

APPENDIX AA

The UTAH NORTHERN GOSHAWK PROJECT ENVIRONMENTAL ASSESSMENT was made available for 60 days notice and comment on October 29, 1999. By the close of the comment period, 1156 letters had been received, including many organized response letters and postcards. Over 500 additional comments from these organized responses were received after the close of the comment period. While all the comments were considered, the names of those received after January 10, 2000 are not included in TABLE 2 RESPONDENTS, but they are available in the project files.

Two groups prepared a form letter for organized responses. One (a Utah forest products company) supported the Preferred Alternative (F); the second, an Arizona-based environmental group, favored Alternative E. One letter was received from the Navajo Tribe and nine letters were received from various Utah county officials. No Federal or State agencies provided comments.

The comments and responses have been organized into the categories outlined below. Each comment summary is followed by examples of statements made by respondents. The examples are shown with italics and quotation marks. Some of the quotes have been edited slightly to clarify a comment that's been taken out of context or to capture several thoughts in one comment. Responses to the comment follow in the plain text. When tracking a specific comment and response in this write-up, be aware that some points in a comment may be addressed in another response paragraph. Table 2, which follows the comment analysis, provides a list of individuals and organizations submitting comments.

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 - 4.C.5. Payment in lieu of taxes

RESPONSES TO THE COMMENTS RECEIVED ON THE ENVIRONMENTAL ASSESSMENT (EA)

1. SCIENCE-BASED

1.A. Canopy Cover and Closure

1.A.1. Some people were concerned that according to some studies, canopy closure guidelines in all alternatives except Alternative E are below the mean level needed by goshawk for foraging and nesting. There was particular concern relative to ponderosa pine types.

“It’s clear that alternatives B, C, and F, by allowing canopy cover in goshawk foraging habitat to be reduced to 40% are not consistent with the best available scientific information.”

“There is nothing in the EA which cites or discusses the dozens of scientific studies which quantify the canopy cover required by goshawks for nesting or foraging.”

“The EA does not cite a single field study, which indicates that goshawks avoid or hunt less successfully in dense forests.”

“The EA seems to have concluded that lower canopy covers are a benefit to goshawks without any substantiation and contrary to all of the data that does exist.”

Response: Little information is available on goshawk foraging habitat specifically in Utah. As described in Graham et al 1999 (page 5, Foraging Habitat) “Goshawks prefer to forage in closed canopy forests with moderate tree densities as compared to young open forests. Goshawks take prey from openings although they usually hunt these areas from perches near the edge.” Within the EA, page 4-31 paragraph 1, it was disclosed that lower canopy closure might not be adequate in the long term for goshawks. The Biological Evaluation for the EA contained in Appendix H has a discussion of goshawk foraging habitat and preferences that cites several scientific studies (EA, page H-12).

The range of canopy closures (Alternatives B, D & E) and percent of stand covered by clumps of trees (Alternatives C & F) described within the EA (page 2-26 and Appendix A, page A-5 to A-6) follow the intent of the science published by Reynolds et al 1992. Science provided by Reynolds is the only long-term research study within forest cover types approximating those found in Utah. A definition of stands has been added to the glossary. Stands of trees naturally vary considerably across the landscape. Aspen stands tend to have more uniform, high canopy closures while conifer stands tend to be more clumpy in nature, resulting in patches of high canopy closure broken by areas of lower or even zero canopy closure.

It is not the absolute value of canopy cover for a given landscape that is important, but the pattern that goshawks consistently use areas with the highest canopy cover available. These areas with high canopy cover are “clumped”, often adjacent to more open areas. The biological evaluation (BE) on page 11 (Appendix H), cites several studies that describe features of goshawk nesting habitat. Canopy cover is tied to interlocking crowns, not necessarily tight crown closure that would cause light interception or exclusion of light to the forest floor. The point of these citations is to highlight the fact that goshawks consistently use areas with relatively high canopy closure for nesting. All alternatives would maintain a minimum of 50% canopy cover or stand covered by

clumps of trees in nesting areas, a figure that is within the range of nesting area cover values reported in the literature and cited in the supporting documentation.

While we are aware of a substantial amount of research indicating that high canopy closure is an important habitat feature in goshawk nest areas, the pattern does not necessarily extend to foraging habitat. The few studies that have attempted to describe attributes of foraging habitat have yielded conflicting results. Also the methodologies used to measure canopy cover vary among studies that lead to values that are difficult to compare directly. For example, Hargis et al. (1994) reported that goshawk home ranges had an average canopy cover of 34%, a figure that is not especially high. However, goshawks did select areas for foraging with higher basal area and canopy closure than was available at random. Bright-Smith and Mannan (1994) also reported conflicting results. The majority of male goshawks in their study showed no preference for habitat in different canopy cover classes. They foraged in habitat classes ranging from <15% canopy cover to >55% canopy cover in proportion to their availability. However, when they examined the relative preference for habitat based on canopy cover class available within 90 m of the location, preference of the canopy closure categories increased with increasing canopy closure. They concluded, that the recommendation of maintaining 40% canopy cover in foraging areas in Reynolds et al. (1992) was consistent with their data. Alternatives B, C, and F all maintain minimum canopy closures or stand covered by clumps of trees in foraging habitat of at least 40%. This figure is in line with those reported in the peer-reviewed literature and cited in the supporting documentation.

The basis for the assertion that habitat quality would decline in ponderosa pine stands under all alternatives except E is that stands with canopy closures of 40%-50% are not suitable habitat and will not be used by goshawks. Goshawks tend to use stands with high canopy closure *relative to the average* for a given landscape. The published literature on goshawk habitat use does not support the concept of an absolute threshold value in canopy closure (see above paragraphs). The EA incorporated canopy closure requirements for ponderosa pine published in Reynolds et al. (1992), based on research done on a persistent goshawk population in ponderosa pine forests of northern Arizona. The Reynolds document was used because its study area has conditions similar to those found in ponderosa pine habitats of southern Utah, and was therefore likely to be applicable to the area covered by the EA (i.e., its conclusions were likely to be derived from landscapes capable of similar average canopy closure values). By specifying that canopy closure be managed to remain within historic range of variation (HRV), the action alternatives provide for forest conditions that are achievable and sustainable as well as within the range of conditions known to be used by goshawks.

1.A.2. Another concern expressed was that low canopy densities give advantage to competitors like great horned owls and red-tailed hawks. Prey habitat might also not be as good with lower canopy closure, especially in times of severe winter weather.

“...the creation of open forest conditions will increase competition with other raptors which may have a competitive advantage over the goshawk under these conditions.”

“In winter, many of the goshawk prey species migrate or hibernate leaving available only a limited number of prey species which are dependent upon dense forests.”

Response: As described within the EA (page 3-13), the alternatives were developed on the basis of prey ecology or the “food-web” approach. This approach received support from others as cited in

Chapter 3. The action alternatives prescribe a mosaic of dense patches across the landscape for several reasons. Great horned owls and red-tailed hawks can out compete goshawks and even kill its young in sparse open conditions. These dense patches provide security cover for young goshawks and give foraging goshawks an advantage over other avian predators who are not as successful hunting in dense patches. It's the importance of the interlocking crowns that provides the overstory cover for fledgling and squirrel habitat that also create a variety of habitat conditions for goshawk prey species.

1.A.3. The risk of insect, disease and fire destroying goshawk habitat increases with higher canopy closures.

“High canopy cover and high tree densities have increased risk for insect and disease and associated risk for stand replacement fire which would justify lower canopy closure.”

“Extreme events, like naturally occurring fires, should be allowed to occur.”

Response: Extreme events, like bark beetle outbreaks and stand replacement fire, can create broad swings in vegetation structure, composition and pattern (distribution) across the landscape. Appendix D discusses canopy cover and stand density index as they relate to risk of extreme events. This section also discusses historic range of variation (HRV) and properly functioning condition (PFC) and how they relate to native processes and extreme events. These landscape level disturbances could result in irreversible change and reduce species and structure diversity. Standards and guidelines allow for vegetation treatments (harvest and prescribed fire) that reduce risk to live stands, which will contribute to the long-term sustainability of landscape patterns and maintenance of important ecosystem attributes. These treatments create landscape conditions that are within the habitat requirements for goshawk.

Old, mature, and dense forests are more prone to large scale insect infestations and fires (EA page 4-27 to 4-28). The result of these events would be large tracts of young forests. Large tracts of young forests would largely be avoided by goshawks for nesting; however limited foraging may take place along the edges. The habitat assessment for Utah states that “Goshawks prefer to forage in closed canopy forests with moderate tree densities as compared to young open forests (page 5). Reynolds (page 18) includes a similar discussion. This is further discussed in Chapter 3 of the EA beginning on page 3-4.

1.A.4. Concern was expressed that the guideline to maintain the canopy cover at 40% in goshawk habitat would never reach the 50% canopy cover required in nest & PFA areas.

“On pages 4-30 and 31, the EA states that maintaining 40% canopy cover outside of goshawk nest areas and PFA's is important. This argument is internally contradictory since Alt. B defines the minimum nesting/PFA canopy closure as 50%.”

Response: The key is that Alternative B will provide *at least* 40% canopy cover in all goshawk habitat. Where more restrictive measures are necessary, as in PFAs and nest areas, they will be applied. Guideline g-13 (EA, page A-5) specifies that at least 50% canopy closure be achieved in PFAs and nest areas.

1.B. Structure

1.B.1. Some comments said that the most important habitat component for goshawk is mature and old growth structures rather than just prey abundance (food web).

“The open forest conditions that are discussed in the EA are likely to create forest structural characteristics which will not enable goshawks to use their morphological adaptations most efficiently.”

Response: Alternatives B, C, D & F were developed on the basis of prey ecology, with the desired habitat conditions that 40% of conifer and 30% of aspen stands be managed for mature and old structural stages. Old growth and mature forests provide a broad range of structure and species that support prey base habitat. The debate concerning goshawk ecology is discussed on pages 3-13 and 3-14 of the EA. The support for this approach is described and includes support from the technical reviewers (Braun et al. 1996). Alternative E was developed more on the basis of mature and old growth structures so the differences in approaches could be compared in the effects discussion (Chapter 4, pages 4-30 to 4-32). All action alternatives to varying degrees outline management that would result in early, mid and late seral stages grouped across large landscapes.

1.B.2. Other comments said that snag and down log densities are inadequate to provide for the prey base.

“Bull (1997) found natural or recommended snag numbers (>10 inches DBH) per acre in ponderosa pine forests to be 4.8 and in mixed conifer to be as many as 48. Snags and down logs decay rapidly with time and leaving only 2-3 snags per acre and 3-5 down logs per acre does not account for decay.”

Response: The rationale used in determining needs for snags and down woody materials is found on pages 2-6 and 2-7 of the EA. Snag and down log densities are included in all action alternatives. These recommendations drew from the intent in Reynolds, et.al. 1992. The Bull publication (1997), as discussed on page 2-7 of the EA, was describing natural conditions related to size and number of snags and down logs, and not requirements for goshawk habitat specifically. Alternatives D and E also prescribed minimum numbers of groups of mature and old trees to maintain habitat over the long-term (g-10, page A-3 and s-3 & s-4, page A-4). In addition, all action alternatives address the distribution of structural stages to assure the snag and down log components remain over time. Monitoring plus on-going and future research will help validate current standards and guidelines to ensure sustainability of snags, down logs and requisite prey base conditions across the landscape (m-4 & m-5, pages B-3, B-6 & B-7).

1.B.3. Some comments were concerned that the preferred alternative would remove late seral stages, thus promoting younger forests that would not meet goshawk habitat needs. Other comments were concerned that harvesting large trees should not be completely restricted.

“The preferred alternative encourages the removal of late seral species to encourage younger growth”

“Old dying trees should be allowed to be taken to protect surrounding trees”

Response: The Preferred Alternative F would emphasize early seral species, but not specifically young trees. Alternative F also contains standards and guidelines that allow for management of landscapes within properly functioning condition (PFC, guideline g-2), provide for a full range of seral stages (g-5), provide snag and down wood habitat (g-9 and g-11) and provide for the full range of structural stages to maintain the sustainability of habitat (g-15). The desired habitat conditions are to have 40% of conifer and 30% of aspen stands in mature and old growth stages. There are no guidelines that totally restrict the harvest of any tree size class. The standards and guidelines also allow for the restoration of disturbed habitats (from fire, insect disease, etc) as described in guidelines g-2 and g-3. Patch dynamics are extremely important to allow for a full range of structural and seral stages. Clumps of trees (2 – 9) with interlocking crowns. with a number of clumps comprising groups distributed across landscapes provide a mosaic of structural and seral stages desirable for goshawk habitat.

1.C.Viability

1.C.1. People are concerned that no population demography or viability analysis has been completed, so it is still unsure what the status is of the goshawk in Utah.

“Our expectations were that this effort would initiate a formal protocol to determine viability.”

“We disagree that the current goshawk population is viable in the state of Utah.”

Response: To varying degrees, each National Forest within the State of Utah has inventoried for goshawks and monitored known territories since at least 1992 (one year after it was listed as a Forest Service Sensitive species). Data obtained from these studies was used in the development of “The Northern Goshawk in Utah: Habitat Assessment and Management Recommendations” (Graham et al 1999). Results of these monitoring studies on National Forest System lands were unable to detect a decline in territory occupancy. Within the National Forests in Utah there is a systematic statewide monitoring system that is described on page 10 of the Utah Conservation Strategy. These documents are discussed in Chapter 1 of the EA

The “Conservation Strategy and Agreement for Management of Northern Goshawk Habitat in Utah”, a cooperative effort with the Utah National Forests, Bureau of Land Management, Utah Division of Wildlife Resources and United States Department of Interior, Fish and Wildlife Service (Utah NFs et al. 1998) explains that managers rarely have all information needed to conduct a fully quantitative population viability analysis (PVA). In the face of missing information, one practical alternative is to use inventories of the quality and quantity of suitable habitat as a surrogate for PVA. For the goshawk, this surrogate analysis for PVA is documented in the “Habitat Assessment and Management Recommendations for the Northern Goshawk in the State of Utah” (Graham et al. 1999).

Graham et al. (1999) assessed the ability of Utah’s forested lands to support goshawks. They found that most lands that had the potential to be goshawk habitat were, in fact, currently estimated to be of medium or high value as habitat. Furthermore, all patches of suitable habitat in the state were well-connected, meaning that goshawks dispersing from one habitat patch are likely to be successful in finding another. Population viability at the state level was inferred from these habitat

conditions, but with caveat that habitat deficiencies may be present at smaller geographic scales and that their assessment was an indirect measure of viability (Graham, page 42). The statements regarding viability within the state of Utah all cite Graham et al. (1999), and thereby include the rationale and qualifiers in that document. In addition, the EA considered findings published by the USFWS in response to a petition to list the goshawk as threatened or endangered in the western United States (EA, page 3-13), in which no evidence of declining populations or habitat were found. In the proceedings from the World Conference on Birds of Prey and Owls (Badajoz, Spain 1995), Dr. Clayton White summarized his conclusion as follows: “despite the tremendous focus of attention on this species in the West during the past five years, there are no convincing data that it fits the “endangered” category.”

Rationale for the conclusion that goshawks would remain viable in the state of Utah for the lifespan of this amendment is provided on page 4-26 of the EA. The demographic data needed for a direct assessment of the population viability are not available. Therefore, a direct assessment of population viability is not possible. This was clearly disclosed in the habitat assessment (Graham et al. 1999, page i of the Executive Summary and page 42).

The debate over goshawk management strategies within the scientific community is discussed in Chapters 2 and 3 of the EA. Pages 3-14 to 3-15 of the EA and the Biological Evaluation (Appendix H) both contain discussions of the rationale used for the population viability determination. As stated on EA page 1-6 the project was initiated not because the agency was concerned that we could lose a viable population of goshawks prior to revision of forest plans in Utah, but in response to identified concerns that current management strategies permitted actions that may degrade habitat. Rather than a determination of population viability, the intent of the process is to provide reasonable assurances that habitat to support viable goshawk populations are sustained (page 1-6). Effectiveness monitoring of nesting territories as called for in the monitoring section (Appendix B, m-1 & m-2, pages B-2, B-4 & B-5) and in the Utah Conservation Strategy (page 10) will aid in determining the validity of this.

1.C.2. Some commented that fragmentation and connectivity are not adequately addressed.

“The EA appears to completely ignore the fact that dispersing goshawks may not move equally well across all habitat types. If dispersing goshawks typically avoid intervening habitat because of, for example, predation pressure, then the connection distance is irrelevant.”

“Further fragmentation of mature forests should not be allowed. Northern Utah’s forests are ecologically linked with those of the Greater Yellowstone Ecosystem.”

Response: Graham et al. (1999) assessed the ability of Utah’s forested lands to support goshawks. They found that most lands that had the potential to be goshawk habitat were, in fact, currently estimated to be of medium or high value as habitat. Furthermore, all patches of suitable habitat in the state were well-connected, meaning that goshawks dispersing from one habitat patch are likely to be successful in finding another habitat patch. In Chapter 2 of the EA, pages 2-10 to 2-13, it explains how retaining current habitat connections in Utah is the foundation for preserving management options, as a component of all the action alternatives. Monitoring item m-3 is designed to track maintenance of habitat connectivity and applies to all action alternatives (EA page B-3). Alternative E was formulated in part to deal with the issue of fragmentation by not allowing

harvest of mature and old growth trees. We agree that the forests of Utah, especially northern Utah, are ecologically linked to the Greater Yellowstone Ecosystem.

The Utah assessment received peer review by a number of State, Federal and University scientists as indicated in the Assessment on page 48. Comments from these reviewers were incorporated into the final document. Additionally, the Utah Assessment was developed by Utah biologists who have studied goshawks and their habitat for as long as eight years. Their cumulative efforts greatly exceed the efforts of any others in the State of Utah. The results of these efforts combined with research from dozens of other locations were used in the development of the Assessment. The quality of all suitable habitats within Utah was rated for goshawk and their prey (Graham et al 1999, page 19-28). Many of the instances of long distance dispersals or migrations cited on page 24 of the Assessment crossed long distances over forested and non-forested habitat.

1.C.3. Others are concerned that the habitat ratings are inadequate.

“The basis for judging what constitutes high quality nesting and foraging habitat for goshawks in Utah is weak.”

Response: The process used to rank habitat patches in terms of quality for goshawks is described on page 15 of the habitat assessment (Graham et al. 1999). It was a subjective ranking process, using expert opinion of biologists working for land management agencies in Utah. These experts used their knowledge of the published literature on goshawk habitat use plus their experience surveying for and monitoring known goshawk territories in the field. Ranking factors were assigned at very coarse scales, considerably larger than an individual stand, and therefore were indicative of generalized habitat conditions. Presence or absence of goshawks was one factor considered in the ranking process, but was not required in order for a habitat patch to be ranked as high value habitat. This approach was used specifically because standardized survey information was not available for all forested areas in Utah, and to rely on survey information alone or as the primary ranking factor would have ignored a great deal of potentially suitable habitat that had not been formally surveyed.

This subjective ranking process was considered appropriate for depicting habitat and making generalized management decisions at the state scale. This is the scale and context in which the EA used Graham et al.’s (1999) information. However, Graham et al. (1999) noted that finer resolution data should be used in project level analyses to more accurately assess habitat conditions, especially stand-level characteristics such as canopy closure. The EA also notes the importance of landscape-level assessments (EA, page 4-22) and project-level analyses (EA, page 4-2), in which more detailed site-specific information should be used to make decisions. These smaller scale analyses are the most appropriate and practical scales at which to address the respondent’s concerns regarding quantification of habitat conditions.

1.D. Science Used

1D.1. The best science available as basis for analysis was not used.

“...the near complete absence of all quantitative information concerning goshawk habitat preferences;...refusal to explain why the Forest Service plans to manage goshawk habitat so far outside the range of known goshawk habitat needs...”

“The EAs failure to analyze the adequacy of the HCS is based on the presumption that the HCS is the best available scientific information.”

1.D.2. Credibility of Graham and Reynolds documents is questioned.

“Both the Reynolds and Graham documents are based on flawed assumptions and questionable methodologies.”

Response: There are differing opinions from the biological community dealing with many ecological aspects of goshawk management (EA, pages 3-13 to 3-14). The different approaches in the scientific management recommendations became significant issues that were used to generate alternatives, as described on pages 2-3 to 2-6). The alternatives were in part developed on the basis of prey ecology or the “food-web” approach. This approach received support from others as cited above (EA, page 3-13 to 3-14). Also, if monitoring, as described in Appendix B of the EA and the Utah Conservation Strategy, indicates viability concerns, the further analysis and adjustments would be made (Utah Conservation Strategy, page 10).

Where differences exist between various published descriptions of habitat use, the HCS and EA give more weight to studies that have larger sample sizes, more years of data or were conducted in habitat similar to those in Utah. Reynolds et al. (1992) was used extensively for those reasons. More recent research was incorporated through use of Graham et al. (1999) and other papers cited in the EA (pages R-1 to R-6) and BE (Appendix H).

Drafts of both the Assessment (Graham et al. 1999) and the EA were peer reviewed by biologists, researchers, and others who are associated with many federal and state agencies, and universities. Lists of reviewers are found on page 47 of the Assessment and page 85 of the Management Recommendations for the Northern Goshawk in the Southwestern United States. Additionally, the Utah Assessment was developed by Utah biologists who have studied goshawks and their habitat for as long as eight years. Their cumulative efforts greatly exceed the efforts of any others in the State of Utah. The results of these efforts combined with research from dozens of other locations were used in the development of the Assessment. The quality of all suitable habitats within Utah was rated for goshawk and their prey (Graham et al 1999, page 19-28).

The science used in Alternatives B, C, D and F was chosen because:

- i) The Reynolds study on the Kaibab Plateau is the longest running goshawk study (Reynolds et al. 1992);
- ii) The Reynolds study is based on many similar habitat conditions as those found in the State of Utah;
- iii) Dr. Reynolds is a well known raptor scientist who is renowned for his work in goshawk ecology, and the Graham Assessment (Graham et al. 1999) is specific to Utah; and
- iv) Other research was discussed and differing opinions recognized within the EA, pages 3-13 to 3-14.

1.D.3. Some people said that there is no basis for desired habitat conditions (DHC), that the historic range of variation (HRV) is too unclear to use as a management tool, and that the properly functioning conditions (PFCs) are artificially constrained to produce a regulated forest not a natural forest.

“The majority of the suggested standards and guidelines restrict vegetative management activities and will not attain HRV [historic range of variation] condition levels. This will degrade habitat capability for the goshawk and will in turn impact many forest users who are the backbone of our rural area’s economy.”

“We fear that the concept of ‘historical range of variation’ is far too nebulous and indiscernible to be used as a management tool.”

“The DHCs prescribed by the PFC are biologically arbitrary.”

Response: The desired habitat conditions come directly from the science we used (Reynolds et al 1992 and Graham et al 1999). The EA refers to the biological evaluation, which (on page 11) cites several studies that quantify goshawk nesting habitat. Numerous studies have described the range of habitats used by goshawks, several have determined nesting habitat preferences, but to our knowledge, none have identified critical or *required* nesting habitat or habitat attributes. The latter requires an understanding of the demographic performance of goshawks in various habitats. The vast body of goshawk habitat literature indicates that abundant large trees and high canopy closure are two consistent habitat features in nesting areas. Regardless of the studies cited, the pattern of habitat use is similar. However, the majority of habitat studies have been conducted in habitat types or ecological regions different from those found in the Utah. While patterns of habitat use may be similar across regions, absolute habitat values cannot be taken from one region and applied to another, particularly in widely different habitat types.

Where differences exist between various published descriptions of habitat use, the Habitat Conservation Strategy and EA give more weight to studies that have larger sample sizes, more years of data and/or were conducted in habitat similar to those in Utah. Reynolds et al. (1992) was used extensively for those reasons. More recent research was incorporated through use of Graham et al. (1999) and other papers cited in the EA and BE.

Properly functioning condition (PFC) is an ecological approach to management that uses a rapid assessment, coarse filter process to determine which components of the ecosystem are at risk (Properly Functioning Condition Process Draft, USDA Forest Service, 1998). In Appendix D the EA discusses how PFC fits within the historic range of variation (HRV) and factors in social and economic limits. To manage landscapes outside PFC may place them at risk to disturbances that would create an imbalance of structural diversity. The use of PFC is a more conservative approach to ensure the sustainability of desired habitat conditions across landscapes.

While insect, disease and fire disturbances even at extreme levels may be a part of HRV, large scale disturbances may not be appropriate for PFC. Standards and guidelines allow for treatments that reduce risk in live stands and allow for salvage efforts and restoration of disturbed areas. We agree that management activities including harvest and fire can contribute to the long-term sustainability of goshawk habitat.

The purpose of the EA is to disclose the effects of implementing the Habitat Conservation Strategy (HCS) per the signed Habitat Conservation Agreement. The EA relies on the HCS and its supporting documentation (Reynolds et al. 1992, Graham et al. 1999) for its definition of goshawk habitat. Both supporting documents contain extensive literature reviews, including both quantitative and descriptive studies of habitat use patterns in goshawks. The desired habitat

conditions defined in the HCS and carried forward into the action alternatives in the EA are within the range of conditions described in one or more studies cited in the supporting documentation

1.D.4 While some comments supported the use of silvicultural treatments as a valid tool to maintain forest health, others questioned the benefits of silvicultural treatments as “uncertain at best”.

“By excluding logging in nesting areas, the Forest Service is setting up for a wildfire that would be more damaging to goshawk than harvesting or other human uses.”

“We disagree that silvicultural treatments are beneficial to goshawks.”

Response: The rationale for utilizing silvicultural treatments to benefit goshawk habitat is found within the Management Recommendations for the Northern Goshawk in the Southwestern United States, The Northern Goshawk in Utah: Habitat Assessment and Management Recommendations, and the Conservation Strategy and Agreement for the Management of Northern Goshawk Habitat in Utah. This rationale is summarized in Chapter 1 of the EA.

While the EA does not specify which management tool to use, the standards and guidelines are developed for the manager to follow after the site-specific tool is selected. The Preferred Alternative allows for harvest activities and prescribed fire treatments with some treatment and timing restrictions. Treatments could occur even within nest areas (see guideline g-22) where those management activities are designed to maintain or improve desired habitat. See Appendix A of the EA for which standards and guidelines apply to Alternative F.

Mechanical treatments and prescribed fire are viable methods to move structural habitat components toward the desired condition and meet habitat sustainability because they can mimic small disturbances (such as fire and windthrow) and lessen the chances of large-scale disturbances. Richard Reynolds points out that goshawk populations are higher on the national forest lands on the Kaibab Plateau than the North Rim of Grand Canyon National Park. It is his assertion that this difference is primarily a result of management and fire on the national forest versus the densification of the forest in the Park where no treatments have been applied (Reynolds and Graham, 1999).

It is important to forest health to re-establish native processes. It is also important that the past 100 years of exclusion of fire have created ecosystems that are outside the historic range of variation. We cannot presume that we can restore fire to these systems and native processes will return within the historic range of variation. Many ecosystems could be destroyed by large-scale stand replacing fires. According to Jenkins et al. (1998) the most proactive effort to reduce hazardous fuels is by mechanical means and application of prescribed fire. Schmidt (1996) further stated that social demand, economic consideration and the changing nature of the ecological system may not allow us to fully restore fire as a native process.

The effects of fire exclusion are described by Arno et al. (1995). The severe fires of 1994 occurred as a result of dense stands with fuel ladders that allowed for increased fire intensity. According to Arno, the general goal of restorative management is to develop more open-stand structures as consistent with historic disturbance regimes. It is usually necessary to design restoration treatments

in today's dense stands with a "low thinning" that removes excess understory, followed by a low intensity prescribed fire. This is also supported by Covington and Moore (1994).

1.D.5. Several concerns about the management direction for nesting and territories were expressed as follows:

"All nest and PFA habitat within a given territory should be protected from logging in order to retain mature/old growth and canopy closure attributes, rather than just currently active nest sites as the EA seems to indicate. This is required in order to be consistent with Reynolds et al. (1992)."

"All nest and PFA areas active at least once since 1989 should be permanently protected."

"No direction is given for establishment of nest areas. All nest areas should be within the PFA and should encompass the best available habitat."

"Single territory approach does not meet ecological needs of goshawks."

"Most goshawk territories on the Dixie, Ashley and Wasatch-Cache do not contain alternate nests...logging has likely reduced nesting habitat in Utah."

"Why the difference between approximately 30 acres for nest size (EA & Graham) and over 30 acres for nest size (Graham)?"

"The limits on activities during active nesting season will prevent on-going, routine activities such as road maintenance adjacent to a goshawk nest area."

Response: All action alternatives require identification of alternate and replacement nest areas approximately 30 acres in size (EA, Appendix A, page A-7), 180 acres total. In a study by Woodbridge and Detrich, stands used for nesting ranged from approximately 10 acres to 375 acres. Larger nest areas are not necessarily better, depending on other factors like proximity to water and overall size of the forested area, but can mean a higher occupancy rate (Woodbridge & Detrich 1994).

Standards and guidelines relating to vegetative manipulation in nest areas are the same for active, alternate and replacement nests areas; i.e. activities are restricted to those that are specifically designed to maintain or improve conditions for nesting goshawks (guidelines g-22 and g-23). The only difference between management of active vs. alternate or replacement nest areas is that active nest sites are protected from activities that might cause *behavioral* disturbance of nesting goshawks, resulting in nest abandonment (guideline g-21 and standard s-10). This management direction would not apply to alternate or replacement nests since by definition there would be no nesting activity in those areas.

All action alternatives would include a guideline stating that a historic nest that is not associated with an active nest area will be managed for home range characteristics (EA, Appendix A, page A-7). Standard s-8 (Appendix A., page A-7) requires that 2 alternate nest areas and 3 replacement nest areas be identified for each active nest area. The thinking is that most historic nest sites would be protected by this requirement.

Appendix A, pages A-7 to A-8 provide management direction for nest areas. Guideline g-20 states that "(a)lternate nest areas should be identified in suitable habitat with similar vegetative structures as the active nest areas. Replacement nest areas should be identified in habitat which will develop similar vegetative structures as the active nest area at the time the active and alternate nest areas are projected to no longer provide adequate nesting habitat". Guideline g-24 states that a PFA should

be identified “which encompasses the active, alternate and replacement nest areas and additional habitat needed to raise fledglings.”

The EA contains direction to protect and enhance known goshawk territories but it also calls for an ecosystem or landscape approach for sustaining habitat for the northern goshawk and its prey (EA, pages 2-11 to 2-13).

As identified by White and Johansson (1993, page 4) they used “data that either was already gathered or was easily and cheaply available”. As a result, they did not invest a lot of time, or effort into searching for alternate nests. Because this data set was very small and no intense nest searches conducted, it is not surprising that only 6 territories (not 4 as stated in the respondents letter) had more than 1 nest. The White and Johansson (1993) report does not discuss the Ashley or Wasatch-Cache National Forests. On the Ashley National Forest, as many as 6 nests have been located in a single territory. On the Dixie National Forest, as many as 4 nests have been located in a single territory. Territories with one nest are the exception rather than the rule. Even if few alternate nests were known, it would be difficult to draw any conclusions regarding the causal agent, especially since discovery of alternate nests is highly dependent on search effort. It would take many hours in the field by experienced personnel to conclude that alternate nests were absent, rather than simply undiscovered.

Guideline g-21 (page A-7) provides direction for the protection of all nest areas whether they are active, alternate or replacement when considering vegetative manipulations. Standard s-9 prohibits forest vegetation manipulations within active next areas during the active nesting period. Once they are identified, nesting areas would be managed in such a manner that the territory would remain viable. Language has been added to standard s-9 and guideline g-21, to be clear that routine, on-going activities, such as road maintenance, that have always been adjacent to active nest areas, usually will not be restricted. See the enclosed Appendix BB for the language added.

The effects of excluding all logging activities within these key areas has been described within the EA on pages 4-28 through 36. Vegetation management may be needed within these key goshawk areas in order to sustain important attributes for goshawks. Nesting areas would be managed in such a manner that habitat would continue to provide important attributes for goshawk occupancy. Appendix A, page A-7 lists the protections afforded to active, alternate and replacement nest areas.

1.D.6. Some comments said that the R3 (Southwest Region [AZ & NM] of the Forest Service) guides are not appropriate in Utah and other comments questioned why they weren't completely adopted. Of particular concern were the criticisms of the R3 direction calling for creation of younger successional stages in post-fledging family areas and goshawk foraging areas and differing climates.

“Also state why the conclusions in this EA relative to the biological needs of the northern goshawk differ so much from the conclusions in the southwest region of the Forest Service relative to goshawk management.”

“In particular, because the forested areas of Utah are typically much colder and windier than much of the forested habitat in R3, it is reasonable to conclude that goshawks in Utah need more extensive thermal protection than goshawks in R3. This implies nesting, PFA and foraging habitat in R4 should contain more mature, closed-canopy component than in R3.”

Response: The conclusions of Reynolds et al. (1992) for the Southwestern United States were used as a starting point for the Utah Habitat Assessment and subsequent EA. Changes were made to reflect differing forest and habitat conditions in Utah that do not exist in the southwest. The most obvious examples of these are the existence of quaking aspen and lodge pole pine forests. Alternative C does closely follow the recommendations contained in Reynolds et. al. (1992). Other alternatives vary somewhat because they were developed in response to comments received during the scoping process (see Chapter 2 of the EA).

While the intent and the process used are similar to those in R3, the management direction from R3 is not universally adopted. The Management Recommendations for the Northern Goshawk in the Southwestern United States used studies from throughout the west in the development of its recommendations (see the references beginning on page 35 of the Management Recommendations). We also used many other studies from throughout the west in our conclusions in the EA (see Appendix H, page H-17 and Reference page R-1). This literature contains information on the habitat needs for goshawks throughout many parts of the species' range.

The Reynolds' document was the building block from which Graham et al. structured the recommendations for Utah. It is important that the two Forest Service Regions network to see what works in achieving desired outcomes and what does not. We have learned that it is very important to focus on healthy structural attributes of VSS 4,5 and 6 and retain these whenever possible. This effort will take a good amount of on the ground training and a very active monitoring program. We must also remember that it is an adaptive management program and we need to adjust to changing conditions and new information to be successful.

There are differing opinions over Goshawk management strategies within the scientific community. On pages 3-13 through 3-14 of the EA there is a discussion of these differing opinions. The rationale for creating younger successional stages to benefit goshawk habitat is found within the "Management Recommendations for the Northern Goshawk in the Southwestern United States", "The Northern Goshawk in Utah: Habitat Assessment and Management Recommendations", and the "Conservation Strategy and Agreement for the Management of Northern Goshawk Habitat in Utah". This rationale is summarized in Chapter 1 of the EA.

1.E. Aspen, Grazing and Prey Habitat

1.E.1. Concerns were expressed that the need for aspen management is not emphasized. Grazing has accelerated late seral succession especially in the aspen type, which has resulted in impacts to prey habitat.

"...it is a waste of resources to identify aspen regeneration as a priority for goshawks habitat, and then propose an alternative which makes no strides toward improving the cover type."

"...scientific literature displays a very strong consensus that overgrazing is a major negative impact on aspen regeneration."

"Inflated populations of elk are destroying the understory and disrupting aspen rejuvenation; this is not addressed in the EA."

Response: The aspen type has shown the most change as a result of grazing and the exclusion of fire. Aspen is discussed at some length in the Affected Environment (pages 3-5 to 3-6). Grazing practices of the early 1900's removed much of the herbaceous understory and allowed for the

establishment of conifers that have overtopped the aspen (EA, page 3-9). Current grazing of domestic livestock, and large ungulate wildlife may keep herbaceous vegetation at a level where fire will not carry across the landscape. There are isolated places where elk grazing is causing detrimental impacts to aspen regeneration (EA, page 3-12). These will be identified during the landscape assessment process and addressed in site-specific analyses.

Fire exclusion and dense shading have contributed to changes in understory vegetation, which can impact many goshawk prey species (EA pages 3-8 and 3-12). Winward (1997) indicated that understory species are reduced once canopy closure reaches 40%. Grazing both by domestic livestock and wildlife can impact aspen reproduction as discussed in the environmental effects, Chapter 4 (page 4-13). Busby (1978) and Winward (1997) indicate that most western range has stabilized.

In addition to grazing, timber harvest, insect and disease epidemics and fire exclusion all have contributed to the cumulative impacts occurring since the late 1900's (EA, page 1-3). The change created in the absence of native processes, like fire, usually includes successional pathways that move toward late seral species dominance, a densification of the tree canopy which results in reduced understory vegetation. It would be improper to assume that livestock grazing was the single cause for these changes.

Alternative F which is the preferred alternative recognizes natural disturbance regimes and the need to manage for seral species which provides for the aspen type. It also indicates that the prescribed fire program has the greatest potential to benefit this type (page 4-13 paragraph 4). Guideline g-29 provides for the modifying of grazing practices to maintain desired forage structure and m-7 develops the monitoring strategy to determine if these modifications are effective.

1.E.2. Grazing has adversely impacted prey habitat. Some comments suggested grazing be eliminated and others said grazing isn't the problem.

“Numerous issues surrounding grazing and the effects upon fire, forest density and prey base were ignored even though the primary research relied on in the EA suggests grazing restrictions are part and parcel of protecting goshawk habitat.”

“The EA doesn't properly address livestock impacts that deplete forage for goshawk prey base.”

Response: Alternatives D and F were formulated, in part, to deal with the issue of ungulate wildlife and livestock grazing. Page 4-36 in the EA explains how Alternative F focuses on the need to change grazing practices only in those areas determined to be at risk relative to habitat needs of goshawk and their prey. The impacts of grazing upon fire is one of the items considered when determining which areas are at risk. The preferred Alternative F also addresses this concern in Appendix A (page A-9) guidelines g-28 and g-29 and in monitoring requirements m-6, (Appendix B, pages B-3).

On page 2-9 of the EA it states that the elimination of all cattle grazing is outside the scope of this project, and it is not consistent with the Forest Service mission: “To sustain the health, productivity and diversity of the land to meet the needs of present and future generations (GPRA, 1999).” The Utah Division of Wildlife Resources has the responsibility to manage the population of game

animals. The Forest Service collaborates with the Division in the efforts to develop game herd management plans and annual harvest on a site-specific basis.

The description of desired prey habitat conditions has been clarified and is included in the attached Appendix BB, Clarifications and Errata. The intent with this is to give a more clear description of the desired conditions management for field people to better understand what we want to achieve.

1.F. Social-Economic Effects

1.F.1. Some comments said that logging and grazing is a minor part of local economies and can be replaced by other economic resources. Other people said that changes in grazing, timber management, road and access management, etc. affect community livelihood.

“The degradation of any access, grazing or timber will significantly restrict the customs and culture and economic base of Uintah County and its residents.”

“Logging is apparently the reason that the northern goshawk is in the dire situation that it is; thus addressing the species’ viability through logging is not the answer.”

“Many cattlemen may be affected by this issue.”

“We respectfully request that you make a decision that leaves the grazing AUMs as they now are.”

Response: Implementation of the standards and guidelines will still allow use and development in the national forests. The main restrictions would be seasonal, limiting ground disturbing activities around nest areas during the nesting season. Language has been added to standard s-9 and guideline g-21, to be clear that routine, on-going activities, such as road maintenance, that have always been adjacent to active nest areas, usually will not be restricted. See the enclosed Appendix BB, Clarifications and Errata.

The small number of acres that could be treated by projects using this direction over the next four years will not affect grazing, logging, access, or other uses at a statewide level. As discussed in Chapter 4 page 4-49, no measurable effects are estimated. As site-specific projects are implemented, the effects will be looked at again at the local scale. Changes in operations, such as seasonal changes or altered grazing systems that may be proposed, would be disclosed with the effects estimated, and the public will have the opportunity to be involved at this site-specific decision level.

“The ‘localized effects’ on low income and minority populations are measurable. Revise the environmental justice section to portray an accurate description of the issue.”

Response: As discussed in Chapter 4, page 4-49 to 4-50, overall effects to local communities from forest operations such as mining, grazing, logging, and road construction, are estimated to be minimal considering the small number of acres that could be treated by projects using this direction in design and implementation over the next four years. Some localized effects to grazing permits may occur in alternatives D and F (see page 4-54). Localized (allotment) effects are expected to be highly variable due to varying site conditions, and interested people will be included in the site-specific decision making process. In addition, with the exception of Alternative E (see page 4-52) cumulative effects to wood products and timber are not likely to be measurable during this timeframe.

Chapter 3 (pages 3-15 to 3-30) and Chapter 4 (pages 4-48 to 4-62) of the document discuss the social and economic impacts of the alternatives from a statewide perspective. In addition, a section called Environmental Justice, describes the low income and minority populations in Utah for consideration in the Assessment (pages 3-15 to 3-18). The impacts to rural communities, minorities, and low income populations in the state are of prime importance and are analyzed when considering the elements of the proposed alternatives.

Also in Chapter 3 (page 3-16), statistical data from the State of Utah show that the majority of low income and minority residents live in the metropolitan areas of Salt Lake, Davis, Weber and Utah Counties. However, it is recognized that there are many low income and minority groups throughout Utah. The four-year time frame for the document does not demonstrate measurable effects on these populations. Local minority and low income residents will be considered as part of the analysis for each of the forest plans now under revision and are always considered during the planning of site-specific projects.

1.F.2. The health of rural communities is as important as the goshawk and is also an integral part of the ecosystem that should be considered.

“To protect the goshawk at the expense of the timber, recreation and grazing users would be another attack to pacify the so-called environmentalists.”

“The habitat of the goshawk and its prey would be and could be protected by allowing some use and development and still be in compliance with the continuity standards.”

Response: As was stated above, overall effects to local communities from forest operations such as mining, grazing, logging, and road construction, are estimated to be minimal considering the small number of acres that could be treated by projects using this direction in design and implementation over the next four years until the forest plans in Utah are revised.

Two National Forest Plans are currently under revision (Wasatch-Cache and Uinta). The remaining four revisions are planned to be completed within the next four years. During plan revisions, management direction for goshawk habitat will be integrated along with other resources. Impacts of forest management decisions, including activities surrounding goshawk habitat, will be assessed with the local communities. As stated in Chapter 4, page 4-49, individuals or groups dependent on income related to NFS lands are considered during site-specific, project level decisions.

The purpose of the environmental assessment is to compare alternatives and disclose the environmental effects for the public and decision maker to understand the trade-offs. The Regional Forester considered these effects and the comments from the public in reaching his decision. The reasons for his decision are described in the decision notice.

2. PROCESS

2.A. Purpose, Data & Alternatives

2.A.1. Many comments said that the purpose and need for the project is unclear as follows:

“All evidence points to the fact that the population and habitat of northern goshawk in Utah are viable and stable. The entire exercise may be without merit.”

“NFMA is multiple use-sustained yield, thus should not be managing for single species. Evidence is that populations and habitats are viable and stable, thus no merit to purpose.”

Response: Chapter 1 of the EA (pages 1-2 to 1-10) explain the background for this project, how the goshawk became a “sensitive” species in Utah, and the assessment and conservation strategy that have occurred since the forest plans were developed. The EA explains (page 1-6), with scientific references, that changes in forest structure, especially harvesting large trees, and changes in fire severity and risk of large scale habitat losses from catastrophic fire and insect events may negatively affect goshawk populations. The purpose of taking action now is also explained on page 1-6 (section 1.3.1), that there are more management options available when trying to prevent a species from being listed as threatened or endangered.

The purpose and need sections in the EA (page 1-6) explain why action is necessary now to prevent potential degradation to goshawk habitat in this interim period before the forest plans in Utah are revised. The monitoring described in Appendix B will lead to effectiveness determinations that continually update information to be integrated into the forest plan revision efforts.

While the Endangered Species Act tends to focus more on single species, in doing the analyses for the assessment, conservation strategy and management recommendations, the focus expanded to include a wide variety of prey species. As explained in the Habitat Assessment, the recommendations describe actions aimed at sustaining the habitat of the goshawk and selected prey species for the forests and woodlands of Utah (HCA, page 38). The Conservation Strategy and Agreement further provides for adequate nesting and foraging habitat for goshawks and also to provide habitat for a large variety of avian and mammalian species associated with goshawks. This is perhaps more in line with what NFMA intended.

2.A.2. Other comments were concerned that there is inadequate data to establish standards and guidelines for goshawk management.

“It is impossible to make informed decisions on policy without a much better idea of distributions and health of goshawk.”

“The EA presents no data that the lower standards will benefit goshawk – it simply asserts that lower canopy closures and open foraging conditions are adequate.”

“There is little basis for establishing standards and guidelines to direction management of home range habitat outside of nest stands; suitable foraging habitat may be the key to goshawk productivity.”

Response: To varying degrees, each National Forest within the State of Utah has inventoried for goshawks and monitored known territories since at least 1992 (one year after it was listed as a Forest Service Sensitive species). Data obtained from these studies was used in the development of “The Northern Goshawk in Utah: Habitat Assessment and Management Recommendations” (Graham et al 1999). Effectiveness monitoring of nesting territories is called for in the monitoring section (Appendix B). Within the national forests in Utah there is a systematic statewide

monitoring system that is described on page 10 of the Utah Conservation Strategy. These documents are discussed in Chapter 1 of the EA.

As explained previously in 1.A.1., none of the alternatives recommend canopy closures in foraging habitat that are inconsistent with several studies.

Suitable foraging habitat may be the key to goshawk productivity. This fact is discussed in the Biological Evaluation (Appendix H, page H-12) where it states: “populations may be limited by shortage of nest sites; and where nest sites are readily available, densities may be limited by food abundance and availability”. As explained in the response to 1.C.3., the process used to rank foraging habitat was considered appropriate for depicting habitat and making generalized management decisions at the state scale.

2.A.3. Concerns over the range of alternatives came from two aspects:

-Key issues like canopy cover and which guidelines apply are not adequately distributed across alternatives.

-Standards and guidelines that apply to all - or all but one - action alternatives have artificially constrained decision opportunities.

“The only reasonable and scientifically supported provision listed in the EA that would provide some protection of existing foraging habitat is s-2, yet s-2 only applies to Alternative E and would not work to recover foraging habitat that has been lost due to timber harvest in past decades.”

“The alternatives are built around the same set of standards, guidelines, goals and objectives, thus alternatives only differ in relatively minor ways. The EA lacks evaluation of alternatives based on stronger sets of standards and guidelines.”

Response: Chapter 2 of the EA explains how the alternatives were developed and how the various standards and guidelines were applied. Section 2.2.2 (pages 2-3 to 2-6) describe the issues used to generate alternatives. The significant issues centered around the disagreements about the science used and how the science should be applied in management direction for goshawk habitat. This drove how the alternatives were formulated.

The alternative descriptions (pages 2-16 to 2-20) explain how and why various standards and guidelines were used (or not) to address the issues that drove development of that alternative. Table 2 (page 2-21) summarizes and compares how the standards and guidelines were selected for each alternative. The comparison of alternatives (section 2.4, page 2-22) shows the alternatives on a relative scale given the risk of loss of habitat and social and economic costs.

The standards and guidelines are based from the differing sciences on what’s the best management strategy for goshawk habitat. Where there are disagreements on “best” is where there are differences in which standards and guidelines apply to that alternative. That sometimes the same standards and guidelines apply to several alternatives has to do with meeting the intent for which that alternative was developed, and where there is agreement among the scientists, rather than limiting the decision opportunities. The purpose for developing alternatives was to have a reasonable range to address the significant issues identified, not have a reasonable range of application of standards and guidelines. In this sense, the standards and guidelines are like tools

that can be used to meet the intent of the alternatives. That often the same tool can be used means it is a useful tool, not that there is too limited a choice of tools.

Evaluation of tighter standards is represented in the range of alternatives considered, (EA, pages 2-11 to 2-26), with a comparison table of the differing management direction found in Table 2 on page 2-21, and the differences in outcomes compared in Table 3 on page 2-26. Alternative E represents the “tightest” standards, from this perspective, with no treatments in mature and old stands, and a minimum 60% canopy closure in foraging areas, with 75% in nests and PFA areas. Further descriptions are found in Chapter 4, pages 4-27 to 4-37, where the effects of each alternative on goshawk habitat and abundance are discussed and compared.

Regarding application of standard s-2 to only Alternative E, guideline g-7 applies to the other action alternatives. While g-7 allows for more discretion in its application than s-2, it does provide for the protection of the mature and/or old structural groups. For planned treatments to vary from this guideline it would be necessary for the biological assessment to conclude that the proposed action was consistent with the intent of the Conservation Strategy and Agreement for Management of the Northern Goshawk in Utah (EA pg.A-2).

2.A.4. The use of scientific disagreements to generate alternatives is not appropriate and was not applied properly to adequately assess the effects of differing scientific approaches.

“The EA states it will incorporate the contradictory science in Alternative E, but does not discuss this science in relation to any of the other alternatives...each alternative in its own turn must be judged against the scientific evidence in the administrative record, information which has been presented to the Forest Service by the public during the scoping process.”

“Alternative F is inconsistent because it only has one goal and one objective.”

In Chapter 2 of the EA, pages 2-3 to 2-6 describe the issues used to generate alternatives, including the scientific disagreement with the Habitat Conservation Strategy. Alternative E was developed to disclose and compare the effects of applying a different scientific approach for goshawk management direction. Alternative C was developed to incorporate inconsistencies some scientists saw with how the HCS was applied in Alternative B (the original proposed action). Alternative D was developed to respond to the issue that not enough of the management direction was reflected from the original habitat assessment. These alternatives clearly represent other courses of action to be considered to resolve conflicts concerning uses of available resources and sharply define the issues to provide a clear basis of choice, as required by NEPA. The description of alternative development in Chapter 2 indicates on which scientific information each alternative is based, and the disclosure of effects in Chapter 4, especially related to goshawk habitat and abundance (pages 4-27 to 4-37) compare and contrast the different outcomes and effects of each alternative, making it clear how applying different scientific approaches varies among the alternatives considered.

Chapter 2 of the EA, page 2-20, explains why the long-term goals common to the other action alternatives were deleted from Alternative F and replaced with a single goal that focuses on short-term maintenance and restoration of optimum habitats. Table 2, on page 2-21 shows that only goal 10 and objective 1, described in full in Appendix A (page A-10) apply to Alternative F.

2.A.5. Many comments requested that new alternatives be considered. Often these new alternatives would add or delete certain standards and guidelines. An analysis of each of these proposed alternatives follows:

“Consider a new alternative (which would be a modified version of Alternative E) that includes the following points:

- s9) Goshawk Territories - All past, present, and future goshawk territories should be permanently protected regardless of whether they are occupied in any given year.*
- Older Forest Habitat - No logging should be permitted in the nest/PFA area regardless of whether it is an active or alternate nest – not enough is being done to protect older forest habitat.*
- Recruitment Nest/PFA - Recruitment nest/PFA areas should be established at 1.5 mile intervals across the entire landscape.*
- Cattle grazing is a well-documented threat to goshawk habitat and prey – it should be curtailed in all goshawk habitat.*
- Surveys - At a minimum, 2 years or more of goshawk surveys should be completed”.*

Response: This proposal for a new alternative would be something like a combination of Alternatives D and E as currently described in the EA (pages 2-18 to 2-19), and would place the most restrictions on activities throughout all goshawk habitat areas, rather than just the active nest sites and post-fledgling areas (PFAs). In many respects this is similar to an early alternative considered but eliminated from detailed study that would reserve all roadless and undeveloped character on national forests. The reasons this alternative was not included in detail are described on page 2-9 of the EA, and include: elimination of resource uses and active management is outside the scope of this project and not consistent with the Forest Service mission to sustain the health, productivity and diversity of the land to meet the needs of present and future generations.

Many of those who commented wanted to see an alternative that would prohibit all management activities in goshawk areas:

“Develop a conservation biology alternative that protects large “reserves” of goshawk nesting and foraging habitat as well as corridors connecting those reserves.”

“Fully preserve all goshawk habitat as sanctuary areas.”

“We support an Alternative allowing roadless areas and known goshawk areas to remain undisturbed by roads, timber, harvest, livestock grazing, fire suppression and vegetation treatments.”

“Standard s-9 allows for vegetation manipulation in nest stands after the nesting seasons. Such activities could destroy nesting habitat.”

Response: Depending upon the alternative, varying levels of vegetation management are allowed and prescribed in order to sustain and maintain goshawk habitat throughout the National Forests in Utah (see Chapters 2 and 4 of the EA). Where appropriate, scientific studies are referenced in the text. Vegetation management is used to mimic natural disturbances that have been altered due to

the exclusion of fire, insect and disease epidemics, timber harvest, and livestock grazing, or a combination of these factors (EA page 1-3). Alternative E was developed to contain many of the components of a “biological reserve” in response to comments received during the scoping process, see EA pages 2-4 to 2-5, and 2-19.

Alternative E, the basis for development is described on page 2-19 of the EA, would achieve similar results by prohibiting any treatment in existing mature and old forest stands. As explained on page 2-9 of the EA, elimination of all management activities is outside the scope of this project and not consistent with the Forest Service mission to sustain the health and productivity and diversity of the land to meet the needs of present and future generations.

Goal 10 articulates the overall intent during this interim period to restore or maintain forested landscapes in a properly functioning condition to provide habitat for northern goshawk and its prey. Any activities proposed in nest areas outside the nesting season must consider the retention of nesting habitat (s-8, g-18, g-19 and g-20) and would be subject to site-specific analysis, with full public disclosure and opportunities to participate.

“Modify Alternative F by adding the following guidelines: g-1 which recognizes and provides for HRV including extreme events; g-6 which recognizes and provides for ecological scale vegetative structure; and g-13 which offers less restrictive canopy closure parameters that default to HRV.”

Response: As explained in Response 1.A.3., extreme events, like bark beetle outbreaks and stand replacement fire, could result in irreversible change and reduce species and structure diversity. Alternative B and E would allow extreme events (guideline g-1), while the other action alternatives would not. The effects are compared in Chapter 4 (pages 4-10 to 4-11). A summary and comparison of the effects is found in Chapter 2 (pages 2-22 to 2-26). In Alternative F, guideline g-15 replaced g-13 and allows for greater variability for the variety of habitats and conditions that exist around the PFA and foraging areas. Guideline g-6 was used as a starting point in the proposed action (Alternative B). In response to the comments received during scoping, guideline g-33 was developed to address all components of the ecosystem, rather than just forest structure that was the original focus of g-6. Guideline g-33 also gives more description of the status, risk and opportunities that need to be part of the landscape assessments.

“Eliminate: g-4 which at times penalizes ecosystem function, G-7 – the goal must be to obtain ecosystem function, rather than the artifacts of old growth preservation agendas; g-15, HRV must be the determinant and not a guide that penalizes the broad scale goals of goshawk and its prey habitat management requirements; g-17, two year survey requirements excessive; g-25, may exceed HRV considerations; g-29 duplicates existing grazing administrative direction and is not needed; and s-9, inhibits needed treatments, especially prescribed fire; & s-11, why does this apply to Alternative F only?.”

“Also eliminate m-7 in alternative F which reflects recommendation under s-11”.

“A minimum of two years of goshawk surveys should be completed [prior to implementing management actions].”

Response: This recommendation was considered, since the EA included two alternatives that required two years of surveys prior to project implementation in standard s-7 (EA, Appendix A, page A-7).

Guideline g-4 requires the manager to first try to use native species, but it does not preclude the use of non-natives. Only Alternative E made this a firm requirement (S-1) and the effects are compared in Chapter 4 (EA, page 4-12). While using locally adapted native seed sources is preferred, the quantity and variety of seeds are not yet regularly available to make this a requirement.

Goal G-7 would manage for mid-aged, mature, and old structural stages for Alternatives B & E. The purpose was to compare the estimated outcomes by approaching management from an old-growth aspect with other approaches like Alternatives C and D which emphasize management of clumps of trees and interlocking crowns (G-8, page A-5).

Guideline g-15 uses properly functioning condition (PFC) as a subset of historic range of variation (HRV) because using HRV as the determinant could result in conditions not desirable for goshawk management, as explained in response 1.A.3. Also, g-15 was applied to Alternatives C and F, while g-13 and g-14 would apply to Alternatives B and E to compare outcomes. Guideline g-15 allows for greater variability for the variety of habitats and conditions that exist around the State.

Guideline g-17 (2 consecutive years of surveys are preferred) was applied to Alternatives B, C and F, based on the recommendations of Kennedy and Stahlecker (1993) and Joy et al. (1994). Standard s-7 would make this a more rigid requirement in Alternatives D and E. Again, the purpose of applying these different management approaches was to compare outcomes, which is why there is a range of alternatives.

Guideline g-25 is not intended to exceed the historic range of variation. Applying this guideline at the site-specific level will surface any inconsistencies that can then be evaluated.

Guideline g-29 highlights the need to maintain habitat for goshawk and its prey that is not currently emphasized in grazing administration direction.

Standard s-9 only pertains to active nest sites (a 30-acre area) and only pertains to vegetation manipulation treatments.

Standard s-11 was added to Alternative F to emphasize the need in the short-term to pay attention to all management activities with the potential to affect goshawk habitat, not just vegetation manipulation. Using the biological evaluation process to document findings and recommend mitigation measures and evaluate consistency is Forest Service policy and would occur in any alternative.

Monitoring requirement m-7 deals with “at-risk” locations where the monitoring activities would measure ungulate grazing practices as they apply to G-10, g-28 and g-29. The intent is to track whether appropriate adjustments are being made to grazing practices if the need is identified.

“Alternative E would be biologically and legally sufficient with the following changes: No logging should be permitted in any nest area or PFA, active or inactive.”

Response: Timber harvest can be used to maintain or improve conditions in a stand that provides nesting or PFA habitat for goshawks (e.g., by reducing risk of fire, insects or disease while retaining

structural components important to goshawks). Guidelines g-22, g-23, g-25 and g-26 allow for harvest activities that are specifically designed to benefit goshawks, but restrict harvest activities for other purposes.

“Recruitment nest areas and PFAs should be established at 1.5 mile intervals across the entire landscape.”

Planning for replacement nest areas and PFAs at an arbitrary fixed interval across all landscapes found in Utah is not practical. Such an approach would make it difficult to consider variations in habitat capability and topography that affect both the degree to which desired habitat conditions could be achieved and the likelihood that a goshawk would actually use the designated nest areas and PFAs. The EA analyzed alternatives containing direction to maintain mature and old forest on 40% of a management landscape (EA, Appendix A, page A-2) and to provide well-distributed habitat for successful goshawk nesting and brood rearing (post-fledgling areas) within and across landscapes (Appendix A, page A-7). This management direction retains management flexibility needed to respond to site-specific conditions, in order to be most effective in providing and maintaining nest and PFA habitat.

“Cattle grazing should be curtailed in all goshawk habitat.”

Response: Alternative D does address this concern by applying utilization standards that would likely reduce the amount of grazing in goshawk habitat (EA, page 4-54). Given the limited information specifically regarding effects of grazing on goshawks and their prey (EA, page 4-35), it would be difficult to justify excluding grazing altogether. Alternative F contains management direction designed to identify where grazing is causing a loss of habitat for goshawk and its prey, then take appropriate action to mitigate the specific problem. The effects of different approaches to management of grazing on goshawk habitat are compared on pages 4-35 and 4-36.

The above responses have explained the reasons why various standards and guidelines were applied to specific alternatives. Making other combinations could be done many times over, but the requirement in NEPA is to have a reasonable range. Because the effects are very small of applying this programmatic direction across the state of Utah for this interim period of time until forest plans are revised, making other combinations of standards and guidelines is not needed to address the issues and compare trade-offs for the public and decision maker to understand the consequences.

2.B. Other Process

2.B.1. Although there was some support for preparing an EA and draft FONSI (finding of no significant impact), several comments strongly suggested that an EIS be prepared and that under NFMA (National Forest Management Act), a significant amendment is needed.

“We support the finding of no significant impact thereby eliminating the need for an EIS on this project and we support the NFMA finding of nonsignificance.”

“This issue requires a full EIS to include all aspects of ecosystem protection for the goshawk...”

“Instead an Environmental Impact Statement (EIS) must be prepared that includes analysis of all science and places priority on northern goshawk habitat.”

“If any of alternatives A, B, C, D or F is selected, a full EIS will be required because of the major negative impact on the environment and the clearly demonstrated scientific controversy.”

Response: The need to prepare an EIS was discussed early in the process, with a summary found on page 2-8 of the EA. The reasons not to do so were also described in the draft finding of no significant impact (FONSI) that was distributed for public review and comment with the EA. The draft FONSI has been updated to incorporate the comments received and the final FONSI is included in the Decision Notice. In summary, preparation of an EIS is unnecessary when the programmatic direction of the decision provides additional guidelines and restrictions on the use of resources, rather than irretrievably committing resources at a project-level decision. The decision now is designed and anticipated to conserve goshawk habitat, with the environmental effects of these additional standards and guidelines disclosed in Chapter 4 of the EA. In reviewing the context and intensity of the effects of the decision to be made, (40 CFR 1508.27), no irreversible or irretrievable resource commitments are made at this level. Regarding the difference of scientific opinion on the appropriate guidelines for habitat management, there is little disagreement in the disclosure of the effects of applying the various guidelines considered in each alternative.

As explained on page 2-8 of the EA, a finding of no significant impact (FONSI) is used to briefly present why an action will not have a significant effect on the human environment and for which an environmental impact statement therefore will not be prepared (40 CFR 1508.13).

The draft determination that this would be a non-significant plan amendment was also distributed for public review and comment with the EA. The reasons included: limited duration of the amended direction (until the forest plans in Utah are revised) that changed late in the planning period; a small subset of the total National Forest System lands in Utah would be affected only as new projects are implemented (estimated less than 1% of the acres across six forests annually); no change in the long-term relationships and foregone opportunities related to levels of goods and services projected; and little change in the desired future conditions currently expressed in the forest plans. The final determination of a non-significant amendment is also part of the Decision Notice.

It is important to understand that at the programmatic level of this decision to update the management direction for goshawk habitat in Utah, no actions or projects are mandated to occur. It is in this sense that forest plans are “permissive”, allowing actions to occur within the standards and guidelines, but not mandating that any action occur. It is at the project decision level where the irreversible or irretrievable commitments of resources are made, with full disclosure and opportunities for the public to engage and have their comments considered.

2.B.2. Some comments questioned the geographic scope of the analysis, that using administrative lines makes no sense from an ecological perspective.

“Why has the issue of management of a migratory bird like the goshawk been done piecemeal by breaking up management areas in separate studies and action plans?”

The EA on page 2-10 explains why this proposal only applies to the National Forests in Utah, including: the habitat assessment was completed for Utah only; the majority of data about goshawks are from this assessment; and other assessment efforts in neighboring states are integrating goshawk habitat management for their geographic areas.

Focused studies of goshawk ecology are important. We have and will continue to work with Universities and other research organizations to address specific points of goshawk ecology. Guideline g-29 is referring only to livestock grazing and the process of using annual operating plans to manage grazing. Other monitoring requirements with varying timeframes are listed in Appendix B of the EA.

2.B.3. Several comments said that the priority of treating high and moderate quality goshawk habitat in this interim period makes no sense.

“The basis for prioritization as outlined in alternative F is flawed. It appears illogical to focus all attention on preventing changes that move habitat areas from high to lower quality for goshawks. It may be equally important to take advantage of opportunities, which may arise from unexpected natural events to facilitate promotion of habitat areas from low to higher quality for goshawks. The prioritization focus of alternative F as currently articulated is unnecessarily restrictive and may compromise the Forest Service’s ability to take advantage of opportunities to improve, as opposed to simply maintain, habitat quality for goshawks.”

Response: Alternative F concentrates on maintenance of habitat areas that are “at risk” of further degradation of habitat and loss of management options. It does not preclude the ability to “take advantage of opportunities, which may arise from unexpected natural events”. Guideline g-34, which applies only to Alternative F explains that variance in this prioritization may occur when management objectives for goshawk habitat in concert with other resource needs, necessitate. This gives sufficient latitude that it would be possible to take advantage of any opportunity that may arise. For a discussion of the process used to rank foraging habitat quality for goshawks, refer back to response 1.C.3.

2.B.4. Several of those who commented thought that the proposed action (Alternative B) was also the preferred alternative (Alternative F).

“...the EA notes Alternative B is the proposed action but the October 1999 draft FONSI is based on Alternative F.”

Response: The proposed action (Alternative B) was the starting point the Forest Service used to meet a specific purpose and need, identified on page 1-6 of the EA. Different ways to meet this purpose and need and respond to the substantive issues raised with the proposed action (Alternative B) were the alternatives (A, C, D, E, F) analyzed in detail in the environmental assessment so that the environmental effects and trade-offs of different management actions could be meaningfully evaluated. After the completion of the environmental analysis, Alternative F was identified as the preferred alternative in the abstract (page i) of the EA and in the draft finding of no significant impact (page-1) that was included with the EA. Appendix H of the EA, the biological assessments and evaluations, also are based on Alternative F as the preferred alternative.

2.B.5. Many comments questioned if the roadless initiative, current forest plan revisions on the Wasatch-Cache and Uinta National Forests, the Utah Fire Amendments, and other broad-scale analyses had all been considered adequately.

“Even though the EA has a life span of 4 – 6 years depending upon the ease and speed of forest plan revision it is consequential in that direction in this document will likely be simply lifted into the revision process.”

“We are also concerned how this process fits into the Wasatch and Uinta forest plan revision processes.”

“In view of concern for lynx, wolverine and a variety of interior forest carnivores and birds associated with mature stands of trees, these analyses need to integrate management for all species of concern in accord with modern conservation biology.”

Response: The purpose of this proposal is to amend the forest plans in Utah to provide consistent, interim direction in management of goshawk habitat, until the forest plans are revised. During the revision process, a long-term strategy for management will be integrated with the other changes under consideration, including those for lynx, wolverine and other species associated with mature forest stands, as well as the Utah Fire Amendment (in progress) and individual forest plan amendments that have been made over the last 10 to 15 years. These are discussed in the EA in Chapter 4, Cumulative Effects (page 4-3). The subsequent NEPA analysis, documentation and disclosure for the long-term strategy will stand on their own procedural merits whether or not they evolve from this interim management direction.

Because this analysis is at a programmatic level, it makes no decisions that any action is mandatory anywhere on the national forests in Utah, including roadless areas. This would be true for all alternatives in the EA, including A (no action) and B (proposed action) as well as F, (preferred alternative). Any projects initiated must be in compliance with current policies, including the roadless initiative. This would be determined at the site-specific level of analysis and decision making follow the decision made from this Utah Goshawk EA, with full opportunities for public review and comment as projects are proposed.

The Forest Service is not required to consider the impacts of an anticipated long-term strategy for which the planning process has not yet begun, or is in progress. The long-term strategy to be completed as each forest plan in Utah is revised, if challenged, will be founded on the appropriate NEPA documentation and analysis and need to survive on its own procedural merits.

2.B.6. Some concern was expressed about the cumulative effects analysis.

“The environmental consequences of the cumulative effects of past practices has not been fully measured.”

Graham et al. (1999) provide information on the current condition of ponderosa pine forests in Utah and the effects of past logging practices. The EA used this information in its assessment of existing conditions (EA, pages 3-12, 3-13, 3-21 and 3-22). Past practices related to cumulative effects discussions are summarized in the EA, Chapter 4, section 4.1.2 (pages 4-3 to 4-6). Pages 4-9 and 4-10 give the assumptions that were used in the effects analysis related to the biological components, with discussions of average timber harvest and number of acres burned in wildland and prescribed fires.

3. AGENCY CREDIBILITY

3.A. Doing What We Say

3.A.1 People said they were concerned that the Forest Service would not really change its priorities or activities and would not implement the guidelines because they are not mandatory and that too much flexibility at the local level was still possible.

“...it is difficult to trust that FS foresters are capable of this much-needed change [to ecosystem management].”

“The EA provides an unacceptable level of discretion to the agency providing such latitude for decisions that the continuation of poor scientific knowledge and traditional failure to curtail negative impacts is possible.”

“Standards and guidelines are a step in the right direction, but are unenforceable and will require strengthening.”

“Guideline g-7 allows for vegetation treatments in areas that are at or below minimum habitat requirements.”

Response: Once the programmatic direction from this goshawk EA is amended into the Utah forest plans, it will be mandatory and enforceable. The intent (EA, page 1-6) is to address the new information found in the habitat assessment and conservation strategy, and provide consistency in management direction that will narrow the management interpretations currently possible. As projects are implemented, they must be in compliance with the amended direction in the forest plan. The public will have the opportunity at the project-level of decision making to assure the goshawk management direction is applied, and perhaps updated to each site-specific situation.

While the use of guidelines do allow for a degree of discretionary management, the decision to not follow a guideline is not to be taken lightly. The rationale for each such decision would need to be documented in the specific project NEPA analysis (EA Glossary, page G-2) and discussed in the associated biological evaluation. Monitoring is prescribed in part to determine whether or not the standard and guidelines are effective in accomplishing the goals and objectives (page B-1). Specifically the following question would be answered: “Are mitigation measures effective in maintaining habitat for the goshawk and its prey and are goshawk territories remaining occupied?”

Planned treatments would be evaluated by the NEPA process and associated biological evaluation. These steps would help ensure that goshawk habitat is managed to provide for viable populations distributed across the species range. As discussed above, guideline g-7 provides specifically for recruitment into the VSS 5 and 6 (mature and old growth) classes. The requirement for a BE only strengthens this guideline to manage for this older structure.

3.A.2. Some comments said that the interim period of time the direction would apply and analysis completed are is arbitrary and capricious.

“Short-term time-frame is a poor excuse for inattention to long-term monitoring strategy and other details.”

Response: Interim direction is intended to provide consistency, yet allow managers flexibility to address their local situations. Emphasis at this programmatic level is on consistency with the desired habitat conditions, leaving more discretion on exactly how this is to be applied for each project to the site-specific decisions at the local levels that will follow.

Effectiveness monitoring of nesting territories is called for in monitoring requirements m-1 and m-2 (Appendix B). Within the National Forests in Utah there is systematic statewide monitoring that is described on page 10 of the Utah Conservation Strategy and Agreement (Utah NFs, 1999). On each national forest monitoring will be conducted annually using a random sample of at least 20 territories or 50% of all known territories, whichever is greater. If monitoring reveals three consecutive years of a 20% or greater decline in territory occupancy, further evaluation must occur to determine the cause and appropriate corrective action. An interagency team would conduct this evaluation.

3.A.3. Other comments expressed concerns about monitoring, that what is proposed is not a suitable long-term strategy.

“Monitoring is an essential component of adaptive management.”

“During the time that this management direction applies (~4 years), effort should concentrate on establishing monitoring methods that permit accumulation of the desired knowledge.”

Response: The standards and guidelines selected are based on the science described in Chapter 1 and will be monitored based on the requirements described in Appendix B of the EA. These monitoring requirements describe the range of acceptable results for each item, and the evaluation of the results will lead to adaptive measures, perhaps even further plan amendments (pages B-4 to B-10)

Monitoring activities as described in Appendix B (m-1,m-4,m-5) are critical to making adaptive management work. Future adjustments to standards and guidelines may be needed. As additional research is completed, amendments to forest plans should take this information into account. The standards and guidelines in Appendix A (category 1, 2, 3, and 6) are designed to take this into account. Goal 10 clearly states the importance of maintaining landscapes in properly functioning condition.

To varying degrees, each national forest within the State of Utah has inventoried for goshawks and monitored known territories since at least 1992 (one year after it was listed as a Forest Service Sensitive species). Data obtained from these studies was used in the development of “The Northern Goshawk in Utah: Habitat Assessment and Management Recommendations” (Graham et al 1999). Effectiveness monitoring of nesting territories is called for in the monitoring section (Appendix B). Within the National Forests in Utah there is systematic statewide monitoring that is described on page 10 of the Utah Conservation Strategy. These documents are discussed in Chapter 1 of the EA.

Focused studies of goshawk ecology are important. We have and will continue to work with Universities and other research organizations to address specific points of goshawk ecology. Guideline g-29 is referring only to livestock grazing and the process of using annual operating plans to manage grazing. Other monitoring requirements with varying timeframes are listed in Appendix B of the EA.

3.B. Underlying Intent

3.B.1. Some people said that the project’s underlying intent is to justify timber harvest and allow grazing to continue.

“Emphasis on early seral forest conditions is transparent invitation for logging”

“The preferred alternative ... assumes human manipulation is better than natural processes.”

“The other alternatives have been designed to address previous comments by organizations whose goals appear to have been to use the goshawk as a surrogate issue to further their preservationists agendas.”

Response: The EA provides standards and guidelines to be applied when local managers determine that site specific conditions warrant vegetative management. This determination is usually made taking into account forest health conditions. The standards and guidelines in the EA do not prescribe the management tools that will be utilized. In addition, PFC prescribes a balanced range of conditions from early to late seral stages, including maintenance of old growth conditions and regeneration to promote sustainability across the landscape. See Appendix D, pages D1 and D2.

The EA sets guidelines that should be followed when the site-specific tool is selected by the manager. Emphasis is on early seral species as described in Graham page v-vi and not “forest conditions”. Guideline g-5 also emphasizes a broad range of seral stages with a strong representation of early seral tree species. In section 4-11 the third paragraph under all action alternatives discusses the analysis under way that would amend Forest plans in Utah to increase the use of prescribed and wildland fire. Management recommendations for northern goshawk habitat are detailed (with references) in Graham et.al. pages 38-40 and Reynolds et.al. pages 21-30.

It is useful to discuss vegetation manipulation guidelines in silvicultural terms, whether management is implemented via commercial or non-commercial, mechanical or fire as the primary tool. The existing or current conditions are compared to the desired condition as described in the EA. If this indicates a need for treatment then management activities would be initiated within the standards and guidelines to deal with other issues (roadless, visuals, etc). With the current standards and guidelines, it is unlikely that harvest would accelerate.

Standards and guidelines are designed to be within properly functioning conditions (PFC) and historic range of variation (HRV) for management actions. Maintaining ecosystems within HRV and PFC provides our best estimate of sustainable conditions (page 4-10). The management direction in the EA provides the standards and guides for activities once the manager selects the tools to be applied. Old growth habitat, as well as all other structural stages, are described in g-5 and g-15. These attributes are also discussed in Graham et.al. and Reynolds et.al. The Preferred Alternative F also allows for fire interactions to meet these goals.

3.C. Many other comments were received, some supportive and others critical of the effort.

“Doing nothing with our national forests land is wrong...All the land should be managed to promote good land use.”

“I have received the Utah Northern Goshawk Project EA and feel the answers to your assessment questions are adequate to cancel any goshawk concerns in our region.”

“It [the EA] is not acceptable and I do not trust it because it demonstrates that it is not serious about preserving biodiversity...it allows all uses everywhere including destructive uses.”

Response: All sides of the issues have been expressed from a variety of people interested in management of the National Forests in Utah. While some people wrote that what we were proposing was unnecessary because goshawks are doing fine in Utah, others wrote that we were not doing enough to protect goshawk habitat. Similarly, some people think that current grazing and timber harvesting practices are not causing any harm to goshawk and its prey habitat, while others think eliminating grazing and timber harvest is necessary to achieve the desired habitat conditions.

The Forest Service is committed to fostering a public involvement climate that allows for the open expression of ideas and encourages people to engage with the intent to arrive at balanced, multiple-use management of the national forests.

3.D. Many comments favored a specific alternative or were critical of a specific alternative or component.

“We do not feel that current livestock grazing is being over-applied or mis-applied.”

“I support multiple use of all national forests and consider the proposal or Alternative F to be reasonable and one I could support.”

“Our organization supports Alternative E.”

“I strongly urge you to select Alternative E as it is the only one to ensure that there will be no further loss of old-growth forests to logging.”

“The only alternative of the six considered that has a chance of maintaining the current satisfactory habitat for goshawk is Alternative A – No Action.”

Response: We received over 1000 postcards that favored certain alternatives. Many supported Alternative A, E or F, sometimes with suggested modifications. The variations of these alternatives are addressed in the previous response 2.A.5. We do consider these comments as a part of the analysis and appreciate the interest shown in this project, but they are not used as a voting process. The reasons for the selected alternative are described fully in the Decision Notice.

4. OTHER TOPICS OF INTEREST

4.A. The Navajo Nation commented on the EA regarding the sacred nature of hawks and their part today in sacred ceremonies and the oral traditions of the Navajo elders. They have no concerns or objections regarding the project at this time, and want continued protection for the goshawk. They reserve the right to offer and submit undiscovered information in the future, if need be.

Chapter 3 (pages 3-16 to 3-18) discusses the traditional and non-traditional ties to the land, religious sites and Native American practices. As discussed throughout the document, implementation of

Alternative F will help in the conservation of many species, including the goshawks. During the public involvement activities related to this project, all Indian Tribes in Utah were notified via letters, postcards and personal conversations.

4.B. Some comments specifically agreed with use of native plants.

“We agree that use of native plant species should take priority over use of exotics wherever feasible.”

Response: The use of native seed, and the potential need for non-native seed, is discussed in guideline g-4 (EA, Appendix A, page A-2). The preferred measure is to utilize native seed, but in some areas undesirable species like cheat grass may inhibit the establishment of the native species but some non-persistent non-native specie could be used to stabilize the site, reduce the establishment of the undesirable species and allow for the establishment of natives.

Alternative F provides for the maintenance of a broad range of ecosystem functions. The EA focuses on the importance of native processes, composition and structure (guideline g-2, page A-1). Guideline g-5 promotes a full range of seral stages, which includes old growth. This is further supported by Graham and Reynolds et al. where they discuss the retention of VSS 6 which is the old forest structure, including old trees, dead wood and snag habitat.

4.C. Clarifications – several comments indicated a misunderstanding of the intent of the management direction or how the analysis was done. The following clarifications are added:

4.C.1. *“Turkeys are competing with the Goshawk for much of the same food supply, and to allow these Turkey numbers to continue to grow would jeopardize the Goshawk even further.”*

Response: Turkeys forage on some of the same vegetation as do goshawk prey species, so there is a potential conflict. However, while there is a slight potential for competition between goshawks and turkeys for food, there are numerous locations throughout the State and west where these species co-exist with no apparent problem. Goshawks have been known to prey upon turkeys, especially poults (Schorger, 1966). The presence of a large population of turkeys may be advantageous for goshawks. The Utah Division of Wildlife Resources manages the harvest and populations of game species.

4.C.1.a. *“The most obvious contradiction is the assertion that goshawks continue to successfully utilize beetle-killed forests and there is the statement insinuating the Englemann spruce killed by bark beetles create conditions that are of low value for both goshawk nesting and foraging.”*

Response: Goshawks are able to live and reproduce in insect killed forests as stated on pages 2 and 9 of the Habitat Assessment (Graham et al 1999). However, this does not mean insect killed forests are the best habitat, or that they will be sustainable through time due to the risk from wind-throw and fire. Dead forests may continue to be used for a period of time, however, as the dead trees begin to fall, habitat is degraded. Habitat quality is degraded due to increased risks from predation and competition that are discussed on page 9 of the Assessment (Graham et al, 1999).

4.C.1.b. Several comments suggested that desired conditions for prey habitat were not emphasized enough, so the following clarification has been added to the attached Appendix BB:

Clarification of Desired Habitat Conditions for Prey Species
Especially related to ungulate grazing

Guideline g-28 (EA, page A-9) gives direction to use the landscape assessment process to identify plant communities important to prey species that contain **seed, mast and foliage components** needed. Overall, the greatest variety of species that can produce seed and mast are associated with mid-seral stages. Guideline g-29, then, directs that these components be maintained or restored. *The intent is to have utilization levels of grasses and forbs that maintain native foods and cover for prey species.*

Further components of desired habitat conditions for prey species from Reynolds' work, and the guidelines that address these components, include:

1. **Snags** for woodpecker feeding and nesting, mammal nests, & bird perches (g-9);
2. **Downed logs** for cover, feeding and nesting for a variety of prey (g-11);
3. **Woody debris** to provide cover and feeding for a variety of vertebrates (g-11);
4. **Openings** for food and cover (g-25 for PFAs);
5. **Large trees** for nesting, denning, feeding, roosting, cone production and hunting perches (g-15);
6. **Interspersion** (intermixing) of vegetative structures (g-7 & g-15); and
7. Promotion of **aspen regeneration** (g-5) and growth of **native grasses** (g-4).

Herbaceous shrubs and intact forest soils, with emphasis on organic surface layers with natural turnover rates, are other identified components of desired habitat conditions for prey species that are not specifically included in the guidelines.

The direction in g-28 and g-29 is that, as part of the landscape assessment process and as grazing allotments are updated, all of these components be evaluated toward achievement of desired habitat conditions for prey species. Appropriate courses of action, such as a change in pasture rotation, shorter seasons of use, or reductions in numbers of livestock, would then be determined at the site-specific level. Additionally, if wild ungulate grazing is determined to be part of the problem, immediate contact with UDWR would be made for resolution.

4.C.1.c. – Clarify UDWR coordination - *“In the decision notice, please also present a discussion of what if any influence the possible listing of the northern goshawk pursuant to the Endangered Species Act has had on the EA. Present a discussion and documents of all communications the Forest Service and the Utah Division of Wildlife Resources of any other person or entity with biological expertise in preparing the EA relative to techniques, processes, and means for avoiding listing.”*

Response: The interagency signatures on the Conservation Strategy and Agreement and review of Utah Assessment show the coordination that has occurred. The Fish and Wildlife Service reviewed the draft and final biological evaluations as well, prior to the final decision on the Environmental Assessment. Personnel from both the Utah Division of Wildlife Resources and the US Fish and Wildlife Service have been involved in discussions concerning this project.

4.C.1.d. *“In the decision notice, please discuss the biological basis for your conclusion that the northern goshawk is a habitat generalist. Cite all scientific reports that support this conclusion. State what specific part of those reports supports the forest Service’s conclusion the goshawk is a habitat generalist. If you rely on the “professional opinion” of Forest Service’s biologists, or any other biologists, to support this conclusion, cite all reports and analyses they relied to support their conclusion. Name any biologists the Forest Service relies on in this regard and present any documents where they have gone on the record stating the goshawk is a habitat generalist.”*

Response: This determination was based on Reynolds et al. (1992), where on page 10, it states: “the goshawk is a forest habitat generalist, occurring in all major forest types”. Reynolds cites additional studies as well. Refer to responses 1.A. to 1.D. that discuss further why we selected Alternative F, that used the Reynolds and Graham science as its basis, as the preferred alternative.

4.C.1.e. *“Making the proposed management direction even less useful and less credible is the failure to recognize the different values of different tree species to goshawks ...The Management Direction should be refined to focus habitat maintenance requirements on forest types which are primarily used by goshawks.”*

Response: The EA contains the following statement on page 3-10: “Although all forested landscapes are used to some extent, certain forest cover types appear to be occupied by goshawks more than others (Graham et. al. 1999)”. Graham (1999) rated the cover types within the State for goshawk nesting and foraging (EA, Appendix E). Planned treatments would be evaluated by the site-specific NEPA process and associated biological evaluation. These steps would help ensure that goshawk habitat is managed to provide for viable populations distributed across the species range.

Goshawks do not use all tree species for foraging and nesting equally. Some forest types, such as spruce/fir are rarely used by goshawks for foraging, nesting or fledging, although exceptions are common in the high elevation spruce/fir on the Dixie National Forest. Guideline g-5 provides for a full range of seral stages by forested cover type to achieve a mosaic of habitat conditions and diversity. Guideline g-7 further specifies that landscapes below the desired percentage of land area in mature and old growth structural stages (40% mature and old-growth in conifer and 30% in aspen) be priority for treatment to maintain or enhance the characteristics of these older structural stages. This gives managers adequate direction to maintain goshawk habitat in forest types primarily used by the goshawk.

4.C.1.f. *“Forest cover categories that are provided are not a surrogate measure for understory habitat or prey density... The Forest Service fails to provide crucial information on goshawk densities, prey densities, known impacts of logging, livestock and human activities”*

Response: The Northern Goshawk in Utah: Habitat Assessment and Management Recommendations rated the cover types within the State for goshawk nesting and foraging. See EA Appendix E especially tables 7 and 8. This information was used in the development of the Environmental Assessment as discussed in Chapter 1 and cited throughout the text. The effects of logging, livestock and human activities to goshawks are disclosed in Chapter 4 of the EA and in the biological assessment and evaluation (Appendix H). Both of these documents reference numerous scientific papers relating to goshawk ecology.

4.C.1.g. There was a misunderstanding about statement on page 2-14 concerning primary emphasis in exemption areas only and Table 1 percents where Direction will apply from 6.9% to 85%.

Response: Clarification of the statement on page 2-14 has been made in the attached Appendix BB to be clear that this section is describing the exempted areas only. On Table 1 (EA, page 2-15) the 6.9 refers to millions of acres where the goshawk management direction will apply, which is 85% of the total 8.1 million National Forest System Acres in Utah.

4.C.1.h. “Why do most of the alternatives restrictively mitigate the timber and grazing resources ad nauseam and only allude in general terms to the restoration activities needed across the spectrum of ecological processes?”

The observation here is somewhat accurate, in that by far most of the standards and guidelines give direction for how to manage current activities, rather than looking forward to what restoration is needed. This is because what’s needed to protect goshawk habitat during known activities can be more readily identified than restoration needs that are not yet known until an assessment at a more local scale has been completed. During landscape assessments, these restoration needs will be more clearly identified and become more specific to local situations.

4.C.1.i. “Since the EA does not even attempt to explain why it believes the resultant canopy closures in Alt. C & F will provide constant nesting habitat, the assertion, on page 4-31, is an arbitrary and capricious conclusion.”

Response: On page 4-31, the EA states, “The structural attributes promoted by direction under these alternatives will provide a more constant, sustainable supply of suitable goshawk nesting and foraging habitat.” The EA does not state that the supply of nesting habitat would be constant per se. Rather, the management direction outlined in these alternatives would provide suitable nesting habitat over time, in a sustainable fashion. Direction provided by these alternatives will reduce the risk of losing habitat to extreme events, and help create nesting habitat in a sustainable fashion. In addition, because alternatives C and F will attempt to minimize extreme disturbance events, nesting habitat would be available on a more continuous and sustainable basis, rather than on a boom/bust cycle.

“The assertion that Alt. C & F will provide better foraging habitat than Alt. E is completely arbitrary since the EA provides no explanation of why it believes this.”

Response: There is no direct comparison of Alternatives C and F with Alternative E. However, the narratives (on page 4-31 under Alternatives C and F and 4-32 under Alternative E) provide

sufficient information to make such a comparison. Alternatives C and F call for retaining between 50-70% percent of the area covered by clumps of trees with interlocking crowns. Alternative E would provide high canopy closures in both nesting and foraging habitat (somewhat similar to C and F), and it would prohibit any removal of trees in the older age classes over the next four years. While high canopy cover may seem to be a beneficial habitat feature, canopy cover alone will not provide good quality goshawk habitat into the future. In other words, the relative rank of an alternative depends not only on the structural attributes prescribed, but also on the ecological framework or context of the entire alternative. As noted in the EA, the high canopy cover prescribed by Alternative E, may be positive in the short-term, but in the long-term would place goshawk habitat at a higher risk of and susceptibility to wildland fire, insects, and disease. Given that we are interested in maintaining goshawk populations and habitat in perpetuity, the alternative that results in long-term improvements in habitat would be better than one that only had short-term benefits. In this context, Alternatives C and F provide canopy closure guidelines and allow management direction that is within the properly functioning condition of the ecosystems that provides a balanced range of structural stages needed to promote sustainable conditions. This is estimated to provide the important elements of goshawk foraging habitat better and over a longer time frame than Alternative E.

“The analysis is internally inconsistent. It states on page 4-31 that Alt. D will provide slightly higher amount of higher quality goshawk habitat due to higher canopy closures in some habitat areas than Alt. B, C & F. But if Alt. D is superior to C and F in this regard, Alt. E is even more superior because it provides more uniformly high canopy closures. How then can Alts. B and C provide less high quality habitat than D but more than E.”

Response: First a point of clarification; alternatives B, D, and E use traditional measures of canopy cover across individual stands, while alternatives C and F use the vertical canopy projection method. This method is described in detail in Appendix D, page D-2. Although the two measures both describe cover provided by the overstory, the values are probably not strictly equivalent.

Refer to Table 3 on page 2-26 of the EA for a summary of the key differences between alternatives under the Forest Structure heading. Alternative D calls for maintaining canopy closures of 40-70%. Values are specific to cover types and goshawk habitat areas (see page A-6 in Appendix A for details).

Comparison of Alternatives D and B -- Alternative B calls for 40% canopy closure in foraging areas, and 50% in nesting areas/PFA's regardless of cover type. Alternative D provides 50-70% canopy cover in all nest areas and all cover types. The minimum canopy closure is comparable to that provided by alternative B. Where the alternatives differ, is in canopy closure values applied to PFA and FA's. Where alternative B calls for at least 50% canopy closure across cover types, higher canopy closures are required for some cover types under alternative D (e.g. 70% in VSS5/6 SF in a PFA). Alternative D would yield higher quality goshawk habitat, in comparison to B, because it is more detailed and accounts for differences in capabilities between cover types.

Comparison of Alternatives D and C & F -- Alternatives C and F call for retaining between 50-70% and 40-70% percent of the area covered by clumps of trees with interlocking crowns in nest areas, and PFA's/FA's, respectively. Alternative D provides minimum canopy closure values for nest areas, in several habitat types (e.g. mixed conifer, spruce/fir, and aspen), that are higher than

alternatives C & F. Higher canopy cover values in foraging and PFA habitat can also be found for certain cover types in alternative D. Alternatives C, D, and F are comparable in terms of reducing risk of habitat loss by allowing treatments in older age classes. Consequently, alternative D would provide better quality habitat in those cover types where higher canopy cover values are prescribed.

Comparison of Alternatives D and E – The logic that an alternative is superior simply because it provides uniformly high canopy closures is flawed because it fails to examine the ecological context of the alternative or consider long-term habitat sustainability. Alternative E provides the highest canopy closures of any alternative, but prohibits any removal of trees in the older age classes over the next four years. While this may provide good quality nest and PFA habitat in the short term, it does not address sustainability of these habitats. The EA notes that the high canopy cover prescribed by Alternative E, may be positive in the short-term, but in the long-term would place goshawk habitat at a higher risk of and susceptibility to wildland fire, insects, and disease. Given that we are interested in maintaining goshawk populations and habitat in perpetuity, the alternative that could achieve long-term improvements in habitat when the programmatic direction is implemented would be better than one that only had short-term benefits. In this context, Alternative D provides for sustainable goshawk habitat better than Alternative E.

“Alternative D prescribes a variety of canopy closures in nest areas and PFA’s. The EA on page 4-31, states that it will provide slightly higher amounts of higher quality goshawk habitat due to higher canopy closures in some habitat areas than Alt. B, C, or F. Why doesn’t EA compare D and E in this regard?”

Response: While there is no direct comparison of Alternatives D and E, narratives under both headings (pages 43-31 and 4-32) and information supplied in Appendix A, provide sufficient information to draw conclusions. Alternative D provides 50-70% canopy cover in all nest areas and PFAs and all cover types, while alternative E prescribes even higher canopy cover values in these areas. To understand why, high canopy closure by itself does not determine the benefit to goshawks, of an alternative; consider the ecological context of Alternative E. Alternative E provides the highest canopy closures but prohibits any removal of trees in the older age classes over the next four years. While this may provide good quality nest and PFA habitat in the short term, it does not address sustainability of these habitats. The EA notes that the high canopy cover prescribed by alternative E, may be positive in the short-term, but in the long-term would place goshawk habitat at a higher risk of and susceptibility to wildland fire, insects, and disease. Given that we are interested in maintaining goshawk populations and habitat in perpetuity, the alternative that allowed for long-term improvements in habitat would be better than one that only had short-term benefits. In this context, alternative D provides for sustainable goshawk habitat better than alternative E.

“Why is it outside PFC to allocate even more old growth and mature forest?”

Response: The concept of regulating VSS classes across the landscape ensures that during any disturbance, there would be a likelihood that a certain mosaic of structural diversity would remain.

If 100% of the landscape was in mature and old growth that may be at risk to beetle outbreaks and an epidemic occurred, this could move the entire landscape back to early structure (seedlings/saplings). These broad swings in ecological amplitude may not be acceptable, and are not sustainable.

4.C.1.j. *“Explain the logic for not including managing and monitoring the effects of grazing activities in Alternative E”*

Response: Alternative E would manage and monitor the effects of grazing as is currently prescribed in the existing forest plans (EA, page 2-19). The additional management requirements for grazing in Alternatives D and F were not part of Alternatives E, A, B or C. Also, the science that was used as the basis for Alternative E specifically recommended against broad grazing guidelines, opting instead for project-level coordination during allotment planning.

4.C.2. *“Post signs to protect goshawk areas.”*

Response: The interdisciplinary team discussed the concept of signing sensitive species habitat, during this project; however, it was not carried into any alternative due to the risk of highlighting sensitive areas to the public. It was agreed that sensitive habitat areas such as nests would have greater protection by not identifying their existence. Implementing the management direction for the various alternatives would provide for current and future PFA habitat in varying degrees depending on the alternative.

4.C.3. *“Mycorrhizal fungi communities, which are the most important food source for the goshawk’s small mammal prey, will be adversely impacted by open forest conditions.”*

Response: As identified in Chapter 4 (page 4-18) Vegetation Consequences, understory vegetation is reduced under high canopy conditions. Fungi are strongly influenced by down wood and moisture conditions.

As described within the EA (page 3-13) the alternatives were developed on the basis of prey ecology, or the “food-web” approach. This approach received support from others as cited in the above referenced text. On page 2-26, as described within the EA, all action alternatives provide for a range of canopy closures, which would support fungi communities. The goshawk management recommendations ensure abundant mycorrhizal communities by providing for a continuing supply of woody debris, downed logs, and requisite soil conditions throughout the landscape (Reynolds, pages 31-32).

4.C.4. *“The EA continues to be vague in regards to roads and their effect upon the northern goshawk and its prey species as well as off road vehicle use. Goshawks are disturbed by the presence of humans and their vehicles, roads provide that access, thus it is clear building roads for timber harvest and leaving existing roads open will not contribute to the goshawk’s long-term viability.”*

“FS road closure techniques have been shown to be less than effective in many separate independent tests.”

Response: Uses of roads and trails by people may disturb nesting goshawks. As pointed out in Appendix A pages A-7 & 9 disturbance to goshawks while nesting will be kept at a minimum. Impacts will be evaluated on a case-by-case basis and documented through the biological evaluation process. The EA addresses at a programmatic level the impacts of recreation use on goshawk habitat (pages 4-60 to 4-61). Situations as described in these comments need to be addressed on an individual (site-specific) basis. Work with local ranger district personnel to address enforcement problems and assess impacts of use of these sites on specific goshawk habitat will be most effective.

4.C.5. *“There is Federal ‘Payment-in-lieu-of-taxes’ available to communities who apply – it is worth making this availability known”*

“Layer the protection of HR 2868 on top of Alternative E and the preservation of habitat for northern goshawk is yet even more comprehensive.”

Currently there is a bill before Congress (HR 2868) that would guarantee states and counties consistent compensation for federal lands instead of tying payments to a percent of revenues from timber sales, which is currently the case. This information, while of definite interest to local communities, was not used to evaluate alternatives because the bill has not passed yet. Using the language in HR 2868 would be considered speculative and outside the scope of this project. The effects on timber production are estimated to be less than a 1% change annually statewide for Alternative F.