

Appendix 3

Boswell Creek Watershed Healthy Forests Initiative Pilot Project 30-day Notice and Comment Period Responses

Comment Period Start: September 11, 2003
 Comment Period End: October 10, 2003

Responses:

Name	Organization	Date Received	Form (e-comment, mail, oral)
1 - Doug Russell		09-16-2003	e-comment
2 - Glen Allums		09-17-2003	e-comment
3 - James B. Wynn	Senior Regional Director NWTf Texas	09-18-2003	e-comment
4 - John Wortham		09-25-2003	e-comment
5 - Dale Bounds	National Wild Turkey Federation, Texas State Chapter	09-18-2003	mail
6 - Thomas J. Cloud, Jr.	USDI, Fish and Wildlife Service	09-17-2003	mail
7 - Dick Pike	Texas Parks and Wildlife Department	10-10-2003	mail
8 - Brandt Mannchen	Sierra Club – Houston Regional Group	10-10-2003	mail
9 - Clifford R. Rushing		10-10-2003	mail

Response Summary

1 - Doug Russell – expressed support for the project in a general sense, with no specific comments related to the proposed action or supporting reasons for the Responsible Official to consider. The response included no substantive comments.

2 - Glen Allums – expressed support for the project in a general sense, with no specific comments related to the proposed action or supporting reasons for the Responsible Official to consider. The response included no substantive comments.

3 - James B. Wynn – expressed support for the project in a general sense, with no specific comments related to the proposed action or supporting reasons for the Responsible Official to consider. The response included no substantive comments.

4 - John Wortham – expressed support for the project in a general sense, with no specific comments related to the proposed action or supporting reasons for the Responsible Official to consider. The response included no substantive comments.

5 - Dale Bounds – expressed support for the project in a general sense, with no specific comments related to the proposed action or supporting reasons for the Responsible Official to consider. The response included no substantive comments.

6 - Thomas J. Cloud, Jr. – expressed support for the project in a general sense, with no specific comments related to the proposed action or supporting reasons for the Responsible Official to consider. The response included no substantive comments.

7 - Dick Pike – expressed support for the project in a general sense, with no specific comments related to the proposed action or supporting reasons for the Responsible Official to consider. The response included no substantive comments.

8 - Brandt Mannchen – The Sierra Club commented on several specific areas related to the process used on the Boswell Creek Watershed Project as well as on the EA and supporting documentation provided to the public. The response included substantive comments. The following summarizes these comments:

General Comments

Failure to provide the public information and access to information – the Sierra Club believes that information important for their understanding of the project and its effects was improperly withheld from them by the Forest Service.

The Forest Service responded to the SC FOIA request from various levels of the organization several times and provided numerous pages of documents. Issues raised regarding the FOIA request were handled per FOIA policy [5 U.S.C. 552 (1994 & Supp. II 1996)] and coordination and review was conducted by the Regional Office FOIA Coordinator. The SC was told, based on Regional Office review, that a fee was required for copies of documents requested that were over and above what is normally provided at no cost. Requested documents were available if appropriate fees were paid.

The SC appealed the fee requirements to our Washington Office where an offer was made to settle this matter and the offer was declined. Since resolution of the FOIA Appeal did not occur, the appeal is still pending.

The SC was given access to the same information all other members of the public were provided, and additional information provided under FOIA at no cost.

Fire and Southern Pine Beetle – The Forest Service overstates the risk of fire in the BCP based on past fire history and occurrence. The burning proposed for the BCP does not mimic the natural fire frequency, duration, intensity, rate, seasonality, evenness of burn, start locations, regime, and vegetation mosaic/patchiness. The FS has not adequately explained how unacceptable risk from loss to PSB infestations (one of the reasons for the proposed actions) was calculated.

The SC disagrees with the basic needs for action described in the scoping notice and the EA. The FS identified the needs for action based on the existing conditions in BCP and the Plan's desired conditions. The proposed prescribed fire is consistent with the Plan's direction on its use. The unacceptable risk of loss to SPB infestation was based on SPB hazard ratings.

Allegedly deficient cumulative impacts analyses in the EA that do not comply with CEQ guidance and NEPA implementing regulations – the Sierra Club comment letter provided a list of past activities, taken from the Sam Houston NF's compartment folders, that they believe were not adequately considered in the analysis of cumulative effects.

We believe that the cumulative effects analysis documented in the specialist reports and referenced in the EA and proposed FONSI consider the relevant present, reasonably foreseeable, and relevant past actions. The FS reviewed the same documents that the SC references in their comments. Those past activities that the FS determined had the potential to contribute to possible cumulative effects (based on spatial and temporal factors) were considered in the analysis.

Allegedly inadequate analysis of old growth as required by the Plan – the Sierra Club says the FS ignores its responsibility to find, designate, and protect future old growth as provided by Appendix I of the Plan and Forestwide standard FW-021.

The FS completed old growth evaluations as directed by the Plan's standard FW-021. The FS considered the stands that met the criteria for evaluation and found none met the criteria for old-growth designation as described in Plan Appendix I, Supplement #1, 6/99.

One stand in Compartment 75 (std 15) appears to have an incorrect forest type in FS records – Forest Service records indicate that this stand is a mixed pine-hardwood stand, where pine comprises between 50 and 70 percent of the overstory. The Sierra Club believes that this stand should be typed as a hardwood-pine stand, where pines make up less than 50% of the overstory. The Sierra Club wants the FS to change the forest type of this stand and only allow natural fires in it.

No data exists on which to base a change in forest type at this time. Management of this stand, including the use of prescribed fire, will be guided by the Plan's direction. According to the Plan, prescribed fire is appropriate for this stand.

Use of the Best Sound Science – the Sierra Club contends that the EA does not comply with NEPA requirements at 40 CFR 1500.1 that the “information must be of high quality.” The Sierra Club believes that the FS has also not met the CEQ's guidance for pilot projects because the agency “has failed entirely to present any information substantiating its purpose and need nor many critical assumptions in the brief DEA.”

The FS stands by its description of the project's purpose and need. We also believe that we used the best information available in the effects analyses documented in the specialist reports and referenced in the EA and complied with the CEQ guidance for pilot projects.

Specific Comments on the EA –

1) EA page 1, Introduction – The Desired Future Condition (DFC) for open pine character contradicts the guidance in the Ecological Classification System (ECS).

The FS disagrees. The Plan's DFC for MA-2, as described in the Introduction of the EA, is consistent with the ECS description of the upland landtype phases that exist within the BCP.

2) EA page 1, Need for the Proposal – The FS analyzes only two alternatives in the EA, the proposed action and no-action, and improperly eliminates the Sierra Club's alternatives from consideration. The EA does not present a reasoned explanation of why these other alternatives were not considered. A non-harvest alternative should have been considered because FSM 2432.22c requires such consideration for “stewardship” projects.

Pages 8-10 of the EA include a discussion of the SC's alternatives that they proposed during the scoping period and the rationale for their elimination from detailed analysis. FSM 2432.22c requires that practical and feasible non-harvest alternatives need to be considered for forest stewardship projects. FSM 2431.22c continues, stating “It is not necessary to include harvest or non-harvest options that are not practical or feasible from a biological, social, or legal standpoint or those that do not meet Forest plan objectives, or standard and guideline requirements.” This is the case in the BCP, as these options were proposed by the SC and addressed at length in the EA and the project record.

3) EA page 1, Need for the Proposal - No data is presented that demonstrates the existence of the threat of catastrophic wildfire. Based on past wildfire occurrence in the Boswell Creek watershed, the SC believes the FS has overstated the threat.

The description of the existing condition of fuels and fire behavior on page 2 in the EA demonstrate the potential for intense fire behavior. The threat cannot be based solely on past fire occurrence, as that may not be a reliable indicator of future fire occurrence.

The SC believes that the EA does not provide adequate information about the number of acres in each landtype phase (described in the ECS), which leads to inadequate analysis of the effects of prescribed fire on vegetation.

The FS believes that displaying the number of acres in each landtype phase would only have added extra detail to the analysis that was not necessary to make an informed decision about fuel reduction and SPB hazard reduction.

4) EA pages 2-3, Existing and Desired Conditions – The Sierra Club believes that based on the information in the ECS, fuel model 2 is inappropriate for much of the BCP. They state that Appendix H of the Plan refutes the proposed frequent fire regime because the appendix describes the BCP as part of the “dominant Loblolly Pine Ecosystem” where forests are quite dense and junglelike, and a significant barrier to overland travel.

We believe that fuel model 2 would describe the uplands in the BCP if these areas met the Plan’s DFCs.

5) EA page 5, No Action – The EA states that with the No Action alternative the risk of fire would grow and suppression would become increasingly difficult. The SC believes that with no action, forest would become more hardwood dominated, trees would grow larger, and eventually less flammable. If the FS believes fire is good it should not suppress natural lightning started fires.

The current trends and conditions described in the EA are those that are expected to occur over the next several years. The SC description of the forest under no action is unlikely to occur in the near term without some other disturbance to reduce the pine-dominance that exists on the uplands in the BCP.

6) EA page 5, Proposed Action second paragraph – The FS states that there is a risk of “losing key ecosystem characteristics due to wildland fire” but does not identify what these are. The FS states that fire frequencies have departed from historic frequency by one or more return intervals, but does not identify where these areas are in the BCP. In addition, the SC believes that the fire return interval described by the FS is inconsistent with those described in the ECS.

In the case of the BCP, the key ecosystem characteristic at risk is the pine-dominated upland forest that provides, or is projected to provide, important recovery habitat for the endangered RCW. The EA states that compartments 70 and 72 are the only areas in the BCP that are in condition class 2, that none of the area is in condition class 1, and that the rest of the BCP is in condition class 3, where “fire frequencies have departed from historical frequency by multiple return intervals” (EA, page 5). The FS disagrees with the SC that the fire return interval is inconsistent with the ECS.

7) EA page 5, Proposed Action third paragraph – The FS does not discuss that SPB are a natural agent of change or disturbance that promotes forest ecosystem evolution or health. The FS does not acknowledge that current forest management practices have exacerbated the impacts of SPB relative to other members of the pine bark beetle guild. The FS does not provide this information to the public for its review and comment. Without this information the full impacts of the project cannot be determined.

The EA discusses what the proposed action would do relative to reducing the SPB hazard, one of the project’s purposes. The information that the SC refers to is outside the scope of the action and irrelevant to the analysis of effects.

8) EA page 6, Prescribed Burning – The FS states that “Prescribed fire would be allowed to back into the approximately 940 acres of moister, hardwood dominated areas in MA-2 and burn to the extent that the fuels allow.” This statement is contradicted by the one in the air quality report which states that fire would be allowed to burn into about 1,945 acres of hardwood dominated forests. Please explain this contradiction.

The air quality report is in error – the total of hardwood dominated forests should be 1,230 acres as described in the EA. The air quality report has been corrected.

The FS does not tell the public the nature of backing fire. A backing fire would consume more fuels than a heading fire and can cause change in areas that did not experience fire frequently, like hardwood forests and streamside zones (MA-4). The full extent of impacts of backing fires in streamside zones and hardwood forests is not documented in the EA.

The EA and the Vegetation Report describe the expected effects of prescribed fire from adjacent upland areas entering hardwood forests and SMZs. Given the different fuel types and moister conditions that generally prevail in SMZs and hardwood areas, particularly during times of the year when prescribed burning would be done, the concern about backing fires in these areas is low. A backing fire would only consume fuels that are available for burning. Backing fires would be a concern in hardwood-dominated areas only during the driest parts of the year. During these times of the year, prescribed burning would not be done on the adjacent uplands because the fuel conditions would create fires that would be too difficult to manage.

9) EA page 6, Prescribed Burning – The FS states that 9.9 miles of new fireline will be needed. The FS does not state how many miles of existing fireline are in the BCP. The FS also ignores the impacts that bulldozing firelines has on erosion, vegetation, the LSHT, and the scenic beauty of the SHNF; the direct, indirect, and cumulative impacts of all miles of firelines is not revealed for public review and comment.

Firelines were among the actions considered by the specialists in their analysis of effects. Several of the factors identified by the SC in their comments (fireline effects on vegetation, LSHT, and scenic beauty) were not identified by the ID Team as significant issues during project design or scoping. Firelines (both existing and proposed) were considered in the soil and water effects analysis. Incorporating standards and guidelines from the Plan would mitigate the effects of firelines.

10) EA page 7, Design Criteria – The FS allows a huge loophole in the 33-foot exclusion zone for ephemeral streams when it states that “No equipment will be allowed in the zone unless approved by the Forest Service.” No indication is given whether such entry will be allowed in the BCP, the reasons why it will be allowed, how often in the past it has been allowed, and the reasons why it has been allowed in the past. There is no analysis, assessment, or evaluation about the impacts that intrusion into this zone will have on ephemeral streams.

Entry into ephemeral streamcourse protection zones during project activities is dependent on conditions that exist on the ground at the time of implementation. The FS will control entry into these zones and it will only be allowed when necessary to achieve the objectives of the project. We believe that FS control over entry into the zone would minimize the potential for effects on ephemeral streams and provide the needed flexibility in project implementation.

11) EA page 7, Design Criteria – The FS does not tell what the total number of road miles is in the BCP, the types of roads, the impacts these roads have had, and the road density in the BCP.

This type of information is not appropriate for the design criteria section of the EA. The purpose of design criteria is to identify those implementation items that need to be incorporated into the project design to minimize effects.

12) EA pages 8-10, Other Alternatives – The FS ignores the use of technical assistance and grants as an alternative way to reduce catastrophic wildfire risk to structures and people. The FS deceptively misuses contradictory scientific results for its own gain when using the Omi and Martinson 2002 paper.

The EA does not ignore technical assistance and grants for private landowners. These avenues already exist for the public. The EA does focus on actions that can be implemented on the National Forest to protect private property **AND** protect existing and potential endangered species habitat on NF land. The FS believes that it has not misused the Omi and Martinson paper, that the BCP fuels situation is consistent with the examples cited in the report, and that the results described in the paper support the treatments proposed in the BCP. As stated by Omi and Martinson in the Executive Summary of their report, “Our results unanimously indicate that treated stands experience lower fire severity than untreated stands that burn under similar weather and topographic conditions. Correlations between fire severity indicators and measures of crown fire hazard and fire resistance were generally good, but individual sites provide unique lessons that illustrate the importance of treating fuel profiles in their entirety.”

The FS does not discuss snags and downed wood, which it insists are fire hazards, are important ecological residuals that must be protected. They should not be burned to eliminate or reduce their mass but should be allowed to decay and provide food and shelter for wildlife, erosion control for soil, and moisture retention for microsite amelioration.

Snags are continually being produced as trees die and lost as dead trees fall. Likewise downed wood is also being produced when dead trees fall and decay and lost if they are dry enough to burn. In some situations snags or downed wood can present a hazard to private property, can make control of wildfire more difficult, and can be safety concerns. We do not believe that this project will have a significant effect on snags or downed wood.

The FS is putting commercial timber production first and wildlife and ecosystem management second. The FS talks about spacing trees 20-25 feet apart to reduce SPB hazard, which was derived for plantations and for commercial timber purposes and not to protect endangered species, not to perpetuate natural forest ecosystems, and not to mimic natural ecosystems. Planting hardwoods with pines, in most areas of SHNF, is a natural ecosystem restoration technique and will reduce SPB hazard.

Tree spacing identified in the Proposed Action comes from the Plan's standards MA-2-80-4.5 SPB Hazard Reduction and MA-2-80-4.7 Thinning. We disagree that planting hardwoods in pine-dominated stands with high basal areas would decrease SPB hazard. SPB hazard is directly related not only to pine basal area but also to total basal area. Planting hardwoods in areas with high pine basal area and moderate to high SPB hazard would only increase total basal area and not reduce SPB hazard.

Hardwoods help reduce SPB hazard if they are allowed to play their original role in forest ecosystems. Hardwoods protect pines in the forest from SPB by producing odors and by screening predator sight targets. The FS fails to provide this information to the public for its review and comment.

This information is irrelevant to the BCP and its purpose and need.

The FS relies on an article by Cecil Frost to justify the 2-5 year fire frequency that it proposes in the BCP. The Frost article is very broad and not site-specific like the ECS is for the SHNF. The FS should use the ECS.

The Plan has identified the appropriate fire frequency to meet the DFCs. We believe that the Frost article, other peer-reviewed scientific articles, and the ECS all provide information to be used in developing projects and evaluating effects.

The FS states that some large trees may need to be removed to provide for spacing requirements to reduce SPB hazards. This is a dishonest statement as 1,440 acres of large trees will be logged for spacing requirements. The FS fails to provide for each stand, the total current basal area, the basal area after thin logging, and an estimate of how many trees will be logged from each stand and from the total BCP. Thousands of large trees will be logged. What impact will this have on the BCP road system? The public must be provided with analyses that make it easy to visualize the impacts that FS actions will have so that meaningful review and comment can be done.

The Proposed Action provides for a residual basal area of 70 ft²/acre in mature stands. The proposed action also references the Plan's standards and guidelines for thinning in RCW habitat (MA-2) which provides criteria for retention of trees. The mature stands are composed of trees with a wide range of diameters, from small (less than 10" in diameter) to large (>20" in diameter). The EA states that some large trees may need to be removed because it is not possible to accurately estimate their number. The intent is keep the largest trees that meet the needs of the RCW and limit the removal of large trees to those necessary to maintain the tree spacing in the Plan. No estimates of the number of trees to be logged were made because it was not relevant to the purpose and need for the proposal.

13) EA page 10-11, Water Resources, Wetlands/Floodplains – the SC does not understand there are or are not jurisdictional wetlands in the BCP. Was a wetlands delineation made to ensure that no wetlands are in BCP? The FS appears to say that there are no wetlands anywhere except in the floodplains. The SC disagrees. In C-76, Std 1 there is natural pond and seepage creek.

Based on the information provided by Forest Soil Scientist Rodney Peters, there are no areas in the BCP that meet all the criteria for jurisdictional wetlands.

14) EA pages 11-12, Soils – The FS has a soils document that was developed for it by the NRCS. This document is not available to the public on the website and the FS will not allow the SC to see the project file where the document presumably exists. The FS also does not provide data on any erosion monitoring that has been conducted.

See the response to the SC's first General Comment regarding information. No quantitative soil erosion monitoring has been done in the BCP.

15) EA page 12, Vegetation – the SC disagrees that no fragmentation would occur due to the BCP. There will be major changes in the canopy on almost 5,000 acres of forest, many miles of firelines bulldozed, and many miles of roads reopened for use and upgraded. There will also be log landings created in a number of areas which will fragment the forest.

The ID Team only considered fragmentation as a process that converts large areas of relatively uniform vegetation into a mosaic of small patches of vegetation of different age classes across the landscape (Kimmins 1997). The proposed activities do not change forest types or stand ages. Thinning does not constitute a major change in the canopy, neither does it fragment the forest. Fireline construction does not cause a break in the overstory canopy. The roads to be used are already in place, and each will only be open and used for a short time. Most of these roads will be gated, which will restrict unnecessary access and use. Log landings are less than an acre in size, and will not fragment the forest.

16) EA page 12, Fuels and Fire Behavior – The grass/forb understories demonstrated by Fuel Model 2 are not natural to many parts of the BCP. The BCP creates an unnatural fire regime and vegetation structure.

The prescribed fire proposed in the project is consistent with the direction in the Plan and is designed to help create the DFCs described in the Plan. The grass-forb understories of fuel model 2 are not inconsistent with the upland landtype phases described in the ECS.

17) EA page 13, Southern Pine Beetle Hazard – the cumulative impacts of past, present and foreseeable future actions are not quantified and fully presented.

The EA states that “The proposed actions would reduce SPB hazard from moderate or high to low or moderate on about 4,800 acres of upland pine forests. When considered with the past thinning in Compartments 70, 72, 75, 76, 77, and 83 and thinning that is yet to be done under already approved decisions in Compartments 75 and 76, about 6,500 acres, or 88% of the upland pine forest in the BCWP would have reduced SPB hazard.” The cumulative effects on SPB hazard in upland pine forests in the BCP are clearly stated.

18) EA page 14, Sensitive Species – The FS has conducted no monitoring of Rafinesque’s Big-eared bat, Southeastern Myotis, and Texas Emerald Dragonfly as required by the NFMA.

For MIS, National Forest Management Act regulations require that “population trends of the management indicator species will be monitored and relationships to habitat changes determined” (36 CFR 219.19(a)(6)). The purpose of this regulation is to require monitoring of the programmatic effects of implementing Forest Plans. Therefore, for most MIS, population monitoring and evaluation is accomplished through forest-wide efforts rather than on a project-by project basis. In addition, monitoring of populations that are distributed across a national forest is best approached at that same scale. Reporting of results of this Forest-wide monitoring is also covered at the Forest level.

19) EA page 15, Sensitive Aquatic Species – Backing fires kill riparian vegetation and modify streamside ecosystems. It is not true that “only small portions of streams occurring within the project area begin outside federal property boundaries.” The cumulative impacts on streams on private lands must be revealed in the EA.

The statement “small portions of streams beginning outside federal property boundaries,” is intended to compare the length of the upstream portions of these streams, relative to the portions that occur on national forest land.

20) EA page 16, Management Indicator Species – The assertion that “backing fires are unlikely to alter soil stabilizing riparian vegetation” is not true. The FS often reduces the density, structural location, and type of forest vegetation in riparian areas due to fires. There is no actual monitoring information to back up the assertion of no alteration of riparian vegetation.

Low intensity backing fires would not likely alter the soil stabilizing function of riparian vegetation. Even intense burns may disturb the root mat very little, leaving its soil-holding properties intact.¹

¹ Stanturf, John A., et al. 2002. "Chapter 25 (Background Paper FIRE): Fire in Southern Forest Landscapes." In *Southern forest resource assessment*, Gen. Tech. Rep. SRS-53. Asheville, NC: U.S. Dept. of Agriculture, Forest Service, Southern Research Station.

Comments Specific to Specialist Reports and Supporting Documentation

Botanical Survey

The SC is concerned that only two days of field survey in March would be inadequate to find all sensitive plant species. The survey asserts that “the Four Notch area does not contain such habitat types as baygalls or forested seeps.” The SC has identified one area along the LSHT in Compartment 73 or 76 where there is a springfed seepage creek that has potential habitat for sensitive species.

The time spent on the ground was brief because the examination of aerial photographs and the soil maps of Walker County greatly reduced the area that appeared worth examining. No obvious indications of unusual habitats were seen on the aerial photographs. The acidic soils found in the area make the occurrence of certain plant species, such as the endangered White Bladderpod, unlikely. Existing information, such as Orzell 1990 did not indicate any known special plant communities in the area. Nor does the district's GIS information indicate any special plant communities in the area. Although the botanical survey was done in the spring, the lack of suitable habitat in the project area for the four species known to occur in the vicinity of the Sam Houston National Forest means that it is very unlikely that these species would have been found no matter when the survey was conducted.

On 6 November 2003, Biologist Felix Quesada and Botanist Converse Griffith visited the area described in the SC letter, near where the main portion of Lone Star Hiking Trail intersects the loop of the trail in Four Notch Area. This area is near the intersection of compartments 73 and 76. Certainly there are two perennial streams in the area; whether or not they are spring fed could not be determined. Quesada and Griffith did not observe any habitats resembling the herbaceous and forested seeps found in the southern portions of the Angelina and Sabine National Forests. The plant species seen the area were very common, widely-distributed species.

The 1996 forest plan guidelines prohibit disturbance of areas within 50 feet of a perennial or intermittent stream. This 50 feet buffer is a minimum; the area may be increased if the topography indicates that the floodplain is wider. These measures are incorporated in the BCP. Therefore it is unlikely that even if there is a seepage creek in the area, and even if any sensitive plant species are found in that area, that project activities would affect that area.

Appendix C – Vegetation Report, Forest Vegetation Simulator

The appendix only contains simulations of thinning of the young pine stands and does not include simulations of the thinning of the large, old mature pine trees.

The ID Team conducted stand modeling only for young pine stands because these stands have the potential for more rapid structural change than the mature stands and would be more likely to demonstrate a response to thinning treatments. Based on our experience and observations of thinning older stands on the NFGT, they would not be expected to exhibit the basal area growth or structural changes that the young stands would. Simulations of these older stands would not have added meaningful information to the analysis.

Projected Reductions in SPB Activity from Thinning in the Boswell Creek Watershed Project

The document does not mention that the very large, old, mature pine trees that will be logged are needed by the RCW, grew naturally in very dense stands historically, and additional growth of

<http://www.srs.fs.usda.gov/sustain/report/fire/fire.htm>

hardwoods reduces SPB hazard. This document does not provide information which documents the statement that “Thinning also would reduce SPB population increase in the area, resulting in reductions in impacts on a landscape level.” To date, no one knows how to stop a SPB epidemic on a landscape scale either before the epidemic begins or when it does begin.

This report considers the effects of thinning on projected SPB activity in the forests that exist today in the BCP. The effects on RCW are considered in the Wildlife Specialist Report. The conclusions in the report, written by Forest Entomologist Dr. Stephen Clarke, incorporate applicable scientific studies and professional judgment of the author. The report makes no reference to stopping SPB epidemics, but reducing losses when SPB activity occurs.

Air Quality Considerations for Prescribed Burning Options, Boswell Creek HFI Pilot Project

Page 1, Management Situation – the figures used in this document are not the same as those in the EA. The figure used for burning is 9,465 acres compared to the EA’s 8,360 acres.

The acreage figures in the Air Report are incorrect. The acreage estimates in the EA are correct; the report has been corrected.

Page 1, Management Situation – This document says that some parts of the SHNF have sensitive sites where planning for prescribed fires for those sites are impractical. Where are these sites and are any in the BCP?

The sensitive sites mentioned in the report exist immediately adjacent to the larger cities near the forest, such as Huntsville, or along major travel routes such as Interstate 45 or US Highway 59. Such sites do not exist in the BCP.

Page 2, Issues – the document says that “there are no irreversible effects or irretrievable resource commitments.” This is untrue. The loss of snags and downed wood is an irreversible effect and irretrievable resource commitment. The loss of these trees means that they cannot be used as shelter and food for animals and plants, cannot be used as erosion dams, and cannot retain moisture to ameliorate the microclimate.

The statement about irreversible effects or irretrievable resource commitments is in reference to air quality parameters.

Page 2, Affected Environment – There is an air pollution problem that has not been addressed, toxic air pollutants contained in smoke. Some of these toxic air pollutants are carcinogenic, like polycyclic aromatic hydrocarbons (PAHs), and are potentially very hazardous to human health.

The air report addresses the potential effects on the criteria pollutants for which there are National Ambient Air Quality Standards (NAAQS).

Page 2, Affected Environment – This document must assess the smoke impacts on people several miles downwind.

The report discusses smoke effects and mitigations on pages 5 and 6.

Page 2, Ozone – When the document states that “moderate amounts of VOC” are produced, the amounts generated should be provided so that the public can review and comment on this information.

The report indicates that these precursors to ozone generated by “Fire related emissions become important only when other persistent and larger pollution sources already present a substantial base load of ozone precursors or when there is a threat of atmospheric confinement.”

Page 4, NAAQS-Ozone Standard – This document makes the incorrect assertion that monitoring data indicate that Walker and San Jacinto Counties do not exceed the NAAQS. This is untrue. The data are not site-specific for these counties and cannot be used to assume that the NAAQS is met. Using monitors in Louisiana, especially when the downwind plume of Houston often blows in the direction of both of these counties, is not scientifically defensible.

No site-specific data exists for San Jacinto and Walker Counties. The FS and SC disagree on the proper evaluation of air quality in the BCP. The air report was reviewed by the FS Regional Air Quality Specialist.

Page 4, Fine Particulate Matter – The FS should mention that EPA is considering lowering the fine particulate matter standard. If the standard is lowered then this analysis will not provide the level of protection that it purports.

At this time, it would be speculative to address standards that are not in effect.

Page 5, Effects, first paragraph – What does “relatively brief (a few hours)” mean when considering human exposure to ground level smoke?

The statement stands on its own.

Page 6, Mitigation – Where are the homes of persons known to have chronic respiratory illness, schools, and poultry farms? There should be a map which shows where sensitive receptors are located in BCP. The HSC believes that any home in the BCP is a sensitive receptor. Each home is the location of a potential air pollution nuisance due to prescribed fire.

None of these sensitive receptors are known to the FS at this time. These would be identified as part of the process to prepare prescribed burn plans for individual burns.

Specialist Report – Scenery Management

Page 1, Affected Area – Logging is not a “natural occurrence.”

The statement in the report indicates that the management activities are to be of a “scale and form” that would be consistent with a natural occurrence.

Page 2, Affected Area – The document states that streamside management zones are not managed for timber. This is not correct. When there is a SPB or other salvage logging opportunity the FS frequently logs the streamside management zone and operates the sale as a commercial logging operation.

The Plan designates SMZs as unsuitable for timber management (The Plan, p. 158, MA-4-101). The Plan does allow for SPB control in MA-4; a timber sale contract may be one method to accomplish the treatment. This does not mean that the action is for timber management.

Page 2, Proposed Action – In no way can logging the LSHT have a “positive effect on the scenery” of the trail. This is a ridiculous assertion.

The statement in the report indicates that the management activities of thinning and burning and burn only will improve the scenery into the forested lands, this will include portions of the trail, by opening the views. As stated later in the text, it is understood that the current views will be different from the future views. The initial change will not be the most scenic; there will be evidence of the management activity. With time, techniques such as lop and scatter of treetops along the trail, a good growing season and fire the evidence of timber removal will dissipate and the quality longer distance views will remain.

Page 4, Proposed Action – To state that wind and insects have devastating effects on the quality of the scenery and say the same for logging is an obvious example of FS bias. The FS must be fair, impartial, and tell the truth, the whole truth!

It is not clear to what the comment refers. The report documents the predicted effects of the proposed action and no action on scenery in the BCP. There was no attempt to bias the disclosure.

Page 4, Proposed Action – This document states that a lack of fire will cause a decline in the quality of views. This is not necessarily true. When trees grow they shade out other vegetation which dies and opens up the view.

Currently there are many pine stands in the Boswell Creek Project that have a thick understory of yaupon, some to 20'-25' in height. This understory occurs in stands of various age groups. The plan directs us to use fire to control midstory and promote a more open upland forest community in MA-2. An open upland

forest community provides the park like, long distance views that we are currently not able to achieve under the pine canopy without fire.

Boswell Creek Specialist Report – Aquatics

The HSC finds it disturbing that one of the conclusions of this report is that “Not all fish passage and channel erosion problems will be solved or improved with the proposed project due to the magnitude of the damage and the lack of a coordinated system for rectifying culvert problems with replacement.”

Although the BCP does not eliminate the past damage, the project would result in the correction of many identified road and drainage structure problems.

The EA does not provide quantitative information about the magnitude of the damage to fish and mussels that has been caused in the BCP by logging, roading, burning, and other management actions. This is particularly important since construction activities are responsible for 95.5% of the sediment that erodes from highways and bridges. The EA should provide a coordinated system for rectifying culvert problems so that the public can review and comment on its adequacy.

These issues are beyond the scope of the project. Measures will be incorporated to minimize sediment from road improvements undertaken in the BCP, which as the comment notes, are the primary mechanism of sediment production from management activities.

It is of concern that of the 10 sampling sites depicted on the map attached to this report, only three are actually in the BCP that will be logged and burned. Additional sampling should be conducted in the area that will actually be logged and burned to determine the populations of fish and mussels and the potential impacts to these due to the BCP.

The sampling sites documented in the report are appropriate for determination of existing conditions in the BCP and the prediction of effects from project activities.

Vegetation Report

Page 2, Upland Vegetation – One of the reasons there are so few Shortleaf Pine stands is that the FS has, over the years, type converted Shortleaf Pine stands to Loblolly Pine stands. The comment is not relevant to the project at hand.

It is an overstatement to say that the even-age pine stands have three layers of structure, overstory, midstory, and understory. Our observations in the BCP area is that the midstory is very sparse and that the overstory consists 90-95% of large pines. Large hardwoods have been, for the most part, eliminated from the overstory. Where burning has been more frequent the understory is not fully developed, older understory trees, but young saplings that are growing until the next burn kills or severely wounds them. It is an overstatement to say that 90-95% of the overstory in the BCP area consists of large pines. Pines dominate many areas, but large, canopy hardwoods exist in the mature stands throughout the BCP. Interestingly, aerial photos show that the hardwood stands occupy more area in the BCP than existed prior to the 1980s SPB epidemic. The young pine stands more closely resemble the description referenced in the comment. Not sure what defines a “large pine,” since young pine stands less than 20 years old make up 50% of the BCP area. The comment seems to indicate that their desired vegetation condition is a developing hardwood understory and midstory. This is inconsistent with the Plan's desired conditions for upland pine forests in MA-2.

In the Upland Vegetation part of this report the FS has grouped upland vegetation with slope vegetation. The FS needs a separate part of the report to discuss slope vegetation. Upper slopes are considered part of uplands and lower slopes are considered part of riparian areas.

The FS has also type converted mixed hardwood-Loblolly Pine or Shortleaf Pine forests. The proposed actions would not convert any forest communities. Historical aerial photos show that the BCP area

was dominated mostly by pine. Some conversion occurred during the SPB infestations of the 1980s. Hardwoods now dominate many areas that were once dominated by pine. SPB killed the pine trees, which released the hardwoods growing in the midstory.

Page 2, Structure – The FS describes the problem forest it has created by planting pine so densely together that in 15-20 years they require thin logging or they are so positioned as to be SPB habitat. The comment is not relevant to the project at hand; today's project was designed to address the results of past management activities and improve future conditions. The young stands in the BCP were established following an SPB epidemic that removed the pine that dominated the older stands. The National Forest Management Act requires the reforestation trees within 5 years after the removal of a stand of trees. Seedlings were planted at densities to achieve stocking levels defined in the Plan while accounting for anticipated mortality due to environmental factors. In the BCP, seedling survival rates were high and there was unanticipated natural pine regeneration in many areas.

Page 2, Structure – This description of upland vegetation does not have any counts of the number of snags and the amount of coarse woody debris in the BCP. By not quantifying these components, the FS fails to determine whether the existing amounts are sufficient for full, natural forest functioning. The HSC has observed a paucity of large coarse woody debris and snags in SHNF and BCP. The FS must analyze, address, and evaluate the impact that BCP has on snags and coarse woody debris and the cumulative effects that past, present, and future foreseeable actions have had. The Proposed Action's effects on snags and coarse woody debris is described on pages 6 and 7 of the Vegetation Report. Snags and coarse woody debris loadings are constantly changing, as trees break off or die, and as decomposition takes place. Snags are generally more common in hardwood and riparian stands. Also, mortality and coarse woody debris loadings increase as succession proceeds (Van Lear 1993). In other words, as forest communities in the BCP area age, snags and coarse woody debris loadings will increase.

Pages 2-3, SPB Risk – The FS is demonizing an agent of change and ecological succession. The SPB is not a destructive pest but an important part of the natural functioning of the ecological process of disturbance. SPB allow the forest to succeed to a more hardwood dominated forest and also prepare areas for regeneration by remaining pine not killed by SPB. Instead the FS wants to use thin logging as the basis for killing pines so that it can commercially log the trees it thin logs. The SPB is Nature's thinning agent along with drought, windstorms, and natural competition for nutrients. The Plan directs the NFGT to use silvicultural strategies to reduce SPB hazard (p. 65). It also says the use thinning as the primary tool to maintain tree vigor and reduce SPB hazard in MA-2 (p. 119).

Page 3, Riparian Vegetation – Burning in riparian areas on purpose, like the FS does when it backburns, does not mimic Nature. If the FS wants fire to play its natural role in riparian areas then let lightning started fires burn where they will, whether in uplands, slopes, or riparian areas. According to the Plan, low intensity backing fires may be used in MA-4 (p. 155).

Page 3, ECS – The FS lists five landtype phases that occur in the BCP but then neglects to document how many acres of each landtype exists in the BCP, how it is dealing with restoration of these forest communities in the proper location, and where these acres of the five different landtype phases exist in the BCP. There should be a map that shows what stands are located in what landtype phases and how these landtype phases correspond to the vegetation that is currently growing in these stands. Further analysis of LTP locations is not relevant to the analysis and the purpose and need of the BCP. The BCP proposes thinning to reduce SPB hazard and prescribed burning to reduce wildfire risk. It does not propose any restoration. A description of the vegetation currently growing in the BCP area can be found on page 2 of the Vegetation Report.

Page 3, Old Growth – The HSC comments on FOG in this letter speak to the problems that we have with the way that the vegetation report treats old growth. The BCP does not address the need for FOG and assess, analyze, and evaluate how much should be left and where it should be left. The Vegetation Report treats old growth according to the Plan's directions. Field evaluations were conducted on all stands listed in CISC as 95 years old or older. These evaluations show that no stand in the BCP area currently meets the minimum age criteria for old growth. No old growth allocations are to be provided in MA-

2 (about 8,360 acres of the BCP). The Plan does designate MA-4 as potential old growth (about 290 acres of the BCP). Potential old growth is defined in Appendix I of the Plan as areas under consideration to be designated as old growth, future old growth, or restored old growth. The Vegetation Report discusses the effects of the two alternatives on old growth on pages 8 and 10. Vegetation management activities such as commercial thinning and prescribed fire maintain characteristics consistent with old growth.

Page 4, Cumulative Effects Area – The FS does not analyze, assess, and evaluate all cumulative impacts and the past, present, and future foreseeable actions that causes them in the BCP.

The vegetation report assesses the effects of the relevant past, present, and reasonably foreseeable future actions in the BCP. We disagree with the SC that a listing of all activities since the establishment of the SHNF is required to assess cumulative effects.

Page 5, Cumulative Effects Area – It is not impossible to predict future management actions on private land. By looking at the past 20-30 years the FS can determine the pattern of development and certainly predict what will happen in the near future. The report reads in its entirety: *It is impossible to predict future management actions on private land. The exception to this rule is industrial forest: Champion and International Paper owned some of the larger blocks of forested land. These blocks have since been sold (purchased by investment companies). Consulting foresters now manage the timber on these lands on a short, 30-40 year rotation (Gage, pers. comm.).* It is however, from a practical standpoint, impossible to predict how small, private non-industrial landowners will manage the vegetation on their properties in the future.

Page 5, Direct and Indirect Effects, Upland Forests – The FS does not reveal that often the number of species may remain the same in burned plots but that the location in the canopy can be entirely different. If hardwoods are killed or wounded they will remain in the shrub to understory layers and never serve the function that they would if allowed to grow into the canopy. This includes developing den trees, snags, coarse woody debris, and mast bearing stages. The effects of prescribed burning on vegetation are discussed at length on pages 5-6 of the Vegetation Report. This includes prescribed burning's effect on snags and coarse woody debris. Mast bearing hardwoods, such as oak, typically become more fire resilient as the bark thickens with age, and also tend to be more resistant to fire in the dormant season (FEIS 1996).

Pages 5-6, Direct and Indirect Effects, Upland Forests – The Journey article is an oversimplification and overbroad generalization of the fire regime that is in the SHNF. See the SC critique of this article. We disagree with the SC.

Page 6, Direct and Indirect Effects, Upland Forests – The HSC has never seen any northern red oak in SHNF. Comment noted.

Page 6, Direct and Indirect Effects, Upland Forests – When the FS says that trees will be top-killed but have the ability to sprout from the stump or roots the true meaning of this statement needs to be revealed. Usually when trees are top-killed and they sprout, these sprouts are part of a wounded stem which is less vigorous, will take a smaller place in the canopy, and will grow to be less nicely formed trees. This statement is untrue. White oak, for example, sprouts vigorously from the stump or root crown after the aboveground portions of the plant are damaged or killed. Sprouting depends on such factors as plant vigor, genetic composition, size, and fire severity and intensity. Damaged seedlings can often resprout many times and may ultimately grow beyond the fire-susceptible stage (FEIS 1996).

Page 6, Direct and Indirect Effects, Upland Forests – The reference FEIS, 2000 is used. There is no such reference in the list of references. What is this reference? It's an online reference. www.fs.fed.us/database/feis. See page 11 of the Vegetation Report.

Page 6, Direct and Indirect Effects, Upland Forests – The FS also needs to state that thin logging removes the ecological residuals of snags, coarse woody debris, and potential den trees. Page 7 of the Vegetation Report discusses the effects of thinning on snags and coarse woody debris.

Page 6, Direct and Indirect Effects, Upland Forests – The FS does not define “tree vigor.” Webster’s Dictionary defines vigor as “active, healthy well-balanced growth especially of plants.”

Page 7, Direct and Indirect Effects, Upland Forests – The FS needs to define what “some damage” means when talking about leave trees receiving damage during logging. Past logging should provide an estimate of how many leave trees/acre or some other measure, are damaged during logging.

When trees fall in the forest, they sometimes hit other trees, scarring boles and/or breaking limbs. Sometimes, equipment used in logging, such as mechanical shears, can bump residual trees, resulting in scarring. Damage varies, depending on the size of trees, amount of trees removed, and type of equipment used. Timber sale contracts always have clauses to protect the residual stand from damage.

Page 7, Direct and Indirect Effects, Upland Forests – Which tree species will be “emphasized” to be recruited into the snag population? The most numerous trees growing in BCP are loblolly pine; it is likely that this species will comprise the majority of the snag population, although other species common to the overstory, including various hardwoods, would not be precluded from becoming snags.

Page 7, Direct and Indirect Effects, Upland Forests – Note that the FS does not look at thin logging as causing tree mortality but applies this criteria to natural mortality if no thin logging is conducted. The FS is not using a fair analysis of tree mortality to compare the no action alternative and the BCP alternative. As explained in the Vegetation Report, the ID Team used FVS to compare the development of young pine forests between the Proposed Action and No Action. We assume that the comment refers to “thin logging” causing the mortality of the trees that would be cut. These trees would indeed die if removed. The report shows that competition-induced mortality is reduced by thinning. The trees that would otherwise die under no action would be harvested.

Page 9, No Action, Upland Forests – The FS does not state the acreage that is disturbed due to the natural disturbance causes that it lists. This information is needed to compare natural disturbance tree mortality to the tree mortality that thin logging creates. Natural occurrences, such as insect and disease outbreaks, wildfires, floods, tornadoes, and hurricanes could happen at any time in the future. For example, a three-acre wildfire recently occurred on the SHNF. A tornado blew down trees over an 80-acre area. In the 1980s, SPB killed pine trees on about 50 percent of the BCP area, and it’s only a matter of time before SPB populations increase to similar levels. If no one knows when the next natural disturbance is going to affect forest in the BCP area, how can we compare the mortality it could cause to logging mortality?

Page 10, ECS – The FS states that there is the possibility that Shortleaf Pine will cease to exist and that species extirpation may occur. No documentation is offered to show that this would in fact occur with the level of natural disturbance that currently exists within the BCP. Re-read the paragraph referred to on page 10 of the Vegetation Report. “SPB could kill pine trees in both mature and younger stands, and hardwoods could quickly dominate.” This already happened in the 1980s in the BCP area. Many areas that were once dominated by pine are now hardwood forest communities. “Lack of fire will help to increase fire intolerant species and fire dependent species such as shortleaf pine COULD cease to exist.” This has already happened in many places. Fire suppression and land clearing have greatly reduced the distribution of shortleaf pine (Williams 1997). In 2002, SPB killed all the shortleaf pine trees in the Daniel Boone National Forest in Kentucky (Oliveria pers. comm.). These are LONG-TERM EFFECTS, which means they could happen eventually, over the course of many (10-20 years or longer) years of choosing the No Action Alternative in the BCP.

Page 10, Cumulative Effects – The FS does not appear to be familiar with ecological succession as it occurs in SHNF. The FS suggests that without thin logging and prescribed fire there will be “over-mature forests” that will likely be destroyed by insects and disease and that the understory will become impenetrable. Our experience is that as the canopy closes the understory, in many cases, dies out or is sparse due to a lack of sunlight because of the dense shade, and the woods become more open and are easier to walk through. There is nothing wrong with Nature functioning through ecological succession. Succession includes the occurrence of natural disturbances, as described in the Vegetation Report, on pages 9-10. When trees die, this creates a gap in the canopy. While some neighboring trees’ crowns expand, young herbaceous and woody plant species take over the opening.

These areas in turn quickly become 10-20 foot jungles. Examples of these types of areas abound on the SHNF.

Soils and Hydrology Specialist Report

Page 2, Analysis Area – The report does not list domestic water sources. The HSC finds it difficult to believe that no water wells for domestic or agricultural use are found in the BCP. What document does the FS rely on for this assertion?

There are no water wells on National Forest in the BCP. There might be water wells on private however; the proposed activities on National Forest are not likely to have any effect on those private water wells.

Page 2, Analysis Area – We do not agree that the floodplain of Boswell Creek does not meet jurisdictional criteria for wetlands. What document does the FS rely on for this assertion?

The document was the Order II Soil Survey of the Sam Houston National Forest. This document shows there are no hydric soils (very poorly drained soils) in the BCP. The presence of hydric soils is a necessary criterion in order to have jurisdictional wetlands.

Page 4, Analysis Methods/Models – Why is 3.26% of the watershed inconsequential regarding impacts that could occur? What documentation does the FS have to substantiate this assertion?

The 3.26% figure is an error. The 521 acres of the project in the 39,408 acres Winters Bayou – Gourd Creek Watershed represents 1.32% of the watershed. Based on (1) this small percent and (2) the implementation of Plan standards and design criteria, the ID Team concluded that project activities would have minimally measurable impacts that would not affect the outcome of the cumulative effects analysis on 39,408 acres. There is no documentation of any effects modeling for this conclusion; this was the ID team's thought process when developing the analysis for the project.

Page 5, Analysis Methods/Models – The FS does not list all the past, present, and future foreseeable actions that will or have caused cumulative impacts in this report. The roads analysis report also does not do this so there is no way to determine, with the information the FS presents, what the soil and hydrology impacts of the BCP are.

This model's assumptions and analysis procedures is in the project file and available for public review. Impacts from the past, present, and foreseeable actions are determined to persist for two to three years based on the activity.

Page 5, Soils – The report does not provide actual quantitative monitoring data about erosion in the BCP. Instead it uses the universal soil loss equation which is not appropriate for the site-specific nature of the BCP.

No monitoring data exists that provides a measure of erosion in the BCP. The version of the modified universal soil loss equation used was modified from the original unified soil loss equation to include woodland data and silvicultural activities. This does provide a theoretical quantitative output for erosion.

Page 9, Soils – The category "Poor" is not listed and its definition given even though used in Table 1. This was an oversight. However poor is in the same category as "Severe and High". This omission has been corrected in the report.

Page 10, Soils – The report ignores the ECS which gives a narrative of what the historical forest looked like including fire frequencies. The document cited here is not appropriate for a site-specific study. The ECS is a site-specific study and is appropriate to use. Since the FS has not documented on a map where and how many acres each landtype phase has, this report is inaccurate in its ability to determine fire frequency for the BCP and no action alternatives' impacts on soil due to fire.

The document used to determine all interpretations and assessment was the Order II Soil Resource Inventory (SRI) for the Sam Houston National Forest developed by the Natural Resource Conservation Service (NRCS). This is a site-specific document developed using National Cooperative Standards for conducting a soil resource inventory. The Order II SRI addresses all items cited in developing the ECS Land Type Phases (LTP) except ground level and shrub species. In some cases the Order II SRI is more site

specific than the LTP since interpretations are specific for a particular soil series; whereas the LTP is developed based on criteria which can apply to a number of soil series.

Although the LTPs weren't mapped, there is a direct correlation between LTPs and the Order II SRI. All LTPs can fit within an Order II SRI Map Unit. The Order II SRI is on a GIS layer available at the Supervisor's Office or the Sam Houston Ranger's Office.

Since the document is based on the Order II SRI, we feel it is appropriate to use to determine fire frequency. The 1996 Revised Forest Plan states our burning frequency will be from a 2 to 5 year interval. Based on the predominant soils series (Huntburg and Depcor) within the Boswell Creek Watershed, Soil Scientist Rodney Peters determined that the predominant LTP is "Shortleaf Pine- Black Jack Oak/*Schizachyrium* Sandy Arenic Dry Uplands." The average fire return interval for this LTP (in the ECS) is 3 to 5 years which falls within the guidance of the 1996 Forest Plan. Impacts to soils were determined by using interpretative data developed by the NRCS; the ECS does not address soil impacts.

Page 10, Soils – This report is misnamed. There is no hydrological data included in this report. For instance, there is no analysis of the stream channels, past, present, and future. There is no analysis about sediment scouring in stream channels. There is no analysis about actual data from the site regarding actual erosion that is occurring. There is no analysis of stream morphology and how it has changes over the years and will change with the BCP.

The hydrologic cycle is a continuum of the transfer of water from precipitation to surface water and ground water storage and runoff, and to the eventual return to the atmosphere by transpiration and evaporation. In a stream environment, the water carries pollutants away, which may contaminate areas downstream, yet offers more dilution.

Stream courses within the BCP are common for the East Texas region. Characteristics include meandering intermittent streams, and relatively flat grades that are stable with actively eroding banks. Some intermittent and ephemeral tributaries of the main streams shows successional head cutting of the stream channel. This condition is believed to have been initiated when the area was cut-over in the 1930's. The watershed has an extensive road network and thousands of acres of non-woodlands which has a higher run-off rate than areas with a mature stands of timer. The successional head cutting will continue until the channel reaches the natural angle of repose.

Pages 11-12, Road Effects on Hydrology – This report purports to use the roads analysis report to help assess how roads have affected hydrology. But the report then does not do what it says it will. Instead it uses the mitigation that the roads analysis report says is needed as the cure all for any problems roads have had on hydrology. There is no hydrological report that states how much erosion is occurring from roads, what this is doing to the stream banks, channel bed, and channel banks, and how the channel morphology is responding to the road impacts. This is a report without the data to reach its conclusions.

The hydrological condition of the watershed is documented in the files by field notes and photographs. The quantifications of the erosion is built into the model for cumulative effects which is based on representative field samples of similar roads and measured in tons of sediment.

Pages 14-17, Cumulative Effects Model – The FS does not state all the past, present, and future foreseeable actions that occurred in BCP that were modeled. The FS does not fully define assumptions, the basis for those assumptions, and provide a clear explanation of how the model works. Instead of site-specific information derived from monitoring in the BCP, the FS uses "predicted sediment yields" that are not site-specific to the area. The model apparently does not take into account stream scour and its impacts due to erosion.

The past, present, and future foreseeable actions are identified in the model. The assumptions and basis for the assumptions are documented in my notes to implement the model. The reason a model is used is it is the most cost effective analysis tool.

Page 1, Effects Analysis Considerations – The FS does not consider in this analysis all of the past, present, and future foreseeable actions and their cumulative impacts. Please see the cumulative impacts section of this letter for some of the cumulative impacts that should be included in the analysis considering the BCP and its impacts on wildlife.

The wildlife report considers the relevant past, present, and reasonably foreseeable future activities that affect the wildlife resources in the BCP. The ID Team considered all the information in the FS files that the SC references in its comments. Not all of the activities the SC lists have a bearing on cumulative effects.

Page 1, Effects Analysis Considerations – The FS does not call this document a Biological Evaluation (BE). In the past, for other projects, this document has been the BE. If this document is the BE it must be stated and a final document should be available for the public to review and comment on.

The “wildlife report” is supporting documentation to the EA that evaluates the potential effects of the proposed action and alternative(s) on wildlife. Similar projects incorporate a “wildlife section” into the EA. A “BE” is a document prepared for determining potential effects of agency actions for the “selected alternative,” and includes “determinations of effect,” on Protected, Endangered, Threatened, and Sensitive species (PETS).

Page 1, RCW – It is important to note that the ideal habitat for the RCW did not occur everywhere. It is also important to note that ideal habitat was not the only habitat that the RCW lived in. Finally, it is important to note that open, fire maintained pine stands with forbs or grass are not necessarily the type of habitat that dominated SHNF and the BCP historically.

This project is consistent with *Plan* objectives for managing habitat in MA-2 on the SHNF. “*This management area is managed for the maintenance of habitat components favorable to the RCW*” (Plan MA2). “Ideal habitat,” is simply referring to the most favorable habitat components that would support this species. As determined from extensive studies of the habitat requirements of this species, these habitat components are open, fire-maintained pine stands with a herbaceous understory. Your comment regarding the habitat that historically dominated the SHNF and “BCP” is noted, but we disagree.

Page 2, RCW – Frequent fires do not maintain most Loblolly Pine Ecosystems and some Shortleaf Pine Ecosystems. Please refer to the ECS which estimates a 10-20 year fire frequency for most Loblolly Pine landtype phases and a 5-10 year fire frequency for some Shortleaf Pine landtype phases. The FS has yet to document where the different landtype phases occurred in the BCP so that the specific compartments and stands where those forest ecosystems used to exist would be known to the public.

This project is consistent with *Plan* objectives for the management of RCW habitat in MA-2.

Page 2, No Action (plus several other references) – The FS states that the No Action alternative would increase the susceptibility of stand replacing wildfire or SPB infestation. As mentioned previously in this letter the likelihood for stand replacing fire is not great. If the forest is allowed to grow more naturally and lightning started fires are allowed to burn then the likelihood of SPB will be reduced over time.

Your comment is noted, but we disagree.

Page 2, No Action, Direct and Indirect Effects and page 18, Eastern Wild Turkey, No Action, Direct and Indirect Effects – The inhibition of grass due to shade is a natural succession trend in most Loblolly Pine landtype phases. This same shade will reduce woody understory and create open areas in many instances and not make the forest less open.

We agree that a closed canopy would shade the forest floor and reduce woody understory. However, with a closed canopy, open forest conditions would not occur as stand density would be high.

Page 3, Proposed Action, Cumulative Effects – The FS neglects to mention the cumulative impacts of logging many large, old (some in excess of 100 years old), pine trees that the RCW needs for foraging habitat and cavities.

This project incorporates *Plan* standards and guidelines that protect trees suitable for future nesting habitat (MA-2-80-4.3). The availability of large pines suitable for foraging and cavity excavation is only one component of the habitat requirements of this species. Stands with large, old pines may be unsuitable for

this species if basal areas are high. Lowering basal areas through thinning would improve their suitability and make them more likely to persist in the future as they would be less susceptible to wildfire and SPB infestation. As younger pine stands continue to mature, potential RCW habitat would become available.

Page 4, Cumulative Impacts – The FS ignores the increased residential development that is occurring in the BCP and that is projected for the future.

Adjacent private lands, regardless of use, are unsuitable for the RCW. Development of these lands for residential purposes would not result in the loss of RCW habitat. Therefore, increased residential development was not considered an issue.

Page 4, Houston Toad – There is no indication that monitoring has been conducted for this species as required by the NFMA.

The need to conduct site-specific inventories of PETS species for this project was assessed using direction in Forest Service Manual Supplement R8-2600-2002-2. A site-specific inventory of the Houston toad was not conducted because this species is unlikely to occur in the project area since habitat is not present and the project area is outside of the species' range.

Page 4, American Burying Beetle – There is no indication that monitoring has been conducted for this species as required by the NFMA.

The need to conduct site-specific inventories of PETS species for this project was assessed using direction in Forest Service Manual Supplement R8-2600-2002-2. A site-specific inventory of the American burying beetle was not conducted because the project area is outside of the species' range.

Page 6-7, Rafinesque's Big-eared Bat and Southeastern Myotis – There is no indication that monitoring has been conducted for this species as required by the NFMA.

The need to conduct site-specific inventories of PETS species for this project was assessed using direction in Forest Service Manual Supplement R8-2600-2002-2. A site-specific inventory of these species would not provide information that would improve project design or allow for a better assessment of effects to the viability of their populations. Monitoring is conducted at the forest level.

Page 7, Rafinesque's Big-eared Bat and Southeastern Myotis, Proposed Action, Direct and Indirect Effects – The FS contradicts itself. Here it says that the two bat species prefer bottomland habitats where thin logging would not occur and prescribed fire would burn supposedly at a low intensity. But under Background, it says "Prefers bottomland floodplain forests, lower slope hardwood-pinelands, flatland hardwoods, and upper slope pine-oak woodlands." The lower slope hardwood-pinelands and upper slope pine-oak woodlands are the habitats that the FS proposes logging and burning. So there will be impacts in habitat that is favored by these two bat species.

The above statement "lower slope hardwood-pinelands and upper slope pine-oak woodlands" was expressed for the southeastern myotis and not for the Rafinesque's big-eared bat. These habitats are among the types that this species prefers. We do not disagree that there would be impacts to bats, which is evident in the wildlife report which states that "the proposed action may displace or harm individuals." Although these bats utilize upland sites, the wildlife report states that "snags are more frequent in lowlands and riparian zones than on upland sites," and that "roosting habitat for these species is primarily located within low-lying areas of Streamside Management Zones (SMZ's), in which thinning would not occur and tend not to carry fire well." The wildlife report also states that a "net reduction in the number of snags in upland sites" would occur, but that "this habitat component would still exist in uplands and continue to provide bat habitat."

Pages 8-9, Texas Emerald Dragonfly – There is no indication that monitoring has been conducted for this species as required by the NFMA.

The need to conduct site-specific inventories of PETS species for this project was assessed using direction in Forest Service Manual Supplement R8-2600-2002-2. A site-specific inventory of the Texas emerald dragonfly would not provide information that would improve project design or allow for a better assessment of effects to the viability of their populations.

Page 9, Texas Emerald Dragonfly, Proposed Action, Direct and Indirect Effects – The FS does not assess the impact of erosion, due to road building, into the stream habitats that the larvae of the species uses. There will be direct effects on this species due to this sedimentation of the water. The FS simply states that management procedures will protect the aquatic habitat which is in contradiction to the aquatics report which states that there are unmitigated impacts due to forest activities and sedimentation.

Impacts to the larvae of this species from sedimentation would occur as an “indirect” effect. Under the Cumulative Effects section of the wildlife report, roads are identified as currently a major contributor of silt to creeks within the project area. The repair of roads would result in reduced sediment delivery to streams, improving larval habitat in the long-term.

The aquatics report does not state that there are “unmitigated impacts due to forest activities and sedimentation.” The aquatics report lists *Plan* standards and guidelines and Forest Service Manual (FSM) regulations that are followed in order to protect aquatic species or habitats. The aquatics report also refers to “active erosion” that would continue to occur under the no action alternative, while “reactivating roads could result in proper upgrades and repairs to failing crossing structures and drainage regimes.”

Page 11, Texas Bartonia – There is no indication that monitoring has been conducted for this species as required by the NFMA. There is at least one forested seep that the HSC is aware of in the BCP. (See comment 13 on the EA above)

The need to conduct site-specific inventories of PETS species for this project was assessed using direction in Forest Service Manual Supplement R8-2600-2002-2. A site-specific inventory of the species would not provide information that would improve project design or allow for a better assessment of effects to the viability of their populations. Habitat with the characteristics of a forested seep was not observed. See response to this same comment in the “Botanical Survey” section above.

Page 14, Three species of crayfish, Proposed Action, Direct and Indirect Effects – Reconstructing roads will cause siltation so this will impact crayfish. The FS does not tell how much sedimentation will occur from reconstructed roads. The FS does not state what it means by the phrase “short-term” when talking about negative impacts. The FS is not correct when it states there are “small portions of streams occurring within the project area that begin outside federal property boundaries and therefore private land management is unlikely to affect these aquatic habitats.” Future subdivision or single family development (more recent examples in the area are Forest Glen Cove, the Karolyi camp, and the development that has occurred at the corner of FM 2296 and Highway 75) can heavily impact streams. The FS ignores the impacts that grazing has with coliform and organic material and that logging has from outside the boundary of SHNF. There is no indication that monitoring has been conducted for this species as required by the NFMA. There also is no indication that soil and water quality monitoring has been conducted as required by the NFMA.

The amount of sedimentation generated from road, stream channel, or culvert restoration may vary considerably, and is therefore difficult to predict.

The use of the phrase “short-term,” is intended to indicate impacts that occur over a short period of time, in which the duration would vary depending on the action and species involved.

The statement “small portions of streams beginning outside federal property boundaries,” is intended to compare the length of the upstream portions of these streams, relative to the portions that occur on national forest land.

The proposed project is unlikely to impact aquatic habitats that are affected by the development at the “corner of FM 2296 and Highway 75,” as these habitats occur in the adjacent Winter Bayou – Gourd Creek watershed.

Grazing is not an issue as streams within the project area primarily occur on national forest land. Those portions of streams that begin outside federal property boundaries (Pea creek for example) occur primarily on industrial forest land.

Timber harvest outside national forest land is addressed. The wildlife report states that “Timber harvest ...on private lands may reduce, degrade, or cause fragmentation of suitable aquatic habitat.”

The need to conduct site-specific inventories of PETS species for this project was assessed using direction in Forest Service Manual Supplement R8-2600-2002-2. A site-specific inventory of these crayfish would not provide information that would improve project design or allow for a better assessment of effects to the viability of their populations.

Soil and water quality monitoring are accomplished through forest-wide efforts rather than on a project-by-project basis.

Page 17, White-tailed Deer, Proposed Action, Direct and Indirect Effects – The FS does not address the impacts that fire has had on seedling, sapling, and smaller hardwoods. These life stages are important for deer also and their death or wounding will make it difficult to replace mature trees with younger trees as time goes by. What will the FS do to promote the replacement of the mature hardwood trees it wants to live and provide mast? This is an impact that must be addressed and mitigated.

Hardwoods used by this species would continue to exist in SMZ's. The wildlife report states that “prescribed burning would not likely harm mature, mast producing hardwoods or young hardwoods in or near streambanks or bottomlands, primarily due to relatively low fire intensity in these areas.” A general reduction in the variety of hardwoods in upland sites to more fire-adapted hardwood species, such as post oak, is expected. This project is consistent with *Plan* objectives for management in MA-2.

Pages 17-18, Eastern Wild Turkey – It does not sound as if the turkey population are doing that well yet a hunting season is allowed. The FS does not discuss that where there are roads, where traffic or humans on foot can travel, that turkey can be and are poached easily. What will be done to reduce poaching?

As indicated in the wildlife report, “populations of this species are expected to persist throughout the National Forests in Texas.” Population declines reflect what the habitat will support in the absence of additional transplanted birds. The authority to set a hunting season for eastern wild turkey is determined by the Texas Parks and Wildlife Department. This project would not incorporate new roads, and access to the area would not change after completion of the project.

Page 19, Eastern Wild Turkey, No Action, Direct and Indirect Effects – The FS must estimate how many nests will be damaged or destroyed due to burning and thin logging so that some type of quantitative impact assessment can be calculated. Mitigation is needed to reduce this damage especially since the population has been dropping for the past several years as verified by the FS on page 18, “Surveys indicate that once the stocking ceased, the population decreased.”

This argument is based on the assumption that eastern wild turkey populations are threatened by thinning and prescribed fire. These management practices are more beneficial to the reproductive success of this species than if they were excluded. Thinning and prescribed fire offer the greatest potential for improving or maintaining suitable nesting and brood habitat for this species.

As indicated in the wildlife report, a decrease was expected as the “population began to reflect a population level based on survival of existing adults and reproductive success, in the absence of additional transplanted birds.”

Page 21, Yellow-breasted Chat, Proposed Action, Direct and Indirect Effects – The FS states that losses of nests to fire will be minimal because less burning will be done. But the EA states that more growing season burning will be conducted.

The EA states that “dormant season and growing season burning would be used to reduce fuels,” but does not emphasize more growing season burning. Prescribed burns conducted during the growing season would include only portions of the project area and would not occur at the same location in consecutive years.

Page 21, Pileated Woodpecker, Background – 20-50 year old trees are not “older stands” depending on the species of tree referred to. The FS does not indicate whether any of the data on Pileated

Woodpeckers is from SHNF. Where is the monitoring required by the NFMA for the SHNF population of Pileated Woodpeckers?

Figure 10 is not intended to depict old stands. The figures on Page 21 are presented simply to demonstrate that trends indicate that pileated woodpecker abundance is declining in 0-20 year old stands when compared to 20-50 year old stands. Data on this species was obtained from the *2000-2001 Monitoring and Evaluation Report, National Forests and Grasslands in Texas*, which utilizes forest records and annual bird point data. This report provides population status information for MIS species on all the National Forests in Texas, including the Sam Houston National Forest.

Pages 22-24, Stonefly Guild – There is no indication that monitoring has been conducted for this species as required by the NFMA.

The stonefly guild is not an individual species. Rather, the stonefly guild refers to a variety of macroinvertebrates as a group. National Forest Management Act regulations require that “[p]opulation trends of the management indicator species will be monitored and relationships to habitat changes determined” (36 CFR 219.19(a)(6)). The purpose of this regulation is to require monitoring of the programmatic effects of implementing Forest Plans. Therefore, for most MIS, population monitoring and evaluation is accomplished through forest-wide efforts rather than on a project-by project basis.

Page 23, Stonefly Guild, No Action, Direct and Indirect Effects – The FS talks about excellent water quality but provides no quantitative data to indicate that water quality samples have been taken. The data should be in this document and the EA so the public can review and comment on it.

No water samples were taken. As stated in the report, the types of macroinvertebrates found during sampling are indicators of water quality.

Boswell Creek Watershed Roads Analysis Report

Page 5, Scope – The acreage area of 15,155 acres is almost twice as great as the 8,000 acres that the BCP will cover. The scope is not specific enough.

Roads that will be used to facilitate project implementation include roads that are not in the project area and not entirely on National Forest. The total acres encompassed by the watershed is 15,155 acres. The roads analysis has been completed according to the direction in FSM 7710.

Page 7, Existing Road System Conditions – define “primitive roads.”

Page 7 of the Roads Analysis states “Local roads exist in a variety of conditions ranging from recently constructed roads to primitive roads.” Primitive, therefore, refers to road condition. The statement refers to the range of roads that exist on National Forest in terms of their condition and when they were constructed. In this context, primitive refers to an old woods road that was not built to our current standards and is not regularly maintained.

Page 8, Existing Road System Conditions – The roads that are no longer needed should be obliterated and not just decommissioned. Our experience with decommissioned FS roads is that they are used by ORVs because they never really become closed. In fact they are kept open by the FS who keeps entering the decommissioned roads for SPB, fire, and other uses. Therefore the roads never really disappear from the system.

Decommissioning involves restoring roads to a more natural state. Activities used to decommission a road include, but are not limited to, the following: reestablishing former drainage patterns, stabilizing slopes, restoring vegetation, blocking the entrance to the road, installing water bars, removing culverts, reestablishing drainage-ways, removing unstable fills, pulling back road shoulders, scattering slash on the roadbed, completely eliminating the road bed by restoring natural contours and slopes, or other methods designed to meet the specific conditions associated with the unneeded road. Decommissioning is consistent with FS policy on roads management.

Page 10, Existing Road System Conditions – This roads analysis is deficient because it never states what the road density is per square mile of forest. Without this density figure it is difficult to

determine fragmentation, ecological, and wildlife impact. What does 1300 maximum skid distance equate to in a road density per square mile?

Road density information is useful but difficult to interpret. Physical characteristics of roads vary. Some effects are associated with road use rather than the mere presence or physical characteristics of a road.

Standard MA-2-13 of the plan says: "Develop a total road density including temporary roads, for timber sales, using a maximum skid distance of 1300 ft." A maximum skid distance of 1300 feet converts to a road density of at least 3 miles per square mile. Any road density less than 3 miles per square mile would exceed the maximum skid distance of 1300 feet. Road densities for the Boswell Creek Watershed for roads on National Forest are as follows:

Maintenance Level 1-5 roads	2.98 miles per square mile
Unclassified Roads Added to System	0.58 miles per square mile
County Roads	0.39 miles per square mile
Total	3.95 miles per square mile

Page 13, Desired Road System Conditions – The FS fails to provide important information about the desired road system. What are the current costs? What will the proposed costs be? What are the projected future costs?

Current road costs are road maintenance costs. Road maintenance costs in the Boswell Creek Watershed were \$8700.00 for the year. Projected road reconstruction costs will be \$6000.00 to \$10,000.00 per mile depending on the amount of surfacing. Post project implementation, future road costs should be for road maintenance. Those projected costs should be approximately \$8500.00 - \$9500.00 per year.

Page 18, TW1 – The FS does not mention that when there are too many roads this leads to more poaching of Eastern Wild Turkey and to more road kill.

There is no new road construction planned for the area. The potential for poaching and road kill will be the same as it is now if the project is not implemented. If the project is implemented, there are 16.43 miles of unclassified roads in the project area. All are existing two track woods roads. 7.80 miles of these roads will be decommissioned. If there is a potential for poaching and road kill merely by the existence of a road then poaching and road kill will decrease by implementing the project.

Page 19, SI (6/7) – The HSC is opposed to privatizing Bela Karolyi Gymnastics Camp’s impacts by using public funds to pave this road and turn FR 246 and FR 206 over to Walker County or designate it as a farm-to-market (FM) road. This action has cumulative impacts that must be documented in the EA. What development impacts will this have? How will this affect the bottomland hardwoods that exist in the floodplain of Boswell and Briar Creeks if road widening occurs? How will the faster runoff of water from a paved surface affect the morphologies of both creeks?

The commenter has misinterpreted the recommendations of the Roads Analysis, which looks at the watershed’s road system needs, with the project’s proposed actions for roads. The Roads Analysis is independent of the BCP project. Only specific recommendations in the Roads Analysis were included in the BCP (these are noted in the design criteria). Other recommendations were not carried forward into the BCP as they were not within the scope of the project.

The Roads Analysis recommends transferring jurisdiction of Rd. 246 and the section of Rd. 206 from the Three Notch Rd to the intersection of Rd. 206 and Rd 246 to Walker County. Walker County is already the primary maintainer on 246 and the section of 206. Jurisdiction denotes the legal right to control use of a transportation facility. Jurisdiction requires authority but not necessarily ownership. The authority to construct or maintain a road may be derived from a fee, title, an easement, an agreement or some other similar method. Through an agreement, Walker County is already maintaining the roads in question. Transferring jurisdiction would be giving Walker County the legal right to regulate control and use of those roads. Road agreements would remain in place that give the Forest Service opportunities to provide construction or maintenance activities as they require.

Road 200 is a potential Public Forest Service Road (PFSR). A PFSR is a designated public road under Forest Service Jurisdiction that meets the definition of 23 U.S.C. Section 101. To become a designated

PFSR, the Forest Service must coordinate with State and local road agencies before designation can be requested.

The Roads Analysis recommends, on page 19, to begin efforts to transfer Rd. 200 to State or County for possible upgrade to Farm to Market or paved County Road. The analysis recommends, as a medium priority on page 25, road 200 be considered for transfer to the State for potential Farm to Market construction. There will be a need to address your concerns at the time designation as a PFSR is requested and the State or County actually accepts the road.

National Forest Management Act Consistency

The FS does not comply with the NFMA and in particular its inventorying and monitoring requirements. The SC comments list several sections of NFMA and the FS implementing regulations that it says the project does not comply with: NFMA Sections 6(f)(3), 6(g)(2)(B), 6(g)(3)(B), 6(g)(2)(C), 6(g)(3)(F)(ii); and FS regulations at 36 CFR 219.4(a)(1), 219.5, 219.7(f), 219.9(a)(6), 219.11(d), 219.12(d), 219.19(a)(2), 219.19(a)(6), and 219.26.

The HSC believes that insufficient monitoring and inventory has been conducted for the project and that the Plan’s monitoring and evaluation questions have not been applied to the SHNF and BCP, in violation of the NFMA.

The FS disagrees with the Sierra Club’s interpretations of monitoring required during project level planning. Forest Plan monitoring has been conducted on the NFGT and is referenced as appropriate in the specialist reports.

Proposed Finding of No Significant Impact

Page 1, Context – The LSHT is not protected and neither is the scenery along the trail. The FS will log right over the trail and leave the trees and scenery wounded for many years. The FS ignores the need for a 150 foot no management zone on both sides of the LSHT. The backfiring into streamside zones and burning in hardwood stands will consume more biomass and cause measurable impacts on vegetation in areas that should rarely get fire.

The effects on the LSHT are considered in the scenery management specialist report. The effects of fire in SMZs and hardwood stands are also considered in the vegetation specialist report. These reports support the finding of no significant impact.

Page 1, Intensity, 1 – The HSC letter outlines many significant impacts, including type conversion, the failure to properly monitor according to NFMA, loss of hardwoods along with their food and shelter benefits, and degradation of hardwood and streamside zones by burning where fire rarely would occur.

The FS disagrees with the Sierra Club’s interpretations of the project’s effects and with NFMA compliance. The specialist reports and EA include sufficient analysis and disclosure of effects to support the finding of no significant impact.

Page 1, Intensity, 2 – The FS does not assist local residents to reduce wildfire risk because it does not focus on providing them help for their structures. In addition, the FS well knows that fire risk is relatively low as shown by the number of fires and the acres burned over the past five years.

The proposed action for this project does not consider this activity because such assistance already is available to local residents through State of Texas programs.

Page 2, Intensity, 3 – The FS does not protect streamside zones and hardwood areas from burning and does nothing to set aside future old growth areas.

The project implements measures to limit fire effects in streamside zones and hardwood-dominated areas. The FS and the Sierra Club disagree on the effects described in the specialist reports and the EA.

Page 2, Intensity, 4 and 6 – There is in fact substantial scientific controversy because the FS refuses to use the best, most sound, scientific studies that are site specific, like the ECS, to guide it in restoring the BCP. The best science has not been used.

The proposal is consistent with the ECS. The FS and the Sierra Club disagree on their interpretation of the ECS and its application on the SHNF.

Page 2, Intensity, 5 – The EA does not use the best fire data and ignores any data that suggests that the burning proposed is too frequent for the landtype phases that occur in the BCP.

The FS has used the best peer-reviewed science available and the Plan's standards and guidelines in proposing and assessing the use of prescribed fire at the Plan's return interval. The FS has not ignored relevant peer-reviewed fire data.

Page 2, Intensity, 6 – The BCP does create a precedence since it allows the burning of over 8,000 acres and the logging of over 4,000 acres with no environmental impact statement. The FS is trying to take a “major federal action significantly affecting the quality of the human environment” and hide the severe impacts it will have.

None of the project activities would be precedent-setting. All of the actions have been routinely accomplished on the forest for decades. The Forest Service completed an EA to assess the effects and determine whether any would significantly affect the human environment, which would trigger the preparation of an Environmental Impact Statement.

Page 2, Intensity, 7 – The FS completely ignores most of the cumulative impacts due to past, present, and future foreseeable actions.

The EA and specialist reports consider the cumulative effects of the relevant past, present, and reasonably foreseeable future actions.

Page 2, Intensity, 10 – The FS is not in compliance with the NEPA and CEQ regulations which implement NEPA.

We disagree. The FS complied with NEPA, the CEQ regulations implementing the Act, the FS direction on NEPA, and the CEQ guidance memo on preparation of the pilot EAs.

9 - Clifford R. Rushing – Mr. Rushing commented on several specific areas related to the process used on the Boswell Creek Watershed Project as well as on the EA and supporting documentation provided to the public. The response included substantive comments. The following summarizes these comments. Where they are identical to the Brandt Mannchen Sierra Club comments the reader is referred to the appropriate response to the Sierra Club:

General Comments

Allegedly deficient cumulative impacts analyses in the EA that do not comply with CEQ guidance and NEPA implementing regulations. Mr. Rushing states that many activities have occurred in the BCW have not been referenced in the EA.

We believe that the cumulative effects analysis documented in the specialist reports and referenced in the EA and proposed FONSI consider the relevant present, reasonably foreseeable, and relevant past actions. The FS reviewed the same documents that the SC references in their comments. Those past activities that the FS determined had the potential to contribute to possible cumulative effects (based on spatial and temporal factors) were considered in the analysis.

Allegedly inadequate analysis of old growth as required by the Plan – the Sierra Club says the FS ignores its responsibility to find, designate, and protect future old growth as provided by Appendix I of the Plan and Forestwide standard FW-021.

The FS completed old growth evaluations as directed by the Plan's standard FW-021. The FS considered the stands that met the criteria for evaluation and found none met the criteria for old-growth designation as described in Plan Appendix I, Supplement #1, 6/99.

One stand in Compartment 75 (std 15) appears to have an incorrect forest type in FS records – Forest Service records indicate that this stand is a mixed pine-hardwood stand, where pine comprises between 50 and 70 percent of the overstory. Mr. Rushing believes that this stand should be typed as a hardwood-pine stand, where pines make up less than 50% of the overstory.

No data exists on which to base a change in forest type at this time. Management of this stand, including the use of prescribed fire, will be guided by the Plan's direction. According to the Plan, prescribed fire is appropriate for this stand.

Use of the Best Sound Science – Mr. Rushing contends that the EA does not comply with NEPA requirements at 40 CFR 1500.1 that the “information must be of high quality.”

The FS stands by its description of the project's purpose and need. We also believe that we used the best information available in the effects analyses documented in the specialist reports and referenced in the EA and complied with the CEQ guidance for pilot projects.

Specific Comments on Individual Issues –

1) EA page 1, Introduction, paragraph 2 – Proposed frequent fires are in contradiction with the ECS and the historical forest of the SHNF.

See response to Brandt Mannchen Specific Comments on the EA #1.

2) EA page 1, Need for proposal – Public input demonstrates public opposition to the BCP.

See response to Brandt Mannchen Specific Comments on the EA # 2.

3) EA page 1, Need for proposal – No data is presented that indicates there is a threat of catastrophic wildfires. Recent fires have been small and limited. The FS does not provide information about the number of acres the ECS designates for each landtype. Without this, an ECS fire frequency can not be assigned and the impacts of changing the fire frequency can not be evaluated in the EA.

See response to Brandt Mannchen Specific Comments on the EA #3.

4) EA pages 2-3, Existing and Desired Conditions –based on the information in the ECS, fuel model 2 is inappropriate for most of the BCP.

See response to Brandt Mannchen Specific Comments on the EA #4.

5) EA page 5, No Action –The FS does not mention that with no action, forest would become more hardwood dominated, trees would grow larger, and eventually less flammable. The best way to protect property and communities is to establish Community Protection Zones.

See response to Brandt Mannchen Specific Comments on the EA #5.

6) EA page 5, Proposed Action second paragraph – The FS does not say what key ecosystem characteristics will be lost. The FS does not specify the historical fire return frequencies or intervals. The public can not comment unless the information this action is based on is provided.

See response to Brandt Mannchen Specific Comments on the EA #6.

7) EA page 5, Proposed Action third paragraph – The FS does not discuss that SPB are a natural agent of change or disturbance that promotes forest ecosystem evolution or health. The frequency and magnitude of SPB outbreaks are significantly greater today under FS management. The public can not comment unless the information this action is based on is provided.

See response to Brandt Mannchen Specific Comments on the EA #7.

8) EA page 6, Prescribed Burning – The FS does not tell the public the nature of backfiring. By consuming more forest floor fuels backing fires can cause change in areas that did not experience fire frequently. The full extent of impacts of backing fires is not documented.

See response to Brandt Mannchen Specific Comments on the EA #8.

9) EA page 6, Prescribed Burning – The FS does not state how many miles of existing fireline are in the BCP. The FS ignores the impacts of bulldozing firelines. The cumulative effects of all the miles of firelines is not given.

See response to Brandt Mannchen Specific Comments on the EA #9.

10) EA page 7, Design Criteria – The FS allows a huge loophole when it states that “No equipment will be allowed in the zone unless approved by the Forest Service.” No indication is given whether such entry will be allowed in the BCP. No cumulative impacts assessment is given concerning effects on ephemeral streams.

See response to Brandt Mannchen Specific Comments on the EA #10.

11) EA page 7, Design Criteria – The FS does not tell what the total number of road miles is in the BCP, the types of roads, impacts, density.

See response to Brandt Mannchen Specific Comments on the EA #11.

12) EA pages 8-10, Other Alternatives – The FS ignores the use of technical assistance programs and grants as an alternative way to reduce catastrophic wildfire risk to structures and people. The best way to protect property and communities is to establish Community Protection Zones. The FS example of denser forest canopies experiment is in another state with a species of trees that is not native to Texas.

See response to Brandt Mannchen Specific Comments on the EA #12.

13) EA page 10-11, Water Resources, Wetlands/Floodplains – The FS does not document any jurisdictional wetlands in the BCP.

See response to Brandt Mannchen Specific Comments on the EA #13.

14) EA pages 11-12, Soils – The FS also does not provide data on any erosion monitoring.

See response to Brandt Mannchen Specific Comments on the EA #14.

15) EA page 12, Vegetation – The FS states that there will be no fragmentation. There will be changes in the canopy in 5,000 acres of forest, many miles of fireline, many roads reopened, and log landings created.

See response to Brandt Mannchen Specific Comments on the EA #15.

16) EA page 12, Fuels and Fire Behavior – Fuel Model 2 is not natural to many parts of the BCP. The BCP creates an unnatural fire regime and vegetation structure.

See response to Brandt Mannchen Specific Comments on the EA #16.

17) EA page 13, Southern Pine Beetle Hazard – the cumulative impacts are not qualified or presented.

See response to Brandt Mannchen Specific Comments on the EA #17.

18) EA page 14, Sensitive Species – The FS has conducted no monitoring of Rafinesque’s Big-eared bat, Southeastern Myotis, and Texas Emerald Dragonfly as required by the NFMA.

See response to Brandt Mannchen Specific Comments on the EA #18.

19) EA page 15, Sensitive Aquatic Species – Backing fires kill riparian vegetation and modify streamside ecosystems. The cumulative impacts on streams must be revealed in the EA.

See response to Brandt Mannchen Specific Comments on the EA #19.

20) EA page 16, Management Indicator Species –The FS often reduces the density, structural location, and type of forest vegetation in riparian areas due to fires. There is no actual monitoring information.

See response to Brandt Mannchen Specific Comments on the EA #20.

Comments Specific to Specialist Reports and Supporting Documentation

Botanical Survey of the Four Notch Area

Only two days were spent on this survey covering an area of over 8,000 acres. There is a spring fed seepage which is a potential habitat for sensitive species. A survey in March will not find all sensitive plant species because not all plants leaf out in March.

See the response to the Sierra Club comment.

Appendix C – Vegetation Report, Forest Vegetation Simulator

This document does not look at thinning of large, old, mature, pine trees.

See the response to the Sierra Club comment.

Projected Reductions in SPB Activity from Thinning in the Boswell Creek Watershed Project

The document does not mention that the very large, old, mature pine trees that will be logged are needed by the RCW, grew naturally in very dense stands historically, and additional growth of hardwoods reduces SPB hazard.

See the response to the Sierra Club comment.

Air Quality Considerations for Prescribed Burning Options, Boswell Creek HFI Pilot Project

Page 1, Management Situation – The figures used do not match the EA.

See the response to the Sierra Club comment.

Page 1, Management Situation –The sensitive sites are not listed.

See the response to the Sierra Club comment.

Page 2, Issues – The loss of snags and downed wood is an irreversible impact.

See the response to the Sierra Club comment.

Page 2, Affected Environment – There is an air pollution problem that has not been addressed, toxic air pollutants contained in smoke.

See the response to the Sierra Club comment.

Page 2, Affected Environment – This document must assess the smoke impacts on people several miles downwind.

See the response to the Sierra Club comment.

Page 2, Ozone – The amounts of VOC should be provided.

See the response to the Sierra Club comment.

Page 4, NAAQS-Ozone Standard – Monitoring data does exceed the NAAQS.

See the response to the Sierra Club comment.

Page 4, Particulate Matter – The FS should mention that EPA is considering lowering the fine particulate matter standard.

See the response to the Sierra Club comment.

Page 5, Effects, first paragraph – What does relatively brief mean when considering human exposure to ground level smoke?

See the response to the Sierra Club comment.

Page 6, Mitigation – Where are the homes of persons known to have chronic respiratory illness, schools, and poultry farms?

See the response to the Sierra Club comment.

Specialist Report – Scenery Management

Page 1, Affected Area – Logging is not a natural occurrence.

See the response to the Sierra Club comment.

Page 2, Affected Area – When there is a SPB or other salvage logging opportunity the FS frequently logs the streamside management zone.

See the response to the Sierra Club comment.

Page 2, Proposed Action – Logging cannot have positive effect on the scenery of a trail.

See the response to the Sierra Club comment.

Page 4, Proposed Action – When trees grow they shade out other vegetation which dies and opens up the view.

See the response to the Sierra Club comment.

Boswell Creek Specialist Report – Aquatics

The EA does not provide quantitative information about the damage to fish and mussels caused by logging, roads, and burning. The EA should provide a coordinated system for rectifying culvert problems. Only three of the sites sampled are in the BCP.

See the response to the Sierra Club comment.

Vegetation Report

Page 2, Upland Vegetation – The FS has type converted Shortleaf Pine stands to Loblolly.

See the response to the Sierra Club comment.

The FS needs a separate part of the report to discuss slope vegetation.

See the response to the Sierra Club comment.

Page 2, Structure – There are no counts for snags and the amount of coarse woody debris in the BCP.

See the response to the Sierra Club comment.

Pages 2-3, SPB Risk – SPB is a natural process of disturbance, which allows the forest to proceed to a more hardwood dominated forest.

See the response to the Sierra Club comment.

Page 3, Riparian Vegetation – Burning in riparian areas does not mimic nature.

See the response to the Sierra Club comment.

Page 3, ECS – The FS does not document how many acres of each landtype. There should be a map.

See the response to the Sierra Club comment.

Page 3, Old Growth – The BCP does not address the need for Future Old Growth (FOG).

See the response to the Sierra Club comment.

Page 4, Cumulative Effects Area – The FS does not analyze all cumulative effects.

See the response to the Sierra Club comment.

Page 5, Cumulative Effects Area – It is not impossible to predict future management actions on private land.

See the response to the Sierra Club comment.

Page 5, Direct and Indirect Effects, Upland Forests – The FS does not reveal that often the number of species may remain the same in burned plots but that the place of the vegetation in the vertical structure can be entirely different.

See the response to the Sierra Club comment.

Pages 5-6, Direct and Indirect Effects, Upland Forests – The Journey article is an oversimplification of the fire regime.

See the response to the Sierra Club comment.

Page 6, Direct and Indirect Effects, Upland Forests –The northern red oak does not grow in SHNF.

See the response to the Sierra Club comment.

Page 6, Direct and Indirect Effects, Upland Forests –What is the reference to EFIS 2000?

See the response to the Sierra Club comment.

Page 6, Direct and Indirect Effects, Upland Forests – The FS needs to state that thinning removes snags and coarse woody debris.

See the response to the Sierra Club comment.

Page 7, Direct and Indirect Effects, Upland Forests – The FS needs to define what “some damage” means when talking about leave trees.

See the response to the Sierra Club comment.

Page 7, Direct and Indirect Effects, Upland Forests – Which tree species will be emphasized to be recruited into the snag population?

See the response to the Sierra Club comment.

Page 7, Direct and Indirect Effects, Upland Forests – The FS does not look at thinning as causing tree mortality.

See the response to the Sierra Club comment.

Page 9, No Action, Upland Forests – The FS does not state the acreage that is disturbed due to the natural disturbance cause it lists.

See the response to the Sierra Club comment.

Page 10, ECS – The FS states that there is the possibility that shortleaf pine will cease to exist and that species extirpation may occur. No documentation shows this would occur with natural disturbance.

See the response to the Sierra Club comment.

Page 10, Cumulative Effects – The FS does not appear to be familiar with ecological succession in SHNF. The canopy closes the understory dies out or is sparse due to a lack of sunlight.

See the response to the Sierra Club comment.

Page 2, Analysis Area – The floodplains of Boswell Creek do meet the criteria for wetlands.
See the response to the Sierra Club comment.

Page 4, Analysis Methods/Models – Why is 3.26% of the watershed inconsequential regarding impacts that could occur?
See the response to the Sierra Club comment.

Page 5, Analysis Methods/Models – The FS does not list all the past, present, and future actions that will cause cumulative effects.
See the response to the Sierra Club comment.

Page 5, Soils – The report does not provide quantitative monitoring data about erosion.
See the response to the Sierra Club comment.

Page 9, Soils – The category “poor” is not on the list or defined.
See the response to the Sierra Club comment.

Page 10, Soils – The report ignores ECS which gives what the historical forest looked like including fire frequencies. The document cited here is not appropriate for a site-specific study. The report does not map all landtypes.
See the response to the Sierra Club comment.

Page 10, Soils – This report is misnamed. There is no hydrological data.
See the response to the Sierra Club comment.

Pages 11-12, Road Effects on Hydrology – This report uses the mitigation that the roads analysis report to cure all problems roads have had on hydrology. This is a report without the data to reach its conclusions.
See the response to the Sierra Club comment.

Pages 14-17, Cumulative Effects Model – The FS does not state all the past, present, and future actions in the model. The FS does not fully define assumptions or provide a clear explanation of how the model works. It does not use site specific data. The model does not take into account stream scour and its impacts due to erosion.
See the response to the Sierra Club comment.