Cordillera CWPP
UPDATE
2014
ANCHOR POINT
WILDLAND FIRE SOLUTIONS
Cordillera CWPP
UPDATE
2014

ANCHOR POINT
WILDLAND FIRE SOLUTIONS
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EXECUTIVE SUMMARY

The Cordillera Community Wildfire Protection Plan (CWPP) is the result of a community-wide planning effort that included extensive field data gathering, compilation of existing documents and geographic information system (GIS) data, and scientific analyses and recommendations designed to reduce the threat of wildfire-related damages to values at risk. Values at risk include people, property, ecological elements, and other human and intrinsic values within the project area.

Values at risk are identified by inhabitants as important to the way of life in the study area, and are particularly susceptible to damage from wildfire.
COMMUNITY RATINGS UPDATE

The Cordillera CWPP was originally completed by Anchor Point in 2004. At that point, the mountain pine beetle epidemic had not yet reached its peak, and as a result, many of the identified and recommended treatments revolved around removal of beetle killed trees and smaller fuelbreaks. Since the plan was completed, the Colorado State Forest Service and the USFS have completed over 30,000 acres of hazardous fuels reduction projects; many of which have been large-scale clear-cuts. Removal of the dead trees has greatly reduced the risk of wildfire to many of the communities identified in the CWPP, which is reflected in the modified hazard rating. However, even with massive amounts of fuel removal, some communities are still rated as extreme and very high because of the infrastructure (roads, power lines, lack of water, building materials), topography, and remaining fuels. Before any work had been completed, the forested areas around the communities were continuous stands of lodgepole pines, in various stages of the mountain pine beetle attack. Some were still green, while many had entered the ‘red-needle’ phase, where they are capable of igniting three times faster than green trees. A few were in the ‘grey’ stage, meaning they had lost their needles and were standing dead. With the removal of these trees, additional water and light has been able to reach the forest floor. This has given grasses and forbs an opportunity to flourish and take over. If they dry out, a fire in the light flashy fuels will be easier to contain, but would have a faster rate of spread. In areas where the trees are still standing, they still pose a threat in terms of wildfire as well as a fall hazard.

During the original CWPP, an Annual Work Plan was also developed, which gave detailed information on projects identified in the CWPP. There are graphics in this update, which accompany the community write-ups. For a full description of each community, please see the original CWPP document. Except for the fuels, there have been few changes to the infrastructure in the communities.

The assessment portion of this document estimates the hazards and risks associated with wildland fire in proximity to Wildland-Urban Interface (WUI) areas. This information, in conjunction with identification of the values at risk (page 6), defines areas of special interest (ASI) and allows for prioritization of mitigation efforts. From the analysis of this data, solutions and mitigation recommendations are offered that will aid homeowners, land managers, and other interested parties in developing short-term and long-term planning efforts.
1. This document provides a comprehensive analysis of wildfire-related hazards and risks in Cordillera. The WUI is the area where human development and activity meets and intermixes with undeveloped, “wild” vegetation. The analysis is delivered in the form of a CWPP. It strives to follow the standards for CWPPs that have been established by the Healthy Forests Restoration Act (HFRA) and to meet or exceed the minimum standards established by the CSFS.

2. Using the results of the analysis, recommendations have been generated that aid stakeholders in preventing and/or reducing the threat of wildfire to values in the study area. These recommendations are included throughout the report, wherever appropriate.

3. These recommendations, which include defensible space and fuels treatments, will facilitate the implementation of future mitigation efforts.

4. This report complements local agreements and existing plans for wildfire protection to aid in implementing a seamless, coordinated effort in determining appropriate fire management actions in the study area.

The Cordillera CWPP is a living document, and, as such, will need to be updated annually, and/or after a major “event,” such as wildfire, flood, insect infestation, or even significant new home development.
HOW TO USE THIS DOCUMENT

Anchor Point completed the Cordillera CWPP in August 2004. The communities identified and their ratings are listed below. The Cordillera CWPP was done at a very fine scale, and as a result, 28 communities were identified (Table 20). Any updates to projects have been provided by the property owner’s association. The Cordillera community has completed many projects and actions, including fuels treatments and changes in building regulations, and residences have met the minimum standards. In the third year of the maintenance cycle there are few significant issues. There are issues beyond the minimal standards – i.e. clean up on properties beyond the standard of 210’ or 3 acres. The list of recommendations from the original CWPP has been included to continue to help guide actions. Maps can be found in the original CWPP at http://csfs.colostate.edu/pages/documents/CordilleraCWPP.pdf.

In 2012 Anchor Point prepared a CWPP for the Eagle River Protection District (ERFPD). The ERFPD CWPP document provides pertinent information for their entire response area, which includes Cordillera. The Eagle River CWPP can be accessed through this website: http://gacc.nifc.gov/rmcc/dispatch_centers/r2gjc/cwpp/Eagle%20County/EagleRiverFPD-CWPP.pdf. The ERFPD CWPP has several appendices that are applicable to the Cordillera update and are described below.

Appendix A: General Recommendations
Appendix A provides further detail on recommendations. General defensible space guidelines, which are applicable for every property, are described at length. Eagle County Wildfire Regulations, home construction, preparedness planning, infrastructure, public education, water supply and recommendations are also found in this appendix.

Appendix C: Fire Behavior Technical Reference
Appendix C describes the methodology used to evaluate the threat represented by physical hazards such as fuel, weather and topography to values at risk in the study area, by modeling their effects on fire behavior potential.

Appendix D: Guiding Documents
This document is designed to meet or exceed the standards that have been established for CWPPs by both the HFRA and the CSFS. A summary of the two guidelines is found in Appendix D.
Figure 1. Overview of communities within the Cordillera study area.
COMMUNITY ANALYSIS
COMMUNITY ASSESSMENT METHODOLOGY

The community level methodology for this assessment uses a Wildfire Hazard Rating (WHR) that was developed specifically to evaluate communities within the WUI for their relative wildfire hazard. The WHR model combines physical infrastructure such as structure density and roads, fire behavior components such as fuels, topography, rate of spread and flame length with the field experience and knowledge of wildland fire experts. Modeled values for flame length and rate of spread during extreme weather conditions are incorporated into the rating sheet for each community. It also incorporates the completed fuels reduction projects, changes in construction (primarily roof material), and other input from the property owner’s association.

Defensible space and ignition-resistant home construction are determined to be the greatest benefit for the least cost for landowners in all communities, regardless of whether landscape-scale fuelbreaks are recommended.

Update of Work Completed
Cordillera is an unincorporated community of 910 properties located in Eagle County, Colorado. The Cordillera Property Owners Association (CPOA) and the Cordillera Metro District (CMD) work together to administer and manage day-to-day operations in Cordillera. This document is intended to serve as the 2014 update for Cordillera’s Community Wildfire Protection Plan (CWPP). It is an update to the plan written by Anchor Point in 2004. The update has three sections. Section I addresses general issues that are frequently referenced by Anchor Point, such as roofing materials. Section II will review each neighborhood as identified by Anchor Point in 2004. Section III is a list of all work projects since 2004.

In October 2003, Cordillera entered into an agreement with the Anchor Point Group to conduct a “Wildfire Hazard and Risk Analysis.” The analysis from Anchor Point was submitted to Cordillera in August 2004 as the “Wildland Urban Interface Community Fire Plan.” This plan, which pre-dates the current format for a formal CWPP, was accepted by Eagle County and the Colorado State Forest Service as Cordillera’s CWPP in 2004.

Cordillera has been recognized as a Firewise Community since 2005. In 2007 it became mandatory for homeowners to develop defensible space around their homes.

The following table reflects the fuels treatments completed in the area. They are referred to by name in the graphics in the Communities section of this report. See Table 2 for treatments that have been planned but still await implementation.

---

**FUELS TREATMENTS COMPLETED FOR THE AREA**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Acreage</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-1</td>
<td>2750 to Casteel</td>
<td>0.25</td>
<td>2013</td>
</tr>
<tr>
<td>D-5</td>
<td>North 267 to end</td>
<td>1.30</td>
<td>2013</td>
</tr>
<tr>
<td>D-7</td>
<td>Power Line</td>
<td>0.34</td>
<td>2013</td>
</tr>
<tr>
<td>D-8</td>
<td>Alcazar to El Mirador</td>
<td>2.30</td>
<td>2012</td>
</tr>
<tr>
<td>D-9</td>
<td>Cordillera Way to end of Alcazar</td>
<td>3.44</td>
<td>2010</td>
</tr>
<tr>
<td>D-10</td>
<td>Both sides of Golf Maintenance</td>
<td>0.57</td>
<td>2013</td>
</tr>
<tr>
<td>LP-1</td>
<td>clear cut (Open Space)</td>
<td>32.00</td>
<td>2010</td>
</tr>
<tr>
<td>LP-2</td>
<td>clear cut (Open Space)</td>
<td>1.38</td>
<td>2010</td>
</tr>
<tr>
<td>LP-3</td>
<td>clear cut (Open Space)</td>
<td>4.02</td>
<td>2010</td>
</tr>
<tr>
<td>LP-4</td>
<td>select cut of 375 Lodge Pole (Open Space)</td>
<td>4.59</td>
<td>2010</td>
</tr>
<tr>
<td>LP-5</td>
<td>clear cut (Open Space)</td>
<td>28.00</td>
<td>2010</td>
</tr>
<tr>
<td>LP-6</td>
<td>clear cut (Private Property)</td>
<td>6.40</td>
<td>2008</td>
</tr>
<tr>
<td>LP-7-11</td>
<td>clear cut (Private Property)</td>
<td>6.00</td>
<td>2008</td>
</tr>
<tr>
<td>LP-7-11</td>
<td>clear cut (Private Property)</td>
<td>5.50</td>
<td>2009</td>
</tr>
<tr>
<td>LP-7-11</td>
<td>clear cut (Private Property)</td>
<td>5.40</td>
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<td>LP-7-11</td>
<td>clear cut (Private Property)</td>
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<tr>
<td>LP-7-11</td>
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<td>2008</td>
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<tr>
<td>LP-12</td>
<td>select cut - 443 Lodge Pole (OS &amp; PP)</td>
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<td>2010</td>
</tr>
<tr>
<td>LP-13</td>
<td>clear cut (Private Property)</td>
<td>14.81</td>
<td>2007</td>
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<tr>
<td>LP-14</td>
<td>clear cut (Private Property)</td>
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<td>LP-15</td>
<td>clear cut (Open Space)</td>
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<td>M-3</td>
<td>Squaw Creek to Fire Station</td>
<td></td>
<td>2007</td>
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<tr>
<td>M-5</td>
<td>Dry Hydrant installed. 3,258,510 gallons</td>
<td></td>
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<td>R-1</td>
<td>North side-Overlook to Gate</td>
<td>3.33</td>
<td>2012</td>
</tr>
<tr>
<td>R-2</td>
<td>North side-Golf Maintenance to Trailhead</td>
<td>3.97</td>
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<td>North side-Timber Draw Trailhead to 2524 Fenno</td>
<td>1.38</td>
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<td>R-4</td>
<td>North Side-Easement along Lot 1</td>
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<td>R-5</td>
<td>North Side-Lot 1 - Guard Rail</td>
<td>2.53</td>
<td>2012</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
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<td>-------------</td>
<td>---------</td>
<td>------</td>
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<tr>
<td>R-6</td>
<td>South Side - Chimneys</td>
<td>2.70</td>
<td>2012</td>
</tr>
<tr>
<td>R-7</td>
<td>South Side-Forest Trail to Sewer Easement</td>
<td>1.70</td>
<td>2012</td>
</tr>
<tr>
<td>R-10</td>
<td>North side across from Black Bear</td>
<td>0.92</td>
<td>2006</td>
</tr>
<tr>
<td>R-11</td>
<td>Fenno Power Line</td>
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<td>2009</td>
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<tr>
<td>R-13</td>
<td>64 - 82 West Side (Park)</td>
<td>0.50</td>
<td>2013</td>
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<td>R-14</td>
<td>Trail below homes (in 2005 included R-12)</td>
<td>4.30</td>
<td>2005</td>
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<tr>
<td>R-15</td>
<td>Switchback</td>
<td>0.50</td>
<td>2012</td>
</tr>
<tr>
<td>R-23</td>
<td>240 - 260 North side (Park)</td>
<td>0.52</td>
<td>2013</td>
</tr>
<tr>
<td>R-24B</td>
<td>Bearden to the clear cut (includes R24)</td>
<td>6.45</td>
<td>2013</td>
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<td>R-25</td>
<td>East side 440 - 500</td>
<td>0.36</td>
<td>2012</td>
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<tr>
<td>R-25B</td>
<td>West side from trail to fence corner</td>
<td>1.80</td>
<td>2012</td>
</tr>
<tr>
<td>R-26</td>
<td>West side at end</td>
<td>6.03</td>
<td>2009</td>
</tr>
<tr>
<td>R-27</td>
<td>Sewer Easement on east side</td>
<td>5.70</td>
<td>2005</td>
</tr>
<tr>
<td>R-28</td>
<td>Sewer Easement</td>
<td>5.70</td>
<td>2008</td>
</tr>
<tr>
<td>R-29</td>
<td>East side below Peregrine</td>
<td>0.25</td>
<td>2013</td>
</tr>
<tr>
<td>R-30</td>
<td>Sewer Easement on east side</td>
<td>3.44</td>
<td>2006</td>
</tr>
<tr>
<td>R-31</td>
<td>extensive fuels reduction</td>
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<tr>
<td>S-1</td>
<td>East Side-Kit Way to Golf Maintenance</td>
<td>1.40</td>
<td>2012</td>
</tr>
<tr>
<td>S-2</td>
<td>West Side-Switchback</td>
<td>2.40</td>
<td>2012</td>
</tr>
<tr>
<td>S-4</td>
<td>Between 286 - 672 East Side</td>
<td>1.84</td>
<td>2013</td>
</tr>
<tr>
<td>S-5</td>
<td>West Side</td>
<td>5.27</td>
<td>2008</td>
</tr>
<tr>
<td>S-6</td>
<td>East Side-Switchback @ 672</td>
<td>0.92</td>
<td>2004</td>
</tr>
<tr>
<td>S-8</td>
<td>North Side - 447 - 603</td>
<td>0.69</td>
<td>2012</td>
</tr>
<tr>
<td>S-11</td>
<td>Utility Easement at 45 Grahm Road</td>
<td>0.16</td>
<td>2013</td>
</tr>
<tr>
<td>S-12</td>
<td>Utility Easement at 758 Grahm Road</td>
<td>0.11</td>
<td>2013</td>
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<tr>
<td>S-14</td>
<td>Shaded fuel break along golf maint., Summit Fire Station, and Summit Trail.</td>
<td>5.59</td>
<td>2005</td>
</tr>
<tr>
<td>T-1</td>
<td>fuel break and fire road. 50/50 share w/CFS</td>
<td>4.40</td>
<td>2008</td>
</tr>
<tr>
<td>T-2</td>
<td>BLM Road - Written agreement with BLM.</td>
<td>6.60</td>
<td>2005</td>
</tr>
</tbody>
</table>
HAZARD RATING: VERY HIGH

Property owners were required to address defensible space in 2007, the first year of the mandatory program. Four homes have been added to this neighborhood since the Anchor Point report, all in accordance with Eagle County wildfire regulations for construction and defensible space. Two vacant lots were initially exempt from the 2008 deadline as they had significant dead lodgepole pine that was adjacent to CMD open space, which also had significant dead lodgepole pine. The dead lodgepole trees were removed from this area, a total of 6.17 acres, in 2010. All property owners in this neighborhood have addressed their wildfire-mitigation issues.

In 2004, a shaded fuelbreak was created in the open space along the east side of Webb Peak Road. Dead and down trees and ladder fuels were removed. Trees were thinned, and the limbs on the evergreens were cut to a height of approximately eight feet. In 2008, crews extended this fuelbreak and cleaned up debris left by the 2004 contractor. In 2008, the west side of Webb Peak Road received similar treatment. Also in 2008, a fire road/fuelbreak was constructed below Webb Peak along an existing horse trail. The trail was re-graded to allow access for wildland fire trucks. In certain areas, vegetation was removed. Turnarounds/safety zones were constructed at the middle and the end of the trail. Both 2008 projects were cost-share grants from Colorado State Forestry.

In 2013 approximately 1.9 acres that had been previously mitigated were revisited on the west side of Webb Peak. Dead and down material was removed between addresses 286 and 672.
Figure 2. Webb Peak and fuels treatments completed within the community.
HAZARD RATING: EXTREME

Redtail Ridge property owners were required to address defendable space to three acres, or 210 feet, in 2008. All property owners in this neighborhood have addressed their wildfire-mitigation issues.

In 2005, a shaded fuelbreak was created along the east side of Redtail Ridge, below the homes, utilizing the existing sewer easement. The oak brush and sage brush were thinned. Where there were large junipers, the lower limbs were cut, and the ladder fuels were removed.

In 2006, a shaded fuelbreak was constructed between Peregrine Drive and Redtail Ridge, utilizing the existing sewer easement. The fuelbreak involved several different fuel types, ranging from aspen with brush understory, tall serviceberry, gambel oak, and mature Douglas-fir. Maintenance work was performed along the fuelbreak in 2008.

In 2009, a shaded fuelbreak was created on the open space on the west side of Redtail Ridge at the end of the road. This area was extremely thick gambel oak and serviceberry.

In 2012 there were 2 small projects along Redtail Ride, totaling 2.2 acres. Two sections of open space, adjacent to Redtail Ridge Road that had been previously treated, received maintenance treatments; dead and down material and brush were removed.
Figure 3. Redtail Ridge and fuels treatments completed within the community.
HAZARD RATING: **VERY HIGH**

El Mirador properties were required to address defensible space to three acres, or 210 feet, in 2008. All property owners in this neighborhood have addressed their wildfire-mitigation issues.

In 2006, a fuelbreak was cut below and north of Alcazar and Granada Hill. In 2008 and 2010, maintenance work was conducted. The fuelbreak extends approximately 100 feet downhill to the irrigated lawns behind the homes and the existing sewer easement.

Anchor Point recommended thinning 100 feet from the road centerline. This is difficult when the adjacent property is privately owned and in one area is U.S. Forest Service property.

In 2012, a portion of the fuelbreak cut in 2006 was again visited for maintenance work. This area included about 2.3 acres and extended from Alcazar to El Mirador. About one hundred feet along El Mirador was included in this work.

In 2013, approximately 1.3 acres, at the end of El Mirador along the north side were treated. Dead and down material was removed, the brush was thinned and some trees limbed. The treatment went from the CMD asphalt road to the boundary with public lands.
Figure 4. El Mirador and fuels treatments completed within the community.
HAZARD RATING: VERY HIGH

Properties were required to address defensible space to three acres, or 210 feet, in 2006. All property owners in this neighborhood have addressed their wildfire mitigation issues.

A shaded fuelbreak was constructed below Saddleridge in 2006 utilizing the sewer easement that runs below the homes on the end of Saddleridge. Brush was thinned. Lower limbs were cut from large junipers, and ladder fuels were removed. The northwest slope below Saddleridge is dense old age Douglas-fir trees. The area was reviewed with Anchor Point in 2006. It was agreed by Anchor Point and Cordillera land managers that with such large trees, the amount of fuel needing removal to mitigate the hazard was either prohibitive or impossible.
Figure 5. The Ridge community.
HAZARD RATING: HIGH

Property owners were required to address defensible space to three acres, or 210 feet, in 2007. Fairways property owners were required to address defensible space in 2009. All property owners in these neighborhoods have addressed their wildfire-mitigation issues.

A shaded fuelbreak was created below the Timbers in 2005, utilizing an existing sewer easement that began at Fenno Drive and went across to East Timber Draw Road.

Beginning in 2006, all dead and dying lodgepole pine trees have been removed on open space and on private property. In 2013 approximately 0.5 acres of open space between house numbers 64 and 82 were mitigated.
Figure 6. Timbers and Fairways and fuels treatments completed near the communities.
HAZARD RATING: HIGH

Property Owners on Granite Springs were required to address defensible space to three acres, or 210 feet, in 2009. All property owners in this neighborhood have addressed their wildfire mitigation issues.

In 2007 and 2008, the owners of Lots 10-15 on Granite Springs removed all lodgepole pine and the dead and dying trees of other species. These five lots range in size from 10-15 acres. Cordillera coordinated the projects by building the skid trails across the lots that allowed access and removal of material. The property owners of Lots 16-18 have also cleared the dead and dying lodgepole from their properties. Cordillera has cleared most of the lodgepole pine immediately (200 feet) behind lots 16-18.

In 2012 approximately 0.7 acres of open space between address numbers 447 and 603 was cleaned up. This area had been used as a staging area for logging projects in 2007 and 2008 and a large amount of chips and debris had collected. In addition to the cleanup, dead trees and brush were removed along the road.
Figure 7. Granite Springs and fuels treatments completed within/around the community.
HAZARD RATING: VERY HIGH

Greyhawk property owners were required to address defensible space in 2009. All property owners in this neighborhood have addressed their wildfire-mitigation issues.

The sub-association coordinated work for all properties. Most of the work involved clearing the steep hillside on the south side of the enclave. The Anchor Point report references an overhead power line on the opposite hillside that is also below Fenno Drive. This hillside was treated in 2006 when dead and down timber from MPB trees was removed. In 2009, any remaining trees along the power line that could fall and hit the power line were removed. In 2010, the remaining lodgepole were removed.
Figure 8. Greyhawk and fuels treatments completed within/around the community.
HAZARD RATING: EXTREME

Casteel Ridge property owners were scheduled to address wildfire-mitigation concerns in 2009. All property owners have completed their fire mitigation. The remaining property was in the middle of foreclosure and has since been purchased. The new owner has committed to completing the work in 2011. The open space along Cordillera Way below Casteel is one of several roadside fuel-break projects on a work list. No safety zones have been constructed although there are two large cul-de-sacs, one at the junction of Cordillera Way and Casteel and the other at the junction of Cordillera Way and Alhambra.

In 2013 three sections of open space adjacent to Cordillera Way totaling approximately ¾ of an acre were mitigated to reduce wildfire hazard. Two sections were adjacent to the golf maintenance facility and the third was adjacent to address number 2750. Dead and down aspen were removed and thick brush was thinned and removed.
Figure 9. Casteel Ridge and fuels treatments completed within/around the community.
HAZARD RATING: **HIGH**

This neighborhood was required to address wildfire-mitigation concerns in 2009. All property owners have completed their fire mitigation. In 2007, most of the lodgepole pine trees above Forest Trail were removed. This was a collaborative effort between the private property owners, the Cordillera Property Owner’s Association and the Cordillera Metro District. Aspen trees along Black Bear have been dying at a rapid rate. Most property owners have removed all of their dead aspen trees. Cordillera removed 160 dead aspen along the road in 2010. In 2011, Cordillera is budgeted to treat a 25-acre section of open space that parallels the south side of Black Bear. This project would involve removal of approximately 5,000 lodgepole pine trees and 2,000 dead aspen trees. Patches of green aspen will be cut hoping to stimulate new growth of aspen trees.

In 2012, 0.5 acres of open space located inside of a switchback on Forest Trail was mitigated for fire hazards. Dead and down aspen were removed and the brush was thinned and removed. In 2013, 28 acres of dead and dying lodgepole pine located above Black Bear were clear cut in 2013.
Figure 10. The Aspen/Black Bear/Whitaker Ponds and fuels treatments completed within/around the communities.
Red Draw and Peregrine

HAZARD RATING: HIGH

Properties along Peregrine were required to address wildfire issues in 2007. Properties along Red Draw were required to address wildfire issues in 2008. A shaded fuelbreak was created from the end of Peregrine to Redtail Ridge in 2006. In 2008, maintenance work was conducted along this fuelbreak.

In 2013, 0.25 acres of open space on the eastern side of the road, adjacent to Red Draw Road, directly below the junction with Peregrine, was mitigated for wildfire hazards. Dead and down was removed and the brush was thinned and removed. Approximately 7.5 acres at 3000 Fenno (The Trailhead), was mitigated for fire hazards in 2013. Dead material was removed and most brush was cut and removed.
Figure 11. Red Draw/Peregrine and fuels treatments in and around the communities.
Kensington Green

HAZARD RATING: HIGH

Kensington Green was scheduled for wildfire mitigation work in 2009. All property owners in this neighborhood have addressed their wildfire-mitigation issues.

The Cordillera portion of an overhead power line that feeds the divide from Highway 6 was cleared in 2005 and 2014.
Figure 12. Kensington Green and fuels treatments in and around the community.
HAZARD RATING: MODERATE

Properties in Bearden Meadows were required to address wildfire issues in 2009. All property owners in this neighborhood have addressed their wildfire-mitigation issues.

In 2008, a three-acre section of lodgepole pine in poor health was clear cut below the end of Bearden Road. In 2010, a 3.5-acre section of lodgepole pine below Aspen Meadows was clear cut. In 2010, a 40-acre section of lodgepole pine between Elk Woods and Bearden was clear cut. For all of these projects, the whole trees were removed by yarder to avoid leaving slash as a fire hazard or chips that would smother new growth. With minimal impact from heavy equipment, we hope re-vegetation will be accelerated.

In 2013, 6.45 acres of open space between and behind address numbers 312 Bearden and 378 Bearden was mitigated to reduce wildfire hazard. This area starts at the road and goes up and behind these addresses. It contained dead and down lodgepole pine that was not part of the 2008 clear-cut and in some sections it contained aspen with a thick serviceberry understory.
Figure 13. Bearden Meadows and fuels treatment in and around the community.
HAZARD RATING: HIGH

Properties in the Andorra neighborhood were scheduled for wildfire mitigation in 2008. All property owners in this neighborhood have addressed their wildfire-mitigation issues.
Figure 14. Andorra/Central Divide communities.
Red Draw Meadows

HAZARD RATING: HIGH

Properties in the Red Draw Meadows neighborhood were scheduled for wildfire mitigation in 2008. All property owners in this neighborhood have addressed their wildfire-mitigation issues.

The Anchor Point report referenced establishing an alternative exit at the bottom of Red Draw Road. In 2009, Cordillera contacted the owner of the private property adjacent to Cordillera in order to establish this exit utilizing an existing utility easement. The private property owner would not agree to such an arrangement.
Figure 15. Red Draw Meadows and fuels treatments around the community.
HAZARD RATING: **HIGH**

Properties at Settler’s Woods were scheduled for wildfire mitigation in 2010. All property owners in this neighborhood have addressed their wildfire-mitigation issues.

The Anchor Point report references a two-track dirt road that can be used as an escape route. This road is a natural gas line easement. Cordillera grades this road in the summer to enhance its suitability as an exit. It is too steep to use as an alternative entrance for most fire apparatuses except type 6 wildland fire engines.

Maintenance, as part of a previous work, was completed in 2012. Almost 4 acres between Kit Way and the Summit Golf Maintenance facility were mitigated for fire hazards. In 2013 two CMD utility easements, totaling approximately 0.3 acres that run across private property were mitigated for fire hazards. Dead and down trees were removed. Bushes under trees and in the area were removed. A natural gas sub-station at the top of this easement was cleared out of dead/down and brush for 100’ around the location in spring of 2014.
Figure 16. Settler’s Woods and work completed within the community.
Elk Woods and Elk Springs

HAZARD RATING: MODERATE

The Elk Woods and Elk Springs neighborhoods were scheduled for wildfire mitigation in 2009. All property owners have completed their fire mitigation.

This area has considerable lodgepole pine. Owners have been removing dead and infested trees and spraying healthy trees.
Figure 17. Elk Woods and Elk Springs and fuels treatments in and around the communities.
HAZARD RATING: **HIGH**

The Summit Club area was scheduled for wildfire mitigation in 2010. All property owners in this neighborhood have addressed their wildfire-mitigation issues.

Figure 18. Summit Club community.
HAZARD RATING: HIGH

The Granada Glen neighborhood was scheduled for wildfire mitigation in 2010. All property owners in this neighborhood have addressed their wildfire-mitigation issues.
HAZARD RATING: **HIGH**

Settler’s Loop was scheduled for wildfire mitigation in 2010. All property owners in this neighborhood have addressed their wildfire-mitigation issues.

This neighborhood has several new homes and all have noncombustible roofs.
Figure 20. Settler’s Loop and fuels treatments and other work completed in and around the community.
HAZARD RATING: HIGH

The Territories was scheduled for wildfire mitigation in 2011. All property owners have completed their fire mitigation. Currently, there is one house under construction in The Territories.

The top half of the Territories does have fire hydrants supplied by the Eagle River Water System. Individual properties must use well water for domestic water and firefighting reserves. Territories properties are required by Cordillera to have fire sprinkler systems and, therefore, they must also have water storage per Eagle County and NFPA standards.

A Use Agreement was established with the BLM in 2006. The Use Agreement permits Cordillera to use the old road between The Territories and Brush Creek for emergencies and to perform maintenance to keep the road passable. Cordillera has removed brush and done some grading as erosion control. This road would be most useful as an exit. Use as an entrance for fire apparatuses would be limited to wildland fire equipment.
Figure 21. The Territories and fuels treatments in the area.
HAZARD RATING: MODERATE

Properties in these neighborhoods were scheduled for wildfire mitigation in 2010. All property owners in this neighborhood have addressed their wildfire-mitigation issues.

Figure 22. Gold Dust/Murphy’s Creek and fuels treatments in the area.
HAZARD RATING: MODERATE

Cimarron property owners were required to address wildfire-mitigation issues in 2011.

Figure 23. Cimarron and fuel treatments in and around the community.
HAZARD RATING: **MODERATE**

Bearcat property owners were required to address wildfire-mitigation issues in 2011. In 2010, the Bearcat Association began the process of replacing cedar-shake roofs with noncombustible roofs.
HAZARD RATING: **LOW**

Summit Fairways property owners were scheduled to address wildfire-mitigation issues in 2010. All property owners in this neighborhood have addressed their wildfire-mitigation issues.

Figure 25. Summit Fairways community.
**HAZARD RATING: MODERATE**

All property owners have completed their fire mitigation.

Figure 26. Founder’s Preserve community.
HAZARD RATING: **LOW**

All property owners have completed their fire mitigation.

Figure 27. Club Cottages community.
HAZARD RATING: **LOW**

All property owners have completed their fire mitigation.

Figure 28. Bentgrass community.
HAZARD RATING: **LOW**

All property owners have completed their fire mitigation. The remaining property is in foreclosure and only has a few dead aspen trees.
The Cordillera CWPP, 2014 update, and Eagle River CWPP offer a comprehensive analysis of wildfire-related hazards and risks in the WUI areas in central Eagle County, Colorado. This update provides a review of the infrastructure and fuel reduction work that has taken place since the original document was written. Cordillera has done an exemplary job of dealing with the wildfire issues in the community. It is one of the most pro-active communities in Eagle County, if not all of Colorado. The original analysis was used to determine a variety of fuel-reduction projects throughout the study area. Many of these projects have been cleaned-up, maintained, and even expanded upon. At the same time, several projects have still not been completed, and those recommendations still stand. Although these are recommendations made by Anchor Point Group LLC, the stakeholders can also use these results to guide decision making for additional fuel-reduction projects. Recommendations focus on reducing the threat of wildfire to values within the study area.

**ROOFS**
The original Design Guidelines for Cordillera specified that structures in the geographic areas Ranch and Summit must have cedar-shake roofs. In the 2004 document, Anchor Point frequently references the hazards of combustible roofs. In 2005, Cordillera’s Design Guidelines were revised so that combustible roofing materials, including treated cedar shakes even with Class A assemblies, were prohibited on new structures. Remodels and replacement roofs that affect more than 25 percent of a roof must replace the entire roof with approved noncombustible roofing material. The Cordillera Design Review Board (DRB) has reviewed and approved several non-combustible roofing materials. Most of these products are plastic versions that resemble cedar-shake shingles. Each home is currently being inspected, and a count on the number of homes with non-combustible, non-cedar shake roofs will be available in the future.

**CONSTRUCTION STANDARDS**
Since 2004, all new construction has met Eagle County wildfire regulations for construction and defensible space. The Eagle County Wildfire Specialist issues a hazard rating for the property prior to the county issuing a building permit. Wildfire hazards must be mitigated before the permit is issued. The property owner may have the option to mitigate natural hazards to a desired hazard level, which might allow more leeway in building material selection. The hazard rating of the property will dictate Eagle County’s requirements for building materials. Cordillera does not get involved with the selection of construction materials unless addressed by the Cordillera Design Guidelines.

**HAZARD ASSESSMENTS**
Anchor Point recommended that Cordillera conduct hazard assessments for each parcel in Cordillera. Cordillera staff has conducted wildfire hazard assessments on all Cordillera properties. Cordillera utilized NFPA 1144 for properties with structures and Eagle County’s assessment criteria for vacant lots. Assessments are on file at Eagle County, ERFPD, and Cordillera.

**MANDATORY PRIVATE PROPERTY WILDFIRE MITIGATION**
In 2006, the CPOA passed a resolution that required all Cordillera properties to address defensible space and wildfire hazards according to a five-year schedule. The first cycle began in 2007 and was completed at the end of 2011. This same schedule will be used to inspect properties for proper maintenance of their defensible spaces. Cordillera is currently in year three of the maintenance cycle. Properties will be required to maintain the wildfire mitigation and will be inspected according to the same five-year schedule. The resolution requires all properties to mitigate wildfire zones one, two, and three, according to Eagle County and Colorado State Forestry standards except that Cordillera requires properties sized three acres or under to mitigate Zone Three (remove all dead and
down material) to the property line. Properties over three acres in size are required to mitigate to Zone Three standards to 210 feet. Vacant lots are required to mitigate to Zone Three standards to 210 feet from the center of the building envelope. Cordillera extended the distance for Zones Two and Zone Three in order to encourage extended defensible space, have more continuity, and minimize chunks of unmitigated property. Cordillera requires Zone one extend 20 feet from the drip edge to allow plants room to grow without encroaching on the 15 feet required by the county and state. The five-year schedule and number of affected properties is listed below.

2007 – 73 properties
2008 – 165
2009 – 238
2010 – 209
2011 – 156

The Design Guidelines have been changed to comply with Eagle County and CSFS standards for defensible space. Although landscape architects and the DRB continue to favor the use of conifers, the density and placement warrants wildfire protection. Aspen trees are encouraged.

Prior to Cordillera’s efforts to mitigate wildfire hazards, the DRB required substantial planting of shrubs and trees near structures, often at the cost of tens of thousands of dollars. When conducting parcel level hazard assessments, Cordillera staff advised property owners of the hazards associated with this landscaping, but staff did not require shrub or tree removal. If or when a property conducts any remodel or construction activity that requires a permit, wildfire mitigation standards must be met.

COMMUNITY CLEANUP DAYS
CMD supports the property owner’s efforts by conducting Community Cleanup Days. Cordillera is divided into three geographic areas: Divide; Ranch; and Summit. Each area receives one free pickup of yard debris each month in June, July, and August. Note: Current cost estimates put landfill fees, labor, and equipment at $70,000 each summer.

WILDFIRE MITIGATION MAINTENANCE
Cordillera requires, at a minimum, the maintenance of defensible space every five years. When the five-year cycle to create the initial defensible space ends in 2011, Cordillera will use the same schedule to inspect properties for maintenance on a five-year cycle.

ACCESS/EGRESS
Cordillera has four geographic neighborhoods. On the east is The Divide accessed by Cordillera Way. On the west are Ranch, Summit, and Territories accessed by Fenno Drive.

In 2009, a road was built between Diamond Star Ranch and Summit of Cordillera. Diamond Star Ranch is a private community, located to the north-west of Cordillera, which has access from Highway 6. The new road is an improved graveled road that allows for emergency exit and access for Cordillera through the adjacent Diamond Star Ranch. In most conditions, this road will support a Type I fire apparatus.

In 2005, Cordillera negotiated a right-of-way agreement with the Bureau of Land Management (BLM) to use an old road and utility easement that runs from Territories to Brush Creek Road south of Eagle. The agreement allows Cordillera to use the road and perform basic maintenance to assure travel, such as cutting and removal of brush. Cordillera has cut brush and attempted basic grading, but the geology prevents reasonable grading, so use of this road is restricted to sport utility vehicles. This road would not support two-way traffic and, if a fire was near the road, the road would not be safe.

Between Emma’s Way, which is located in the Ranch, and West Squaw Creek Road, which is a county road, lies a natural gas easement. Cordillera grades this road in the summer, which makes it passable for
most vehicles to use as an emergency exit. Emma’s Way is too steep for most fire equipment, excluding
wildland apparatuses, to use to access Cordillera.

**DRY HYDRANT**

In 2005, Cordillera installed a dry hydrant for fire suppression use at the Granite Springs Pond, which is located at the Summit in Cordillera. The Granite Springs pond is a manmade pond for golf-course irrigation. The pond is fed by water from the Eagle River. The dry hydrant shares a gravity-fed cistern from the pond. Pond capacity is approximately 10-acre feet or 3,260,000 gallons of water.

**WATER SUPPLIES**

In 2003, Schmueser, Gordon, Meyer, Engineers, Inc. (SGM) conducted a survey of the Cordillera water system. Since that time, Cordillera has been upgrading portions of the water system each summer in compliance with SGM’s recommendations. In 2005, a 500,000-gallon storage tank, with improved piping for delivery, was added above El Mirador Road. This tank improved storage and solved hydraulic issues along El Mirador Road and Granada Hill. CMD also has converted dead-end water pipes to loops in order to improve hydraulic performance and water quality.

**COMMUNITY WILDFIRE PROJECTS**

In 2004, the CPOA initiated a series of community wildfire projects, designed to protect neighborhoods or streets at the higher end of the fire hazards. The sewer easements below the homes were excellent starting points for fuelbreaks as they were already cleared of vegetation and provided platforms for work crews and equipment.

**MOUNTAIN PINE BEETLE**

During wildfire mitigation work in 2005, crews detected an increase in MPB activity in Cordillera. During the winter of 2005-2006, Cordillera contracted for a survey of all lodgepole pine in Cordillera. Infested trees were assigned a GPS waypoint and the Eagle County GIS Department made maps. This survey showed significant beetle activity and cause for action in 2006.

In 2006 and 2007, Cordillera removed all accessible beetle-infested trees and sprayed all healthy, accessible lodgepole pine trees on open space and private property.

As MPB activity continued to increase, in 2007, focus shifted from wildfire mitigation projects to MPB mitigation, hoping to slow the spread of the pine beetle and to mitigate the fire danger associated with the dead trees.

In August 2007, there was another shift in philosophy concerning how to deal with the MPB. The approach of removing infested and dead lodgepole pine was resulting in unhealthy stands of lodgepole pine. As the density of the trees in the forests declined, there was an increase in the number of trees that were falling or breaking. Repeated entries by heavy equipment to remove the trees was compacting the soil and retarding natural re-vegetation. In August 2007, Cordillera began clear cutting stands of lodgepole pine on open space. In most cases, the entire tree was removed and processed at a separate staging area. This prevented the fire danger of slash and the smothering affect of chipping. Tree tops and limbs were ground-up and transported off site. As of 2014, Cordillera and its property owners had removed over 40,000 lodgepole pine trees.

**ROADSIDE SHADED FUELBREAKS**

Throughout the report Anchor Point recommends roadside shaded fuelbreaks. In many locations, this is not practical. First, much of the private property along the roads has been landscaped. Therefore, it has irrigated vegetation and is often not filled with dead and down material. In some situations, there is insufficient space between the road and the property to have a shaded fuelbreak. Property owners with thick brush along the road are encouraged to thin the vegetation, and when Cordillera staff thin vegeta-
tion along roads, they must be sensitive to privacy issues when the structures are near the road.

**FIRE DEPARTMENT COVERAGE**

In 2004-2005, when Anchor Point conducted its review of Cordillera, most of Cordillera was in the ERFPD with an area west of Golden Bear Drive being in the Greater Eagle Fire Protection District (GEFPD). ERFPD has two stations in Cordillera, and GEFPD’s closest station was in the town of Eagle. In 2008, a boundary line change between the districts was negotiated, and Cordillera now is entirely within the boundaries of the ERFPD.

**COMMUNICATIONS – EC ALERT**

Eagle County has set up the Eagle County (EC) Alert system, which uses text messaging and emails to communicate emergencies and important events to participating parties. Eagle County has enabled Cordillera to set up a Cordillera page for EC Alerts. Cordillera encourages Cordillera property owners to participate in EC Alert.

The system was “tested” simultaneously with Reverse 911 in a 2009 wildfire field exercise. Where EC Alerts went through in minutes, the Reverse 911 took between 20 minutes to one hour to reach property owners. Some property owners reported they never received the Reverse 911. In some cases, updates to the initial EC Alert were received before the initial Reverse 911 was received.

**EAGLE COUNTY 2009 WILDFIRE EXERCISE**

In 2009, Cordillera was a participant in an Eagle County multi-agency wildfire exercise designed to test resources and communications. The Cordillera portion of the exercise tested evacuation procedures. Cordillera staff performed door-to-door visits while Eagle County tested Reverse 911 and EC Alert.

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**PLANNED FUEL TREATMENT LIST**

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</tr>
<tr>
<td>M-4</td>
<td>around Fire Station 15</td>
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<tr>
<td>R-8</td>
<td>South side below gatehouse to overlook</td>
</tr>
<tr>
<td>R-9</td>
<td>South side Black Bear to Settler’s Loop</td>
</tr>
<tr>
<td>R-12</td>
<td>Trail &amp;Sewer Easement. Fenno to Park</td>
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<tr>
<td>R-16</td>
<td>Water Tank-Includes sides of end of Road</td>
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<td>140 - 166 South Side</td>
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<tr>
<td>R-22</td>
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<td>R-32</td>
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<td>S-7</td>
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<tr>
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<td>White Springs Road</td>
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<tr>
<td>S-10B</td>
<td>clean up of above</td>
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<tr>
<td>S-13</td>
<td>around gas enclosure</td>
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<td>Fence Line</td>
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Table 2: List of Planned Fuels Treatments.
UPDATED FUELS AND FIRE BEHAVIOR

Since the original CWPP, numerous fuels projects have been undertaken by Cordillera. Fire behavior modeling is conducted at a 30m scale, so smaller treatments do not often show a change in the modeling outputs, although they cause actual change of behavior on the ground. Anchor Point has manually altered the fuels, and thus the fire behavior in an attempt to show how these efforts are serving to protect the communities. For a more in-depth discussion on fire behavior, please see the Fire Behavior Appendix in the Eagle River CWPP.

Figure 30. Fuels found in the Cordillera study area.
TOP Figure 31. Modeled crown fire under high fire weather conditions.

BOTTOM Figure 32. Modeled crown fire under moderate fire weather conditions.
TOP Figure 33. Modeled rate of spread under high fire weather conditions.

BOTTOM Figure 34. Modeled rate of spread under moderate fire weather conditions.
**TOP** Figure 35. Modeled fireline intensity under high fire weather conditions.

**BOTTOM** Figure 36. Modeled fireline intensity under moderate fire weather conditions.
The following definitions apply to terms used in the Eagle River Community Wildfire Protection Plan and/or are widely used wildland firefighting terms.

**1-hour time lag fuels**
Grasses, litter, and duff; <1/4 inch in diameter

**10-hour time lag fuels**
Twigs and small stems; 1/4 inch to 1 inch in diameter

**100-hour time lag fuels**
Branches; 1 to 3 inches in diameter

**1000-hour time lag fuels**
Large stems and branches; >3 inches in diameter

**Active crown fire**
This is a crown fire in which the entire fuel complex – all fuel strata – become involved, but the crowning phase remains dependent on heat released from the surface fuel strata for continued spread (also called a running crown fire or continuous crown fire).

**Crown fire (crowning)**
The movement of fire through the crowns of trees or shrubs; may or may not be independent of the surface fire.

**Defensible space**
An area around a structure where fuels and vegetation are modified, cleared, or reduced to slow the spread of wildfire toward or from the structure. The design and distance of the defensible space is based on fuels, topography, and the design/materials used in the construction of the structure.

**Fine fuels**
Fuels that are less than 1/4 inch in diameter, such as grass, leaves, draped pine needles, fern, tree moss, and some kinds of slash, which, when dry, ignite readily and are consumed rapidly.

**Fire behavior potential**
The expected severity of a wildland fire expressed as the rate of spread, the level of crown fire activity, and flame length. This is derived from fire behavior modeling programs using the following inputs: fuels; canopy cover; historical weather averages; elevation; slope; and aspect.

**Fire danger**
In this document, we do not use this as a technical term, due to various and nebulous meanings that have been historically applied.

**Fire hazard**
Given an ignition, the likelihood and severity of fire outcomes (fire effects) that result in damage to people, property, and/or the environment. The hazard rating is derived from the community assessment and the fire behavior potential.

**Fire mitigation**
Any action designed to decrease the likelihood of an ignition, reduce fire behavior potential, or to protect property from the impact of undesirable fire outcomes.

**Fire risk**
The probability that an ignition will occur in an area with potential for damaging effects to people, property, and/or the environment. Risk is based primarily on historical ignitions data.

**Flame length**
The distance between the flame tip and the midpoint of the flame depth at the base of the flame (generally the ground surface); an indicator of fire intensity.
Fuelbreak
A natural or constructed discontinuity in a fuel profile that is used to isolate, stop, or reduce the spread of fire. Fuelbreaks may also make retardant lines more effective and serve as control lines for fire suppression actions. Fuelbreaks in the WUI are designed to limit the spread and intensity of crown fire activity.

ISO (Insurance Standards Office)
A leading source of risk (as defined by the insurance industry) information to insurance companies. ISO provides fire risk information in the form of ratings used by insurance companies to price fire insurance products to property owners.

Passive crown fire
A crown fire in which individual or small groups of trees torch out (candle), but solid flaming in the canopy fuels cannot be maintained except for short periods.

Shaded fuelbreak
An easily accessible strip of land of varying width (depending on fuel and terrain), in which fuel density is reduced, thus improving fire control opportunities. The stand is thinned, and remaining trees are pruned to remove ladder fuels. Brush, heavy ground fuels, snags, and dead trees are disposed of, and an open, park-like appearance is established.

Slash
Debris left after logging, pruning, thinning, or brush cutting. This includes logs, chips, bark, branches, stumps, and broken understory trees or brush.

Spotting
Refers to the behavior of a fire producing sparks or embers that are carried by the wind and start new fires beyond the zone of direct ignition by the main fire.

Structural triage
The process of identifying, sorting, and committing resources to a specific structure.

Surface fire
A fire that burns the surface litter, debris, and small vegetation on the ground.

Values at risk
People, property, ecological elements, and other human and intrinsic values within the project area. Values at risk are identified by inhabitants as important to the way of life in the study area, and are particularly susceptible to damage from undesirable fire outcomes.

WHR (Wildfire Hazard Rating; community assessment)
A 140-point scale analysis designed to identify factors that increase the potential for and/or severity of undesirable fire outcomes in WUI communities.

WUI (Wildland Urban Interface)
The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. This is sometimes referred to as Urban Wildland Interface, or UWI.
RESOURCES FOR IMPLEMENTING CWPP RECOMMENDATIONS (Grants)

Often the biggest hurdle to overcome when trying to implement a CWPP or wildfire mitigation projects is funding. By having an official CWPP, a multitude of funding sources become available to complete the work outlined in the plan. Federal, national, state, and county funds are available to begin treatments. The list below is not all inclusive, but it provides the most commonly available sources for funding and outreach.

**Colorado State Forest Service (CSFS)**
- **Purpose:** to help homeowners and landowners promote healthy and sustainable forest conditions. CSFS does this by emphasizing action on state, private, and other nonfederal lands, and providing technical and financial assistance to those who have demonstrated a willingness and/or commitment to effectively manage their property.
- **Tax exemption for wildfire mitigation work:** Colorado landowners with property located in a Wildland Urban Interface area also may qualify to receive a tax exemption for the costs of wildfire mitigation work. As authorized by §39-22-104(4)(n), C.R.S., for income tax years 2009 through 2013, individuals, estates and trusts may subtract from federal taxable income 50 percent of the costs incurred in performing wildfire mitigation measures.
  - [http://csfs.colostate.edu/pages/programs-home-land-owners.html](http://csfs.colostate.edu/pages/programs-home-land-owners.html)
  - [http://csfs.colostate.edu/pages/funding.html](http://csfs.colostate.edu/pages/funding.html)

**Federal Emergency Management Agency (FEMA)**
- **Assistance to Firefighters Grant Program**
  - **Purpose:** to improve firefighting operations; purchase firefighting vehicles, equipment, and personal protective equipment; fund fire prevention programs; and establish wellness and fitness programs.
  - **Necessary information includes a DUNS number, Tax ID number and Central Contractor Registration.**
  - **Grants are usually required to be submitted by the end of September.**
- **SAFER: Staffing for Adequate Fire and Emergency Response**
  - **Purpose:** to provide funding directly to fire departments and volunteer firefighter interest organizations in order to help them increase the number of trained, “front line” firefighters available in their communities. The goal of SAFER is to enhance the local fire departments’ abilities to comply with staffing, response and operational standards established by the NFPA and OSHA.
  - [http://www.fema.gov/firegrants/safer/index.shtm](http://www.fema.gov/firegrants/safer/index.shtm)
- **Fire Prevention and Safety Grants (FP&S)**
  - **Purpose:** The Fire Prevention and Safety Grants (FP&S) are part of the Assistance to Firefighters Grants (AFG), and are under the purview of the Grant Programs
Directorate in the Federal Emergency Management Agency. FP&S Grants support projects that enhance the safety of the public and firefighters from fire and related hazards. The primary goal is to target high-risk populations and reduce injury and prevent death. In 2005, Congress reauthorized funding for FP&S and expanded the eligible uses of funds to include Firefighter Safety Research and Development.


- **Hazard Mitigation Assistance Grant Program (HMGP)**
  - Purpose: to provide grants to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster.

- **Pre-Disaster Mitigation Grant Program (PDM)**
  - Purpose: to provide funds to states, territories, Indian tribal governments, communities, and universities for hazard-mitigation planning and the implementation of mitigation projects prior to a disaster event. Funding these plans and projects reduces overall risks to the population and structures.

**Firewise Communities**

- Purpose: a multi-agency organization designed to increase education of homeowners, community leaders, developers, and others on the Wildland Urban Interface and the actions they can take to reduce fire risk to protect lives, property, and ecosystems.

**National Volunteer Fire Council**

- Purpose: to support volunteer fire protection districts. Includes both federal and non-federal funding options and grant writing help.
  - [http://www.nvfc.org/resources/grants/](http://www.nvfc.org/resources/grants/)

**Natural Resources Conservation Service Emergency Watershed Protection Program**

- Purpose: to undertake emergency measures, including the purchase of flood plain easements, for runoff retardation and soil erosion prevention to safeguard lives and property from floods, drought, and the products of erosion on any watershed whenever fire, flood, or any other natural occurrence is causing or has caused a sudden impairment of the watershed.
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  • http://www.nrcs.usda.gov/programs/ewp

Rocky Mountain Wildland Fire Information
  • Purpose: to provide a searchable database of grant opportunities, a calendar of upcoming area trainings, public information resources, and links to other important wildfire websites.
  • http://www.rockymountainwildlandfire.info/grants.htm

US Forest Service Cooperative Forestry Assistance
  • Purpose: to assist in the advancement of forest resources management, the control of insects and diseases affecting trees and forests, the improvement and maintenance of fish and wildlife habitat, and the planning and conduct of urban and community forestry programs.
  • http://www.fs.fed.us/spf/coop
OTHER USEFUL LINKS

Eagle River Fire Protection District
http://www.eagleriverfire.org

Environmental Protection Agency Watershed Protection
http://cfpub.epa.gov/fedfund

ESRI Grant Assistance Program for GIS Users
http://www.esri.com/grants

The Fire Safe Council
http://www.FireSafeCouncil.org

FRAMES (Fire Research and Management Exchange System)
http://www.frames.gov/tools

Government Grants
http://www.grants.gov

National Association of State Foresters Listing of Grant Sources and Appropriations
http://www.stateforesters.org/

National Database of State and Local Wildfire Hazard Mitigation Programs
http://www.wildfireprograms.com

Standard for Protection of Life and Property from Wildfire, NFPA 1144

Standard for Protection of Life and Property from Wildfire, NFPA 299