# Record of Decision

## Introduction

I am pleased to announce that we have completed the detailed analysis process and Final Environmental Impact Statement (FEIS) for the Kachina Village Forest Health Project. The Record of Decision (ROD) documents my decision for the Kachina Village Forest Health Project (KVFHP). The FEIS includes some corrections, clarifications, additions to the Alternatives section, and the Draft EIS Response to Comments document located in Appendix H of the Final EIS.

I would like to thank everyone who participated in this planning effort for making this a successful project. Our cooperative effort with the Greater Flagstaff Forests Partnership (GFFP) is extremely valuable. The Partnership's efforts in expanding public involvement, research, monitoring, and working to develop markets for small diameter trees have made this a very valuable and worthwhile endeavor for the Forest Service and public we serve.

As Forest Supervisor for the Coconino National Forest, I have made the KVPHP a top priority, as it will reduce wildfire threat to the communities of Kachina Village, Forest Highlands, and Flagstaff. The dense forest conditions that exist within the project area are highly vulnerable to the kind of crown fires experienced last summer in Arizona and throughout the Southwest. If we do not substantially reduce the density of trees that blanket this area, remove the accumulated fuels on the forest floor, and change human use of the area, we can expect a very severe fire that will substantially alter the forest ecosystem, threaten the homes and lives of those in our communities, and our firefighters. If a massive wildfire occurs there, the potential for massive soil loss and debris flow into the Oak Creek Watershed is a serious concern and could have substantial effects down stream to this unique watershed. However, it would be irresponsible for me not to take immediate action to reduce the numbers of trees and reduce hazardous fuel conditions as we have proposed throughout much of the rest of the project area. If we do not take action, I am certain that someday the communities adjacent could be impacted by a large wildfire. By taking action, we will substantially improve our ability to suppress a wildfire if started in this area. We know that we cannot prevent a wildfire from ever burning in this area. Kelly Canyon, James Canyon, and Pumphouse Wash are the areas within the project boundary that could not be treated due to steepness of terrain and will remain at high fire risk.

This past fall we have all witnessed the ponderosa pine mortality that has occurred from drought and insects. The KVFHP project will improve forest resiliency by creating a less dense forest through thinning.

This ROD contains my decision on a selected alternative and describes my rationale for selecting it supported through the FEIS. A Notice of Availability will be published in the Federal Register, and legal notice published in the "Arizona Daily Sun" following distribution of the FEIS and ROD to the public. The FEIS, appendices, and maps are available on request to those only receiving the ROD.

## Proposed Action

A "proposed action" is defined early in the project-level planning process. A proposed action serves as a starting point for the interdisciplinary team (IDT) and gives the public and other agencies specific information on which to focus comments. The proposed action for the Kachina Village Forest Health project proposed thinning, prescribed burning, road, and recreation management activities to improve declining forest health and reduce wildfire potential. Thinning prescriptions varied to create a mosaic of resulting stand densities. The following actions were discussed:

- Thin approximately 4,800 acres;
- Broadcast and maintenance burn the project area on National Forest System lands, except for canyons and steep slopes, 6,229 acres;
- Reduce road density;
- Construct several new trails;
- Designate dispersed camping areas and close high fire risk areas to camping and campfires.

The Proposed Action is described in detail in Chapter 2 of the Final EIS, "Actions Common to All Alternatives" and "Proposed Action," (Alternative A).

## Location and Project Area

The Kachina Village Project Area is located south of Flagstaff, Arizona on the Peaks and Mormon Lake Ranger Districts of the Coconino National Forest. The project area is adjacent to the communities of

Kachina Village, Flagstaff, and Forest Highlands. Interstate Highway 17 and U.S. Highway 89A border the project area on the east and west, respectively. The southern boundary is approximately one half mile south of James Canyon. Kelly Canyon, Pumphouse Wash, James Canyon, and Mexican Pocket are prominent features within the project boundary. The entire project encompasses 10,417 acres: 2,377 acres of private land, 326 acres of Arizona State Trust Lands, and 7,714 acres of Forest Service land.

## Purpose and Need

The Kachina Village Forest Health Project is currently proposed in response to the 1998 Grand Canyon Forests Foundation Cooperative Agreement (also referred to as the GFFP), the National Fire Plan, and management direction in the Coconino National Forest Plan. The goals and objectives of this agreement and these plans are to improve forest health and to help move the project area toward desired future conditions. The goals and objectives of the project are to:

- Manage forest fuels and fire risk to reduce the potential for a large, stand-replacing fire in the Wildland-Urban Interface and to create forest conditions from which a crown fire would be unlikely to originate under moderate fire weather;
- Address and correct historical causes of ecosystem degradation in order to increase overall forest ecosystem resilience to disturbance events, including fire, drought, and insects;
- Protect habitat for all Threatened, Endangered, and Sensitive species, including Mexican spotted owls and northern goshawks, by reducing the probability of stand-replacing fire in forested habitats and through integrated measures to protect wildlife habitat;
- Protect black bear, turkey, Abert squirrel, and other wildlife species associated with dense habitat by incorporating special design features into the management plan and to continue to provide habitat for these species in the project area, including important wildlife habitats such as cover areas and movement corridors;
- Protect and enhance the quality of the Oak Creek Watershed by reducing the probability of stand-replacing fire;
- Improve and enhance understory vegetation productivity, which has been negatively impacted by increased overstory densities;
- Retain, enhance, and recruit mature or “old yellow” ponderosa pine and Gambel oak, which are declining in longevity and frequency;
- Create the conditions necessary for the reintroduction of fire to the ecosystem;
- Increase the diversity of age classes within the forest to provide northern goshawk habitat as described in Amendment 11 of the Forest Plan;
- Provide access (temporary roads) for thinning;
- Manage access, road networks, and recreation to decrease fire starts, maintain fire suppression access, and to better balance the needs of people with wildlife habitat and watershed and soil conditions;
- Restore and protect riparian habitats; and
- Protect archeological sites.

Goals and objectives that apply to the KVFHP and are goals of the GFFP include:

- Research and demonstrate key ecological, economical, and social dimensions of forest health improvement efforts.

Applicable National Fire Plan goals and objectives include:

- Reducing the number of small fires that become large;
- Restoring natural ecological systems to minimize uncharacteristically intense fires;
- Creating new jobs in both the private and public sectors;
- Improving the capabilities of state and volunteer fire organizations; and
- Reducing the threat to life and property from catastrophic wildfire.

## Decision

It is my decision to select Alternative A as described in the FEIS for the KVFHP along with all mitigation measures and monitoring described in this ROD. I have determined that Alternative A is consistent with the Coconino Forest Plan and associated forest plan amendments and will not require any amendments to the forest plan to proceed.

The scope of this decision is limited to National Forest System lands as described in the Location and Project Area section. As Forest Supervisor, I have the authority to select and implement Alternative A. My decision includes:

- Treating vegetation through thinning and pile burning (approximately 4,800 acres).
- Broadcast and maintenance burning the project area (6,229 acres) on National Forest System lands except for three canyons (Kelly, Pumphouse Wash, James) and steep slopes. Broadcast burning would occur after thinning activities and will treat stands adjacent to communities first and move south in three priority areas: (1) area north of Kelly Canyon and along Highway 89A corridor; (2) area between Kelly and James Canyons; and (3) area south of James Canyon. Maintenance burning would continue throughout the project area every 3 to 7 years.
- Thinning will require about 5.75 miles of temporary roads, which will be obliterated following thinning treatments. Existing Level 2 and 3 Forest Service system roads will receive maintenance (spot surfacing, grading, drainage) to accommodate thinning treatments. The Roads Analysis Process document is located in Appendix G.
- Create snags and logs from some of the 16-inch dbh black-barked trees in the areas south of Kelly Canyon, in northern goshawk habitat, and in developing old-growth.
- Manage Forest Roads 237 and 535 as Level 3 roads providing approximately 7 miles of passenger car roads. Approximately 8.5 miles of Level 2 roads will be maintained as high-clearance vehicle roads. Approximately 17.65 miles of forest system roads not shown on the open-road system will be converted to trails, obliterated, or gated for administrative use.
- Mexican Pocket will be designated for day-use with no camping or campfires. Access will be provided through a 2-3 mile loop hiking trail to the edge of Pumphouse Wash and to connect the Oak Creek Vista Overlook with a small trailhead constructed near the ADOT yard.
- Designate dispersed camping/campfire sites north of Kelly Canyon and west of Pumphouse Wash to one half mile on the west side of Highway 89A and along Forest Road 237. Camping in these designated sites will be allowed within a 50 to 100-foot radius of a marked post. Camping and campfires will be prohibited in areas of close proximity to Kachina Village and Forest Highlands and along the first half mile of Forest Road 535 as it departs Highway 89A. Camping and campfire prohibitions will become effective once designated sites are established/signed on the ground and a special order is issued by the Forest Supervisor.
- Construct approximately 7 miles of non-motorized Forest Service system trail south of Forest Highlands and Kachina Village. An existing social trail from Forest Highlands into the Griffith Spring area will be converted to a Forest Service system trail.
- Construct one new trailhead near the existing ADOT yard on Highway 89A.
- Fence the area around Kelly Seep and remove structures to improve riparian habitat conditions.

Implementation of these activities will vary. Thinning, burning, and designating campsites will begin in 2003. It is expected that thinning will occur between 2003-2006. We anticipate that burning would occur over a 10-year period. Road rehabilitation, trail and trailhead construction will likely begin in 2005 or 2006 as funds are available and/or appropriated.

Prior and during project implementation, we will continue to involve and inform property owners, fire protection districts, and communities in the scheduling and impact (i.e. smoke from burning) of project activities.

My decision does not extend onto private lands. Through the GFFP and private landowners, other fuels reduction efforts may be planned and implemented to further reduce and address fuels around homes and other private values.

## Mitigation and Monitoring Requirements

As part of my decision to select and implement Alternative A, I am also incorporating the following project design, mitigation, and monitoring measures. These measures focus on items/tasks that were incorporated into the design of Alternative A and/or will be incorporated into the implementation of an activity (identified in a contract, burn plan, silvicultural marking prescriptions, etc.). These measures address effects of project activities on soil and water, wildlife, vegetation, recreation, and visual quality.

In addition, the FEIS (pp. 22) identified research and monitoring projects proposed by the Arizona Game and Fish Department, Ecological Restoration Institute/Northern Arizona University (NAU) and the USFS Rocky Mountain Research Station. These studies are not required mitigation or monitoring for purposes of addressing environmental effects so my decision does not require them to be completed. However, I support these research and monitoring projects and will continue to commit to working with these groups to actively search for funding to support them. Possible research studies include Mexican spotted owl studies to examine the effects of fuel reduction treatments; black bear, turkey, antelope, Abert squirrel, and songbird studies to evaluate the effects of the project, and further studies by NAU to evaluate and compare the ongoing research and monitoring of adaptive management strategies for the GFFP projects.

### Soil and Watershed Protection

Best Management Practices (BMP's) will be incorporated into activities as a means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality goals. BMP's will be incorporated into all project activities. BMP's are located in the project record file (PRD 137c).

### Wildlife and Vegetation Protection

#### *Bald Eagle*

- In known winter roost areas, snags and large yellow pine trees will have the duff raked away from the tree bases before broadcast burning where litter depth layers exceed 12 inches.
- Implement a 300-foot radius no cut buffer around known bald eagle winter roosts (Coconino National Forest Plan, 2001, p. 123). This will be amended thru FLEA, and new direction should be followed if a Bald eagle winter roost is located. Currently there are no known winter roost sites.
- Mandatory Impact Minimization Measures will be used to protect bald eagles (USDI Fish and Wildlife Service 2001) if it is later determined that the potential winter roost site, or any other area within the project boundary, is used for roosting by bald eagles.
- There will be no project activities conducted within a quarter mile of known bald eagle winter roost areas between October 15 and April 15.

#### *Mexican Spotted Owl (MSO)*

- No activities, including thinning, broadcast burning, or new trail construction will occur within PAC's during the breeding season (March 1 to August 31).
- Any burning outside PAC's during the MSO breeding season will be designed to minimize smoke impacts on the PAC's.

***Mandatory Impact Minimization Measures to protect Mexican spotted owl (USDI Fish and Wildlife Service 2001):***

***Protected Areas (MSO)***

- No harvest of trees >9 inches dbh is allowed in PAC's. Harvest of any trees is only permitted as described in USDI Fish and Wildlife Service 2001.
- Fuelwood harvest within PAC's should be managed in such a way as to minimize effects to the owl and its prey, and their habitats.

- Continue to work with the USFWS and the recovery plan to develop a monitoring program that assesses the combined effects of thinning and fire on spotted owls and their habitat.
  - Ideally, a paired sample of PAC's should be selected to serve as control areas.
  - Within each selected PAC, designate 100 acres centered around the nest site. This nest area should include habitat that resembles the structural and floristic characteristics of the nest site. These 100 acres will be deferred from the treatments described below.
  - Within the remaining 500 acres, combinations of thinning trees <9 inches dbh, treatment of fuels, and prescribed fire can be used to reduce fire hazard and improve habitat conditions for owl prey. Habitat components that should be retained or enhanced include large logs (>12 inches midpoint diameter), grasses and forbs, and shrubs. Emphasis of the spatial configuration of treatments should be to mimic natural mosaic patterns when consistent with fire risk reduction objectives.
  - Treatments should only occur during the nonbreeding season (September1 to February 28) to minimize any potential deleterious effects on the owl during the breeding season.
  - Following treatments to the PAC's, effects on the owl, prey species, and their habitats should be assessed. If such effects are non-negative, an additional sample of PAC's may be treated. If negative effects are detected, these effects must be carefully evaluated. If they can be ameliorated by modifying treatments, those modifications should occur prior to treatment of additional PAC's. If not, reinitiate consultation with the USFWS.
- Within PAC's treated to reduce fire risk, pre- and post-treatment assessments of habitat conditions and owl occupancy should be done. Specific habitat characteristics that should be monitored include fuel levels, canopy cover, snag basal area, volume of large logs (12 inch midpoint diameter), and live tree basal area.
- No aerial ignition within PAC's

***Steep Slopes Outside of PAC's***

- Within mixed-conifer and pine-oak types, allow no harvest of trees >9 inches on any slopes >40 percent where timber harvest has not occurred in the past 20 years. These guidelines also apply to the bottoms of steep canyons. Thinning of trees <9 inches dbh, treatment of fuels, and fire are allowed, as described in USDI Fish and Wildlife Service 2001. No seasonal restrictions apply. Prescribed natural fire and the creation of firebreaks may be used as appropriate. On steep slopes treated to reduce fire risk, either by the use of prescribed fire alone or in conjunction with removal of stems and ground fuels, pre- and post-treatment monitoring of habitat conditions should be done. Specific habitat characteristics to be measured include fuel levels, snag basal area, volume of large logs (>12 inch midpoint diameter), and live tree basal area.

***Restricted Areas: These measures should be followed whenever consistent with risk reduction objectives (MSO)***

- Manage mixed-conifer and pine-oak forest types to provide continuous replacement nest habitat over space and time (Table III.B.1 of spotted owl recovery plan).
- Incorporate natural variation, such as irregular tree spacing and various stand/patch sizes, into management prescriptions and attempt to mimic natural disturbance patterns.
- Maintain all species of native vegetation in the landscape, including early seral species, to allow for variation in existing stand structures and provide

species diversity. Both uneven-aged and even-aged systems may be used as appropriate.

- Allow natural canopy gap processes to occur, thus producing horizontal variation in stand structure.
- Within pine-oak types, emphasis should be placed on management that retains existing large oaks and promotes the growth of additional large oaks.
- Retain all trees >24 inch dbh.
- Retain hardwoods, large down logs, large trees, and snags.
- Emphasize a mix of size and age classes of trees. The mix should include large mature trees, vertical diversity, and other structural and floristic characteristics that typify natural riparian conditions.

### *Peregrine Falcon*

- Activities, including public use, are prohibited in the vicinity of occupied peregrine falcon nesting habitats between March 1 and August 15 (Forest Plan page 64-1). No broadcast burning or thinning will occur on sites 354/29 and 31 and the southern half of 354/23 and 24 from March 1 to August 15. This seasonal restriction applies unless falcon habitat is determined to be unoccupied.

### *Northern Goshawk*

- Thinning treatments will not occur within or near nesting areas during the breeding season (March 1 through September 30).
- As the trail system is implemented, recreational trails that traverse nesting areas will be closed. Access that will allow people to travel into nesting areas will be discouraged.

### *Other Raptors*

- No cut buffers for nest and roost sites will be implemented according to the Coconino National Forest Plan (2001, p. 123-124) standards and guidelines.

### *Turkey Nesting*

- Thinning and broadcast burning will not occur from April 15 through June 30 within turkey nesting and brood sites within Location 368/Sites 7, 9, 10, 32, 33, 36, 37, and 38. Duff and debris will be raked away from the base of roost trees prior to broadcast burning where litter depth layers are greater than 12 inches. Also within these stands, the wildlife biologist and burn boss will coordinate, in the field, whether or not to conduct spring burning in these sensitive areas.

### *Plants*

- To reduce the impacts on rare and sensitive plants, thinning slash and burn lines will not be placed within plant populations. Appropriate firing techniques will be used to minimize the effect of burning on known populations.
- Prescribed fire control lines and temporary roads will avoid known populations of sensitive plant species.
- Surveys for sensitive plant species will be conducted prior to trail construction. If sensitive plant species are found, layout will avoid plants.
- Native perennial species or annual rye grass seeds will be used where re-seeding of grasses and herbaceous vegetation is needed after ground disturbing activities. Sterile non-native species or non-seeding methods, such as weed-free straw, may be necessary for sites where annual rye grass persists. Seed mixes containing seeds of non-native *Penstemon spp.* will be avoided.
- During thinning operations, equipment will be cleaned prior to entering the project area to avoid introduction or transfer of noxious weeds. Within the project area, equipment will be cleaned prior to leaving areas infested with noxious weeds. Equipment entrance and exit routes from Interstate 17 and Highway 89 will include hand tool treatment of noxious weeds. Known populations of knapweed and bull thistle will be marked for avoidance.

## Yellow Pines and Other Mature Trees

- Slash piles will not be placed near large yellow pines to avoid damage during burning. This would be especially important in bald eagle winter roost areas, turkey summer and winter ranges, and protected or restricted MSO habitat.
- Burn damage to large mature trees will be avoided. Burning techniques will protect mast-producing trees (i.e. large alligator juniper, large pine, and oak), and turkey roost trees throughout the project area. Burning techniques will minimize heat effects to the feeder roots and cambiums of mature trees.
- Old trees will have duff raked away from the bases where high litter depth layers (greater than 12 inches deep) may result in girdling and mortality. The Prescribed Burn Monitoring Report and Information (Randall-Parker and Miller 1999) will guide our actions.

## Gambel Oak

- Large Gambel oak will be retained. Burn plans will mitigate oak loss through the removal of large material, raking duff from the base of oaks where litter depth exceeds 12 inches, and avoidance of slash piles near oaks.

## Snags and Logs

- Snags will be lined before broadcast burning. Slash piles will be placed away from snags.
- Loss of large logs will be minimized through ignition techniques and possibly fire-lining. The timing of prescribed burning (spring burning) may also reduce the loss of logs.

## Recreation

- No slash piling in dispersed camping sites.
- No log landings in dispersed camping sites.
- No thinning activities on heavily used holiday weekends, such as Memorial Day, Fourth of July, or Labor Day.

## Visual Management

- Adjust unit boundaries to avoid straight edges around units. Develop marking prescriptions, which “feather” the edges of units. Look for opportunities to define unit boundaries with natural features such as canyon edges or drainages, and avoid using roads or fence lines as unit boundaries when those features are straight. Refer to visual simulations for reference.
- Apply above mitigation especially to units at the upper elevations of the project, and to units whose boundaries are visible from areas of concern such as from Highway 89A and Interstate I-17.

## Routine Implementation Monitoring

Routine implementation monitoring assesses if the project was implemented as designed and if it complies with the forest plan. Planning for routine implementation monitoring began with the preliminary design of the Kachina Village Forest Health Project.

Routine implementation monitoring is a part of the administration of all project contracts. They monitor performance relative to contract requirements. Input by resource staff specialists, such as wildlife biologists, soil scientists, hydrologists, and engineers, is regularly requested during this implementation monitoring process. These specialists provide technical advice when questions arise during project implementation.

Project activities may be incorporated into routine forest monitoring like the annual review, annual BMP implementation, and effectiveness review. The results of this and other monitoring are summarized in a national forest annual monitoring and evaluation report. This report provides information about how well the management direction of the forest is being carried out. It also measures the accomplishment of anticipated outputs, activities, and effects.

Alternative A includes the following implementation monitoring:

### *Thinning from Below – South of Kelly Canyon*

Site-specific implementation, such as the layout of cover, marking, and thinning, will include assistance from the Arizona Game and Fish Department and the USFS wildlife biologists. The monitoring objective will be to assure the sites include cover patches. The sites will include 25 percent cover patches in patches no larger than 1 acre. The district wildlife biologist along with timber staff will assume responsibility for the completion of the task.

### *Thinning from Below – MSO PAC's*

The key to implementation of site-specific thinning includes layout and assistance during thinning by U.S. Fish and Wildlife Service, USFS, and Arizona Game and Fish Department personnel. Recommendations for thinning and prescribed burning are located in the Project Record File (PRD 117). The objective of the monitoring is to reduce fire potential within MSO PAC's, following recovery guidelines. Fuels specialists and the district wildlife biologist will be responsible for completing the task.

### *Wildlife Movement Corridor*

The site-specific layout will include assistance from the Arizona Game and Fish Department and USFS wildlife biologists. The monitoring objective is to assure the site includes adequate cover within the movement corridor. The district wildlife biologist along with the timber staff will assume responsibility for the completion of the task.

### *Herbaceous Understory Recovery*

The annual operating instructions for grazing allotments will be adjusted as needed to allow for recovery of naturally occurring herbaceous communities. Range conservationists will conduct monitoring following both thinning and burning treatments. Monitoring will be conducted via observations to determine readiness for livestock use. These observations will include species maturity (seed heads) and abundance. Grass species, including Arizona fescue (*Festuca arizonica*), mountain muhly (*Muhlenbergia montana*), and squirrel tail (*Sitanion hystrix*) will be the key species used in these observations. Noxious weed monitoring will occur during these observations to detect changes in distribution and/or abundance.

## Project-specific Effectiveness Monitoring

The purpose of effectiveness monitoring is to determine the efficacy and usefulness of specific design features or mitigation measures in protecting natural resources.

### *Microhabitat Monitoring for Mexican Spotted Owls*

Microhabitat monitoring will be conducted according to standard protocol as identified by Forest Service Region 3 direction.

# Partnerships and Public Involvement

## Greater Flagstaff Forests Partnership

The Grand Canyon Forests Foundation (a nonprofit organization) and the Coconino National Forest have established a Cooperative Agreement to work together to demonstrate new forest management approaches in improving and restoring the ecosystem health of the ponderosa pine forest ecosystem where urbanized areas interface with national forest lands (Flagstaff Wildland-Urban Interface). This cooperative effort seeks to involve the greater Flagstaff community extensively to develop a community-based solution to local forest health problems. This cooperative project is called the Greater Flagstaff Forests Partnership (GFFP).

## Public Scoping

The KVFHP has been listed on the Coconino National Forest Schedule of Proposed Actions since December 15, 2000, which is mailed to approximately 500 persons, organizations, and agencies quarterly. The proposed action was mailed to approximately 100 addresses.

A Notice of Intent (NOI) to prepare an EIS was published in the Federal Register on March 9, 2001. Public meetings were held in February, March, and April of 2001 to provide project area information, develop the desired future condition, and discuss local concerns and interests. In June 2001, a scoping letter including the proposed action sought public comment and was mailed to approximately 100 individuals, agencies, and groups. An announcement regarding the project was printed in the "Arizona Daily Sun" on March 30, 2001.

Meetings with state and Federal agencies, communities, and others have included several open house meetings in Kachina Village, GFFP meetings, and numerous field trips involving some of the following organizations and agencies: Grand Canyon Trust, U.S. Fish and Wildlife Service, Native American Enterprises, Arizona Game and Fish Department, Coconino Natural Resources Conservation District, Southwest Forest Alliance, USFS Rocky Mountain Research Station, Ecological Restoration Institute of Northern Arizona University, Grand Canyon Forests Foundation, Flagstaff Fire Department, Society of American Foresters, Highlands Fire Department, Arizona State Land Department, and GFFP, including the Grand Canyon Forest Foundation.

### Public Comments on the DEIS

On February 28, 2002, a letter was sent to 96 individuals, organizations, and government agencies. This letter stated that the DEIS would be available for public review and asked for recipients to indicate their preference for viewing the DEIS in either compact disc format, hard copy format, or viewing the document on the Coconino website. On August 9, 2002, copies of the DEIS were sent to the 24 individuals, organizations, and government agencies that responded with a preference to receive either a CD or hard copy. Those who did not indicate a preference received a letter stating that the DEIS was available for public review on the Coconino website. The Notice of Availability of the DEIS was posted in the Federal Register on August 16, 2002. An open house to present the DEIS to the public was conducted on August 21, 2002 and three field trips followed for further discussion and explanation of the DEIS. More than 100 persons attended the field trips and open house. Forty-four responses were received by the close of the comment period on September 30, 2002. Copies of the letters received and response to these comments can be found in Appendix H of the FEIS.

In reviewing public comments, there was strong support for going forward with a project to improve forest health resiliency and lessen wildfire threat to our community and to move forward as quickly as possible. There was widespread support for the selected treatment of thinning the smaller trees, followed by broadcast burning, and management of recreation use to lessen fire risk. There were no comments that supported No Action. Some generally approved of the thinning, but asked for a more limited approach. Many supported either Alternatives A, C, or D. Several comments suggested that if the selection of an alternative may lead to less chance of appeal or litigation, that we select the alternative that would lessen this risk. Several comments gave recommendations about specific environmental protection that they would like to see incorporated into the project.

We received detailed recommendations to change the existing alternatives and blend alternatives. My staff addressed these comments and studied two additional alternatives in the FEIS. We received comments that were outside the scope of this forest health improvement project, such as those about fines for illegal activities and allotment management planning. Overall the largest number of comments came from the residents of Kachina Village expressing strong support for this project and to act quickly to implement.

## Other Alternatives Considered

### Alternative B (No Action)

The No Action Alternative would propose no future management activities within the project area at this time. It does not preclude activities in other areas at this time or from the project area at some time in the future. This alternative represents the existing condition against which the other alternatives are compared.

### Alternative C

This alternative is identical to the “Proposed Action” (Alternative A) except that this alternative would not cut any trees larger than16-inch diameter, no exceptions would be made. This alternative was developed in response to Issue 1. This alternative would drop the creation of logs and snags from the 16-inch black-barked ponderosa pines.

### Alternative D

This alternative is identical to the “Proposed Action” (Alternative A) except that this alternative would not cut any trees larger than18-inch diameter. This alternative was developed in response to Issue 2. Some black-barked ponderosa pine trees 16 to 17.9 inches dbh would be removed to achieve important and valuable objectives, such as creating grassy

openings, enhancing existing forest openings, enhancing larger trees to promote future old-growth and reducing wildfire potential. The alternative maintains the element of creating logs and snags from some of the 18-inch dbh black-barked trees.

### Alternative E

This alternative incorporates different thinning prescriptions of varying intensities applied to the treatment units. This alternative addresses Issues 3 through 6. No trees over 16-inch diameter would be cut. Only 2.5 miles of temporary roads would be required. Less mechanized equipment would be used. Alternative E contains an area referred to as the "Intensive Zone." The Intensive Zone would be located adjacent to private land and include a variable thinning of 40 to 50 $ft^2$ BA to create a fuel break. The fuel break would be approximately 1/8-mile (660 feet) in diameter and immediately adjacent to homes. Beyond the fuel break, a variable thinning from below (60 to 120 $ft^2$

BA) would be implemented to reduce fire potential and improve forest health if roads are available. Where an existing temporary road is not available, a 9-inch diameter thinning limit is applied. South of Kelly Canyon no mechanical equipment would be used and there would be a 9-inch diameter limit.

### Alternatives Considered But Eliminated from Detailed Study

Federal agencies are required by NEPA to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14). Public comments received in response to the Proposed Action provided suggestions for alternative methods for achieving the purpose and need. Five alternatives in addition to the five above were considered during the planning process but were eliminated from detailed study. These include the following: 1) use of prescribed fire without thinning; 2) brush removal with raking and lower branch pruning only; 3) a 12-inch diameter thinning limit; 4) a revision of Alternative E without any temporary roads; and 5) expanded area for designated dispersed camping. I have reviewed these alternatives and find the reasons described for their elimination are valid (FEIS, pp. 22-27).

## Rationale for Decision

I have selected Alternative A as this alternative will best improve ecosystem health and reduce fire potential. Alternative A is the most environmentally preferable as described for this project (40 CFR 1505.2(b)). My reasons for selecting Alternative A are based on the following factors:

#### *(1) Working and Implementing the 1998 Cooperative Agreement between The Grand Canyon Forests Foundation (GFFP) and the Coconino National Forest.*

Through this project, we are implementing the agreement goals and objectives for forest management approaches that improve and restore ecosystem health of ponderosa pine forest ecosystems in the Flagstaff wildland-urban interface area. The relationship with the GFFP allows us to build a stronger relationship with the Flagstaff community.

The Partnership actively participated in all public aspects of this environmental analysis. Public outreach strategies and efforts led by members of the Partnership have created greater community awareness and understanding of the fuels/fire issue plaguing our region. The Partnership efforts to research and demonstrate new approaches to forest management have strengthened the forest's relationship with Northern Arizona University, the Ecological Restoration Institute and provided the forest with new tools to conduct research and monitoring.

I received a letter from the GFFP during the DEIS comment period that generally approved of and endorsed Alternative A.

#### *(2) Addressing the Purpose and Need.*

In selecting Alternative A, I reviewed the purpose and need for this project carefully with the significant issues and differing alternatives. The environmental analysis notes the differences between the alternatives. I chose Alternative A because it best addressed and integrated these purpose and need statements from a fuels and vegetative management perspective. These include:

> **Manage forest fuels and fire risk to reduce the potential for a large, stand-replacing fire in the Wildland-Urban Interface and to create forest conditions**

**from which a crown fire would be unlikely to originate under moderate fire weather:**

Alternative A changes flame lengths of 5.7 to 7.2 feet (existing condition) to less than 4 foot flame lengths and less in an arrangement that creates discontinuous canopy across the project area. Alternative A will reduce crown fire potential on 4,266 acres. By removing some 16-inch black-bark trees for specific purposes (see "16" Cutting Diameter" under "3) Public Involvement and Input" on the following page), Alternative A removes more ladder fuels in areas than Alternatives C and D. Alternative E reduced crown fire potential on 2,328 acres (almost 50 percent less) which is substantially less than Alternative A.

**Address and correct historical causes of ecosystem degradation to increase overall forest ecosystem resilience to disturbance events, including fire, drought, and insects:**

High tree density and high canopy closures are the greatest factors affecting ecosystem resilience. Alternative A changes the treated areas through thinning and burning from 200 trees per acre (existing condition) to 100 trees per acre on average. Currently, 60 percent of the project area has canopy closure greater than 60 percent. Alternative A will reduce canopy closure to 20 percent with 60 percent canopy closure.

**Protect habitat for all Threatened, Endangered, and Sensitive species, including Mexican spotted owls and northern goshawks, by reducing the probability of stand-replacing fire in forested habitats and through integrated measures to protect wildlife habitat:**

By retaining all existing mature ponderosa pine trees (yellow-barked trees), we are protecting habitat including old-growth and snag recruitment for TES species. In addition, thinning around these mature trees to reduce competition for light, moisture and nutrients will improve their longevity. Alternatives A and D best address thinning around these trees.

For MSO, fire hazard potential is reduced by thinning aggressively adjacent to the PAC's and by thinning from below within PAC's as identified in the recovery plan for this species. Broadcast burning within and adjacent to PAC's lessens wildfire threats to nesting and foraging habitat.

For bald eagles, thinning will improve old tree longevity in potential winter roost sites. Thinning and broadcast burning will lessen risk of potential winter roost sites being destroyed by wildfire.

Recreation management will lessen human activities and benefit potential winter roosting habitat.

We implemented the Northern goshawk guidelines with Alternative A, setting vegetative structural stage on a trajectory to improve habitat conditions as identified in the management recommendations for this species. VSS 1 is changed from 0 percent to 5.5 percent (desired is 10 percent), VSS 3 is changed from 61.5 percent to 26 percent (desired is 20 percent); VSS 4 is changed from 24 percent to 52 percent (desired is 20 percent); VSS 5 is changed from 6 percent to 10 percent (desired is 20 percent). In 50 years there is 29 percent VSS 5 that in time will develop into old growth representing a substantial effort in achieving the desired future condition for managing northern goshawk habitat.

**Improve and enhance understory productivity:**

Alternative A provides the greatest increase in grassy openings than any other alternative. It will result in a 50 percent increase and change the overall canopy of the forest from dense to moderately dense. The existing condition is less than 10 percent of the area is in a 40 percent or less canopy closure. Following thinning and burning, approximately 35 percent of the area will be in a canopy closure of 40 percent or less.

This change is critical for the northern goshawk (sensitive wildlife species) with Alternative A best meeting the management recommendations tied to this birds prey species. The Navajo Mountain Mexican vole, Flagstaff beardtongue, and Flagstaff pennyroyal (sensitive wildlife and plant species) also benefit from increasing canopy openings.

**Manage access, road networks and recreation to decrease fire starts, maintain fire suppression access, and to better balance the needs of people with wildlife habitat and watershed and soil conditions:**

Alternative A reduces fire risk by balancing human influences, fire occurrence, wildlife habitat, and watershed health through management of recreational use and access. Alternative A will manage for dispersed camping by designating campsites along Forest Roads 237 and 535 where areas have been treated to reduce crown fire potential. Designated camping will occur away from sensitive wildlife habitats (canyon edges). Alternative A manages for good administrative access for firefighting and provides the best arrangement of roads to balance fire risk (human access) and the recreation experience.

### *(3) Public Involvement and Input*

I have carefully considered all the public comments received through this environmental analysis. In addition to the response to comments sections in the FEIS, I have incorporated feedback on the comments by making corrections and adding clarification to the FEIS, developing two new alternatives, as well as providing the rationale for my decision in this ROD.

Significant issues raised for the KVFHP were identified through public scoping. The six significant issues were used to develop management alternatives, mitigation measures and monitoring requirements (40 CFR 1500.4g, 1500.5d, 1501.7(2,3), 1502.2b). In addition, during public scoping, I was asked to consider environmental protection measures related to retaining the largest trees, leaving unthinned patches, not clear cutting, thinning to variable densities, closing roads, cleaning up slash piles, protecting soils and understory growth, lessening the spread of noxious weeds, protecting wildlife habitat, monitoring our activities, and working in an adaptive management approach. These suggestions are addressed in my decision through (1) project design; (2) mitigation measures; (3) integration of specific Best Management Practices; (4) integration and consistency with applicable forest plan management direction; and (5) through contract specifications/ clauses.

There are two topics brought up during scoping and during the review of the DEIS that I want to touch on specifically:

***16" Cutting Diameter:*** Many comments focused on the desire that we not thin ponderosa pine trees greater than 16 inches in diameter. Comments expressed that thinning of larger diameter ponderosa pine would impact future old-growth (discussed previously) and that the removal of larger ponderosa pine is for economic gain and is in conflict with ecosystem health. My decision allows for cutting trees greater than 16 inches in diameter for these purposes: creating grassy openings, enhancing existing forest openings, enhancing growth and health of larger ponderosa pine to promote future old-growth, and reducing fire potential (FEIS, page 28). Nowhere in the document do we state that our purpose and need is economic, however thinning of trees greater than 16 inches may result in some economic gain. I view the commercial value as a byproduct of sound ecological restoration. The economic section in the FEIS displays that Alternative A will cost nearly 1 million dollars to implement. We have the ability to use a goods for service contract to implement this project as Congress has authorized this type of contract for our use because the GFFP is a National Stewardship Pilot. This type of contract allows for dollars generated from the thinning to pay for ecological restoration projects, such as rehabilitating and closing roads, monitoring, and constructing trails. This project is not about economic gain, however, economic gain from Alternative A will assist in paying for the entire ecological restoration project.

***Potential for Appeals and Litigation:*** Many comments from the DEIS asked that I select an alternative with the least chance of appeal and/or litigation so that the project could be implemented as soon as possible. Any alternative that I select is subject to administrative review (appeal under 36 CFR 215) and/or litigation. I chose Alternative A based on the factors listed above supported through the environmental analysis. My decision is not based on whether an alternative has a risk of being appealed or litigated.

In closing, Forest Service land managers and resource specialists continue to evaluate the appropriate treatments around as every year fires are getting larger and more difficult to control. The fires of 2002 are resulting in a completely new array of papers and research that will be addressing this subject and will be reflected in our next GFFP project. It is my expectation based on some of the initial information and monitoring that has been discussed that future projects might require more aggressive thinning. Some internal comments have suggested more aggressive thinning on the Kachina Village Forest Health Project. However, in the desire to move this project forward I have decided to continue on course with Alternative A knowing, however, that future treatments will be needed to maintain the stand densities desirable to lessen wildfire potential. I anticipate the need for future thinning of the area North of Kelly Canyon in approximately 20 years in order to maintain the lower tree density necessary to reduce crown fire threat.

## Issues Addressed

Significant issues raised for the Kachina Village Forest Health Project were identified through public scoping. The following issues were determined to be significant and within the scope of the project decision, and were used to develop management alternatives, mitigation measures and monitoring requirements (40 CFR 1500.4g, 1500.5d, 1501.7(2,3), 1502.2b):

- Cutting trees greater than 16-inch diameter would affect future old-growth in the area, resulting in fewer acres being able to qualify as old-growth forest structure in the future.
- All project objectives could be met with an 18-inch diameter limit and request that a quantitative analysis be provided.
- The Proposed Action does not reduce fuels sufficient to protect the immediate wildland-urban interface. An "intensive treatment zone" around private land is requested for evaluation.
- Thinning north of Kelly Canyon as described in the proposed action goes beyond what is needed to reduce fire risk. A lighter treatment of 60 to 120 basal area and 9-inch thinning limit (where a temporary road is needed) is requested for evaluation.
- Temporary roads lead to increased soil compaction, transport of exotic weeds, and have long-lasting impacts on forest structure, therefore, we request that no new temporary roads be created even if only for the duration of the project.
- Mechanized equipment and excessive thinning will increase soil compaction and cause disturbance to wildlife in areas south of Kelly Canyon. The area south of Kelly Canyon should only be treated with hand thinning and was requested for evaluation.

Other concerns about the proposed treatments were not considered "significant' because the impacts were likely to be negligible once the mitigation and monitoring requirements are applied to minimize potential adverse effects.

## Permits and Agency Approvals Required

Two permits or authorizations must be obtained before implementing the project. These have already been obtained – the consultation and concurrence from U.S. Fish and Wildlife Service on the biological assessment and the consultation and concurrence from the State Historic Preservation Office.

## Findings Required by Other Laws and Regulations

The planning and decision-making process for this project was conducted in accordance with all applicable laws, regulations, policies and plans. This section briefly describes my findings regarding the legal requirements most relevant to this project decision. All management practices and activities of Alternative A are consistent with the management direction of the Coconino National Forest Land and Resource Management Plan as amended. The Roads Analysis Process is documented in Appendix G of the FEIS.

### National Environmental Policy Act (NEPA) and 40 CFR 1500 Regulations

NEPA requires that Federal agencies complete detailed statements on proposed actions that significantly affect the quality of the human environment. The Act's requirement to prepare an

environmental impact statement is designed to provide decision makers with a detailed accounting of the likely environmental effects of a proposed action prior to adoption and to inform the public of, and allow comment on, such effects. The EIS does a comprehensive job of analyzing and displaying the alternatives and the environmental effects. The procedural requirements of NEPA have been followed and are met.

## National Forest Management Act (NFMA) and 36 CFR 219 Regulations

All project alternatives fully comply with the Coconino National Forest Plan and associated amendments. This project incorporates all applicable forest plan forest-wide standards and guidelines and management area direction as they apply to the project area. The project is also in compliance with forest plan goals and objectives. This includes additional direction contained in all amendments. All required interagency review and coordination has been accomplished. New or revised measures resulting from this review have been incorporated.

Four sensitive species are evaluated in the biological assessment and evaluation (BA&E) regarding the preferred alternative for the project, because these species occur or there is suitable habitat in the project area and there are possible affects. These species are American peregrine falcon, northern goshawk, Flagstaff beardtongue, and Flagstaff pennyroyal.

The forest plan complies with all resource integration and management requirements of 36 CFR 219 (219.14 through 219.27). Application of forest plan direction for the Kachina Village Forest Health Project ensures compliance at the project level.

## National Historic Preservation Act (NHPA)

Cultural resource surveys of varying intensities have been conducted in accordance with inventory protocols approved by the State Historic Preservation Officer. Native American communities have been contacted and public comment encouraged. It was determined under the Programmatic Agreement for Compliance with Section 106 of the National Historic Preservation Act that the proposed undertakings will have no effect on cultural properties and values. This project would have no cumulative effect on the cultural properties and values.

## Endangered Species Act (ESA)

Section 7(a)(2) of the Endangered Species Act requires that Federal agencies consult with the United States Fish and Wildlife Service (USFWS), as appropriate, to ensure that their actions do not jeopardize the continued existence of species listed as threatened or endangered under the ESA, or destroy or adversely modify their critical habitat. Threatened and endangered species were addressed through consultation with the USFWS. A narrative for the project area of the evaluation of the threatened, endangered and sensitive species that occur on the Mormon Lake Ranger District is located in the project record (PRD 123). Consultation with USFWS regarding threatened and endangered species in the project area has already occurred under the Wildland-Urban Interface Batch-Programmatic Environmental Assessment and Evaluation for several projects in the Southwestern Region (USDA Forest Service 2001a). A biological opinion was issued by the USFWS in April 2001 (USDI Fish and Wildlife Service 2001). Eight species found within or near the project area, currently or historically, were included in the analyses. The USFWS made determinations for species potentially affected by activities within the Kachina Village FHP area. The USFWS concluded that implementation of the project would have no effect on the black-footed ferret, jaguar, and Gila trout. The USFWS also concluded that implementation of the project may affect the bald eagle, loach minnow, razorback sucker, and the spikedace, but is not likely to adversely affect critical habitat and result in a trend toward Federal listing of these species. Lastly, the USFWS concluded that implementation of the project may adversely affect Mexican spotted owl. However, on a region-wide basis, it is the biological opinion of the USFWS that “implementation of the Proposed Action, as necessary to reduce the risk of catastrophic wildfire, is not likely to jeopardize the continued existence of the Mexican spotted owl” (USDI Fish and Wildlife Service 2001, page 101).

## Migratory Bird Teary Act (MBTA)

I find that the project is consistent with this Act, as well as recent agency guidelines for conformance with the MBTA. Analysis in the FEIS disclosed effects of the project and show that the project provides for opportunity to restore and enhance habitat for migratory bird species of concern.

## Clean Water Act

The design of project activities and roads is in accordance with forest plan management direction, the regional guide, Best Management Practices, and applicable Forest Service manual and handbook direction. Monitoring and evaluation of the implementation and effectiveness of the forest plan standards and guidelines and Best Management Practices will occur. Project activities are expected to meet all applicable State of Arizona water quality standards.

All roads will be designed and constructed in accordance with the applicable Best Management Practices listed at 33 CFR 323.4(a). No permits under Section 404 of the Clean Water Act will be required.

Federal agencies are required by the Clean Water Act to cooperate with state agencies in preventing, reducing, and eliminating pollution in concert with programs for managing water resources. The Non-point Source Intergovernmental Agreement signed by the Forest Service (Region 3) and the Arizona Department of Environmental Quality states that the Forest Service will endeavor to minimize and mitigate all potential non-point source pollution activities. As agreed upon by the State of Arizona and the Forest Service, the most practical and effective means of controlling potential non-point pollutants from forests and rangelands is through the development of preventative or mitigating land management practices, generally referred to as Best Management Practices (BMP's), or in the case of Arizona's process, Guidance Practices (GP's). The purpose of this agreement is to meet objectives defined by the United States Congress in the Federal Water Pollution Control Act (as amended in 1987). These objectives are to restore and maintain the chemical, physical, and biological integrity of Arizona's waters by complying with water quality standards identified for designated uses in downstream perennial waters. The KVFHP meets these objectives through the incorporation of Best Management Practices listed in Document 137e of the Project Record.

# Clean Air Act

The Clean Air Act makes it the primary responsibility of states and local governments to prevent air pollution and control air pollution at its source. States must have a plan that provides for implementation, maintenance, and enforcement of the primary ambient air quality standard. All forest burning activities are regulated and administered by Article 15, Forest and Range Management Burn Rules (10/8/96). The Arizona Department of Environmental Quality (ADEQ) strictly models emissions/pollutants from all prescribed burning within the state. Any prescribed burn planned by the Forest Service must be approved by ADEQ on a daily basis. ADEQ will not allow more acres burned per day, per airshed, than is acceptable with current air quality conditions. The burn boss is responsible for monitoring smoke plume trajectories to assure impacts are within predicted values. The burn boss will make changes as needed when unpredicted weather changes threaten stronger impacts. Emissions generated by Alternative A have been estimated and all modeled emissions would meet National and State Ambient Air Quality Standards. Calculations are located in the project record file.

## Environmental Justice, Executive Order 12898

Implementation of any project alternative is not anticipated to cause disproportionate adverse human health or environmental effects to minority or low-income populations. The Flagstaff economy is strongly tied to the tourism industry, with forest products a very small percentage of the overall economy.

# Environmentally Preferable Alternative

The NEPA implementing regulations (Section 1505.2) require that the alternative(s) that best promotes the national environmental policy as expressed in NEPA, Section 101, be identified in the Record of Decision as the "environmentally preferable alternative" or alternatives. This is ordinarily "the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources" (FSH 1909.15, 05). For the KVFHP Alternative A represents the environmentally preferred alternative for reasons discussed above.

For this project, all of the action alternatives provide protection to the environment by their design, management requirements, and built-in mitigations. All action alternatives comply with NEPA's purpose and spirit.

## Administrative Review or Appeal Opportunities

This decision is subject to appeal in accordance with 36 CFR 215.7 (a). Any written appeal must be postmarked or otherwise received by the Appeal Deciding Officer, Harv Forsgren, Regional Forester, USDA Forest Service, Southwestern Region, 333 Broadway Blvd., SE, Albuquerque, NM 87102, 45 days from the date of publication of the legal notice in the "Arizona Daily Sun," Flagstaff, Arizona. Persons wishing to participate must meet the requirements of 36 CFR 215.11. Notices of appeal must meet the specific content requirements of 36 CFR 215.14.

## Implementation Date

This project will be implemented five business days after the close of the appeal period, if no appeals are filed. In the event of an appeal, implementation may take place 15 days following an appeal decision.

## Contact Person

For additional information concerning this decision or the Forest Service appeal process, contact Tammy Randall-Parker, Interdisciplinary Team Leader, Coconino National Forest, 5075 North Highway 89, Flagstaff, AZ 86004, (928) 526-0866.

/s/ JAMES W. GOLDEN — January 9, 2003

JAMES W. GOLDEN — Date
Forest Supervisor
Coconino National Forest