



Colorado National Priorities Five-Year Report 2020 Forest Action Plan

The mission of the Colorado State Forest Service (CSFS) is to achieve stewardship of Colorado's diverse forest environments for the benefit of present and future generations.

Cooperative programs are administered and implemented through a partnership between the State of Colorado, USDA Forest Service and many other private and government entities. These programs promote the health, protection and productivity of Colorado's forest lands and rural economies, emphasizing reduction of risk to people, property, and resources; management for timber and other forest products; wildlife; water resources; and conservation practices.

Program Goals:

- Maintain and improve the health of Colorado's urban and rural forests and related economies
- Protection and safety of the public and firefighters
- Increase cost effectiveness through the use of partnerships in delivery
- Increase values through sustained productivity of forests
- Deliver programs that are voluntary and use non-regulatory approaches

Key Issues:

Fragmentation of forest landscapes

Unprecedented levels of forest insect and disease activity

Loss of forest products manufacturing capacity

Threat of wildfire in the wildland-urban interface

Threat of wildfire outside the wildland-urban interface

Community forests at risk to insects and disease

Risk of diminished forest resiliency and adaptability due to changing climate conditions

Declining forest watershed health

Declining riparian ecosystems

Air quality issues associated with forest conditions

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Colorado State Forest Service Forest Action Plan Implementation Highlights - 2015 – 2019

Organized by National Priorities CONSERVE, PROTECT, ENHANCE

National Priority 1 – CONSERVE and Manage Working Forest Landscapes for Multiple Values and Uses

Forest Stewardship

- The Stewardship Program provides landowners with technical assistance with the development and implementation of comprehensive resource management plans. The Colorado State Forest Service provided assistance to more than 54,000 landowners and developed/revised plans covering more than 100,000 acres in FY 2015-2019. The Colorado State Forest Action Plan continues to guide the priority of fuel and forest health treatments and is used extensively to help identify future outreach and education efforts on private lands.
- The American Forest Foundation and the CSFS have entered into an agreement to hire foresters that work to provide various types of management plans and assist with implementation of landowner assistance programs. Through this agreement, the CSFS has hired three additional foresters in high priority areas of the state.
- The Restoring Colorado's Forest Fund, a donation based fund, will be distributing over 6,000 seedlings to landowners in the spring of 2020. These tree seedlings are distributed to landowners, free of charge, that have been impacted by natural disasters.
- Colorado continues to lead in stewardship training efforts. Several workshops were held for partners, contractors and consultants, with a focus on increased services to communities and landowners. A new newsletter was initiated in 2015 and disseminated to Colorado's 678 Forest Ag participants and local consulting foresters to increase landowner engagement. The newsletter includes a motivational message from the program manager, forest product marketing tips, an assortment of technical forestry information, as well as landowners in the spotlight.
- A 360-degree review of the Forest Ag Program was conducted to recognize program successes, identify areas of improvement, and recommend implementable solutions. Feedback was collected through internal focus group discussions with CSFS districts and surveys to program end-users: participating landowners, consultants and county assessors. The CSFS has started implementing recommendations from the program review while coordinating closely with area managers, field offices, consultants and other partners to more effectively administer changes. A CSFS Forest Stewardship Program Specialist is in place to provide leadership and oversight of the Forest Stewardship



Programs. The FSP specialist will continue to engage landowners and partners through Forest Ag Newsletters and the Colorado Forest Stewardship Coordinating Committee, as well as other outreach materials and events.

- The Colorado Forest Stewardship Coordinating Committee meets on an annual basis. The FSP Program Manager at CSFS also engaged partners through the Forestry Technical Advisory Subcommittee to the NRCS

Good Neighbor Authority

- Between 2016 and 2019 over 15,000 acres were slated for treatment on federal lands in 14 project areas operating on 9 CSFS field offices, 11 national forests, and 1 BLM district (Table 1).
- Management actions included aerial spraying, implementing timber sales and fuels treatments, removing hazardous trees, salvaging roadside timber with a CSFS sale permit, salvaging beetle-killed timber, and supporting CSFS staffing to build planning and implementation capacity.
- Anticipated benefits from the Good Neighbor Authority (GNA) program include landscape-scale management over combined ownerships, leveraged fuels treatments and defensible spaces, removal of impediments to cross-boundary watershed restoration, and cooperation between county, federal, state, and tribal agencies, landowners, and other stakeholders. This, in turn, will improve the success of the National Fire Plan, Cohesive Strategy, and Shared Stewardship directives.



Table 1. CSFS/USFS & BLM GNA SPAs to Date – February 2020

CSFS Field Office	USFS National Forest/BLM District	Project Type	Projected Acres	Projected Volume (CCF)	Calendar Year	Zip Code
WP	Pike & San Isabel	Aerial Spray	399.5	NA	2016C	80906
MO	GMUG	Timber Salvage (TSal)	86	1775	2016	81435
GR	BLM NW CO	Tsal	2736	8778	2016	80459
SS	Routt	Fuels Treatment (FT)	217	NA	2016	80487
AL	Rio Grande	Tsal	100	1400	2016	81132
GJ	GMUG N Zone	Timber Sales (TS) & FT	2888	11500	2017	81428
MO	GMUG W Zone	TS & FT	2400	5700	2107	81401
SA-GU	GMUG E Zone	TS & FT	3000	72223	2017	81230
DU	San Juan E Zone-Shalona	FT	42	127	2017C	81301
DU	San Juan W Zone	TS & FT	1235	2050	2017	81328
SO	USFS 6 NF *	Capacity Building	NA	NA	2017	80521
GR	Arapaho & Roosevelt	TSal	198	TBD	2018	80446
SS	Routt	FT	340	TBD	2018	80428
GR	White River	TS & FT	1689	TBD	2019	80424
DU	San Juan E Zone-Engler	TS	120	807	2020	81122
CC, GR, & SA-GU	BLM Statewide	TS, TSal, & FT	In Progress	In Progress	2020	TBD
Sum =			15450.5	104360		

* 6 National Forests: Arapaho & Roosevelt, Pike & San Isabel, Routt, & White River NFs

"C" = Complete



Landscape Scale Restoration

- The 2015 Natural Capital LSR grant was completed in 2017. This project:
 - 1) catalogued existing data sources;
 - 2) identified the most important natural assets in the watershed;
 - 3) mapped the natural capital and valued the ecosystem services produced throughout the watershed;
 - 4) produced a decision support tool to assist stakeholders with prioritizing future investments in the watershed.
- A 2017 LSR grant award titled "Teaming Up for Trees" is a multi-community planning and planting program in the communities in eastern Colorado and is having significant impact on neighborhoods and parks.
- A 2018 LSR grant award titled "Emerald Ash Borer Collective Response" will inventory existing ash populations in smaller communities and facilitate cooperation between all Front Range communities that will be dealing with issues like EAB control, tree removal, log storage, wood utilization and ash replacement. The CSFS was able to set up a contract with the Davey Resource Group to help implement and complete the following deliverables over a three-year time period:
 - 1) Complete ash tree inventories on public property in twenty communities with an urban population less than 20,000;
 - 2) Create an EAB management plan and tool kit that will identify treatment protocols, ash wood disposal methods, and tree replacement options for communities without an existing EAB plan;
 - 3) Develop and host three ash waste utilization workshops for sawmill operators, wood processors, communities, and entrepreneurs to explore opportunities to utilize ash wood;
 - 4) Communicate and disseminate information on EAB and efforts supported through this LaSR grant through social media, the CSFS website, workshops, and regularly scheduled meetings of the EAB Response Team. The EAB Response Team was created in 2013 when EAB was discovered in Boulder CO.

CSFS Nursery - Trees For Conservation

- The CSFS Nursery features over 40 species suitable for the unique planting zones of Colorado and the region.
- The CSFS Nursery works closely with over 200 cooperators to assist landowners in selecting species, provide planting support and develop orders that meet the needs of end users. Cooperators include federal, state and local agencies including, but not limited to, NRCS, CSU Extension and similar private conservation groups.
- From 2015-2019, the CSFS Nursery sold over 2.1 million seedlings. These seedlings were planted in more than 60 counties throughout the state and regionally.
- In addition to producing plant material, the CSFS Nursery is active in research collaborations with Colorado State University, providing outreach and education to the community and developing new species to meet the needs of conservation-minded landowners.



Forest Legacy

- The Colorado State Forest Service and Colorado State University work with local groups and NGOs to identify potential projects for the program. Increased outreach to the Trust for Public Land, The Nature Conservancy, The Conservation Fund and the Colorado Division of Parks and Wildlife (CPW) is ongoing.
- The Toll Property, also referred to as South Boulder Creek, within Gilpin and Boulder counties was selected for inclusion in the program with FY13 funding and was enrolled during 2015. Including South Boulder Creek's 3,334 acre property into the Forest Legacy Program directly benefits Denver Water, which relies on South Boulder Creek to help deliver safe drinking water to 1.3 million people.
- In 2015, 2,448 acres of the Sawtooth Mountain Ranch property within Ouray County was awarded funding and was enrolled in the Forest Legacy Program. Including the Sawtooth Mountain Ranch as a Forest Legacy project area complements 15,000 acres already protected along the San Juan Skyway.
- In 2019, the CSFS was awarded \$7 million for the acquisition of a conservation easement on the Banded Peaks Ranch, which will become enrolled in 2020. This ranch is the last critical piece of private property in the Navajo River watershed conservation effort, which includes many partners and has been ongoing for 15 years. With the completion of the 16,000 acre Banded Peaks Ranch, an area of 60,000 contiguous acres of private forested properties in the Navajo River watershed will be protected permanently. Due to the many federal, state and private conservation investments surrounding the Banded Peak Ranch, this project is an opportunity to complete the protection of an entire watershed comprised of forestlands, working ranches, and critical wildlife habitat.

National Priority 2 – PROTECT Forests from Threats

Cohesive Wildfire Strategy

- The Colorado State Forest Service embraces the concept, framework and reality of the National Cohesive Wildfire Strategy. Key components of the strategy are its foundation in science and its emphasis on collaboration. Both components are part of the CSFS's approach to cross-boundary, landscape-scale stewardship of Colorado's diverse forest environments. CSFS works in concert with the Colorado Division of Fire Prevention and Control who are responsible for suppression, to provide a complete package of wildland fire management programs.

Cooperative Fire Protection

- The Colorado State Forest Service (CSFS) role in Cooperative Fire Protection and Wildland Fire Management is to provide statewide service in prevention, fire ecology, natural resource management, wildfire risk assessment, community protection planning, and fuels mitigation. The CSFS fulfills its statutory obligations by providing technical assistance in stewardship and mitigation planning to landowners and communities, increasing awareness of fire's role in ecosystem health and resilience, informing decision-makers of wildfire threat and risk, and administering and implementing science-based best management practices to protect forested landscapes and watersheds from



the damaging effects of unwanted wildfire. Cooperative Fire Funding makes possible CSFS's interaction at the local landowner/community level that leads to collaboration across local landscapes and watersheds.

- Funding is also a key incentive in the form of competitive grants that allow landowners and collaboratives to leverage their resources to implement fuels mitigation measures on the ground. State Fire Assistance Wildland-Urban Interface Grants have been awarded to 21 projects throughout Colorado totaling \$4,229,852. Community Assistance Funds Adjacent to National Forest Lands (CAFA) have been awarded to 18 projects throughout Colorado totaling \$3,342,437
- CSFS State Office and field staff interactions with landowners, communities and local governments have yielded: 241 Community Wildfire Protection Plans; 182 Firewise USA® Communities (is second among states that have an active Firewise Program); 12 publications that increase awareness of fire's potential positive and negative effects on the landscape and guide landowners to appropriate science based action
- In 2019, CSFS partnered with local fire agencies to deliver an NFPA "Assessing Structure Ignition Potential" course for agency staff and partners. More are planned in collaboration with additional partners to promote risk awareness and community resilience to wildfire in the state. Also in 2019, CSFS spearheaded a county-level Wildfire Mitigation conference that resulted in formation of a local wildfire council. The agency will continue to foster development of these valuable, grassroots organizations that facilitate achievement of the Cohesive Strategy goals.
- The CSFS developed the Colorado Wildfire Risk Assessment (CO-WRA) in 2012 to help assess wildfire risk. The Colorado Wildfire Risk Assessment Portal (CO -WRAP) is a web-mapping tool that provides access to statewide data associated with CO -WRA. In 2018, CSFS completed a new CO -WRA based on the best available data, and updated CO -WRAP with products from this analysis(<https://csfs.colostate.edu/wildfire-mitigation/cowrap/>). CO-WRAP applications can be used create awareness15s of wildfire risk and inform state and local decision-making. The CSFS has provided numerous trainings to partners in the use of these application during the past five years.
- In 2020, the CO-WRAP was migrated to the new CO Forest Atlas, which will serve as the one-stop GIS forestry shop for CSFS, its partners and collaborators, and the public. At the end of FY 2020, the CO Forest Atlas had 1450 registered professional users

Forest Health Protection

- The Colorado State Forest Service, in collaboration with the USDA Forest Service, conducts aerial detection surveys on a yearly basis to map and quantify insect and disease activity in forested areas of Colorado. These data are integrated in a yearly Forest Health Report, published by CSFS.
- Colorado State Forest Service personnel conduct site visits statewide for sick tree/insect and disease issues each year.
- Emerald ash borer (EAB) was detected in the City of Boulder in September 2013, and since that time it has been detected in Longmont, Lafayette, Gunbarrel, Lyons, Broomfield, Westminister, Superior, and unincorporated Larimer County. A quarantine was established throughout Boulder County early in 2014. Trapping and detection surveys for new infestations continue in communities adjacent to the current infestations. Education and outreach materials were developed and provided for communities and municipalities, and EAB identification and detection workshops for community members,



industry members and municipalities were held. A multi-agency Colorado Emerald Ash Borer Response Team was established to communicate between cooperators and to disseminate information to the public.

- Urban walnut trees on the eastern plains of the state were surveyed for thousand cankers disease (TCD) using an inventory that was conducted in 2013. Twig beetles that vector the fungus responsible for TCD were collected in eastern communities near the Nebraska and Kansas borders.

Watershed Protection - Partnerships

- Denver Water, the U.S. Forest Service, CSFS and Natural Resources Conservation Service have invested \$33 million in forest restoration projects to treat over 40,000 acres in Denver Water's critical watersheds, on federal and non-federal land. Under the From Forests to Faucets partnership, the USFS has been working with Denver Water since 2010 to implement forest and watershed health projects, treating more than 48,000 acres. The goal is to reduce the risk of catastrophic wildfires and restore forests impacted by fires near reservoirs, and to minimize erosion and sedimentation.
- In February 2017 the CSFS signed a joint MOU with DW for the implementation of the Forest to Faucets II program. The CSFS role in this project is to implement wildfire hazard reduction and forest health treatments on non-federal forested properties in Denver's critical watersheds. The effort will be managed through 5 CSFS field offices who will implement targeted education and outreach campaigns to fire districts, communities, individual landowners and others which will serve to enlist participation at multiple levels to maximize the reach of the program. Since 1987, CSFS has partnered with Colorado Springs Utilities to implement the Pikes Peak Watershed Management Plan, which guides forest management in the 13,000 acre watershed - which is owned and operated by the utility. In 2019, CSFS signed a new MOU that includes the USFS and Colorado Springs Utilities. Under this new MOU, CSFS can help facilitate work across boundaries through use of the Good Neighbor Authority. Through the use of GNA, the CSFS is able to work with the USFS to enhance contracting and staffing efficiencies to address project work. This allows more work to get done on the ground on both federal and adjacent private lands.
- The CSFS is engaged in various watershed collaboratives at the local, regional, and state level to leverage limited resources and focus forest management work in high priority areas.

National Priority 3 – ENHANCE Public Benefits from Trees and Forests

Best Management Practices

- Forestry Best Management Practices (BMPs) are voluntary on private lands in Colorado and endeavor to control non-point source (NPS) pollution. Beginning in 2008, and biennially afterwards, the Colorado State Forest Service (CSFS) began to monitor the application and effectiveness of forestry BMPs in Colorado. A state audit steering committee and field monitoring team was formed, along with an ongoing program requiring team site visits. The main objectives for the monitoring are to determine if the forestry practices implemented on the land are being applied, and how effective they are. A total of 79 BMPs are considered and/or rated for each site. Many of the



determinations and lessons from the BMP monitoring are, in turn, directly applied through continuing education to Colorado's Master Logger program (as implemented by the Colorado Timber Industry Association) and the American Tree Farm System's local groups. This education is also incorporated into the Sustainable Forestry Initiative/Central Rockies Forestry Education Program in order to improve both the knowledge and implementation of BMPs regionally in Colorado, South Dakota and Wyoming. Any recommendations from the BMP monitoring reports are used for educational and outreach purposes only and all confidentiality of contractors and landowners is maintained throughout the written reports.

Conservation Education

- The Colorado State Forest Service continues to support the Project Learning Tree (PLT) program. This program's importance grows as children are spending less time outdoors and losing their connection with the natural environment, while teachers have fewer opportunities to conduct outdoor education programs. The program provides balanced conservation education to pre-K-12 students throughout the state, and requires a close working relationship with state education organizations, agencies, districts and teachers.
- In 2015, a total of 800 educators were trained at 72 PLT workshops conducted by 33 program facilitators, 25 of whom are volunteers. The CSFS conducted PLT workshops at 5 universities, and presented sessions or exhibited PLT at 7 state or local conferences. At workshops and conferences, we distribute CSFS publications including the annual Forest Health Report, forest assessment reports, relevant factsheets, fire mitigation documents and more. Project Learning Tree assists the Colorado Tree Coalition with the statewide Arbor Day poster contest and curriculum for 5th-grade students. With funding from the Colorado Tree Coalition, Colorado PLT provided approximately 2,000 seedling trees to 11 PLT-trained educators for planting projects, and with continued support from the CSFS, PLT conducted the 14th Annual Fire Ecology Institute for Educators in 2015, attended by 14 teachers and involving 12 presenters from local, state and federal natural resource agencies.
- A partnership with the Denver Early Childhood Council provides workshops to English and Spanish-speaking educators twice each year.

Economic Action – Marketing and Utilization

- Colorado Forest Products™ program <https://csfs.colostate.edu/cowood/cfp/> partners with ColoradoProud™ to enhance the marketing of wood products harvested from Colorado's forestland to; promote buying locally produced wood products, help retain dollars in Colorado, increase local jobs, and reduce fossil fuel consumption from transportation. Businesses sign up to be in this searchable database. A statewide press release promoted the Biomass Ready Tool (<https://biomassready.org/>) which facilitates incorporating biomass heating at the design stage for commercial buildings. CSFS is an engaged participant with the Council of Western State Foresters Forest Utilization Network (FUN) in information sharing and collaboration with other states and State Foresters. Content has been submitted for Emergent Biomass Markets technical reports on Cross Laminated Timber and Biochar. CSFS is serving as the Vice Chair for the year 2020.
- The CSFS participated in technical and economic assistance towards the establishment of a new 20 million board foot sawmill in southern Colorado and the reopening under



new ownership, following a facility fire, of aspen excelsior mill in southwestern Colorado. New facilities and capacity helped local national forest units (San Juan, Rio Grande) retain and expand needed biomass outlets and each effort resulted in significant job creation in their respective local communities, with 80 new jobs documented among several mills.

- The Colorado State Forest Service continues to improve the resiliency and profitability of forest products harvesting and manufacturing infrastructure. The CSFS Business Loan Fund currently manages an almost \$4 million portfolio of 17 small business loans, providing working capital and equipment to finance the forest products business community. A related effort in partnership with the Walton Family Foundation seeks to explore the financial investment concept of environmental impact bonding (EIB) to bring funding diversity, stability and greater accountability and returns to the health of Colorado's public forests, and to help catalyze private sector markets. One applied research priority has been to determine predictive dead standing tree attributes and their correlation with wood deterioration rates following bark beetle and wildfire mortality. The CSFS continues its effective biomass utilization partnership with USFS Region 2 State and Private Forestry. In 2018, the CSFS provided state staffing and expertise to the R2 biomass utilization program delivery and state utilization staffs in KS, NE, SD and WY. Included was a first-time gathering of R2 state utilization specialists in Nebraska in 2017. The gathering, supported by the CSFS-USFS biomass utilization partnership, offered 3 days of strategizing, information sharing, training and industry tours.
- The CSFS also is actively engaged in integrating the needs of local biomass business communities into a Colorado-New Mexico multi-stakeholder forest partnership. Established by the USFS, Natural Resources Conservation Service and The Nature Conservancy in 2017 as the "2 State, 3 Watersheds, 2 Mountain Ranges" (2-3-2) Cohesive Strategic Forest Partnership and Collaborative, it is undertaking a comprehensive prioritization effort and adaptive management activities with the biomass utilization community. CSFS utilization staff also are members of the newly established Wood Utilization Network, chartered by the Council of Western State Foresters.
- Applied research is being conducted on several urban species impacted by increasing pest activities (emerald ash borer, thousand canker disease etc.) for utilization and value added market opportunities. In particular, the CSFS has developed strategy and is participating in EAB response and mitigation. Initial discussions on the feasibility of utilizing mortality from EAB in municipal biomass-heating systems in Vail, Fort Collins, and Denver. In 2013 The Black Forest community northeast of Colorado Springs experienced one of Colorado's most costly wildfires. In response, the CSFS, working with the community and contractor has successfully established a portable milling operation to address the need to utilize the burned trees for impacted residents. In cooperation with hazardous fuels treatments undergoing on a cooperative basis. Already the effort has seen a reduction in post-fire treatment costs through revenue generated from the processing of the burnt timber. The CSFS also continued it's administrative and program delivery under the USDA funded Statewide Wood Energy Team and Bioenergy Alliance Network of the Rockies.
- STC to address forestry related priorities for CO NRCS.



Urban and Community Forestry

- The CSFS Urban and Community Forestry (UCF) Program provided technical and educational assistance to 450 communities in Federal FY 2015-2019; these communities represent roughly 70 percent of the state's population.
- The Tree City USA certification and recognition program is one measure of the success of local efforts assisted and leveraged, with 95 Tree City USA's certified at the end of CY 2018 in Colorado (9 of those communities earned Growth Awards), and seven colleges were certified as Tree Campus USAs.
- CSFS supports a statewide urban tree inventory web-tool (www.cotreeview.com) and the Tree Collections program (www.treecollections.com), which was launched in 2017 to create a network of diverse tree collections throughout the state.
- FY 2015 saw Colorado become the first state to formalize a statewide urban tree inventory effort in response to Emerald Ash Borer, this site is housed at www.cotreeview.com. Coordination efforts for the South Platte Urban Waters Partnership continued with transition of coordination from CSFS to The Greenway Foundation on July 1, 2015.
- The Front Range Urban Forestry Council meets 5-6 times on an annual basis, and continues to play a key role in shaping and coordinating UCF efforts along the Front Range. Educational efforts at conferences around the State, including the hosting of the Partners in Community Forestry National Conference in Denver, helped keep partners and stakeholders on the cutting edge of UCF in 2015. The annual Western Colorado Community Forestry Conference celebrated its 25th year of delivering tree education to communities in western Colorado.
- Key personnel from the CSFS UCF Program, Forest Management Division, and Outreach Division programs continue to be a part of the interagency Colorado Emerald Ash Borer (EAB) Response Team. Our State Community Forestry Council, the Colorado Tree Coalition (CTC) continues to be a key partner in delivering the UCF program in Colorado. CTC is a volunteer, non-profit 501(c)(3) organization committed to leading statewide efforts in preserving, renewing and enhancing community forests. The Colorado Tree Coalition awarded \$56,025 to 26 organizations in 2017-2019, and partnered with Xcel Foundation to award an additional \$24,000 to four communities. Along with matching funds provided by the grant recipients this helped plant almost 2,000 trees in communities across Colorado. Each of these projects allowed residents the opportunity to make a difference in their community with a combined total more than 3,000 hours of volunteer service.
- The CSFS U&CF program led a training and certification effort for CSFS foresters to become Certified Arborists in 2016. CSFS now has 24 Certified Arborists spread across the State, with four of those being Tree Risk Assessment Qualified (TRAQ) as well.

Community Forestry and Open Space

- The Colorado State Forest Service endorsed and submitted Costilla County's application for the Sangre de Cristo Community Forest, in coordination with Colorado Open Lands. The project was awarded funds in 2017 and has actively engaged the CSFS Alamosa District to apply forest stewardship principles to their community forest plan.

Implementation Challenges of the Last Five Years

- Uncertainty of available funding makes it challenging to have consistency with certain programs, such as the Forest Restoration and Wildfire Risk Reduction Grant Program and CSFS program support from Healthy Forests and Vibrant Communities, derived from Tier 2 of the Colorado severance tax revenue fund.
- Limited capacity of CSFS to engage in the increasing amount of forest management initiatives in the state, based on staffing and budget.
- Low or no funding for some programs makes it difficult to develop new activities. For example, the Forest Stewardship Program funding covers staff time to administer the program, but leaves no additional funding to hire new staff to expand the program.

Implementation Focus of the Next Five Years

- The CSFS will support cross-disciplinary partnerships and collaborative work among federal, state and local agencies, nongovernmental organizations, communities and public volunteers to implement the Forest Action Plan. Funding mechanisms will be expanded through these partnerships and innovative grant opportunities. The CSFS will establish, maintain and update a statewide list of partnerships and potential funding mechanisms.
- To address cross-boundary, broad- scale challenges and threats to Colorado's forests and improve the effectiveness of forest stewardship using limited resources, the majority of new CSFS projects will be in high-priority subwatersheds identified in this action plan. The CSFS will also strive to expand work in multistate priority landscapes.
- A Forest Action Plan application in the Colorado Forest Atlas will allow the CSFS and partners to put action plan data to use in strategic planning efforts. Project and activity planning in the Colorado Forest Atlas will be cross-checked with the action plan composite and theme maps to determine level of priority, making the number and acreage of new activities and projects within high- priority subwatersheds quantifiable and reportable. The CSFS will maintain and update the Colorado Forest Atlas to improve data and information sharing statewide.
- The CSFS will enhance forest resistance and resilience to climate change, or move toward transitions, and improve carbon storage and sequestration using the adaptive strategies and approaches developed in the Forest Action Plan. This will be achieved through developing new training for CSFS staff, identifying candidates with related education and experience in the hiring process, maintaining and expanding interagency partnerships for integrative project planning and collaborating with research partners at local universities.
- To monitor and quantify change in forest cover, vigor and carbon storage over time, CSFS archival data and information will be integrated with current interagency forest management data and Forest Inventory and Analysis data in the Colorado Forest Atlas. Project and activity monitoring protocols will be developed to quantify success at 1- to 10-year increments.
- The CSFS will expand public understanding of forest stewardship and its connection to sustaining ecologic, economic and social function in natural and urban systems by maintaining and developing outreach and education programs.



Data needs or new issues revealed with the 2020 Forest Action Plan

- There is a critical need to quantify carbon sequestration and stock by forest cover type statewide in Colorado, and to develop and implement a monitoring protocol to evaluate changes under forest management and disturbance. This is essential to the state meeting goals of HB 19-1261, which include “reduce 2025 greenhouse gas emissions by at least 26%, 2030 greenhouse gas emissions by at least 50%, and 2050 greenhouse gas emissions by at least 90% of the levels of statewide greenhouse gas emissions that existed in 2005”.
- Updating the 2018 Colorado Wildfire Risk Assessment is essential, given changes in disturbances including catastrophic wildfires that have happened since the model was developed in 2017.
- Protection of infrastructure including power, communication, transportation, mining, trains, and gas were identified as priorities during the 2020 Forest Action Plan stakeholder engagement. Developing risk models for these types of infrastructure requires different types of risk modeling that what is currently done in the Colorado Wildfire Risk Assessment.
- Avoided cost studies are a growing need with the increase in catastrophic wildfires in Colorado.
- A funding gap analysis of the cost to achieve the goals of the 2020 Forest Action Plan, beyond treatment costs, is needed.
- Monitoring protocols must be developed and implemented for more programs, and should incorporate remote sensing technologies.
- Adaptive management is essential to meeting the ongoing threats to Colorado’s forests, and this will require extensive staff training and increased staffing.

Informal “check-in” with stakeholders regarding plan implementation

- The Colorado State Forest Service will plan an informal “check-in” with stakeholders who were engaged in the development of the 2020 Forest Action Plan in five years.