United States Department of Agriculture

Forest Service

Southwestern Region

517 Gold Avenue, SW
Albuquerque, NM 87102-0084
FAX (505) 842-3800
V/TTY (505) 842-3292

File Code: 1570-1 (2400)
Date: December 20, 2000

Mr. Bryan Bird
National Forest Protection Alliance
P.O. Box 276268
Boca Raton, FL 33427-6268

CERTIFIED MAIL –
RETURN RECEIPT REQUESTED

Re: Appeal #01-03-00-0005-A215, Fort Valley Ecosystem Restoration Project, Peaks Ranger District, Coconino National Forest.

Dear Mr. Byrd:

This is my review decision on the appeal you filed, regarding the Decision Notice and Finding of No Significant Impact which provide for: thinning dense stands of Ponderosa pine to reduce the risk of wildfire which also will restore the balance of tree overstory and grass/shrub/forb understory, reducing wildlife disturbance by closing some roads and relocating/constructing trails, restoring the natural role of wildfire, and restoring meadow and riparian habitats.

BACKGROUND

On September 21, 2000, Forest Supervisor Jim Golden issued a Decision on the Fort Valley Ecosystem Restoration Project. The Forest Supervisor is identified as the Responsible Official, whose decision is subject to administrative review under 36 CFR 215 appeal regulations.

Pursuant to 36 CFR 215.16, you were contacted to discuss informal disposition of the appeal. The record reflects that informal resolution of the appeal was not reached.

My review of this appeal has been conducted in accordance with 36 CFR 215.17. I have thoroughly reviewed the appeal record, including the recommendations of the Appeal Reviewing Officer. My review decision incorporates the appeal record.

APPEAL REVIEWING OFFICER'S RECOMMENDATION

The Appeal Reviewing Officer recommended that the Responsible Official's decision on the Fort Valley Ecosystem Project be affirmed.

APPEAL DECISION

After a detailed review of the records and the Appeal Reviewing Officer's recommendations, I affirm the Responsible Official's decision on the Fort Valley Ecosystem Project.

My decision constitutes the final administrative determination of the Department of Agriculture [36 CFR 215.18(c)].

Sincerely,

/s/ James T. Gladen

JAMES T. GLADEN
Appeal Deciding Officer
Deputy Regional Forester, Resources

Enclosure

cc:
Forest Conservation Council
Forest Supervisor (Coconino National Forest)
District Ranger (Peaks Ranger District)
Forestry Staff, R3
Appeals and Litigation Staff, R3

REVIEW AND FINDINGS

of

Forest Conservation Council and National Forest Protection

Alliance, Appeal #01-03-00-0005-A215

of the

Fort Valley Ecosystem Restoration Project

ISSUE 1: Viability - "The Fort Valley project will jeopardize the viability of species that find optimal habitat in interior forests, natural disturbed areas, and old growth. In particular, the project's impacts on the Northern goshawk are highly uncertain, and the project itself is not in compliance with the forest-wide standards and guidelines implemented in Amendment #11 to the Coconino LRMP, as well as region-wide amendments addressing management of old growth forests, the Mexican spotted owl, and the Northern goshawk."

Contention 1a: "Habitat fragmentation will result from logging and road building activities planned in the Fort Valley Project, and is an underlying cause of many of the predicted adverse effects on native species."

Response: The predicted effects of fragmentation are based on studies in Eastern Forests where the fragmentation described is a patch of forest within a sea of non-forested land, often surrounded by urban development or rural farms. This is not the case in the Fort Valley Project Area, where the Forest is in large blocks with treatments proposed within a portion of the Forest. Wilcove (1988), Finch (1999) and others have identified that the fragmentation effects are not found, or they are inconclusive, based on studies of internal fragmentation of large forest tracts such as are found at Fort Valley.

The effects of fragmentation in Eastern Forests that affect neotropical migrants are described as high rates of nest predation, high rates of brood parasitism, high rates of interspecific competition, reductions in pairing success, and reduction in nesting success with patches less than 20 ha in size having few if any neotropical migrants present. Wilcove (1998) identified that while neotropical migrants were showing declines, permanent residents and short-distance migrants usually exhibit stable or even increasing populations within these same forests.

Several reasons were identified. First, the small patches in Eastern Forests are often surrounded by areas with high levels of nest predators; i.e., dogs, cats, crows, jays, etc. Several studies have shown essentially no difference in predation rates between edges and interior forests where these high levels of predators do not exist (Wilcove 1999). Second, the rural areas often have high levels of cowbirds present, increasing nest parasitism. Third, the small patch size and large distances between patches of forest habitat in the East may not allow individuals to find a mate if the population is low and competition for the small amount of available habitat is high.

For most if not all of the species using Ponderosa pine habitat, thinning, and fragmentation are not equivalent to each other (Shroufe, 1999). The conditions described above for Eastern Forests where the effects of fragmentation are found to be high, do not exist in the Fort Valley Project Area. Thus, any effects of fragmentation are not expected to be high; and the effects may not be present at all.

Finding: Contrary to the appellants' contention, thinning in interior Ponderosa pine forests will not result in habitat fragmentation and thus will not cause the adverse effects that appellants claim.

Contention 1b. Northern goshawk nest sites and post fledgling areas "The Forest has not followed the Regional Forester's Direction to comply with the standards and guidelines in Amendment #11 to the Coconino LRMP regarding mapping of goshawk post fledgling areas. While the EA and T&E&S Evaluation ... state that three goshawk nests and PFA's occur in the Fort Valley area, there is no indication that the requisite number of nests sites have been designated, that the nest sites are the proper size, or that the minimum acreage of nests per PFA has been met."

Response: The Forest established a total of 6 nest/replacement nest sites totaling just over 180 acres in the 713-acre Orion PFA; 6 sites totaling over 200 acres in the 1,206-acre Pearson PFA; and, 6 sites totaling 238 acres in the 930-acre Ft. Valley PFA (PRD#348). The map identifying these sites is located in the Peaks Ranger District office files.

Finding: Contrary to the appellants' contention, the Forest followed the Forest Plan standards and guidelines for the Northern Goshawk.

Contention 1c. The Fort Valley project tree harvest prescriptions are not in compliance with the standards and guidelines of Amendment #11 to the Coconino LRMP regarding canopy cover and size of created openings in Ponderosa pine forests. The appellants contend the Forest did not directly address the required PFA and goshawk foraging habitat canopy cover levels in the EA.

Response: In the EA, the Forest identified the current vegetative condition as being 6,456 acres of Ponderosa pine, 11 acres of aspen, 470 acres of mixed conifer, and 50 acres of mountain grasslands and meadows. Sixty-seven percent is classed as young forest (VSS 2 and 3), 24 percent middle-aged forest (VSS 4) and 9 percent other (VS 5, 6, and 1). On average, only 20 of the more than 400 trees per acre in the Fort Valley area are 16 inches diameter at breast height (DBH) or larger; and fewer than 60 trees are 12 inches DBH or larger (PRD#326).

The proposed action retains all trees 16 inches DBH or larger. In this alternative, prescriptions to select trees for retention are designed to favor selecting larger trees (PRD#348). Based on these facts and on the number of trees to be retained in the full restoration areas, there should be few trees greater than 12 inches DBH that would be removed through the full restoration prescription. Because the modified and minimal restoration areas would retain more trees per acre, it is likely there would be even fewer, and maybe none, of the 60 or so trees 12 inches DBH or larger that would be removed through these two prescriptions.

Retention of most or all trees, 12 inches DBH or larger, through implementation of the proposed action means there will be little change in the overstory canopy. The majority of trees to be removed by the proposed action are less than twelve inches DBH, and most will be less than four inches DBH.

Simulation models run by the Rocky Mountain Research Station provide comparisons of the current and expected changes in post-treatment, 20-year post-treatment, and 40-year post treatment VSS classes and canopy closure of the stands in the Forest Valley area (PRD#133a, 348). These runs indicate the Northern goshawk canopy closure standards and guides will be met.

The appellants provided a definition of a created opening in Ponderosa pine as a stand with fewer than 150 trees/acre and less than a 35% canopy cover. This definition comes from the ***Regional Guide for the Southwestern Region*** (August, 1983), Table 3-3, page 3-16. What is not mentioned is that this definition is for determining when a regenerated stand is no longer considered a created opening. As long as a stand has a minimum of five (5) trees/acre eleven (11) inches in diameter or larger, with or without regeneration, the stand is no longer classified as an opening. This can be found in the Regional Guide, Table 3-3, under *Residual Trees*.

Finding: Contrary to the appellants' contention, the proposed action will meet Forest Plan standards and guidelines for Northern goshawk canopy closure and opening size.

Contention 1d. The tree-cutting prescription in the Fort Valley project is entirely based on the recommendation of the MRNG, a document whose science has been questioned seriously. The appellants contend the conservation strategy developed for the Northern goshawk "fails to pass scientific rigor, and is unsubstantiated as a method for maintaining goshawk viability."

Response: In March 1996, The Wildlife Society and American Ornithologist's Union published the findings of their technical review *Northern Goshawk and Forest Management in the Southwestern United States* (David E. Capen, et al 1996. The Wildlife Society Technical Review 96-2., 19 pp). In this review, they found "The scientific basis for the *Management Recommendations*, and the recommendations themselves are sound. Implementation of the *Management Recommendations* should benefit the Northern goshawk and many other animal and plant species."

Finding: Contrary to the appellants' contention, the MRNG and subsequent Forest Plan amendments have passed scientific rigor.

Contention 1e. "For most of the imperiled species affected by the Fort Valley project, the Forest Service has no up-to-date population data describing population numbers, locations, trends, nor monitoring data on which the agency can rely to determine that the actions proposed in the context of Fort Valley project will maintain numbers and distribution of these species sufficient for insuring long-term viability."

Response: Northern Goshawk: There are three post-fledging family areas (PFA) in the Fort Valley Project Area and one adjacent to it. Based on inventories between 1991 and 1997, the District has concluded all suitable nesting habitat in the Fort Valley Project is currently within a PFA. Including foraging habitat, the entire Fort Valley Area is within Goshawk habitat. Monitoring has been conducted since 1991. Although no trend was provided by the Forest, young have been produced on a regular basis in three of the four areas, with two areas producing young in 1998. The Arizona Department of Game and Fish (Shroufe, 1999) supports the project and does not agree with the level of concern for goshawk viability expressed by the appellants.

Mexican Spotted Owl: There is one Mexican spotted owl Protected Activity Center (PAC) within the Fort Valley Project Area and one adjacent to it. No suitable habitat for the owl is within the treatments proposed in Phase I. Road closures, trail relocations, and camping restrictions proposed with the project will reduce the existing impacts recreational activities are having on the owls within the project area, and thus will benefit the Mexican spotted owl. The U.S. Fish and Wildlife Service (Harlow, 1999) found the activities proposed by the Fort Valley Project would not jeopardize the continued existence of the owl. A take statement was issued by FWS, because the beneficial activities would not occur until after the 1999 breeding season, and thus recreation would still affect the owls in this PAC.

Flammulated Owl: The Forest reported finding several flammulated owls during Mexican Spotted Owl surveys, and have estimated there may be as many as 10 or 12 pairs in the area. Given the condition of the habitat and the paucity of old growth or mature forest, this figure may be high. No inventories have been conducted specifically for flammulated owls. No trend information was provided by the Forest, but the Arizona Department of Game and Fish (Shroufe, 1999) does not consider this good habitat for flammulated owls; thus, the Fort Valley Project should not have an effect on the viability of the species.

Bald Eagle: No bald eagle winter roost sites are located within the Fort Valley Project Area, but one is located several miles to the south. Sites chosen for winter roosting by the eagles are generally on slopes in large trees. None of the areas proposed for treatment are on slopes like those used for eagle roosts, and no trees greater than 16 inches in diameter will be removed. Thus the Forest made a "may affect, not likely to be adverse" determination which was concurred with by FWS (Harlow, 1999).

Abert's Squirrel: The thinning proposed in the Fort Valley Project will result in more open forest stands. This will result in less closed forest conditions needed by the squirrel for nesting and during severe winters. The thinned stands will still provide foraging habitat for squirrel use during spring, summer, and fall, as well as during less severe winters. The Arizona Department of Game and Fish (Shroufe, 1999) anticipates and accepts that thinning treatments will negatively impact the squirrel in some of the treated areas. The Department is considering conducting more research the better to understand the relationship between squirrel use of disjunct stands of Ponderosa pine.

Neotropical Migrants: Seventy-five percent of the birds using Ponderosa pine forests on the Coconino National Forest use it as fringe, transient, or summer habitat (Forest Service, 1997). Sixty-one percent of these birds are passerines. Passerine use is highest in mature and especially old growth stands. Use by canopy density is evenly distributed across the three classes, 0-40%, 41-60% and 61-100%, with a slight preference for the 41-60% category. The thinning treatments in the Fort Valley Project will not reduce mature and old growth stands, and will decrease the time it will take for these sites to become mature forests. Since neotropical migrants use all structural stages and canopy closure classes, some species will be favored by these treatments and some will be adversely impacted (Finch, 1999), while other treatments in other parts of the Forest will favor other species.

In Summary: Habitat conditions for management indicator species (MIS), threatened, endangered, and sensitive (TES) species, and the appellants' species of concern will generally be maintained or improved by the road and recreation management (through road and trail closures and/or relocation and camping restrictions) and silvicultural treatments proposed for the project area (Randall-Parker, 1998; Randall-Parker, et al, 1998; and Golden and Neary, 1999). Some short-term reductions in quality may exist for several sensitive species as a result of prescribed fire, but these should return to existing or better condition in a short period of time and would not affect overall species viability (Randall-Parker, 1998; and Randall-Parker, et al, 1998). Abert's squirrel, neither an MIS or TES species, would have a slight decrease in habitat capability resulting from the project; but species viability would not be affected by this localized reduction in habitat quantity (Shroufe, 1999).

Finding: Implementation of the Fort Valley Project will maintain or improve the condition and/or amount of habitat for MIS and TES species found within the project area. Thus, there will be no reduction in the viability of these species. The Forest has found and the Arizona Department of Game and Fish has agreed that the proposed action will not jeopardize species viability for the appellants' species of concern. Also, the U.S. Fish and Wildlife Service concurred the proposed action would not jeopardize the viability of listed or proposed species found within the project area.

ISSUE 2: Environmental Documentation - The Forest Service must prepare an environmental impact statement analyzing the direct, indirect, and cumulative effects of the Fort Valley Restoration Project in combination with similar projects planned on Forest Service lands in the immediate vicinity. The project has a high degree of controversial and uncertain effects; and, therefore, an EIS is required.

Contention: Appellants allege that the "projects are highly controversial, in a scientific sense, involve highly uncertain effects and involve unique or unknown risks related to fire, Northern Goshawk, and old growth management (40 CFR § 1508.27 (b) 4, 5)" and therefore, are significant.

Response: As it relates to the determination of significance, the term "controversial" refers to a substantial dispute existing as to the size and nature of effects of the federal action. The past and present research that has been and is being done on the benefits of thinning from below and the benefits from prescribed fire are considerable. Thinning from below, fuel bed treatment, canopy

spacing treatments, and periodic low-intensity prescribed fire activities are supported by most scientists and researchers who work from within and study and research fire adapted ecosystems.

The project analysis included extensive coordination and agreement with the Arizona Game and Fish Department and the U.S. Fish and Wildlife Service. Both of these agencies supported the Forest Service's decision (AR # 157, 188). Scientific references were used to substantiate analysis of effects. In addition, as a part of the project analysis, a comprehensive list -- *Studies in the Southwestern Forest Health Restoration and Wildland- Urban Interface Fuels Management Research Programs* -- was compiled by the Grand Canyon Forests Partnership to support predicted effects of the project proposal and alternatives.

It is inappropriate to make valid inferences about the impact of logging on fire potential without addressing the issue of fuels treatment. Logging without subsequent fuels treatment can be expected to increase the probability of fire occurrence and, under most conditions, the severity of fire. Logging, in conjunction with fuels treatment, can reduce the potential for catastrophic wildfires, if the fuels treatment et al is of good quality. Good quality fuels treatments effectively reduce the fuels that contribute to crowning, torching and spotting, and reduce the ecological damage of subsequent wildfires. Fuels change with time, and the length of time that a treatment will remain effective varies with treatment and site potential. Therefore, proper fuels management must incorporate periodic reassessment and re-treatment.

Appellants' reference to Huff (1995) is a quote from their abstract. They used repeated aerial photography to determine the degree of change in 49 watersheds varying in size from 12,500 ac. to 33,300 ac. They did not determine mapping accuracy (pg. 4). Huff, et. al, (1995) assigned fuel models on the basis of whether or not areas were logged or unlogged. No information was available on fuels treatments (pg. 5). Therefore, their fire behavior analysis is based on logged versus unlogged areas regardless of actual fuel conditions. Their analysis was limited to low to moderate intensity surface fires (pg. 5), ignoring crown fire potential. Therefore, the extreme fire behavior potential (crown fires) in unlogged stands was leftout of their analysis. This is not a valid comparison. Furthermore, the trends reported by Huff, et al, (1995) were not statistically significant (pg. 8). The primary issue in the Fort Valley treatment area is mitigation of the most extreme fire behavior (crown fires). The Fort Valley Restoration Project proposes to implement the recommendations of Huff, et al, (1995) (pg. 36).

It is true that fuels treatments cannot prevent all fires. Even quality fuels treatments may not protect an area from burning under the most extreme weather conditions. However, it is generally accepted that quality fuels treatments reduce fire damage. The appellants cite an unpublished report on the Tyee fire in Washington to claim," ... that harvest treatments could exacerbate fire damage..." However, Pollet and Omi (1999, paper presented at JFSC Fire Conference "Crossing the Millennium: Integrating Spatial Technologies and Ecological Principles for a New Age in Fire Management, June 15-17, 1999, Boise, ID; in press) found that fuels treatment reduced fire damage on study areas in four wildfires including the Tyee fire. This would appear to support the appellants' claim that treatment results are variable and far from certain. However, the quality of fuels treatment is difficult to ascertain after a wildfire; and the time since treatment was done affects fire potential. The Fort Valley Project proposes to determine the effectiveness of treatments and how treatment effectiveness changes with time.

Pollet and Omi (1999) also studied the 1996 Hochderffer fire on the Coconino National Forest near the proposed Fort Valley Restoration Project area.

The appellants cite Weatherspoon and Skinner's (1995) analysis of stand damage resulting from the 1987 wildfires in northern California. While it is true that Weatherspoon and Skinner (1995) found partial cut stands suffered more damage than uncut stands ("partial cut" is the terminology used by Witherspoon and Skinner, "thinned" is the terminology used by the appellants), the appellants missed the fact that the partial cutting conducted in the California stands was predominantly an overstory removal (i.e., cutting the largest most valuable trees) followed by little or no slash treatment. The results of such treatments can be expected to result in high damage, as Weatherspoon and Skinner point out (pg. 444). Such harvesting and fuel treatments are not representative of those proposed in the Fort Valley Restoration Project. To quote Agee (1997, Northwest Science 71 [1], pgs. 153-156) who reviewed this paper, "...the major implication of this study is less an argument against logging than an argument against the types of logging and fuel treatments that were done in the past.") (p. 155).

The appellants cite VanWagtendork (1996). They disregard his conclusion that "... a management scheme that includes a combination of fuel treatments in combination with other land management scenarios is critical for successfully reducing the size and intensity of wildfires," (pg. 1164). By "... other land management scenarios ... " Van Wagtendork is referring to fire “removing a portion of the canopy..." to reduce crown fire potential. A major goal of the Fort Valley Restoration is to reduce the potential for catastrophic crown fires.

The appellants cite Stephens (1998). They correctly conclude that "restoration" treatments that include partial cutting without fuels treatment lead to more severe fires. Thinning without fuels treatment is, at best, only a partial restoration. Stand structure may be restored to some former condition, but other stand processes are not restored. The Fort Valley Restoration Project does not propose to leave fuels untreated except in small experimental plots that have a low probability of being burned by wildfire.

Appellants cite a secondhand newspaper account of research performed by Jack Cohen, RMRS Fire Sciences Lab in Missoula. Jack's Structure Ignition Assessment Model (SIAM) looks at the likelihood of a structure being ignited by radiation from an approaching fire or from an ember igniting burnable surfaces such as shake shingles. Experimental results show that radiation drops rapidly with distance from the flame wall. Radiation fluxes sufficient to melt vinyl siding are not sufficient to ignite a structure or exposed wood surface. Thus, the model does not predict the potential for damage to property, landscaping, etc., only the potential for catastrophic loss from excessive radiation, flame contact, or a firebrand ignition. The potential for an ember to get embedded in an eave, in a woodpile, under a wood deck, etc., and igniting the structure depends on the building design and materials. The likelihood of a fire creeping up to the base of a house and igniting it would be determined by local landscaping. It is not the role of the Forest Service to dictate how private property is developed. Building codes and zoning regulations determine the building materials used. There are two issues that are relevant to management of National Forest lands.

First, the landscape needs to be managed so as to conserve and sustain goods and services from the National Forest, including a generally healthy forest. Catastrophic wildfires are not consistent with this goal. The second is to minimize the potential for severe fires, particularly crown fires, which threaten private property.

Management of the forest to prevent crown fires minimizes the potential threat to forest health and private property. Fuel treatment reduces wild fire intensity, allowing suppression forces to remain on site to protect structures and property. Suppression forces are not placed in front of high-intensity crown fires. If a fire can be stopped before it approaches a structure, then the landscaping around the structure is irrelevant. This is the intent of the Fort Valley project.

Appellants cite a review of the Cerro Grande Fire by Cohen (2000) in Forest Magazine. The article notes that the fire was burning on the forest floor and not in the tree crowns in areas adjacent to the residential areas of Los Alamos. The review concludes that the high ignitability of Los Alamos was principally due to the abundance and ubiquity of pine needles, dead leaves, cured vegetation, flammable shrubs, wood piles, etc., adjacent to, touching and/or covering the homes. While reducing the flammability of structures and property is critical to preventing damage to homes from wildfire, these measures would provide negligible protection from a crown fire. Cohen's article does not raise any uncertainties concerning the effects of fuel reduction projects. In fact, it reinforces the purpose and need for the Fort Valley Restoration Project, which includes restoring more natural low-intensity fire and reducing the risk of high-intensity crown fires.

Numerous papers document the value of fuel treatments, often in conjunction with reducing stand density, for reducing fire potential. The appellants cite several of these papers. Each of the cited papers provides additional citations documenting the value of reduced stand density and/or fuel treatments for reducing the potential for catastrophic wildfires.

The prediction of fire behavior and effects are not exact sciences. However, there is a substantial body of knowledge that supports the value of quality fuels treatments. There is also a strong body of evidence supporting the notion that crown fire potential is reduced by reducing canopy density and raising crown base height (c.f., ftp:Hfire.org/pub/NEXUS). The general consensus in the fire science community is that lower stand densities and reduced fuel volumes are necessary to maintenance of "fire safe" forests. As Agee points out (1996, pgs. 52-68 in: Proceedings 17th Forest Vegetation Management Conference, Redding, CA), "... "fire safe forests are not fire proof, but will have:

- Surface fuel conditions that limit surface fireline intensity;
- Forest stands that are comprised of fire-tolerant trees, described in terms of species, sizes, and structures;
- A low probability that crown fires will either initiate or spread through the forest."

The single most ecologically damaging and life-threatening forest fire is the crown fire. The intensity of crown fires prevents direct fire suppression. The massive blizzard of embers associated with crown fires leads to long-range spot fires, which circumvent areas with little fuel. The presence of numerous spot fires leads to erratic fire behavior and rapid acceleration in a

fire's growth. The most critical element in fire management is the prevention of crown fires. This is a primary goal of the Fort Valley Restoration Project. The preponderance of scientific literature strongly supports the fuels management goals of the Fort Valley Restoration Project.

Appellants allege that there is uncertainty of effects to the habitat of the Northern goshawk. This is based on a "white paper" published by the Arizona Department of Game and Fish (AZ G&F) in 1993. However, the Arizona Department of Game and Fish has provided a letter as an interested party to the appeal dated July 6, 1999, in which they state, "We also disagree with the level of concern expressed in the appeal regarding the impacts on the viability of spotted owl and goshawk populations." It is clear that, in this instance, AZ G&F does not dispute Forest Service findings concerning these species.

The appellants also claim that logging in existing and recruitment old growth stands is highly controversial. However, appellants repeatedly claim that the lack of "big trees" is a major concern for the area in general, including old growth areas. Old growth areas in particular are usually characterized more by big trees than by any other attribute. There is research within the Fort Valley Restoration area at Taylor Woods that clearly shows that thinning the Forest is the best way to develop large trees, without which recruitment old growth stands will never achieve old growth function. Dr. Covington has stated that removal of small trees that are competing with large, old trees is necessary to retain the old trees. Furthermore, the Decision Notice states that no trees over 16 inches DBH will be cut. There is no controversy over the effects of the proposed action.

F**inding:** The Forest has done a thorough search of the literature on the subject and has shown that there is no substantial dispute concerning the anticipated effects of the action. The Responsible Official appropriately decided to document the analysis in an environmental assessment, not in an environmental impact statement.

ISSUE 3: The cumulative effects resulting from the project are significant and, therefore, an EIS is required.

Contention: Appellants allege that the "Fort Valley project is related to other actions with significant cumulative effects (40 CFR 1508.27 (b) 7)."

Response: The analysis must consider whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or breaking it down into small components (40 CFR 1508.27 (b) (7).

The project record includes an analysis of the cumulative effects of the proposed action with other past, present, and reasonably foreseeable actions (PRD#255, 255a, 301). The EA discusses other actions considered on pages 56-58. The analysis points out that another analysis is underway for the Flagstaff/Lake Mary Ecosystem, which might result in new management direction for the Flagstaff urban interface. The analysis concluded that while there is intent to

investigate other parts of the Flagstaff urban interface, specific future actives are not known (EA, p. 57). The EA cumulative effects discussions support the finding of no significant impact.

Finding: The Responsible Official appropriately found, "The effects of this project, when viewed incrementally with effects of past, present, and reasonably foreseeable actions are not cumulatively significant."

ISSUE 4. Professional Integrity Of The Environmental Analysis

Contention: Appellants contend that the Fort Valley EA and responses to comments are replete with unsubstantiated claims and exaggerations.

Response: Specifically, appellant takes issue with the following statements excerpted from the EA:

> "If the dead woody material generated by thinning excess trees during restoration were left on the site, it would conflict with at least one of the project's objectives, the reduction of catastrophic fire risk." (EA, p. 26)

Appellants claim this ignores removal by non-commercial means. The paragraph following this statement says that the interdisciplinary team could not see any way to remove any of the downed material without the removal being construed as "commercial" (EA, p. 27).

> "Most people prefer the landscape that would result from this proposal." (EA, p. 60) Appellants assert that this is a personal opinion and has no bearing on whether the scenic integrity of the area would be adversely affected. The EA goes on to say that most people would also not like the visible effects of the proposed management. The point of the statement is that the desired landscape would be aesthetically pleasing, but getting there would not. The actual discussion concerning effects on scenic integrity follows on pages 61-66.

> "The cumulative actions of Fort Valley and A1 are thought to be positive for large game species." (EA, p. 103)

While the EA could have included some support for this conclusion, it is supported by cumulative effects analysis documentation in the record (PRD#255). The record indicates that the activities in both projects have been coordinated to manage for a wildlife movement corridor, and to maintain water, forage, and cover for large game species.

> "The risk of wildfire is high and would result in the loss of all existing snags. There would be short term (20 year gain of new snags), long term (40 year) no snags as burned trees fall." (EA, p. 90)

Appellants disagree with this statement, stating that it ignores the patchy nature of fires in the Southwest. It appears the appellants are arguing for effects where fire does not burn, while the EA suggests effects where the fire does burn. Preceding discussions in the EA referencing

current stand densities, canopy closure, ladder fuels, and recent fires in the area, indicate a high risk from a stand-replacing fire. Such a fire would be expected to initially increase snag numbers, but over the long term, there would be no snag recruits for many years. The cited statement is a reasonable conclusion.

> "Abert squirrel populations will decrease but there is no concern for species viability." (EA, p. 103)

The cited statement is a conclusion that follows detailed discussion of effects on the Abert squirrel population. The EA references wildlife habitat capability modeling, which indicated a slight decrease in habitat capability for Abert squirrel due to a reduction in cover (EA, p. 100). The EA goes on to point out that the project exceeds the minimum Forest Plan standards for cover, which will provide nesting habitat. The EA also states that important food sources will still be present (EA, p. 101). The EA also indicates that surrounding Abert squirrel habitat will remain unchanged (EA, p. 103). The statement is a reasonable conclusion considering the range of the species and the anticipated scale of change in habitat

> "There are no records of goshawk PFA's which have been abandoned or adversely affected by projects similar to Fort Valley…" (EA, p. 120)

The appellants claim that there are numerous studies that document PFA abandonment in response to a wide variety of silvicultural treatments. The Fort Valley Project follows goshawk guidelines added to the Coconino Forest Plan in 1996. There are no documented studies of goshawk PFA's being abandoned as a result of treatments utilizing the goshawk guidelines in the Forest Plan. The cited statement from the EA is accurate.

Finding: The statements cited by the appellants are supported and reasonable. This review finds no reason to question the professional integrity of the environmental analysis.

ISSUE 5: The project's cumulative effects analysis is inadequate.

Contention: Appellants allege that the Forest Service did not complete the cumulative effects analysis required by NEPA, referencing citing text in the EA Addendum #3 which states, "The interdisciplinary team cannot conduct a cumulative effects analysis for future management..." Appellants claim that regulation at 40 CFR 1502.22 requires consideration of a range of scenarios when essential information is incomplete or unavailable. The appellants allege that "There are two major shortcomings of the EA and project record in their treatment of cumulative effects: (1) while the EA lists activities that may result in cumulative effects, the analyses of effects on particular resources (vegetation, wildlife habitat, water/soil, air quality, recreation, fire, cultural resources, and roads) are devoid of any mention of cumulative effects, and; (2) the most significant cumulative effects known (the other 9 10K projects in the vicinity, as well as development and logging on private lands) are missing from the list of projects on page 10-1 of the EA allegedly considered in the cumulative effects analysis."

Response: The EA discloses cumulative effects on the following resources: landscape character,

p. 66; vegetation, pp. 75-80, 84; wildlife, pp. 90-93, 97, 101-103, 105-106, 108-111, 119-120; soil and water, pp. 127-130; air, p. 133; recreation opportunities, 136, 138, 140, 144; fire behavior, pp. 148, 151-152, 154-157; transportation system, 161; heritage resources,, p. 163; and economics, p. 167. The EA discusses other actions considered on pages 56-58. The analysis points out that another analysis is underway for the Flagstaff/Lake Mary Ecosystem, which might result in new management direction for the Flagstaff urban interface. The analysis concluded that while there is intent to investigate other parts of the Flagstaff urban interface, specific future actives are not known (EA, p. 57).

Appellants cite Forest Service Handbook direction at FSH 1909.15, Sec. 13.03, which states a policy for considering a range of possible scenarios when evaluating reasonably foreseeable adverse impacts where essential information is incomplete. The EA makes the case that specific future actions in the Flagstaff wildland urban interface are not considered reasonably foreseeable because treatments, acreage, and timing have not yet been proposed. Since these actions are not reasonably foreseeable, the cited handbook direction does not apply.

Appellants cite Forest Service references to the "Flagstaff Model," claiming that this project sets precedent across millions of acres. The Forest Service considers the "Flagstaff Model" a model of collaboration. Collaborative behavior does not establish a precedent for future actions with significant environmental effects (40 CFR 1508.27(6)).

Finding: The record includes consideration of past, present, and reasonably foreseeable actions and their cumulative effects on the components of the human environment. The cumulative effects analysis is adequate for an informed decision and for the purpose of determining significance and whether an EIS is needed.

ISSUE 6: Forest Plan Adequacy

Contention: Addendum #3 to the Fort Valley Environmental Assessment makes the claim that the 1987 Coconino National Forest Plan adequately assesses the cumulative impacts of the proposed action. Appellants claim this is false because cumulative impacts must be analyzed at both the programmatic and project levels. Appellants also assert that the cumulative effects are being put off on the upcoming Flagstaff/Lake Mary Ecosystem Analysis.

Response: This issue is moot since the previous EA, which included Addendum #3, was replaced with a new EA completed in July 2000. The referenced statements are not in the current EA. Further, additional cumulative effects analysis documentation has been added to the current EA.

Finding: The issue is moot.

ISSUE 7: Non-commercial Restoration Alternative

Contention: “The Forest Service has acted in an arbitrary and capricious manner by rejecting a no commerical harvest alternative.” Appellants quote Forest Service Manual 2432.22c, stating, "Where timber harvest is proposed primarily for the purpose of achieving forest stewardship

purposes... a full range of alternatives, including practical and feasible non-harvest options, must be analyzed in the environmental process."

Response: The formulation of alternatives is driven by significant issues identified in scoping 40 CFR §1501.2(c). For an alternative to be reasonable, it must meet the stated purpose and need, and address one or more issues. While the FSM 2432.22c appropriately calls for a full range of alternatives, it goes on to state, "It is not necessary to include harvest or non-harvest options that are not practical or feasible from a biological, social, or legal standpoint or those that do not meet forest plan objectives or standard and guideline requirements..."

The record shows that a non-commercial restoration (no-harvest) alternative was considered. Alternatives considered; 1) prescribed fire without thinning, 2) prescribed fire in combination with thinning by non-commercial logging methods, and 3) leaving a higher residual tree density, as proposed by the Southwest Forest Alliance Prescription. The interdisciplinary team found that applying any one of these alternatives singly over the entire project area either did not meet the Fort Valley Restoration Project objectives (purpose and need), or they did not meet Forest Plan standard and guideline requirements, or they were not practical or feasible from a biological standpoint. The EA describes the prescribed fire alternatives and why they would not meet the purpose and need for action and were therefore dropped from detailed study (EA, pp. 17, 23-28).

In regard to the Chief's letter addressing the 12" diameter cap. There is no direction or policy from the Washington Office placing restrictions on cutting trees over 12" diameter (PRD#350, pp. 7 and 15).

See PRD#350, pp. 9-10 and PRD#342dd for further explanation.

Finding: The analysis appropriately considered a non-commercial, restoration (no-harvest) alternative, consistent with NEPA and its implementing regulations and Forest Service Manual direction.

ISSUE 8: Water Quality

Contention: The Fort Valley EA and project record are devoid of any discussion or analysis of impacts to water quality.

Response: Water quality was not an issue in this project planning, due to the fact that there are no perennial streams in the project area (PRD#138, PPI). The water issues in this project area were appropriately focused on water yield. The EA did discuss the relationship of roads to non-point source pollution. Other considerations for water quality were also made, in that the scoping document and EA were sent to the Arizona Department of Environmental Quality (ADEQ), Surface Water Bureau for their comment (PRD#11A & 138). No comments from ADEQ were received. In addition, Best Management Practices, those measures designed to minimize non-point source pollution to streams, are described for this project (PRD#326, pp. 51, 121-131). Finally, the decision included actions for road obliteration and riparian restoration (PRD#355) that will have a positive effect on downstream water quality.

Finding: Water quality discussions were appropriate and adequate.

ISSUE 9: Old Growth Allocation: The Fort Valley project is not in compliance with the forest-wide standards and guidelines for old growth included in Amendment #11 to the Coconino LRMP.

Contention 9a: The management prescriptions for allocated old growth are inconsistent with retention and development of old growth ecosystems.

Response: One of the primary objectives of managing recruitment Ponderosa pine old growth at the VSS 4 level is to develop an adequate number of large trees greater than 24 inches DBH as quickly as is practical. Other old growth attributes, such as decadence, large dead and down logs, large snags, etc., begin developing at the mature forest to old growth stages (VSS 5 and 6) and continue to develop throughout the life of an old growth stand.

Finding: Contrary to the appellants' contention, the management prescriptions for Ponderosa pine old growth being implemented through the proposed action are consistent with the development of old growth ecosystems.

Contention 9b: The Forest Service has not allocated old growth with the 1996 plan amendments. Appellants maintain that the EA and project record fail to establish that forest plan procedures for allocating old growth were followed. Appellants also state that there was no analysis of old growth distribution and function at multiple scales; no analysis of risks to sustaining old growth; no analysis that considered spatial arrangement of old growth areas and how that would benefit old growth related species; and no documentation of the process used to select management techniques.

Response: The Forest designated 319 acres of existing old growth, stands that meet, or essentially meet, all of the old growth criteria identified in the Forest Plan standards and guides. In addition, they designated 1,298 acres of recruitment old growth. Thus, 23.7 percent of the Fort Valley area is in designated old growth. Just under 1,150 acres are in Ponderosa pine habitat types. The remaining 467 old growth acres are in mixed conifer. This amounts to 17.7 and 99.4 percent respectively of the existing vegetation of these two forest types in the Forest Valley area being in old growth (PRD#326, 348).

An old growth analysis was conducted at multiple scales. At the scale above the ecosystem management area, old growth allocations to the South (A1 Ecosystem Analysis), the North (Kachina Peaks Wilderness), West (Wing Mountain Area) and East (Elden Area) were considered. Allocations in the Fort Valley project area tie to old growth allocations made on the A1 Analysis area connecting a wildlife movement corridor. Additional allocations in A1 tie to Wing mountain and old growth allocations made on the Western portion of the Fort Valley EA (within the Pearson Goshawk PFA). On the northeast portion of the Fort Valley project area, old growth allocations included a block of mixed conifer within the Orion Springs, PAC which connects to old growth located within the Kachina Peaks Wilderness and continues into the Elden Area. The last block described also lies within a wildlife movement corridor (PRD#326, 348).

Old growth patch size is variable. Blocks of old growth within Fort Valley total several hundred acres incorporating Mexican spotted owl PAC's and Northern goshawk PFA's extending into adjacent planning areas and include the wildlife corridor. Blocks have been designed to provide for a variety of wildlife species dependent upon old growth structure, including black bear, Mexican spotted owl, brown creeper and Northern goshawk.

Analysis at one level below the ecosystem management area was conducted at the stand level. Addendum #1 to the Fort Valley EA states on page 4 that existing old growth stands were identified during field reviews and included stands that met or nearly met the old growth definition in the forest plan amendment (PRD#206). This document further states that stands selected for old growth management were chosen because they had higher numbers of large trees.

Finding: Contrary to the appellants' contentions, the Forest completed an old growth analysis at the appropriate scales, consistent with Forest Plan standards and guides.

ISSUE 10: Socio-Economic Analysis - The economic analysis fails to assign any economic value to existing uses of the area, and fails to consider the externalized economic costs of logging.

Contention: The appellants allege that "the Forest Service has failed to complete an economic analysis of the Fort Valley project that provides the public with a full and fair accounting of net economic benefits."

Response: Forest Service Manual (FSM) 1970 and Forest Service Handbook (FSH) 1909.17 contain detailed guidelines for conducting economic and social analysis. However, FSM 1970.3(6) states, "Select cost effective methods of conducting economic and social impact analyses to ensure that the degree of analysis is commensurate with the scope and complexity of the proposed action." Obviously not every project requires the same level of analysis. FSM 1970.6 adds, "The responsible line officer determines the scope, appropriate level, and complexity of economic and social analysis needed." An EA should briefly provide sufficient evidence and analysis for determining whether to prepare an EIS or a finding of no significant impact (40 CFR §1508.9). Economic effects are not intended by themselves to require preparation of an EIS (40 CFR §1508.14). Economic effects of the project were not identified as an issue at any time prior to the decision. Therefore, economic effects were not needed as a basis for alternative development or comparison. The level of economic analysis is commensurate with the scope of the proposed action.

The purpose of the economic analysis in an EA is to assist in decision-making. The Forest has prepared an economic analysis (PRD#345) which displays estimated costs and returns of the alternatives for the decision maker. A summary of this analysis is displayed on pages 164-167 of the EA.

FSH 2409.18, section 22, states that a financial analysis should be made to determine financial efficiency of timber sales. While the Fort Valley Project is not a timber sale per se, it has some

of the aspects of a timber sale. The analysis in PRD 345 is a financial analysis and meets this requirement. Also see PRD#275a, 309, and 364.

Finding: The economic analysis is consistent with regulation and manual and handbook direction. This reality was succiently expressed by the Congressional Research Service (CRS) in a paper on below-cost timber sales. The paper states, "net public benefits cannot be calculated, and are assumed to be determined through public participation in national forest planning." [1] When one recognizes this, it becomes apparent that the agency's public involvement and collaborative processes, not its analytical procedures, are the primary tools by which it can work towards maximizing net public benefits.

ISSUE 11. Expertise - Forest Service failed to utilize professionals with appropriate expertise.

Contention: The expertise of the interdisciplinary analysis team is inadequate for a project of such scale and uncertain consequences as the Fort Valley Project.

Response: Forest Service Handbook 1909.15, Sec. 12.1, directs that the disciplines and skills of the interdisciplinary team must be appropriate to the scope of the action and the issues identified. The teams will consist of whatever combination of Forest Service staff and other Federal government personnel is necessary to provide the necessary analytical skills. The Forest Service assembled an interdisciplinary team composed of journey-level professionals representing many different land management specialties. In addition, the analysis was done in consultation with professional biologists from the U.S. Fish and Wildlife Service and the Arizona Department of Game and Fish and with experts from Northern Arizona University like, Dr. Wallace Covington, who is a nationally recognized expert in Ponderosa pine ecosystem restorations. The Forest Service research branch was also involved through Dr. Carlton Edminster, who has extensive credentials in modeling to predict growth in forest stands.

Finding: This team and consultants are eminently qualified for this analysis.

ISSUE 12: Conservation of Forests

Contention: The appellants allege, "by contributing to a vast global waste of wood products, the Forest Service has failed to meet substantive obligations to conserve forests and promote use of recycled materials."

Response: The objectives for the Fort Valley Ecosystem Restoration Project are to focus on restoring natural processes that will result in reduced fire potential in the Fort Valley area (PRD#355. This will be accomplished through appropriate restorative treatments; 1) to reduce the risk of catastrophic fire in the urban/forest interface; 2) to restore forest health, especially the understory of native grasses, forbs, and shrubs while inhibiting exotic species; 3) return to natural fire cycles of low-intensity fires; 4) re-create the tree spatial patterns and the canopy structure which occurred naturally before presettlement influences, over a portion of the forest in a mosaic pattern; 5) reduce human impacts on wildlife habitation; 6) provide experimental areas to demonstrate, test, and develop a variety of restoration treatments; and 7) adopt treatments that

[1] *Below-Cost Timber Sales: Overview*; CRS Report to Congress; 95-15 ENR; p. 9.

are environmentally sound, economically sustainable, and socially acceptable (EA, p. 23). Neither the EA nor the project records "promotes the use of virgin materials over recycled products," as the appellants suggest. The sale of forest products provides the economic incentive for an operator to conduct the treatments needed to meet the forest health objective.

A key element of the Grand Canyon Forests Partnership will be the creation of a business sector based on ecologically and economically sustainable utilization of forest products. Business may include primary producers of forest products such as dimensionl lumber, wood chips, and firewood, as well as "value added" products such as bioenergy material, fencing, custom building materials, landscaping materials, and furniture (EA, pp. 2-3, and PRD#275a).

Finding: The Fort Valley Project does not forgo conservation of wood products or the use of recycled materials.