returned to production.
- State Park Repairs—Department of Natural Resources repaired millions of dollars of damage to five state parks and 26 state wildlife areas.
- Environmental and Historic Preservation Reviews—Partnered with federal agencies to streamline and expedite environmental and historic preservation reviews required by federal law and enable construction projects to start more quickly
- The Colorado Cultural and Historic Resources Alliance, a public-private partnership co-chaired by the Division of Homeland Security and Emergency Management and CU-Denver, provided technical assistance to museums, libraries and other cultural facilities during and after the flood. Support included identifying at-risk or impacted institutions, expertise on artifact document protection and restoration, and connecting impacted institutions to engineers with historic-structures expertise.





Programs and Strategies

Coloradans are committed not only to recovering from the recent disasters but also making our state better prepared and more resilient for the next disaster.

Together with the local communities, we want to rebuild stronger, better and more resilient. To do this the state has established a framework to provide comprehensive support to local communities for this disaster and any future catastrophe.

The local communities, consisting of governments, residents and community-based organizations, will frame the long-term recovery. The state has pledged to assist in every aspect with a continued sense of urgency. Communities affected by future disasters must have access to state and federal funding and benefit from technical assistance at the state level all through streamlined government processes.

As stated above, we have focused our strategy in five critical areas—community and economic recovery, natural and cultural resources, housing, infrastructure, and streams and floodplains—because history shows that they will be primary recovery concerns for most disasters. Through these five focus areas, the state will maintain constant coordination between agencies, identify synergies between different efforts, programs and sectors and make certain communities will know where to go for appropriate support.

This chapter explains our long-term strategy, the resources we are committed to providing and how we propose deploying them.

Community and Economic Recovery

Community and economic recovery encompasses a broad range of activities supporting the rebuilding, rejuvenation and resilience of communities. This may involve helping local governments to manage recovery, land use planning, economic recovery, or it may involve providing support directly to individuals, families and businesses. A community may or may not be a municipality; rather, it implies a place where individuals, families and businesses live in close proximity, assemble together, share common values and location and, in this recovery, work together to build back and build back stronger. To this end, state and federal agencies deliver programs and services to support all communities, big and small, incorporated and unincorporated, urban and rural.



CDBG-DR Public Hearing in Estes Park



Working under the leadership of their elected leadership and staff, communities throughout the flood impacted areas, including Jamestown, Lyons, Boulder County and Milliken, all have embarked on recovery planning processes that engage their citizens, business, non-profits and neighboring jurisdictions. Recovery plans provide communities with a clear, prioritized path to recovery across all sectors of the community, outline specific projects in order to best leverage available funding sources, identify mitigation and resiliency measures and ultimately incorporate critical input and buy-in from citizens into the planning process. The state, through the Colorado Recovery Office, Department of Local Affairs, Department of Public Safety, and the University of Colorado at Denver have worked with communities to help design planning processes, provide technical assistance and support the many meetings required for a successful planning process.

Community and Economic Services and Resources:

- Capacity-building grants to support local recovery management staffing needs
- Recovery planning technical assistance to support the development of vision, goals, objectives and long-term recovery strategies for local communities
- Land use planning, technical and financial assistance
- Free damage assessment from state electrical and plumbing inspectors for residents and businesses
- Education for electricians on best practices following floods
- Coordinated websites and public information efforts to provide the public and communities with recovery updates, forums to ask questions, and find out about recovery resources
- Community Development Block Grant—Disaster Recovery (CDBG-DR) programs for agriculture, economic development and planning and capacity building
- Grants and technical assistance for economic development and tourism and marketing
- Business counseling, including disaster preparedness and business continuity planning technical assistance
- Grants to agricultural producers
- Technical assistance on grant management best practices
- Implementation of National Emergency Grant Program; grants to support local workforce and employment
- Disaster case management funding and technical assistance
- Crisis counseling and behavioral health support
- Coordination with healthcare facilities related to patient safety and continuity of care
- Funding for inspection of restaurants, outreach and communications to promote timely re-opening following the floods
- Support to local communities in the opening and implementation of disaster assistance centers and shelters for people, pets and livestock in multiple communities immediately following the floods

Looking Forward—Strategies for Long Term Community and Economic Recovery:

Successful community and economic recovery will require a number of factors in the long-term recovery process:

- Deliberative planning to chart a clear course for recovery and long-term resiliency that leverages available federal and state resources;
- Capacity at the state and local level to manage the broad scope of the recovery process;
- Business recovery, access to capital and economic diversification;
- Ongoing support for individuals, families, and businesses with long-term recovery needs and;
- Partnerships with local governments, non-profits and the private sector to ensure efforts and resources are coordinated.

The State of Colorado will continue to offer programming to support community and economic recovery needs. The state will continue to work to identify new technical and financial resources to support community recovery needs. Additionally, the state will provide in-depth support to help communities institute planning processes and resiliency measures to lessen the impacts of future disasters to community assets and the economy.

Housing

Housing recovery requires a continuum of services: moving from immediate shelter after the flood to transitional sheltering, rental assistance, rehabilitation and rebuilding of damaged and destroyed properties and the development of additional affordable housing for those communities that had already tight rental markets and suffered damages. Housing recovery also involves identifying solutions for communities with affordable and workforce housing shortages as a result of the flood.

Services and Resources:

- Coordination with FEMA Individual Assistance Program—grants to individuals and families for housing and recovery unmet needs
- Community Development Block Grant—Disaster Recovery (CDBG-DR) program for housing assistance, repair and reconstruction
 - Rental assistance for impacted and displaced populations
 - Rebuilding assistance for impacted single and multi-family properties
 - Capital for new housing development projects
 - Housing site development and disaster recovery studies
- Technical and financial assistance on weatherization and energy efficiency
- Housing location services through www.coloradohousingsearch.com
- Hazard mitigation plans to protect private property, infrastructure and public facilities
- Coordination with state, federal and local agencies, the Mexican Consulate, faith based communities, homeless shelters, workforce centers and others to support the recovery needs of the immigrant community.

Looking Forward—Strategies for Long Term Housing Recovery:

- Helping individuals and families find access to safe, sanitary, secure and affordable housing;
- Identifying ways to reduce risk to housing from future events,
- Promoting and developing additional affordable housing solutions;
- Promoting sustainable building and rebuilding practices, including energy efficiency measures and the incorporation of new technologies, and;
- Promoting access to transportation when considering new housing developments.



State departments will continue to support local efforts, through local governments, housing authorities, housing development corporations and others to provide access to capital, provide technical assistance, and support to families—homeowners and renters alike—with ongoing housing unmet needs.

Infrastructure

Infrastructure serves as the foundation for basic public services—water, electricity, transportation and access to homes and businesses—and therefore, it is imperative to restore the functioning of infrastructure as quickly as possible. At the same time, it is critical to identify and implement measures to ensure that infrastructure is less vulnerable to impacts of future disasters.

Infrastructure Services and Resources:

- Technical and financial assistance in the rebuilding of local and state roadways
- Technical and financial assistance in the repair, restoration, rebuilding and mitigation of water/wastewater infrastructure
- Technical and financial assistance in the repair, restoration, rebuilding and mitigation of utility infrastructure
- Technical and financial assistance in the repair, restoration, rebuilding and mitigation of public facilities, parks and other public assets
- Technical and financial assistance for the design and implementation of mitigation measures to protect private property, infrastructure and public facilities
- Funding for planning, engineering design and other studies related to infrastructure repair, restoration, rebuilding, new builds and/or mitigation measures
- Community Development Block Grant—Disaster Recovery (CDBG-DR) program for infrastructure
- Technical assistance on procurement, project management and grant management
- Coordination with private sector on the restoration and protection of privately owned and operated infrastructure

Looking Forward—Strategies for Long Term Infrastructure Recovery:

Infrastructure impacts from the September floods approached nearly \$2 billion. For a disaster of this size, scope and complexity, infrastructure recovery requires a multi-faceted approach:

- Restoring basic services, such as utilities and transportation. Access to basic services is a critical foundation for individuals, families, businesses and communities to be able to begin moving forward with their recovery.
- Identifying and instituting innovative mitigation and resiliency initiatives in order to ensure that future events do not inflict the same impacts on infrastructure.



In the wake of the dramatic flood impacts to the state's highways, the Department of Transportation developed strategies for making the re-built highways less vulnerable to future disasters. In partnership with the Federal Highways Administration (FHWA), the department has developed a new, groundbreaking risk-based analysis tool that will enable them to incorporate mitigation and resiliency measures that otherwise may not have been eligible for federal assistance into the road reconstruction process. The tool takes into consideration the vulnerability of the asset; the likelihood of the threat and the probability of a future failure. As a result, Colorado's highways will be safer and more resilient.

- Implementation of transportation infrastructure reconstruction and mitigation/resiliency projects

Agencies across state government have made resiliency a cornerstone goal, and measures, from protecting roadways to wastewater facilities and beyond, are being incorporated at the state and local level. Resiliency will remain a priority for years to come, long beyond this recovery process, to promote the vitality, safety, sustainability and quality of life for Colorado’s communities.

Streams and Floodplains

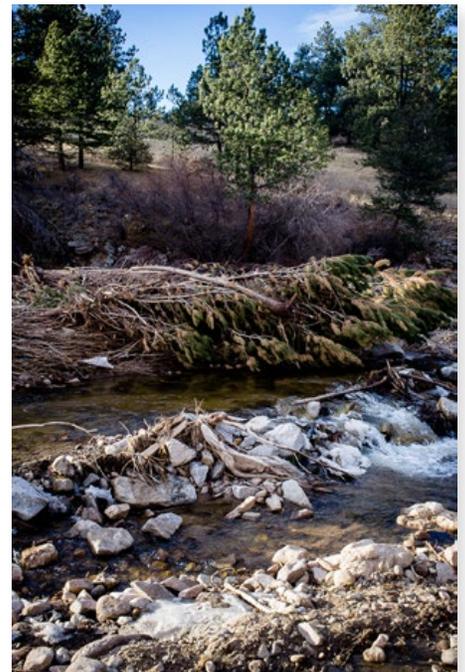
Streams are critical natural resources, community amenities, economic development engines, recreation corridors, wildlife habitat and the sustenance for agriculture and communities. Our stream corridors interact directly with housing and critical infrastructure in mountain valleys, steep canyons and in the plains. There is no one agency, person or resource that can revitalize our watersheds and make them more resilient from future events, so restoring our watersheds requires collaboration, between federal, state and local governments, private landowners, businesses, non-profits and others. As such, collaboration is central to the recovery and resiliency of our watersheds and the homes and infrastructure that sit near those waterways. State and federal resources have been aligned to implement immediate stabilization measures, as well as to formulate a strategic and holistic approach to long-term stream recovery.

Streams and Floodplains Services and Resources:

- Technical assistance to floodplain managers, local officials and individuals and families on National Flood Insurance Program, floodplain regulations and code enforcement
- Technical and financial assistance on immediate stabilization and long-term stream restoration design and implementation
- Synchronizing stream restoration activities and rebuilding of transportation infrastructure to preserve natural stream function, enhance wildlife habitat, as well as implement measures to better protect roadways from future floods
- Formation, technical assistance and funding for watershed coalitions to implement multi-objective watershed master plans
- Technical and financial assistance to local communities for the re-drawing of floodplain maps, and the development of new hydrology and hydraulic studies in order to enable communities to best oversee and regulate redevelopment
- Watershed Resilience Pilot Program funding through Community Development Block Grant—Disaster Recovery (CDBG-DR)
- Repair and replacement of stream gauges and other monitoring equipment
- Restoration and rebuilding of fisheries, State Parks and Wildlife areas and river corridors damaged by the floods



Stream restoration before (above) and after (below)



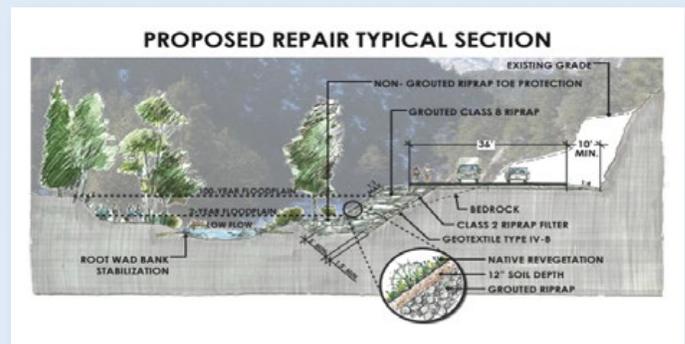
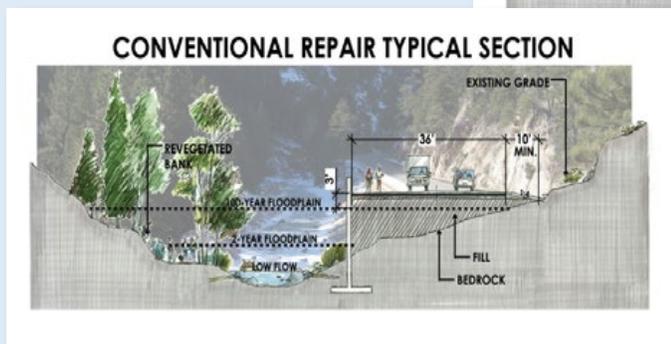
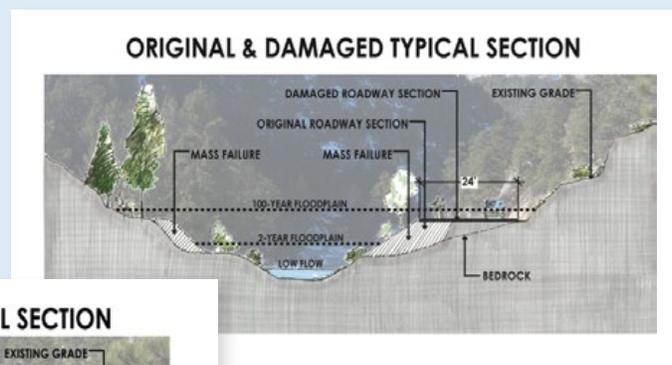
The Department of Transportation and the Department of Natural Resources Colorado Water Conservation Board forged a collaboration shortly after the floods that allowed highway construction and stream restoration to take place in concert, at the same time, using the same information. As a result of this new process, projects, including the U.S. Hwy. 36 reconstruction, enhance the harmony between streams and critical infrastructure. The group collaboratively developed detailed runoff and peak-flow data that helps transportation engineers to build in measures to protect roadways from future damage while allowing stream restoration experts to better stabilize streambanks, enhance riparian habitat and restore the natural and beneficial functions of floodplains.

Additionally, they continue to coordinate the implementation of road reconstruction and stream restoration activities to maximize resources and enhance the effectiveness of the two efforts. As shown in the accompanying cross-sections, the highways are built on bedrock instead of fill materials, and the streams have more room to move naturally.

Looking Forward—Strategies for Long Term Streams and Floodplains Recovery:

The state will continue to facilitate close collaboration with the federal government, between agencies within the state and with local communities. Immediately after the floods, the state dedicated \$1.7 million to funding watershed master plans and supporting the formation of watershed coalitions that would serve as a critical first step in this process. Moving forward, the state will focus on the following key factors:

- Providing support to coalitions throughout the flood-impacted area that have formed to collaboratively plan, identify, prioritize and implement projects;
- Promoting collaboration, and support efforts to promote multi-objective, regional approaches to watershed restoration projects that benefit the broad range of watershed stakeholders;
- Identifying opportunities to incorporate and integrate recreation, economic development and community development into the long-term stream recovery process
- Continuing to provide intensive technical assistance from agencies such as the Department of Natural Resources Colorado Water Conservation Board;
- Identifying and advocating for funding to support holistic restoration and resiliency efforts.



Natural and Cultural Resources

Colorado's communities and its economy thrive, in large part, due to its natural beauty and pristine natural resources. Flooding not only impacted homes, businesses and infrastructure, but also the natural environment. Water quality, agricultural lands, parks and riparian corridors have all required intensive restoration and recovery efforts. Likewise, the multitude of construction projects resulting from the floods require coordination so they do not adversely impact the environment and historically significant resources, and that federal environmental and historic preservation laws are followed. Agencies throughout the state and federal governments, as well as local communities impacted by the flood, have made significant efforts in the past year, and remain committed to maintaining and enhancing the natural resources and environment that help make Colorado a unique place.

Natural and Cultural Services and Resources:

- Air and water quality testing, monitoring and public messaging
- Technical and financial assistance for water quality and wastewater projects
- Partnership with the energy industry to inspect and where necessary clean-up flood impacted well sites
- Incorporation of green infrastructure and water quality measures into watershed restoration planning and construction projects
- Restoration of parks and wildlife areas
- Coordination with agricultural producers to minimize environmental impacts on agricultural lands and crops
- Permitting assistance, technical assistance and development of guidance on disposal of flood-generated debris and hazardous materials
- Processing of environmental and historic preservation reviews and permits for construction projects funded with federal dollars
- Continuing identification and implementation of environmental and historic preservation review streamlining measures
- Technical assistance to cultural institutions such as libraries and museums

Looking Forward—Strategies for Long Term Natural and Cultural Resource Recovery:

Protection of environmentally and historically significant resources and assets is an important core value of this flood recovery process. This requires monitoring of air, water and land impacted by the floods, as well as measures to protect the environment from future events. Recovery planning processes, infrastructure restoration projects, housing development projects and stream restoration projects all must take into account the need for harmony between recovery activities and the protection of environmental and historically significant resources, while also maintaining a sense of urgency, so projects are completed as quickly and effectively as possible. Likewise, environmental review and monitoring should be conducted in such a way to minimize impact on already taxed local staff. The state is committed to striking this balance throughout the recovery process, working with federal, state and local partners to ensure compliance with federal laws, preservation and protection of precious natural resources and to facilitate a timely and efficient recovery process.

Construction projects funded with federal dollars require an environmental review before a project can begin. Under the leadership of the of the Federal Emergency Management Agency (FEMA), state and federal partners implemented a new streamlined coordination and review process that is more efficient and gets construction project moving. The first of its kind in the country, the Disaster Unified Review Team (DURT), allowed multiple federal and state agencies to coordinate and share information to streamline environmental and historic preservation reviews, which allowed critical construction project to move forward in a timely manner, while preserving and protecting the environment and historically significant artifacts and buildings. Agencies that manage or implement construction dollars, such as the Department of Transportation and Department of Public Safety, as well as agencies that are engaged in environmental and historic preservation review process, such as History Colorado, have all played a critical role in the success of the DURT team.



Conclusion

All disasters start locally and end locally.

They require the tireless efforts of citizens, businesses, non-profits and government agencies. They require a vision for a better future and collaboration to make that vision a reality. In particular, disasters as catastrophic as last September's floods require support from the state and federal governments. Through financial resources, staff, policy and through constant partnership with local communities, the state remains committed to supporting local efforts to build back better, stronger, safer and more resilient.

Colorado's mountains and plains make our home beautiful and unique. The state is tied together by its geography. Our communities are tied together from

the top of the watershed to the bottom. Because of this connection, collaboration is key as we look to the future. The state will continue to work with communities to set priorities, promote collaboration and focus on the recovery and resilience effort and honor Colorado's natural beauty and way of life.

Working with local governments, local agencies and federal partners, the state set goals at the outset of the recovery process. These goals included delivering results with an ongoing sense of urgency, transparency and constant communication and building back for the future. Moving forward, the state's goals and the five areas of recovery discussed in this report will provide the framework for supporting the outcome of 100 percent



recovery from the 2013 Flood Disaster. In the coming weeks, months and years ahead the state commits to:

- Maintain the same sense of urgency, transparency and commitment to results. All recovery programs will be constantly monitored and evaluated. When improvements can be made and efficiencies identified, the state will do so.
- Cultivate, maintain and improve partnerships—with local communities, between state agencies, with the many federal agencies still engaged in this recovery and with the non-governmental partners whose work on the ground continues to help Colorado communities move forward.
- Communicate constantly with local communities and with the public throughout the entire long-term recovery process.
- Continue to identify and advocate for funding resources to support recovery efforts.
- And, to identify and incorporate innovative measures to make Colorado more resilient, through collaboration with groups like the State’s Stream Recovery Team and Resiliency Working Group, as well as through financial and technical support to the multitude of groundbreaking efforts taking place at the local level.



The groundwork has been set in the year since the flooding began. We have begun to recover, but no impacted individual will ever be the same. Lives were lost, homes and precious belongings are gone. Coloradans came together to help in the days after the flood and have not wavered in their commitment to continued recovery.

The flooding that began on September 11, 2013 will forever be a part of Colorado’s history. Just as the rainfall and flooding were historically catastrophic, Coloradans are resilient—their collaborative commitment to recover and build back better and stronger will forever be a part of Colorado’s history.



September 13th, 2014

One year after the flooding began Coloradans came together for Colorado United Day of Service. The day concluded with a concert in the Town of Lyons. Colorado United Day of Service was organized to direct Coloradans to volunteer projects in their communities. Over 3100 volunteers participated in more than 50 projects state-wide. The day of service commemorated all the work that had been done and all the work that needs to continue for a full recovery. The concert was a recognition of the resilience of Coloradans, a thank you to those who participated in the day of service and a celebration of the thousands of volunteers who have supported Colorado communities over the past year. Colorado is united in recovery and determined to help their communities build back better and stronger.

Appendices

Table 1—Summary of Observed Discharges and Frequency Estimates

Location	Drainage Area (sq. mi.)	Regulatory Discharges (cfs)				2013 Peak Discharge Estimate (cfs)	2013 Estimated Frequency
		10-Year	50-Year	100-year	500-Year		
South Platte River							
South Platte River at Fort Lupton	5,043	10,000	22,000	29,000	52,000	10,100	10 Year
South Platte River at Kersey	9,659	11,000	24,500	32,500	57,500	55,000	500 Year
Coal Creek							
Coal Creek at SH72 Near Wondervu	10.3	77	1,580	2,930	5,240	1,110	25-50 Year
Coal Creek Near Plainview Road	15.1	67	1,690	3,340	6,260	3,900	>100 Year
Boulder Creek							
Boulder Creek near Orodell	102	N/A	N/A	N/A	N/A	2,020	N/A
Boulder Creek at 28th Street	136	2,200	7,800	8,000	20,600	5,300	25-Year
St. Vrain River Watershed							
Middle St. Vrain River above S. St. Vrain	32.4	590	1,430	2,000	4,070	1,750	50-100 Yr
South St. Vrain River at Middle St. Vrain	66.7	1,220	2,790	3,990	8,560	2,700	50 Year
South St. Vrain above confluence N. St. Vrain	92	1,400	3,750	5,430	11,900	9,000	<500 Year
North St. Vrain above confluence S. St. Vrain	125	1,000	2,850	4,310	10,630	12,300	>500 Year
St. Vrain below confluence N and S branches	211	2,040	6,670	8,890	20,260	19,600	<500 Year
St. Vrain River at Interstate 25	854	5,950	12,850	16,700	41,960	18,000	>100 Year
Lefthand Creek upstream of US36	N/A	520	2,480	4,610	10,320	3,520	100 Year
Little James Creek at Confl. James Creek	1.8	109	544	970	2,690	1,050	100 Year
James Creek above Little James Creek	8.9	200	1,190	2,140	6,010	2,900	>100 Year
James Creek at X/S A (d/s of Main Street)	14.5	355	2,180	3,930	10,880	3,300	50-100 Yr
Little Thompson River							
Little Thompson River above West Fork	13.8	170	280	340	490	2,680	>500 Year
Little Thompson River below West Fork	43.2	775	2,166	2,585	N/A	12,300	>500 Year
Little Thompson River at Interstate 25	170	5,535	12,723	14,728	19,923	14,500	100 Year
Big Thompson River Watershed							
Big Thompson at Lake Estes Below Dry Gulch	156	2,250	3,800	4,700	7,200	9,300	>500 Year
Big Thompson at Drake Above North Fork	191	2,750	5,700	7,500	13,600	12,500	500 Year
Big Thompson below Drake	274	3,700	7,850	10,400	19,200	29,500	>500 Year
Big Thompson at CR 29	314	3,800	10,500	15,300	37,000	15,500	100 Year
Big Thompson River at Interstate 25	515	4,300	8,800	11,500	21,000	19,000	500 Year
North Fork Big Thompson River at Drake	83	1,500	4,100	6,100	14,100	18,400	>500 Year
Buckhorn Creek at Masonville	92	4,674	10,321	13,862	24,000	11,000	50 Year

*Source: Department of Natural Resources Colorado Water Conservation Board. Discharge estimates based on best available information and are subject to change.

Colorado Flood Recovery Resources (effective October 1, 2014)

Funding Type	Total Allocation	Dollars Used To Date	Purpose
Public Assistance (FEMA)	\$307.4 million (est)	\$279.7 million	1,204 projects written; 1,146 approved
SBA Loans	\$109.8 million	\$109.8 million	Homes \$80.6 million Businesses: \$29.2 million
National Flood Insurance Program	\$66.7 million	\$66.7 million	2,093 claims
CDBG-DR (DOLA)	\$320.3 million	\$62.8 million	Housing, economic, infrastructure
Individual Assistance (FEMA)	\$61.7 million	\$61.7 million	16,555 homes have received funding
Federal Hwy. Administration Emergency Relief Program (CDOT)	\$450 million	\$120 million budgeted for emergency repairs \$122.7 budgeted for permanent repairs	Repair and build state highways (27 closed, 485 miles impacted)
Colorado Water Conservation Board and Northern Water	\$40 million	\$23.2 million	Emergency flood loans for irrigators and water providers
	\$225,000	\$100,000	Flood response grants to local governments
	\$1.925 million	\$1.01 million	Watershed recovery grants
	\$2.5 million	\$2.5 million	Individual grants to 107 irrigators and water providers
	\$2.5 million	\$2.29 million	Grants for watershed clean up (SB-179)
GOCO flood recovery grant (DNR)	\$27 million	\$19 million	Restore trail and park systems and open spaces
Fundraising	\$21.7 million	\$20.5 million	Individual housing assistance from Red Cross and United Way
USDA FSA Emergency Conservation Program (CDA)	\$5.8 million	\$5.2 million	Technical assistance to ranchers and farmers
Emergency Relief for Federal Owned Roads (CDOT)	\$3.5 million	\$3.5 million	Repair roads washed out by floods
USDA's Emergency Forest Restoration Program	\$3.0 million	\$3.0 million	Larimer county owners of non-industrial private forests
Flood-related disaster assistance (OEDIT)	\$2.9 million	\$2.9 million	Grants/loans
DLG Grants from Energy/Mineral Assistance Impact Fund (DOLA)	\$4.7 million	\$4.7 million	Manitou Springs, Milliken, Evans, Longmont, Nederland, Estes Park, Jamestown, Lyons and Larimer County
National Emergency Grant for CDLE	\$2.3 million	\$1.56 million	Assist citizens in securing jobs that help the recovery effort
Drinking Water Revolving Fund, Water Pollution Control Revolving Fund (CDPHE)	\$2 million	\$2 million	Town of Lyons for water and wastewater treatment systems.
CDPHE/Colorado Water Resources and Power Development Authority	\$2 million	\$1.02 million	Technical assistance for preparing FEMA project worksheets
FEMA crisis counseling program (CDPHE)	\$5.7 million	\$1.6 million	Hire crisis counseling staff at 8 community mental health centers
U.S. Department of Education Project SERV Grant (CDE)	\$750,000	\$750,000	Mental health support at impacted schools
Disaster Unemployment Assistance (CDLE)	\$710,000	\$329,450	Workers unable to work due to floods and not qualified for unemployment
State Disaster Emergency Fund	\$111 million	\$67.5 million	Emergency relief—state cost share
D-SNAP—one time, federal funded electronic food stipend (CDHS)	\$212,104	\$212,104	Residents flood-related expenses
Private funds to restore outdoor recreation facilities, parks and trails	\$167,000	\$98,875	Grants and assistance to help local communities restore outdoor recreation facilities, parks and trails

Funding Type	Total Allocation	Dollars Used To Date	Purpose
Colorado Low-Income Weatherization Program (CEO)	\$461, 228	\$134,762	Weatherization services
CDPHE general fund and private foundation funds	\$40,000	\$40,000	State/private foundation funds for local public health agencies, as well as testing private wells
Emergency Food and Shelter National Board (FEMA)	\$17,800	\$17,800	Supplement emergency food and shelter programs
National Farm Aid (CDA)	\$10,000	\$10,000	Purchasing household goods
Disaster Case Management Program (DCMP) (DHSEM)	\$2.7 million	\$60,439	Develop personal disaster recovery plan
NCRS Exigent Emergency Watershed Projects (NCRS)	\$14.8 million	\$2.53 million	160 stream channel stabilization and debris removal in Larimer, Boulder, El Paso, Jefferson, Weld and Morgan counties
Energy Performance Contracting (CEO)	\$5.9 million	\$0	Financing mechanism for public agencies to pay for energy efficiency services
HB-1002 Natural disaster Grant Fund (CDPHE)	\$16.8 million	\$12.1 million	Water and wastewater planning, design, construction, rehabilitation
Total: \$1.6 Billion		Total \$1 Billion	





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