

Upper South Platte Watershed Protection and Restoration Project

Phase 2 Environmental Assessment

**Pike National Forest
South Platte
Ranger District**

United States
Department of
Agriculture

Forest Service



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DESCRIPTION OF PROJECT

This notice presents the purpose and need, proposed action, alternatives, environmental analysis, schedule and comment directions for the Upper South Platte Watershed Protection and Restoration Project Phase 2 Environmental Assessment (EA). This project is proposed by the US Forest Service, Pike National Forest, South Platte Ranger District in Colorado. A map of the project area can be viewed at www.fs.fed.us/r2/psicc/spl/, or on Map 1-2 of the Upper South Platte Watershed Protection and Restoration Project EA dated August 2000 (USDA Forest Service 2000). This project is the second phase of forest restoration originally envisioned as part of the Upper South Platte Watershed Protection and Restoration Project.

PURPOSE AND NEED

The U.S. Forest Service proposes to carry out forest restoration treatments as part of the Upper South Platte Watershed Protection and Restoration Project. This EA is one of many projects that are being conducted, are planned, or will be considered in the future in order to achieve the following goals of the Upper South Platte Watershed Protection and Restoration Project:

- ✓ Protect water quality for all users
- ✓ Reduce risks of large catastrophic wildfires
- ✓ Reduce risks to human life and property
- ✓ Create sustainable forest conditions in the Upper South Platte River Basin
- ✓ Integrate research, monitoring, and management

The current forest conditions combined with greater human encroachment into the forest lands have dramatically increased the risk of loss of life and property from wildfires in recent years. The current forested landscape condition does not reflect the historic disturbance regime and is not sustainable. Past fire control, logging, and grazing allowed smaller, thin-barked trees to proliferate. This resulted in relatively dense, even-aged, closed-crown forest conditions throughout the ponderosa pine/Douglas-fir forest that have a much higher risk of catastrophic fire compared to pre-settlement conditions. Because the forests have very little down wood to permit low-intensity ground fires, prescribed fires are unable to modify the forest structure. The existing small trees serve as ladder fuels, permitting surface fires to climb into the tree canopy and become crown fires. Wildfire will carry as a high-intensity crown fire under hot, dry, and windy conditions.

The purposes of the project are to:

- 1) reduce the risk of large-scale fires and subsequent erosion in the watershed that could threaten property and human life and exacerbate soil and water quality problems;
- 2) restore the forest to more sustainable conditions; and
- 3) improve habitat used by the federally-listed Pawnee montane skipper.

There are only a few documented wildfires in the last 100 years in the Upper South Platte watershed. Basically no recorded wildfires could be found between 1902 and 1963. The recent fire history starts in the Upper South Platte with the 1963 wildfire. This fire burned 21 acres in 1963.



In 1996, an intense wildfire in the Buffalo Creek drainage resulted in a loss of several houses and forest cover on nearly 12,000 acres. This fire was a wind-driven (up to 70 miles per hour) crown fire that burned more than 10,000 acres in 1 day. Two large summer storms in the area of the burn caused catastrophic erosion and sediment deposition into the watershed's streams and contributed to two human deaths. The Denver Water Board and the city of Aurora will have to extensively dredge the Strontia Springs Reservoir because of sediment from the Buffalo Creek Fire that was transported and deposited into the water-supply reservoir.

In 2000, the Hi Meadow fire burned more than 10,000 acres near the Buffalo Creek burn area. This fire burned in more of a mosaic pattern than the Buffalo Creek fire, although there were many areas of intense crown fire. Some erosion and sedimentation problems were associated with runoff following the fire.

In 2002, prior to the Hayman fire, there were two fires in the Upper South Platte Watershed. The Snaking fire burned about 2,500 acres near Bailey. The fire, although relatively small, caused evacuation of the town of Bailey and surrounding populated areas. The Schoonover fire burned nearly 3,500 acres near Deckers. Following those fires, the Hayman fire burned over 137,000 acres making it the largest wildfire in Colorado history. The Hayman fire cost more than \$56 million in suppression and rehabilitation. About 600 structures were lost and 6 deaths were attributed to the fire and suppression effort. The Hayman fire created high erosion hazard on over 95,000 acres, causing extensive sedimentation in the South Platte River, seriously impacting the gold-medal trout fishery along with other associated environmental impacts.

The logical conclusion from these data is that severe wildfires are becoming more common in the Upper South Platte watershed (see Table 1). This conclusion is evidenced by the recent spate of large fires, e.g. Buffalo Creek, Hi Meadow, Schoonover, Snaking, and Hayman that have burned nearly ¼ of the Upper South Platte watershed.

Table 1. Wildfires within the last 100 years in the Upper South Platte Watershed

Year	Acres
1963	21
1996	11,875
2000	10,800
2002	143,313

The proposed action is also needed to help protect recreational resources, including the highly regarded South Platte River trout fishery, within the Project Area. This project would also increase forest structure and composition diversity, increase resistance to widespread insect and disease events, and increase the structural diversity of wildlife habitat. The project would improve habitat for the threatened Pawnee montane skipper.

PROPOSED ACTION

The Proposed Action consists of vegetation treatments including thinning, creating openings, prescribed burning, and removing trees on up to 17,000 acres within the Waterton/Deckers and Buffalo Creek subwatersheds. The main elements of the proposed project are listed below.

1. Treat vegetation using adaptive management to ensure protection of resources
 - a) Monitor operations and treatment areas during the life of this project to ensure management and resource protection objectives are achieved (see monitoring below).
 - b) Upon completion of the project approximately 75 to 80% of the treated acres will be thinned, 20 to 25% of the treated acres will be created openings, and up to 100% of the treated acres will be prescribed burned.
 - c) Inventoried Roadless Areas will not be treated.
2. Thin trees to a canopy closure of about 25 percent. The residual stand basal area will average 40-60 square feet per acre (or approximately 50-75 trees per acre). The following guidance and constraints will be used:
 - a) The residual stand will be resilient to surface fires and have a low risk of sustaining a crown fire. Preference will be given to retaining ponderosa pine over Douglas-fir and retaining larger trees with few low branches. More Douglas-fir will be retained on north aspects and higher elevations with few Douglas-fir retained on east, south, and west aspects in the lower elevations. Larger more mature trees will typically be retained. The spacing will be variable retaining natural clumpy characteristics. Retain existing snags that are not a hazard, for cavity-dependent wildlife.
 - b) The landscape is deficient in old-growth forests. Ponderosa pine and Douglas-fir stands that meet old growth standard defined in Old-Growth Forests in the Southwest and Rocky Mountain Regions Proceedings of a Workshop, USDA Forest Service General Technical Report RM-213, and any trees identifiable as being over 150 years old will be retained to help achieve future old-growth conditions. Larger trees will generally be retained throughout the treatment areas, but some larger trees will be cut. Areas that do not meet the old-growth standard but have larger trees where the local residual stocking is greater than 80 square feet of basal area per acre will be thinned to approximately 60 square feet of basal area. Priority will be given to retaining the largest ponderosa pine and then the largest Douglas-fir. The residual stand will be kept on a trajectory to achieve an old-growth condition.
 - c) Lop and scatter slash left on-site or crush with yarding and harvesting equipment. Heavy slash will be piled.
 - d) Thinning operations will comply with the conservation measures outlined in the Biological Opinion (USDI Fish and Wildlife Service 2001); the Water Conservation Practices and BMPs listed in the EA; and the standard and guidelines listed in the Land and Resource Management Plan, Pike and San Isabel National Forests; Comanche and Cimarron National Grasslands (Forest Plan) as amended.
3. Create 1 to 40-acre openings under the following guidance and constraints:



- a) Openings will be dispersed where they would most likely have naturally persisted the longest. The openings will be in areas that have regenerated in the past 120 years and will primarily be located on south and west aspects. Approximately 80 to 90% of the openings will be 5 acres or less. Openings larger than 5 acres will be created only where there is evidence that a larger opening existed historically. These sites will have few if any trees greater than 100 years old, no stumps, and little or no organic soil development. No openings will be greater than 40 acres. Retain existing snags that are not a hazard, for cavity-dependent wildlife.
 - b) Approximately 40% of the acres in openings will have no trees and the remaining 60% will have canopy closures of 1-10%.
 - c) Lop and scatter slash left on-site or crush with yarding and harvesting equipment.
 - d) Openings and operations to create openings will comply with the conservation measures outlined in the Biological Opinion (USDI Fish and Wildlife Service 2001); the Water Conservation Practices and BMPs listed in the EA; and the standard and guidelines listed in the Forest Plan as amended.
4. Prescribe burn under the following guidance and constraints:
- a) Prescribe burn logs and slash after material has sufficiently dried, one to two years after completing mechanical treatments.
 - b) Prescribe burn the new openings again 5 to 6 years later if necessary to minimize tree regeneration, then every 10 to 30 years as needed to maintain the openings.
 - c) Prescribe burning will comply with the conservation measures outlined in the Biological Opinion (USDI Fish and Wildlife Service 2001); the Water Conservation Practices and BMPs listed in the EA; and the standard and guidelines listed in the Forest Plan as amended.
5. Remove logs under the following guidance and constraints:
- a) Harvesting equipment will not be allowed on slopes greater than 30% to remove logs, unless the contractor can demonstrate ability to remove logs without environmental damage. No vegetation treatments will occur on any slopes greater than 40%.
 - b) Use conventional logging systems to remove logs from areas that are accessible from existing roads. Typically, use skidders to yard trees off the site.
6. Access the treatment areas under the following guidance and constraints:
- a) No roads will be constructed or reconstructed in the treatment area. Existing roads will be routinely maintained to prevent resource damage.
 - b) No equipment access to treatment areas through Inventoried Roadless Areas under this decision.
 - c) Vegetation screens will be retained immediately adjacent to open roads where there is potential to increase unauthorized off-road access.



- d) Existing unclassified roads used to access the treatment areas will be obliterated by combination of water barring, scarifying, seeding, and blockading access after treatments are completed.
7. Monitor project area resources to ensure resource management objectives are achieved:
- a) Monitor federally listed species according to the Biological Opinion and carry out required conservation measures (USDI Fish and Wildlife Service 2003).
- b) Monitor Management Indicator Species (MIS) and Forest Sensitive Species that may be directly affected by the project. Species that will be monitored in the project area include: Abert's squirrel, brook trout, elk, olive-sided flycatcher, northern goshawk, and three-toed woodpecker.

If MIS or Forest Sensitive Species are found during monitoring surveys, then apply the following protection measures as appropriate:

- (i) No ponderosa pine with signs of active Abert's squirrel nesting or feeding will be cut.
- (ii) No elk calving concentration areas will be modified or disturbed from May 15 - June 30.
- (iii) No treatment activities will occur within a 650-foot buffer surrounding northern goshawk nest sites.
- (iv) No treatment activities will occur within a 2,500-foot buffer surrounding active northern goshawk nests during post-fledgling periods (March thru September).
- (v) Protect other raptor nesting sites using measures similar to those for goshawk.
- (vi) Apply Forest Plan standards and guidelines for wildlife.

If the Forest Plan general directions, standards, and guidelines for wildlife and fish resources and habitat improvement and maintenance are not achieved, then:

- (vii) Reduce or modify vegetation treatment operations and/or
- (viii) Increase species monitoring to determine the source of impact and apply appropriate mitigation.
- c) Monitor vegetation and noxious weeds. If the Forest Plan general directions, standards, and guidelines for habitat improvement and maintenance are not achieved, then
- (i) Reduce or modify vegetation treatment operations and/or
- (ii) Increase use of noxious weed control measures
- (iii) Increase noxious weed monitoring to determine the source of impact and apply appropriate mitigation.

- d) Monitor soil erosion and water quality, including implementation and effectiveness of water conservation practices and other mitigation. If the Forest Plan general directions, standards, and guidelines for soil and water resources are not achieved, then:
- (i) Reduce or modify vegetation treatment operations and/or
 - (ii) Increase the use of Water Conservation Practices and BMPs
 - (iii) Increase soil and water quality monitoring to determine the source of impact and apply appropriate mitigation.
- e) Monitor off-highway vehicle (OHV) use within the treatment area. If the Forest Plan general directions, standards, and guidelines for dispersed recreation, including OHV use, are not achieved, then:
- (i) Scarify, seed, and block unauthorized OHV trails and/or
 - (ii) Gate and/or sign with “closed to motor vehicles” to discourage use of temporary roads or unauthorized OHV trails and increase law enforcement.

ALTERNATIVES

In the 2000 EA, two action alternatives were considered. They differed only in the types of actions that were proposed for inventoried roadless areas. The scoping and public involvement that was conducted as part of that EA identified roadless areas as the main issue. Following the publication of that EA, two separate decisions were issued. One addressed vegetation treatments within the inventoried roadless areas and the other areas outside of roadless areas.

This EA proposes vegetation treatments outside of inventoried roadless areas only. Therefore, no additional action alternatives are being considered.

ENVIRONMENTAL ANALYSIS

The Upper South Platte Watershed Protection and Restoration Project Environmental Assessment (EA) dated August 2000 is adopted as the environmental documentation for the Upper South Platte Watershed Protection and Restoration Project Phase 2. The Forest Service Handbook (FSH) provides for the adoption of previous EAs to eliminate duplication and reduce excessive paperwork.

The FSH 1909.15 Environmental Policy and Procedures Handbook, Chapter 40 – Environmental Assessments and Related Documents, provides Section 42 – Other Considerations in Preparing Environmental Assessments. One of the “Other Considerations” as presented in 42.2 - Adoption follows;

Adopt other existing EAs or portions thereof to eliminate duplication and reduce excessive paperwork if the document meets Forest Service standards and requirements. Sections 22.32 and 25.2(c) contain additional direction on adoption.



Sections 22.32 and 25.2 (c) refer to FSH 1909.15 Chapter 20 – Environmental Impact Statements and Related Documents. Section 22.32 – Adoption follows:

(a) An agency may adopt a Federal draft or final environmental impact statement or portion thereof provided that the statement or portion thereof meets the standards for an adequate statement under these regulations.

(b) If the actions covered by the original environmental impact statement and the proposed action are substantially the same, the agency adopting another agency's statement is not required to recirculate it except as a final statement. Otherwise the adopting agency shall treat the statement as a draft and recirculate it (except as provided in paragraph (c) of this section.

(c) A cooperating agency may adopt without recirculating the environmental impact statement of a lead agency when, after an independent review of the statement, the cooperating agency concludes that its comments and suggestions have been satisfied.

(d) When an agency adopts a statement which is not final within the agency that prepared it, or when the action it assesses is the subject of a referral under Part 1504, or when the statement's adequacy is the subject of a judicial action which is not final, the agency shall so specify. (40 CFR 1506.3)

Section 25.2 (c) – Elimination of Duplication with State and Local Procedures follows:

(c) Agencies shall cooperate with State and local agencies to the fullest extent possible to reduce duplication between NEPA and comparable State and local requirements, unless the agencies are specifically barred from doing so by some other law. Except for cases covered by paragraph (a) of this section, such cooperation shall to the fullest extent possible include joint environmental impact statements. In such cases one or more Federal agencies and one or more State or local agencies shall be joint lead agencies. Where State laws or local ordinances have environmental impact statement requirements in addition to but not in conflict with those in NEPA, Federal agencies shall cooperate in fulfilling these requirements as well as those of Federal laws so that one document will comply with all applicable laws.

In 2003, the EA was reviewed to determine if changed circumstances caused by the Hayman and Schoonover fires in 2002 would trigger a reconsideration of the decision (USDA Forest Service 2003). That interdisciplinary review and documentation fulfilled the requirements of FSH 1909.15, 18 Correction, Supplementation, or Revision of Environmental Documents and Reconsideration of Decisions to Take Action. The conclusion of that document was that Decision Notice (DN), Finding of No Significant Impact (FONSI) and the EA did not need to be revised. The conditions in 2003 are very similar to those existing now except that additional forest restoration treatments have been accomplished since 2003.

The Upper South Platte Watershed Protection and Restoration Project has used an adaptive management approach that uses monitoring to evaluate and modify its forest restoration treatments through time. Vegetation monitoring has been ongoing over the life of the project. The latest report on that monitoring (USDA Forest Service 2005) shows that the vegetation treatments



are meeting or will meet all of the objectives stated in the EA. One of the important findings is that shrub and forb cover doubled in many areas following thinning (USDA Forest Service 2005). This project has been highly successful at reducing fire risk and maintaining good environmental conditions after treatment.

Pawnee montane skipper numbers and habitats have been monitored for the past five years. This monitoring was designed to compare skipper butterfly use of untreated areas (control) with treated areas. The study evaluated two treated areas, one that was treated in 2000 and another that was treated in 2002. A severe drought occurred during this study, which caused some dramatic declines in the control. However, the results were clear that skipper butterfly numbers and key habitat components increased dramatically after treatment (Drummond 2005). This study shows that the key to recovery of the skipper butterfly is through the vegetation treatments that are being accomplished.

Zamir Libohova conducted hydrological studies in the Upper South Platte Watershed as part of his work for his Master of Science degree requirements at Colorado State University. His thesis titled *Effects of Thinning and a Wildfire on Sediment Production Rates, Channel Morphology, and Water Quality in the Upper South Platte River Watershed*, was finalized and accepted in spring 2004. He monitored and compared sediment production from roads, and, burned and treated watersheds. In the treated areas he measured no sediment production in 2002. His results show that the vegetation treatments have little effect on runoff and erosion rates (Libohova 2004). He also concluded that the Hayman Fire had a large increase in runoff, erosion, channel morphology and water quality. This study demonstrates that the sediment yield increases that were predicted in the 2000 EA are likely overestimated and that the water quality of the watershed would best be protected through reduction of wildfire risk.



COMMENTS AND SCHEDULE

Comments on this notice are due 30-days from the date that this is published. Therefore comments will be accepted until June 19, 2006. Submit comments to;

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Following consideration of the comments a DN/FONSI or a Notice of Intent (NOI) to file an Environmental Impact Statement will be issued.

REFERENCES

Drummond, B.A. 2005. Pawnee Montane Skipper Monitoring Study for the Upper South Platte Watershed Protection and Restoration Project, August/September 2004.

Libohova, Z. 2004. Effects of Thinning and a Wildfire on Sediment Production Rates, Channel Morphology, and Water Quality in the Upper South Platte River Watershed. Master of Science Thesis, Department of Forest, Rangeland, and Watershed Stewardship, Colorado State University, Fort Collins, Colorado, Spring 2004.

USDA Forest Service. 2000. Upper South Platte Watershed Protection and Restoration Project Environmental Assessment. Pike National Forest, South Platte Ranger District, Colorado

USDA Forest Service. 2003. Changed Condition Documentation for the Upper South Platte Watershed Protection and Restoration Project Environmental Assessment caused by the Hayman and Schoonover Fires of 2002. Pike National Forest, South Platte Ranger District. October 2003.

USDA Forest Service. 2004. Upper South Platte Watershed Protection and Restoration Project Report on Vegetation Monitoring 2000-2003.

USDI Fish and Wildlife Service. 2003. Biological Opinion on the Upper South Platte Environmental Assessment. Fish and Wildlife Service, Ecological Services, Colorado Field Office. Lakewood, Colorado. January 2001.

