

## Phase I Questions and Answers

### **1) Why is the Jasper Fire not addressed in Phase I? The fire impacted a significant area. Does this effect Allowable Sale Quantity (ASQ)?**

The Jasper Fire occurred after the Phase I efforts were underway. The Forest identified a need to analyze the 83,500 acres Jasper Fire effects and management appropriate for that area given the changed conditions in a separate effort. The Jasper Rapid Assessment Team Report and the Jasper Fire Value Recovery Draft Environmental Impact Statement (DEIS) are complete and available on the Black Hills National Forest website. The direction in the DEIS is tiered to the Forest Plan. Projects and decisions in the Jasper Fire area will meet Forest Plan direction and will be consistent with the decision made on the Phase I amendment.

Changing the Allowable Sale Quantity is not part of Phase I in the amendment process. Review of the Allowable Sale Quantity is an issue to be addressed in Phase II of the Forest Plan Amendment process.

### **2) The appeal decision determined there was not adequate protection for several wildlife species. Why does Alternative 3 weaken Alternative 2 (Interim Direction)?**

The scientists interviewed were provided existing condition information and management direction from the Revised Forest Plan and the Interim Direction. The scientist or expert had an opportunity to provide information that demonstrated better protection for species viability. Alternative 3 was developed to incorporate the additional recommendations to further reduce risk of loss of species viability and diversity.

### **3) With the Jasper Fire, have you considered all the effects on goshawks, since many goshawks were known to have been in this area?**

In the Jasper Fire Rapid Assessment document it is noted that ten active or historic nest stands existed in the fire area. Only one of the stands was unaffected by the fire. Although the surrounding area was burned, this nest stand is still suitable goshawk nesting habitat. Seven of the stands were completely burned by the fire and will not be suitable nesting habitat again for many years.

Alternative 3 proposes to manage for goshawk habitat across the landscape of the Black Hills National Forest over time. Alternative 2 provides protection for existing goshawk nest sites.

### **4) What is the purpose and need of the Phase I amendment?**

The purpose and need for the Phase I assessment is to address identified Forest Plan deficiencies which must be corrected to assure that projects implemented during the time period it takes to complete the re-evaluation of species viability and diversity (expected to be 2-5 years) will maintain viable populations of native and desired non-native species.

**5) Why isn't the purpose and need of the Phase I amendment to incorporate the Chief's interim direction, period?**

The purpose of the interim direction (as stated several times in the appeal decision) is to provide assurance that management options will not be foreclosed by the effects of projects prior to completing a new reanalysis. For goshawk, the decision specifically stated that the purpose of interim direction relative to nesting habitat is to maintain goshawk viability. While the appeal decision provided guidance intended to ensure species viability in the interim, no analysis was provided in the appeal decision that demonstrated this would actually be achieved. Therefore, to adopt the interim direction through the NEPA and NFMA processes, the forest needs to provide this evaluation during the amendment process. Interviewing species experts on the effects of implementing Alternatives 1 and 2 provided this evaluation. Based on the interview results, Alternative 3 was developed to include additional recommendations intended to provide greater probability that species viability would be maintained during the interim period.

**6) Why did the Forest interview scientists for species information?**

The Forest wanted a credible process to incorporate the best scientific information into the Phase I amendment. The Forest enlisted the assistance of Dr. Barry Noon, Dr. Richard Holthausen, and others from the Forest Service Washington Office to develop a process that would be scientifically credible for assessing viability of various plants and animals. As part of this process, the Forest worked with these people to design the interview process. The interview process was designed to gather as much information about sensitive species and make that information available prior to the NEPA process. The Forest also gathered additional information on the adequacy of the Forest Plan and Interim Direction for maintaining viable populations.

**7) How/why were scientists selected? What was the process? What information did the scientists have to make their assessments?**

The interview process is documented in Appendix A of the Expert Interview Summary. (see the Black Hills NF website) In coordination with Dr. Noon, Dr. Holthausen, and other Washington and Regional personnel, the Forest developed a list of individuals associated with local Universities, State Game and Fish agencies, and Forest Research Stations who had demonstrated expertise in species that would ultimately be analyzed, or expertise in population dynamics. From this list the Forest contacted individuals to inquire about availability given the timetables established for the Phase I amendment. Those individuals who were available and interested were asked to participate in the interview process.

Once a participation agreement was made, those individuals were sent a packet of prework materials, which included:

- List of species to be reviewed.

- Brief description of Alternative 1 and 2, including standards and guidelines that pertain to each species/group (positively or negatively affecting that species/group).
- Description of the interview process.
- A Century of Change in Black Hills Forest and Riparian Ecosystems.
- Pertinent Forest Plan information including, but not restricted to, Forest Goals and Objectives, Forest Standards and Guidelines, Management Area maps and direction, background on unique ponderosa pine ecosystem and fire history.
- A list of species data and information specific to the specie(s) interview topic that was available during the interview.

**8) In the October Scoping document why does Alternative 1 have two different amounts indicated for annual harvest levels (60-83.8 MMBF and 45 MMBF)? No timber harvest information was provided for Alternative 2. Why does Alternative 3 have the wide range of 30-60 MMBF?**

The scoping document Attachment 2 shows 60-83.8 MMBF, this is based on the FEIS which reflects varying budget levels for Alternative 1. Clarification for Attachment 3: the 45 MMBF noted for Alternative 1 is based on a 10 year simulated volume output using landscape analysis conducted over five year program plan watersheds.

Program runs were reviewed to verify calculated outputs for Alternatives 1 and 3 landscape analyses. Some errors were found in the information that was sent in the scoping package, and is corrected below. Additional analysis for Alternative 2 has been completed. Outputs are now stated on a basis more familiar to the public.

The volume estimates are expressed as potential gross volumes. The estimates do not include reductions for site specific concerns typically found during project areas analyses (e.g. sensitive species protection, heritage site protection).

***Alternative 1***

Total volume from the five-year action plan watersheds is estimated at 412 MMBF.

The Paradox disaggregating scripts developed for the 1997 Forest Plan Revision were run for the above watersheds. Required information used for the run was extracted from the February 2000 frozen RMRIS database and where necessary, supplemented with cover type and structural stage information for sales that are currently under contract or had recently accomplished harvest activities that was not reflected in the frozen database.

***Alternative 2***

Total volume from the five-year action plan watersheds in the Ponderosa pine cover type is estimated at 361 MMBF.

The Paradox disaggregating scripts developed for the 1997 Forest Plan Revision were run for the five year action plan watersheds. Required information used for the run was extracted from the February 2000 frozen RMRIS database and where necessary, supplemented with cover type and structural stage information for sales that are currently under contract or had recently accomplished harvest activities that was not reflected in the frozen database.

Estimates of green tree retention rates were applied to the individual watersheds to obtain an estimate of timber harvest outputs.

### *Alternative 3*

Total volume from the five-year action plan watersheds in the Ponderosa pine cover type is estimated between 301-421 MMBF.

The range in the volume displayed above represents a 30-50% reduction from the maximum treatments that could be performed in order to attain the balance of structural stages (1) 7-13% grass/forb/shrub; 2) 7-13% seedling/sapling; 3) 15-25% young forest, diameters 5-9 inches; 4) 15-25% mid-aged forest, diameters 9-14 inches; 5) 15-25% mature forest, diameters 14+-20 inches; and 6) 15-25% old forest diameters, 20 inches and greater). Simulations for the landscape level analysis were unconstrained. Several factors were analyzed to determine the percent to be applied in the reduction:

1. Assessment of how much of the five year action plan watersheds fell within particular management areas and unsuitable timber areas. Management Area 5.4 had the largest effect due to thermal cover constraints.
2. Total volume produced from group selections. Timing of treatments becomes extremely critical when managing for a balance of structural stages. Some structural stages (1, 2, or 3) will grow to the next structural stage within 10-30 years, while other structural stages (4, 5, or 6) may take 40-150 years to move to the next structural stage, depending on site conditions at the stand level. When simulations were run, selection treatments were used to achieve structural stages 1, 2, and 3 immediately. At the project level selection treatments may have to be staggered to ensure there is not a surplus of 1, 2 and 3 structural stages after the next entry.
3. Economic constraints when reviewing volume per acre available for harvest. Some areas reflected low volumes that may not be feasible economically for commercial harvest. It is anticipated some of these areas may not be treated with commercial harvest due to low available volume.

### **9) Social and Economic impacts were omitted from the scoping document.**

Social and economic effects will be included in the Environmental Assessment to be prepared for the Phase I amendment.

**10) What information is available regarding the Phase I amendment?**

The scoping package included the information available at the time of mailing. During open houses additional information was made available to the public. All of this information is available on the Black Hills National Forest website.

**11) Why hasn't a preferred alternative been identified?**

The analysis for Phase I is in the scoping stage. The National Environmental Policy Act (NEPA) does not require the range of alternatives considered or a preferred alternative to be identified at the time of scoping. Preliminary alternatives were developed prior to scoping in response to the purpose and need. Final alternatives have not been developed for the decision maker to identify a preferred alternative.

**12) Why is the Forest concerned about snags? There are plenty of snags from insects, fire and storm damage.**

The Forest is concerned about overall snag size and amounts available across the forest. The Forest Plan requires maintaining at least 1.08 snags per acre, the October 12, 1999 Forest Plan FEIS appeal decision identified the need for maintaining higher levels of snags throughout watersheds.

Snag distribution is addressed in the 1997 Revised Forest Plan and also in the October 12, 1999 Forest Plan FEIS appeal decision. The Interim Direction requires snags that are chosen for retention represent the largest diameter class available and these snags can be clustered or individual, but must be well distributed throughout the watershed.

The 25 acre basis could be applied at the stand level where snags and/or recruitment trees are considered low, and the remainder of the watershed contains adequate numbers of large diameter retention trees. However, existing watershed conditions need to be considered. Where watersheds currently have low numbers of large diameter trees, it may not be possible to provide the number of snags and recruitment trees required by leaving clumps of green trees on a 25 acre basis.

There are localized areas where many snags exist from recent events (insect, fire, storm damage), however these areas are not well distributed throughout the forest, and the sizes of these snags are not necessarily the largest size classes present. Much of the April 2000 storm damaged small diameter trees.

There is information that some cavity dependant species need 2-4 snags per acre, and some need 16 inch and greater diameter snags. The Forest Plan did not demonstrate that these conditions would be maintained over time.

Road closures for snag protection would be considered for areas where demonstrated loss of snags occurs due to firewood cutting. Alternative 3 maintains the direction in the current Forest Order restricting the cutting of standing dead trees.

**13) The Appeal Decision included protection of the two sensitive species of snails. Why does Alternative 3 include protection of seven species?**

During the interviews, one of the individuals interviewed questioned why Interim Direction included protection of the two snails on the Region 2 sensitive species list, but did not address any of the other seven snail species of concern identified by Frest. The interviewee pointed out that three of the remaining five species might be of greater concern than the two Region 2 sensitive species. Based upon the input from scientists, the Forest incorporated the protection measures for five additional species into Alternative 3.

**14) The Forest is growing far more timber than it is harvesting. Why is the Forest proposing less potential harvest when fire risk and concern for catastrophic fire is increasing?**

Forest Plan FEIS Appendix G Tables G-1 and G-2 (pp. G-2, G-3) display total annual growth rates of 153 MMBF on all areas, and on suitable and available land growth rates of 131.0 MMBF. Based on the Forest's cut and sold report, volumes cut from the forest over 1996-1999 averaged approximately 63 MMBF.

The Forest Service is required by law to manage under a biological rotation (even-aged stands scheduled to be harvested ...will generally have reached culmination of mean annual increment. 36 CFR 219.16 (a) (2) (iii)). "Generally" is considered to be 95% of CMAI. For the site indices that have been done on project level analysis (generally ranging from 35-85), 95% of CMAI occurs anywhere from about 80 years to 140 or 160 years, depending on site index, when bare ground runs are performed with Forest Vegetation Simulator (FVS). These years could be later depending on the volume removed during the rotation. Past management, stand exam, and field reviews are all taken into account during project level analysis to determine if a stand is ready for regeneration harvest. In some cases, these reviews show that growth has not culminated. These stands are then deferred from regeneration harvest. Other management options for these stands could be considered at this time for multiple use purposes including, but not limited to, recreation, wildlife habitat, and range.

All alternatives could see an increase in treatments to reduce fire risk. Program funding levels for the next few years are anticipated to be near the maximum levels anticipated in the Forest Plan FEIS, with projected fuels treatments near the maximum levels identified in the Forest Plan.

Treatment acres and harvest levels were reviewed as analysis continued for the Phase I effort.

**15) What does species viability mean, and how is it measured?**

A viable population is a population, which has adequate numbers and dispersion of reproductive individuals to ensure the continued existence of the species population on the planning area [FSM 1900-91-3, 1905(37)]. Viability is a complex issue and is often assessed by making estimates of probability that a species will persist over time.

Every species and every population is different, depending upon their life history and habitat needs. Catastrophic events must also be considered when assessing viability.

**16) Why is Phase I concerned about species viability and diversity when that is to be addressed in the Phase II amendment?**

The October 12, 1999 appeal decision identified deficiencies in the Forest Plan related to species viability and diversity and recreational mining. To enable the Forest to continue management activities until the reanalysis is completed the identified deficiencies need to be addressed, and an amendment to the Forest Plan completed to incorporate new direction. The Forest desires to reduce risk of loss of species viability and diversity.

The process of determining what a viable population is and how viability would be maintained is a difficult and time-consuming process. Without knowing all of the details of maintaining viable populations of any particular species, it is the responsibility of the Forest to refrain from doing anything in the interim period that would reduce the options for maintaining viable populations in the future. The purpose of the scientific interviews was to obtain information on species persistence.

**17) What is the range of natural variability for the Black Hills National Forest? Is this reflected in the Century of Change document?**

The best available information to date regarding the range of natural variability for the Black Hills, is found in the Century of Change document. The interviewees had the opinion of this document that there seemed to be more, larger trees on the Black Hills in the past compared to today. This information contributes to the scientists suggesting a greater number of large diameter trees and large diameter snag component is needed.

Scientists indicated additional ongoing research is needed to better estimate the range of natural variability for the Black Hills.

**18) There seems to be conflicting interpretations of the October 12, 1999 Appeal Decision requirements with respect to late successional forest, high potential for marten occupancy, and spruce.**

Literature searches were conducted to identify high potential marten habitat. This information was provided to the interviewees, who then provided refined definitions likely for the Black Hills. The refined definitions were provided at the open houses and on the website while the earlier definitions can be found in the early interview records.

**19) Why is the Forest proposing 5 aquatic MIS when the appeal decision required adding one or more aquatic MIS?**

Identifying Management Indicator Species is a process that is well defined in 36 CFR 219.19(a)(1) and Forest Service Manual 2621.1. This process produces a list of species that should be used as Management Indicators. Although this process is time consuming and detailed, it produces a list of MIS that is appropriate and defensible. In this case the process identified five species to be used as Management Indicators for aquatic systems.

**20) If there is a higher population of a particular species now than 100 years ago, why is there a need to manage for it?**

The Forest does not have any accurate information regarding the population levels for any species on the Black Hills, 100 years ago. The primary reason the Forest needs to address population viability is to meet direction in the NFMA and Forest Service Manual to maintain viable populations of native and desirable non-native species.

**21) How much old growth/late succession forest is present on the Black Hills National Forest? How much old growth/late succession forest is managed for on the Black Hills National Forest? Is there a difference?**

The Forest Plan defines late succession in the Glossary as:

Ecosystems distinguished by old trees and related structural features. This term encompasses the later stages of stand development that typically differ from earlier stages in structure, composition, function and other attributes (Kaufmann et al. 1992).

There are two types of late succession ponderosa pine defined for the Black Hills. The first type, open-canopy late succession ponderosa pine, occurs where periodic, low-intensity fires have been part of the ecosystem. These late successional stands would consist of clumps or groups of trees with grasses in the openings between the clumps. They would contain large old trees with open branches, irregular and flattened crowns. The clumps or groups of trees would contain little down dead material and few small trees (Mehl 1992).

The second type, closed-canopy late succession ponderosa pine occurs where periodic, low-intensity high-frequency fires have not been a significant part of the ecosystem. These stands would contain large old trees with open branches and irregular crowns. The stands would have multiple canopy layers made up of various-aged trees. They would be well stocked with trees and contain standing dead and down trees.

The 1995 RIS database identified approximately 22,409 acres of existing late successional ponderosa pine (BHNF Revised Forest Plan EIS III-142), and that same data estimated that 561 acres of late-successional white spruce exists. The total amount of

existing late succession in the 1995 RIS database is 22,970 or approximately 2 percent of the conifer landbase on the Black Hills National Forest.

Black Hills National Forest Revised Land and Resource Management Plan objective 207 says to manage at least 5 percent of the forested landbase for late succession. This 5 percent is to be comprised of acreages found in Management Area 3.7, other management areas that provide late succession conditions such as wilderness and small scale stands located throughout the forest outside management area 3.7. Through time, assuming no catastrophic disturbances, the Forest could have approximately 97,756 acres of late succession (9 percent of the conifer landbase) following Forest Plan direction.

## **22) Why is Phase I a non-significant amendment?**

Significance for Forest Plan amendments is based on the National Forest Management Act definition of significance. Some of the factors considered and found to be non-significant include:

- Land allocations (e.g. suitability, management areas, allowable sale quantity over the decade) are not being changed with the Phase I amendment.
- The overall goals identified in the Forest Plan are not being changed.
- The Phase I amendment is anticipated to be in place for a relatively short period of time.
- The Phase I amendment direction will effect only portions of the projects analyzed over the next few years; it is not anticipated to effect the entire Forest.

## **23) Why is Phase II anticipated to take 2-5 years to complete?**

To provide consistency between the analysis time period and the time period for completing this phase a range of 2-5 years was used. The Forest plans on completing the Phase II amendment within 3 years. For the science interviews, however, the 5 year program plan was used as a frame of reference of foreseeable actions.

The original estimate of 2 years factored in all aspects of the Phase II amendment under the old planning regulations.

The revised planning regulations (36 CFR 219) were published in the Federal Register on November 9, 2000. The Phase II amendment will need to meet the new requirements under the revised 36 CFR 219 regulations. It is uncertain how this affects timeframes.

Changes in regulations might impact the analysis process and timeframe for Phase II. Regional direction is also in development for items that fall under the Phase II amendment.

In addition, future funding levels for the Phase II effort are uncertain.

## **24) Why is the Forest moving towards single species management for goshawk?**

The goshawk strategy is multiple-species management. It is a prey based, ecosystem approach that should provide for many species by managing for historical amounts and distribution of various tree sizes and densities across the Forest. The goshawk is an obvious keystone species in the Black Hills because it is dependant on a variety of habitat conditions and prey species, many of which are important for other species. One important prey species is the red squirrel, which is also important for most small carnivores and raptors. Goshawks also eat woodpeckers, some of which are also sensitive species. Goshawks need mature forests for nesting and a mix of habitat for foraging. Managing for goshawks means managing for the habitat conditions needed to support its prey, which is managing for habitats needed for a variety of species. This is why the goshawk has been designated as an MIS (management indicator species) on this forest.

### 25) What is the balance of structural stages?

The balance of structural stages applies to ponderosa pine stands. The balance of structural stages is based on recommendations in the Southwest Guidelines (Reynolds, et.al., 1992 p. 7, p. 23, p. 27). Diameter ranges have been adjusted to reflect conditions found on the Black Hills. Table 1 displays the Post-fledging Family Area (PFA) balance of structural stages for ponderosa pine. Table 2 displays the foraging area balance of structural stages for ponderosa pine.

Under Alternative 2 the PFA balance of structural stages is applied to a 420 acre area around known nests. Under Alternative 3 the PFA balance of structural stages is applied to a 420 acre area around known nests, and the foraging balance of structural stages is applied across the remainder of the watershed. Achievement of these balances will take decades, treatments performed over the next two to five years could help move individual watersheds toward these balances.

Table 1 PFA balance of structural stages for ponderosa pine

Structural stage	Diameter range (inches)	Minimum canopy closure %	Percent range applied
1 grass/forb/shrub	0-1	None	7-13
2 seedling/sapling	1-5	None	7-13
3 young forest	5-9	None	15-25
4 mid-aged forest	9-14	50	8-18
4 mid-aged forest	9-14	60	2-12
5 mature forest	14-20	50	15-25
6 old forest	>= 20	50	15-25

Table 2 Foraging area balance of structural stages for ponderosa pine

Structural stage	Diameter range (inches)	Minimum canopy closure %	Percent range applied
1 grass/forb/shrub	0-1	None	7-13

2 seedling/sapling	1-5	None	7-13
3 young forest	5-9	None	15-25
4 mid-aged forest	9-14	40	15-25
5 mature forest	14-20	40	15-25
6 old forest	$\geq 20$	40	15-25