

**Decision Notice**  
**and**  
**Finding of No Significant Impact**  
  
**West Side Habitat Improvement**

US Forest Service  
Kaibab National Forest  
North Kaibab Ranger District  
Coconino County, Arizona

## **Introduction**

This Decision Notice documents my decision and “Finding of No Significant Impact” for the West Side Habitat Improvement project. After careful consideration of the impacts of the alternatives disclosed in the West Side Habitat Improvement Environmental Assessment, I have selected Alternative 3 for implementation. In summary this alternative would improve existing mule deer winter forage and/or reestablish non-existing mule deer shrub winter forage, within an approximately 30,000 acre area, on the west side of the North Kaibab Ranger District.

## **Background**

The Kaibab mule deer herd (*Odocoileus hemionus*) is considered one of the premier herds in Arizona. For the last decade, there has been concern and controversy over the relationship between population size and the impact on winter range browse. Although summer range condition was once considered the limiting resource for the mule deer on the North Kaibab, habitat on the west side winter range is now identified as the main concern. When deer populations erupted to over 100,000 during the mid 1920’s, browse use exceeded annual growth and the winter range on the District was severely impacted. Deer populations peaked again in the early 1950’s and have ranged between 5,000 and 20,000 since. Although, some winter browse recovery has occurred, winter browse is at risk of being out competed by invasive species (cheat grass) and is not sufficient to support the deer herd.

Cliffrose (*Purshia mexicana*) and sagebrush (*Artemisia spp.*) remain in poor condition in many woodland sites. The Arizona Game and Fish Department has documented that shrub species, in addition to bunchgrasses comprise the majority of winter deer forage. Impacts to browse and forage were compounded by the Bridger-Knoll Fire that burned 52,998 acres of pinyon-juniper woodland habitat, much of which burned in critical deer winter range. The Bridger fire was nearly equivalent to one quarter of the total woodland habitat on the North Kaibab Ranger District. Most areas burned by the fire have been invaded to varying degrees by exotics (i.e., cheatgrass (*Bromus tectorum*), musk thistle (*Carduus nutans*), and scotch thistle (*Onopordum*

*acanthium*) which are recognized as a major threat to winter range by the Forest Service. In areas where regeneration has occurred, mule deer use of important forage shrubs, such as cliffrose and big sagebrush, has exceeded annual growth. Consequently, these species are unlikely to provide adequate forage for future generations of deer.

## Reasons for the Decision

After careful consideration of the different alternatives and the public comments made regarding this project, I selected Alternative 3 because it met the purpose and need for improving mule deer winter forage while addressing the concerns raised by the Kaibab Band of Paiute Indians and the Hopi Tribe during project consultation and scoping.

The Tribes were concerned about the Forest Service's ability to maintain the pinyon pine on the North Kaibab in light of recent beetle kill and the past Bridger and Warm fires. This alternative will favor pinyon retention during thinning treatments. The removal of juniper trees will reduce competition for limited moisture and improve the health and vigor of the remaining pinyon.

The Tribes were also concerned about the Forest Service's ability to protect archeological resources during project implementation. Alternative 3 provides the most protection for known and undiscovered archeological resources. The North Kaibab has experience conducting thinnings in areas of high archeological site density without impacting sites.

In addition to the concerns listed above, I considered the following criteria:

- 1.) The effectiveness of the alternative in improving mule deer winter forage while minimizing disturbance to soil crust and minimizing the spread of cheatgrass as a result of the treatment.
- 2.) How well the alternative maintains the visual and recreational quality of the area.
- 3.) The impacts of the project on other wildlife species (Threatened, Endangered and Sensitive Species; Management Indicator Species; and Neotropical Migratory Birds).

The combination of improved mule deer forage and resource protection makes Alternative 3 the best choice for treatment implementation.

## Decision

Alternative 3 will implement the following activities over the next 10 years:

1. Interseed approximately 3,000 of the 7,000 acres identified as burned uplands. Species such as cliffrose, 4-wing saltbush, sage, and *Ephedra* seeds will be interseeded between the existing vegetation in the burned uplands to reestablish mule deer shrub forage.

Effective seeding requires seed bed preparation and subsequent planting into the prepared sites (openings). Seed bed preparation is essential for the seeds to germinate and grow, free from competition. Site or seed bed preparation for large seeded species (e.g., cliffrose) will require creating openings in the existing vegetation using the herbicide Roundup<sup>®</sup> or

mechanically with an implement. Large-seeded shrubs will be planted in openings using a modified rangeland drill. The modified rangeland drill is designed to minimize soil disturbance to avoid the spread of invasive weeds, while creating seed beds adequate for seedling establishment. The intent is to drill seed without the use of herbicide; however, if competition is not reduced sufficiently via mechanical means, the use of herbicide and/or mowing may be needed prior to interseeding. In this case, up to 2000 acres of the 7,000 acres may be treated with Roundup<sup>®</sup> prior to drill seeding to prepare seed beds. Small-seeded shrubs (e.g., sagebrush) will be broadcast seeded over the landscape and harrowed, or lightly disced to work them into soil.

2. Interseed approximately 1,200-1,500 acres of bottomlands. Species such as fourwing saltbush, sagebrush, *Ephedra*, and winterfat will be interseeded among the existing mostly non-native bunch grass community. Treatment will be the same as the burned uplands with emphasis on mechanical seed bed preparation only. If herbicide is deemed necessary to reduce competition, Roundup<sup>®</sup> will be used prior to drill seeding to prepare seed beds. In this case, 800-1,000 acres may be treated with Roundup<sup>®</sup>. Small-seeded shrubs (e.g., sagebrush) will be broadcast seeded over the landscape and harrowed, or light disced, to work them into soil.
3. Restore approximately 80 acres of native shrub, forb, and grass restoration treatments around Slide Tank. Weed treatments and native species restoration at Slide Tank will be accomplished using mowing, followed by herbicide and light discing for multiple years to kill the weed-seed bank. Native species reestablishment will be accomplished using a modified rangeland drill. Possible species for revegetation include Junegrass, Sandberg bluegrass, needle and thread, squirreltail, streambank wheatgrass, western wheatgrass, basin wildrye, buckwheat, globe mallow, western yarrow, fourwing saltbush, sagebrush, rubber rabbitbrush, and winterfat for interseeding among the existing native and planted bunch grass community in the drainage bottoms.
4. Thin pinyon juniper (PJ) woodlands within the approximately 11,000 acres of PJ woodlands in the analysis area. Thinning treatments will enhance the existing shrub understory and stimulate new understory growth. Very old (late seral) PJ stands will not be treated under this proposal.

Multi-storied, open, uneven-aged stands composed of overmature, mature and, sapling sized PJ stands, with existing shrubs and bunch grasses, will be broadcast seeded then hand-thinned, mechanically shredded, or Agra-axe thinned around existing natural openings and shrubs to enhance the existing shrub and grass understory. Opening size will not exceed 2 acres. Thinning treatments will create clumps and groups emphasizing wildlife cover and travelways. Where the understory is limited or absent, ground disturbance from a modified rangeland drill will be used (approximately 3,000 acres). No chemical treatment will be necessary for seed bed preparation because of the limited or absent ground cover. Species such as Junegrass, Sandberg bluegrass, needle and thread, squirreltail, streambank wheatgrass, western wheatgrass, basin wildrye, fourwing saltbush, sagebrush, *Ephedra*, cliffrose, and winterfat may be included in the reseeding of these areas. Thinning will favor retaining pinyon trees over juniper trees. Fuels generated by treatments will be lopped and scattered, mechanically shredded, and/or removed from treated areas by personal use fuelwood

gathering. Pushes within the pinyon juniper woodlands polygon will be treated as pushes, described below. Treatments will not occur within 500 feet of canyon rims.

5. Maintain 4,000 acres of old pushes (previously treated PJ woodlands) to reduce overstory competition and enhance the existing shrub and grass understory by removing most juniper trees <50 years old or up to 12 inches diameter at root crown (DRC) using hand thinning, Agra-axe, and/or mechanical shredder. Broadcast seeding will occur in old pushes if necessary to increase plant biodiversity or to reduce the spread of cheatgrass. Thinning will favor retaining pinyon trees over juniper trees. Leave trees will be of a clumpy nature emphasizing wildlife cover and travelways. Fuels generated by treatments could be removed by personal use fuelwood gathering, lopped and scattered, and/or mechanically shredded.

Alternative 3 includes the following Kaibab Forest Land Management Plan (LMP) design criteria:

- Provide forage cover ratios of 40:60 to 60:40 in areas where TES species habitat requirements do not conflict.
- Provide for at least 40 percent cover where TES species habitat requirements do not conflict.
- Emphasize cover in travelways, bedding areas, reproductive areas, and areas adjacent to water sources and openings. Cover areas will be at least 10 chains in width.
- Provide for not less than 10 percent thermal cover in assessment areas. Emphasize thermal cover management in travelways, reproductive areas, and bedding areas.
- Provide for not less than 10 percent hiding cover in assessment areas. Emphasize hiding cover adjacent to water sources and openings, along travelways, and in pine stringers. Hiding cover shall not be less than 10 chains in width.
- Intensively manage emphasis areas (forest opening edges, water sources) to meet snag et al. objectives see LMP page 74 # 3.a.2.
- The maximum width of the opening is 10 chains.
- The maximum sight distance within the opening is 15 chains.
- The minimum distance between any two openings is 10 chains.
- Exclude livestock from seeded areas for not less than two of three growing seasons immediately following treatment.

Treatments will be phased over approximately 10 years. Treatments will begin in the push renovation followed by burned uplands and bottomlands, and finally the PJ woodlands. Cheatgrass spread to uninfested areas will be minimized within treated areas using the herbicide Plateau<sup>®</sup>.

### **Mitigation Measure Specific to the Project**

Alternative 3 includes the following mitigation measures to reduce project effects:

#### **Heritage**

1. Avoid ground disturbance in the vicinity of sites through complete site avoidance, or, if this is not possible, by hand thinning and removing brush from within the site boundary.

2. Treatment areas and access routes will be designed to prevent impacts to sites without inadvertently drawing attention to site locations.
3. Any implementation activity that encounters cultural materials must be halted immediately and a Kaibab National Forest archaeologist contacted to assess the remains.

### **Soil Crusts**

4. Areas of well developed biological soil crust will be incorporated into untreated leave islands where possible. Well developed soil crust communities are defined as containing a diversity of species and morphological groups with lichens and mosses present.

### **Visuals and Recreation**

#### **Woodlands**

5. Along FR 642, 237, 235, 267A, 267, 267B, 234 slash or tree carcasses should be pulled back 100 feet from the edge of the roads. Pulled back slash may be lopped and scattered to 24" high, piled, chipped, shredded, crushed, or removed.
6. Feather opening edges into untreated areas outside of the project if adjacent to other treatment areas

#### **Pushes**

7. Feather opening edges into untreated areas outside of the project if adjacent to other treatment areas.
8. Do not use FR 642, 237, 235, 267A, 267, 267B, 234 road edges as the clearing boundaries. Leave scattered groups of trees near these roads in an irregular pattern. Some small openings along roads are permissible.
9. In Semi-Primitive Motorized and Roded Natural ROS areas, pull slash back 100 feet from edge of roadway. Pulled back slash will be lopped and scattered to 24" high, piled, chipped, shredded, crushed, or removed.
10. Thin and leave groups of trees, but do not completely clear the Semi-Primitive Motorized (SPM) portion of the treatment area.

### **Wildlife (Condors)**

11. Keep areas of operations clean at all times. This includes making sure that no stray tools, garbage, or toxic liquids are left in the field for any length of time.
12. If a condor occurs on site, personnel will contact field personnel from the Peregrine Fund or the Arizona Game and Fish Department.

## **Other Alternatives Considered**

In addition to the selected alternative, I considered four other alternatives. A comparison of these alternatives can be found in the EA on pages 19-20.

### **Alternative 1 No Action**

Under the No Action alternative, current management plans would continue to guide management of the project area. I didn't select this alternative because it does not meet the purpose and need for this project. Under the No Action alternative winter shrub forage for mule deer would continue to decrease.

### **Alternative 2 Proposed Action**

Alternative 2 was dropped from detailed study because it relied on the development of a hydraulic seeding tool. This implement would never be developed because the FS and its cooperator became aware of a modified rangeland drill that would perform the same function with less ground disturbance. This alternative could never be implemented because the hydraulic seeding tool would not be developed.

### **Alternative 4 Chaining Option**

Alternative 4 was the same as Alternative 3 above, except for adding 500-2,000 acres of chaining in mid-seral, dense pinyon/juniper woodlands that have little to no understory, little to no cheatgrass, and declining watershed conditions. This alternative was not selected because chaining would be detrimental to any undiscovered archeological resources and pinyon pines would not be reserved.

### **Alternative 5 Zero Ground Disturbance**

Alternative 5 relied on herbicide use only to reduce cheat grass competition when re-establishing native vegetation. It would require spraying herbicide over a large area, for multiple years, with no interseeding. This alternative was dropped from detailed study because herbicide use alone is not sufficient for seed bed preparation for desired shrub species. This alternative would not meet the purpose and need for winter browse.

## **Public Involvement and Scoping**

The proposal was listed in the Schedule of Proposed Actions in the 2<sup>nd</sup> quarter of FY 2006. Scoping began in April 2006. The team received five scoping responses and in response, the project was slightly modified. The West Side Habitat Improvement project's notice of proposal and opportunity to comment was published in the Arizona Daily Sun on October 19, 2006. We received no comments or expression of interest during the notice and comment period which ended on November 18, 2006.

The Kaibab National Forest consulted with the Kaibab Band of the Southern Paiute Indians and the Hopi Tribe to identify traditional properties and other resources of concern within the project area. Consultation with the Kaibab Paiute Indians and the Hopi Tribe will continued throughout the life of the project.

## **Finding of No Significant Impact**

After considering the environmental effects described in the EA, I have determined that these actions will not have a significant effect on the quality of the human environment considering the context and intensity of impacts (40 CFR 1508.27). An environmental impact statement will not be prepared, based on the following:

### **A. Context.**

The setting of this proposed action is local, as it pertains to short and long-term effects on both human and natural resource. The effects of the project are limited to a small portion of Coconino County.

### **B. Intensity:**

1. My finding of no significant environmental effects is not biased by the beneficial effects of the action. Both beneficial and adverse effects were considered in the environmental analysis (EA pages 21 to 51).
2. There will be no significant effects on public health and safety, because the treatments will not cause any adverse soil loss or impaired watershed conditions (see EA pages 22-28). The herbicides used for seed bed preparation and cheatgrass control are nontoxic to terrestrial mammals, birds, amphibians, aquatic invertebrates, and insects and do not bio-accumulate in animals (EA pages 21-22).
3. There will be no significant effects on unique characteristics of the area. Those areas considered unique include the Grand Canyon Game Preserve and the Kaibab Squirrel National Natural Landmark (EA pages 28-41). There are no ecologically critical areas such as prime farmlands, wetlands, or wild and scenic rivers (EA Appendix 5) found in the project area.
4. The effects on the quality of the human environment are not likely to be highly controversial because there is no known scientific controversy over the impacts of the project (EA pages 21-51).
5. We have considerable experience with the types of activities to be implemented. The effects analysis shows the effects are not uncertain, and do not involve unique or unknown risk (see EA pages 21-51). We have conducted pinyon juniper woodland thinning on the Ryan 1 (2005) and the Lafevre (2000) projects. Monitoring results of thinning projects has shown an increase in understory production for wildlife (Project File, Document #7, pages 18 and 19, and Document 13, Abstract 34).
6. The action is not likely to establish a precedent for future actions with significant effects, because all future projects decisions will be decided on their project specific effects analysis (EA pages 25, 27, 28, 40, 41, 45, 49, 51).
7. The cumulative impacts are not significant (EA pages 25, 27, 28, 40, 41, 45, 49, 51).

8. The action will have no significant adverse effect on districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, because all sites will be avoided (EA pages 50-51). The action will also not cause loss or destruction of significant scientific, cultural, or historical resources, because all sites will be avoided (EA pages 50-51).

9. The action will not adversely affect any endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species act of 1973, because no project activities would occur in potential habitat for threatened plants. There are no threatened or endangered animal, nests, or roosts, in the project area (EA pages 32-33).

10. The selected alternative conforms to all applicable Federal, State, local laws and requirements (EA pages 21-51).

## **Finding Required by Other Laws, Regulations, and Policies**

This decision to improve mule deer winter forage on the west side of the North Kaibab Ranger District is consistent with the intent of the Forest Plans' long term goals and objectives for wildlife and fish listed on page 18 of the Kaibab NF Land Management Plan (LMP).

This project was designed in conformance with land and resource management plan standards and incorporates appropriate land and resource management plan guidelines for Ecosystem Management Area (EMA) 12:

- Provide for intensive management of wildlife and fish habitats (LMP page 63).
- Formulate and execute habitat investments to improve habitat components and diversity through vegetative manipulations (LMP page 63).
- Do non-structural wildlife habitat improvement as specified in project level analysis... using special cutting, burning, seeding, and planting (LMP page 77).
- Manage for uneven-age stand conditions for live trees and retain live reserve trees, snags, downed logs, and woody debris levels throughout woodland (LMP page 27)
- Sustain a mosaic of vegetation densities (overstory and understory), age classes and species composition across the landscape (LMP page 27).
- Manage for uneven age conditions to sustain a mosaic of vegetation densities (overstory and understory), age classes, and species composition well distributed across the landscape (LMP page 30).

I find that all actions included in Alternative 3 are consistent with direction in the *Kaibab National Forest Land and Resource Management Plan* as amended.

**Management Indicator Species (MIS).** Requirements for the relevant Management Indicator Species in the Kaibab National Forest Land and Resource Management Plan are summarized on pages 28-30 of the EA. The effects on species are disclosed on EA pages 34-38 and MIS project specific report in the Project Record (Documents 35, 39, 40). The Plan specifically requires population monitoring or surveys for the following species that occur in the project area: mule deer and wild turkey (Forest Plan pages 125-130). The project-specific report for Management

Indicator Species found that the selected alternative would have no effect on population numbers or trends. There would be no net loss of habitat for mule deer or wild turkey as a result of this action (Project Record Document 39). This population analysis and habitat information meets NFMA obligations for Management Indicator Species under 36 CFR 219.14(f).

This decision to improve mule deer winter forage on the west side of the North Kaibab Ranger District is consistent with the intent of the Forest Plan's long term goals and objectives for wildlife and fish listed on page 18.

*The National Forest Management Act.* The Kaibab National Forest Land and Resource Management Plan was adopted on April 15, 1988 and has been amended seven times. Projects are to be consistent with the Forest Plan per regulations at 36 CFR 219.8(e) per 2005 NFMA the last appeal disposition.

### **Implementation**

If no appeal is filed within the 45-day time period, implementation of the decision may occur on, but not before, 5 business days from the close of the appeal filing period. If an appeal is filed, implementation may occur on, but not before, the 15th business day following the date of the last appeal disposition.

### **Administrative Review or Appeal Opportunities**

This decision is subject to administrative review (appeal) pursuant to 36 CFR Part 215. The appeal must be filed (regular mail, fax, email, hand-delivery, or express delivery) with the Appeal Deciding Officer at:

Appeal Deciding Officer  
Kaibab National Forest  
800 South 6<sup>th</sup> Street,  
Williams, AZ 86043-2899.

The facsimile number for submitting an appeal is (928) 635-8208. The office business hours for those submitting hand-delivered appeals are: 8:00 to 4:30 Monday through Friday, excluding holidays. Electronic appeals must be submitted in a format such as an email message, plain text (.txt), rich text format (.rtf), or Word (.doc) to [appeals-southwestern-kaibab@fs.fed.us](mailto:appeals-southwestern-kaibab@fs.fed.us). Please put the project name in the "subject" line. In cases where no identifiable name is attached to an electronic message, a verification of identity will be required. A scanned signature is one way to provide verification.

Appeals, including attachments, must be filed within 45 days from the publication date of this notice in the Arizona Daily Sun the newspaper of record for the Kaibab National Forest. Attachments received after the 45 day appeal period will not be considered. The publication date in the Arizona Daily Sun the newspaper of record, is the exclusive means for calculating the time to file an appeal. Those wishing to appeal this decision should not rely upon dates or timeframe information provided by any other source.

The notice of appeal must meet the appeal content requirements at 36 CFR 215.14, including:

1. Appellant's Name and address, with a telephone number, if available;
2. Signature or other verification of authorship upon request;
3. When multiple names are listed on an appeal, identification of the lead appellant and verification of the identity of the lead appellant upon request;
4. The name of the project for which the decision was made, the name and title of the Responsible Official, and the date of the decision;
5. The regulation under which the appeal is being filed;
6. Any specific changes(s) in the decision that the appellant seeks and rationale for those changes;
7. Any portion(s) of the decision with which the appellant disagrees, and explanation for the disagreement;
8. Why the appellant believes the Responsible Official's decision failed to consider the substantive comment; and
9. How the appellant believes the decision specifically violates law, regulation, or policy.

## Contact Person

For additional information concerning this decision or the Forest Service appeal process, contact Susan LaMont at [slamont@fs.fed.us](mailto:slamont@fs.fed.us), North Kaibab Ranger District, PO Box 248, 430 S. Main Street, Fredonia, AZ 86022.

*/s/ Louise Congdon*

*January 26, 2007*

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Louise Congdon  
Acting District Ranger  
North Kaibab Ranger District

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Date