FEDERAL EMERGENCY MANAGEMENT AGENCY
FINDING OF NO SIGNIFICANT IMPACT
Deer Creek Wildfire Mitigation Project
(PDMC-PJ-08-CO-2011-005)
Deer Creek Subdivision, Park County, Colorado
February 16, 2012

BACKGROUND

The Platte Canyon Fire Protection District has requested Federal Emergency Management Agency (FEMA) Pre-Disaster Mitigation Program (PDM) funding to implement mitigation measures to reduce the wildfire hazard within the Deer Creek Subdivison. (39.2911, -105.4833). The Pre-Disaster Mitigation (**PDM**) program provides funds to states, territories, Indian tribal governments, and communities, 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, while also reducing reliance on funding from actual disaster declarations. The Deer Creek Valley Ranchos (Deer Creek) Subdivision is located in a wildland-urban interface area in northeast Park County, near Bailey, Colorado. The subdivision has 314 property owners and approximately 800 residents.

In accordance with the National Environmental Policy Act (NEPA) of 1969, National Historic Preservation Act (NHPA), Executive Order 11988, Executive Order 11990, and the implementing regulations of FEMA, an Environmental Assessment (EA) was prepared to assess the potential impacts on the human and natural environment, and is incorporated by reference.

The proposed project was coordinated with appropriate Federal, Tribal, State and local agencies. The public has been duly notified of the proposed project and no substantive comments were received.

Alternatives considered include taking no action and one action alternative which was evaluated in the referenced EA. This alternative would include the implementation of established vegetation management procedures that would reduce the potential of ignition and/or spread of a wildfire within the subdivision. Proposed activities include creation of 30 feet of defensible space around each of the residential structures. In addition, the forested area beyond the created defensible space would be thinned so there is space between the crowns of the remaining trees. Removed trees that are useable will be cut into firewood (in-place) and left for the property owner. Unusable wood and slash will be chipped in place and spread. Both treatments include only hand clearing and chipping. No burning would occur with this alternative. All treatments would be implemented using Colorado State Forest Service's Best Management Practices (BMPs) to ensure minimum risk of adverse impacts on physical, natural, socioeconomic, and cultural resources. The BMPs require a 50-foot buffer around wetlands and water bodies. Tree removal will be completed outside of the nesting season for all migratory birds. Overall, these two vegetation management treatments are expected to involve approximately 700 acres. Impacts associated with Alternative 1 would fall within the bounds of those impacts identified and discussed in the referenced EA.

MITIGATION AND STIPULATIONS

The resulting mitigation and stipulations upon which this finding is conditioned are:

1. Project activities involving tree removal would need to be completed outside of the nesting season for all migratory birds for compliance with the MBTA.
2. All treatments would be implemented using Colorado State Forest Service's Best Management Practices (BMPs).
3. Vegetation management BMPs require a 50-foot buffer around wetlands and water bodies.
4. Dust abatement procedures would be implemented if fugitive dust becomes an issue for local residents.
5. To assure noise levels remain at acceptable levels, all equipment would be equipped with proper mufflers, construction activities would be limited to daylight hours.
6. If cultural resources are encountered during project activities, work would be stopped until appropriate coordination has been completed with the Colorado State Historic Preservation Office.

FINDINGS

Based upon the information contained in the attached Final EA completed in accordance with the National Environmental Policy Act, FEMA's regulations (44 CFR Part 10) for environmental considerations, and Executive Orders (EO) addressing Floodplains (EO 11988), Wetlands (EO 11990), and Environmental Justice (EO 12898), it is found the Action Alternative, with the prescribed mitigation measures and stipulations, would have no significant adverse impact on the human environment. As a result of this **Finding of No Significant Impact (FONSI)**, an Environmental Impact Statement will not be prepared, and Alternative 2 may proceed, with the associated mitigation measures and stipulations identified above and described in the referenced EA.

APPROVAL

02/16/2012

Steven Hardegen
FEMA Region 8
Environmental Officer

Date

Environmental Assessment

Deer Creek Wildfire Mitigation Project

Park County, Colorado

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FEMA

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Acronyms and Abbreviations

APE	Area of Potential Effects
BMP	Best Management Practice
CDPHE	Colorado Department of Public Health and Environment
CDOW	Colorado Division of Wildlife
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CR	County Road
CSFS	Colorado State Forest Service
CWPP	Community Wildfire Protection Plan
Deer Creek	Deer Creek Valley Ranchos
EA	Environmental Assessment
EDR	Environmental Data Resources, Inc.
EO	Executive Order
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FRFTP	Front Range Fuels Treatment Partnership
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
PCFPD	Platte Canyon Fire Protection District
PDM Program	Pre-Disaster Mitigation Program
PM10	particulate matter up to 10 microns in diameter
PM2.5	particulate matter up to 2.5 microns in diameter
SHPO	State Historic Preservation Officer
TSS	total suspended solids
USACE	U.S. Army Corps of Engineers
U.S.C.	U.S. Code
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

SECTION ONE INTRODUCTION

1.1 BACKGROUND

Fire management in the West since the Europeans arrived in the 19th century has increased the quantity of vegetative ground and ladder fuels, resulting in surface fires that today move easily into the tree canopy and fuel destructive crown fires. High density, continuous fuels in many forests allow fires to spread to large areas in a relatively short period, making wildfires difficult and dangerous to control (PCFPD 2010).

The risk of catastrophic wildfires in Colorado's forests is extremely high because of the fuel load and the recent decline in forest health, which is the result of dry conditions, and infestation of the mountain pine beetle (PCFPD 2010). In addition, the number of homes constructed in forested areas has increased sharply in recent years, and these homes are threatened regularly by wildfires.

Recent forest health aerial surveys have confirmed that the mountain pine beetle continues as the dominant pest in Colorado forests (FRFTP 2010). Infestations have killed most or all of the trees in large areas, particularly areas dominated by lodgepole pine (PCFPD2010). Areas with a high concentration of standing dead timber are highly susceptible to catastrophic wildfires.

The Healthy Forest Restoration Act in 2003 (16 U.S.C. 6501–6591) authorized benefits to communities with a Community Wildfire Protection Plan (CWPP) to help reduce the wildfire hazard in the wildland-urban interface. This Act has resulted in the preparation of CWPPs by many communities. As of 2009, Colorado had more than 150 CWPPs, and approximately half were along the Front Range (FRFTP 2010).[1] Between 2004 and 2009, annual fuel reduction treatment acreage ranged from approximately 25,000 acres in 2005 to approximately 39,000 acres in 2009; overall during this period approximately 187,000 acres of forest land along the Front Range were treated.

The Harris Park CWPP covers about 30,000 acres southwest of Denver along U.S. Highway 285 between the communities of Conifer and Bailey. The Harris Park CWPP was created to identify and implement treatments that would help protect 22 wildland-urban interface communities that altogether contain approximately 5,000 residential structures. Through 2009, approximately 3,000 acres of forest land had been treated in the area covered by the Harris Park CWPP (FRFTP 2010). The project area, the Deer Creek Valley Ranchos (Deer Creek) Subdivision, is in the Harris Park CWPP. The Colorado State Forest Service (CSFS), the Platte Canyon Fire Protection District (PCFPD), and numerous private landowners are implementing projects within the CWPP to manage the insect epidemic and reduce the risk of wildfires.

The Deer Creek Subdivision (latitude: 39.2911; longitude: –105.4833) is near the Town of Bailey in Park County, Colorado (see Appendix A, Exhibits 1 and 2). The subdivision contains 1,700 acres, 314 residential structures, and an estimated 769 residents. The average residential structure has 1,840 square feet, and the average residential lot is approximately 5 acres (PCFPD 2010).

[1] The Front Range is a transition zone between the Rocky Mountains and the Great Plains. In Colorado, the Front Range is in the north-central portion of the state.

The fuels in the Deer Creek Subdivision are composed of a heavy mixed conifer overstory of Ponderosa pine, Douglas fir, and lodgepole pine with a grass/juniper understory. The Deer Creek Subdivision has an established Homeowners Association and a Fire Wise Committee. Because the subdivision is in a heavily forested, mountainous area, access and egress for emergency evacuations are limited.

In addition to the direct damage caused by large wildfires, the extreme heat damages the existing soils and the loss of vegetation from the wildfire can result in rapid runoff (flash floods) and damaging debris flows. Flash floods can contribute a significant amount of sediment and debris to receiving waters. Landslides and debris flows are common following wildfires that occur on steep slopes containing unstable soils. Frequently, the receiving waters of these flash floods are used as a potable water source by municipalities and the increased sediment and debris load can raise water treatment costs. The Deer Creek Subdivision is located within the South Platte River watershed, which is a major contributor of potable water to the Denver Metropolitan Area.

During the site reconnaissance on November 1, 2011, multiple washouts (areas of erosion) were observed along roads in the Deer Creek Subdivision, indication that soils in the project area are quite susceptible to water erosion.

The Federal Emergency Management Agency's (FEMA's) involvement in hazardous fire risk reduction projects triggers the requirements of the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. §§ 4321–4327), which include an evaluation by Federal agencies of the potential environmental impacts of proposed actions and a consideration of the impacts during the decision-making process. FEMA is preparing this Environmental Assessment (EA) in accordance with the Council on Environmental Quality's (CEQ's) NEPA implementing regulations (Title 40 CFR Parts 1500–1508) and FEMA's NEPA procedures (44 CFR Part 10.

1.2 PURPOSE AND NEED

The PCFPD, through the Colorado Division of Emergency Management, has requested FEMA Pre-Disaster Mitigation (PDM) Program funding to implement mitigation measures to reduce the wildfire hazard within the Deer Creek Subdivision. The purpose of FEMA's PDM Program is to substantially reduce the risk of future damage, hardship, loss, or suffering in communities from natural disasters, such as wildfire, by providing the affected communities with cost-share funds to reduce future losses.

The purpose of the Proposed Action is to reduce the wildfire hazard in the Deer Creek Subdivision. Fuel reduction in areas prone to wildfire reduce the severity of potential wildfires, increase the ability to control wildfires, and minimize potential damages to property, public safety, and the natural environment.

Based on the continuing potential risk of a catastrophic wildfire in the Deer Creek Subdivision, the PCFPD, the Deer Creek Homeowners Association, and the Deer Creek Homeowners Association Fire Wise Committee have identified the need to reduce fuels to provide additional protection for structures in the subdivision. Fuel reduction treatments would involve creating defensible space adjacent to existing structures and reducing the quantity of fuels in areas beyond the defensible space.

SECTION TWO ALTERNATIVES

2.1 ALTERNATIVES NOT RETAINED

The alternatives that were considered but determined to be nonviable include prescribed burning, clear cutting, and mechanical removal of vegetation.

2.1.1 Prescribed Burning

Prescribed burning, which involves setting a controlled fire in a predetermined area, is the most natural way to reduce the fire hazard and promote the growth of native vegetation. However, prescribed burning was determined to be a nonviable alternative because of concerns regarding the ability to control the fire considering the number of residential structures in the Deer Creek Subdivision and the need to reduce fuel loading in the immediate vicinity of these structures.

2.1.2 Clear Cutting

Clear cutting involves cutting and removing all or most trees in a stand at the same time, and it promotes the establishment and growth of species that are intolerant to shade. However, clear cutting changes the appearance of the treated area significantly by changing a mature forest with large trees to an area with no trees or very young trees. This change is generally not acceptable to homeowners in subdivisions in or near forested areas, because of the aesthetic impact. In addition, most clear cutting has an adverse impact on local wildlife because it removes food and cover and frequently contributes to increased soil erosion, which reduces the water quality of streams and other water bodies downstream of the treatment area. For these reasons, clear cutting was determined to be a nonviable alternative.

2.1.3 Mechanical Removal

Mechanical removal is performed using machines such as Hydro Axes, Bull Hogs, brush hogs, and other masticator-type equipment. The Hydro Axe is a large flail mower powered by hydraulics. A Bull Hog is a horizontal drum armed with numerous cutting teeth distributed around its outer edge. These machines are usually mounted on a large front-end loader or track vehicle and can cut trees up to 14 inches in diameter on slopes up to 30 percent. The Bull Hog can also be used on downed and dead fuels. Brush hogs are large rotary mowers that can masticate woody materials such as smaller shrubs, leaving small pieces of vegetation debris on the forest floor.

Mechanical removal was determined to be a nonviable alternative for the following reasons:

- Does not provide residents with usable firewood
- Leaves large pieces of slash,
- Creates negative visual impact for the residents
- Results in larger disturbance to the ecosystem
- Creates a heavier volume of ground fuels, which counteracts the goal of mitigation, and
- Masticators cannot be used safely within 200 feet of a structure

2.2 ALTERNATIVES CONSIDERED

As required by NEPA, the No Action Alternative was considered. Alternative 2, the Proposed Action, consists of creating a defensible space and reducing the fuel load by hand.

2.2.1 Alternative 1 – No Action

The No Action Alternative provides a baseline for comparison in determining the environmental effects of the Proposed Action. Under the No Action Alternative, PCFPD would not implement any vegetation management that would alter the vegetation patterns in the Deer Creek Subdivision. Current management activities, including the maintenance of existing facilities, enforcement of building codes, and public education/awareness programs would continue. The current methods of wildfire suppression would continue when and where needed. The existing fuel load within the project area and risk of wildfire would not be reduced.

2.2.2 Alternative 2 – Defensible Space / Thinning (Proposed Action)

Creation of defensible space and thinning are the vegetation management treatments that would occur with Alternative 2 (Proposed Action). Both treatments would be accomplished using chain saws and chippers.

Defensible space would be created around 314 residential structures in the Deer Creek Subdivision (see Appendix A, Exhibit 2). Creation of this space involves the removal of all woody vegetation within a 30-foot buffer around all residential structures.

Fuel reduction (thinning) would take place beyond the 30-foot buffer and involves increasing the overall conifer canopy spacing, with the goal of creating 10-foot spacing between all remaining canopy trees. The treatment would also aim to stimulate aspen growth by removing dead trees and increasing ground-level sunlight in areas of aspen growth. All standing dead trees would be felled, and all trees remaining after thinning would be delimbed to a height of 7 feet. Woody shrubs in the understory would be removed, chipped in-place, and spread on the ground. All usable wood would be left in place and cut into firewood that would be made available to the residents. Wood that is not suitable for firewood would be chipped in place and spread on the ground. No burning of any materials or dragging of trees would be involved under the Proposed Action. See Appendix A, Exhibit 3, for photographs of an area (similar to the project area) during and after this type of treatment.

Activities associated with creating a defensible space and thinning would be completed per Colorado's Best Management Practice (BMP) guidelines (Dennis 2006; CSFS 2010) to ensure a minimum risk of adverse impacts on physical, natural, socio-economic, cultural, and historic resources. These guidelines do not allow any treatment activities within 50 feet of a wetland or a stream.

Creating the defensible space and thinning would occur on approximately 700 acres or approximately 2.2 acres per structure. The expected treatment area represents about 40 percent of the 1,700 acres in the subdivision.

SECTION THREE AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section contains the results of the evaluation of the potential effects of the No Action Alternative and the Proposed Action on the human and natural environment.

3.1 PHYSICAL RESOURCES

The physical resources that were considered in this EA are geology and soils, air quality and climate control, and visual resources.

3.1.1 Affected Environment

3.1.1.1 Geology and Soils

The Deer Creek Subdivision has rugged topography and is located in the foothills of mountainous areas of the Front Range. The Front Range is a transition zone between the Rocky Mountains and the Great Plains. The Rocky Mountains extend from New Mexico to Canada and include a complex of igneous and metamorphic rock with younger sedimentary rock occurring along the margins of the mountains (USGS 2004).

Soils in the central Rocky Mountains (including soils in the project area) are very complex, having developed from glacial deposits, crystalline granite rocks, conglomerates, and sandstone. In the Rocky Mountains, soil orders occur in zones corresponding to vegetation zones. Granite weathers to gruss, which is coarse gravel and fine sand composed of potassium feldspar, quartz, weathered biotite, muscovite, and hornblende. This parent material provides weakly developed soils that are highly sensitive to both wind and water erosion (USFS 2009). Most of the soils, especially those at higher elevations, are quite fragile and subject to excessive erosion rates (from water) if the vegetative cover is removed.

3.1.1.2 Air Quality and Climate Change

The National Ambient Air Quality Standards established by the U.S. Environmental Protection Agency (EPA) define the allowable concentrations of air pollutants that may be reached, but not exceeded, in a given period to protect human health (primary standards) and welfare (secondary standards) with a reasonable margin of safety. These standards include maximum concentrations of ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, and particulate matter with a diameter of up to 2.5 microns ($PM_{2.5}$) or 10 microns (PM_{10}).

Wildfires can generate substantial amounts of fine particulate matter that can affect the health of people breathing the smoke-laden air. Fine particulates ($PM_{2.5}$) are of specific concern because of their potential to adversely affect human respiratory systems, especially in young children, the elderly, and those with lung disease or asthma. Wildfires can also generate substantial amounts of carbon monoxide near the fire, which can be of concern for frontline firefighters.

The Colorado Department of Public Health and Environment (CDPHE), Air Pollution Control Division, is the primary authority for protecting air quality in Colorado under the Colorado Air Pollution Prevention and Control Act. Park County is in attainment for all air quality standards,

including $PM_{2.5}$ and PM_{10} (EPA 2011). Existing concentrations of air pollutants are below the established standard(s), and limited increases in emissions are allowable.

The CEQ has recently released guidance on how Federal agencies should consider climate change in their decisions. Guidance for NEPA documents suggests that quantitative analysis should be done if an action would release more than 25,000 metric tons of greenhouse gases per year (CEQ 2010).

3.1.1.3 Visual Resources

The project and surrounding areas provide a scenic setting for residents of the Deer Creek Subdivision. Existing visual disturbances include roads and private residences in and near the project area and vegetation management activities on adjacent National Forest land. Generally, the homeowners in the subdivision want to maintain the scenic quality of the project area (PCFPD 2010), which contributes to the value of their properties. The existing visual quality of the project area is a function in part of the past and present vegetation management conducted in and around the project area.

3.1.2 Environmental Consequences

3.1.2.1 Alternative 1 – No Action

The No Action Alternative would have no effect on geology or soils in the project area, because no disturbance from vegetation management activities would occur.

Air Quality and Climate Change

The No Action Alternative would not include any vegetation management. Without vegetation management, fuel loads in the project area would continue to accumulate and the potential for wildfire, including catastrophic wildfires, would increase. Large fires would result in high emission rates of air pollutants from smoke, especially high concentrations of particulate matter. If a wildfire occurred during unfavorable meteorological conditions (e.g., gusting winds from a thunderstorm), as is the often the case, the meteorological conditions would compound the adverse effects on air quality.

If no wildfires occurred in the project area, the No Action Alternative would have no effect on the emission of greenhouses gases. If a wildfire occurred over a large area, under the No Action Alternative large quantities of greenhouses gases could be released and adversely affect air quality in the area. It is unlikely that wildfires, even encompassing several thousand acres would affect global climate change.

Visual Resources

If vegetation management is not implemented, existing forest conditions in the project area would likely deteriorate over time. As the health of the trees in the project area deteriorates, the risk of additional disease outbreaks, insect infestations, and catastrophic wildfires would increase. Visual quality would be adversely affected as vegetation quality deteriorates, and would be substantially impaired if a catastrophic wildfire occurs.

3.1.2.2 Alternative 2 – Defensible Space / Thinning (Proposed Action) Geology and Soils

The Proposed Action would not adversely affect geology because project activities would not extend deep enough to disturb geologic resources.

Under the Proposed Action, soil disturbance would be minimal because only hand clearing and chipping would be involved. Post-project impacts on soils are difficult to predict because the impacts depend on whether the project area experiences a wildfire. If the project area does not experience a wildfire, the Proposed Action would have no impact on soils. If a wildfire occurs and the advancement of the wildfire is slowed or stalled by the vegetation management to the extent that firefighters are able to contain the fire, the proposed project would have a significant beneficial effect on soils in the areas that would have burned if the vegetation management had not occurred. These beneficial effects would not be limited to areas on which vegetation management activities occurred but would include adjacent areas that otherwise would have burned. Although the exact area of benefit cannot be quantified, the size of recent wildfires in the area suggests that several thousand acres could benefit. The unburned areas would retain existing vegetation and during future heavy precipitation events would not experience increased runoff and associated soil erosion, which would adversely affect soils.

Air Quality and Climate Change

Under the Proposed Action, machinery would generate low levels of particulate matter emissions and low levels of vehicle exhaust emissions during the removal of vegetation. These emissions would be a temporary minor impact on air quality in the local area.

The Proposed Action has the potential for a long-term beneficial effect on air quality in the project area by reducing the risk of a wildfire and the associated emission of greenhouse gases. The Proposed Action is not anticipated to affect global climate change.

Visual Resources

The magnitude and/or type of visual impact from the Proposed Action would depend on the viewshed of the residence(s). A viewshed with an accumulation of dead, diseased, or downed trees is generally seen as negative, and vegetation management would have both short- and long- term beneficial effects. In a viewshed that includes healthier forested areas, vegetation management could create a high contrast between treated and non-treated area. The contrast would represent a negative visual impact. Additionally, thinning trees would increase visibility in forested areas, which could reduce privacy for residents adjacent to the treated areas. Because the project would be conducted on a "willing participant basis," homeowners concerned about privacy could choose not to participate in the program.

Removing trees and understory by hand would have a direct short-term (temporary) adverse effect on visual resources associated with the accumulation of downed trees and slash until the useable wood was removed by the property owner and the slash chipped. Once the downed trees and slash were disposed of, the treated areas would be more open and park-like and would appear natural to most observers. If the vegetation management prevented a catastrophic fire, the Proposed Action would have a significant long-term beneficial effect on visual resources by preventing the loss of

vegetation from a wildfire and helping to maintain the visual or scenic quality of the area and surrounding viewsheds.

3.2 WATER RESOURCES

The water resources considered in this EA are surface water, groundwater, floodplains, and wetlands.

3.2.1 Affected Environment

3.2.1.1 Surface Water

The project area is in the South Platte watershed, which contains approximately 67 percent of Colorado's population and provides more than 80 percent of the water for the City of Denver. Water storage reservoirs in this watershed were constructed to store water during high flow periods. The stored water is released for domestic use when the demand for water exceeds the amount of water that can be supplied by the streams. Streams located downstream of the project area include Deer Creek, North Fork of the South Platte River, and South Platte River. Both Stronita Springs Reservoir and Chatfield Reservoir are located on the South Platte River downstream of the confluence of the North Fork of the South Platte River.

Water quality in the streams and reservoirs in the South Platte watershed is influenced by the natural characteristics of the watershed and by past and present activities in the watershed. Water quality parameters that can affect the beneficial uses of water include sediment, temperature, and heavy metals. Sediment levels are normally measured in terms of total suspended solids (TSS). High levels of TSS can adversely affect conveyance, diversion, and the treatment that is required prior to the water's use as potable supply. Increased erosion is frequently the source of high TSS levels in a stream, which is normally associated with soil disturbance upstream in the watershed. Soil disturbances can be caused by natural occurrences (e.g., floods, landslides, and wildfires) or man-induced circumstances (e.g., road construction, mining, timber harvest, and urban development).

3.2.1.2 Groundwater

The principal aquifer that provides potable water to rural residents near Bailey, including the project area is a fractured-rock aquifer that contains water in the fractures of the granitic and metamorphic rock layer that occurs throughout this area (Brendle 2005). Domestic wells in the project area range from approximately 85 to 750 feet in depth and yields range from 1 to 60 gallons per minute (Brendle 2005). There are no natural occurring areas of groundwater discharge within the project area.

3.2.1.3 Floodplains

Executive Order (EO) 11988, Floodplain Management, requires Federal agencies to take actions to minimize occupancy of and modifications to floodplains. FEMA regulation 44 CFR Part 9, Floodplain Management and Protection of Wetlands, sets forth the policy, procedures, and responsibilities to implement and enforce EO 11988 and prohibits FEMA from funding construction in the 100-year floodplain (or 500-year floodplain for a critical facility) unless no

practicable alternatives are available. To satisfy the requirements of EO 11988 and 44 CFR Part 9, FEMA employs an Eight-Step Decision-Making Process to evaluate projects that have potential to affect a floodplain.

FEMA's Flood Insurance Rate Map Panel 08093C0275C, effective December 18, 2009 indicates there are no designated floodplains in the project area.

3.2.1.4 Wetlands (Executive Order 11990)

EO 11990, Protection of Wetlands, requires Federal agencies to take action to minimize the loss of wetlands. Activities disturbing jurisdictional wetlands require a permit from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act.

The U.S. Fish and Wildlife Service (USFWS) Wetlands Mapper (USFWS 2011b) indicates an isolated semi-permanently flooded palustrine wetland located within the project area southeast of the intersection of Hangman Road and Vigalante Avenue.

FEMA regulation 44 CFR Part 9, Floodplain Management and Protection of Wetlands, sets forth the policy, procedures, and responsibilities to implement and enforce EO 11990 and prohibits Federal agencies from funding construction in a wetland unless no practicable alternatives are available. To satisfy the intent of EO 11990 and 44 CFR Part 9, FEMA employs an Eight-Step Decision-Making Process to evaluate projects that have potential to affect a wetland.

3.2.2 Environmental Consequences

3.2.2.1 Alternative 1 – No Action Surface Water

With the No Action Alternative, no vegetation management activities would occur and current fire suppression activities would continue. Fuel loads in the Deer Creek Subdivision would continue to increase. High fuel loads increase the risk of an uncontrolled catastrophic wildfire. If such a fire occurred in the project area, the fire would destroy most of the existing vegetation in the burn area. Without the existing vegetation, the burn area would be much more susceptible to soil erosion during future precipitation events. Flash flooding after a catastrophic wildfire contributes heavy loads of sediment and debris to streams in the affected watershed. Historically, increased loading of sediment and debris has increased water treatment costs for water suppliers in affected watersheds. The accelerated erosion of soils in a watershed can also result in damage to other facilities and structures along affected streams including bridges, roads, campgrounds, and residences. Presently, the Denver Water Board is in the process of dredging Stronia Springs Reservoir on the South Platte River to remove approximately 625,000 cubic yards of sediment that has built up following upstream forest fires and intense rains. Dredging was initiated in August 2010 and will continue into 2012 (Denver Water Board 2011).

The No Action Alternative would not reduce the risk of a catastrophic wildfire in the project area. If such a fire occurred, the resulting increase in sediment and debris loading of streams downgradient from the burn area could contribute to a significant degradation of water quality in the affected streams and could adversely affect facilities and structures along the streams.

Depending on the amount of sediment carried into the affected streams, it could require several years for the streams to return to conditions that existed prior to the fire.

The No Action Alternative would have no effect on water quantity.

Groundwater

The No Action Alternative does not have the potential to affect local groundwater resources.

Floodplains

The No Action Alternative does not have the potential to adversely affect floodplains.

Wetlands

The No Action Alternative does not have the potential to adversely affect wetlands.

3.2.2.2 Alternative 2 – Defensible Space / Thinning (Proposed Action) Surface Water

The proposed project does not include any storage of or alterations to stream flows that would affect the quantity of water in streams downstream from the project area.

EPA's National Pollutant Discharge Elimination System (NPDES) Program requires all construction activities that disturb more than 1 acre to receive a permit. The Water Quality Control Division of the CDPHE administers the NPDES Program in Colorado. The vegetation management activities that would occur with the Proposed Action are considered nonpoint source and are exempt from the NPDES permitting process (CDPHE 2011). Therefore, the project would not require a NPDES permit.

Potential impacts on surface water from the Proposed Action are difficult to predict precisely because most of the potential effects depend on whether the Proposed Action prevents a catastrophic fire. If such a fire is not prevented, the Proposed Action would have no effect on water quality. However, if the treatment prevents a catastrophic fire, the Proposed Action would prevent a significant degradation of the water quality of the receiving streams. Retention of the existing vegetation would also prevent an increase in runoff rates and erosion. The risk of damage to facilities and structures along the receiving streams would not increase and water treatment costs to water supplies would not change.

The Proposed Action is expected to have a neutral to beneficial effect on the water quality of receiving waters by reducing the chance of a catastrophic wildfire. The Proposed Action would prevent an increase in runoff and erosion, which would be expected if a catastrophic wildfire did occur in the project area.

Groundwater

The Proposed Action does not have the potential to affect local groundwater resources.

Floodplains

No designated floodplains are present within the project area and no designated floodplains would be otherwise affected by the Proposed Action; therefore, the Eight-Step Decision-Making Process for Floodplains is not required for this project.

Wetlands

Vegetation management BMPs require a 50-foot buffer around wetlands. Therefore, no project activities would occur within a wetland. No wetlands would be affected by the Proposed Action; therefore, the Eight-Step Decision-Making Process is not required for this project.

3.3 BIOLOGICAL RESOURCES

3.3.1 Affected Environment

The biological resources that were considered in this EA are vegetation, terrestrial wildlife, aquatic wildlife, and threatened and endangered species.

The project area is in the Southern Rockies Crystalline Mid-Elevation Forest Ecoregion (Chapman et al. 2006). The Southern Rockies are composed of high elevation, steep, rugged mountains where vegetation follows a pattern of elevational banding. This ecoregion is located primarily in the 7,000- to 9,000-foot elevation range on crystalline and metamorphic substrates. The typical geomorphology includes partially glaciated mountain ridges, slopes, and outwash fans and moderate-to high-gradient perennial streams with boulder, cobble, and bedrock substrates (Chapman et al. 2006). The native vegetation includes aspen, Ponderosa pine, Douglas-fir, lodgepole pine, limber pine forests, and areas of mountain meadows. A diverse understory of shrubs, grasses, and wildflowers occurs in the forests.

The project area is a residential subdivision with large lots (averaging approximately 5 acres each) within a forested area.

3.3.1.1 Vegetation

As discussed in Section 1.1, the Deer Creek Subdivision is in a mountainous area that is heavily forested with a mixed conifer overstory. Ponderosa pine, Douglas fir, and lodgepole pine are the primary components of the overstory, while mountain juniper and grasses compose the understory. Heavy fuel conditions presently exist in and around the Deer Creek Subdivision.

Factors that have contributed to fuel loading include decades of fire suppression, sustained drought, and increasing insect, disease, and invasive plant infestations. These factors have resulted in an increase in the number of dead trees in the forest, which greatly elevates the potential for a catastrophic wildfire in the area. Typical vegetation in the project area is shown in Appendix A, Exhibit 4.

3.3.1.2 Terrestrial Wildlife

The project area and surrounding areas provide habitat for a variety of wildlife species, primarily in the forested areas. Wildlife species are an important component of the project area and the region because they contribute to recreational opportunities, including hunting, fishing, bird watching, and are a component of the outdoor environment that residents enjoy. Wildlife species frequently occurring in the project area include big game species such as mule deer and elk; passerine birds such as mountain bluebirds, warblers, and robins; various woodpeckers; raptors (various hawks and eagles); an occasional bear or bobcat; and depending on climate and elevation, a limited number of amphibians and reptiles.

The project area consists of a residential development with large lots within a forested area. Because of the presence of houses and roadways, the project area provides poor quality wildlife habitat.

The Migratory Bird Treaty Act of 1918 (MBTA) (16 U.S.C. §§ 703–711) prohibits the taking of any migratory birds, their parts, nests, or eggs except as permitted by regulations. The USFWS consults on issues related to migratory birds.

3.3.1.3 Aquatic Wildlife

No fish or other aquatic wildlife are present in the project area because there are no streams or reservoirs. However, runoff from the project area flows into streams and reservoirs lower in the watershed. These water bodies contain viable populations of aquatic species, including game fish. The quality of the water being conveyed in these streams can have both a direct and indirect effect on the aquatic resources downstream in the watershed.

3.3.1.4 Threatened and Endangered Species and Critical Habitat

Section 7 of the Endangered Species Act of 1973 (16 U.S.C. § 1536) requires Federal agencies to ensure that actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of threatened, endangered, or proposed species or cause destruction or adverse modification of their critical habitats.

The USFWS lists 13 threatened or endangered species with the potential to occur in Park County or have the potential to be affected by projects in Park County (USFWS 2011a) (Table 1).

Colorado has 16 State-listed threatened and endangered animal species that are not also federally listed (CDOW 2011b). Of these 16 species, only the boreal toad, burrowing owl, and wolverine have the potential to occur in Park County (CDOW 2011a). The habitat requirements for these species are summarized in Table 1. Colorado has no State-level recognition or protection for plant species (Colorado State University 2009).

Table 1: Federal Species with the Potential to Occur in or be Affected by Projects in Park County

Common Name	Scientific Name	Federal Status	State Status	Habitat Preference	Habitat Present in Project Area?	Determination
Canada lynx	*Lynx canadensis*	T	E	Dense subalpine forest, willow corridors along mountain streams, avalanche chutes. Occurs at elevations between 8,000 and 14,000 feet. CDOW indicates species may occur in Park County but is extremely rare.	Y	May affect, not likely to adversely affect.
Preble's meadow jumping mouse	*Zapus hudsonius preblei*	T	T	Wet meadows and well-developed riparian vegetation near a water source. Dense combinations of grasses, forbs, and shrubs.	N	No Effect.
Mexican spotted owl	*Strix occidentalis lucida*	T	T	Old growth mature forest with complex structural components and high canopy closure. Canyons with riparian or conifer communities.	N	No Effect.
Uncompahgre fritillary butterfly	*Boloria acrocnema*	E	NA	Large patches of snow willow above 12,000 feet elevation.	N	No Effect.
Pawnee montane skipper	*Hesperia leonardus montana*	T	NA	Dry, open ponderosa pine woodlands with sparse vegetation with elevations between 6,000 and 7,500 feet.	N	No Effect.
Penland alpine fen mustard	*Eutrema penlandii*	T	NA	High altitude fens fed by perennial snowbeds at elevations between 11,900 and 13,280 feet.	N	No Effect.
Ute ladies'-tresses	*Spiranthes diluvialis*	T	NA	Riparian edges, gravel bars, old oxbows, high flow channels, and moist wet meadows along perennial streams at elevations between 4,300 and 6,850 feet.	N	No Effect.

Common Name	Scientific Name	Federal Status	State Status	Habitat Preference	Habitat Present in Project Area?	Determination
Colorado butterfly plant	*Gaura neomexicana var. coloradensis*	T	NA	Found at elevations between 5,000 and 6,400 feet in sub-irrigated, alluvial soils in floodplains and drainage bottoms.	N	No Effect.
Greenback cutthroat trout	*Oncorhynchus clarki ssp. stomias*	T		Cold water streams and cold water lakes, normally high in the watershed. Requires adequate stream spawning habitat in the spring and clear, cold well-oxygenated water.	N	No Effect.
Whooping crane	*Grus americana*	E		Mid –river sandbars and wet meadows along Platte River in Nebraska.	N	No Effect.
Least tern	*Sterna antillarum*	E		Bare sand and gravel bars along rivers and waste sand piles along several rivers in Nebraska.	N	No Effect.
Piping plover	*Charadrius melodus*	T		Bare sand and gravel bars along rivers and waste sand piles along several rivers in Nebraska.	N	No Effect.
Pallid sturgeon	*Scaphirhynchus albus*	E		Large turbid rivers including the lower Platte River in Nebraska.	N	No Effect.

Common Name	Scientific Name	Federal Status	State Status	Habitat Preference	Habitat Present in Project Area?	Determination
Western prairie fringed orchid	*Platanthera praeclara*	T	NA	Wet meadows associated with native prairies and wet riparian areas along Platte River in Nebraska.	N	No Effect.
Boreal toad	*Bufo borea*	NA	E	Found at elevations between 8,500 and 11,500 feet msl in damp areas in the vicinity of water.	N	No Effect.
Burrowing owl	*Athene cuniculaia*	NA	T	Grasslands in or near prairie dog towns.	N	No Effect.
Wolverine	*Ulo gulo*	NA	E	Boreal forest, tundra areas, and marshy areas.	N	No Effect.

Sources: CDOW (2011a); USFWS (2011a)

3.3.2 Environmental Consequences

3.3.2.1 Alternative 1 – No Action Vegetation

Under the No Action Alternative, no vegetation management would occur and there would be no direct impact on vegetation within the project area. However, if a wildfire burned across the project area, the fire would result in a significant change in vegetation within the burn area. Most of the existing trees and shrubs could be lost in a wildfire. Initially, the burn areas would become vegetated with early invader species (native and exotic). Because the project area is a residential subdivision, property owners would likely replant trees following a wildfire. Outside the project area, it could take in excess of 35 years to return the burn areas to sapling/pole stands of trees unless a major revegetation effort was undertaken. A substantially longer period would be required for the trees to reach maturity.

Terrestrial Wildlife

With the No Action Alternative, no vegetation management would occur and there would be no direct impact on wildlife or wildlife habitat within the project area. However, if a wildfire burned the project area, the fire could result in significant adverse impacts on wildlife populations within the burn area. Individuals could be lost in the fire, and sizeable quantities of wildlife habitat could also be lost. Many of the existing trees and shrubs could be lost and without major revegetation, it would take more than 35 years to return the burn area to sapling/pole stands of trees. . A substantially longer period would be required for the trees to reach maturity.

Aquatic Wildlife

No aquatic habitat or species occur within the project area and the No Action Alternative would have no direct effect on these resources.

However, if the project area burned in a wildfire, the fire could result in significant adverse impacts on aquatic resources and their habitats that are located in the watershed downgradient of the burned area. Subsequent precipitation events could result in large quantities of sediment and debris being transported and deposited into downstream habitats, resulting in the loss of individuals and desirable aquatic habitat. Debris could also create barriers that would impede the movement of fish within a stream. Without major revegetation efforts, it would take several years to restore desirable aquatic habitat in the affected streams.

Threatened and Endangered Species and Critical Habitat

Although the potential exists that a wandering lynx may on occasion be present in the project area, the project area does not contain habitat that is routinely used by Federal or State-listed species. As discussed in Section 3.3.1, if a wildfire burned across the project area, the result would be a significant change in vegetation within the burn area. Even though both the Colorado butterfly plant and the Ute ladies'-tresses frequently occur within areas that have been disturbed, the project area does not contain the type of habitat used by either species.

The No Action Alternative would not adversely affect any Federal or State-listed threatened or endangered species or their habitat.

3.3.2.2 Alternative 2 – Defensible Space / Thinning (Proposed Action) Vegetation

The Proposed Action includes the creation of defensible space and thinning around 314 residential structures. The creation of defensible space would involve removing all woody vegetation within 30 feet of the structures and would include a total of approximately 60 acres (approximately 0.2 acre per house). Thinning would extend from the created defensible space and would average approximately 2 acres per residence. The band of thinned vegetation would be approximately 120 feet wide. Within the band, the focus of the treatment would be to reduce the quantity of fuels and eliminate woody material that would facilitate the movement of a fire from the ground to the canopy of the forest. The proposed thinning activities would open the canopy of the existing stands of trees, which would hinder the advancement of a wildfire. Additionally, the opening of the stands would have a beneficial effect on the spread of aspens and understory vegetation.

The Proposed Action would have a long-term beneficial impact on vegetation within the project area.

Terrestrial Wildlife

Implementation of the Proposed Action would have little direct effect on local wildlife as the proposed activities would only cause individuals to move to adjacent areas during the clearing and thinning activities. Although the vegetation management proposed under the Proposed Action would focus on reducing fuels, the treatments would result in changes in the vegetation patterns and composition that would have indirect favorable attributes for many terrestrial wildlife species. Opening the stands (reducing tree density) generally results in more usable space for mule deer and elk and increases the diversification and productivity of the forest's understory including an increased vigor of grasses, forbs, and shrubs in the treated areas. Where aspen stands presently exist, the treatments would provide favorable conditions for expansion of the stands. Young aspens are the favored forage of elk. Overall, the treatment of 700 acres in the project area over a 3-year period would result in long-term beneficial impacts on local wildlife populations. Project activities involving tree removal would need to be completed outside of the nesting season for all migratory birds for compliance with the MBTA.

Aquatic Wildlife

No streams or reservoirs are in the project area; therefore, the Proposed Action would have no direct effect on aquatic resources.

The indirect effects on aquatic resources downstream from the project areas are difficult to quantify because most of the potential effects would depend on whether the Proposed Action prevents a catastrophic wildfire. If a wildfire did occur, the Proposed Action would have little if any effect on downstream aquatic resources. However, if the treatment prevented a catastrophic wildfire, the alternative would have prevented a significant degradation of the soil stability in the affected watershed. The prevention of an increase in sediment and debris in the affected streams represents a beneficial effect of the Proposed Action on aquatic resources.

The Proposed Action is not expected to have an adverse impact on aquatic resources during the vegetation management activities. Once the treatments have been implemented, the Proposed Action is expected to have a neutral or beneficial effect on aquatic resources.

Threatened and Endangered Species and Critical Habitat

Federal-Listed Species

Table 1 contains a list of the federally listed species with the potential to occur in Park County or could be affected by activities in Park County, habitat preferences, and FEMA determination for these species.

The whooping crane, least tern, piping plover, pallid sturgeon, and western prairie fringed orchid do not occur in Park County, Colorado, but could be affected by flow depletions in the Platte River basin, which includes the South Platte watershed. Because the Proposed Action would have no effect on flows on any stream or river in the Platte River basin, FEMA has determined that the Proposed Action would have No Effect on these five species.

The Canada lynx is found in dense subalpine forest and willow-choked corridors along mountain streams and avalanche chutes, the home of its favored prey species, the snowshoe hare (USFWS 2011a). Canada lynx generally avoid human contact. The CDOW (2011b) indicates that the Canada lynx appears to be restricted to extremely isolated areas of the mountains in the central portion of the state and that they generally occur at elevations between 8,000 and 14,000 feet.

The project area is a developed residential subdivision with approximately 800 residents. Therefore, use of the project area by Canada lynx is unlikely and any occurrence would likely to be transient. Based on the low potential of occurrence in the project area, FEMA has made a determination of May Affect Not Likely to Adversely Affect for the Canada lynx.

The distribution range of the Preble's meadow jumping mouse includes the northern Front Range of Colorado and southeastern Wyoming. Although the USFWS lists the Preble's meadow jumping mouse as having the potential to occur in Park County (USFWS 2011a), the CDOW (2011a) does not list Park County as a county where the mouse is known to occur. Typical habitat for the mouse is wet meadows and well-developed riparian vegetation in the vicinity of a water source. Generally, their preferred habitat includes a relatively dense combination of grasses, forbs, and shrubs. The project area does not contain any wet meadow areas or habitat used by the Preble's meadow jumping mouse; therefore, FEMA has determined that the proposed project activities would have No Effect on this species.

The Mexican spotted owl prefers old growth or mature forests with complex structural components (uneven aged stands, high canopy closure, multi-storied levels, and high tree density). Canyons with riparian or conifer communities also represent important habitat for the spotted owl. The type of habitat used by the Mexican spotted owl is not present within the project area. One of the identified threats to Mexican spotted owls is a catastrophic wildfire (USFWS 2001). Therefore, if the Proposed Action limited the spread of a wildfire, it could be beneficial to Mexican spotted owls. FEMA has determined that the proposed project would have No Effect on the Mexican spotted owl.

Greenback cutthroat trout inhabit cold water streams and cold water lakes normally high in the watershed (CDOW 2011b). Their habitat requirements include adequate stream spawning habitat present during the spring and clear, cold, well-oxygenated water (USFWS 2011a). These habitats

are not found in or downstream of the project area. Therefore, FEMA has determined that the Proposed Action would have No Effect on the greenback cutthroat trout.

The uncompahgre fritillary butterfly is associated with large patches of snow willow above 12,000 feet (USFWS 2011a). The project area is at approximately 8,600 feet, well below this elevation, and does not contain suitable habitat for this species. Therefore, FEMA has determined that the Proposed Action would have No Effect on the uncompahgre fritillary butterfly.

The Pawnee montane skipper tends to inhabit dry, open Ponderosa pine woodlands with sparse vegetation between elevations of 6,000 and 7,500 feet. Only 38 square miles of known habitat exists worldwide, and it is located entirely within the South Fork drainage of the South Platte River (in parts of Douglas, Teller, Park, and Jefferson Counties; USFW 2011a). Host plants include blue grama grass (used by its caterpillar) and prairie gay feather (a primary nectar source for the butterfly). The project is at a higher elevation than that used by the skipper, and suitable habitat is not present in the project area. Based on these factors, FEMA has determined that the Proposed Action would have No Effect on the Pawnee montane skipper.

The Penland alpine fen mustard is found in high altitude fens fed by perennial snowbeds at elevations ranging from 11,900 to 13,280 feet (USFWS 2011a). The project area is located at a much lower elevation and does not contain suitable habitat for this species. Therefore, FEMA has determined that the Proposed Action would have No Effect on the Penland alpine fen mustard.

The Ute ladies'-tresses is a perennial terrestrial orchid that occurs along riparian edges, gravel bars, old oxbows, high flow channels, and moist wet meadows along perennial streams at elevations between 4,300 and 6,850 feet (USFWS 2011a). The project area is at an elevation higher than the preferred elevation for the Ute ladies'-tresses and does not include any perennial streams or wet meadows. Therefore, FEMA has determined that the Proposed Action would have No Effect on the Ute ladies'-tresses.

The Colorado butterfly plant occurs at elevations between 5,000 and 6,400 feet on sub-irrigated, alluvial soils in floodplains and drainage bottoms. The species requires early- to mid-succession riparian habitat that is void of dense or overgrown vegetation (USFWS 2011a). The project area does not contain suitable habitat and is at higher elevation than the elevation occupied by the Colorado butterfly plant. Based on these factors, FEMA has determined that the proposed activities would have No Effect on the Colorado butterfly plant.

In summary, FEMA has made the determinations listed in Table 1 regarding federally listed species that have the potential to occur in Park County. In a letter dated January 27, 2012 (Appendix B), the USFWS concurred with FEMA's determinations.

State-Listed Threatened and Endangered Species

State-listed species for Park County that are not also federally listed include the boreal toad, the burrowing owl, and the wolverine. As shown in Table 1, none of the habitats used by State- listed species with the potential to occur in Park County are present in the project area.

Therefore, no State-listed threatened or endangered species have the potential to occur in the project area or be affected by project activities.

3.4 CULTURAL RESOURCES

The National Historic Preservation Act of 1966 (NHPA) (16 U.S.C. 470 et seq.) constitutes the primary Federal policy protecting historic properties and promoting historic preservation, in cooperation with States, tribal governments, local governments, and other consulting parties. The NHPA established the National Register of Historic Places (NRHP) and designated the State Historic Preservation Officer (SHPO) as the entity responsible for administering State-level programs. The NHPA also created the Advisory Council on Historic Preservation, the Federal agency responsible for overseeing the process described in Section 106 of the NHPA (16 U.S.C. § 470f) and for providing commentary on Federal activities, programs, and policies that affect historic properties.

Section 106 of the NHPA and its implementing regulations (36 CFR Part 800) contain the procedures for Federal agencies to follow to take into account the effect of their actions on historic properties. The Section 106 process applies to any Federal undertaking that has the potential to affect historic properties, defined at 36 CFR § 800.16(l)(1) as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places." Although buildings and archaeological sites are most readily recognizable as historic properties, the NRHP contains a diverse range of resources that includes roads, landscapes, and vehicles. Under Section 106, Federal agencies are responsible for identifying historic properties in the Area of Potential Effects (APE) for an undertaking; assessing the effects of the undertaking on those historic properties, if present; and considering ways to avoid, minimize, or mitigate any adverse effects. Because Section 106 is a process by which the Federal Government assesses the effects of its undertakings on historic properties, it is the primary regulatory framework that is used in the NEPA process to determine impacts on cultural resources.

3.4.1 Affected Environment

Gordon C. Tucker, Jr., a URS archaeologist, qualified under the Secretary of the Interior's Professional Qualification Standards for archaeology (36 CFR Part 61), conducted an assessment of the proposed action's potential to affect historic properties in the APE. A records search of COMPASS, Colorado's On-line Cultural Resource Database, revealed that two surveys have been conducted near the project area. In 1987, archaeologists with the Pike San Isabel National Forest conducted a survey of the Tomahawk Timber Sale (Riddle et al. 1987). In 2001, Front Range Research Associates completed a reconnaissance survey of Park County (Simmons and Simmons 2001). These surveys resulted in the documentation of three sites in the vicinity of the project area: two historic ranches (aboveground resource) and a historic road (archaeological resource).

FEMA has determined the APE for the Proposed Action encompasses the areas of treatment with a 30-foot buffer for a total of 700 acres of private property that will be impacted by these activities, as shown in Appendix A, Exhibit 5. The proposed project is located well within the upland eastern portions of the Rocky Mountains at an approximate elevation of 8,700 feet above mean sea level. The Deer Creek subdivision is located within the Platte Canyon area of northeastern Park County, a low valley bounded on the north by Elk Creek and to the south by Deer Creek. Several first- and second-order streams traverse the project area west to east feeding Elk Creek and Deer Creek, before joining the North Fork of the South Platte River to the east.

The project area is a heavily forested, mountainous area, which is crisscrossed by numerous paved and unpaved roads.

Human settlement in Colorado including the Front Range of Colorado is documented from the earliest known inhabitants (Paleo-Indian) to the present inhabitants. Prehistoric inhabitants were hunters and gatherers who used the foothills and mountainous areas on a seasonal basis. Cheyenne, Arapaho, and Ute are the Native American populations with traditional claims for the area where the project area is located (USFS 2005).

Centrally located in Colorado, Park County was named after the large geographic region known as South Park, which was named by early fur traders and trappers in the area. Park County is one of the original Colorado counties and only minor changes have been made to its 1861 borders. Historical use of the area by Euro-Americans occurred initially from 1830 to 1850 when trappers and traders traveled across the general area. The discovery of gold in Colorado in 1858 resulted in a heavy influx of Euro-Americans into this area. To support the miners' transportation needs, several transportation trails were established that crossed or were in the vicinity of the project area. Wagon and stagecoach roads were followed by the construction and operation of railroad lines to important delivery areas in the state. Settlement of the area began in earnest in the 1870s. The early settlers established farms and ranches. Mining industries and the railroad opened the county to a small influx of people in the late nineteenth century. The Platte Canyon Area was timber-harvested for charcoal in support of late nineteenth century smelting and furnaces of Denver and Leadville. Industrial decline turned into seasonal suburban escape, tourism, and recreation by the twentieth century. During the last several decades, modern highways have replaced the rail lines with much of the freight being hauled by trucks.

The likelihood of archaeological resources in the project area is considered moderate and limited to low density artifact scatters, temporary camps, and resource (floral, faunal, and toolstone) procurement areas. Historic resources that may be found in the project area include sites associated with transportation, mining, lumbering, and buildings associated with early Euro- American settlement in the area.

3.4.1.1 Archaeological Resources

The general potential for previously unidentified archaeological historic properties to be located within the APE is moderate. No NRHP-listed or NRHP-eligible archaeological sites have been identified within close proximity to the Deer Creek subdivision. As mentioned above, a search of COMPASS for the 6th Prime Meridian, Township 6 South, Range 72 West, Sections 25, 28, 29, 30, 31, 32, and 33, and Township 6 South, Range 73 West, Sections 25 and 36, reveals that no archaeological sites have been identified or recorded in proximity to the project area. Two cultural resources surveys were conducted near the project area in 1987 and 2001. Despite the modest intensity of these surveys, however, no archaeological resources were identified within the APE for this project. This low site density could be attributable to the rugged terrain, which would have limited occupations and activities to certain areas, and modern development, which most likely used the same areas as aboriginal and historic populations.

Of the 18 historic properties listed in the NRHP in Park County, one is an archaeological site: the Boreas Railroad Station (5PA585) (Denver, South Park & Pacific Railroad), a historic-period

industrial property located well southwest of the APE. Given the history of the project area, however, and the presence of buildings over 50 years of age in the APE, previously unidentified historic-period archaeological resources may be present.

The National Archaeological Database has over 1,500 records for the county, of which 300 are prehistoric sites. Previously unidentified prehistoric resources may be located within the APE, including seasonal camps, temporary habitations, pit houses, rock or boulder shelters, roasting pits, milling stations, lithic scatters (including flaked and ground stone artifacts), middens, or fire-altered rock concentrations.

3.4.1.2 Above-ground Resources

No NRHP-listed properties are found in the project area. Desktop resources revealed that the Deer Creek subdivision consists of residential dwellings dating primarily to the last quarter of the twentieth century. The single-family dwellings vary in construction method and style, but are primarily rustic wood-frame or log cabins appropriate to the rural, forested environment.

Desktop investigations also reveal that a number of residential buildings more than 50 years of age in the project area appear to have been modified and are not likely to be eligible for listing in the NRHP. Additionally, considering the varied dates of construction and the lack of visual continuity among residential resources, the likelihood of a historic district being present in the project area is low.

As noted above, 18 NRHP-listed properties are found in Park County. Above-ground resource types include bridges, hotels, schools, residential and public buildings, and at least one historic district. The nearest NRHP-listed property is Glenisle, also known as Glen-Isle on the Platte and Glen Isle Resort, a hotel built at the turn of the twentieth century, located approximately 5.5 miles south of the project area.

As discussed above, according to COMPASS, three previously recorded above-ground resources are located in the vicinity of the proposed project.

The Channing F. Sweet Ranch, also known as the Pine Shadows Ranch, Lydia Ranch, 2 Spring Ranch, and Two Spring Ranch (5PA3365), is located at the extreme western edge of the project area near the intersection of Park County Road (CR) 43 and Wells Fargo Court. Seven buildings have been documented on the ranch, including two residential dwellings, a barn, a spring house, a chicken house, and two outbuildings. The barn and one of the dwellings date to the 1890s, while the other dwelling dates to the 1940s. According to COMPASS, the site was assessed as field eligible for listing in the NRHP in 2005, but no official determination has been made.

The Elk Falls Ranch (5PA1649) is a historic-period single dwelling with barn, loafing shed, and loading chute. It is located more than 3 miles east of the project area and outside the APE. Its NRHP eligibility has not been evaluated.

Crossing east-west through the APE is the Clifford Cutoff (5PA352), a historic unpaved road dating to the 1870s that the SHPO formally determined was not eligible for listing in the NRHP in 1987.

3.4.2 Environmental Consequences

3.4.2.1 Alternative 1 – No Action

The No Action Alternative would have no impact on cultural resources. Therefore, FEMA has determined that no historic properties would be affected by the No Action Alternative.

3.4.2.2 Alternative 2 – Defensible Space / Thinning (Proposed Action)

In consideration of the above, FEMA has concluded the following with regard to the effect of the undertaking on historic properties within the APE:

- Project activities will result in very little surface disturbance;
- Modern disturbances (existing dwellings and roads) are common and widespread;
- Few cultural resources have been documented in the area;
- Extant historic buildings will not be directly affected; and
- Increasing the tree canopy spacing might be considered an alteration of a historic landscape, if such a resource is present, but this effect would not be adverse.

Accordingly, FEMA determined that given the nature of the Proposed Action and the low site density, no intensive pedestrian survey of the APE was necessary, FEMA determined that although a moderate potential exists for previously unidentified historic properties to be located within the APE, the proposed undertaking would have no adverse effect on historic properties. (December 8, 2001 Letter to Colorado SHPO, Appendix B). In a letter, dated January 18, 2012 (Appendix B), the Colorado SHPO concurred with FEMA's determinations.

On December 8, 2011, FEMA sent letters to the following tribes seeking their comments on potential impacts to archaeological sites, burials, and traditional cultural properties in or near the project area:

- Cheyenne and Arapaho Tribes, Oklahoma
- Shoshone Tribe of the Wind River Reservation, Wyoming
- Shoshone-Bannock Tribes, Idaho
- Northern Cheyenne Tribe, Montana
- Ute Mountain Ute Tribe, Colorado

The letters are included in Appendix B. The Northern Cheyenne Tribe indicated that the project should have no adverse effects on archaeological materials or human remains. They requested to be notified if such were encountered during construction. The Cheyenne and Arapaho Tribe of Oklahoma indicated that they had no comment at this time (Appendix B). No response has been received from the other tribes.

If unexpected discoveries are made during the course of project execution, FEMA will proceed in compliance with State and Federal laws protecting cultural resources, including Section 106 of the

NHPA, and all work will cease in the immediate vicinity of the find until appropriate parties are consulted and a treatment plan is established.

3.5 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

3.5.1 Affected Environment

3.5.1.1 Socioeconomics

Population growth in areas around Colorado's population centers has been high in recent years in areas with a 30- to 60- minute commute to jobs in the city. Also, the ability to do many jobs from home with the advancement of computer and communication systems has led to increased development within the project area. These areas are expected to continue to grow at a higher rate than the average in Colorado.

Population growth has many implications related to wildfire hazards and the need for vegetation management. With more people, there is a greater risk of human-caused wildfires and a greater need for protection from wildfires. Increased population growth tends to raise property values and encourage development, resulting in increased potential losses from wildfires. The average size and value of homes and number of residents in the Deer Creek Subdivision is an example of this trend.

Census information for the project area is available from the 2010 census but only available at the county level (U.S. Census Bureau 2011a). In 2000, population statistics for the census block containing the Deer Creek Subdivision were essentially the same as the statistics for Park County (U.S. Census Bureau 2011b). Therefore, the Park County 2010 census information has been used to describe the socioeconomic setting of the project area. According to the 2010 census, the population of Park County is 16,206, which represents an 11.6 percent increase in the county's population since the 2000 census. The increase in Park County is less than the increase in Colorado for the same period. The average household size in park County is 2.3 people and 52.5 percent of the population is male and 47.5 percent is female (U.S. Census Bureau 2011a).

According to the 2010 census, almost 93 percent of the people over 25 years of age in the county are high school graduates and approximately one-third (31.4 percent) are college graduates. The per capita income for Park County residents is $29,893, and the median household income is $61,127. The per capita income for the county is essentially the same as the state average, but the median household income for Park County is 9.6 percent higher than the state average (U.S. Census Bureau 2011a).

3.5.1.2 Environmental Justice

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs Federal agencies to "make environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

Based on the 2010 census (U.S. Census Bureau 2011a), Park County has a population of 16,206. Approximately 94.7 percent are white, and 4.8 percent are minority populations consisting of Hispanics or Latinos (of any race). All other minority populations are less than 1 percent of the county's population. Approximately 9 percent of the population in Park County has incomes that are below the poverty level (U.S. Census Bureau 2011a).

3.5.2 Environmental Consequences

3.5.2.1 Alternative 1 – No Action Socioeconomics

The No Action Alternative would have no direct impact on the economy of Park County or the Deer Creek Subdivision because the risk of a wildfire would not change from present conditions.

However, if a major wildfire occurred, there would be a negative economic impact on Colorado, Park County, and any residents living in or in the vicinity of the burned area. Communities downstream from the burned area that obtain water from the affected watershed(s) could also be adversely affected. The potential negative economic impacts would affect residents with homes in the burned area most severely, but indirect effects could extend to everyone in the state.

Environmental Justice

Under the No Action Alternative, all populations within the project area and Park County would continue to be at risk of a catastrophic wildfire. The No Action Alternative would not have a disproportionately high and adverse human health or environmental effect on minority or low-income populations, and meets the requirements of EO 12898.

3.5.2.2 Alternative 2 – Defensible Space / Thinning (Proposed Action) Socioeconomics

The Proposed Action would have little direct effect on the economy of Park County. The creation of defensible space and thinning of trees around the 314 residential structures would help prevent and control the spread of a wildfire in the project area. If a wildfire occurred, the proposed vegetation management would likely limit the extent and magnitude of the wildfire. Thus, the Proposed Action could have a major beneficial impact on the residents of the subdivision, as well as the county and the State because funds would not be needed to fight a major wildfire and associated property damages would not occur.

Environmental Justice

The Proposed Action would have a beneficial effect on all people living and working in the vicinity of the project area, including low-income and minority persons. No disproportionately high and adverse impacts to low-income or minority populations would result from the Proposed Action. Therefore, the Proposed Action would comply with EO 12898.

3.6 COMMUNITY RESOURCES

The community resources that considered in this EA are traffic and circulation, public services and utilities, and noise. Hazardous substances and wastes are also considered.

3.6.1 Affected Environment

3.6.1.1 Public Health and Safety

The danger of catastrophic wildfires in Colorado's forests is extremely high due to heavy fuel loading (closely spaced trees and shrubs and dead material on the forest floor) that has accumulated over time. Flash flooding following these large wildfires contributes sediment and debris to area waterways that can damage structures, roads, and utilities critical to the safety and well-being of citizens in and downgradient of the project area. During recent wildfires and associated flooding in Colorado, thousands of people required evacuation because of safety concerns and in some instances fatalities have occurred. The number of residences in wildland- urban interface areas in Colorado, such as the Deer Creek Subdivision, has increased dramatically in recent years. This has substantially increased concerns regarding the safety of people living in these areas if a catastrophic wildfire occurred.

3.6.1.2 Traffic and Circulation

County Road (CR) 43 is the ingress and egress route between the Deer Creek Subdivision and U.S. Highway 285, the main highway accessing the project area. CR 43 is a paved two-lane road, whereas the roads that transverse the subdivision are graveled. At least two other roads could be used for ingress and egress if CR 43 is not passable, but both roads would significantly increase the travel time between the subdivision and U.S. Highway 285. The roads within the subdivision were designed to provide vehicular access to each parcel in the subdivision. Because many of the residences are occupied throughout the year, the roads are kept open during the winter. Appendix A, Exhibit 6, shows the roads in and around the subdivision.

3.6.1.3 Public Services and Utilities

Presently, limited utilities (electricity and telephone) are located in the Deer Creek Subdivision. Overhead distribution lines in the subdivision deliver electricity to other subdivisions near the Deer Creek Subdivision.

Emergency responders include the PCFPD (fire and medical responses), which has stations in Bailey, Grant, and Harris Park, and the Park County Sheriff (with a main office in Fairplay and substation in Bailey). Colorado One Call (1-800-922-1987) provides a utility location service throughout Colorado.

3.6.1.4 Noise

Sounds that disrupt normal activities or otherwise diminish the quality of the environment are designated as noise. Noise events that occur during the night (9 p.m. to 7 a.m.) are generally considered more annoying than those that occur during normal waking hours (7 a.m. to 9 p.m.). Noise events in the project vicinity are presently associated with climatic conditions (e.g., wind, thunder), transportation noise (traffic on roads, airplanes), and "life sounds" (people talking, children playing).

3.6.2 Environmental Consequences

3.6.2.1 Alternative 1 – No Action Public Health and Safety

Under the No Action Alternative, no vegetation management would occur. People living in the Deer Creek Subdivision and neighboring subdivisions with urban/forest interfaces would remain at risk if a catastrophic fire occurred in the area of these developments. People and structures downgradient of the burn area would remain at risk from sediment and debris flows if a major precipitation event occurred prior to revegetation of the burn area. Structures at risk would include houses, roads, bridges, water intakes, and water treatment facilities.

Wildfires can generate substantial amounts of fine particulate matter, which can affect the health of people breathing the smoke-laden air. Therefore, the health of people downwind from a wildfire, especially young children and people with lung disease or asthma, could be adversely affected. At close range, wildfires can generate substantial amounts of carbon monoxide, which can pose a health concern for frontline firefighters.

Traffic and Circulation

Under the No Action Alternative, no vegetation management would occur. Existing levels of local traffic would not change in the short term. Therefore, this alternative would have no direct impact on traffic in the project area.

County roads have the potential to be closed if a wildfire approaches or encompasses the road. The risk remains that a wildfire in or near the project area could close CR 43, the primary evacuation route for residents of the Deer Creek subdivision and adjacent subdivisions. Depending on location and wind direction, smoke from a wildfire has the potential to close sections of U.S. Highway 285 (located approximately 4 miles southeast of the project area), which could contribute to short-term traffic congestion during the period of highway closure.

Public Services and Utilities

The No Action Alternative would not directly affect any utilities in the project area.

The potential for wildfires would continue to be high in the project area and electrical service provided via overhead lines could be adversely affected by a wildfire.

Response time of emergency responders would not change. A wildfire in the vicinity of the project area would involve local law enforcement and fire protection personnel for the duration of the wildfire. During the period of involvement, these personnel would not be available to respond to emergency situations that may occur at other locations in their service area.

Noise

Under the No Action Alternative, no construction or vegetation management-related activities would occur, and there would be no effect on noise levels in the project area.

3.6.2.2 Alternative 2 – Defensible Space / Thinning (Proposed Action) Public Health and Safety

The primary focus of the Proposed Action would be to create defensible space around existing residential structures and thin existing vegetation beyond the buffer associated with the defensible space. The Proposed Action is designed to reduce the rate of spread and intensity of a wildfire within the treatment areas, which would improve the safety of residents and firefighters and make it easier to bring a wildfire under control. Wildfires cannot be prevented, but if they can be more readily controlled and contained, the chance that a small wildfire will grow into a catastrophic fire is greatly reduced. Reducing the intensity and frequency of wildfires lowers the risk for people living in the urban/forest interface because wildfires would threaten fewer houses.

Traffic and Circulation

Vehicle traffic would be generated by movement of equipment (chippers) to the project area and the work crews traveling to and from work sites. The amount of traffic generated would be minimal and would not interfere with local residents or other people traveling in the vicinity the project area.

The Proposed Action would reduce the risk of a wildfire encompassing a road in or near the project area. Thus, the potential for CR 43 to be blocked by a wildfire would be reduced.

Public Services and Utilities

No public services or the response time of emergency responders would be directly affected during the vegetation management treatments in the project area. However, if the Proposed Action prevented a catastrophic wildlife, potential damage to utilities would be prevented and emergency responders would be available to respond to other emergencies. In addition, when wildfires are controlled quickly, a smaller area is burned, which results in less sediment and debris being transported downstream during future precipitation events. For the same reasons, the Proposed Action would also help protect and maintain municipal water supplies for communities that obtain their water from the treated watershed.

Noise

Operation of chainsaws and chippers during the creation of defensible space and thinning treatments would increase noise levels in the vicinity of the treatment areas. No sensitive noise receptors are known to be within or in the vicinity of the project area. Noise associated with the operation of the equipment would be limited to daylight hours. Therefore, noise impacts would be temporary and limited to the duration of the proposed vegetation management activities.

3.7 HAZARDOUS SUBSTANCES / WASTES

3.7.1 Affected Environment

A substance is classified as hazardous if it has the potential to damage the environment and/or be harmful to humans and other living organisms. The presence of a hazardous substance/waste within, in the vicinity, and/or upgradient of a project area is important in determining development

constraints and the viability of an action. The project area is in and surrounding a residential development, which limits the potential for hazardous substance issues and concerns.

To determine whether any facilities in the vicinity or upgradient of the project area have known and documented environmental issues or concerns, Environmental Data Resources, Inc. (EDR) searched 74 Federal and State environmental databases. The EDR report (EDR 2011) includes environmental database records for the project area, immediately adjacent properties, and the standard EDR search radius.

EDR (2011) was reviewed for the following environmental issues:

- Presence of a hazardous substance in or in the immediate vicinity of the proposed project area
- Presence of an upgradient leaking underground storage tank that is not considered "closed" or "no further action needed"
- Presence of an upgradient solid waste landfill

The databases did not identify any sites that would potentially affect the project area.

3.7.2 Environmental Consequences

3.7.2.1 Alternative 1 – No Action

No sites were identified in any of the databases that would potentially affect the project area. Therefore, the presence of a hazardous substance/waste does not represent a concern for the No Action Alternative.

3.7.2.2 Alternative 2 – Defensible Space / Thinning (Proposed Action)

No sites were identified in any of the databases that would potentially affect the project area or be affected by the implementation of the Proposed Action. Therefore, the presence of a hazardous substance/waste does not represent a concern for the Proposed Action.

3.8 CUMULATIVE IMPACTS

Section 1508.7 of the CEQ regulations (40 CFR § 1508.7) defines cumulative impacts as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions." Cumulative effects are not wholly different effects from direct or indirect effects of an action. Cumulative effects are merely a way of placing seemingly isolated or insignificant direct and indirect effects in context with respect to overall impacts, both over time and in an area larger than that evaluated for direct and indirect effects. Cumulative effects are discussed in terms of being additive, synergistic, or reductive.

Vegetation management activities along the Front Range in Colorado have been and will continue to be important in the management of forestlands on both by public and private lands. Partnership agencies of the Front Range Fuels Treatment Partnership (FRFTP) treated approximately 187,000 acres along the Front Range in Colorado between 2006 and 2009 (FRFTP 2010). All of these vegetation management activities have a cumulative effect on the location and connectivity of

fuelbreaks and fuel reduction areas across lands managed by different agencies or individuals. In addition, the construction of fuelbreaks, creation of defensible space, and thinning to reduce fuel loads by different agencies have a cumulative effect on how a wildfire would advance, how fast the wildfire would advance, and the areas from which firefighters could marshal resources to fight and control a wildfire.

In the vicinity of the project area, vegetation management activities have occurred on the Pike National Forest and the Staunton State Park. The vegetation management activities included creating defensible space, constructing fuelbreaks, and reducing fuel loads (thinning) within the forested areas. Since the Harris Park CWPP was formed, project partners have treated approximately 3,100 acres, including areas within Pike National Forest, Staunton State Park, Colorado State Land Board lands, and private lands. These projects were designed to take advantage of existing features such as rock outcrops and existing stands of aspen, manmade features such as roads, and areas that had previously had vegetation management to maximize the potential benefits that could be realized.

Cumulative effects from the Proposed Action and other actions are anticipated to be beneficial to the project area, county, and state, because the chances of a major, catastrophic wildfire would be reduced.

3.9 COORDINATION AND PERMITS

- **U.S. Fish and Wildlife Service.** If project specific stipulations are received from USFWS regarding threatened and endangered species, the stipulations would need to be incorporated as project conditions. If trees would be removed during the nesting period of migratory birds, PCFPD would need to coordinate with the USFWS regarding the Migratory Bird Treaty Act of 1918 (16 U.S.C. §§ 703–711).

- **U.S. Army Corps of Engineers.** No water bodies or wetland would be affected; therefore, no additional coordination or permits would be required.

- **Natural Resource Conservation Service.** No farmland occurs in the project area. Therefore, no additional coordination would be required.

- **Colorado State Historic Preservation Officer.** No additional coordination would be required. However, if unexpected discoveries are made during project execution, FEMA will proceed in compliance with State and Federal laws protecting cultural resources, including Section 106 of the NHPA, and all work shall cease in the immediate vicinity of the find until appropriate parties are consulted and a treatment plan is established.

- **Colorado Division of Wildlife.** No additional coordination would be required regarding State-listed threatened and endangered species.

- **Colorado Department of Public Health and Environment.** Vegetation management treatments are exempt from the NPDES permitting process; therefore, a NPDES construction permit would not be required.

- **Park County Floodplain Administrator.** The project area does not contain a designated floodplain; therefore, a Floodplain Development Permit would not be required.

- **Tribal Coordination.** Cheyenne and Arapaho Tribes of Oklahoma and the Northern Cheyenne Tribe have commented at this time. No response has been received from the other tribes. If unexpected archaeological material or human remains are encountered during construction, all work would cease in the immediate vicinity of the find and the various tribes would be contacted and a treatment plan established.

SECTION FOUR SUMMARY OF IMPACTS

Tables contain a summary of the potential environmental impacts of the two alternatives that are discussed in Section 3.

Table 2: Environmental Effects of Alternatives (Physical Resources)

Resource Subcategory	Alternative 1 – No Action	Alternative 2 – Defensible Space / Thinning (Proposed Action)
Geology and soils	No impact.	No impact on geology. Beneficial impact on soils if a wildfire is prevented.
Air quality	No impact if no wildfires occurred. Potential for adverse effect if a wildfire occurred. Without vegetation management, fuel loads in the project area would continue to increase, which would increase the risk of a catastrophic wildfire and greenhouse gas emissions from this type of fire.	Minor, short-term reductions in air quality from equipment exhaust during the implementation of vegetation management treatments. Potential for long-term beneficial effect on air quality by preventing wildfires. No effect on global climate change is anticipated.
Visual	Visual quality would be adversely affected as existing vegetation quality deteriorates and would be substantially impaired if a catastrophic wildfire occurred.	Vegetation management could create a high contrast between treated and non-treated areas. If a wildfire is prevented, a long-term beneficial effect on visual resources by preventing the loss of vegetation from a wildfire.

Table 3: Environmental Effects of Alternatives (Water Resources)

Resource Subcategory	Alternative 1 – No Action	Alternative 2 – Defensible Space / Thinning (Proposed Action)
Surface water	No impact on water quantity. Adverse effect if a large wildfire occurred that resulted in an increase in sediment and debris loading of streams located downstream from the burn area, resulting in a significant degradation of water quality in the affected streams and adversely affecting facilities and structures along the stream.	No impact on water quantity. Implementation of the treatments would have no effect onthe water quality of receiving waters. Long-term beneficial effect by preventing increased soil erosion after a major wildfire.
Groundwater	No impact.	No impact.
Floodplains	No impact.	No impact.
Wetlands	No impact.	No impact.

Table 4: Environmental Effects of Alternatives (Biological Resources)

Resource Subcategory	Alternative 1 – No Action	Alternative 2 – Defensible Space / Thinning (Proposed Action)
Vegetation	No direct impact. Long-term adverse effect if a wildfire occurred from the significant change in the vegetation in the burn area. Existing trees would be replaced by early invader species of which many would be undesirable species (weeds). It would take at least 35 years before the burned area would contain tree stands similar to those currently in the project area.	Long-term beneficial impact.
Terrestrial wildlife	No direct impact. Short-term adverse effect if a wildfire occurred. Wildlife populations in the burn area would be adversely affected in the short term because the burned area would be void of foodand cover. When the area was revegetated, it would provide limited habitat for local wildlife populations, but it could take more than 35 years for full recovery.	No direct effect. Long-term beneficial impact on local wildlife. Opening the stands (reducing tree density) generally results in more usable space for mule deer and elk and increased diversification and productivity of the forest's understory including an increased vigor of grasses, forbs, and shrubs. Where aspen stands presently exist, the treatments would provide favorable conditions for expansion of the stands. Young aspens are the favored forage of elk.
Aquatic wildlife	No direct impact. Adverse impact if a wildfire occurred from increased soil erosion, adverse impact on water quality in the downgradient stream, and an adverse impact on aquatic habitat and aquatic resources in the affected streams.	No direct impact. Beneficial effect if wildfires are prevented by preventing a significant degradation of soil stability in the affected watershed and an increase in sediment and debris flows into downgradient streams.
Threatened and endangered species	No adverse impact. Adverse impact if a wildfire occurred from significant disturbances and changes in the vegetation in the burn area.	May affect, not likely to adversely affect the Canada lynx. (USFWS concurs with this determination). No effect on the whooping crane, least tern, piping plover, pallid sturgeon, western prairie fringed orchid, Preble's meadow jumping mouse, Mexican spotted owl, mountain plover, greenback cutthroat trout, uncompahgre fritillary butterfly, Pawnee montane skipper, and Penland alpine fen mustard.

Table 5: Environmental Effects of Alternatives (Cultural Resources)

Resource Subcategory	Alternative 1 – No Action	Alternative 2 – Defensible Space / Thinning (Proposed Action)
Above ground	No impact.	No adverse impact on existing resources.
Archaeological	No impact.	No impact.

Table 6: Environmental Effects of Alternatives (Socioeconomic Resources)

Resource Subcategory	Alternative 1 – No Action	Alternative 2 – Defensible Space / Thinning (Proposed Action)
Economics—	No direct impact on the economy of Park County or the Deer Creek Subdivision. Negative economic impact on residents in or in the vicinityof the burned area, Park County, and the State if a wildfire occurred.	Little direct effect on the economy of Park County. Beneficial impact on the residents of the subdivision and on the county and State if the Proposed Action prevented a wildfire or the spread of a wildfire.
Environmental justice	No disproportionate adverse effects on any minority or low-income population.	A beneficial effect on all people living and working in the vicinity of the project are including low income and minority populations. No disproportionate adverse effects on any minority or low-income population.

Table 7: Environmental Effects of Alternatives (Community Resources)

Resource Subcategory	Alternative 1 – No Action	Alternative 2 – Defensible Space / Thinning (Proposed Action)
Public health and safety	No effect if no wildfire occurred. Potential for adverse effects if a wildfire occurred, including smoke inhalation by residents and firefighters and degradation of water quality after a major precipitation event.	Beneficial impact from creating a safer environment for firefighters. Beneficial impact from reducing the intensity and frequencyof wildfires.
Traffic and circulation	No direct impact. Potential for adverse effect if a wildfire resulted in the temporary closing of CR 43 and/or U.S. Highway 285.	Short-term, minor effect from movement of equipment (chippers) work crews traveling to and from work sites during implementation of the Proposed Action. Reduced potential for closing of CR 43 and U.S. Highway285 from a wildfire.
Public services and utilities	No direct effect. Potential for adverse effect from overhead lines that would continue to be at risk during a wildfire. Potential for adverse effect from emergency responders responding to a wildfire in the project and then would not be available to respond to other emergencies in their service area.	No direct effect. Potential for beneficial impact if wildfires are prevented by preventing damage to overhead lines. Potential for beneficial impact if wildfires are preventing by allowing emergency responders to remain available to respond to other emergencies in their service area.
Noise	No impact.	Short-term effect from chainsaws and chippers.

Table 8: Environmental Effects of Alternatives (Hazardous Substances/Wastes Resources)

Resource Subcategory	Alternative 1 – No Action	Alternative 2 – Defensible Space / Thinning (Proposed Action)
—	No impact.	No impact.

SECTION FIVE PUBLIC INVOLVEMENT

5.1 INITIAL PUBLIC NOTICE

The following Initial Public Notice was published in the Fairplay Flume on December 9 and December 16.

Public notification is hereby given by the Department of Homeland Security's Federal Emergency Management Agency (FEMA) of the intent to prepare an Environmental Assessment (EA) for a proposed project submitted by the Platte Canyon Fire Protection District to reduce future wildfire hazards within the Deer Creek Valley Ranchos (Deer Creek) subdivision, which is located in a wildland-urban interface area in northeast Park County. A portion of the funding would be provided by FEMA's Pre-Disaster Mitigation Program. This program assists State and local governments with implementing cost-effective hazard mitigation planning and project activities that complement a comprehensive mitigation program.

Deer Creek is an unincorporated mountain community located near the town of Bailey, Colorado (Latitude: 39.2911, Longitude: -105.4833). The subdivision has 314 property owners and approximately 800 residents. County Road 43/U.S. Highway 285 provides access to the subdivision. County Road 43 is the only paved access road to the subdivision. The Colorado State Forest Service and the Platte Canyon Fire Protection District has determined the Deer Creek subdivision has a high potential for ignition of a wildfire and rapid spread of a wildfire within the subdivision and to areas beyond its boundaries.

The President's Council on Environmental Quality (CEQ) has developed regulations to implement the National Environmental Policy Act (NEPA). These regulations require an investigation of the potential environmental impacts of a proposed federal action, and an evaluation of alternatives as part of the environmental assessment process. FEMA also has regulations that establish the agency-specific process for implementing NEPA. An EA will be prepared in accordance with both FEMA and CEQ NEPA regulations. Two alternatives will be considered in the EA:

The NO ACTION ALTERNATIVE, which considers the consequences of taking no action to implement vegetation management procedures to reduce the fuel load within the project area and/or create defensible space adjacent to the 314 homes located in the Deer Creek Subdivision.

The PROPOSED ACTION ALTERNATIVE would include the implementation of established vegetation management procedures that would reduce the potential of ignition and/or spread of a wildfire within the subdivision. Proposed activities include creation of 30 feet of defensible space around each of the residential structures. In addition, the forested area beyond the created defensible space would be thinned so there is space between the crowns of the remaining trees. Removed trees that are useable will be cut into firewood (in-place) and left for the property owner. Unusable wood and slash will be chipped in place and spread. Both treatments include only hand clearing and chipping. No burning or mechanical would occur with this alternative.

Overall, these two vegetation management treatments are expected to involve approximately 700 acres. Other alternatives considered, but dismissed due to cost considerations, safety, and

environmental include the prescribed burning, clear cutting, and mechanical removal of undesired fuels.

The President of the United States has issued Executive Orders that require Federal Agencies to focus attention on the environment and on human health and safety when considering the funding of an action. Executive Order 11988 – Protection of Floodplains requires federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of flood plains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. Executive Order 11990 – Protection of Wetlands requires Federal agencies to take action to minimize the loss of wetlands. Neither of the alternatives has the potential to adversely affect floodplains or wetland areas as no floodplains or wetland areas have been identified within the project area. With this public notice, FEMA is informing the public that the EA for the identified project is in the process of being prepared.

During the NEPA review process FEMA will also evaluate potential impacts to other environmental resources and compliance with other laws and regulations, such as, the Endangered Species Act, the National Historic Preservation Act, and EO 12898 – Environmental Justice.

A public comment period related to the alternatives as outlined above or other possible alternatives will end on December 30, 2011. In addition to this initial comment period, a final comment period will be opened for public review of the Draft EA.

Interested parties may obtain more detailed information about the alternatives from the Platte Canyon Fire Protection District at 303.838.5853 or by calling Mr. Jeff Davis at 303.838.5853 or by email ajdavis@wispertel.net. Additionally, comments or question regarding the NEPA compliance process can be directed to Richard Myers, FEMA Region VIII Deputy Regional Environmental Officer by calling 303.235.4926 or by email at richard.myers@dhs.gov.

5.2 FINAL PUBLIC NOTICE

The following Final Public Notice was published in the Fairplay Flume on December 23 and December 30, 2011. Notification is hereby given to the public that it is the intent of the Department of Homeland Security's Federal Emergency Management Agency (FEMA) to provide funds to Platte Canyon Fire Protection District to reduce future wildfire hazards within the Deer Creek Valley Ranchos (Deer Creek) Subdivision, which is located in a wildland-urban interface area in northeast Park County, near Bailey, Colorado (latitude: 39.2911, longitude: - 105.4833). The subdivision has 314 property owners and approximately 800 residents.

FEMA is required under the National Environmental Policy Act (NEPA) to consider all reasonable alternatives for achieving the intended purpose of the proposed project. The purpose of the proposed project is to reduce wildfire hazards within the Deer Creek Subdivision. In the Draft Environmental Assessment (EA), the following two alternatives were considered: (1) a No Action Alternative, which considered the consequences of taking no action and (2) the Proposed Action Alternative which would include the implementation of established vegetation management procedures to reduce the potential of ignition and/or spread of a wildfire.

The President of the United States has issued Executive Orders that require Federal agencies, when considering an action for funding, to focus attention on the environment and human health with

respect to Floodplain Management, Executive Order 11988; Protection of Wetlands, Executive Order 11990; and Environmental Justice, Executive Order 12898. Compliance with Executive Orders, other environmental laws, and NEPA has been documented in the Draft EA. FEMA or the grant Applicant has coordinated with the following agencies: Federal Emergency Management Agency, U.S. Fish and Wildlife Service, Colorado Division of Wildlife, Colorado Historical Society, and Colorado Division of Emergency Management.

Based on agency comments and the EA process, there does not appear to be any significant adverse environmental impact on the human or natural environment associated with either alternative. Therefore, an Environmental Impact Statement will not be prepared, and if no comments are received, a Finding of No Significant Impact (FONSI) will be signed fifteen (15) days from the date of this notice, and the project will proceed.

Interested parties may submit comments, request additional information, or request a copy of the FONSI by contacting FEMA's Region VIII Office at the Denver Federal Center, P.O. Box 25267, Denver, Colorado, 80225, or by calling 303.235.4798 between 8:00 a.m. and 4:30 p.m. Mountain Time, Monday through Friday. Comments or requests should be submitted in writing to Mr. Richard Myers, FEMA Region VIII Deputy Environmental Officer, by calling 303.235.4926, or by e-mail at richard.myers@dhs.gov.

The Draft EA is posted in the official notice posting area at the Platte Canyon Fire Protection District, Station No. 2, 153 Dellwood Drive, Bailey, Colorado. The station can be contacted at (303) 838-5853. The Draft EA can also be viewed and downloaded from FEMA's website at http://www.fema.gov/plan/ehp/envdocuments/ea-region8.shtm.

5.3 PUBLIC COMMENTS

No comments were received from the public during the initial or final public comment period.

SECTION SIX AGENCIES CONSULTED

Federal Emergency Management Agency, Denver, CO

Steven Hardegen, Regional Environmental Officer	(303) 235-4798
Richard Myers, Deputy Regional Environmental Officer	(303) 235-4798

U.S. Fish and Wildlife Services, Lakewood, CO

Susan C. Linner, Field Supervisor	(303) 236-4774
Leslie Ellwood, Endangered Species Specialist	(303) 236-4747

U.S. Army Corps of Engineers, Littleton, CO

Margret Langworthy, Project Manager	(303) 979-4120

Colorado Department of Emergency Management, Centennial, CO

Iain Hyde, Mitigation Specialist	(720) 852-6698
Ken Brink, Mitigation Team Supervisor	(720) 852-6695
Deanna Butterbraugh, Mitigation Specialist	(720) 852 6697
Victoria Smith, Mitigation Specialist	(720) 852-6699

Colorado State Forest Service, Fort Collins, CO

Greg Sundstrom, Assistant Staff Forester	(970) 491-5342

Colorado State Forest Service, Broomfield, CO

Scott Woods, Staff Forester	(970) 491-5342

Colorado State Historic Preservation Office, Denver, CO

Dan Corson, Intergovernmental Services Director	(303) 866-4694
Mark Tobias, Section 106 Compliance Manager	(303) 866-2673

Cheyenne-Arapaho Tribes of OK

Janice Prairie Chief Boswell, Governor	(405) 422-7743

Northern Cheyenne Tribe, Lame Deer, MT

Leroy Spang, President	(406) 477-4838
Conrad Fisher, Tribal Historic Preservation Officer	(406) 477-4838

Shoshone Tribe of the Wind River Reservation, Washakie, WY

Mike Lajeunesse, Chairman	Not available

Shoshone-Bannock Tribes, Fort Hall, ID

Nathan Small, Chairman	(208) 478-3700

Ute Mountain Ute Tribe, Towaoc, CO

Ernest House Sr., Chairman	(970) 563-0100
Terry Knight, Tribal Historic Preservation Officer	(970) 564-5731

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