

OBSTACLES AND SOLUTIONS

The Douglas County CWPP Core Team identified six common obstacles that communities and stakeholders throughout Douglas County face in working to become safer from wildfire. These obstacles were recognized both through stakeholder input gathered as part of the DC CWPP planning process and input from wildfire professionals that serve in Douglas County. The obstacles that were identified are:

1. Hazard Awareness
2. Developing Approved Local-Level Community Wildfire Protection Plans
3. Coordinating and Tracking Fuel Treatment Accomplishments
4. Disposal of Treated Vegetation
5. Funding
6. Technical Assistance

This section contains a description of each of the obstacles identified above. Following each description are solutions to obstacles that were also identified during the DC CWPP planning process. Solutions are presented in two ways: 1) to direct the reader to specific tools contained in the Toolbox section of this document for overcoming the identified obstacle and 2) as programmatic recommendations that organized entities, such as governmental agencies, fire protection districts, homeowners associations, metropolitan districts, or other stakeholders may choose to pursue. For a summary of the obstacles and tools described below see *Table 2: Summary of Obstacles and Tools* at the end of the section.

Obstacle 1-Hazard Awareness

Description

Landowners are often unaware that wildfire could threaten their community or area of interest. This results, in part, because landowners relocate to Douglas County from geographic areas where wildfires are not a common occurrence. Some who are aware of a potential threat become complacent if a substantial period of time has passed since the last significant wildfire event. In addition, high homeowner turnover rate contributes to the need for ongoing education. Studies have shown that some are aware that wildfire could be a threat to their community, but choose to accept the risk (McCaffery, 2006). It is common knowledge among wildfire professionals that public interest regarding community safety increases in the wake of significant wildfire events. If individuals and communities are unaware or complacent about the fact that their community could be threatened by a wildfire, it is unlikely that they will take action to reduce the existing hazard before the threat occurs. Many individuals do not have an understanding of why fuel treatments are completed on tracts of lands in certain areas.

Solutions

Tools contained in this document

- The Toolbox contains the Douglas County Wildfire Hazard Assessment (including maps) that was conducted by the DC CWPP Core Team as part of the

DC CWPP process. This assessment provides stakeholders information about the wildfire hazard potential of communities and surrounding areas throughout Douglas County. Hazard potential is based on communities' settings in relation to resistance to controlling a wildfire, the density and types of values, and ignition risk. **It is imperative that the narrative accompanying the assessment be thoroughly read and understood by the user before any inferences are made from the hazard assessment. Appendix A provides the user with more detailed information about the assessment. The Douglas County Wildfire Hazard Assessment does not take into account details such as defensible space, construction materials, ingress/egress routes, etc. Consequentially, inferences toward defensibility or hazard level of individual homes, lots, or parcels should never be made based solely off of this assessment.**

Programmatic Recommendations

Education and outreach are effective strategies for raising stakeholder awareness with the goal of changing their behaviors. There are currently many programs in place across Douglas County that work toward this cause. Because of the effectiveness of these programs the Douglas County CWPP Core Team recommends the following:

- Homeowners associations, metropolitan districts, fire protection districts, governmental agencies, or other entities that presently fund and/or dedicate resources to performing education and outreach about wildfire safety should continue to provide these services. Consider expanding programs if needed and when feasible.
- Consider an educational component that helps individuals understand *why* fuels treatments are completed in relation to balancing natural resources, not just focusing on wildfire mitigation.
- Those entities listed above with an area of responsibility that contain wildfire hazards and who do not dedicate resources to provide wildfire education and outreach to their constituents should consider directly providing these services and/or coordinating with cooperators who currently provide these services (see the Technical Assistance section in Toolbox).
- Entities with education and outreach programs throughout Douglas County or those interested in providing these services to their constituents should consider forming a partnership or participating in existing partnerships to work cooperatively, strategize, coordinate efforts, and leverage one another's resources.
- Explore holding an annual or bi-annual county-wide wildfire forum to raise awareness of wildfire hazards, discuss mitigation techniques, identify issues/obstacles, and determine solutions.
- Keep the DC CWPP website updated and continue to promote the website to stakeholders, including realtors who will be able to reach those landowners new to the area.

Obstacle 2-Developing Approved Local-Level Community Wildfire Protection Plans

Description

The local-level CWPP is a plan that enables community stakeholders to work together with wildfire professionals to develop a strategy for reducing the community's wildfire hazard and risk. Local-level CWPPs identify a community's specific wildfire situation and hazards and prioritize actions for reducing hazards and risks to the community. The planning area of a local-level CWPP is typically a neighborhood, homeowner's association, or development boundary. Nonetheless, as with all CWPPs, a community can define its boundary however its stakeholders deem the most appropriate. Local-level CWPPs are the most specific and effective documents for community stakeholders to work in concert toward making a community safer from wildfire. As with all CWPPs, these plans are not legally binding nor are they a policy document. Accordingly, for a plan to be effective it requires broad-based support from within the community and should be taken with a grass-roots approach. The CSFS and the local fire protection district are required to be involved in the planning process from the beginning. Property owners, easement holders, subject matter experts from municipal, county and federal agencies, and other applicable entities should also be included in the local-level CWPP planning process.

To be approved, all CWPPs within the State of Colorado must meet the Colorado State Forest Service Minimum Standards for Developing Community Wildfire Protection Plans (CSFS Minimum Standards) which are located in the Toolbox. Assembling a plan that meets these minimum standards can require a significant amount of time and effort especially for communities with limited resources. Because the minimum standards are the same for all local-level CWPPs in Colorado, many of the required components are often duplicated from plan to plan, especially for local-level plans for communities that reside in close proximities to each other or are within same jurisdictions such as a single fire protection district. The DC CWPP provides local communities with information on a number of minimum standards that can be utilized to streamline the process.

Solutions

Tools contained in this document

- The Toolbox contains specific information to help satisfy the following required plan components from the CSFS Minimum Standards.
 - ***Required Plan Component #3-Community Risk Analysis***
As mentioned under Obstacle #1-Hazard Awareness, the Toolbox contains the Douglas County Wildfire Hazard Assessment. This assessment will aid local-level CWPP core teams in conducting a community risk assessment as required by the CSFS Minimum Standards. The Douglas County Wildfire Hazard Assessment includes the minimum components required in a community risk assessment including fuel hazards, risk of wildfire occurrence, and community values. The community may need to expand on

the community values to be protected in the narrative as the DC CWPP did not look at individual communities.

The *Wildfire Hazard Potential Map* provides coarse information about communities' settings in relation to the ability to control wildfire, the density of homes and type of values, and ignition risk. The *Community Wildfire Hazard Potential Map* generalizes the *Wildfire Hazard Potential Map* and provides a baseline hazard rating for areas of population (communities) throughout the county. Local-level CWPP core teams can incorporate the Douglas County Hazard Assessment into their community risk assessments by using the hazard rating assigned to their area as a starting point. The hazard rating can then be adjusted with more detailed inputs such as a community's overall defensible space, type of construction materials, ingress/egress, percent of homes with posted addresses, or other factors applicable to each community as a whole.

For example, a local-level CWPP core team may find their area rated as having a high hazard potential on the *Community Wildfire Hazard Potential Map*. After a thorough, detailed assessment of their community they determine that because the majority of homes which contain fire resistant construction materials and have adequate defensible space, the community's hazard rating should be adjusted to moderate. In another example, a community that is rated as having very high hazard in the *Community Wildfire Hazard Potential Map* may choose to keep a very high hazard rating after determining that defensible space is scarce around most of the homes in the community.

It is imperative that the narrative accompanying the assessment be thoroughly read and understood by the user before any inferences are made from the hazard assessment. Appendix A is also included in this document to provide the user with more detailed information about the assessment. The assessment does not take into account details such as defensible space, construction materials, ingress/egress routes etc. Consequentially, inferences toward defensibility or hazard level of individual homes, lots, or parcels should never be made based solely off of this assessment.

- ***Required Plan Component #4- A Discussion of a Community's Preparedness to Respond to Wildland Fire***
 - A community's preparedness to respond to wildland fire is directly related to the local fire department that serves the community. The Toolbox contains a Fire Protection District Preparedness Discussion for the fire departments that serve Douglas County and the USFS SPRD. Local-level CWPP planning teams can directly use or refer to this information for including a discussion of their community's preparedness to respond to wildfire.

- Included in the Fire Protection District Specific Tools section of the Toolbox is the Fire Department Wildland Program Needs Discussion for each fire protection district within Douglas County. This identifies the needs fire departments have identified for maintaining or improving their wildfire suppression program. Grants often require these needs to be identified in an approved CWPP. In addition to being listed in the DC CWPP, if identified or referred to in local-level CWPPs, fire departments may be more competitive or have more opportunities to be awarded financial assistance in filling these needs.
 - The community may need to include information about local emergency egress routes, cisterns/water supplies, and existing evacuation plans if not included in the fire protection district discussion.

- ***Required Plan Component #5- Recommendation of methods to reduce structural ignitability***

The Technical Assistance section of the Toolbox contains recommendations for reducing structural ignitability. This tool is specific to the vegetation (fuel) types found within Douglas County. These recommendations can be used or referred to in local-level CWPPs. Local-level CWPP core teams should determine which recommendations are most applicable and effective for their community. Communities may need to provide additional information concerning construction materials, amount of mitigation/defensible space completed within the community, and localize the vegetation/fuels description within the community for local-level plans.

- ***Required Plan Component #6- An Implementation plan that includes... Identification of Fuel Treatment Projects***
 - During the local-level CWPP process communities have to identify and prioritize fuel treatment projects on specific parcels within their community. Frequently, these projects are spread over a number of property ownerships including publicly held lands. To aid in this process, the Fire Protection District Specific Tools section of the Toolbox contains parcel-level treatment recommendations for lands owned by Douglas County based on the hazard and treatability of each county-owned parcel. Local-level CWPP core teams can use this information to identify the county-owned parcels within their communities that are recommended for treatment for inclusion into their implementation plans. These parcels also provide a good opportunity to create demonstration sites to show what mitigation and forest management activities look like.

 - As part of the DC CWPP process, the DC CWPP Core Team identified priority landscape scale fuel treatment areas throughout Douglas County. These areas are displayed on the *Landscape Scale Fuel Treatments Map* found in the Toolbox. Fuel treatments areas

identified would have significant benefit in reducing fire behavior and providing strategic points for fire suppression activities. Local-level CWPP core teams should identify the recommended areas that exist near their community as priority treatment areas in their local-level CWPP implementation plans.

- Local-level CWPP guidance is included in the Toolbox to aid local-level CWPP core teams in putting together plans that will meet the CSFS Minimum Standards.

Programmatic Recommendations

- Relevant municipal, county, state, and federal agencies and fire protection districts who dedicate resources to providing assistance to community wildfire protection planning and implementation should continue to provide these services or consider expanding their programs if necessary and feasible.
- Communities should seek grant opportunities to aid in developing and implementing local-level CWPPs.
- Douglas County should continue to utilize Douglas County Wildfire Mitigation Staff and Douglas County Office of Emergency Management resources for assisting local communities with the development of their CWPPs.

Obstacle 3- Coordinating and Tracking Fuel Treatment Accomplishments

Description

Understanding where fuel treatments have been successfully accomplished is valuable to CWPP core teams, land management agencies, fire suppression personnel, technical service providers, and other interested stakeholders. From a planning standpoint, understanding where treatments have occurred is critical for strategizing and determining future priority treatment areas. Treatments are most effective across large acreages. Connecting treatments across the landscape increases the effectiveness of each individual effort. Coordinated individual treatments cause a landscape scale effect that is effective in reducing fire behavior. Within Douglas County, landscape scale treatments are challenging to achieve due to the diversity of ownerships across the county and policy constraints. By knowing where work has been accomplished, land managers, core teams, and other planning teams can gain an understanding of which areas will be the most effective for creating a landscape effect.

Solutions

Tools contained in this document

- The Toolbox contains the *Landscape Scale Fuel Treatments Map* which identifies completed and planned landscape scale fuel treatments on USFS, Denver Water, and State Parks lands within Douglas County. This information is available for CWPP core teams, land management agencies, and all interested parties for coordinating their treatment priorities and projects.

Programmatic Recommendations

- The DC CWPP Core Team should consider creating and maintaining a publicly viewable spatial database that allows stakeholders, including communities and land management agencies, to submit their fuel treatment accomplishments. This will allow stakeholders to track progress and provide information about treatment activity throughout Douglas County.
- Explore existing efforts by other organizations, such as the FRRT, to collect and display completed fuel treatments projects across the Front Range. Determine information gaps for treatments in Douglas County.

Obstacle 4-Disposal of Treated Vegetation

Description

Disposing of treated vegetation (aka slash) resulting from hazardous fuel reduction treatments is a common problem throughout Douglas County. The issue is not unique to Douglas County and is prevalent throughout Colorado and the West. Appropriate slash disposal is an important part of effective fuels reduction treatments. Treated vegetation that is stockpiled onsite can increase wildfire hazards. Improperly disposed of vegetation can also attract insects including ips beetle and mountain pine beetle, which weaken trees and cause mortality to standing trees and increases fuel available for wildfires.

There are a variety of effective practices for slash disposal that can be divided into two categories: remove-from-site and remain on-site. Remove from site practices typically include utilizing woody vegetation for wood products and relocating woody vegetation to disposal sites. Common remain on-site practices include on-site chipping, mastication, tub grinding, lop and scatter, and controlled burning.

From a financial perspective, a highly preferred method of slash disposal is converting treated woody vegetation to merchantable wood products. This practice removes slash from the project site and the sale of material works to offset project costs. Conversion to wood products is generally not an option for most hazardous fuels reduction projects within Douglas County and in most areas of Colorado due to weak or nonexistent markets for products both locally and nationally. Additionally, for projects to be cost effective, a quantity threshold of merchantable material is usually necessary, something

that most communities are unable to provide. Firewood is sometimes utilized as a product from hazardous fuel reduction projects, especially in communities where wood stoves are used for heating. Firewood is often provided for free with the intent of removing fuel from the site. Chips for mulch can sometimes be used locally within communities or be given or sold to wholesale chip and mulch providers. Local chip supply is usually high as local slash mulch programs provide this product for free.

A more common remove-from-site practice in Douglas County is relocation of the slash to a disposal site where it is mulched and stored in a place where it will not pose a wildfire hazard or threaten the health of surrounding forests. These operations, better known as slash mulch programs, often provide free mulch. Currently, the Douglas County Slash Mulch Site operated by Douglas County Public Works Operations, located in Castle Rock is the only public facility available to residents of Douglas County. The practice of relocating slash can be costly and labor intensive to community members depending on the amount of material to be relocated, access to hauling equipment such as pickups or trailers, and distance to the nearest disposal site. This practice is generally only an option for small projects with quantities and sizes of woody vegetation that is manageable and economical for hauling. In addition to the Douglas County Slash Mulch Site some communities within Douglas County also have slash disposal programs.

A common remain on-site practice is to chip slash and redistribute it evenly back onto the site or masticate the standing vegetation in place. This practice can incur higher costs as it requires specialized equipment such as chippers, masticators, and tub-grinders plus skilled operators. This equipment is not generally readily available to the common property owner and usually has to be rented or the work must be contracted, causing an increase in overall project costs. From a hazardous fuels reduction standpoint, mastication treatments are effective in reducing crown and ladder fuels and breaking up contiguous stands of oak while reducing the amount of hand labor needed. Although there is a temporary increase in fuel loading on the ground until the mulch breaks down the fuels have been converted from aerial fuels (standing) to ground fuel which will decrease the fire behavior and ladder fuel situation.

Lop and scatter is a remain on-site practice where slash is spread out across the forest floor, usually limited to a specified depth (typically 12-18"). The material is either left to decompose or sometimes followed up with a controlled burn to consume the material. Lop and scatter is generally used in areas where steepness of the terrain limits equipment operability and handwork with chainsaws must be used. Like chipping and mastication there is a temporary increase in fuel loading on the ground until the slash decomposes (usually after a few winters), however, the fuels have been converted from aerial fuels (standing) to surface fuel which will decrease the fire behavior and ladder fuel situation.

Controlled burning is a traditional practice that uses fire to consume slash. It is typically conducted either as pile burning or broadcast burning. When pile burning, slash is arranged into piles, allowed time to cure, and then ignited when air quality and weather conditions allow. Broadcast burning, on the other hand, distributes fire throughout "units" of varying size where control lines have been placed around their perimeter. In

addition to consuming slash, broadcast burning is also beneficial for consuming naturally accumulated fuels. Controlled burning can be one of the cheapest methods for disposing of woody vegetation yet it is also the most labor intensive. To ensure both controllability and fuels consumption objectives are met, controlled burning must be conducted by authorized personnel under appropriate environmental and fuel moisture conditions from ignition time to extinguishment.

In Douglas County, controlled burning is regulated and permitted by two agencies: The local fire protection district and the Colorado Department of Public Health and Environment (CDPHE) Air Pollution Control Division. Controlled burns are not allowed to be ignited under environmental conditions that are unfavorable to controllability or air quality. The most restricted areas in Douglas County are those at elevations below 6400' (geographically approximately 35% of the county). Here, no controlled burning for disposing of slash is allowed from November 1st to the last day of February. This time of year is the region's highest pollution season and the restriction is in place to protect ambient air quality for the Denver Metropolitan Area. For that reason, it can be difficult to implement controlled burns at these elevations because the restricted months often present the most favorable conditions for burning. Realizing the value of controlled burning for carrying out wildfire mitigation activities, the Air Pollution Control Division has become more flexible in their regulations over time. Previously, no burning at all was allowed below 7,000' in Douglas County during the winter high pollution season regardless of whether an air quality advisory was in effect on a particular day. Now, during the restricted months, between 6400' and 7000' (approximately 28% of the county) small pile and broadcast burns are allowed on no advisory days. Burning above 7000' (36% of the county) is somewhat less restrictive where forecasted conditions must meet permit conditions of the sort that are applied to typical burns statewide. CDPHE continues to look for appropriate opportunities to allow burning and grants tailored conditions that allow projects to be completed during the restricted months.

Solutions

Tools contained in this document

- The Toolbox contains information about the policies of the CDPHE for permitting and implementing controlled burns.

Programmatic Recommendations

- The DC CWPP Core Team should consider creating and maintaining a page on the existing DC CWPP website that identifies and summarizes information on wood products and utilization programs within the region. The page should provide appropriate links to programs such as Colorado Forest Products and Peak to Peak Wood.
- Douglas County should consider conducting a feasibility analysis that addresses the need, costs, and benefits of expanding their slash mulch services. These may

include increasing the number of drop off points, the number of disposal sites, or operating days/hours.

- Fire protection districts, metropolitan districts, homeowners associations, or non-organized communities should consider creating slash mulch programs or cost share programs (i.e. renting a chipper) to locally dispose of their treated woody vegetation.
- Douglas County should participate in the Colorado Prescribed Fire Council and work with CDPHE Air Pollution Control Division to continue burning under tailored conditions to find the most appropriate opportunities for expanding burning opportunities to facilitate wildfire mitigation efforts.
- Representatives from the DC CWPP Core Team should continue to be involved with regional and national efforts that work toward addressing disposal and utilization of woody vegetation. This would bring the newest ideas, technologies, pilot projects and other information to Douglas County to work on solving this issue locally.

Obstacle 5- Funding

Description

Reducing wildfire hazards on private property is the responsibility of the property owner. However, project expenses often dissuade or prevent stakeholders from taking action to improve their own and their community's wildfire safety. Expenses are sometimes incurred during planning, but project implementation usually requires the greatest expenditures. Grant funding can be utilized to leverage existing funds to implement projects. Projects can range greatly in nature, however most grant funding available is for forest management, (for example thinning trees), and fuel reduction activities. Common project types include forest management, defensible space, road construction or improvement for ingress/egress, retrofitting structures to fire resistant construction materials, improving water availability, improving education and outreach programs, securing equipment for fire departments to improve firefighting capabilities, or providing specialized training to fire suppression personnel.

Solutions

Tools contained in this document

- A directory of funding opportunities such as tax subtractions and grants are contained in the Toolbox. Individuals and communities can refer to this directory when they are considering applying for funding assistance.
- A key element of improving community wildfire safety is effective wildfire protection services. Included in the Toolbox is the Fire Department Wildland Fire Program Needs Discussion that identifies the foreseeable wildfire programmatic and operational needs for each fire department within Douglas County. By being identified in this plan and identified or referred to in subsequent local-level CWPPs, fire protection districts may become more eligible and competitive for receiving funding assistance from sources that

require funding needs to be identified in an approved community wildfire protection plan.

Programmatic Recommendations

- Fire protection districts should consider directly pursuing grants to fulfill their programmatic or operational needs identified in this plan for improving the capabilities of their wildland fire suppression program.
- The DC CWPP Core Team should consider creating and maintaining a page on the existing Douglas County CWPP website that lists and summarizes grant programs and opportunities, such as the funding directory located in the Toolbox. The page should list web addresses of existing grant clearing house sites and provide links to grant program sites. The CWPP website offers users a notification system when anything is updated on the page.

Obstacle 6-Technical Assistance

Description

Technical assistance is the guidance, support, and information directly or indirectly provided from subject matter experts to accomplish wildfire mitigation activities. Communities who are aware of their wildfire hazard are often unsure of the steps to take to reduce their hazard or where to seek the information. Several local subject matter experts are available as technical service providers for use by Douglas County residents and stakeholders. Additionally there are several publications available to stakeholders for self-education regarding technical information. The availability of these resources is not always well known throughout the county.

Solutions

Tools contained in this document

- The Technical Assistance section of the Toolbox contains the following tools to provide information and guidance to stakeholders.
 - A Technical Service Provider List that identifies the agencies that provide services to Douglas County communities and citizens for technical assistance in wildfire hazard reduction.
 - Technical guides that provide technical information written for community stakeholders.
 - Recommendations for Reducing Structural Ignitability
 - 6.302 *Creating Wildfire-Defensible Zones*
 - 6.303 *Fire Resistant Landscaping*
 - 6.304 *Forest Home Fire Safety*
 - 6.305 *FireWise Plant Materials*
 - 6.306 *Grass Seed Mixes to Reduce Wildfire Hazard*
 - 6.311 *Gambel Oak Management*
 - *Fuelbreak Guidelines for Forested Subdivisions and Communities*

- Local-Level and Community-Wide Fuel Treatment Recommendations
- Large Lot Recommendations
- CDPHE Air Quality Policies for Controlled Burning.

Programmatic Recommendations

- The DC Core Team should create a page on the existing CWPP website dedicated to streamlining the process of finding technical service providers. The page should list the providers and summarize the services they provide to help citizens locate technical resources as easily as possible. The page should identify the CSFS has an updated list of private forestry consultants and forest management contractors available at their office.

Table 2: Summary of Obstacles and Tools

Obstacle	Tool(s)
Obstacle 1-Hazard Awareness	<ul style="list-style-type: none"> • Douglas County Wildfire Hazard Assessment
Obstacle 2-Developing Approved Local-Level CWPPs	<ul style="list-style-type: none"> • Technical Assistance <ul style="list-style-type: none"> ○ Recommendations for Reducing Structural Ignitability • Local-Level CWPP Guidance • Fire Protection District Preparedness Discussion • Fire Department Wildland Fire Program Needs • Douglas County Wildfire Hazard Assessment • County-Owned Lands Treatment Recommendations • Landscape Scale Fuel Treatment Recommendations • Community Risk Analysis utilizing Community Wildfire Hazard Potential Map
Obstacle 3- Coordinating and Tracking Fuel Treatment Accomplishments	<ul style="list-style-type: none"> • Hazard Assessment <ul style="list-style-type: none"> ○ Wildfire Hazard Potential Map ○ Landscape Scale fuel Treatment Recommendations
Obstacle 4-Disposal of Treated Woody Vegetation	<ul style="list-style-type: none"> • CDPHE Air Pollution Control Division Policies
Obstacle 5- Funding	<ul style="list-style-type: none"> • Funding Directory • Fire Department Wildland Fire Program Needs
Obstacle 6-Technical Assistance	<ul style="list-style-type: none"> • Technical Assistance <ul style="list-style-type: none"> ○ Technical Service Providers ○ Recommendations for Reducing Structural Ignitability ○ Technical Guides ○ Local-Level and Community-Wide Fuel Treatment Recommendations ○ Large lot Recommendations ○ CDPHE Air Quality Policies for Controlled Burning