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Tony Tooke, Regional Forester for the Southern Region  
USDA- Forest Service  
ATTN: Objection Reviewing Officer  
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Submitted electronically October 25, 2016 to [objections-southern-regional-office@fs.fed.us](mailto:objections-southern-regional-office@fs.fed.us)

Objection to the Revised Land Management Plan for the Francis Marion National Forest

Responsible Official: Rick Lint, Forest Supervisor, Francis Marion National Forest

Lead Objector:

Ben Prater, Director of the Southeast Program  
Defenders of Wildlife  
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Dear Mr. Tooke,

Defenders of Wildlife files this objection to the Revised Land Management Plan for the Francis Marion National Forest under the process identified in 36 CFR 219 Subpart B (219.50-219.62). The Draft Record of Decision (ROD) for the Final Environmental Impact Statement (FEIS) and the Revised Land Management Plan was issued on August 19, 2016. The legal notice of the ROD, FEIS and Revised Plan was published in the Francis Marion and Sumter National Forests newspaper of record, *The State*, on August 26, 2016; therefore, this objection is timely. In November 2015 Defenders submitted substantive formal comments related to the plan during the opportunities provided for public comment. This objection is based on those previously submitted comments.

This objection contains content specific to the identification of species of conservation concern (SCC); it is our understanding that that content will be forwarded to Brian Ferebee, Associate Deputy Chief, delegated Reviewing Officer for the Chief of the Forest Service.

We appreciate the opportunity for an independent review and possible resolution of issues prior to the approval of the final forest plan. Defenders has a longstanding and mission-driven interest in the appropriate interpretation and implementation of the National Forest Management Act's "diversity" requirements (16 U.S.C. § 1604(g)(3)(B)). We have dedicated significant resources and capacity to

working in good faith with the Forest Service to achieve sound forest planning outcomes related to that provision, including service on the National Advisory Committee for Implementation of the 2012 Planning Rule. We consider this objection as an extension of those policy discussions and hope that it will be equally productive.

We also have a significant interest in the conservation of biological diversity within the Francis Marion National Forest planning area, with an emphasis on at-risk species including the endangered red-cockaded woodpecker.

We look forward to discussing the details of this objection with the goal of improving the Francis Marion Forest Plan and furthering effective implementation of the 2012 Planning Rule.

Sincerely,



Ben Prater

#### Summary of objection and how the proposed plan decision may be improved

Our objection is focused primarily on the revised plan's compliance with § 219.9 (Diversity of plant and animal communities) of the planning rule (36 CFR part 219). In our previous formal comments, we expressed concern with the draft plan and Draft Environmental Impact Statement's (DEIS) approach to meeting and demonstrating compliance with regulatory requirements for ecological integrity (36 CFR 219.8(a) and 219.9(a)) and for the identification and provision of plan components for at-risk species including SCC (36 CFR 219.9(b) and (c)). Those issues are interrelated: a failure to demonstrate compliance with the planning rule's integrity requirements raises concerns over the provision of ecological conditions for at-risk species that do not receive species-specific plan components. We raised specific issues about the draft plan's sufficiency in "contributing to the recovery" of the red-cockaded woodpecker, as directed under the planning rule and consistent with the Endangered Species Act (ESA). We continue to express concerns over those issues in this objection.

In addition, we continue to raise issues highlighted in previous comments surrounding compliance with National Forest Management Act (NFMA) requirements for timber management and sustained yield.

Throughout the objection we make recommendations on how the plan could be improved to meet rule requirements; in many cases we make recommendations for the improvement of specific plan components. These statements are noted as "remedies" and are **bolded and underlined**reme. There are more than 100 such remedies enumerated within the various issues.

As a matter of policy, Defenders is interested in seeing the Forest Service improve its performance with regard to planning and managing for ecological integrity and at-risk species. We feel that forest plan revision processes and decisions can be improved across the National Forest System if the agency is willing to commit to a consistent and defensible methods for making the full suite of “diversity” decisions, including identification of SCC and the construction of sufficient plan components for ecological integrity and at-risk species. We would be willing to work with the agency to develop such methods as a means of improving future forest planning decisions.

Statement of the issues and/or parts of the plan revision to which the objection applies

We specifically address the following issues:

1. The failure of the regional forester to identify some species as SCC where the best available scientific information indicates that there is a substantial concern for persistence in the plan area (36 CFR 219.9(c)).
2. The revised plan fails to provide ecological conditions to contribute to the recovery of federally endangered red-cockaded woodpeckers (36 CFR 219.9(b)).
3. The plan fails to meet the requirements of 36 CFR 219.9 because plan components are not specific enough nor sufficiently mandatory or regulatory to provide the certainty needed to meet legal requirements. We reference instances where the revised plan defers decisions about at-risk species to discretionary project-level decision-making, and sometimes to other agencies or other decision processes not subject to NFMA requirements.
4. The FEIS fails to provide an adequate analysis of the effects of the alternatives on at-risk species. It is therefore not possible to determine whether plan components provide ecological conditions necessary to contribute to recovery or maintain viability of at-risk species (36 CFR 219.9(b)). The FEIS suggests that plan components may not provide the ecological conditions necessary for viable populations of some species.
5. The revised plan violates NFMA requirements for timber management and sustained yield. The plan includes areas identified as suitable for timber production that should have been classified as not suitable. The plan includes a sustained yield limit that is based on lands that are not suitable for timber harvest, overestimates timber volume and fails to limit timber harvest as required by NFMA, and it proposes a departure from non-declining even flow of timber without following the procedures required by NFMA. The result is establishing timber volume objectives that are unsustainable and creating unforeseen environmental effects.

In addition, we are concerned that ESA consultation (both 7(a)(1) and 7(a)(2) has not been completed on the revised plan. As a result, the public is denied the opportunity to review during the objection period how the Forest has incorporated the U.S. Fish and Wildlife Service’s (USFWS) information, determination and recommended and/or mandatory plan components related to at-risk species. This is especially important because the draft ROD asserts that, “These forest plan components comply with the requirements of the Act and the associated recovery plan for each

federally listed species” (p. 31). In particular, our discussion below raises questions about compliance with the red-cockaded woodpecker recovery plan.

ISSUE 1: THE REGIONAL FORESTER FAILED TO IDENTIFY SOME SPECIES AS SPECIES OF CONSERVATION CONCERN WHERE THE BEST AVAILABLE SCIENTIFIC INFORMATION INDICATES THAT THERE IS A SUBSTANTIAL CONCERN FOR PERSISTENCE OF THE SPECIES IN THE PLAN AREA.

Applicable law for Issue 1:

36 CFR 219.9(c). Species of conservation concern. For purposes of this subpart, a species of conservation concern is a species, other than federally recognized threatened, endangered, proposed, or candidate species, that is known to occur in the plan area and for which the regional forester has determined that the best available scientific information indicates substantial concern about the species’ capability to persist over the long-term in the plan area.

Discussion of Issue 1:

Initially, we are concerned that the process used by this Region, as indicated by its guidance to the Forest Supervisor (provided in response to our request for additional information made in our November 12, 2015 comment letter on the DEIS) appears to delegate SCC authority to individual forests to a degree not allowed by the planning rule and handbook (1909.12 FSH 21.22a(1)(2)(b)). There are references in the regional guidance document to a forest-level “designation” process. We note also that the “final forest submission date” occurred well after the DEIS and its public comment period, so it does not appear that the public (other than Defenders) had an opportunity to review the SCCs initially identified by the regional forester. Finally, we observe that of the 144 species considered, only three initial Forest determinations were changed by the regional forester, and two of those were the result of NatureServe changes. (The northern pine snake is discussed below.)

We do not take issue with the Forest being most knowledgeable about the status of species in the plan area, and that their assessment should be given appropriate weight. However, the planning rule recognizes that risk to a species on a particular forest must be considered in a broader context that the regional forester must provide. We note that SCC classification may be warranted if a species is at risk in the planning area because of either forest-level or broader scale concerns (see 1909.12 FSH 12.52d(3)(f) vs. (a-e)).

The DEIS did not include an explanation of why species were identified as potential SCCs or not. Defenders requested that information in our comments on the DEIS (November 12, 2015). The Forest provided documentation to Defenders in its reply (February 17, 2016). We provided our comments on that documentation on April 12, 2016. The response to comments in the FEIS did not address these comments, other than to say that the Forest had provided Defenders with the requested documentation. We hereby incorporate our April 12 comments herein.

The draft ROD does not mention any changes in SCC that occurred between the draft and final EIS, and refers to a 2014 document that documents the SCC identification process. We assume the “SCC Rationale” matrix that we received in March is the final version because it indicates a “Final Forest Submission date: 16 February 2016,” and a column heading is “FINAL DETERMINATION/ RF SCC LIST.” We submit our objections to the SCC decision based on that.

We note at the outset that the applicable provision of the planning rule cited above requires a determination based on a review of “the best available scientific information” by the regional forester. To the best of our knowledge, this matrix is the only documentation of best available science provided by the Forest to the regional forester, for his determination. It describes its conclusions regarding the criteria for SCC, but it in many cases provides little or no support or citations. It certainly does not meet the requirement in 36 CFR 219.3 for some species:

Such documentation must: Identify what information was determined to be the best available scientific information, explain the basis for that determination, and explain how the information was applied to the issues considered.

It also would not meet the requirement in agency directives to “Document the best available scientific information that supports not identifying a species that was considered but not identified as a potential species of conservation concern” (1909.12 FSH 12.52b4).

Note that the planning rule requires the regional forester to determine – not that he or she believes that the species is at-risk in the plan area – but that “the best available scientific information indicates substantial concern about the species’ capability to persist.” This identifies the concerns of scientists rather than the regional forester.

The planning rule has two criteria that the regional forester must use to decide whether a species qualifies as an SCC. It must first be “known to occur” in the plan area. Agency directives provide some additional guidance for how to make this determination:

A species is known to occur in a plan area if, at the time of plan development, the best available scientific information indicates that a species is established or is becoming established in the plan area. A species with an individual occurrence in a plan area that are merely “accidental” or “transient,” or are well outside the species’ existing range at the time of plan development, is not established or becoming established in the plan area. If the range of a species is changing so that what is becoming its "normal" range includes the plan area, an individual occurrence should not be considered transient or accidental. (1909.12 FSH 12.52c)

We believe that the phrase “becoming established” should be interpreted in the context of the planning rule, which recognizes that climate change is leading to changes in many species’ ranges. It

should also be interpreted in a manner that would help meet the requirement to contribute to recovery of species by facilitating reoccupation of historic habitats. It should also be interpreted in a manner consistent with the projected plan period of fifteen years. If the best available science indicates that a species may occur in the plan area within fifteen years, it would qualify as an SCC.

We note that the additional guidance does not address species previously found in the plan area, but not seen for some period of time. This indicates that exclusion of previously known species should rarely occur, and only based on best available science that reasonably demonstrates that a return to the plan area is unlikely.

With regard to the second criterion, the same agency directives state:

If the species is secure and its continued long-term persistence in the plan area is not at risk based on knowledge of its abundance, distribution, lack of threats to persistence, trends in habitat, or responses to management that species cannot be identified as a species of conservation concern. (1909.12 FSH 12.52c)

We identify two requirements here for excluding species: 1) a species must be “secure,” and 2) its long-term persistence in the plan area is not at risk. This formulation represents the inverse of the requirements for species to be considered: 1) those that are not secure at a broader scale according to various sources, and 2) those that are of “local population concern.” It is important to note that these are independent requirements; a species that is not secure range-wide or is at risk in the plan area has demonstrated concerns for viability. In particular, the current status of a species in a plan area cannot be used to reject a species as an SCC where there is a broader-scale concern. To do so a regional forester must use the best available scientific information to demonstrate that a species’ broader scale circumstances are not a threat to the species in the plan area.

This interpretation is supported by this additional language from 1909.12 FSH 12.52b4: “Such rationale may include: a. Knowledge of the species abundance, distribution, lack of threats to persistence, trends in habitat, and responses to management.” Like the language quoted above, these species circumstances are not limited to the “plan area,” but are to be taken into account to reach the ultimate conclusion about risk to viability in the plan area. Circumstances outside of the plan are cannot simply be dismissed, as was done for many species.

The Forest Service has identified NatureServe rankings as a reliable source for information about broader scale scientific concerns (1909.12 FSH 12.52d). A NatureServe status rank of 4 indicates that a species is “apparently secure.” A rank of 3 indicates that a species is “vulnerable,” and “at moderate risk of extinction or elimination.” We regard this as not “secure” and a strong indication of concern for its persistence in the plan area. Agency directives require consideration of global 3 ranks, but not state 3 ranks. We reject this unsupported distinction that global rankings are somehow more relevant to the plan area than statewide rankings. Rationale for not selecting such

species as SCC must demonstrate the species is not at-risk in the plan area using science that accounts for factors both within and beyond the plan area.

With this in mind we reiterate our earlier objections to the non-selection of these individual species as SCC.

- Blackbanded sunfish (SNR/G3G4). The species is considered a “state priority.” The conclusory statement that it “does not meet the listing criteria for G/S ranks” is incorrect (for G3) and insufficient to demonstrate that its vulnerability does not indicate substantial concern. (While not listed as the final rationale, its absence for 21 years does not by itself demonstrate that it will not be found again in the plan area.)
- Wood thrush (S3/G5). Rejected based only on S3 rank. No information is provided to counter the concern for the species statewide.
- Star-nosed mole (S3/G5). Rejected based only on S3 rank. No information is provided to counter the concern for the species statewide.
- Eastern woodrat (S3). No information is provided to counter the concern for the species statewide, and the fact that it is a “CWCP priority species” and “critically imperiled” in adjacent North Carolina.
- Eastern coral snake (S2/G5). It was not included because it is not known to occur in the plan area, but it appears from the Forest “comment” that new occurrence information has not been taken into account. Even based on a most recent occurrence of 10 years, the species should be considered known to occur.
- Florida green water snake (S2/G5). The conclusory statement that it “does not meet the listing criteria for G rank” ignores the state rank and “CWCP priority,” and is insufficient to demonstrate that its vulnerability does not indicate substantial concern.
- Northern pine snake (S3S4/G4). Rejected based solely on NatureServe ranks. The Forest comments indicate additional concern for persistence, and no information is provided to counter these concerns for the species.
- *Amphicarpum muehlenbergianum* (S2S3/G4). The rationale incorrectly states that it does not meet state rank criteria.
- *Asplenium heteroresiliens* (S1/G2). The comment indicates that the species is “likely extirpated.” The only evidence in support of this is a most recent of occurrence of 1981. Additional rationale is needed to explain why recurrence is unlikely.
- *Carex chapmanii* (S1/G3). The comment indicates that the species is “likely extirpated.” The only evidence in support of this is a most recent occurrence of 1962. Additional rationale is needed to explain why recurrence is not possible (especially if the threat of “plantation pine forestry” is removed).
- *Carex decomposita* (S2/G3). The species was excluded because it is not known to occur, but the comment also states that its habitat is stable on the forest. The most recent occurrence was 1998, and there is no explanation of why it might not recur.

- *Cayaponia quinqueloba* (S1?/G4). The rationale is “does not meet the criteria for G rank.” This fails to address the S rank.
- *Eleocharis tricostata* (S2?/G4). The rationale is “does not meet the criteria for G rank.” This fails to address the S rank.
- *Iris tridentata* (SNR/G3G4). The rationale incorrectly states that it does not meet global rank criteria.
- *Litsea aestivalis* (S3/G3). The conclusory statement “substantial concern for persistence not demonstrated through threats or population decline,” based only the Forest statement “persistence likely,” does not counter the vulnerability rankings.
- *Rhynchospora inundata* (S2?/G4?). The rationale is “does not meet the criteria for G rank.” This fails to address the S rank.
- *Sageretia minutiflora* (S3/G4). The rationale is “does not meet listing criteria.” This ignores the S rank, and no information is provided to counter the concern for the species statewide.

In addition, conclusory statements were made to exclude the following plant species because “substantial concern for persistence not demonstrated through threats or population decline.”

- *Agrimonia incisa* (S2/G3). “Habitat is abundant and stable.”
- *Peltandra sagittifolia* (S2/G3G4). “Populations stable in pocosins.”
- *Pieris phillyreifolia* (S1/G3). “Habitat stable, populations extensive.”
- *Plantago sparsiflora* (S2/G3). “Common along select roadsides.”
- *Rhexia aristosa* (S3/G3). “Population numbers appear to be stable.”
- *Rhynchospora tracyi* (S3/G4). “Population numbers appear to be stable.”
- *Tridens carolinianus* (S1/G3G4). “Population numbers appear to be stable.”
- *Xyris elliottii* (S1/G4). “Population numbers appear to be stable.”

It appears that some of the “comments” are based on observations limited to the plan area. This kind of rationale would be insufficient to counter broader scale concerns indicated by vulnerability rankings or other classifications.

It appears that very few Forest Service sensitive species were considered (despite the regional guidance to do so). Only three were mentioned in the “comments” column (gopher frog, Bachman’s sparrow, Rafinesque’s big-eared bat). Since sensitive species were identified by the regional forester “for which population viability is a concern” (FSM 2670.05), there must be some rational explanation for why there is not now a substantial concern for their persistence in the plan area. We must assume at this point that other sensitive species were arbitrarily excluded from consideration.

**Remedy: The Forest should identify all of the species discussed under Issue 1 as SCC. They may be excluded only after appropriate assessment and analysis that demonstrates that the**

**best available science indicates that there is not a substantial concern for their persistence in the plan area, and there is public review of that determination. Unless and until that happens, this also means that the effects of the revised plan on these species must be evaluated to determine whether plan components provide ecological conditions needed for their persistence. We assume this could be done using the same process that was used for other species (discussed in Issue 4 below).**

We would finally like to bring up the red wolf. It is a listed species, but is an experimental population. It also does not presently occur in the plan area. We believe that the obligation to contribute to recovery of listed species does not exclude experimental populations. Also, the planning rule does not apply the recovery requirement only to species known to occur in the plan area. We also believe that these national forest lands offer an opportunity to provide habitat for a recovered population because of its proximity to the existing experimental population.

**Remedy: Red wolf habitat warrants protection in the forest plan as a listed species. Alternatively, NatureServe ranks it as a G1 species, and reoccurrence in the plan area is foreseeable during the life of the plan. If the red wolf cannot be considered a listed species on the Francis Marion, it should be identified as an SCC.**

**ISSUE 2: THE PLAN FAILS TO PROVIDE ECOLOGICAL CONDITIONS TO CONTRIBUTE TO RECOVERY OF FEDERALLY ENDANGERED RED-COCKADED WOODPECKERS.**

Applicable law for Issue 2:

- 36 CFR 219.9(b) Additional, species-specific plan components. (1) The responsible official shall determine whether or not the plan components required by paragraph (a) of this section provide the ecological conditions necessary to: contribute to the recovery of federally listed threatened and endangered species... . If the responsible official determines that the plan components required in paragraph (a) are insufficient to provide such ecological conditions, then additional, species-specific plan components, including standards or guidelines, must be included in the plan to provide such ecological conditions in the plan area.
- ESA SEC. 7. (a)(1) The Secretary shall review other programs administered by him and utilize such programs in furtherance of the purposes of this Act. All other Federal agencies shall, in consultation with and with the assistance of the Secretary, utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species listed pursuant to section 4 of this Act.
- ESA SEC. 3. The terms “conserve”, “conserving”, and “conservation” mean to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary.

- ESA SEC. 4. (f)(1) The Secretary, in developing and implementing recovery plans, shall, to the maximum extent practicable—...; (B) incorporate in each plan—...; (ii) objective, measurable criteria which, when met, would result in a determination, in accordance with the provisions of this section, that the species be removed from the list;

#### Discussion of Issue 2:

The red-cockaded woodpecker is listed pursuant to the ESA (16 USC § 1531 et seq.) as an endangered species. The Forest Service responsible official for the forest plan must determine that plan components will contribute to its recovery. **In order to contribute to recovery, the Forest Service must first determine what recovery is.**

Recovery is defined in the first instance by the relevant listing agency, which in this case is USFWS. Where a recovery plan has been prepared, it provides prima facie evidence of what would constitute recovery of the species, including necessary ecological conditions. A recovery plan was prepared for the red-cockaded woodpecker and revised in 2003. It provides the criteria for species recovery, to which national forest management must contribute. It adds:

Existing regulatory mechanisms, specifically the Endangered Species Act and the National Forest Management Act, are adequate to ensure the recovery of red-cockaded woodpeckers, assuming this recovery plan is fully implemented. (p. 143, emphasis added)

We recognize that the RCW Recovery Plan may be out of date, and it is important to always use the best currently available science. If that is the case for future projects, it is incumbent on the Forest Service to justify any changes based on such science. Project consultation with the FWS on the ESA's conservation requirements would also validate this approach. The fact that science may change in the future is not a legitimate reason to not adopt plan components currently seen as being necessary to provide adequate ecological conditions. Typically, future new science can be addressed at a project level if additional restrictions are needed, and if the need for restrictions becomes less, plan amendments are intended to accomplish that purpose (see Issue 3).

**Remedy: The Forest Service must review the recovery plan and make findings with respect to how it is defining recovery in terms of habitat conditions on the Forest, and how forest plan components do or not contribute to meeting these criteria. Such findings should be included in the final ROD, where there is a section entitled "Meeting Substantive Requirements of the Rule."**

With regard to the requirement to contribute to the recovery of the red-cockaded woodpecker, the draft ROD says only that the revised plan, "Provides plan components for specific species whose needs may not be met by ecosystem level plan components, such as: standards for red-cockaded

woodpecker...” (p. 19). The draft ROD thus infers that the plan will contribute to recovery, but provides no supporting rationale and does not mention the Recovery Plan.

The draft ROD also discusses its ESA obligations. It states that, “The Forest cooperated with both the United States Fish and Wildlife Service (FWS) and National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NOAA) in the identification and evaluation of threatened and endangered species likely to be affected and in the development of Forest plan components that contribute to their recovery” (p. 29). The draft ROD indicates that the Biological Assessment (BA) of the effects of the revised plan determined that the plan would be “likely to adversely affect” the red-cockaded woodpecker. The draft ROD does not mention the duty to conserve under ESA Section 7(a)(1).

**Remedy: The Forest should engage in consultation with the FWS regarding the question of contributing to recovery in accordance with agency policy in FSM 1920.3.**

The Recovery Plan includes a population goal for the Francis Marion National Forest of 350 potential breeding groups, which is incorporated into the revised plan. The Forest emphasizes that the population of RCWs on the Forest has exceeded the population recovery goal.

The Recovery Plan also provides two sets of standards for the management of foraging habitat: the recovery standard and the managed stability standard (MSS). It unequivocally states that, “Use of the recovery standard by federal agencies will facilitate recovery,” and compliance with section 7(a)(1) of the Endangered Species Act (p. 187). The MSS is to be used where private landowners cannot manage to the recovery standard. The revised plan includes neither standard, and the effects analysis inexplicably employs the MSS instead of the federal lands recovery standard. Even with this more lenient standard, the Forest is currently falling far short in providing foraging habitat. In an evaluation of 1,253 stands, 158 stands (7,298 ac) met the Managed Stability Standard criteria and 69 stands (3,287 ac) met the Recovery Standard criteria.

The ecological conditions necessary for foraging habitat are provided in the Recovery Plan. However, the forest plan does not incorporate these requirements for foraging habitat. Instead the plan includes this desired condition (DC-T&E-2): “Guidelines in the most recent Recovery Plan in the management of cavities, clusters, foraging habitat, and monitoring are considered during project development.” Thus, the plan does not include plan components for the ecological conditions needed for recovery, but rather it defers that decision to individual projects. In doing so it provides unlimited discretion to the project decision-maker by requiring (ignoring for the moment that desired conditions don’t require anything) that that decision-maker only “consider” the Recovery Plan. The Forest therefore cannot demonstrate that the revised plan is providing foraging habitat necessary to contribute to recovery of the RCW.

While it is true that recovery plans by themselves are considered non-binding, the Forest evidently misunderstands the obligations imposed on it by NFMA for diversity. This is evident in other

references to project use of the Recovery Plan in lieu of including plan components based on the Recovery Plan for projects to follow. References in the plan like these do not meet the requirement of the planning rule:

- DC-MA2-1 Within Red-cockaded Woodpecker Clusters: Guidelines for the management of cavity trees and clusters from the most recent species recovery plan are considered.
- OBJ-T&E-2. Every project with the potential to affect RCW, will consider the terms and conditions of the biological opinion, and guidelines in the most recent species recovery plan.
- G35. Guidelines and recovery objectives in the most up-to-date recovery plan should be considered for all federally-listed species, when available.

**Remedy: Edit G35 as follows: “Criteria from the most up-to-date recovery plan should be met or exceeded for all federally-listed species, when available.” (This is in addition to incorporating provisions from any existing recovery plans.)**

In addition, reliance on compliance with the ESA jeopardy requirement at the project level (in the second example) cannot substitute for compliance with the NFMA diversity requirement at the plan level.

The Forest admitted in the draft revised plan that “there may be a need to deviate from the Red-cockaded Woodpecker Recovery Plan to provide long term benefits for the red-cockaded woodpecker (RCW) and its habitat” (p. 115).

**Remedy: The final plan omits this statement, but does not indicate what plan components were changed so that it is no longer true. This issue needs to be clarified.**

Of note, foraging habitat for RCWs is considered suitable for timber production in the revised plan because “regular planned harvest entries are needed to create and maintain the desired habitat conditions” (p. 157). We agree that conversion to longleaf pine will be beneficial in the long-term, and that fire or mechanical thinning will be needed to maintain foraging habitat. However, regular planned entry to create and maintain habitat conditions is not scheduled entry for the purpose of producing forest products.

**Remedy: See Issue 5 regarding suitability for timber production. In this case suitability would require a scientific demonstration that removing commercial-sized trees needed for foraging is necessary to maintain foraging habitat and we request that such information be provided.**

The Recovery Plan also addresses “detrimental silvicultural practices” (p. 4), including “short rotations.” It adds, “Even with long rotations, even-aged silviculture results in stand-level removal of the large old trees most important to red-cockaded woodpeckers” (p. 100). The Recovery Plan applies minimum rotation ages to all land managed as foraging habitat (p. 188).

**Remedy: These and other additional silviculture guidelines (see p. 198) should be incorporated into the revised plan (p. 198).**

Appendix B states that, “All of the 1) upland longleaf pine and 2) flatwoods and wet-pine savanna ecosystems will be managed so that the older trees will be at least 120 years old, as recommended in the 2003 revision of the Recovery Plan for the Red-cockaded Woodpecker” (p. 158), and that assumption is made for the effects analysis. However, there are no plan components that limit rotation age in RCW foraging habitat. We note that a guideline from the draft plan to “supply trees for future cavity trees and clusters in abundance,” which we mentioned in our comments, has been removed.

**Remedy: There must be plan components that limit rotation age in RCW foraging habitat so that it produces cavity trees in abundance (which means identifying these areas as unsuitable for timber production as discussed in Issue 5).**

The BA attempts to explain how foraging habitat would nevertheless be provided. Even using the MSS criteria intended for private lands in its analysis instead of the more demanding federal lands recovery criteria required by the RCW Recovery Plan, the contribution to recovery is not convincing. The BA estimates effects, assuming that management activities would occur proportionately to the occurrence of RCW habitat.

**Remedy: Because there are no standards preventing it, it is possible that all management would occur in RCW habitat, and these potential effects must be analyzed.**

The BA concludes that even under this proportional scenario, as many as 250 clusters could be affected over the life of the revised plan, which is almost half of the existing population. Under an alternative disproportionate scenario, this number could be much larger. The BA also assumes that past rates of growth in the RCW population would occur, which would more than offset these adverse effects. This assumption would only be valid if levels and effects of past treatments were the same as those projected. We know that future levels of regeneration harvest would be higher (due to regrowth of the Forest after Hugo, as explained in the Assessment). Also by examining only the effects on clusters where the MSS criteria are already met, the delayed recovery resulting from treatments in other clusters is not accounted for. The adverse effects are understated, and therefore contribution to recovery is less likely.

Much of the recovery to date can be attributed to drilled and inserted artificial cavities. We do not see in the revised plan objectives to continue this practice (which we agree is not a long-term solution), which means the future growth rate would be slower, and the detraction from recovery greater.

As the revised plan is currently written, the BA concludes that it “may reduce foraging habitat for red-cockaded woodpecker clusters below the recovery plan guidelines or may disturb red-cockaded

woodpecker during the breeding season...,” but that, “the total number of active clusters would still likely increase (though more slowly)”, and also that the “cumulative effects will likely be positive due to improved long-term red-cockaded woodpecker habitat resulting from achieving the desired conditions of the plan” (p. 221). As described above, we believe that the effects allowed by the plan will be greater than assumed, and that plan components that permit movement away from recovery do not “contribute to recovery.”

**Remedy: Include a standard that prevents elimination of foraging habitat that is needed to support existing RCW clusters.**

The BA indicates that foraging habitat is increasing over time since the damage from Hurricane Hugo, and we would expect that more clusters would begin to meet the criteria for foraging habitat, and that restoration should therefore be phased in rather than creating unnecessary risks by accelerated timber harvest of existing foraging habitat. The effects analysis in the BA suggests these additional standards:

- Do not thin stands until they meet requirements for foraging habitat in foraging partitions, unless there are sufficient >10” dbh pine trees so that the treatment would improve foraging habitat.
- Do not harvest stands until they meet requirements for foraging habitat in foraging partitions, and do not remove longleaf pine trees that provide foraging habitat.

Habitat fragmentation is identified as important in the RCW Recovery Plan. The desired condition for “landscape structure and connectivity” for pine ecosystems focuses on proportions of age classes. It does not establish criteria for “silvicultural practices that minimize fragmentation” as called for by the Recovery Plan. The response to our comments indicates that the Forest disagrees with the Recovery Plan because the Recovery Plan considers logging to be a cause of fragmentation of RCW habitat. The absence of such criteria also casts doubt on whether the plan meets the substantive requirements for ecological integrity by providing necessary connectivity.

**Remedy: Plan components should follow the Recovery Plan and establish spacing requirements for treatments based on RCW dispersal distances.**

The FWS will have to consider these treatments as effects that lead to incidental take of a listed species. The permitted level of take would be based on avoiding jeopardy and may include terms and conditions that would trigger reinitiation of consultation if it is exceeded.

**Remedy: However, these effects must also be considered in the context of the requirement for plan components to contribute to recovery.**

In addition, project requirements to avoid jeopardy resulting from the ESA consultation process cannot be relied on to meet NFMA requirements for plan components to contribute to recovery.

**Remedy: The forest plan needs to impose limits on the adverse effects on RCWs that may occur, such as limiting the number of RCW clusters where timber harvest may occur.**

ISSUE 3: THE PLAN FAILS TO MEET THE REQUIREMENTS OF 36 CFR 219.9 BECAUSE PLAN COMPONENTS ARE NOT SPECIFIC ENOUGH NOR SUFFICIENTLY MANDATORY OR REGULATORY TO PROVIDE THE CERTAINTY NEEDED TO MEET LEGAL REQUIREMENTS. WE REFERENCE INSTANCES WHERE THE REVISED PLAN DEFERS DECISIONS ABOUT AT-RISK SPECIES TO DISCRETIONARY PROJECT-LEVEL DECISION-MAKING, AND SOMETIMES TO OTHER AGENCIES OR OTHER DECISION PROCESSES NOT SUBJECT TO NFMA REQUIREMENTS.

Applicable law and principles for Issue 3:

The NFMA requirement to “provide for diversity of plant and animal communities” (16 U.S.C. § 1604(g)(3)(B)), and the regulatory requirement for plan components to “provide the ecological conditions” to do so (36 CFR 219.9(b)) necessarily entail some degree of certainty that this desired outcome would be achieved.

The Forest Service recognized that mere aspirational statements of desired conditions would be insufficient when it abandoned earlier versions of planning regulations (2005, and 2008) that would have relied almost exclusively on such plan components.

The 2012 Planning Rule requires that when desired conditions are used as plan components that they be “specific enough to allow progress toward their achievement to be determined.” Vague desired conditions provide nothing to judge whether they have been met except for the opinion of the Forest Service. The less specific and ascertainable the desired conditions are, the more mandatory standards and guidelines are needed to provide certainty.

The requirement for consistency with desired conditions is inherently much more flexible than for mandatory standards (36 CFR 219.15(d)(1)), and potentially allows no progress whatsoever to be made towards achieving them. Recognizing that such outcome-oriented plan components alone would not provide sufficient certainty, the planning rule indicates that mandatory standards and/or guidelines that act as constraints on projects be used where needed “to meet applicable legal requirements.” Oddly, the Francis Marion plan drops this from its definition of “guidelines,” p. 2, but does acknowledge that it added fine-scale plan components “to address uncertainties in regard to at-risk species” (p. 41). Courts have held that only mandatory terms in forest plans can be considered regulatory mechanisms for the purpose of listing decisions under the ESA. The NFMA diversity requirement requires a similar degree of certainty.

The planning rule supports adaptive management. It is the framework of assessment, planning, monitoring and then plan amendment or revision that “creates a responsive planning process” and “allows the Forest Service to adapt to changing conditions” (36 CFR 219.6(a)). However, there is nothing in the planning rule that provides authority to establish a flexible forest plan by building

uncertainty into the plan components themselves. The Francis Marion plan appears to have incorporated this unsupportable approach: “This plan supports an adaptive management approach, which emphasizes checking results as conditions change and making the plan more adaptable to changes in social, economic and environmental conditions” (p. 2, emphasis added).

A plan that provides discretion for future decision-makers to adopt programmatic decisions on a project-by-project basis would provide the Forest Service with the ability to essentially change or create plan direction in the future without public involvement. Such would be counter to the fundamental purpose of NFMA of providing integrated and strategic direction for future projects (NFMA Section 6(f)(1)), as well as counter to Theme 6 of the revised plan (integrate and coordinate resource management). It would also bypass the substantive requirements of the planning rule, and its requirement for use of best available scientific information, both of which explicitly do not apply to projects (36 CFR 219.2(c)). In the case of at-risk species, it would allow the Forest Service to avoid its statutory obligation for forest plans to provide for diversity of plant and animal communities.

The forest plan cannot simply be a blank check. As the Francis Marion plan glossary states, plan components must “Guide future project and activity decisionmaking.” It is important that this step of providing a longer-term and landscape-scale context for project decision-making be taken seriously. Where future determinations are necessary, failure to at least provide criteria for them, amounts to including no plan components that would meet species-diversity requirements.

The planning rule also clearly states that it is plan components that must provide the necessary ecological conditions for at-risk species (36 CFR 219.7(d)(3)). Plan components are limited to optional goals, and required desired conditions, objectives, standards, guidelines and suitability of lands. Monitoring programs are required, but are not plan components and cannot be used in lieu of plan components to meet diversity requirements. Information may be included in a plan about “management approaches or strategies (36 CFR 219.7(f)(2)),” but these are not plan components and cannot be relied on to meet the diversity requirement.

Finally, while it would be possible to incorporate by reference other requirements from existing sources, there is nothing in the planning rule that authorizes “outsourcing” of plan components to future external processes or decisions. Such an approach is also counter to the NFMA purpose of integrated plans. (While other external guidance may also apply to project decisions, it cannot be the basis for finding that plan components are sufficient – unless it carries the weight of law or regulation or has been through a public decision-making process like the Record of Decision for the Nationwide Aerial Application of Fire Retardant.)

### Discussion of Issue 3:

It is especially unacceptable to put off decisions to conserve at-risk species to the project level; such decisions are needed for the forest plan to meet the diversity requirement of NFMA. The revised

forest plan would include many new desired conditions, but these do not provide the certainty of standards. Many of them are not specific enough to determine whether they have been achieved, or to analyze their effects in accompanying EIS. There are also some plan components that defer decisions to projects or to external sources. Of particular interest to us are the plan components for old growth habitat and red-cockaded woodpecker habitat.

### *Old growth*

The removal of the 10% old growth objective that was in the draft plan is indefensible. It represents movement away from the intent of forest plans with more specific desired outcomes, and the remaining direction is inadequate to provide for associated at-risk species.

- DC-ECO-1 appears to establish a desired condition at the stand level that is described in the “Region 8 old growth guidance.”

**Remedy: It needs to be clear that this is a specific current document, which we recommend be attached as an appendix to the plan. It cannot be a reference to a document that could be changed in the future outside of the planning process. This plan component also states that old growth would develop in “designated areas across the Francis Marion, such as ...” The plan must identify all such areas where the desired old growth condition would occur. See 36 CFR 219.7(e): “The plan must indicate whether specific plan components apply to...areas as identified in the plan (emphasis added).**

- OBJ-ECO-1. “Over the next 10 years, identify a network of small (between 1 and 99 acres) and medium (between 100 and 2,499 acres) of areas providing future old growth conditions during project or activity planning.”

This makes it clear that the plan delegates that programmatic decision to project-level decision-makers to make such decisions sometime in the future, or not (there is no requirement that objectives be achieved). This also reveals that the revised plan does NOT currently provide old growth ecological conditions needed for at-risk species.

**Remedy: While we agree that the location of old growth is not static, we expect to see mandatory criteria that would immediately protect sufficient existing old growth, as well as provide a desired amount and distribution that would be maintained over time. For example, the “management strategy” could be converted to an actual plan component that would require “old growth reference conditions” to be maintained where they exist within foraging partitions. Areas meeting the age thresholds of the Region 8 old growth Guidance but not other characteristics would be maintained or enhanced as future old growth. It is irresponsible to designate young forest areas as future old growth while resetting the clock on near old growth. Finally, any areas designated as future old growth in projects under the**

**previous plan must be maintained as future old growth under the current plan, because development of old growth conditions takes longer than a single planning cycle.**

- S37. “Stands meeting the criteria for old growth as defined in the Region 8 old growth Guidance will be identified during project level analyses. Consider the contribution of existing old growth communities to the future network of small and medium-sized areas of old growth conditions including the full diversity of ecosystems across the landscape.”

**Remedy: This standard implements the future project-by-project planning process that is being substituted for integrated landscape-scale forest planning. The requirements for the extent and distribution of this future network should be described in the plan. This should include something like the 10% requirement.**

Moreover, this standard does not say what to do with the stands that are identified. Presumably the intent is to protect them, but if they were to be part of the “future network” they would have to be identified in the forest plan, which would require an amendment, and a standard that actually protects them would need to be included. There are currently no plan components that necessarily protect any old growth.

**Remedy: There is no reason not to include a standard explicitly protecting existing old growth. Old growth is underrepresented, and there is no reasonable chance that it will cease to be underrepresented during the life of the plan. The “contribution” of existing old growth to ecological integrity demands that it be maintained.**

*Red-cockaded woodpecker*

DC-T&E-2 Includes the following description of stand conditions needed for 450 clusters:

High quality nesting and foraging habitat occurs as upland pine and wet pine savanna ecosystems within 0.5 miles of cluster centers and includes large, live old pines which provide cavity trees for nesting, low densities of small pines, little to no hardwood mid-story, and diverse and abundant herbaceous ground-cover.” However, this is not the condition included in the recovery standard for federal lands in the RCW Recovery Plan. Instead it adds that, “Guidelines in the most recent Recovery Plan in the management of cavities, clusters, foraging habitat, and monitoring are considered during project development.

**Remedy: A desired condition that something be considered amounts to no direction at all, and cannot be relied on to contribute to the recovery of the RCW. Projects must be consistent with the forest plan’s definition of what constitutes foraging habitat, and therefore a proper definition from the recovery plan must be included in the forest plan.**

OBJ-T&E-2 is accompanied by the following management strategy:

Every project with the potential to affect RCW, will consider the terms and conditions of the biological opinion, and guidelines in the most recent species recovery plan.

**Remedy: This is a “management strategy” so it carries no weight in meeting diversity requirements, but it illustrates the unwillingness of the Forest to plan for at-risk species. In order for this (or any) forest plan to contribute to recovery of a listed species, it must include plan components to provide the ecological conditions needed by that species. It cannot defer to requirements imposed by the ESA at either the plan or project level; it must adopt them.**

**In addition, it is not clear what biological opinion is being referred to here. If it is for the forest plan, any mandatory requirements must be included as plan components. Previous project biological opinions should also be reviewed, and any requirements imposed on projects should be strongly considered for inclusion in the forest plan to govern future projects. If it is referring to consultation on future projects, the suggestion that mandatory terms and conditions should merely be “considered” is likely to lead to a violation of ESA and therefore should be remedied in the plan.**

- We agree with this statement in DC-ECO-2, “Where open loblolly pine woodlands provide high-functioning nesting and foraging habitat for red-cockaded woodpeckers and other plant and animal species, the conditions are maintained.”

**Remedy: We don’t understand why there is not a standard that requires this of vegetation management projects. We recommend the inclusion of such a standard in the plan.**

- DC-MA-2-1 states for stands within RCW clusters that, “All potential cavity trees (pines greater than 60 years in age) within clusters are retained, unless pine basal area is above 50 feet<sup>2</sup> and all trees are above 60 years in age.”

**Remedy: Since this refers to conditions retained after completion of project management activities, this should also be included in the plan as a standard to provide additional certainty. There is no reason to simply state this as a desired condition.**

- Standard S38 allows cutting of active RCW trees if authorized by the USFWS. G36 is similar. This appears to pass the buck for responsibility for NFMA compliance to the ESA process and agency (USFWS).

**Remedy: This might be satisfactory if the plan also included criteria for when such authorization would be appropriate; we therefore recommend the inclusion of such criteria in the plan.**

*Other terrestrial at-risk species*

- DC-WAT-2. “Narrow forested swamps and floodplain forests occur adjacent to smaller blackwater streams and supply mid- to late-seral hardwood tree species and sufficient hardwood reproduction to assure sustainability of the mature hardwood forest.”

**Remedy: Use of terms like “sufficient” or “adequate” have the effect of deferring the decision to the project level with no guiding criteria. The plan should also include a desired condition for hardwood reproduction that would assure sustainability.**

- DC-ECO-4 addresses the effects of roads on the at risk species for which this ecosystem characteristic is important: “open road and OHV trail densities within 0.5 miles of these systems are low to moderate.” This is another reduction in specificity from the draft plan (“less than 1 mile per square mile”) made in this case because, “this measure would be impractical to implement by ecosystem” (draft ROD, p. 12). We disagree because road density is commonly included in forest plans. The area to which it is applied can be defined in a way that is practical to implement.

**Remedy: The plan needs to define what “low” and “moderate” are, instead of leaving that up to the discretion of future project decision-makers. (The same terms are used to characterize road densities for other ecosystems.)**

- The desired conditions for listed plant species include exploring opportunities to expand populations with the USFWS. That should have been done as part of this planning process to determine what the desired populations should be on the Forest to contribute to recovery of these species. This is another example of planning to plan being used in lieu of the planning needed to meet diversity requirements. The requirement for plan components to contribute to recovery cannot be met by simply stating that it would be discussed with another agency.

**Remedy: We recommend that the final plan remedy this flaw.**

- DC-SCC-4 is that, “Optimal habitats for associated at-risk species are maintained and restored.

**Remedy: This clearly begs the question of what the optimal habitats for these species are. It is not answered in the plan, nor does the plan establish any guidance for how to answer the question during project planning. We recommend the inclusion of such guidance. (The**

question of how to identify necessary ecological conditions for at-risk species is addressed in Issue 4.)

- DC-RIZ-Wando-1 is to “provide 1,300 acres of critical habitat for the threatened frosted flatwoods salamander.”

Remedy: It is not clear what this means. DC-Z-Wando-S-1 states that, “management activities improve the condition of breeding wetlands and migratory habitat” for the salamander. While “improvement” may be a desired condition, it is not a very demanding one and does not necessarily provide the necessary ecological conditions. We recommend that they be included in the plan.

- Standard S30 applies to “known habitat for Carolina gopher frog.” There is no map of this habitat, nor are any criteria provided for identifying it. S31 applies similarly to “known active American swallow-tailed kite nests.”

Remedy: This approach may be warranted to identify active use sites where criteria are not needed. In both cases, we recommend that either a map is provided that indicates where the standards apply, or require a pre-project survey to determine if the conditions occur. There is no standard that requires this. S35 includes a map for rare plant communities, but would require a survey for “population sites for at-risk plant species.” S40 also refers to these unidentified locations. G33 refers to “known breeding ponds for frosted flatwoods salamanders,” requiring criteria and a survey. G34 refers to “swallow-tailed kite habitat” which must be defined in the plan.

- ONJ-SCC-1 includes a management strategy to, “accomplish population expansion to improve connectivity between Carolina gopher frog meta-populations.”

Remedy: There are no plan components for connectivity. A desired condition needs to be added, along with criteria defining what is necessary for connectivity. We made a similar recommendation in our DEIS comments for the frosted flatwoods salamander. Instead the reference to connectivity among meta-populations no longer appears in the final OBJ-T&E-1. The reason given in the response to our comment is, “we should not offset duties or invest in resources to improve connectivity among meta-populations while a solid assessment has not been completed.” We disagree that waiting for a recovery plan is an acceptable approach to meeting NFMA obligations to contribute to recovery. A desired condition for connectivity needs to be added at the least.

#### *Aquatic ecosystems*

While the plan components for terrestrial ecosystems are relatively well-defined, those for aquatic ecosystems are not.

- DC-ECO-8. “aquatic species and community biological diversity, density and distribution are maintained, enhanced or restored. The amount, distribution and characteristics of aquatic habitats for all life stages are present to maintain populations of native species.” Similar language is used in DC-ECO-10.

**Remedy: The plan should provide additional guidance for what these characteristics are or how they would be determined. As it stands, it essentially restates the diversity requirement of the Planning Rule.**

However, DC-WAT-4 suggests that these characteristics are known (at least for priority watersheds) and could have been included in the plan. It states that, “Watershed indicators and attributes that are rated poor, such as aquatic passage, large wood, etc., are improved ...”

**Remedy: If it is known that they need improvement, it must also be known what condition is desired for these characteristics; the plan should reflect this.**

- DC-ECO-10. “The natural range of instream flows is maintained to support channel function, floodplain function and aquatic biota habitat and movement.... Streams are in dynamic equilibrium (i.e.; stream systems function within natural ranges of flow, sediment movement, temperature and other variables) ... The combination of geomorphic and hydrologic processes with land management activities within the watersheds creates a diverse physical environment, which maintains function and fosters biological sustainability and diversity. The physical integrity of aquatic systems, stream banks and substrate (including shorelines, flow permanence and other components of habitat) is intact and stable.”

**Remedy: This desired condition restates the requirements for ecological integrity, but there are no other plan components that articulate what the plan would actually do to accomplish this; we recommend the inclusion of such components in the final plan. This is a rare reference to the requirement for plan components to provide ecological integrity by providing conditions within the natural range of variation (NRV). However, it simply restates the legal requirement and sheds no light on what the natural range of instream flows or other variables are or how or when they would be determined. This information must be provided in the plan. Until they are determined there is no protection of these ecological conditions, and the plan does not provide what is needed for at-risk species. When they are determined, the plan would then have to be amended to apply the new desired conditions to all future management actions.**

Similarly, the desired condition for water quality is that it “remains within a range that ensures survival, growth, reproduction and migration of aquatic and riparian-dependent species.” How can compliance with this desired condition be determined? What is that range, and what management actions or restrictions are needed where water quality is not within it?

This desired also condition states, “New and replaced road and trail stream crossings are evaluated for aquatic organism passage.”

**Remedy: There is no reason for this to be only a desired condition when including it as a standard as a prerequisite for work on stream crossings would provide improved certainty; we recommend that the plan reflect this. We also believe that the standard should require aquatic organism passage instead of just considering it. Similarly, the language desiring that livestock grazing does not occur in riparian management zones should be a standard. These are not included in S22.**

- DC-WAT-1. “Improvements to the hydrologic function of wetlands and streams and aquatic habitats are considered during project-level planning across the forest. Riparian Management Zones (RMZ), which are approximately 100 feet from the edges of all perennial streams and lakes, and 50 feet from all intermittent streams, receive special consideration during project level planning to maintain hydrologic function and restoration of ecosystems.”

**Remedy: This desired condition will not be effective unless there are additional plan components that specify what this special consideration is; we recommend that those additional components be added to the final plan. Similarly, DC-SCC-10 includes water quality that “maintains habitat quality for at-risk aquatic species.” That is not defined here or elsewhere in the plan, other than as “hydrologic function.” The plan needs to explain how the achievement of this condition can occur and be determined.**

- A completely circular desired condition is found in DC-RIZ-Wando-1: “Desirable hydrologic, ecologic and social conditions are maintained and restored in the Guerin Creek/French priority watershed.”

**Remedy: This clearly needs to be clarified in the final plan.**

- DC-THR-3. “The impacts of existing dikes and dams on aquatic passage and wetland habitats are considered along with the potential movement of sea water further inland are carefully considered during project-level planning.”

**Remedy: These factors should have been considered in the process of developing the revised forest plan. We expect to see the final plan express desired conditions of impacts at some reduced level, objectives for improving aquatic passage, and some kind of strategy that responds to the possibility of saltwater intrusion.**

- DC-RIZ-Wando-1. “Stream(s) are evaluated for restoration during project level planning and integrated management activities form a watershed action plan.”

**Remedy: While resource plans like watershed action plans may be used to implement the forest plan, the forest plan must include plan components that indicate which streams should be restored and what the restored conditions should be; we recommend that the final plan include those.**

- DC-REC-6. “Aquatic nuisance species are controlled and managed according to Forest Service regional guidance and South Carolina state direction. Vegetation around ponds is sufficient to function as a sediment and pollutant filter to water bodies.”

**Remedy: One of the key findings in the Assessment is that, “Nonnative invasive species have increased to threaten all ecological systems on the Forest” (p. 17). These include aquatic nuisance species. This plan component needs to be supplemented to incorporate the relevant guidance that is necessary to protect at-risk species. To meet its NFMA requirement for plan components to provide for ecological integrity, the forest plan must incorporate the measures that are necessary to do so. In conjunction with the second sentence, plan components must provide some basis for determining what is sufficient.**

- S20. “Prior to authorizing or re-authorizing municipal, public service or commercial water withdrawal permits or diversions of water from streams, lakes, wetlands, or groundwater, determine the environmental flow or level (surface water levels or groundwater levels) needs sufficient to protect stream processes, aquatic and riparian habitats and communities, groundwater-dependent ecosystems, and recreation and aesthetic values.”

**Remedy: The forest plan must provide a basis for a project determination of what is sufficient by providing the specific desired conditions applicable to aquatic and riparian ecosystems. Leaving this determination entirely to professional judgment defeats the purpose of planning.**

#### *Other plan components*

- DC-THR-1. “Guidance in the regional noxious and invasive weed strategy is considered during planning and implementation of projects.”

**Remedy: The plan needs to express more than hope that certain practices be applied to projects. The plan can and should demand it, and must where it is necessary to provide ecological conditions needed for at-risk species. The final plan should identify the practices that are relevant and necessary for at-risk species and include them as standards or guidelines.**

- Standards S13 and S36 allow use of non-native plants “when it complies with Forest Service policy,” and “when in compliance with Forest Service native plant policy (FSM2070).” If this “policy” may be changed at any time without public participation or notice, the

exception swallows the rule, and this “standard” has no effect. Elements of the policy necessary to meet requirements for at-risk species should be in the final plan.

ISSUE 4: THE FEIS FAILS TO PROVIDE AN ADEQUATE ANALYSIS OF THE EFFECTS OF THE ALTERNATIVES ON AT-RISK SPECIES. IT IS THEREFORE NOT POSSIBLE TO DETERMINE WHETHER PLAN COMPONENTS PROVIDE ECOLOGICAL CONDITIONS NECESSARY TO CONTRIBUTE TO RECOVERY OR MAINTAIN VIABILITY OF AT-RISK SPECIES (AS APPROPRIATE). THE FEIS SUGGESTS THAT PLAN COMPONENTS MAY NOT PROVIDE THE ECOLOGICAL CONDITIONS NECESSARY FOR VIABLE POPULATIONS OF SOME SPECIES.

Applicable law and principles for Issue 4:

The Ninth Circuit established the basic analytical requirements for evaluating species viability at the project level in *The Lands Council v. McNair*, 537 F.3d 981 (9th Cir. 2008) based on the 1982 regulatory requirement for viability:

... the Forest Service must support its conclusions that a project meets the requirements of the NFMA and relevant Forest Plan with studies that the agency, in its expertise, deems reliable. The Forest Service must explain the conclusions it has drawn from its chosen methodology, and the reasons it considers the underlying evidence to be reliable.

... when the Forest Service decides, in its expertise, that habitat is a reliable proxy for species' viability in a particular case, the Forest Service nevertheless must both describe the quantity and quality of habitat that is necessary to sustain the viability of the species in question and explain its methodology for measuring this habitat.

There is no language in 2012 Planning Rule that should lead to a different outcome, and there is no reason to expect that the principles inherent in this holding would not apply at the plan level as well. **We expect to see a thorough discussion of what ecological conditions are necessary for each at-risk species, and an objective determination of effects of plan alternatives in terms of how well they provide these conditions.** In addition, the planning includes a requirement to “use the best available scientific information to inform the planning process” (36 CFR 219.3), which applies to both the identification of necessary conditions and the evaluation of effects.

The viability requirement applies to listed species as well because recovery requires that the Forest contribute to a viable population in the plan area or the range of the species. For listed species, the plan must also incorporate those elements of a recovery plan needed to contribute to recovery on national forest lands. The FEIS concludes that, “These forest plan components comply with the requirements of the Endangered Species Act of 1973 and the associated recovery plan for each federally listed species” (p. 140). The FEIS also states, “In general, all federally threatened and endangered species would continue to be managed and protected across the Francis Marion

National Forest in accordance with ... recommended protection measures in recovery plans...” (p. 141). While there is evidence that recovery plans have been considered, there is no documentation that demonstrates how the plan has met or incorporated these requirements, and at least for the red-cockaded woodpecker, there is evidence that the forest plan would “deviate” from the recovery plan.

The draft ROD states:

(T)he revised plan has the appropriate plan components to restore and maintain the diversity of ecosystems because key characteristics (including stressors and threats) of each of the nine ecological system groupings were taken into account when the desired conditions, objectives, standards and guidelines were developed. (p. 7, emphasis added)

That makes it imperative that how these were taken into account is documented in a way that demonstrates compliance with the relevant legal requirements.

One basic premise of programmatic effects analysis is that if the plan components do not prevent an effect from occurring, the EIS must disclose the possibility of it occurring, and may also discuss its likelihood. Thus the absence of mandatory plan components to limit effects should result in a greater likelihood of effects. In addition, the establishment of desired conditions does not by itself lead to a conclusion that they must occur. The effects analysis must disclose the uncertainty associated with these aspects of plan components. (For example, the Flathead National Forest DEIS included modeled projections of vegetative conditions that revealed desired conditions that were not likely to be accomplished.) **The uncertainty created by vague and indeterminate desired conditions must be recognized in the effects analysis.**

For years, the Forest Service has been avoiding addressing broad-scale effects during project analysis by saying that they are “beyond the scope” of that analysis. Now that it is time to consider those effects at the forest plan level, we expect the Forest Service to take a serious and rigorous look at choice of plan components that will drive future projects. It is important that this include the effects of plan components that are detrimental to at-risk species, as well as those that support them.

#### Discussion of Issue 4:

The planning rule includes a required methodology for determining viability of at-risk species. It first requires plan components to “maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area” (36 CFR 219.9(a)). Ecological integrity is defined as:

The quality or condition of an ecosystem when its dominant ecological characteristics (for example, composition, structure, function, connectivity, and

species composition and diversity) occur within the natural range of variation and can withstand and recover from most perturbations imposed by natural environmental dynamics or human influence.

We expect that the needs of at-risk species would be taken to account in identifying the key ecosystem components to be evaluated because the ecosystem plan components are “intended to provide the ecological conditions to both maintain the diversity of plant and animal communities and support the persistence of most native species in the plan area” (36 CFR 219.9).

**Remedy: We expect documentation of how ecosystem plan components meet the needs of at-risk species. Where they do not, we expect to see species-specific plan components that address necessary ecological conditions not provided with sufficient certainty by the ecosystem plan components (36 CFR 219.9(b), 1909.12 FSH 23.13). For ecosystem plan components, we expect to see a projection of the relevant future ecosystem conditions for each alternative. Where species-specific plan components are needed, it may be sufficient to demonstrate that remaining relevant threats have been managed.**

**In addition, we hoped to find a statement for each at-risk species that explains what ecological conditions it needs, whether (and if possible how much of) those conditions would occur in the plan area and a rationale that is based on plan components and their effects. Instead we found unsubstantiated reliance on a coarse filter strategy that addressed species almost entirely by addressing ecosystems. We also found that, from the information that was available to us, we could not fully understand the assumptions inherent in this approach or how they affected the conclusions about species viability. We recommend that these flaws be remedied prior to the finalization of the plan.**

#### *Sustainability and viability analyses*

The use of NRV and species in developing plan components and evaluating alternatives is described in Appendix E of the FEIS. While this ecological sustainability analysis of alternatives appears analytically rigorous, the analysis is largely based on unproven assumptions, with no actual analysis of the effect of plan components on future status of ecological conditions that could be used to predict species viability. It relies to an extreme degree on a coarse filter approach, to the point that individual species are not discussed at all (merely listed in a table). There are many statements characterizing what the Forest did, but no documentation of what they actually did do. This makes the statements conclusory and suspect under Administrative Procedures Act (APA) standards for a record that demonstrates a reasoned decision.

Appendix E summarizes the ecological sustainability analysis as follows:

Using a coarse-filter/fine-filter approach, the Francis Marion identified ecosystems and associated at-risk species, key ecological characteristics for ecosystems, forest

plan level indicators for evaluating their status, forest plan strategies, and resulting ecosystem sustainability ratings. We considered the natural range in variation in evaluating our departure from reference conditions, and in developing forest plan components for maintaining and restoring ecological sustainability and integrity.” (pp. 88-89, p. 92)

These steps are examined in more detail below. In most cases, it’s not clear what the actual reference conditions or NRV are or how departures were determined. The only characteristic where this is discussed seems to be vegetation structure, based on NRV descriptions in LANDFIRE, in Table E-18 (p. 104). There is a single departure value for each ecosystem, but it is unclear what it means. (However, it does show up in Table E-21 for current conditions.)

Much of the analysis was done using the ecological evaluation tool (ESE):

Based on the structure of the Nature Conservancy planning tool, the Forest Service developed a relational database called the ecological sustainability evaluation tool. The ecological sustainability evaluation tool follows the open standards for conservation and served as the primary process record for the species and ecosystem diversity analysis. This tool also includes documentation of some of the scientific and other sources consulted, and data gaps during development of the database. Data gaps are also disclosed in the final environmental impact statement. The tool documented relationships among parts of the ecological sustainability framework. For example, species were often related to one or more ecosystem characteristics, and a given forest plan component frequently affected multiple ecological systems or species. The following steps were used to build an ecological sustainability framework, with each step documented within the ecological sustainability evaluation tool (ESE tool). (p. 89)

**Remedy: These relationships are not documented in Appendix E but should be. They are also not available in the ESE documentation that was provided; it is a 2013 user’s manual that does not include data specific to the Francis Marion. If there is another document that is the “primary process record,” it has not been made available for review but should be. This “black box” approach does not contribute to public understanding of the environmental impacts of the revised plan. We suspect – based on the weaknesses we have identified in plan components – that inappropriate conclusions and assumptions have been made about the plan’s effects.**

The steps in the sustainability evaluation are discussed below along with recommendations on how it could be improved.

1. Identify and define ecosystems

The NatureServe ecosystem framework served as a basis for the mapping of potential natural vegetation types (PNVTs). Twenty-one ecological systems were identified and grouped into nine “ecosystem groups.” This grouping is displayed in Table E-3, p. 93). Aquatic ecosystems are subwatersheds. The FEIS states that these ecosystems were used for “evaluating forest plan effects on ecosystem and species diversity and for interpretation of the natural range of variability” (p. 100). It also refers to unspecified “associated documents in the process record” for more information.

**Remedy: This is an important first step because these ecosystems become the basic analysis unit for the ecological integrity requirement. It is possible that one ecosystem type in a group might not adequately represent another, but the rationale for the groupings is not displayed. We recommend that such a rationale be provided.**

## 2. Identify species

The Assessment included 140 potential SCC. From these, 9 listed species and 67 SCC were “known to occur on the Francis Marion National Forest, and met rarity rankings for inclusion as at-risk species” (p. 94).

“Additional species were added based on input from recognized conservation experts within the state. Species were then screened for inclusion in the framework and designated as threatened and endangered or species of conservation concern” (p. 90).

This screening process documentation in another document is referenced (see our earlier comments on SCC). Changes that occurred after the Assessment (the “additional species”) are important (in part because the Assessment would have to be updated to address them), but not described.

**Remedy: We recommend that the two species that were dropped (northern pine snake and eastern coral snake, p. 95) be further examined since they initially met the screening criteria (and did not receive any public comments).**

**In addition, the list of species was developed based in part on the “ecological needs” of the species (p. 94); those needs are not discussed anywhere but should be. They should have been considered for desired conditions.**

“During the assessment phase, with further refinement throughout the planning process, the biological planning team grouped species into ecosystem associations, based on known habitat requirements, and habitat drivers and threats ...” (p. 95). Habitat requirements for these species are not documented in Appendix E but should be. While there is discussion of such requirements for listed species in the Assessment, there is nothing similar for potential SCC.

**Remedy: We recommend the provision of information concerning the habitat requirements of potential SCC.**

The species associated with each species group are listed in Table E-5 (p. 96). Species may be in more than one group. Groupings are based on ecosystems, and also on the following finer-scale attributes of ecosystems:

- Stump and root mounds
- Road use
- Wildlife trees and large diameter hollow trees
- Forest openings

**Remedy: There is no discussion of any habitat requirements, threats or drivers for individual species in Appendix E; this information should be provided. Nor were the ecological conditions needed to sustain particular species documented there, which is a requirement for demonstrating viability. We request that this information be provided. If this information was documented elsewhere, Appendix E did not say how such information was used to develop desired conditions or other plan components.**

### 3. Identify and define key characteristics (and indicators) of ecosystem sustainability

This is a requirement of 1909.12 FSH 12.13. The Francis Marion was appropriately explicit and identified them in the Assessment (and the Assessment actually does use this information in an evaluation process). According to Appendix E, “Final determinations of ecological sustainability components (a new term, which does not refer to plan components) were based on expert input, subsequent additional information from a variety of sources, and habitat needs of associated species” (p. 90).

**Remedy: Again, actual habitat needs and their relationship to these key characteristics are not documented but need to be.**

“The following are key characteristics identified as important to (terrestrial) ecological integrity and associated species/species groups, and for which some Francis Marion-level digital data was available” (p. 100). **(We suggest that these would be good candidates for desired conditions, but they are not discussed in the section on plan components below.)**

- Percent of ecosystem dominated by characteristic native forest types
- Percent of ecosystem extent in “maintain” condition class (essentially a reference condition for longleaf pine ecosystems)
- Percent of the ecosystem meeting age criteria for old growth ( $\geq 100$  years)
- Landscape vegetation structure
- Percent of ecosystem extent in woodland, savanna, grassland (Table E-19 actually includes, forest, woodland, savanna, and early succession)
- Off-road vehicle trail density, paved open road density, and unpaved open road density (data “available upon request”)

- Percent of ecosystem extent impacted by non-native invasive plant species
- Percent of ecosystem burned at desired fire return interval AND percent of ecosystem acres burned during the growing season

Landscape vegetation structure is the only place historic conditions and “departure” are explicitly discussed, and the Assessment is referenced for more information. Table E-18, p. 104 lists the “departure rankings” for each ecosystem, but the calculation is not explained.

**Remedy: Given the central role of NRV for ecological integrity in the planning rule, its role in all ecosystem characteristics and their rankings warrants discussion. There is also no documentation that demonstrates that this single ecosystem condition is a valid basis for determining viability of any species; we recommend that this documentation be provided.**

Performance measures for watersheds were developed by regional staff and used GIS datasets to assess watersheds in terms of sediment loads, pollution point sources, flow modification by dams and road crossings, and riparian land use. There is a similar list of key characteristics for aquatic ecosystems (p. 90). (They are listed in Table E-36, p. 123.)

**Remedy: Appendix E does not document how these characteristics are relevant to at-risk species’ needs but should.**

In addition, Appendix E makes the following statement (p. 90, emphasis added):

As performance measures were identified for both terrestrial and aquatic systems, *criteria were set* for rating each performance measure as poor, fair, good, and very good relative to ecological sustainability. To produce a quantitative result, these ratings were scored as integers 1 to 4 for each element, with multiple elements producing an overall score for the *conservation measures* being evaluated (Table E-2). In general, poor and fair ratings indicate areas of concern for supporting and sustaining a diversity of species (Table E-2).

There is no discussion of the basis for this conclusion, which will become the basis for viability compliance.

**Remedy: It is important to know how the “criteria were set” and which “conservation measures” were being evaluated; we recommend that this additional information be provided.**

The discussion continues on p. 90: “Rationale and sources used in making choices were recorded in the ecological sustainability evaluation tool (ESE tool).”

**Remedy: This rationale and sources used in making choices are the key pieces of information needed to determine if plan components provide ecological conditions for at-risk species; we recommend that this information be provided. For example, we might disagree that the old growth indicator weight should be a 3 when six others have a greater weight (Table E-20). p. 90) This ESE tool documentation has not been provided.**

#### 4. Link species to the ecosystems and watersheds and identify any additional needs of species

In the April 2014 meetings, experts helped link terrestrial and aquatic species to ecosystems and watersheds in which they occur. It was determined that species' needs were best met when species were grouped before linking them to ecosystems and, in particular, key characteristics of ecosystems are linked a given species groups' needs. This linkage allowed us to assess how well the ecosystem and watershed frameworks covered needs of these species. Where ecological conditions for these species were not covered by the ecological sustainability framework, additional characteristics, performance measures, and rating criteria were added so these species would be covered. Therefore, all species have their needs covered by ecological sustainability framework, or a combination of the ecological sustainability framework and other additional forest plan components (p. 91).

(A)ssuring maintenance of species diversity based on the one or two primary ecosystems they are associated with meets regulatory requirements and intent (p. 95).

**Remedy: The linkage of species groups and ecosystems is presented in Table E-4 (p. 96) (There is nothing similar for aquatic watersheds.). Apparently “covered” means that a species is adequately represented by ecosystem characteristics; this needs to be clarified. In addition, the rationale for this, as discussed in the quote above, needs to be provided.**

The DEIS included an assessment of how well a species group represented a species. After we asked for an explanation of this “group weight” it was removed from the FEIS, but remains essential to understanding the reliability of the analysis. **We continue to seek clarification on that matter.**

**Remedy: There needs to be a discussion of what ecosystem characteristics are relevant to particular species and the science that would support that. There should be a discussion of why species needed “additional other plan components.” (There is a statement on p. 95 that, “all species could be linked to desired conditions ecosystems at the coarse filter scale.”)**

#### 5. Develop Forest Plan components

Appendix E makes the following statements:

- “Forest plan components were developed to provide ecosystem sustainability and ecological conditions for identified species based on the ecological sustainability evaluation framework. In some cases, current requirements and processes outside of the planning process were identified that address this goal. All elements of the ecological sustainability framework will be addressed by appropriate management direction in the forest plan.” (p. 91, emphasis added)
- “Desired conditions were developed for ecosystems in terms of composition, structure, connectivity, drivers, and stressors” (p. 94). A number of sources are cited.
- “A final list of all at-risk species identified on the Francis Marion and their associated coarse- and fine-filter management strategies are in Appendix D of the revised forest plan” (p. 149).

**Remedy: Appendix D lists desired conditions and objectives for each ecosystem. However, there is no discussion of which species are provided for by other requirements or what those requirements are; that information needs to be provided. In addition, there is no mention of standards and guidelines needed for species viability.**

The document goes on to state:

“Fine-filter strategies for species were developed where needed ...” “We included additional fine-filter provisions to ensure the conservation of federally-listed species and any associated critical habitat.” “Forest plan standards and guidelines were developed to address these fine-filter needs (the habitat feature associations like root mounds) to ensure that the plan promotes species diversity and ecosystem sustainability.” (p. 149, emphasis added)

**Remedy: There should be an analysis that addresses this question of need, as well as a discussion of which species needed fine-filter strategies, or for what habitat needs. There should be a concluding discussion regarding which plan components provide ecological conditions for each species. And finally there should be a discussion of how any plan components affect particular species groups or individual species.**

There is a statement that rare plant communities are “compatible with the desired composition, structure, function and processes of the associated native ecosystems at the coarse filter scale” (p. 149).

**Remedy: This statement that fine-filter plan components are not needed needs to be substantiated.**

Furthermore, the draft ROD states that, “The supplemental information on conservation strategies to manage habitat for South Carolina’s Species of Conservation was used to inform the analysis in the environmental impact statement and revised plan direction” (p. 28). While Appendix E mentions

the State Comprehensive Wildlife Strategy as a source for identifying SCC, it is not mentioned in relation to the development of plan components, or in the body of the FEIS.

**Remedy: For the ROD to make such a statement, the plan documentation needs to establish a clear link between specific recommended conservation measures and those adopted as plan components. Any other applicable species conservation strategies should be followed and adopted in the same manner.**

6. Evaluate Ecological Sustainability Ratings to assess future outcomes at both 10- and 50-year time intervals.

a. Ecosystem indicator weights and ranks

For each ecosystem, a table assigns weights to each indicator and classifies the condition of each terrestrial indicator as poor, fair, good, and very good, corresponding to scores of 1-4 (starting on p. 107). Table E-36 does the same thing for aquatic ecosystems, but does not include the weights “based on indicator importance and percent national forest land” (p. 123). I

**Remedy: In general, there should be references to any science applied to this process.**

This statement is also made:

Key characteristics, indicator values, and weights, were based on existing forest data, internal interdisciplinary expertise, and values used in other forest planning efforts in the Southern Region. (p. 106)

**Remedy: Appendix E does list the characteristics, values and weights but we recommend that there also be documentation of the basis for selecting each of them. (Each value in the table should be supported by the best available scientific information.)**

b. Expected “outcome” for each alternative (at 10 and 50 years)

Table E-21, and subsequent tables for each terrestrial ecosystem, gives indicator rankings for current conditions and alternatives (starting on p. 108). Tables E-38 through E-44 provide the same thing for each subwatershed (aquatic ecosystems). There are some “fair” and “poor” rankings for some indicators for the preferred alternative (many for no-action).

This statement is problematic:

Indicator values for the three forest plan alternatives were estimated for 10- and 50-year time periods based on expected results of alternative implementation followed by GIS analysis similar to that conducted for current conditions. (p. 106)

The only explanation of how “expected results of alternative implementation” were determined is, “Predictions were based on acreage in coarse filter maintenance and restoration management prescriptions, along with trends in those activities at 10- and 50-year intervals” (p. 91).

**Remedy: The documentation does not clearly explain how plan components were used to determine effects on ecosystems or species and such an explanation should be provided. Nor does it provide an actual “result” in terms of ecological conditions, which is necessary. It provides percentages of ecological conditions, which suggests a quantitative analysis of changes in vegetation, but it should show the projected vegetation conditions. Similarly, numbers are provided for the aquatic indicators, with no explanation for them. Because these are expected to be the basis for viability determinations, more information is required.**

c. Overall ecological sustainability rating for each ecosystem

These scores were calculated by multiplying indicator values (1 to 4) by indicator weights (1 to 4) then averaging. Table E-45 (p. 147) provides the results for each ecosystem group. (However, it does not address the other groups like root mound associations.) The terrestrial scores for the action alternatives range from 2.53 to 3.66. Only three scores are different between the action alternatives (lower for Alternative 3). Aquatic scores for all alternatives are 2.20 at 10 years, and 2.24 at 50 years.

These numbers are the basis for finding that the ecosystem sustainability requirement has been met. Since sustainability is defined as at least 2.5, terrestrial ecosystems are sustainable for both action alternatives, and aquatic ecosystems are sustainable for neither. “In general, declining overall scores over time indicate that alternatives may not adequately protect ecosystem sustainability and the diversity of associated species” (p. 91). There are no declining scores over time in the action alternatives.

**Remedy: We recommend that the best available scientific information that supports these conclusions about sustainability be provided.**

Appendix E also includes a discussion of the Watershed Condition Framework analysis (p. 151). Watersheds that are considered “properly functioning” “exhibit high geomorphic, hydrologic, and biotic integrity relative to their natural potential condition (USDA Forest Service 2011a).” This sounds directly applicable to ecological integrity, and implies that a “natural potential condition” (NRV) has been determined, and that projections of conditions could be made for alternatives.

**Remedy: This information needs to be clearly identified and should be considered in the aquatic integrity analysis. Watersheds important to at-risk species should have been identified as priorities.**

d. Viability determination for each species

The following statement is problematic:

The current condition and effects of forest plan alternatives on all species and species groups can be found in the final environmental impact statement, sections 3.3.3 and 3.3.4. (p. 95)

However, the referenced sections in the FEIS do not specifically address viability.

As is this statement:

Most plant and animal species needs are expected to be met by sustaining ecosystem diversity, but species-specific analyses were conducted to evaluate whether additional provisions were needed for federally listed species, Regional Forester's sensitive species, and locally rare species. The Regional Forester's sensitive species are evaluated in a biological evaluation. Some sensitive species are included as species of conservation concern and species groups are used to evaluate indirect effects in the biological evaluation (see appendix G). (p. 87)

The BE does include conclusions about viability for existing sensitive species, but does not refer to the ESE analysis.

**Remedy: An analysis and determination of viability is necessary to comply with 36 CFR 219.9(b)(1). However, it does not appear in Appendix E. Appendix G evaluates effects on individual listed species of the complete set of plan components. Appendix G does not address SCC that are not sensitive species. Elsewhere Appendix E provides conflicting information about whether fine filter, species-specific plan components are needed. Note that by assessing viability for groups of species, the conclusions for all species within that group are the same.**

**There must be documentation indicating that this final step of determining viability for all at-risk species has been completed. As it stands, the description does not establish the reliability of its conclusions, nor does it properly substantiate that the revised plan would provide "the quantity and quality of habitat that is necessary to sustain the viability of the species in question." These issues must be addressed.**

The FEIS includes a section on effects on species of conservation concern. It asserts that plan components would, "emphasize ecological conditions that maintain and restore forested wetlands and habitat for the associated species group" (p. 176). However, this section is organized by ecosystem, and there is limited discussion of individual species.

**Remedy: The analysis largely repeats the coarse filter analysis in the ecosystem section, and contains no justification for how this can represent effects on each species. This justification must be provided. The closest it comes to discussing effects on individual species is where it says, “Direction in the revised forest plan addresses specific habitat needs including, but not limited to” selected species (p. 176), and giving examples. Examples of effects do not constitute effects analysis; this needs to be remedied. The FEIS also includes the results of the ESE analysis for the ecosystems (cum “ecosystem associates”).**

The FEIS states that one of the units of measure for addressing at-risk species is “acres managed for at-risk species” (p. 18). We could not find that measure evaluated for alternatives in the DEIS, and the response to our comment stated that these acres are displayed in Appendix E and Appendix G of the FEIS.

**Remedy: We did not find it there, so it appears that the Forest failed to disclose an important aspect of the environmental impacts. That information must be disclosed.**

In the subsection below we raise additional issues regarding specific effects of particular plan components. We are not certain of whether or how these components or effects might have been incorporated into the viability analysis described above.

#### *Terrestrial ecosystem example*

##### DC-ECO-2. Upland Longleaf and Loblolly Pine Woodlands

“This ecosystem provides habitat for DC-T&E-1. Frosted Flatwoods Salamander, DC-T&E-2. Red-Cockaded Woodpecker, DC-T&E-3. American Chaffseed, and DC-SCC-7. Upland Pine Woodlands Associates. See Figure 2-6 for Desired Conditions of this ecosystem.”

This desired condition typifies the approach to providing for at-risk species. It states a desire to provide habitat for these species in a particular ecosystem. It goes on to provide a description of the desired ecosystem conditions, and Figure 2-6 provides a picture of the desired stand condition. Some of these vegetation conditions are quite specific and measurable.

**Remedy: In addition, there must be a discussion of the scientific basis for establishing these ecosystem conditions as desired conditions. In particular, there must be a reference to the NRV as required by the planning rule.**

The narrative also again alludes to wildlife species:

Upland longleaf woodlands, along with loblolly woodlands and wet pine savanna, form a matrix of pine forests which support a primary core population of the

federally endangered red-cockaded woodpecker and provide ecological conditions needed by many other wildlife species (e.g., Bachman's sparrow and Northern bobwhite quail) and at-risk species (e.g., American chaffseed).

This approach maneuvers around the questions of what ecological conditions are actually needed by at-risk species. Agency directives establish that as a key consideration in the development of plan components.

**Remedy: For at-risk species, the Forest should have considered “the key ecosystem characteristics, ecosystems, and ecological conditions necessary to sustain the at-risk species” (1909.12 FSH 23.11b5b). This requires a demonstration of the relationship of species to selected ecosystem characteristics. The Forest should have also considered, “The key habitat relationships of the species by ... 1) Evaluating the connection between habitat conditions and population consequences” (1909.12 FSH 23.132b).**

The clearest statement of the approach taken by the Forest to address at-risk species by plan components is this (p. 41):

We grouped at-risk species “Associates” according to similar ecosystem and habitat needs, limiting factors, threats, or key characteristics. Most often appropriate habitat conditions for At-risk Species Associates are maintained and restored at the coarse-filter scale (ecosystem). Additional fine-filter-scale direction was developed to further emphasize habitats for at-risk species associates, locations for known high quality rare plant communities, and populations.

**Remedy: There is no documentation of the “habitat needs” for species or how the plan components meet them. The documentation cited to address this question is Appendix D of the forest plan. Table D-3 groups species as ecosystem “associates.” A rationale must be provided for these associations.**

The forest plan revision Assessment should be a source for information about at-risk species and the ecological conditions that plan components must provide. For SCC there is simply a list of the potential terrestrial species. For species with ESA requirements, there is a longer narrative description that provides some information about important habitat conditions. However, there must be a document that demonstrates or explains how ecosystem plan components provide ecological conditions needed by at-risk species.

**Remedy: Provide a document that demonstrates or explains how ecosystem plan components provide ecological conditions needed by at-risk species.**

Table D-4 in Appendix D lists the desired conditions and objectives applicable to each at-risk species. It appears that the question of species viability is being answered almost entirely by a

coarse filter approach to plan components, without actually establishing a scientific basis for doing so.

**Remedy: The scientific literature notes that the coarse filter approach is unlikely to provide a reliable basis for multi-species conservation efforts, and there must be a demonstrated correlation between the ecosystem attributes included in the coarse filter and those necessary for the viability of individual species.<sup>1</sup> The Forest needs to provide evidence of this.**

The response to our comments on the DEIS assured us that, “Further clarification of how the plan components for SCC species are developed - and the process for evaluating effects to SCC – will be incorporated into Appendix D.” We found no such discussion in Appendix D.

**Remedy: Further discussion clarifying how the plan components for SCC was developed must be provided.**

The planning rule, at 36 CFR 219.9(b)(1), requires the Responsible Official to determine whether plan components, including standards or guidelines, to maintain or restore ecosystem integrity and ecosystem diversity provide sufficient ecological conditions for at-risk species, or if plan components specifically directed toward providing specific conditions required by such species must be developed (see FSH 1909.12 23.13). There are some species-specific plan components for some species. However, the available documentation does not demonstrate that the ecological conditions needed by the remainder of the species are adequately provided by the ecosystem components.

**Remedy: Documentation of this demonstration needs to be provided.**

The viability requirement applies to listed species as well because recovery requires that the Forest contribute to a viable population in the plan area or the range of the species. For listed species, the plan must also incorporate those elements of a recovery plan needed to contribute to recovery on national forest lands. The FEIS concludes that, “These forest plan components comply with the requirements of the Endangered Species Act of 1973 and the associated recovery plan for each federally listed species” (p. 140). The FEIS also states, “In general, all federally threatened and endangered species would continue to be managed and protected across the Francis Marion National Forest in accordance with ... recommended protection measures in recovery plans...” (p. 141).

**Remedy: While there is evidence that recovery plans have been considered, there should be documentation that demonstrates how the plan has met or incorporated these requirements. For the red-cockaded woodpecker, there is evidence that the forest plan would “deviate” from the Recovery Plan.**

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<sup>1</sup> See <http://www.defenders.org/sites/default/files/publications/planning-for-diversity.pdf>, p. 14.

*Frosted flatwoods salamander*

- The desired condition is to, “Maintain and restore ecological conditions for the federally threatened frosted flatwoods salamander within designated critical habitat on the forest...” (DC-T&E-1).

It is not specific about what those “ecological conditions” are, and acknowledges that part of the desired condition is, “Information is obtained to ensure successful reproduction and recruitment of the frosted flatwoods salamander.”

**Remedy: We recommend the development of specific desired conditions.**

Since this desired condition is applied only to a specified area, the critical habitat meets the definition of “management area.”

**Remedy: We recommend that it be treated as such in the revised plan, including identification as not suited for timber production. “Typical forest management and restoration activities,” as described in the BA, should not occur here.**

- The BA notes that, “Some of the best examples of frosted Flatwoods salamander breeding wetlands on the Francis Marion are bordered by a former tram bed” (p. 200). However, there is no mention in the revised plan of the need to remove or mitigate this source of ongoing adverse impacts on this listed species and on ecological integrity.

**Remedy: This issue should be addressed.**

- The BA lists several standards and guidelines that would minimize effects on the salamanders. They all apply to different areas.

**Remedy: We recommend that they all specifically refer to designated critical habitat, which has been mapped. If zones around known breeding ponds are also to be used to apply plan components, these ponds must either be mapped in the plan and/or a pre-project survey must be required.**

- The BA also states that, “Any management activities that could affect potential breeding ponds or adjacent upland habitat would be conducted in accordance with USFWS guidance for conservation of this species” (p. 204). It is not clear what this is referring to.

**Remedy: If it is referring to existing guidance, that must be incorporated into the revised plan so that the plan meets the requirement to contribute to recovery of listed species. Any future guidance that would apply to all projects would also need to be incorporated into the plan, but that should not be considered relevant to consultation on this proposed action.**

- The BA concludes this about the likely adverse effects: “It is not possible to quantify the potential effects, but the Forest Service is actively participating in recovery planning with USFWS and will attempt to minimize the possibility of harming individuals of this species during implementation of the proposed plan” (p. 205, emphasis added).

**Remedy: The required conclusion for NFMA is that the forest plan must contribute to recovery; this needs to be reexamined. Plan components must be developed that discuss actions that would be taken to promote recovery.**

*Listed plants*

- Part of desired condition DC-T&E-3 is that American chaffseed be maintained along roadsides.

**Remedy: There should be other plan components that make this likely to happen, such as a standard prohibiting certain roadside treatments, or required surveys. The FEIS refers to plan components that are “protection measures aligned with the species’ recovery plan” (p. 147). It should make clear what those are.**

- The pondberry recovery plan emphasizes that, “first priority be given to management and enhancement of populations at known and historic sites for the species, where possible” (p. 205). In order for the revised plan to contribute to recovery, it must incorporate this prioritization.

**Remedy: The BA indicates that adverse effects on pondberry could result from “timber harvest at pond ecotones” (p. 205). Why is timber harvest necessary in pond ecotones? This should be justified for ecological reasons and it needs to be clear that the standards listed as mitigating measures apply to pond ecotones; none of them currently mention this. These areas should not be considered suitable for timber management.**

The BA refers to “additional management actions” that would benefit the listed plant species (see p. 194). Many of these appear to be assumptions that are not based on plan components. Consultation must occur only on the plan components in the proposed action, not on additional management action. Examples include:

- “Population enhancement and propagation” of listed plants and “management of habitats adjacent to roadsides.” These assumptions are derived from the “management strategy” for OBJ-T&E-3. Management strategies are not plan components and cannot be given equal weight in the effects analysis.

**Remedy: These need to be included as plan components.**

- “Attempts are made to survey and flag individuals prior to the onset of activities.”

**Remedy: This cannot be assumed unless there is a standard that requires it.**

- “Reduction of shrubs” is expected to lead to expansions of populations of pondberry (p. 207).

**Remedy: Shrub reduction is not included in the objective for pondberry and therefore should be added.**

- In addition, we noticed that standard S41 in the revised plan is not the same as that included in the BA (p. 194).

**Remedy: There needs to be an accounting of these differences and their effects.**

#### *Other species*

- The use of indicators of conditions of key characteristics is a potentially useful evaluation tool, and indicators are included for each group of associated species. For example, for the “Wildlife Snag and Large Diameter Hollow Tree Associates,” the indicator is “number of snags per acre forestwide” (p. 195). However, this indicator is not determined or evaluated in the effects analysis. The disclosure of effects is simply this: “... under alternatives 2 and 3, plan components are designed to create and maintain snags and hollow trees at a higher level than alternative 1. As such, the direct and indirect effects for species in this group would be more beneficial than those under alternative 1.”

**Remedy: This does not demonstrate that necessary ecological conditions would be provided and must be remedied. Note that this is the way that indicators are used for all species groups.**

- For some reason, “Forest Opening Associates” have been treated differently than the other groups. Table 3-49 provides a lot of information about the conditions they need, the rating system for those conditions, the weight given to the indicator, and current value of the indicator.

**Remedy: To complete the viability analysis and disclosure, this table needs to include the estimated future values for each alternative. Something similar should be done for other species groups and their listed indicators.**

- The BA bases its “not likely to adversely affect” determination on findings that wood stork “preferred nesting sites would not be actively managed,” and “management actions would follow guidelines to avoid harm or harassment if rookeries were found” (p. 223).

**Remedy: This seems contradictory; there should be standards or guidelines in the plan that avoid preferred nesting sites or rookeries.**

- While we like the specificity of DC-SCC-1 for stump and root mound associates, it is ambiguous regarding when there would be a need to create underground refugia.

**Remedy: There should be a guideline that addresses this.**

- We also like the desired condition to provide for safe passage for wildlife species sensitive to road use.

**Remedy: We recommend a strategy embodied in plan components that indicates priority areas based on the best available scientific information, such as was done for Morgan Creek Seepage Bog in the Pine Upland/Wetland Ecotones desired condition, or the rare plant communities mapped in Appendix E.**

- Table 2-6 (and tables in the plan for other areas) is confusing because it seems to be a mixture of facts, management area classifications with desired conditions, and it is important to know which is which. One questionable entry is a large number of acres where the desired condition is a departure from a fire regime condition class.

**Remedy: This would not be appropriate and should be reexamined.**

- The draft ROD decries the “degradation of ecosystems caused by feral hogs” (p. 12) but the revised plan takes no responsibility for addressing wild hogs through plan components, and appears to suggest that this issue is somehow independent of the forest planning process. It states that future actions do not depend on the alternative selected (p. 223), but that is only a valid approach to meeting the species viability requirement if all alternatives include appropriate plan components. DC-THR-1 only mentions coordinated prevention and education efforts (and seems to be focusing on invasive plants). Simply permitting control of feral hogs (absence of plan components) does not meet the requirement that plan components provide ecological conditions for at-risk species.

**Remedy: There should be an actual desired condition of elimination of feral hogs.**

### *Old growth*

We agree that, “Old growth remnants appear to be both biologically and socially significant on the Francis Marion” (p. 204), and that, “The availability of old growth conditions on private lands is likely to decline in the future...” (p. 209). We don’t agree that desired future conditions will protect these legacy remnants on national forest lands. The FEIS also incorrectly misquotes standard S37 as requiring that current old growth stands be “maintained.”

**Remedy: As a result, this conclusion from the effects analysis is flawed and should be remedied: “Through S37, stands meeting age criteria for old growth would be maintained using the age criteria in the Region 8 Old Growth Guidance.”**

**In addition, with only 30,000 acres of potential old growth (of which 20,000 is currently protected), none of these should be excluded from the old growth network envisioned by the desired condition, and designation in the revised plan based on the best scientific information. We don’t understand that the phrase “future old growth-compatible allocations” could include those where harvest of old trees is required. That would be the case on any lands suitable for timber production.**

*Aquatic ecosystems*

- The riparian management zone widths in S-22 do not comply with the Planning Rule (36 CFR 219. 8(a)(3)(ii)).

**Remedy: The standard needs to be redrafted. It is written as a guideline (“should”) and it does not apply to areas around lakes and open water wetlands. Riparian management zones are also not included in the desired conditions for open water wetlands in DC-ECO-08 or 09.**

- While the FEIS starts off by discussing the degree of “watershed improvement,” the analysis appropriately estimates the impacts of management activities on sediment. It concludes that sediment increases would be less than 5%, and that, “Therefore, the increased sediment in streams should not inhibit the movement of aquatic organisms and impair aquatic habitat” (p. 97).

**Remedy: This conclusion needs to be substantiated by best available science for ecological conditions needed by at-risk species. Estimates appear to be available by sub-watershed and attention should be focused on those subwatersheds most important to at-risk species.**

- The EIS implies that compliance with Forest Service national best management practices for water quality is mandatory (p. 90), and concludes that, “Given the effectiveness of these best management practices programs, none of the three alternatives should have long-term direct and indirect impacts to rivers and streams.”

**Remedy: The Planning Rule requires that, “Plan components must ensure implementation of these practices” (36 CFR 219.8(a)(4)). That requires a standard to incorporate them. They are mentioned in desired conditions and guidelines, and S19 requires use of state BMPs, but the plan does not include the standard needed comply with this requirement of the planning rule.**

- The plan is unclear on when woody debris will be removed from streams. S14, S21 and G28 all say somewhat different things.

**Remedy: We think a standard should be based on desired conditions for the stream, but they do not exist (see discussion of aquatic ecosystems in Issue 3).**

- A response to comments (Seq#66) regarding water table conditions relies in part on an assumption that recovery of beaver within some areas may also promote local water table increases.

**Remedy: However, there is nothing in the plan suggesting that recovery of beaver is a desired condition. This should be included.**

- In addition, the draft ROD states, “The revised plan provides direction that will protect wetlands by ensuring that new construction of roads and other facilities will not have an adverse effect on sensitive aquatic habitat or wetland functions. In addition, wetland evaluations will be required before land exchanges occur or special-use permits are issued in areas where conflicts with wetland ecosystems could occur” (p. 30).

**Remedy: There are no standards or guidelines limiting these activities in wetlands. There should be.**

#### *Roads*

The FEIS cites the OBJ-MUB-6 as a basis for projecting reduced road density that benefits wildlife (p. 106, emphasis added). This objective does include the following among the criteria:

2. Reducing road use in *areas of at-risk species that are sensitive to road use.*
3. Improving connectivity of ecosystems *where roads are significantly altering current ecosystem function or reducing impacts to resources.*

**Remedy: The plan must identify where these italicized areas are, or provide criteria for identifying them, and there should be a desired condition for road density that would protect these species.**

- OBJ-REC-2 would reduce road density in semi-primitive non-motorized management areas, and road density is mentioned in DC-RIZ-Wambaw-2 as “lower than the surrounding forest.”

**Remedy: This is an important enough stressor to wildlife to warrant a more focused approach. Otherwise these environmental benefits seem exaggerated. In fact, they actually**

**conflict with this conclusion: “The majority of indicators are ranked good and very good, with the exception of unpaved open road densities, which were ranked poor, and anticipated to remain poor, within upland pine woodland ecosystems, since the existing road network may be needed for restoration and access” (p. 107).**

#### *Management areas*

The plan properly recognizes that ecological integrity may not be achieved on all parts of the national forest because of “adjacent development and human activities” (p. 39). We interpret this to mean “adjacent human development” because human activities on the national forest are subject to management by the Forest Service and must be managed to meet diversity requirements). It describes desired conditions for MA-2 that are different from desired conditions for MA-1. It also states that, “deviation from the desired conditions for fire-adapted longleaf ecosystems would be likely to occur.”

**Remedy: This suggests an increased risk to wildlife found in MA-2 that must be offset by more protective and certain management of MA-1 to provide the required integrity for each ecosystem as a whole. For example, less of MA-1 than NRV should be in the young age class to offset the greater amount in MA-2.**

#### *Other plan components and their effects*

- The general formula used for effects “analysis” appears to say 1) that desired conditions will occur and that 2) the effects that could occur would be mitigated by the standards and guidelines that were included to address those effects.

**Remedy: There needs to be actual analysis of future conditions and effectiveness of mitigation. As it stands there is little actual analysis. For example, a desired condition in DC-ECO-2 is, “Mature components of upland longleaf pine woodlands are open, with canopy closure typically less than 60 percent (40-70 square feet of basal area).” Then, the “direct and indirect effects” of Alternative 2 on the same ecosystem are, “Canopies would be open with canopy closure typically less than 60 percent (40 to 70 square feet basal area) ...” (p. 106). NEPA requires more than this. It is especially important for the NEPA process to adequately address the broad-scale cumulative effects of anticipated projects needed to achieve and maintain the desired condition if the Forest intends to tier to forest plan NEPA at the project level. And the importance of project-level NEPA will be elevated for SCC since there will not be project-level viability analysis requirements similar to those now in place for sensitive species.**

- The BE treats “management strategies” the same as plan components (p. 235).

**Remedy: This must be remedied moving forward because it is contrary to the Planning Rule, which requires consistency with plan components, but not with management strategies. This difference in certainty must be recognized in the effects analysis, but instead we suggest that these management strategies are necessary to provide ecological conditions for these species and therefore should be included as plan components.**

- In relation to cumulative effects, there is a description of a “management strategy” for collaboration on p. 171, which apparently is referring to OBJ-SCC-3. While the EIS should not attribute effects to decisions that are not in the plan, they may have some relevance to cumulative effects.

**Remedy: We are intrigued by the idea that the effect of “improved partnerships” was factored into the ESE analysis so that it shows up in the sustainability rankings (p. 176). However, we wonder why the emphasis on habitat connectivity was left out. We also think that some of this “management strategy” should actually be plan components; in particular, “Align land ownership adjustments to improve connectivity among habitats for at-risk species where needed” should be an objective to guide land adjustment planning, which would make it more likely the desired results would occur.**

- The effects analysis appropriately distinguishes effects between management areas, since the acreage difference is really the only substantive difference between the action alternatives.

**Remedy: There needs to be a logical explanation of why an alternative’s conclusions about sustainability would be based solely on MA-1 (p. 107).**

Generally, it is important for the ROD to explain the reasons why Alternative 2 was selected, and that must be based on the plan components in the alternative. Extraneous material that may have been included in the set of plan documents cannot be the basis for this decision.

For example, one of the reasons the draft ROD gives for the revised plan protecting at-risk species is “our intent to develop strategies with adjacent community developers to improve opportunities and conditions to conserve” them (p. 8). However, there are no plan components that address adjacent community developers, and references to other collaboration to benefit wildlife are found only in a “management strategy” for OBJ-SCC-3. Thus this “intent” in the ROD is not a valid basis for making this decision.

**Remedy: We believe that this cross-boundary coordination is important, especially with regard to habitat connectivity, and therefore at least a desired condition for working with community planners and developers should be included.**

Similarly, the draft ROD states that, “The revised plan links the Francis Marion to the broader landscape through migration corridors” (p. 28). The revised plan does address this, but only in one RIZ (DC-RIZ-Wambaw-1) and only for priority watersheds.

**Remedy: The revised plan should provide a greater extent and specificity of the locations of these corridors.**

ISSUE 5: THE REVISED PLAN VIOLATES NFMA REQUIREMENTS FOR TIMBER MANAGEMENT AND SUSTAINED YIELD. THE PLAN INCLUDES AREAS IDENTIFIED AS SUITABLE FOR TIMBER PRODUCTION THAT SHOULD HAVE BEEN CLASSIFIED AS NOT SUITABLE. THE PLAN INCLUDES A SUSTAINED YIELD LIMIT THAT IS BASED ON LANDS THAT ARE NOT SUITABLE FOR TIMBER HARVEST, OVERESTIMATES TIMBER VOLUME AND FAILS TO LIMIT TIMBER HARVEST AS REQUIRED BY NFMA, AND IT PROPOSES A DEPARTURE FROM NON-DECLINING EVEN FLOW OF TIMBER WITHOUT FOLLOWING THE PROCEDURES REQUIRED BY NFMA. THE RESULT IS ESTABLISHING TIMBER VOLUME OBJECTIVES THAT ARE UNSUSTAINABLE AND CREATING UNFORESEEN ENVIRONMENTAL EFFECTS.

### *Timber Suitability*

#### Applicable law and principles:

NFMA requires that lands be separated into two broad categories during the forest planning process with respect to timber harvesting. Lands are to be designated as “not suited for timber production considering physical, economic, and other pertinent factors as determined by the Secretary.” Timber harvest on such lands may then only occur “for salvage sales or sales necessitated to protect other multiple-use values” (Section 6(e), emphasis added). (“Other” multiple-use values must be read as “other than timber production.”) Remaining lands are suited/suitable for timber production, and become the “suitable timber base,” which has been the basis for determining a sustained yield of timber (but see below).

NFMA does not define “timber production,” but the traditional definition was incorporated into the 1982 planning regulations, and again into the 2012 Planning Rule. This definition of “timber production” is, “The purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use” (36 CFR 219.19). The planning rule does not define “regulated,” but its traditional meaning in the forestry profession is that a forest is made up of a distribution of age classes that will be harvested at a sustainable uniform rate for a given rotation length. “Crops” captures the concept pretty well.

The Forest Service Planning Handbook was revised to provide guidance for implementing the 2012 Planning Rule. It includes a process for determining whether particular lands should be suitable for timber production (Section 61). That process first eliminates areas with physical or legal restrictions that would apply regardless of which alternative management plan is selected. That leaves lands that

“may be suited for timber production,” depending on whether the alternative that is selected allows it (emphasis added).

The second step in determining which lands are suitable for timber production is based on compatibility with desired conditions and objectives for the land area in a particular plan alternative. In accordance with NFMA, the Planning Handbook, identifies these other “pertinent factors” to be addressed in the EIS:

1. Timber production is a primary or secondary use of the land.
2. Timber production is anticipated after desired conditions have been achieved.
3. A flow of timber can be planned and scheduled on a reasonably predictable basis.
4. Regeneration of the stand is intended.
5. Timber production is compatible with the other desired conditions or objectives for the land designed to fulfill the requirements of 36 CFR 219.8-219.10.

The fifth criterion essentially restates the requirement of the planning rule, while the others further define the meaning of “timber production.” While traditionally most national forest lands with trees on them have been presumed suitable for timber production unless they could be excluded based on some criteria, **the Forest Service must now affirmatively demonstrate that each of these criteria has been met for each management area (since management areas are defined by different desired conditions and other plan components).**

The first criterion appears contrary to NFMA; timber must be a primary use. The distinction in the law is between those areas where timber is managed for “timber production” (suitable lands) and where it is managed for “salvage sales or sales necessitated to protect other multiple-use values” (not suitable lands). In this context, a “secondary” use would be secondary to one that protects other multiple-use values, and the land must be designated as unsuitable. **The Forest must decide at the programmatic level which use would prevail in the event of a conflict, and designate the land accordingly. If timber harvest is merely a potential tool, which may or may not be used, then lands should be found not suited for timber production.**

In most cases, the decision will ultimately boil down to a question of whether there is a reasonably predictable flow of timber that can be sustained over multiple rotations. This highlights the importance of understanding the assumptions that are being made about future yields from management areas where there are potentially conflicting uses. If there is controversy about the projected yield from a management area, there will be controversy about harvesting that yield, the projected harvest will not be “reasonably predicted” or sustainable, and the forest cannot be considered regulated. It would therefore not be suitable for timber production.

It is also not possible to separate the question of timber suitability from the requirement for ecological integrity, which requires ecosystems to be within their natural range of variation (NRV).

**The development and evaluation of alternatives must allow for lands to be classified unsuitable if timber production on them conflicts with this overriding requirement.**

The classification of lands as suited or not suited for timber production should also have implications for timber harvest volume flow requirements. Only harvest from lands suitable for timber production should be “planned” this way. This is discussed in another section below.

**Discussion of suitability:**

The Francis Marion explains how it made its timber suitability determinations for each forest plan alternative in Appendix B to the FEIS. From the 260,000 acres of national forest lands, the Forest identifies 22,000 acres (8%) as not suitable for timber production based on physical conditions or legal restrictions. The rest of the Forest “may be” suitable for timber production, depending on which alternative is selected.

Appendix B establishes the basic criterion to be suitable for timber production as: “Achieving the desired conditions of the revised forest plan, and maintaining these forest conditions and habitats, generally requires regular, planned harvest entries” (p. 8). We agree that this could make an area suitable for timber production. However, the Forest has not shown any reason that without regular removal of trees, the Forest could not provide ecological integrity; that is, natural disturbance regimes under which these ecosystems evolved can no longer be provided by natural events, and can only be replaced by logging.

The Forest’s February 17, 2016 response to our request for additional information about this also stated that, “recurring harvest will be needed as a tool to create and maintain desired tree densities for ecological integrity on most all National Forest lands in the future.” Under the conditions existing in MA-2, we can understand that this may be the case. Where a historic fire regime is impractical to maintain the naturally open conditions, such lands may be suitable for timber production if they meet the other criteria.

**Remedy: We do not believe this case can be made for MA-1. Once existing loblolly pine stands are restored to longleaf pine, prescribed fire or limited thinning should be able to maintain the necessary forest conditions. Timber harvest may still be used on occasion, but not on a predictable “recurring” basis.**

**Within MA-1, there are additional areas that we believe should not be considered suitable for timber production. As we have noted elsewhere, the area around lakes and open water wetlands have not been identified as riparian management zones, which are not suitable for timber management. As was mentioned above pond ecotones should not be considered suitable for timber production.**

We identified other circumstances in our comments on the DEIS, which included red-cockaded woodpecker foraging habitat, frosted flatwoods salamander critical habitat and Carolina gopher frog breeding wetlands. Appendix B in the FEIS addresses the first two, as well as “virtually all rare plant communities,” by essentially stating that these species need a “fire maintained, open-canopy, longleaf pine habitat, which requires some form of timber management” (p. 10, emphasis added).

**Remedy: This logic is not self-explanatory. While the Forest has made the case that periodic fire is needed and will be used in MA-1, that is not the case for periodic logging. After reconversion to longleaf pine and regular burning, mechanical tree removal should not generally be required. Moreover, for critical habitat for a listed species that may be adversely affected by timber harvest, there should be no question that regular timber production should not be considered, at least until the species has recovered.**

For species needing old growth trees (like RCWs), we do not see an ecological justification for removing trees that have grown to a proper density as a result of periodic burning. We believe that the Forest has misinterpreted the recovery plan language that trees in RCW foraging habitat should be at least 120 years old (p. 11). The assumption in the plan is that trees may be harvested in 120 years, and that trees may reach age 170, but there is nothing in the plan that requires this. Even on the assumed removal schedule, the resulting forests would probably not resemble the type of forest needed for recovery. Since the RCW recovery plan states that one of the two key limiting factors is a lack of cavity trees, the best available scientific information would not support regulated harvest of cavity trees as a requirement for species viability or ecological integrity.

**Remedy: The Forest needs to reconsider this issue.**

The discussion of old growth in relation to suitability is not entirely clear (p. 11). We agree that other unsuitable areas would provide old growth, but such areas would not necessarily address the needs for RCW foraging areas.

**Remedy: If this is referring to areas identified as unsuitable because it is being managed as old growth, we would agree they should be unsuitable, but there have been no such areas identified, nor are particular amounts of unsuitable old growth areas accounted for among the unsuitable acres.**

Not only are the above areas treated as suitable acres, but the volume projections have not been reduced from those expected from maximum timber production. The one exception is the RCW foraging areas in MA-1 where the rotation length has been extended. Notably any such RCW areas in MA-2 would be expected to contribute maximum timber volume, which conflicts with the statement in the response to comments that, “All pine stands within ½ mile of red-cockaded woodpecker clusters will be managed to provide suitable foraging habitat for the red-cockaded woodpecker.” Otherwise, “No specific operational limitations that modify or reduce yields have been identified in the desired conditions and other plan components” (p. 14).

**Remedy: This leads to overestimating the amount of timber that can be produced and must be reconsidered.**

*Sustained yield*

The Francis Marion revised forest plan presents new and incorrect Forest Service interpretations of NFMA's timber requirements that represent substantial changes from prior national forest planning. First, projected timber yields from land both suited and not suited for timber production would be combined into a single calculation, which may include lands where future timber yields are highly uncertain. Second, the "sustained yield limit" does not function as a limit on the amount of timber that may be scheduled for harvest. This abrupt change from past policies and practices has received little public acknowledgement, and may have unforeseen consequences, some of which may be detrimental to providing ecological diversity. Finally, the Forest incorrectly interprets NFMA's provisions for departing from a sustained or non-declining level of timber harvest.

The 2012 Planning Rule addresses these timber management requirements in 36 CFR 219.11. Relevant planning directives are found in FSH 1909.12, Chapter 60. However, the Timber Resource Planning Handbook, FSH 2409.13, Chapter 30, contains the original and correct agency policy definitions, and the Planning Handbook therefore conflicts with that. Italics are used here to emphasize the relevant changes in wording and interpretation.

NFMA states:

- "The Secretary shall assure that such plans ... (2) determine forest management systems, harvest levels, and procedures" in light of "the availability of lands and their suitability for resource management." (Section 6(e)).
- "In developing land management plans pursuant to this subchapter, the Secretary shall identify lands within the management area which are not suited for timber production, considering physical, economic, and other pertinent factors to the extent feasible, as determined by the Secretary, ..." (Section 6(k)).
- "The Secretary of Agriculture shall limit the sale of timber from each National Forest to a quantity equal to or less than a quantity that can be removed from such forest annually in perpetuity on a sustained-yield basis." (Section 13a)

Wilkinson and Anderson ("Land and Resource Planning in the National Forests," Oregon Law Review, Vol 64, No. 2, 1985) are considered a credible source of information on the history of forest planning, the development of NFMA and issuance of the 1982 planning regulations. They describe the policy prior to NFMA as determining future timber volume harvested based on 1) land that is considered suitable for timber production and 2) the amount of volume that can be expected from those lands in light of competing multiple uses. The total volume removed per decade was then limited based on a well-accepted concept of sustained yield. NFMA was intended to codify these practices, but the Forest has not followed the law.

### *Lands suitable for timber production*

With regard to which lands contribute to timber volume that is subject to the sustained-yield requirement, Wilkinson and Anderson state:

The Forest Service has always placed a ceiling on each national forest's annual timber sales from the suitable land base to insure a perpetual yield of timber. (p. 122, emphasis added)

This link between lands suitable for timber production and a sustained-yield ceiling is not specifically made in NFMA (perhaps because there was no perceived need to), but it was perpetuated in the 1982 planning regulations. Those regulations defined an upper limit to timber volume in terms of an "allowable sale quantity" (ASQ):

The quantity of timber that may be sold from the area of suitable land covered by the forest plan for a time period specified by the plan. (219.3, emphasis added)

The 2012 Planning Rule repeats the NFMA statutory language in 36 CFR 219.11(d)(6). It then requires the Forest Service to "include in the Forest Service Directive System procedures for estimating the quantity that can be removed annually in perpetuity on a sustained-yield basis ...". This matches the language in NFMA.

However, in its final directives for land management planning, the Forest Service defines the new upper limits on timber sales (the sustained yield limit, or SYL) as follows:

The Responsible Official shall determine the sustained yield limit as the amount of timber that could be produced on all lands that may be suitable for timber production, assuming all of these lands were managed to produce timber without considering other multiple uses or fiscal or organizational capability. Assume the application of a management system (even-aged or uneven-aged) that is generally appropriate for the forest types and identify the potential flow of timber that could be reasonably planned and scheduled for these lands.

Because the land that may be suitable for timber production does not vary by alternatives considered in the environmental impact statement for plan development or revision; the sustained yield limit calculation is a single constant for the applicable national forest. Because the sustained yield limit represents the potential of volume that could be harvested in perpetuity, it does not vary by decade or any other time period. (Section 64.31, emphasis added)

Lands that 'may be suitable' for timber production are defined as those that are physically suitable based on criteria long-used by the Forest Service, or legally withdrawn from timber production. The

highlighted terms indicate that the Forest Service now views the phrase ‘can be removed’ as based only on these factors, and not on anything that a forest plan says. By establishing a ceiling based partly on lands that cannot be used for timber production, the agency indicates that it now believes that the sustained yield limit, and therefore harvest levels, do not need to be based on “suitability for resource management.” This violates NFMA.

The result will be an expansion of the acreage from which the maximum potential timber volume would be calculated. The sustained yield limit for revised forest plans could be much higher than the sustained yield capacity in existing plans. The Francis Marion provides an example. The current plan has a long-term sustained yield capacity of 63 MMCF per decade, while the sustained yield limit in the revised plan would be 114 MMCF per decade for the no-action alternative.

### *Projected timber yields*

Wilkinson and Anderson also describe the way the Forest Service has addressed reductions in timber volume resulting from consideration of other multiple-uses. A need to reflect these constraints in the limits on timber removed was evolving in single-resource timber management plans prior to the passage of NFMA:

- “The most important factor resulting in reduced allowable cuts under revised timber management plans is the reduction in land base available for full timber yields due to multiple use and environmental constraints which are being reflected primarily through classifications of land into categories.” (Footnote 638, quoting another source)
- “Timber management plans only considered land to be unavailable if it had been officially withdrawn from timber production. Since the multiple-use zones remained officially available, timber planners had no grounds for classifying the zone as noncommercial land. Therefore, prior to the 1970s the timber management plans assumed that commercial land within restrictive multiple-use zones would produce as much timber as any other commercial land.” (Footnote 641)
- “Since it was usually necessary that at least some trees remain uncut in order to protect those (non-timber) values, timber sales within the zones would normally yield less timber than anticipated by the timber management plans.” (p. 221)

It follows that NFMA intended to fix this problem by requiring “one integrated plan” for each National Forest System unit, and requiring that “harvesting levels” be determined in light of all multiple uses (Section 6(f) and 6(e), respectively). “Harvesting levels” at that time would have referred to the allowable ceiling. The goal of the NFMA language on volume limits was apparently to bring the limit on timber sale volume down to be in line with what was actually feasible in a multiple-use environment. This limit would clearly vary depending on the forest plan management alternative selected.

1982 planning regulations implemented this goal. They defined ‘long-term sustained-yield capacity’ (LTSYC) as:

The highest uniform wood yield from lands being managed for timber production that may be sustained under a specified management intensity consistent with multiple use objectives. (36 CFR 219.3)

The approach in the directives for the 2012 Planning Rule does not do this. The new sustained yield limit is calculated “without considering other multiple uses or fiscal or organizational capability.” As demonstrated above, the result would be a maximum potential timber volume that is much greater than under current plans. The SYL will also obviously not be attainable in light of other multiple-uses in the revised plans (including the suitability determinations and volume estimations discussed above).

#### *Timber volume limits*

The purpose of including limits on timber volume in NFMA was to maintain a perpetual sustained yield of timber. NFMA imposes these limits in two steps: the long-term sustained-yield calculation determines what a forest plan may establish as an upper limit to the amount of timber sold, and then that limit is included in the plan and applied to the volume actually sold on a decadal basis.

In the 1982 planning regulations, the allowable sale quantity for a decade of the plan was based on a ‘sale schedule’ that could not be greater than the long-term sustained yield capacity (see definitions of ‘sale schedule’ and ‘base sale schedule’ in 36 CFR 219.3, 1982, and in current 2409.13 FSH 30). The ASQ became the benchmark for funding the timber program and reporting timber outputs to Congress. Even though it was defined as a “ceiling” it was often viewed as a “target.” (The term “target” is only properly applied to the annual program budgeting processes. NFMA does not require that forest plans include a timber volume objective.)

The Forest Service has addressed this problem in the 2012 Planning Rule by getting rid of ASQ. The term does not appear in the Rule, and the Directives establish new requirements for “projected wood sale quantity” (PWSQ) and “projected timber sale quantity” (PTSQ, a subset of PWSQ that meets utilization requirements). These are projections of actual timber volume that, “is expected to be sold during the plan period from expected harvests for any purpose (except salvage harvest or sanitation harvest) on all lands in the plan area” (1909.12 FSH 64.32). These projections do reflect plan components (including the suitability determination):

The estimation of both the projected wood sale quantity and the projected timber sale quantity must take into account the fiscal capability of the planning unit and be consistent with all plan components. Both the projected wood sale quantity and the projected timber sale quantity should vary for each alternative considered in the environmental document. (1909.12 FSH 64.32)

However, unlike ASQ, these projections are not a limit on timber volume. Instead, they must be compared to – and are theoretically limited by – the sustained yield limit. By taking these additional factors into account, the projected volumes will necessarily always be less (and probably far less) than the (newly much higher) sustained yield limits. The Forest Service has thus created a “limit” that is no longer a limit, which defeats the intent of NFMA.

The result of these new interpretations is a substantially different scheme for controlling the volume of timber harvested from a national forest than the one that was adopted in NFMA. Instead of using the long-term capacity of lands managed for timber production as a ceiling on current harvest levels from those lands, the Forest Service will now expand the land base from which timber volume may be assumed, and create an artificially high ceiling for timber harvest levels that can only occur on a subset of those lands. While projects must still be consistent with forest plan components, this is a recipe for maximum discretion for where and when to harvest timber, and there is no assurance that actual harvest yields could be sustained over time.

Unlike the ASQ, the PWSQ and PTSQ are intended as realistic projections that are designed to be used as targets, and the Francis Marion revised plan includes a PTSQ of 98 MMCF in the first decade as an objective. This approach that blurs the historic distinction between suitable and unsuitable lands in contributing to meeting timber projections or targets would make it likely that such targets will be based in part on lands that are being managed for uses that are not compatible with timber production, which would increase pressure to harvest timber from those lands. On the Francis Marion, however, the PTSQ that is a forest plan objective is calculated only from lands that are suitable for timber management (OBJ-MUB-7). This is likely because almost all of the lands that could produce timber are considered suitable, and no harvest on the remaining acres is a reasonable assumption. The new PTSQ is triple the current ASQ of 33 MMCF, and would exceed the current sustained yield limit of 63 MMCF. This is obviously not sustainable.

This approach to regulating timber volume also leads to a misinterpretation of NFMA’s restrictions on “departures” from non-declining even flow of timber (NDEF) in Section 13. NDEF requires the volume in each decade to be at least equal to the volume in the preceding decade. According to Wilkinson and Anderson, “the NFMA requires the Forest Service to follow NDEF policy, with some exceptions.” There are few, if any, forest plans that have adopted a declining schedule for timber volume since they are known to be controversial. Accordingly, NFMA specifies public disclosure requirements prior to their use in Section 13(a).

The 1982 planning regulations discuss a ‘timber sale resource schedule’ in 36 CFR 219.16, which may include exceptions, or departures from the (non-departure) base sale schedule. Forest Service current timber planning directives (2409.13 FSH 33) state that, “the base sale schedule (BSS) reflects a constant or increasing level of planned timber sale offerings, consistent with the principle of nondeclining flow (36 CFR 219.16(a)(i)),” 1982). The 2012 Planning Rule did not include requirements for timber volume schedules. Whereas the 1982 regulations defined a departure schedule in a manner consistent with NFMA’s non-declining flow requirement, the planning

directives for the 2012 Planning Rule instead state that a departure is where a decade's timber volume exceeds the sustained yield limit (1909.12 FSH 64.33). "Sustained yield" is being used in a completely different manner than intended by NFMA – as a limit to how far a departure can go, rather than a limit to the base sale schedule. This allows the scheduling of large volumes for timber harvest in the near term, without acknowledging or disclosing that they are projected to decline in the future or providing the rationale for doing so or demonstrating that the departure is "consistent with the multiple-use management objectives of the land management plan" (NFMA Section 13(a)).

The Francis Marion National Forest's proposed revised plan does not comply with the requirement to develop a base sale schedule, and includes an unacknowledged departure schedule. The draft plan proposes an objective of 98 MMCF in the first decade and 95 MMCF in the second decade. Appendix B reveals that volume would decline to 78 MMCF in decades four and five before rebounding. The draft ROD would apparently characterize this as "a relatively stable flow of timber products" (p. 14), indicating that this is an important decision-criterion, but this outcome is not the sustained yield that NFMA envisioned.

**Remedy: The record must identify "the projected long-term average sale quantity that would otherwise be established (without a departure)," as required by NFMA. The PTSQ for such a schedule would certainly be lower – and more stable – as a result of the limits revealed in the later decades. Nowhere does the plan or FEIS or draft ROD use the term "departure," for this decline of 25%, thus hiding that fact from the required public review.**

**The desired condition to convert loblolly forest types to longleaf pine is appropriate. However, the rate of conversion must consider the short-term impacts on at-risk species, and the need for accelerated restoration must be justified in this context.**

#### *Public review*

It is an established principle of administrative law that major changes in agency policy be fully explained to the public. While the Forest Service has described its process for developing the 2012 planning rule as "an extensive public outreach and participation process unprecedented for the development of a planning rule," the Forest Service has made these particular changes without pointing them out to the public. First, unlike the 1982 regulations, this planning rule did not specify how timber volume limits would be determined so the public could not comment during rule-making. That responsibility was shifted to the agency planning Directives. Second, while development of these Directives included public involvement, it was not at the same "extensive" level, and did not include a NEPA process.

The new planning handbook has essentially redefined the meaning of "sustained yield" of timber in NFMA and the Multiple-Use Sustained-Yield Act" by abandoning the non-declining flow concept. There is nothing in the response to public comments on the planning rule that indicates that limits on the quantity of timber sold would be calculated on a different land base and using an entirely

different set of assumptions than the practice of the prior half-century. Nor is there any suggestion that the difference between the new “ceiling” and the projected levels would be this great. The Preamble simply reiterates that, “Plans will have an upper limit for timber harvest” (p. 21228). The first apparent public acknowledgement that the Forest Service was even taking a “new approach” was in comments accompanying the final Planning Handbook. Since the timber volumes expected from and allowed by a forest plan may be the most important numbers that come out of the planning process, the agency’s opaqueness on this issue is mystifying.

**Remedy: The Francis Marion should not attempt to follow procedures that were not legally adopted and violate statutory law. They should instead use procedures mentioned above that remain a requirement in the timber planning handbook and that comply with NFMA.**