

Appendix M

**Responses to Public Comments on the Salmon-Challis  
National Forest Noxious Weed Management Program  
Environmental Impact Statement**

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APPENDIX M

# Responses to Public Comments on the Salmon-Challis National Forest Noxious Weed Management Program Draft Environmental Impact Statement

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TABLE M-1  
Draft EIS Comment Letters

Reference Number	Source of Letter
1	Idaho State Department of Agriculture
2	Committee for the High Desert
3	Idaho Department of Parks and Recreation
4	Joe Tonsmeir
5	Formation Capital Corporation, US
6	Lemhi County Weed Superintendent
7	U. S. Department of the Interior
8	Rodger L. Sorensen
9	The Ecology Center, Inc.
10	Custer County Board of Commissioners
11	National Oceanic and Atmospheric Administration
12	Friends of the Bitterroot
13	U.S. Environmental Protection Agency

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## Comment Letter No. 1

----- Forwarded by William B Diage/R4/USDAFS on 12/27/2002 11:42 AM -----

"Glen Secrist"  
<GSECRIST@agri.s  
tate.id.us>  
Draft EIS  
12/27/2002 09:04  
AM

To: <wdiage@fs.fed.us>  
CC:  
Subject: S-C NF Weed Management Program

We have reviewed the Salmon-Challis National Forest Weed Management Program Draft EIS and have the following comments:

- 1.1 | 1. We have found the draft EIS to be comprehensive, well-written and consistent with the best weed management science available. 2. The Idaho State Department of Agriculture supports implementation of the proposed action as outlined in the draft EIS.

Glen Secrist  
Bureau Chief  
Vegetation Management  
Idaho State Department of Agriculture  
2270 Old Penitentiary Road  
P.O. Box 7249  
Boise, ID 83707  
(208)332-8536 FX: (208)334-4062

**1.1** Your comment in support of the Proposed Action is noted.

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COMMITTEE FOR THE  
HIGH DESERT

P.O. BOX 2863 BOISE, IDAHO 83701  
208-429-1679 www.highdeserts.org

December 21, 2002

William Diage  
Salmon-Challis National Forest  
50 Highway 93 South  
Salmon, ID 83647

Dear Forest,

Here are comments of the Committee for the High Desert and Western Watersheds Project on the Salmon-Challis National Forest Weed Management Program.

First, we incorporate all comments and issues raised in our scoping comments on this EIS.

2.1

We are very disappointed to see that the Forest has overwhelmingly focused on active treatment methods, and failed to consider passive treatments. The Forest has also failed to address causal factors. Weeds are proliferating in the heart of vital wildlife habitats in these lands of great scenic beauty, yet you steadfastly refuse to assess management changes necessary to stem the tide of invasive species.

Your purpose and need states that you are to "protect the natural condition and biodiversity of ecosystems, and watershed function by preventing and/or limiting the introduction and subsequent spread of invasive, non-native plants that displace native vegetation", "contain and reduce known and potential weed sources, protect sensitive and unique habitats", etc.

2.2

Yet instead of focusing on fundamental common sense practices – such as limiting, reducing or eliminating disturbance caused by livestock and/or roads, you embark on an entire EIS that ignores the primary causes of new and expanding weed infestations.

The primary variation between the 3 action alternatives that you analyze relates to use of herbicide, and your preferred alternative maximizes extent of herbicide use through ALL methods of application, including aerial application.



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**2.1** Each alternative considers a full spectrum of weed prevention and management strategies including Integrated Weed Management (IWM), Best Management Practices (BMPs), public awareness, and education, as discussed in Section 1.A.1 of the Final Environmental Impact Statement (FEIS). All of these important practices are being actively implemented and will remain in place. An alternative addressing Forest management and use allocation changes was considered, but was dismissed based on the detailed analysis in Section 2.E of the FEIS.

**2.2** See Response 2.1.

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All action alternatives include treating 18,000 acres, with various deviations in acres treated by mechanical, biological, "controlled grazing" and combinations thereof.

- 2.3 | We are very concerned about the potential effects of the preferred alternative and the Forest's myopic view of focusing on active "treatment" without addressing causes of the weed explosion. This will have serious harmful long-term effects on wildlife habitat, fisheries, native plant communities, soil erosion, TES species, vegetation diversity, ecosystem function, watershed integrity, and recreational and aesthetic uses of the affected lands.
- 2.4 | Harmful direct and indirect effects on wildlife species and their habitats from ground and aerial applications of herbicides are largely unaddressed.
- Given that you acknowledge (2-28) that there are already 66,537 acres of inventoried weed infestations at 2,724 sites on the Forest, what possible reason can you have for not taking active preventive and restoration measures to stop this explosion of weeds?
- 2.5 | We have included (Attachment A) the basic components of an alternative that would best allow you to grapple with invasive species on the Forest. We request that you include this alternative in a Supplemental DEIS.
- 2.6 | You can not tie this document to the old Salmon and Challis Forest Plans. They were done in 1987, and are woefully out-dated. They do not reflect current scientific understanding of ecological processes and the habitat needs of rare, declining and TES species, nor do they reflect the harm done by activities like livestock grazing to watersheds throughout the Forest lands covered in the DEIS. TES species inhabiting the Forest include lynx, bull trout, chinook salmon, and steelhead trout, and gray wolf.
- For example, the Forest Plan amendment for livestock grazing allows extreme levels of livestock use – utilization levels to 65% on "late/good" condition upland communities. This is a ticket for livestock degradation and disturbance levels that create the ideal conditions for invasion and proliferation of weeds throughout fragile native vegetation communities in uplands. Livestock degradation of soils and plants in uplands causes increased sedimentation to streams.
- 2.7 | Plus, there is no current analysis of suitability or carrying capacity for the affected lands. As part of the DEIS process, you must prepare a current analysis, and determine whether lands "at risk" to new weed infestations, lands seriously infested with weeds (the northern part of the Forest), lands with streams that provide habitat for ESA-listed fish, and lands with other important values, are really "suitable" for livestock grazing.

- 2.3** See Response 2.1. A complete analysis of the long-term effects of the Proposed Action, and each of the alternatives, on all resources has been completed. Each resource is addressed individually in Chapter 4 of the FEIS.
- 2.4** Direct, indirect, and cumulative effects on wildlife, including the safeguards associated with mitigation measures, BMPs, and SOPs, are addressed in Section 4.B.3.
- 2.5** We considered Attachment A, and the approaches for preventive weed management, and note that parts of your proposal within the scope of this FEIS have been incorporated as part of the alternatives analysis and selection. Those elements of Attachment A that go beyond the scope of this FEIS are considered in Section 2.E.
- 2.6** This Weed Management FEIS is an independent analysis of weed management activities and is not tiered to the analyses presented in the two Forest Plan EISs nor to the Salmon or Challis Land and Resource Management Plans. Some historical information was obtained from these earlier documents and compared with current conditions in order to evaluate the Proposed Action and alternatives.
- 2.7** This FEIS is not a livestock grazing analysis. Analyzing livestock grazing suitability and carrying capacity is beyond the scope of this FEIS. See also Response 2.1.

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The old Forest Plans contain no site-specific assessment of the impacts of livestock grazing. As a lawsuit we recently in federal district court demonstrates, many ecologically important and sensitive areas of the Forest are seriously degraded through management (and woeful lack of any modern day management) of livestock. The Forest has utterly failed to comply with the Rescissions Act schedule for completing environmental analyses for livestock grazing throughout the Forest. It has failed to comply with NEPA and excluded the public in making decisions about livestock grazing, and has relied on long-outdated AMPs (some from the 1940s). In some cases, there are no AMPs. In many instances, there is lax, outdated, or no, modern-day control of livestock grazing disturbance and impacts.

Thus, the adverse impacts of grazing, many that lead directly to weed proliferation, have not been adequately evaluated under NEPA, nor have natural events such as fire or drought been fully considered.

"Range" projects, whose aim is ostensibly to manage livestock and protect resources, are in a state of disrepair across the Forest, so "proper" livestock distribution, forage use and water distribution, as specified under the livestock management documents that do exist, are not occurring.

Such shocking failures to administer and review livestock grazing impacts are a primary cause of the accelerated weed invasions sweeping these nationally significant wild lands. Please see Attachment B (Belsky and Gelbard 2000).

**Role of Livestock:**

- 2.8 | DEIS ES-2 mentions livestock LAST as a cause of weed infestation, and attempts to sidestep the profound role of livestock in disturbance and degradation of native vegetation that paves the way for weed invasion. How can you conduct an honest analysis if you consistently overlook, downplay and cast aside the link between grazing and weeds?

**Role of Livestock Projects:**

- 2.9 | Fences, spring-gutting projects, pipelines, salt/mineral sites serve to concentrate livestock use in sites, leading to extensive zones of intense disturbance to soils, vegetation, habitats. These disturbed areas are ideal sites for invasion by exotic species. A primary step that must be undertaken if you are to effectively grapple with weeds is to control, limit, and in many places eliminate livestock grazing impacts. As part of this EIS, you must establish criteria for removal of projects or that cause weed problems. You must also conduct a current survey of weediness associated with projects or activities (sheep bedding, parking of sheep wagons) that cause zones of livestock concentration, and control these.

**2.8** Livestock have been included as one of the many vectors of weed transport and weed establishment. Taking action on livestock grazing as an allocated Forest use is beyond the scope of this analysis. See Section 2.E.

**2.9** See Response 2.8. Project level activities are subject to specific project Best Management Practices during project planning and mitigation measures during project implementation.

2.10 | **Conduct A Risk Assessment of Vulnerability of All Forest Lands To Weed Invasions.** You must conduct a current risk assessment of forest communities and their vulnerability to weed invasion. You rely on an ICBEMP assessment, but this is broad in nature and does not identify Forest-specific problems. Then, use this assessment as a means of identifying areas where major steps need to be taken to protect or restore native vegetation.

2.11 | **Current Condition of Forest Lands:** You must conduct a current survey of ecological condition/site condition of all Forest lands – poor, fair, good, excellent, PNC. When is the last time such a survey was conducted? This is necessary to understand their vulnerability to weed invasion and proliferation. Please provide maps overlaying vegetation condition with weediness.

2.12 | **Conduct Extensive Inventories for Weeds As Part of the EIS Process.** DEIS Map at 3-3 depicts "noxious Weed Infestations On and Near the Salmon-Challis National Forest", and highlights in red "area with inventoried infestations". This map and text fail to identify how many acres have actually been intensively inventoried – it appears that only the northern portion, and the immediate margins of roads have been inventoried. The Forest must, at a minimum, inventory all areas of livestock disturbance near projects, riparian habitats, etc. Throughout our reading of the EIS, we have not been able to determine acreages actually inventoried, and the intensity/completeness of inventories.

DEIS 32-2 states "documented, inventoried infestations of the 15 new and nine established weed species on the S-CNF now exceed 66,000 acres at more than 2,500 sites".

**Restoration of Native Vegetation:** Under all of your action alternatives, you have few provisions for restoration of native vegetation that is necessary to:  
1) Prevent new invasions; 2) Provide critical permanent ground cover on treated sites.

We have often seen "dead zones" in wild lands, as in the Lost River Valley where agencies have sprayed leafy spurge, killing large Basin big sagebrush and all understory plants – yet only leafy spurge has regrown in these sites. Without stringent controls on grazing, and a dedicated effort to restore native vegetation, you will fail in control of weeds. Plus, our observations (as sprayed areas of leafy spurge infestations in the Big Lost) indicate that agencies are using long-lasting persistent herbicides that prevent all plant species except weeds from growing. Weeds (like leafy spurge) thrive in the "dead zones" created by persistent herbicides.

2.13 | **Failure To Consider A Reasonable Range of Alternatives:** The EIS fails to consider a full and reasonable range of science-based alternatives. You propose only three action alternatives – all of which are very similar, rely on a near-identical batch of invasive treatments, and vary primarily in relation to

- 2.10** Your suggestion is noted. The broad assessment is adequate at the vegetation community scale. Risk and vulnerability of plant communities are discussed in Section 3.C.1.b and Table 3-4 of the FEIS. Areas of major weed infestation are identified in Table 3-5 (and in further detail in Appendix B); the Proposed Action and alternatives describe the major steps to be taken to fulfill the purpose and need for the project. For a detailed discussion of strategies to eradicate, contain, and prevent further weed infestation, see FEIS Sections 2.C.2, 2.C.4, 2.C.5, and 2.C.6. This suite of management and treatment techniques is designed to protect and restore native vegetation affected by noxious weeds.
- 2.11** Your suggestion is noted. The FEIS has been revised to reflect the current condition of the rangeland and riparian areas. See Section 3.C.1.b.4 and Map 3-9.
- 2.12** Appendix B and Map 3-1 of the FEIS display the acres and locations of the inventoried weed sites as of 2001.
- 2.13** The Forest Service looked at a number of alternatives, but, as noted in Section 2.D, four were selected for full detailed analysis. Section 2.E describes the rationale for eliminating alternatives.

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allowable methods of herbicide application. Preferred action: aerial application, one alt. no herbicide, other only ground herbiciding.

2.14

There is absolutely no evidence that controlled grazing will be a mid or long term solution for any of the weed problems. Sure Angora goats might eat leafy spurge, but what will grow in its place? Intensive "controlled" grazing leads to new intensive and extensive zones of disturbance. Please provide scientific literature that supports your claims about the effectiveness of grazing in controlling weeds.

There is also apparently little variation among the non-spray components of all alternatives, with the same amount of goat grazing (100 acres) occurring in all action alternatives.

The DEIS states that you received public comment that supported an additional alternative that focused on a "proactive prevention approach ... taking action on numerous human uses known to cause site disturbance, spread seeds, and exacerbate weed expansion (roads, logging, grazing, mining, ... OHVs". Plus, the Weed EIS Team concluded there was need for further review. DEIS 2-5,6.

DEIS at 2-7 states public comment and concern clearly identified: 6. "... there appears to be reasonable support from the public for the need to address human-caused activities or uses that lead to, or exacerbate, weed expansion, encroachment, establishment, namely livestock grazing, logging, roads, mining, and recreation (OHVs). These concerns led to an additional issue, and "7. Human uses exacerbate the spread and establishment of noxious and invasive species and non-native weeds. Without a proactive prevention strategy that limits, modifies or curtails current human uses on the S-CNF, any type of physical treatment will not be successful in controlling weeds".

"This issue led to the development and consideration of an additional alternative – the Proactive Prevention Alternative – that focuses on taking action on the numerous human use activities ...".

2.15  
cont.

Yet, you have failed to analyze the PPA as a viable alternative. You have hidden behind a claim that consideration of preventive strategies and passive treatments in such an alternative would require a Land Use Plan amendment. DEIS at 2-48: The description of the PPA here states "the intent of the alt. is to address and take action on human activities that promote the spread of weeds, specifically close roads, modify livestock grazing permits, and alter existing timber, mining and recreational OHV activities. The purpose of the proposed project is to eradicate, contain, and control the spread and establishment of noxious and invasive non-native weed species." You can not separate the two in this manner, as eradication, containment and control of weeds requires a full arsenal of methods, including prevention and passive treatment.

**2.14** See Chapter 9, References.

**2.15** See Response 2.1.

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2.15 cont. ↑ If you are correct that this would require a Land Use Plan amendment and can not be done as part of this EIS process, then it is necessary that you undertake a parallel Land Use Plan amendment process that addresses these necessary actions/components of comprehensive weed strategy.

2.16 You claim that Weed Prevention is already part of Integrated Weed Management, yet prevention is adequately incorporated in the Proposed Alt. Your IWM strategy has been in place under the current weed management actions on the Forest, and it has clearly been completely ineffective, as weeds are exploding on the Forest. that there are already 66,537 acres of inventoried weed infestations at 2,724 sites on the Forest.

The IWM includes such things as requiring only weed free hay – yet you annually allow over 150,000 AUMs of unquarantined cattle –with weed seeds in their gut, fur, and mud on hooves –to be turned out on Forest lands, and to roam freely amidst large and nascent weed infestations, further spreading weeds as well as creating ideal conditions for weed spread and establishment. If you can control outfitters bringing in weeded hay, you can control livestock permittees bringing in weeded cattle. Out fitting is a PERMITTED activity, just like livestock grazing, and you are considering this permitted activity as part of the DEIS.

We suggest the following Livestock BMPs:

2.17 All livestock must be quarantined for 3-5 days before being turned out on Forest lands.  
All livestock must be washed to remove weeds in fur, mud on hooves, etc.  
No livestock may be turned out in pastures with known weed infestations until infestations are controlled and vegetation restored.  
Within all pastures grazed by livestock, zones of livestock disturbance (bare soils, poor condition native vegetation) must be identified, livestock impacts removed, and measures taken to restore vegetation.

The current “alarming” rate of weed expansion on Forest lands (as is documented in this DEIS) demonstrates that your plodding current actions are NOT working. Instead of falsely terming your actions INTEGRATED WEED management, we suggest you term it SEGREGATED WEED management, as you are only addressing a limited subset of activities that affect weeds and the health of Forest lands on the Forest.

The atrocious conditions of many upland and riparian areas on the Forest (for example, the Morgan Creek and Pass Creek allotments) leave such lands extremely vulnerable to invasive species. Dramatic improvements in the vigor

**2.16** See Response 2.1.

**2.17** Your suggestions are noted.

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and condition of native vegetation must be a fundamental part of any Integrated Weed program.

- 2.18 **Success of Past Spray Efforts:** The Forest has been spraying weeds for decades. Please provide detailed analyses of areas sprayed, chemicals used, current weediness of these areas, current condition of native vegetation in these sites, evidence of restoration, etc. The public deserves an in-depth analysis of the effectiveness (including cost effectiveness) of the segregated and limited IWM techniques that this DEIS seeks to perpetuate.

**BMPs and Mitigation Measures Are Inadequate:** You will never be able to eradicate, control, contain, etc. unless you eliminate, control or sharply contain grazing and OHV activity.

We support the use of the minimum tool strategy DEIS at ES-7 for weed treatments, but you are not honestly considering a full range of tools. For example, if you decide to handcut, rather than spray, weeds at a site, and continue to let grazing and trampling occur at the site, we believe you have not considered the full range of minimum tools available. Limiting grazing is an essential and complementary tool if you are truly to eradicate, control,

- 2.19 **Disturbance to Nesting Birds, Fawning Mammals And Resultant Mortality Is Not Addressed:** No chemical treatment can occur during periods when migratory birds are nesting, or you will violate the Migratory Bird Treaty Act, and President Clinton's Executive Order Birds and nests will be exposed to predation caused by defoliation. Eggs and nestlings will be exposed to harmful chemicals and other spray ingredients, such as petroleum-based carriers.

- 2.20 **What Are Chemical/Biocide Analyses Here To Be Used For?** Please clearly state whether the clearances/ analysis of chemicals in this EIS effort will be used as a basis for clearing/analysis of various chemicals for use in projects that might involve purported hazardous fuels reductions, canopy cover alteration, and other vegetation manipulation. Will this EIS provide "cover" for future use of the chemicals discussed here in non-exotic species killing/control?

### Some General Comments/Questions on the DEIS

DEIS at 2-9. Mechanical treatment is great work for fire crews and fire staff that has burgeoned under abundant fire funds. Your description of the effects of mechanical treatment stimulating regrowth of leafy spurge and other weeds contradicts your reliance on grazing as a "tool" of weed control. Here, when you are lamenting the human work involved, you reject this as effective. Yet you propose using grazing as a control.

DEIS at 2-10. Given that large areas of the Forest that have been surveyed show serious weed problems, it appears to us that you already have large, widespread

**2.18** Your suggestion is noted. The FEIS has been revised to include a discussion of the effectiveness of previous weed treatments. See Sections 1.C.1 and 1.C.2.

**2.19** The existing analyses in Chapter 4 are sound. The implementation of mitigation measures, BMPs, and SOPs supports the conclusion that impacts to migrating populations, as well as eggs and nestlings, will not be significant. Impacts would not be expected to result in violations of the Migratory Bird Treaty Act, which focuses on direct takings and not on impacting habitat. Furthermore, Executive Order 13186, which defines the responsibilities of Federal agencies to protect migratory birds under the four Migratory Bird Treaties, requires Federal agencies, within the scope of their regular activities, to control the spread and establishment in the wild of exotic animals and plants that may harm migratory birds and their habitat. Controlling the establishment and spread of exotic plants, and thereby improving and protecting existing wildlife habitat, is the objective of this project.

**2.20** The actions described are beyond the scope and the purpose and need of this FEIS.

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2.21 | populations of noxious weeds like knapweed (a situation that you describe as needing biological control), then why do you propose as your preferred alternative treating only relatively small acres with biological controls on an annual basis?

Controlled Grazing Treatment. The effectiveness of this practice has never been proven.

Chemicals - You propose using a broad range of biocides as herbicides here. 2,4-D, chlorsulfuron, clopyralid, dicamba, Fosamine, glyphosate, imazapic, metsulfuron methyl, picloram, sulfometuroan methyl, triclopyr, and combinations of herbicides. We are alarmed at the use of these known harmful chemicals like Tordon.

2.22 | You have conducted no analysis to determine the harmful effects of these chemicals, when used alone or in combination, on human health, wildlife, integrity of ecosystems, waters, soils, etc.

We support your use of scythe and WOW, as they do not appear to contain carcinogenic and persistent chemicals, unlike all the rest of the witches brew of biocides that you are proposing to use.

2.23 | Cumulative impacts of use of biocides are not adequately assessed. For example, APHIS proposes widespread spraying of grasshoppers with biocides in lands south of the 45 degree parallel. How will you assess cumulative impacts of their spraying of insecticides combined with your spraying herbicides?

2.24 | DEIS at 2-17. How will you possibly be able "eradicate new populations of weeds" if you have not conducted a baseline inventor of all lands? It will be impossible to identify "new" weed infestations if you do not establish a baseline n all Forest lands.

DEIS at 2-18, 19. Discussion of Restoration and monitoring is very limited and inadequate. YOU have failed to grapple with livestock grazing in any way or shape form here, except to talk about contolled grazing as a treatment.

2.25 | DEIS 2-19. What are the bounds on your "adaptive strategy"?

DEIS at 2-27. It is ridiculous to require certified weed free hay, groomed pack animals, etc. and not take action to stop weed-seed infested cattle and sheep from being moved freely about (trailing, turnout, movement between pastures) everywhere on the Forest.

2.26 | How did you determine the buffer from fish-bearing streams? Is it based on science or convenience/desire to do less hand work?

- 2.21** A full spectrum of treatment options must be available to meet the purpose and need of this FEIS. Appendix C describes the treatment methods proposed for each weed species. Biological controls are proposed for containment, not eradication. Biological controls would be utilized where the site characteristics are appropriate for the most success. Section 2.C.1.b of the FEIS describes biological controls and the pitfalls associated with this treatment method. Additionally, more than 22 percent of the acres treated under the Proposed Action would be treated with biological agents either individually or in combination with other treatments. The use of biological controls is increased in Alternatives 1 and 2; however, the goals for these alternatives are less aggressive than the Proposed Action in part due to the limitations of biological controls.
- 2.22** Chapter 4 analyzes in detail the use of chemicals. It provides a thorough and sound evaluation of the proposed chemicals and their effects on all resources. The Environmental Protection Agency (EPA) has prepared a synergistic evaluation and model of combinations of chemicals, which was reviewed for this FEIS.
- 2.23** Cumulative effects are addressed in Chapter 4 for past, present, and reasonably foreseeable future actions. The activities proposed by the Agricultural Animal and Plant Health Inspection Service (APHIS) are not reasonably foreseeable to occur on or near the S-CNF due to: 1) low populations of target insects and; 2) the application of insecticides is by request only and the S-CNF does not anticipate requesting APHIS to treat candidate populations. See Addendum to Site-specific Environmental Assessment: Rangeland Grasshopper and Mormon Cricket Suppression Program Idaho – EA number ID-PPQ-GH2001-001 (2003).
- 2.24** It is not possible to inventory the entire Forest at one time. New areas are being inventoried every year. The baseline in the FEIS includes all inventoried areas through 2001. “New” does not exclusively mean additional infestations of existing species, but also includes “new” species not previously present in the existing S-CNF baselines. These will receive immediate priority.
- 2.25** The question is unclear. The adaptive strategy is thoroughly described in Section 2.C.4.
- 2.26** The buffer zones are based on several components: 1) physical characteristics of chemicals (see Appendix J); 2) spray methods and equipment; 3) drift rates (see Appendix E); 4) the presence – or absence – of sensitive resources; and 5) weather conditions. The FEIS cites monitoring studies on the effectiveness of buffers on the Salmon-Challis (ID), Sierra, Stanislaus, and Eldorado (CA), and Lolo (MT) National Forests. From these studies the S-CNF established buffer zones for conservative mitigation of spraying effects near all sensitive resources, including fish-bearing streams. The FEIS includes a full discussion of the buffer zones (see Section 4.B.2).

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- 2.27 | Management/mitigation – Revegetation should use all native species, and removal of livestock must occur until weeds have been eradicated.
- 2.28 | DEIS at 2-44. Why is there a 100 ft avoidance for potable springs only? Why are you not avoiding ALL chemical treatment within 100 ft. of ALL springs? What about hikers or backpackers or sage grouse that may use water from springs and streams? Is it ok for them to drink poisoned water?
- 2.29 | You must expand OHV closures to protect from new infestations.
- 2.30 | DEIS at 2-44, 45. Why in the world are you proposing to use Picloram (TORDON) on any public lands at any time? Your mitigation measures here are laughable. How will the average Forest Service technician/ contractor out on a hot summer day driving along a road (Or zipping crosscountry on spray-rig 4-wheeler) determine when they are within 50 feet of a perennial or intermittent stream, or areas with water tables less than 6 feet deep? And have you analyzed impacts of crosscountry travel by spray equipment?
- 2.31 | We are shocked that the Forest would propose to use Tordon, Tebuthiuron and other likely carcinogens that are known to leach into ground water – in what is certain to be a futile effort to stem weed spread – futile because you steadfastly fail to address the causes of weed proliferation – livestock grazing and motorized vehicle disturbance and transport of weeds . Until you address these, your efforts are bound to fail, and it makes no sense to endanger public health and safety spraying biocides near waters. We are particularly alarmed about the use of these chemicals in TES species watersheds. More is being learned about the chemical sensitivity of aquatic species every year, and use of these pernicious poisons that you propose to employ will further harm ESA-listed species.
- 2.32 |
- 2.33 | Have you conducted extensive baseline surveys for rare plants? If not, there is no way any person spraying biocides can determine if they are within 100 feet of sensitive plant populations.
- 2.34 | Please provide maps of sufficient detail in the FEIS that show ALL avoidance areas as stated in your mitigation measures here.
- 2.35 | Many people have chemical sensitivities. You need to allow private landowners with sensitivities to veto spray application on neighboring Forest lands. All areas to be sprayed must be posted prior to and after spraying, with name of chemical clearly stated. Buffers for campgrounds are far too small.
- 2.36 | Dyes must be used in all instances to allow the public to identify and avoid areas where biocides are used.

- 2.27** The use of non-native species in restoration efforts is described Section 2.C.3 of the FEIS. The management of revegetated sites will be determined on a site-specific basis and incorporated through annual operation instructions (AOI). If a site is revegetated, and it is determined that livestock must be removed, the AOI will include this management strategy on a site-specific basis.
- 2.28** Adequate mitigation measures and analysis are provided in Section 2.D.3. All water bodies, including non-potable springs, are mitigated. However, the S-CNF has determined to provide further protection to potable springs because of their culinary nature. Similarly, the S-CNF has provided additional mitigation measures within watersheds supporting culinary water sources.
- 2.29** See Response 2.1.
- 2.30** Your comment is noted. The potential for minimal impacts to vegetation and soils from off-road chemical treatment activities is identified in Sections 4.B.1 and 4.C.3. Cross-country travel during treatment activities could be a limited source of soil displacement and vegetation disturbance. Off-road travel in riparian habitat conservation areas (RHCAs) is not permitted.
- 2.31** Your opinion is noted. The S-CNF is not proposing the use of Tebuthiuron.
- 2.32** Your opinion is noted. See Sections 4.B.2 and 4.B.3 of the FEIS.
- 2.33** Extensive Forest-wide surveys for rare plants have not been completed. However, Section 2.D.3.b of the FEIS describes the process for weed treatments in areas where no survey has been completed.
- 2.34** Maps of sufficient detail to identify rare plant locations covering more than 3 million acres would be of little value. However, several additional maps have been included in the FEIS for clarification. The site-specific implementation process (Section 2.C.6) describes the process for avoiding sensitive resources and areas.
- 2.35** There are several mitigating safeguards for people who have sensitivities. Reasonable buffers have been applied to all sensitive resources and established user areas. Campgrounds will be closed, and adjacent landowners will be notified in advance. See Response 2.26 and Section 2.D.3.b of the FEIS.
- 2.36** See Section 2.D.3.b.

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We are alarmed at your proposal to allow aerial application of poisons like Tordon in rough, mountainous terrain subject to erratic wind shifts, down-canyon movement of air, etc.

- 2.37 | 300 feet avoidance area of campgrounds (aerial application) is grossly inadequate – you should avoid campgrounds by 5 miles as part of any aerial use of biocide alternative. Likewise for the 300 feet avoidance (aerial) of fish-bearing streams, and 100 feet avoidance of non-fish bearing streams, intermittent streams, etc.
- 2.38 | NO application of biocides should occur within 1 mile of campgrounds. Use hand methods, WOW, mowing.
- 2.39 | Why do you propose to use weed-specific herbicides ONLY on big game winter range? Why don't pygmy rabbits, Brewer's sparrow, etc. also receive this care/mitigation measures?
- DEIS 3-1 describes great values of lands – these values need effective action, not futile piecemeal spraying.
- 2.40 | You have documented 66,000 acres of infestations at 2500 sites. Both map at 3-3, and text 3-2 to 5, fail to indicate which Forest lands have been the subject of intensive weed inventories.
- 2.41 | DEIS at 3-6 documents lands in the northern part of the Forest where proliferation of roads may have led to widespread weediness. What actions have been taken to close these roads? Restore native vegetation? Promote vigor and health of native vegetation? Control livestock use? What are the standards for livestock use (utilization levels, etc.) on these Forest lands? Has there been compliance with these standards? What actions have you taken to increase health of lands? DEIS map 3-3 shows big blobs of solid red, indicating inventoried areas with weeds near North Fork and Gibbonsville. These lands are not solid roads. This means that livestock must have been the very effective agents of weed spread throughout these lands. What grazing allotments are these? What does monitoring show about grazing impacts?
- 2.42 | What is the logging history of these lands? What role has logging or tree thinning played in spread and proliferation of weeds on the Forest?
- 2.43 | DEIS at 3-6. You describe a three-phase process of weed introduction, colonization and naturalization. For naturalization you describe weeds becoming "incorporated within the native flora". Please explain what this means.
- 2.44 | What is a "vacated niche"???

- 2.37** See Responses 2.26 and 2.35.
- 2.38** Your suggestion is noted. Section 2.D.3.b and the decision tree shown in Figure 2-1 provide adequate safeguards and mitigation measures.
- 2.39** Big game winter range is a recognized and designated critical forage base for big game animals in the winter. Mitigation measures are in place to protect non-game species and their habitat, as well. Furthermore, these habitats are often over-lapping.
- 2.40** See Responses 2.24 and 2.12.
- 2.41** See Response 2.1.
- 2.42** It is recognized that past Forest activities have played a part in weed expansion. Project-level mitigation measures include restoration and weed control as part of the project activity. See Section 1.A.1 of the FEIS.
- 2.43** The Forest Service uses “incorporated within the native flora” to identify populations that have become established, reproducing components in an otherwise native vegetative community.
- 2.44** The Forest Service uses “vacated niche” when a species is removed from a native community. Competition for water, nutrients, and space is reduced, allowing a different and often invasive non-native species to become established.

Comment Letter No. 2

- 2.45 While you abundantly describe weeds being transported along roads and trails, you only once mention livestock. Livestock are THE primary causal agent in moving weeds into broad areas of non-roaded native vegetation. Plus, you fail to assess the role of logging/thinning in weed spread.
- 2.46 DEIS 3-19 describes plant communities susceptible to weed invasions using broad ICBEMP descriptors. Table 3-4 describes, for example, dry grass/dry shrub, dry forest –pp, dry forest - df, riparian areas and burned areas as having High susceptibility to knapweed invasion. How many acres, and where, (please provide map) of each of these forest types, and the cool shrub forest type, have been inventoried for weeds on the Forest (see Table 3-5)? This is necessary for the public to understand the seriousness of the problem/risk of lands becoming weeded.
- 2.47 Dry Grass- You discuss the susceptibility of dry grass areas to cheatgrass. Aren't the dry shrub (Wyoming big sagebrush, threetip sagebrush, low sagebrush and black sagebrush types also susceptible?
- 2.48 Please greatly expand on the role of fire in causing and exacerbating weed invasions in Forest lands in this region? For example, hasn't rush skeletonweed proliferated in the Salmon River lands burned in 2000? This is vital information to be used in any analysis (which you must prepare here) of effects of wildfire or prescribed fire on spread and proliferation of weeds.
- 2.49 DEIS 3-25. What is the ecological condition of all riparian areas? Of all the various vegetation communities described here? For example, what percent of the Wyoming big sagebrush dry shrub community on the Forest is currently in good or better ecological condition?
- A current inventory of ecological condition of Forest lands is essential to allow you to grapple with weed problems.
- 2.50 DEIS at 3-24 to 29 describes rare plant occurrences. On how many acres of the Forest have current surveys for rare plants been conducted? This is essential baseline data if you are to follow the long list of BMPs/mitigation measures, as well as if you are to truly protect these species habitats from weeds. Please provide a map with rare plant locales identified.
- 2.51 Aquatics. DEIS at 3-39 to 46. Please greatly expand on the impact of livestock on aquatic species/habitats – their role in stream sedimentation, watershed destabilization, desertification, water quality impairment, etc. 20 fish species, 4 TES fish, and other rare aquatic species are affected!
- We are alarmed at the actions that would occur under ALL action alternatives - i.e herbiciding in these significant riparian areas.

- 2.45** See Response 2.42.
- 2.46** Map 3-9 depicting these community types as potential vegetation groups (PVG) has been included in the FEIS (see Section 3.C.1). Table 3-5 displays the total acres and acres of weed infestation for each PVG.
- 2.47** The narrative has been clarified in Section 3.C.1.b.1 of the FEIS.
- 2.48** The role of fire is adequately addressed in Table 3-4 and supporting text. See also Sections 3.C.1.b.2 and 3.C.1.b.3.
- 2.49** Non-forested range and riparian condition is discussed in Section 3.C.1.b.4 of the FEIS.
- 2.50** See Responses 2.33 and 2.34. Appendix H shows the known distribution of sensitive plant populations for each watershed. The FEIS describes adequate mitigation measures and the site-specific implementation process.
- 2.51** A full analysis of cumulative impacts of livestock and other activities and actions on all S-CNF resources with varying levels of weed treatments is presented throughout Chapter 4. The description of cumulative impacts from other Forest activities on the resources, in and of themselves, is beyond the scope of this FEIS.

Comment Letter No. 2

- 2.52 | Columbia spotted frog, western toad, long-toed salamander and other amphibians are known to be highly susceptible to chemicals. How do all of the chemicals/biocides that you propose using affect these species?
- We can not support ANY of your current alternatives.
- 2.53 | Forest MIS aquatic species include bull trout, chinook salmon, steelhead, Westslope cutthroat trout and rainbow trout, and six taxonomic groups of macroinvertebrates. What are the groups of macroinvertebrates? What research has been done on the effects of the various biocides in the various sprays that you propose to use on aquatic species, and on all MIS species?
- 2.54 | What might be the likelihood and also the effects of biocide contamination on PFC streams compared to unhealthy streams?
- 2.55 | The condition of the uplands and riparian areas can dramatically affect runoff rates and levels of contamination with biocides you propose to use. You must collect, analyze, and present in a variety of formats (including tables, photos and maps) in the Final DEIS all information on current site condition. This is necessary to allow you to develop adequate runoff/contamination risk assessments, assess efficacy of various alternatives in addressing weeds, etc.
- 2.56 | DEIS at 3-46. The discussion of wildlife here is woefully inadequate, and is heavily slanted towards huntable megafauna. Plummeting populations of native wildlife like pygmy rabbit and Brewer's sparrow are largely ignored. You must fully describe the various species, their habitats, their habitat requirements, and how various alternatives might affect all parts of their life cycles. For example, spraying herbicides during periods of nesting, fawning, birthing may result in mortality of a wide array of native wildlife, and "take" of migratory birds.
- 2.57 | DEIS at 3-69 describes the impacts/effects of weeds on the hydrologic cycle. How does livestock grazing on top of weed infestations impact the hydrologic cycle? How does weed infestation exacerbate the impacts of livestock grazing to hydrologic cycles, aquatic species and habitats, recreational uses, etc.? You describe monotypic weed stands having only a single canopy layer and simplified root structures, affecting the patterns of runoff – increasing risks of "flashy" runoff events and sediment delivery to streams, as well as reduced water storage in soils, and reduced late season flows with late-season groundwater discharge lowered. Given that you admit a full array of harmful impacts from weeds in riparian habitats and watersheds that are home to many ESA-listed species, you must take all steps to address the exploding weed problem on the Forest, and that includes methods of prevention, passive restoration, etc. and fully addressing grazing and roads.
- 2.58 |

- 2.52** Mitigation measures, BMPs, SOPs, and buffers are designed to minimize potential impacts to all aquatic resources. Analysis of the effect on amphibians, including these mitigation measures, is reviewed in Chapter 4. Because of their complex life cycle, amphibians are at risk from herbicide applications. According to the EPA, however, there is little information on the suspected dangers of the herbicides reviewed in the FEIS. Mitigation measures, BMPs, and buffer zones, along with low concentration levels of herbicides will reduce the risk of a significant adverse impact on amphibians to the greatest extent possible while still achieving the objective of reducing weed infestation, which degrades habitat for all wildlife.
- 2.53** See Chapter 9, References. The taxonomic groups of macroinvertebrates are discussed in Section 3.C.2.f of the FEIS. A full analysis of the effects is described in Sections 4.B.2 and 4.B.3.
- 2.54** PFC ratings describe how a stream functions hydrologically. Weeds inhibit hydrologic function by altering native vegetation, weakening streambanks, and increasing the amount of sediment reaching the stream. Potential impacts of chemical contaminants in the stream are not related to stream function.
- 2.55** A discussion of current condition is presented in Section 3.C.1.b.4 of the FEIS. The analysis of chemical application was presented for both a high run-off scenario and infiltration scenario. See Aquatic Resources (Section 4.B.2.b) and Soils, Geology, and Minerals (Section 4.C.3). The site-specific implementation process, the decision tree (Figure 2-1), and information in Appendix F for evaluating herbicide leaching sensitivity in uplands will all be used to identify the appropriate, site-specific treatment method.
- 2.56** There are virtually hundreds of species that occur on the S-CNF. It would be unreasonable to identify and assess all of the species individually. Management indicator species have been identified and are fully analyzed in Sections 4.B.2 and 4.B.3 of the FEIS. An additional accepted assessment approach was also presented utilizing representative wildlife groups and associated source habitats across the Forest. They are discussed in depth in Section 3.C.3, and analyzed for potential impacts in Section 4.B.3 of the FEIS.
- 2.57** Direct, indirect, and cumulative impacts are addressed throughout Chapter 4. The FEIS addresses impacts of weed presence and weed treatments on the hydrologic cycle. Other activities on the Forest that affect hydrologic cycle are also discussed (see Section 4.B.4). Cumulative impacts that consider the impacts of other actions when combined with weed treatment activities are discussed in detail. The analysis of the current hydrologic function is adequately described in Section 3.C.4 of the FEIS.
- 2.58** See Response 2.1.

## Comment Letter No. 2

DEIS at 3-71-3. The large number of water quality limited streams provides clear evidence of widespread watershed level degradation – again meaning that you must address causal factors and all possible treatments in the EIS.

- 2.59 | DEIS at 3-74. Soils – please provide maps of soils with high infiltration rates, high erosion hazards, etc. This is necessary to understand possible groundwater contamination from biocides.
- 2.60 | DEIS at 3-76. Just how much of an “economic force” is Forest grazing? Please provide an honest economic analysis undertaken by competent non-Ag. school economists. DEIS at 3-83 recognizes the shift to a more diversified, service-based economy.
- 2.61 | Your analysis utterly fails to assess the true impacts of weeds and your proposed actions (and INACTION) on recreational uses and roadless lands. Please provide an economic analysis of various alternatives, and expanded alternatives (addressing causes) on recreational uses of the affected lands.
- 2.62 | DEIS at 4-2. Identification and assessment of cumulative impacts is inadequate. You must address actions on lands in other ownerships, and effects of multiple stressors on wild ecosystems.
- 2.63 | DEIS at 4-9 - You predict that cumulative effects of treatments are likely to be highly beneficial to native plant communities. Since you have been conducting ALL the activities – except aerial spraying – please provide an honest evaluation of success/beneficial outcomes of all lands treated to date. If these actions are beneficial to native communities –why are weeds exploding on the Forest?
- 2.64 | DEIS at 4-3 lists an annual rate of weed spread of 17 percent, with knapweed 24 percent. Here, you fail to assess effects of livestock, OHV activity, and logging/thinning in weed spread.
- 2.65 | How do the characteristics here affect “worst case scenarios”/risk assessments?
- 2.66 | You have failed to analyze the impacts of foreseeable vegetation alteration projects as they relate to values affected by your weed actions. Your array of spray actions, without addressing causes of disturbance, will only lead to further impacts to native species.
- DEIS at Table 4-2. You only provide data on the impacts of ONE biocide – Picloram – on fish in Table 4-2. Yet you propose to use a witches brew of chemicals in sensitive riparian and TES habitats.
- 2.67 | DEIS at 4-18. Please provide the full Forest Service study that you cite for claiming that if herbicide concentrations are equal to or less than MATC, then all aquatic species will be reasonably protected. Your worst case scenarios fail to

- 2.59** A Forest-wide map identifying these soil characteristics would be uninformative at this scale, since over 500 soil mapping units have been developed on the Forest. Map 3-10 showing the geology on the Forest is presented in the FEIS. The description and analysis of soil characteristics is closely related to the geology. See Sections 3.D.3, 4.B.2, and 4.C.3.
- 2.60** An economic study on the viability of livestock grazing is not pertinent to this FEIS. The information in Chapter 3 is presented to provide an overview of the various socioeconomic structures affecting the Forest, and is useful for comparing alternatives and goals.
- 2.61** The descriptions of weed treatments and their effects on recreation activities and local economies are adequately discussed in Sections 3.E.4, 4.C.4.a, and 4.D.4.a.
- 2.62** The discussion of the cumulative effects in the Introduction of Chapter 4 (Section 4.A) introduces the issues surrounding these effects. Cumulative effects are fully discussed throughout Chapter 4.
- 2.63** See Response 2.18. Weeds have exploded on the Forest due to a lack of a full range of treatment options and limited treatment acreages.
- 2.64** The added effects of these activities were not considered in the calculations. The rate of spread calculations are based on climate and plant characteristics (such as a species' capability to reproduce, physiology, and seed viability).
- 2.65** The comment is unclear, however, see Chapter 4 for a description of worst-case scenarios and risk assessments.
- 2.66** If this comment is referring to current and future Forest project activities, project-level mitigation strategies are reviewed in Section 1.A.1.
- 2.67** A full discussion and support references are provided as the basis for the conclusions in Table 4-2 and the accompanying text.

## Comment Letter No. 2

take into account soil compaction, stripping of vegetation cover, loss of cryptogamic cover in watersheds subject to various grazing levels.

DEIS at 4-23. We are shocked that you would still even consider using Picloram after finding that your "low flow watershed" model shows that you could only safely treat 1 to 2 acres per day!

- 2.68 | DEIS at 4-25. Leaching. You describe Picloram as a "relatively mobile, persistent and toxic herbicide". Why do you cite NO studies that show the harmful and documented past problems with the herbicides you propose to use? Everything from human miscarriages to amphibian deformities?

Wind-drift can be extensive – especially in steep country with downslope movement of air – and variable wind gusts.

Table 4-3 presents a highly biased and skewed assessment of relative benefits and threats of the proposed action.

- 2.69 | DEIS at 4-41 fails to identify loss of native vegetation and resultant likely loss of insects from death of non-target plants under the proposed action –especially aerial application.

- 2.70 | There is scientific documentation of the effects of pesticides on sage grouse in southern Idaho. Many Forest lands lie south of 45 degrees North – where APHIS will be spraying to kill native insects. How do the various herbicides and their contaminants and their breakdown products interact with APHIS sprays?

- 2.71 | DEIS at 4-48. You can NOT predict no adverse impact on surface water. Plus, you propose to kill weeds, yet fail to take concrete measures to restore vegetation to sprayed sites.

- 2.72 | Your array of biocides includes chemical compounds designed to kill woody vegetation. We are unaware of any significant infestation of non-native woody species on the Forest. Are you planning to use the chemicals described here in controlling native vegetation, thinning, hazardous fuels reduction and other projects? You have NOT stated that this is the case. Is it? Will this EIS serve as the analysis for chemicals to be used in spending federal fire and other funds on vegetation projects?

- 2.73 | You need to prepare a Supplemental DEIS that presents a fully fleshed PPA alternative, as well as other alternatives that incorporate a blending of some spray as last resort with PPA components. These are all fully reasonable.

We are submitting a full alternative (Attachment A) for your inclusion in this SDEIS effort.

- 2.68** A thorough analysis and complete reference citations are presented in Chapter 4 and Chapter 9 of the FEIS, respectively. Some reproductive and developmental problems in wildlife populations have been attributed to endocrine disrupting chemicals, but recent EPA reviews note that evidence of other effects is far from conclusive.
- 2.69** Potential effects to native vegetation are described further in the FEIS in Section 4.B.1 and impacts to wildlife habitat in Section 4.B.3. If mortality to non-target native vegetation should occur, it would only minimally impact dependent insectivores due to the very localized and small area affected.
- 2.70** See Response 2.23.
- 2.71** Section 4.C.1.a, Surface Water, of the FEIS has been clarified to indicate that the No Action Alternative is not expected to result in adverse impacts to surface water. The FEIS discloses the potential for adverse effects. However, any effects are expected to be minimal with the application of mitigation measures, BMPs, and SOPs. See Section 4.C.1.a. The need for restoration will be determined on a site-specific basis, preferring natural restoration discussed in Section 2.C.3.
- 2.72** See Response 2.20. Spraying native vegetation for purposes of fuel reduction is not part of the purpose and need described for this FEIS.
- 2.73** See Responses 2.1 and 2.5 and Section 2.E.

Comment Letter No. 2

- 2.74 | You must also develop alternatives that incorporate limited hand chemical application (as a last resort) with mechanical treatments and passive and restoration techniques.

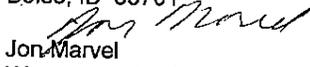
We will be happy to meet with you at any time if you need further clarification of the alternative that we have submitted.

Sincerely,



Katie Fite

Committee for the High Desert  
PO Box 2863  
Boise, ID 83701



Jon Marvel  
Western Watersheds Project  
PO Box 1770  
Hailey, ID 83333

**2.74** Your suggestion is closely related to the No Action Alternative in that chemical applications would be limited. The No Action Alternative is discussed throughout this FEIS.

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# Restore Native Ecosystems Alternative

December 2002  
An Alternative for Consideration in the  
Region 6 Forest Service Invasive Species  
Environmental Impact Statement

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## RESTORE NATIVE ECOSYSTEMS ALTERNATIVE

### I. OVERVIEW

#### GOAL OVR 1: ECOLOGICAL INTEGRITY

Enhance the ecological integrity of Pacific Northwest national forest lands by restoring natural processes, native species, ecosystem function, and resilience of plant and animal communities (see Endnote 1)

##### Action-OVR 1

Give approximately equal overall effort to invasive species treatments that

- a. Prevent conditions that favor invasive species; and
- b. Restore ecological integrity on sites with invasive species (Endnote 2).

##### Action-OVR 2

Base treatments on the best available science and knowledge

- a. Assess the likelihood that a proposed treatment will contribute to long-term ecological integrity and native species vegetation, citing documented, relevant case examples where possible.
- b. If a treatment has not previously been attempted, cite scientific evidence that the treatment could be expected to contribute to long-term ecological integrity and native species vegetation.

##### Action-OVR 3

State objectives, standards and guidelines in clear, measurable terms, then measure and monitor the longterm outcomes of treatments so that they can be held accountable to both long-term and treatment goals.

##### Action-OVR 4

Perform restoration in a precautionary manner, recognizing that our understanding of complex ecosystems and the consequences of our activities is always limited.

##### Action-OVR 5

Include realistic and dedicated funding for, and an institutional commitment to, assessment, monitoring and appropriate response to monitoring results. Design and implement assessment (including the gathering of baseline data) and monitoring systems before activities commence.

##### Action-OVR 6

Encourage and facilitate informed public participation by local, regional and national stakeholders in such activities as assessment, monitoring, early detection of invading species, provision of new and scientific information, review of assessment and monitoring protocols, and analysis of treatment alternatives and outcomes.

## Action-OVR 7

Provide:

1. clear and significant incentives (e.g., awards, grants, budgets) for prevention of invasive species and restoration of ecological integrity
2. disincentives for activities that encourage invasive species and delay restoration of native vegetation and recovery of ecological integrity.

## Action-OVR 8

Ensure that treatments are accountable to public funding. Rely on best available science, awarding contracts on the basis of "best value" for restoration of native vegetation, avoid treatments of symptoms in the absence of addressing causes, and use local community workforces whenever feasible.

## II. DEFINITIONS OF TERMS USED IN THE RESTORE NATIVE ECOSYSTEMS ALTERNATIVE

**Actions** Activities needed to achieve desired outcomes (goals, objectives, standards), including actions to restore or protect land health. These actions include proactive measures as well as criteria that shall be applied to guide day-to-day activities occurring on public land.

### Active Restoration Treatments

Actions other than suspension of activities to restore ecological integrity or native species populations. Includes, but is not limited to:

1. Road and off-road vehicle route removal
2. Culvert removal
3. Prescribed burning
4. Use of biological control introductions, cultural methods, mechanical methods, chemical methods, and prescribed fire to directly act on invasive exotic species
5. Fish and wildlife habitat rehabilitation
6. Reintroduction of extirpated, native species
7. Planting and care of native seeds and plants
8. Reintroduction of soil biota required by native species, when necessary

**Conservation** Protection of landscape, ecological, and native genetic diversity and the processes that maintain them.

**Ecological Integrity** The ability of an ecosystem to support and maintain a balanced, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitats within the region.

**Goals** Goals are broad statements of desired outcomes (e.g., maintain ecosystem health and productivity).

### Historical Fire Regimes

The historical range of variation of fire intervals, seasons, intensities by which native vegetation and wildlife have been shaped and to which they have adapted prior to the arrival of Euro-American settlers.

**Invasive Species** Exotic species shown by observation and/or scientific evidence to aggressively expand their occupancy of land, whether or not they are viewed as directly impacting economic activities, or have been listed on formal "noxious weed" lists. "Invasive species" does not include native species that increase in response to particular human activities (e.g., juniper, mesquite, sagebrush).

### **Invasive Species Treatments**

Actions, which, based on scientific evidence, will effect the conservation and restoration of native vegetation communities. They include:

- a. treatments that result in measurable soil, hydrological, and vegetation changes that resist invasive exotic species; and
- b. active and passive restoration treatments that restore native vegetation and/or conditions favorable to native communities.

**Objectives** Objectives identify specific desired conditions for resources and have established timeframes for achievement and are usually quantifiable and measurable.

### **Passive Restoration Treatments**

Suspension of activities that cause the loss of ecological integrity or native species populations in a specific area. Passive restoration treatments may include:

1. Area, road, and off-road vehicle route closures
2. Voluntary livestock permit retirement
3. Retirement of vacant livestock allotments
4. Livestock grazing exclosures (e.g., in aggressive weed infestations, uplands "at risk" of weed infestation, riparian areas, habitat of threatened or endangered species, springs, wetlands)
5. Restrictions of logging activities
6. Restrictions of oil and gas and mineral development, including allowing expired leases to remain expired
7. Restrictions on other human activities, as relevant
8. Prescribed natural fire (i.e., allowing fires to burn under predefined circumstances)

### **Prevention Treatments**

Actions that avoid causing conditions that favor the presence of invasive species. Prevention is not limited to prevention of the *introduction* of invasive species.

**Restoration** The regaining of ecological integrity.

**Standards** Standards are limitations placed on management activities to ensure compliance with applicable laws and regulations or to limit the discretion authority in project decision-making. Compliance with relevant standards is mandatory.

### **Wildlands-Urban Interface**

The area next to a home where fires most directly threaten structures and community space where there are flammable community values.

### III. INVASIVE SPECIES TREATMENT PLANNING

#### GOAL-PLAN 1

Invasive species treatments are based on assessments of (1) the condition of vegetation; (2) major human causes of invasive species introduction, establishment or spread; (3) opportunities for prevention of soil disturbance and invasive species; (4) opportunities for conservation of native vegetation; (5) results of past invasive species treatments; and (6) comparative likelihood of treatment options for achieving restoration of ecological integrity and native vegetation.

#### Action-PLAN 1

Using existing information initially, map vegetation within Region 6:

1. key areas of native vegetation and high ecological integrity; areas of mixed native and exotic vegetation and condition; and areas of significant invasive plant concentrations
2. suitable and critical habitat for habitat-specialist terrestrial and aquatic wildlife species
3. suitable habitat for wide-ranging species (e.g., bull trout and sage grouse) that require use of extensive or temporally diverse (e.g., winter/summer habitat) areas within the ecoregion
4. hotspots of plant and wildlife biodiversity
5. habitats "at risk" for exotic plant introduction, establishment, or spread

#### Action-PLAN 2

Refine maps by consulting conservation center databases and other sources of information and scientists on species occurrence.

#### Action-PLAN 3

Identify spatial and temporal association of particular plant invasions and compare and contrast with the spatial and temporal occurrence of past and continuing human activities.

#### Action-PLAN 4

Using overlays, identify those grazing allotments, proposed logging areas, and system and off-road vehicle roads that would facilitate invasive species introduction, establishment, and/or spread.

#### Action-PLAN 5

Using existing data, prepare and update, on an ongoing basis, maps of:

1. invasive exotic species concentrations; and
2. exotic species plantings on national forest lands, and, when available, adjacent private and public lands.

#### Action-PLAN 6

Prior to implementing site-specific invasive species treatments, prepare goals based on:

1. vegetation conditions, including invasive species concentrations
2. vulnerable wildlife and plant species and habitats (e.g., amphibian habitat, as many amphibians are highly vulnerable to herbicide applications and drift)

3. habitat important for threatened, endangered, and sensitive species and carnivores; connectivity for habitat-specialist wildlife
4. past and present activities within the watershed leading to exotic plant invasions
5. passive and active restoration needs
6. feasible restoration goals

#### IV. SITE SELECTION AND TREATMENT PRIORITIES

##### A. General

##### Action-PRIORITIES 1

Prioritize treatments shown to have a high probability of restoring natural processes and natural biotic communities (based on previous experiments or operational use) over treatments without this kind of documentation.

##### Action- PRIORITIES 2

Prioritize invasive plant treatments based on scientific evidence of efficacy as follows:

1. cessation of activities that facilitate exotic plant invasions (i.e., passive restoration)
2. active restoration treatments that incorporate passive restoration
3. active restoration treatments to restore ecological integrity and native vegetation

##### Action- PRIORITIES 3

Invasive plant prevention and native vegetation restoration treatments must utilize:

1. a precautionary approach, which, in the face of uncertain outcomes, proceeds experimentally and cautiously.
2. best available science and experiential and indigenous knowledge where applicable
3. an adaptive process that regularly incorporates revisions from monitoring and evaluation
4. a public process
5. the least intrusive techniques available to restore ecological integrity
6. the least risky interventions that are likely to provide the greatest ecological benefit
7. recovery plans for threatened and endangered species, or improvements on such plans
8. prevention strategies to reduce the need for chemical and mechanical treatments, and prescribed fire, so that the number of acres treated annually with these methods will decline over the life of the EIS

##### Action- PRIORITIES 4

Herbicide treatments must be of lower priority than non-chemical treatments, and shall be used only in conjunction with:

1. elimination or reduction of the conditions that have favored the presence of invasive species
2. encouragement of conditions that resist invasive species (see Endnote 3)

##### Action- PRIORITIES 5

Prior to implementing a site-specific treatment:

1. identify and prioritize restoration options

2. select the least intrusive/intensive methods that will effectively move the site toward the stated goals of ecological integrity
3. identify riparian conservation areas, consisting of the riparian community and hydrological energy zones; and an outer zone that provides buffers for the riparian conservation area

Action- PRIORITIES 6

State for all site-specific restoration projects and activities:

1. measurable conservation and restoration objectives
2. specific indicators and measures for determining results
3. timelines for analysis of whether goals, objectives and standards have been met
4. decision making processes that will be used to respond to analysis of results

B. Invasive species treatments

GOAL- PRIORITIES 1

The ecological impact of invasive species shall be minimized through conservation and restoration of native vegetation communities, watersheds and wildlife habitats.

Action- PRIORITIES 7

Give priority to two facets of the control of invasive species as defined in Executive Order No. 13112, "Invasive Species":

1. preventing the spread of invasive species from areas where they are present
2. restoring native species and habitats

Action- PRIORITIES 8

Give treatment priority to areas in which exotic plant invasions have adverse ecological impacts on native plant communities, watersheds, and wildlife habitats.

Action- PRIORITIES 9

Develop, with the input of knowledgeable scientists and citizens, a long-term (e.g., 100-year) plan for prevention and minimization of unwanted exotic vegetation within the planning area, and restoration of ecological integrity, including native vegetation. Short-term plans (e.g., 1, 5, or 10 year horizons) will be integrated within the 100-year plan; all shall emphasize experimentation and adaptation.

Action- PRIORITIES 10

The long term invasive species plan for integrated agency action shall include:

1. identification and lessening of the conditions that cause or favor the introduction, establishment, and spread of invasive species, and methods to ameliorate those conditions
2. plans for preservation of intact ecosystems from invasions
3. plans for preservation or restoration of historical disturbance regimes
4. restoration of the native vegetation community, via seeding and planting, to increase resistance to invasion
5. active vegetation treatments to reduce the abundance of invasive exotic species populations

C. Prescribed fire and fire suppression for invasive species prevention

GOAL- PRIORITIES 2

Natural fire regimes and native vegetation types will be restored, wherever feasible.

Action- PRIORITIES 11

Collect baseline data on historical fire regimes and plant and animal communities to use as a guide for restoration activities.

Action- PRIORITIES 12

Through an open process that fully includes the public and utilizes the best available science, develop Fire Management Plans that:

1. allow certain remote wildland areas to burn under carefully prescribed conditions where native vegetation would benefit
2. prescribe "Minimum Impact Suppression Tactics" where they would be most appropriate
3. prohibit aggressive soil-disturbing suppression methods where they would favor invasive species (e.g. bulldozers in roadless areas, chemical retardants in riparian areas)
4. determine ecological risks of fire – exotic species, population impacts - in all areas covered by plans, and carefully weigh benefits and risks as part of this process

Action- PRIORITIES 13

Based on Fire Management Plans, use fire suppression to protect:

1. areas of high ecological values that may be at risk from exotic species invasion following fire
2. areas where human life, developed property or irreplaceable ecological values or cultural resources (e.g., rare forest types, a major portion of the population of an endangered species, or pictographs) are at stake
3. areas that should be protected until prescribed burning or other treatments can reduce excess fuels
4. important wildlife habitats (e.g., within 2 miles of sage grouse leks, big game winter ranges)

Action- PRIORITIES 14

Fire fighting shall be avoided in:

1. areas where nearby natural fire barriers such as bodies of water or rocky ridges are likely to extinguish the fire
2. Wilderness Areas, Wilderness Study Areas, roadless areas/potential wilderness areas, Wild and Scenic Rivers, and Research Natural Areas, except when fire threatens to escape from these areas or permanently impair ecological or cultural values

Action- PRIORITIES 15

Mechanical fire suppression (i.e., with bulldozers) shall be avoided in riparian zones, steep slopes and other ecologically sensitive areas.

Action- PRIORITIES 16

Fuels reduction shall, except for restoration or conservation necessity:

1. minimize or avoid road construction and reconstruction
2. avoid roadless areas, old growth, endangered species habitat, riparian areas, ecological sensitive areas and other areas of high ecological integrity
3. avoid habitat of threatened and endangered species

Action- PRIORITIES 17

Fuels reduction treatments shall not:

1. increase motorized vehicle use or livestock access
2. supply biomass plants
3. increase fire risk through accumulation of activity fuels
4. include chaining
5. include clearcutting
6. limit native plant recovery through chipping or ground disturbing activities

V. MANAGEMENT AND TREATMENTS FOR PREVENTION OF INVASIVE SPECIES

A. General

Action-PREVENTION 1

In accordance with Executive Order 13112, Region 6 Forest Service shall not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species unless the agency has determined and made public its determination that the public benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

Action- PREVENTION 2

Develop and implement comprehensive, science-based protocols designed to prevent the spread of invasive species in relation to all activities on Forest Service lands that have been identified in the scientific literature as primary facilitators of the establishment and spread of invasive species, watershed degradation, and loss of native species.

B. Specific Management Considerations

1. Livestock grazing

GOAL- PREVENTION 1

Minimize the introduction, establishment, and spread of invasive species due to livestock grazing.

### Action- PREVENTION 3

In order to minimize the introduction, establishment, and spread of invasive species due to livestock grazing:

1. retire domestic livestock grazing permits at earliest opportunity where grazing has been found to promote invasion or persistence of invasive species
2. prioritize invasives prevention and restoration activities for areas where domestic livestock grazing has been permanently ended
3. manage livestock movement patterns to ensure animals are not moving seeds of invasive species from infested to uninfested areas
4. suspend livestock grazing on non-cohesive soils in perennially saturated meadows.
5. manage livestock grazing to favor native species
6. avoid grazing in systems still containing a strong component of native perennials, biological soil crusts, or other features known to act as natural barriers to invasion or increase of invasive exotic species

### 2. Roads and Off-Road Vehicles

#### GOAL- PREVENTION 2

The introduction, establishment and spread due to road, fire break, and off-road vehicle route construction, use, and maintenance shall be minimized.

#### Action- PREVENTION 4

Develop GIS maps and databases of all system (authorized and constructed) and non-system (user-created) roads and routes.

#### Action- PREVENTION 5

Precede all road or off-road vehicle route reconstruction, and any consideration of adding existing or illegal user-created roads and off-road vehicle routes to the transportation system, by NEPA analyses of their impacts, including potential to facilitate the spread of invasive species into native ecosystems.

#### Action- PREVENTION 6

Close or restrict non-essential, designated routes for motorized vehicle travel in areas of high risk for spread of invasive species.

#### Action- PREVENTION 7

Implement measures that reduce the likelihood of weed seed dispersal, such as educating equipment operators, implementing appropriate protocols for vehicle and equipment washing, restricting recreational access and seasonal travel. Consider restricting road grading activities in areas with high populations of invasive species.

#### Action- PREVENTION 8

Implement full area closures that prohibit all motorized travel on lands outside of designated and NEPA analyzed transportation system roads and off-road vehicle routes.

Action- PREVENTION 9

Identify and designate for obliteration non-essential system and non-system roads and off-road vehicle routes that do not comply with native vegetation protection goals.

Action- PREVENTION 10

Cease new road construction and most road reconstruction in riparian areas.

Action- PREVENTION 11

Reclaim obliterated roads to native vegetation.

3. Fire Suppression and Wildland-Urban Interface Treatments

GOAL – PREVENTION 3

The introduction, establishment, and spread of invasive species due to fire suppression and wildland-urban interface treatments shall be minimized.

Action- PREVENTION 12

Utilize Minimum Impact Suppression Techniques and fully reclaim fire lines with native vegetation after fire emergency situations have ended, in order to prevent the spread of invasive species into the disturbed fire line corridors and to prevent the use of fire line corridors as illegal off-road vehicle travelways. Monitor each growing season for five years to eradicate introduced infestations.

Action- PREVENTION 13

Home-site treatments in the wildland-urban interface (e.g., thinning, pruning, and mowing of vegetation) must be undertaken primarily within a 20 - 60 meter (66-200 feet) intensive treatment zone where fires most directly threaten structures and human life.

Action- PREVENTION 14

Fire suppression operations shall:

1. clean equipment of invasive species seeds before moving equipment off roads to build fire breaks
2. seal all firebreaks to prevent off-road vehicle access

Action- PREVENTION 15

Defensible community space that may include public and private lands may be created within an additional treatment zone up to 500 meters (which includes the 60 meter home-site treatment zone) for fire fighter safety and protection of other flammable community values.

Action- PREVENTION 16

Long-term maintenance activities within the wildland-urban interface (i.e., prescribed burning, mechanical brush removal, etc.) as well as monitoring plans must be considered and a funding commitment secured before any action is undertaken.

Action- PREVENTION 17

Native vegetation restoration priorities must be identified through a restoration assessment before any restoration fuels reduction activities take place.

**4. Timber Sales**

GOAL- PREVENTION 4

The introduction, establishment, and spread of invasive species due to timber sales shall be minimized.

Action- PREVENTION 18

Maintain old-growth vegetation communities as bulwarks of vegetational resistance to invasion; minimize disturbance of old-growth or late seral vegetation communities; and, whenever possible, maintain intact forest canopies adjacent to areas such as roads and clearcuts where invasive species are abundant.

Action- PREVENTION 19

Design and plan timber sales for maximum prevention of introduction, spread, and establishment of invasive species, including pathogens.

**5. Altered Hydrological Regimes**

GOAL- PREVENTION 5

The introduction, establishment, and spread of invasive species due to altered flow regimes of rivers and streams shall be minimized.

Action- PREVENTION 20

Prioritize treatments of riparian areas where restoration is likely to be successful; e.g., areas where the natural historic flow regime is extant.

Action PREVENTION 21

Restore native historical flow regimes whenever it is possible to do so.

**6. Oil, Gas, and Mineral Exploration and Development**

## GOAL- PREVENTION 6

The introduction, establishment, and spread of invasive species due to oil, gas, and mineral exploration and development shall be minimized.

### Action- PREVENTION 22

Prohibit surface disturbance associated with oil and gas exploration, development, and production activities in areas with

1. endangered, threatened, candidate, sensitive, or rare plant species
2. steep slopes

### Action-PREVENTION 23

Minimize surface disturbance associated with oil and gas exploration, development, and production activities in areas with sensitive soils.

### Action- PREVENTION 24

In areas where seismic exploration activities are permitted best available technologies must be used (i.e. helicopter shot-hole technologies over the use of 65,000 pound thumper trucks.

### Action- PREVENTION 25

Locate wells and associated roads and pipelines on slopes less than 25% to avoid or minimize surface disturbance; on slopes greater than 25%, prohibit surface disturbing activities.

### Action- PREVENTION 26

Keep removal and disturbance of vegetation to a minimum through construction site management (e.g. using previously disturbed areas and existing easements, limiting equipment/materials storage and staging area sites etc.) on both individual well locations and within oil and gas project areas.

### Action- PREVENTION 27

Limit vehicular traffic to the running surface of roads and well locations as authorized in Applications for Permit to Drill (APD's) and Right of Ways (ROWs) thus prohibiting all traffic on two-tracks and trails near oil and gas well location and within oil and gas project areas.

### Action- PREVENTION 28

Require that all gravel and other surfacing materials used for the project are free of noxious weeds.

### Action- PREVENTION 29

Require each operator to submit a Surface Use Plan containing appropriate erosion control and revegetation measures (e.g., reintroduction of biological soil crust or mycorrhizae) with each APD request.

Action- PREVENTION 30

Require grading and landscaping during and after construction activities to minimize slopes, and installation of water bars on disturbed slopes in areas with unstable soils where seeding alone may not adequately control erosion.

Action- PREVENTION 31

Upon completion of drilling, require immediate reclamation of all portions of the pad that can be reclaimed using the soils originally removed during construction.

Action- PREVENTION 32

With each APD request, require the oil and gas operators to submit a reclamation plan that includes, but shall not be limited to:

1. identification of lands to be disturbed
2. detailed description of the baseline condition and resources on the land including existing uses, soil characteristics, slope, topography, vegetative cover, and productivity
3. methods to control erosion
4. plans to revegetate and restore the areas disturbed
5. measures that address steep slopes, sensitive soils, recontouring requirements, short-term seedbed preparation measures, seeding mixtures and methods, and long-term reclamation goals
6. steps to be taken to comply with federal, state, and local environmental laws, regulations, and policies

7. Disturbance to biological soil crusts

GOAL- PREVENTION 7

Biological soil crusts shall be maintained as a partial shield preventing establishment or spread of invasive exotic species (See Endnote 4).

Action- PREVENTION 33

Using existing data, map and describe the presence and integrity of biological soil crusts at the ecoregion and watershed levels; locally develop maps at the subwatershed level.

Action- PREVENTION 34

Prepare and implement a general plan for damaged biological soil crusts.

Action- PREVENTION 35

Prohibit livestock grazing for at least five years following a fire in areas capable of maintaining biological soil crusts. Return of livestock will be delayed past five years if significant recovery of the biological soil crust has not occurred.

## VI. NATIVE VEGETATION RESTORATION TREATMENTS

### A. Direct Treatments of Invasive Species

#### Action- RESTORATION 1

Direct treatments of invasive species shall be part of an over-all ecologically based restoration plan and may include:

1. Biological control
2. Cultural (manual) practices
3. Mechanical treatments
4. Chemical treatments
5. Prescribed fire

#### Action- RESTORATION 2

Base the selection of direct treatment methods on:

- a. ecological priorities for restoration rather than potential economic benefits
- b. size of the proposed treatment area, its location, and the biology of the target invasive species
- c. the array of species that may be directly and indirectly adversely or beneficially affected
- d. opportunities for minimized intrusion, extent, and risk
- e. demonstrated record of restoring native vegetation

#### Action- RESTORATION 3

Except for treatment of small infestations without motorized equipment, prescribe direct treatments within designated wilderness or wilderness study areas only in conjunction with efforts to halt avoidable spread of invasive species into the wilderness from outside these areas.

#### Guideline- RESTORATION 1

Adopt the Carhart Model (Arthur Carhart National Wilderness Training Center) for completing minimum requirement analyses and minimum-impact tool analysis. The model assists managers in making administrative decisions concerning wilderness.

#### Action- RESTORATION 4

Prioritize nonchemical methods, unless shown to be ineffective, over chemical methods.

#### Action- RESTORATION 5

Small infestations have higher priority for active restoration treatments than large-scale infestations, with the exception of biological control. Use seasonal employees to detect and treat small infestations.

#### Action- RESTORATION 6

Use only those biological control agents that have been demonstrated to pose no threat to native species.

Action- RESTORATION 7

Use cultural treatments that have been shown effective in restoring native vegetation in scientific studies (e.g., use of properly timed fire, properly timed and managed goat grazing, mulching, and hand pulling) and conduct operational research to develop new, effective cultural treatments.

Action- RESTORATION 8

Plant and seed appropriate native species to compete with exotic species.

Action- RESTORATION 9

Use mechanical treatments that have been shown to be effective in restoring native vegetation in scientific studies (e.g., mowing, spot fire (flamer), mastication, weed eaters, mulching, and weed wrenches) and conduct operational research to develop new, effective mechanical treatments.

Action- RESTORATION 10

For chemical treatments, use application methods that minimize exposure to people, wildlife, and native plants. Spot treatment methods shall be preferred over broadcast methods.

Action- RESTORATION 11

Do not use broadcast herbicide treatments within 500 feet of endangered, threatened, candidate, sensitive, or rare plants. If herbicides are necessary for protection of a rare species, allow only application methods that apply herbicides only to the target plants and which expose only the target plants.

Action- RESTORATION 12

Avoid application of herbicides and prohibit broadcast spraying in riparian conservation areas. Avoid application of herbicides (e.g. atrazine) with adverse effects on aquatic species and amphibians.

Action-RESTORATION 13

Prohibit the use of herbicides in known aquatic and terrestrial amphibian habitat, including breeding, rearing, and overland dispersal areas.

Action- RESTORATION 14

Only herbicides that minimize adverse effects on environmental and human health, based on knowledge of all ingredients in the formulation, shall be utilized for chemical control.

Action- RESTORATION 15

Prohibit use of sulfonylurea herbicides and other acetolactate synthase-inhibiting herbicides due to their demonstrated ability to damage off-site native and crop species.

Action- RESTORATION 16

Design treatments to account for wildlife habitat needs, for instance, by the timing and location of activities. Avoid treatments during nesting season for migratory birds, and during identified sensitive periods for wildlife (e.g., critical wintering habitat for big game or sage grouse).

B. Prescribed Fire and Fire Suppression

Action- RESTORATION 17

Use prescribed fire only in concert with a restoration assessment with clear objectives for native plant composition, and where it will not increase invasive species.

Action- RESTORATION 18

Document consideration of the following prior to prescribed burns:

1. long-term damage to biological soil crusts
2. soil erosion through wind and runoff events
3. risk of spread of invasive species

Action- RESTORATION 19

Burned areas (natural or prescribed) must be protected from livestock grazing for at least five years and until measurable recovery criteria are met.

Action- RESTORATION 20

Prescribed burning teams shall:

1. use existing roads
2. limit ground disturbance

Action- RESTORATION 21

Minimize post-fire disturbance to burned areas to allow natural recovery.

Action- RESTORATION 22

Monitor all fire camps and helicopter spots for invasive species following fire.

C. Forage Enhancement

Action- RESTORATION 23

Conduct forage enhancement projects using only native species. Forage enhancement projects using non-native plant species will be carried out only in extremely degraded/severely altered systems as an intermediate step toward/placeholder for native restoration, accompanied by a full commitment to complete restoration of native species. This commitment must include funds set aside as part of the project, with specific deadlines for accomplishment. Any use of non-native species would occur only after extensive consultation with invasive plant experts inside US and abroad, with opportunity for public comment. Such forage enhancement projects must

incorporate ecological principles to encourage native species, and will not result in any net loss of native plant communities.

## VII. REVEGETATION

### Action-REVEGETATION 1

In revegetation efforts, whenever it is possible to do so, use native seed and seedlings that have been grown from seeds of locally adapted populations.

### Action- REVEGETATION 2

If native seeds/plants are not available, revegetation projects will rarely be undertaken until native plant seed or plants become available. Non-native plant species will be used only in extremely degraded/severely altered systems as an intermediate step toward/placeholder for native restoration, accompanied by a full commitment to complete restoration of native species. This commitment must include funds set aside as part of the project, with specific deadlines for accomplishment.

### Action- REVEGETATION 3

When reseeding with non-native species, certification must be provided that only species that have been documented as non-persistent are present in the seeding mixture.

### Action- REVEGETATION 4

Assure availability of native seed and plants:

1. establish Forest Service contracting systems that will provide growers the necessary assurance their native, locally-adapted seed/plants will be purchased if grown
2. establish sufficient storage facilities for native seeds for major revegetation efforts

### Action- REVEGETATION 5

Collaborate with federal, state, local and private land managers to reduce sale and planting of exotic invasive species, and increase availability and use of appropriate native species, with particular attention to inholdings and other lands adjacent to Forest Service lands.

### Action- REVEGETATION 6

Focus invasive species public education programs on 10-20 of the most ecologically problematic local invasive species and those that have the potential to invade a given District. Include information about how these species are introduced to public lands.

### Action- REVEGETATION 7

Following fire or other disturbances, do not propose reseeding unless it can be shown that natural regeneration is unlikely. Use native species unless they are not available. Always use certified weed-free seed.

## VIII. MONITORING AND EVALUATION

### Action-MONITOR 1

Before resources are committed to modify a plant community, gather baseline data to reflect existing conditions. If treatments are initiated, data shall be collected to substantiate whether or not any of the goals, objectives, and standards have been met. If baseline and post-treatment evaluation monies are not available, then the project shall not be approved (see Endnote 5).

### Action-MONITOR 2

Monitoring must be used to:

1. inventory baseline conditions at the landscape, watershed, subwatershed, and project site levels
2. measure whether positive goals for native ecosystem recovery, conservation, and integrity are being attained
3. track biodiversity and health using an increaser/decreaser species procedure (including biological soil crusts, wildlife, and endemic/sensitive species).
4. practice precaution, retain flexibility, and respond to change, unforeseen harm, failure to reach objectives, and/or new information
5. quantify invasive species population changes
6. establish success/problems with specific prevention and restoration treatments in a variety of sites

### Action-MONITOR 3

Monitoring and evaluation of vegetation treatments shall:

1. relate to the clearly stated objectives of all restoration projects
2. be an integral component of each restoration project
3. be incorporated into the essential costs of each project
4. use scientific principles of experimental design including replication and measurements from untreated control areas for comparison with treated locations
5. use a process responsive to all-party and scientific input
6. encourage involvement of local, regional and national stakeholders
7. be documented in a sixteen-state central database with assessments, objectives, monitoring procedures, and analyses in comparable formats
8. outline clear procedures for responding to monitoring and evaluation results

### Action-MONITOR 4

Monitoring methods shall be:

1. Relevant: evaluates progress toward stated objectives
2. Sensitive: quickly detects change, shows trends, identifies critical features
3. Available: inexpensive, easily applied
4. Measurable: accurately quantifiable with acceptable methods
5. Defensible: minimally subject to individual bias
6. Verifiable: allows others applying the same methods to achieve similar results
7. Inclusive: avoids reductionism, where feasible
8. Scheduled: monitoring interval firmly scheduled

Action-MONITOR 5

Goals, objectives, and standards must be written for all projects tiered to this EIS. All projects must be monitored to determine if their goals, objectives, standards, and guidelines are being met on schedule.

Action-MONITOR 6

Objectives and standards must be written in such a manner as to be measurable with concrete ecosystem indicators. Reliance on "professional judgment" without evidence should be minimized, so that outcomes and conclusions can be independently verified.

Action-MONITOR 7

Each Ranger District must prepare an annual monitoring report of all vegetation restoration projects (passive and active). These reports shall be available on forest and regional websites.

Action-MONITOR 8

Each Ranger District must annually report whether goals, objectives, and standards are being met. For those that are not being met, indicate plans for meeting them.

Action-MONITOR 9

All proposals to undertake a vegetation restoration activity must include a description of the monitoring that will be necessary to determine the compatibility of the activity with specific goals, objectives, and standards; and the treatment efficacy.

Action- MONITOR 10

Require the submission of an annual monitoring plan at or near any and all locations disturbed by oil and gas activities before granting approval of an Application for Permit to Drill.

Action-MONITOR 11

Annually monitor for five years all firelines, fire camps, helicopter spots, and fire retardant-treated areas for invasive species; eliminate introduced invasive species.

**IX. TRIBAL RELATIONS FOR VEGETATION TREATMENTS**

**GOAL-TRIBES 1**

Native American Indian concerns and issues relative to vegetation prevention and restoration treatments are addressed and mitigated in full collaboration with Native Tribal people.

**Action-TRIBES 1**

Consultation and collaboration with Native Tribes shall take place throughout the process of developing and implementing this EIS in accordance with Executive Order No. 13084, Consultation and Coordination with Indian Tribal Governments.

Action-TRIBES 2

Contact Native Tribal representatives from Tribal governments and organizations when vegetation treatments are being planned. Give particular attention to consultation and collaboration with local Tribal people when activities may affect Native cultural resources, hunting, fishing and gathering areas, sacred sites, or Tribal trust lands.

Action-TRIBES 3

Analyze treatment proposals pursuant to Executive Order No. 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.

Action-TRIBES 4

In collaboration with Tribal people, identify culturally significant plants used for food, basketweaving and other fibers, medicine, and ceremonial purposes.

Action-TRIBES 5

Develop protocols for enhancement and protection of culturally significant plants :

1. utilize traditional indigenous knowledge and wisdom to protect and enhance native vegetation communities, native resources, and ecosystems
2. prioritize treatments that will enhance and preserve culturally significant plants and animals
3. use minimal impact vegetation treatments where culturally significant species are known to occur. Vegetation treatments will not result in net loss of native species of importance to indigenous people for subsistence or cultural purposes

Action-TRIBES 6

Establish herbicide-free zones to protect culturally significant plant and wildlife resources.

Action-TRIBES 7

Provide notification to Indian communities of the exact locations, dates, and times that herbicide applications will take place, via letters of notification and posting in prominent locations (such as community bulletin boards and local post offices).

Action-TRIBES 8

Monitor the impacts of different vegetation treatments upon the viability and health of culturally significant plants and animals. Adapt treatment approaches as necessary to ensure culturally significant plant and animal resources are protected for seven generations.

**X. COORDINATION, EDUCATION, AND PUBLIC AWARENESS**

Action-CEPA 1

Identify activities that prevent, minimize, or reverse (as well as facilitate) the introduction, establishment, spread, and reinvasion of specific invasive exotic plant species (e.g., cheatgrass, ventanata, starthistle) on national forests and grasslands.

Action- CEPA 2

Incorporate findings of the analysis (CEPA-1) in all site-specific treatment decisions.

Action- CEPA 3

Develop and maintain a central web site featuring prevention and passive and active restoration treatments, including:

1. scientific literature on treatment outcomes of relevance to national forest lands
2. Forest Service projects that have resulted in reestablishment of native vegetation, reintroduction of extirpated species, increase in sensitive species populations, reduction in acres needing restoration treatments, or reestablishment of natural fire regimes
3. successful Forest Service projects or programs to alter activities that have facilitated the introduction, establishment and spread of invasive species

Action- CEPA 4

Establish annual awards to Forest Service employees, Districts, and inholding landowners for accomplishments such as:

1. successful passive and active restoration of native vegetation
2. equality of effort to prevention and restoration treatments
3. exemplary monitoring
4. significant involvement of NGOs, students, and other volunteers in conservation and restoration activities

Action- CEPA 5

Eliminate funding based on acres of vegetation directly treated the previous year without (a) documented alteration of the conditions that favored the presence of the vegetation that was directly treated and (b) restoration programs to restore the site to native vegetation.

Guideline- CEPA 1

Offer simple invasive exotic species reporting forms to visitors in order to encourage the reporting of locations in which particular invasive species are present.

Action- CEPA 6

Educate the public, including owners of lands neighboring Forest Service lands, about prevention of invasive species introduction, establishment, and spread.

## Endnotes

1. Vegetation (and thus invasive species) problems on Region 6 national forests include fragmentation; simplified ecosystems; invasive exotic species; altered fire regimes; compacted and otherwise heavily-disturbed soils; and impaired watersheds, with disturbed upland and riparian systems.
  2. The three most common activities on public lands managed by the Forest Service that continue to contribute to invasive species are:
    - *Livestock grazing*, which compacts and bares soil, alters hydrological regimes to favor invasive species, preferentially eats particular native species and avoids eating unpalatable or armed invasive species, reduces reproduction and survival of native grasses, spreads and plants invasive species seeds, and diminishes or eliminates microbiotic crusts;
    - *Roads and motorized vehicles*, which compact and bare soil; damage riparian areas, steep slopes, and native vegetation; distribute and plant invasive species' seeds; and
    - *Logging*, which compacts and bares soils; damages native vegetation; transports invasive species' seeds; and often promotes the construction of roads.
- These activities lead to degraded soils and riparian areas, simplified native plant communities, widespread presence of invasive species propagules, and weakened native vegetation throughout much of the Forest Service-managed landscape.
3. This prioritization is essential, as herbicides can (1) have numerous adverse toxic effects on workers; nearby residents; beneficial soil organisms; and native plant, aquatic, terrestrial and avian species; (2) simplify the vegetation community; and (3) render the treated site more vulnerable to return of invasive species. Herbicides alone do not address the conditions that favor the introduction, establishment and spread of invasive species, and yet they are often used as stand-alone technological "fixes."
  4. These crusts of lower plants and cyanobacteria cover soil surfaces between individual plants in healthy arid grasslands, shrublands, and dry woodlands. While they fix nitrogen, increase soil fertility, improve water infiltration, stabilize soils, and enhance the establishment of vascular plants, they also may provide a shield that reduces or prevents establishment and spread of exotic species. Biological soil crusts are particularly susceptible to damage from physical disturbance.
  5. There is an obvious, admitted, ongoing, and institutional failure to adequately monitor, survey, and document the impacts of human activities on habitats, native vegetation, and native wildlife on federal public lands. Even when monitoring has occurred, land managers have rarely translated the findings into management improvements. Good intentions and monitoring plans have been insufficient to direct sufficient funding, staff, or attention to the outcomes of vegetation and other restoration treatments, among other human activities. It is essential that both the continuation and initiation of vegetation restoration activities be dependent upon prior adequate baseline and post-treatment monitoring. "We do what we get funded for" is neither a legally sufficient nor an ecologically responsible approach to the required, continuous, finding of compatibility of treatment activities with the goals, objectives, standards, and guidelines of this EIS.
  6. Monitoring needs to be documented so that it can be independently reviewed by non-Forest Service scientists, the scientifically literate public, and others who are concerned about the ecological health of the nation's federal, public lands.

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Comment Letter No. 3



DIRK KEMPTHORNE  
governor

Richard J. Collignon  
director

Rick Cummins, Administrator  
division of management services

Dean Sangrey, Administrator  
division of operations

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December 31, 2002

William Diage, Planning Team  
USDA Forest Service  
50 Highway 93 South  
Salmon, ID 83467

Re: Draft EIS Salmon-Challis National Forest Noxious Weed  
Management Program

Dear Mr. Diage:

My staff has reviewed the above referenced DEIS on Noxious Weed Management. The Idaho Department of Parks and Recreation (IDPR) supports implementing the Proposed Action. We also feel that it is the most effective of the alternatives for dealing with noxious weed infestations on the Salmon-Challis National Forest.

Controlling invasive species was one of the top five issues identified in the 2002 Idaho Outdoor Recreation survey, conducted by IDPR's Outdoor Recreation Data Center. Developing and maintaining programs to manage the problem is also an action item in the 2003-2007 Idaho Statewide Comprehensive Outdoor Recreation Plan. I applaud you for your efforts to address an issue of much public interest.

We are concerned with some of the impacts of spraying herbicides to recreational users, however we agree that the long term consequences of losing riparian areas and forage to noxious weeds would have a much larger and longer-term negative impact on recreation.

You indicate that the preferred alternative will not harm sensitive plant species or the plants that are gathered for medicinal, cultural, or culinary purposes. IDPR urges you to monitor possible affects to assure those assumptions are correct and to provide baseline data for future projects.

Thank you for the opportunity to submit our comments. If you have questions regarding the comments, please contact Outdoor Recreation Analyst Mary Lucachick, 208-334-4180, ext. 307.

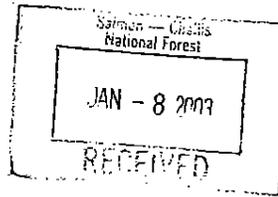
Sincerely,

Rick Collignon, Director  
Idaho Department of Parks and Recreation

3.1

- 3.1** Section 2.C.3 of the FEIS identifies monitoring goals and the basis for determining the effectiveness of treatment. This section of the FEIS has been revised to include additional monitoring objectives to evaluate the effectiveness of the mitigation measures.

Comment Letter No. 4



January 7, 2003

Salmon Challis National Forest  
50 Hwy 93 S  
Salmon, Idaho 83467

RE: DEIS - Noxious Weeds

I support you proposed alternative for the most aggressive course of action for noxious weed management. Please accept the following comments regarding the DEIS.

1. Evidently the percent weed spread was used from the Frank Church. It appears to me the percent weed spread in the "Front Country" is much higher - probably because of more access.
- 4.1 | 2. Also, the projected weed spread in the DEIS is only for existing infestation and does not include new infestation. This issue of "new infestation" needs to be included in the projected weed acreage since the new infestations are a large contribution to the existing weed acreage.
- 4.2 | 3. When the new infestations are added to the more realistic percent weed spread - the weeds are spreading at a faster rate than the suggested treatment acreage of 16,000 acres on the forest. If the goal of the Forest is to control the weed spread then the treatment acreage needs to be higher than the expected spread of weeds on an ongoing basis.
4. With labor cost so expensive aerial application has got to be the main application method to treat such a large acreage. Also, the application cost verses the cost of the herbicide would suggest a longer acting herbicide would be more cost effective than short term chemicals. Example: tordon @ \$78.00/gallon verses 2-4-D at \$16/gallon. The 3 year life of the tordon on would be way more cost effective than the 2-4-D even though the initial cost of the 2-4-D is cheaper.

- 4.1 New infestations were not considered in the growth calculations. It is recognized that Forest-wide inventories are not complete and that new infestations will be discovered.
  
- 4.2 The selection of 18,000 acres per year was developed for analysis and comparison purposes in the FEIS. Actual annual treatment acres will not likely exceed 18,000 acres due to funding constraints.

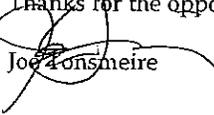
Comment Letter No. 4



- 5. The use of chemicals is an important short term tool but the long term bio agents are a more reasonable and cost effective approach.
- 4.3 | 6. Since the cost of weed eradication is so expensive – a large part of the weed control program should be oriented to the management of the acres that are not weed infested yet.
- 4.4 | 7. Vehicles, especially ORU use, are the main source of weed spread in the “front country”. Closing Forest land to vehicles during the times of noxious weed seed production should be done. Also, stock using Forest land should be on weed free feed for at least 5 days before going on Forest land.

When considering the amount of treatment acreage on the forest, the treatment area needs to be greater than the expected spread of weeds, otherwise the money being spent doesn't seem to be effective. Certainly there are budget and man power issues the forest has to work within but in the overall picture – the more control done sooner will be more cost effective than a program that plans less treatment in the near term and more treatment in the longer time frame.

Thanks for the opportunity to comment.

  
Joe Monsmeire

**4.3** Weed prevention practices are an integral part of the IWM concept and are incorporated within all project-level activities and Forest-use allocations. See Section 1.A.1 of the FEIS. See also Response 2.1.

**4.4** See Response 2.1.

Comment Letter No. 5



Formation

Formation Capital Corporation, US  
812 Shoup Street Salmon, ID, 83467  
T: 208.756.4578, F: 208.756.2573  
Website: www.formcap.com

Mr. William Diage, Ecologist  
Planning Team  
USDA Forest Service  
50 Highway 93 South  
Salmon, Idaho 83467

January 9, 2003

RE: DEIS Noxious Weed Management

Dear Mr. Diage:

The following comments are in response to the DEIS Noxious Weed Management Program as proposed in November, 2002. Please consider this response as input, in the positive sense, toward a document that will provide direction for the long-term ecosystem approach needed to address weed management.

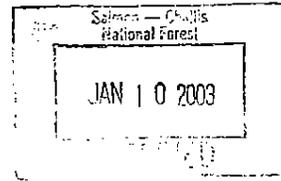
- 5.1 The foundation for the EIS process is guided by the statements in the Purpose and Need (1.C). I suggest a key point is missing in this section, which must be examined more completely as part of the preferred alternative, or a similar alternative, in the context of ecological restoration. This is concerned with the very principles of ecosystem management. An integral component of the adaptive strategy should be an aggressive policy for requiring the production and use of native plant species where revegetation is part of the restoration process. Although the use of native plant species is frequently inferred in the DEIS, much stronger emphasis needs to be placed here in order to emphasize the role of natural succession as the primary driving force of ecological restoration.
- 5.2 As stated in the adaptive strategy, the scope of the EIS is intentionally broad. However, this should not exclude a requirement for a strong, aggressive policy for locally adapted native species revegetation is planned. This is essentially a policy for mandatory use of native plant species. It should be an agency commitment. If sufficient seed sources were not available then the emphasis would dictate that efforts be made for identification, collection and storage of adequate supplies to meet the planned needs. Such an effort would then become a part of the budgetary process.
- 5.3 Another item that could help this activity would be to describe a Desired Future Condition (50 years hence) that activities could be measured against at specified intervals. Although not very well defined in most forest plans of the 80's, I believe such a goal needs to be part of this EIS in order to enhance the adaptive strategy and keep objectives and priorities in perspective.

I appreciate the coordinated effort the Salmon-Challis National Forest has made with the CWMA and other entities. I support the preferred alternative and offer the above suggestions for your consideration.

  
JERRY S. HAMILTON  
Environmental Coordinator  
Formation Capital Corporation, US

- 5.1** Restoration will be accomplished with native species except where specific circumstances (availability, cost, etc.) prohibit their use. If non-native species must be used in order to meet site objectives, species will be selected with characteristics similar to the native plant community. See Section 2.C.3 of the FEIS.
- 5.2** These suggested endeavors are beyond the scope of this FEIS.
- 5.3** Your suggestion for defined Desired Future Condition (DFC) goal statements is noted. Goal statements are described for each alternative in Section 2.D.2 and on Table 2-6 of the FEIS and describe DFC in relation to weed treatments.

Comment Letter No. 6



January 7, 2003

William Diage, Planning Team, Ecologist  
USDA Forest Service  
50 Highway 93 South  
Salmon, Idaho 83467

Dear Mr. Diage,

I would like to go on record as being very supportive of the 'Proposed Action' plan to combat invasive weeds on the Salmon-Challis National Forest. Because of the difficult terrain and the vast number of acres to manage, one must use all the weapons available if we are going to win the war against weeds. The low potential for harmful effects from herbicide use, and the high potential for noxious weed spread by choosing any other alternative makes this an obvious choice.

6.1

There appears to be an incomplete statement on page 1-6, 2<sup>nd</sup> paragraph in I.C.4 "Annual rates of spread have been estimated at more than 5000 acres throughout the western states". In reality, noxious weeds throughout the western rangelands are spreading at the rate of 4500 *acres/day*. Am I reading this wrong?

Good luck in this endeavor!

Michael Overacker  
  
Lemhi County Weed Superintendent  
201 Broadway St.  
Salmon, ID. 83467

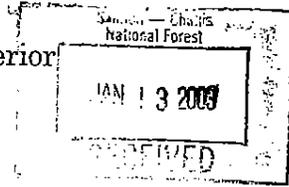
**6.1** The referenced text has been corrected and revised in the FEIS.



IN REPLY REFER TO:

United States Department of the Interior

OFFICE OF THE SECRETARY  
Office of Environmental Policy and Compliance  
600 NE Multnomah Street, Suite 356  
Portland, Oregon 97232-2036



January 7, 2003

ER 02/1082

Mr. Lyle Powers  
Salmon-Challis National Forest  
Noxious Weeds EIS  
50 Highway 93 South  
Salmon, Idaho 83467

Dear Mr. Powers:

The Department of the Interior has reviewed the Draft Environmental Impact Statement (DEIS) for the Salmon-Challis National Forest (SCNF) Weed Management Program, Salmon Challis National Forest, Idaho. We offer the following comments for your consideration and use in the preparation of the Final Environmental Impact Statement (FEIS).

**General Comments**

**Fish and Wildlife Resources**

It appears based on the information provided in the DEIS that Alternative 1 would be most protective of fish and wildlife resources. With the inclusion of aerial herbicide application, as is intended in the current Proposed Action, the risk for herbicides to reach surface waters or non-target riparian vegetation, is increased and would therefore, result in greater effects to fish and wildlife resources. The Department recommends implementation of Alternative 1, instead of the Proposed Action.

**Endangered Species**

- 7.1 The "no disturbance zone" for bald eagles should be increased to ½-mile per the guidelines outlined in the Bald Eagle Management Plan for Greater Yellowstone (1996), as opposed to 1/8-mile as suggested in the DEIS, in order to minimize disturbance to nesting bald eagles. In the guidelines for management of breeding areas (within the management plan referenced above), nest sites are divided into three different management zones. Zone I includes the nest site area and extends in a 400 m (1/4-mile) radius around the nest. Zone II is the primary use area and occupies an 800-m (½-mile) radius around the nest. Zone III includes all foraging habitat within a 4-km (2 ½-mile) radius of the nest.
- 7.2 Areas near occupied bald eagle nests should be surveyed to determine whether planned aerial spraying would occur within Zone I or Zone II of nest sites. If so, we recommend management actions for the bald eagle nests follow the guidelines outlined in the Bald Eagle Management Plan for Greater Yellowstone (Plan), particularly with regard to use of aircraft below 600 meters above

- 7.1 The S-CNF and the Central Idaho Mountains are covered by the Pacific Bald Eagle Recovery Plan (USFWS 1986). The 1/8-mile buffer was obtained from the Salmon Land and Resource Management Plan (LRMP) prior to bald eagle nests being established on the Forest. In recent years, bald eagle nesting sites have been established and identified. With the discovery of the nesting sites, the Forest LRMP extends the buffer to 1/2 mile during nesting (March through August). The specific mitigation measures in the FEIS have been revised to reflect this strategy.
- 7.2 The disturbance mitigation strategies in the FEIS follow direction contained in the S-CNF LRMPs and Pacific Bald Eagle Recovery Plan.



ground level. Critical nesting periods vary throughout the bald eagle recovery area, but generally fall between March 1<sup>st</sup> and August 31<sup>st</sup>. Human activity, including aerial spraying, should not exceed “minimal levels” as defined in the plan (i.e., no human activity with the exception of existing patterns of ranching and agricultural activities, nesting surveys and banding studies by experienced biologists, or river traffic that continues at a rate equivalent to the main current) in Zone I, and “light levels” (i.e., day use and low impact activities such as boating, fishing and hiking at low densities and frequencies; excluded activities include extended use and activities such as heavy construction, timber harvest, and helicopter or jets within 600 m of the ground ) in Zone II during the period from first occupancy of the nest site until two weeks following fledging. Habitat alterations should be restricted to projects specifically designed for maintaining or enhancing bald eagle habitat and conducted only during September through January. Human activity restrictions for Zone I may be relaxed during years when a nest is not occupied but should not exceed light levels.

- 7.3 | Also, noxious weed management should be carefully designed and regulated to insure preferred nesting habitat characteristics and foraging habitat are not degraded as a result of the spraying activities.

Herbicide Selection

- 7.4 | The herbicide picloram has a moderate-high persistence in the soil (Wauchope et al. 1992); therefore, it may not be necessary to apply on an annual basis. Additionally, 2, 4-D has been identified as an endocrine disrupting compound. We recommend the SCNF Weed Management Program incorporate this in the analysis of impacts and consider this when choosing the treatment method.

- 7.5 | No mention is made in the DEIS of the use of surfactants during herbicide application. If the use of surfactants is anticipated, we suggest a discussion be added regarding the types of surfactants that will be used; how they will be managed (i.e., use rate, distances from water they will be applied, etc.); and the potential effects to fish and wildlife resources, including federally-listed species and migratory birds.

**Specific Comments**

- 7.6 | Section 2.D.3.a. Management Practices and Mitigation Measures Common to All Alternatives: As stated in the DEIS, a ½-mile radius “no disturbance zone” will be implemented during the nesting season for great gray owls, northern goshawk, Coopers’ Hawk, and sharp-shinned hawk nesting sites. Additionally, ½-mile “no disturbance zone” will be implemented around all other raptor nests, including bald eagles. No similar management practices were discussed for sensitive ground-nesting birds such as sage grouse (*Centrocercus urophasianus*) or Columbian sharp-tailed grouse (*Tympanuchus phasianellus*). We recommend the SCNF consider similar management and mitigation measures for these species.

- 7.7 | Section 2.D.3.b., bullet 14 Herbicide Spraying Adjacent to Surface Water: states that no spraying of picloram would occur within 100 feet of surface water when wind velocity exceeds 5 mph; however, Section 4.B.2.b. (page 4-29) states there will be no spraying of herbicides... within 50 feet of open water when wind velocity exceeds 5 mph. This should be clarified in the FEIS. Additionally, it would be useful to include a table in the FEIS that contains the potential herbicides to be used, along with the guidelines that will be followed for each herbicide (i.e., spray

cont.

- 7.3 With the application of buffers and other mitigation measures described in Section 2.D.3 of the FEIS, no significant impacts on bald eagles are anticipated under the Proposed Action. Section 4.B.3 and Table 4-2 discuss the potential impacts of noxious weed treatments for each of the wildlife source habitats and associated families and groups by treatment strategy. Source habitat for bald eagles is included in family 7, group 26. As shown in Table 4-2, only Alternative 2 would not result in moderate to high long-term habitat benefits for bald eagles
- 7.4 The FEIS has been revised to expand the discussion of picloram and 2, 4-D characteristics and potential effects, including their potential for endocrine disruption. A one application per year limitation for picloram has been included as a best management practice. Sections 2.C.1.d and 4.B.3 include a discussion of herbicide characteristics, with added emphasis on the potential effects of herbicides on endocrine disruption.
- 7.5 Surfactants, with other “inert” ingredients, are added to herbicides to enhance the performance of active ingredients. Sometimes surfactants and other “inert” ingredients are added to herbicides as part of a proprietary blend. During application of some herbicides, surfactants can be added in small quantities to ensure effective application of the herbicide. The text in Section 2.C.1.d of the FEIS has been revised to include a discussion of inert ingredients and their effect on the environment. The BMPs identified in the FEIS for herbicide use were developed to avoid or minimize the potential effects to terrestrial and aquatic environments.
- 7.6 According to the most recent information available, no active nesting or brood rearing sage grouse sites have been identified on the S-CNF, nor is there any incidence of Columbia sharp-tailed grouse. The site-specific implementation process (Section 2.C.6 of the FEIS) was designed to assess the presence of sensitive resources and avoid adverse effects at the site-specific level.
- 7.7 The narrative is clear that picloram has specific buffer criteria different than the other herbicides. Comparison tables, similar to those suggested in your comment, have been included in Appendix J of the FEIS. These tables provide additional information on the toxicology profiles of herbicides used or proposed for use on the S-CNF; typical and maximum application rates, aquatic assessment levels of concern, and risk quotients for these herbicides; and buffer widths and associated restrictions on herbicide application.

Comment Letter No. 7



7.7  
cont.

distance from water depending on wind velocity, buffer zones for each herbicide for sensitive areas, etc.).

7.8

Section 3.C.2.b. Special Status Species; Federally Listed Fish: The DEIS states that critical habitat has not been designated for bull trout. However, proposed critical habitat for bull trout was released on November 29, 2002 (67 FR 71235). The area proposed for noxious weed treatment lies within recovery unit 16 (Salmon River Basin); which encompasses an area of 36,278 square kilometers (14,000 square miles), including 28,730 kilometers (17,000 miles) of streams. This new information should be included in the FEIS.

7.9

Section 3.C.3.b. Yellow-billed Cuckoo, page 3-48: The documents reference a 1985 paper by Reese and Melquist, to support the position that breeding populations of yellow-billed cuckoos (YBC) in Idaho are likely extirpated. The 1998 Forest Service publication titled "Effects of Recreational Activity and Livestock Grazing on Habitat Use by Breeding Birds in Cottonwood Forests along the South Fork Snake River" documents the presence of nesting YBCs in the cottonwood galleries of the South Fork Snake River during the study period 1991-1994. Further, David Reeder, biologist for the Yankee Fork Ranger District, reports occurrences of YBCs in the cottonwood galleries within his District. YBC's have recently been reported to occur in other areas of Idaho, including Fort Hall and Camas National Wildlife Refuge. This should be clarified in the FEIS.

7.10

Section 4.B.3.c: Under Alternative 1, the DEIS states that the "direct and indirect benefits to wildlife (under Alternative 1) would generally be similar to those described for the Proposed Action, but somewhat less pronounced or widespread...." However, Table 4-3 lists the relative threats and benefits of the Proposed and Alternative actions on wildlife habitats. According to the Table, for the Proposed action, the long-term effects on habitat for all wildlife considered is anticipated to be a "threat", while for Alternative 1, the long-term effects on habitat are all expected to be a "benefit". Therefore, according to Table 4-3, the "direct and indirect benefits to wildlife" do not appear to be similar for the Proposed Action and Alternative 1 as stated in the DEIS. This should be clarified in the FEIS.

Thank you for the opportunity to comment on this document. If you have any questions or require addition information regarding these comments, please contact Sandi Arena in the Fish and Wildlife Eastern Idaho Office, Chubbuck, Idaho, at 208-237-6975, extension 34. If I can be of any assistance please contact me at (503) 231-6157.

Sincerely,

Preston A. Sleeper  
Regional Environmental Officer

- 7.8** The FEIS text has been revised as suggested. See Section 3.C.2.b.
- 7.9** The discussion of yellow-billed cuckoo in Section 3.C.3.b of the FEIS has been clarified. The Reeder report referred to in this comment was made in 1998 regarding a sighting of a single adult in mature cottonwood/willow communities. This sighting was on private land well outside the Forest boundary along the main Salmon River, southeast of Challis, Idaho. No evidence of additional sightings has been reported.
- 7.10** Table 4-2 has been revised in the FEIS to provide clarity between the table and the narrative.

Comment Letter No. 8

----- ORIGINAL COMMENT. -----  
\*\*\*\*\*  
William B. Diage  
Ecologist, Planning Team  
Salmon-Challis National Forest  
(208) 756-5562 FAX (208) 756-5555  
e-mail: wdiage@fs.fed.us  
\*\*\*\*\*

----- Forwarded by William B Diage/R4/USDAFS on 01/15/2003 09:11 AM -----

RODGERLS@cs.com  
01/13/2003 03:16 PM  
Forest Noxious Weed Management  
To: wdiage@fs.fed.us  
cc:  
Subject: Final EIS Salmon-Challis National Program

13Jan, 2003

William B Diage, Planning Team, Ecologist  
USDA Forest Service  
50 Highway 93 South  
Salmon, ID 83467

Mr. Diage:

8.1

As an owner of property bordering US Forest lands and as a frequent visitor to some of the more remote areas of the Salmon-Challis National Forest, I have a very strong desire to have our noxious weed infestations significantly reduced. I am urging the use of all available means to attack the continued proliferation of these invaders. My experience in weed management has proven that multiple applications of herbicide coupled with mechanical means and biological use followed by constant surveillance and reapplication where necessary is the best way to slow the damage these weeds are doing. As you prepare the Final EIS, I urge you to make forest lands accessible so the weed-infested areas may be treated economically and effectively with the PROPOSED ACTION alternative. Another suggestion is to use volunteers, where possible, in the identification, treatment, and surveillance of problem areas.

Thank you,

Rodger L Sorensen  
245 N Hooper Ave  
Soda Springs, ID 83276

**8.1** Your suggestion is noted.

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**The Ecology Center, Inc.**

801 Sherwood Street, Suite B  
Missoula, MT 59802  
(406) 728-5733  
(406) 728-9432 fax  
*ecocenter@wildrockies.org*

January 13, 2003

Forest Supervisor  
Salmon-Challis NF-FS-USDA  
50 Hwy. 93 South  
Salmon, ID 83467

To Whom This Concerns:

I am taking the opportunity to comment on the Draft EIS for the Salmon-Challis NF Noxious Weed Treatment proposal, on behalf of The Ecology Center, Inc. (TECI).

9.1 The course of action proposed in the DEIS, with the proposed action or alternative 1, to some degree, represents a continuation of unthinking "spray and spray some more" management with little real regard for stemming the increasing infestation and spread of noxious weeds in the SCNF. The FS never genuinely looks at the root cause of invasive species introduction or spread. For example, we know that invasive species are favored by soil disturbance and bare ground. We also know that areas susceptible to weed invasion include burned sites, early successional communities dominated by annual vegetation, river and stream banks, trail corridors, roadsides, building and recreational sites, and heavily grazed areas. As we stated in our scoping comments:

In our view the only option that makes sense is to do what is necessary to reduce current populations while taking extreme caution to avoid water and soil contamination while simultaneously identifying the main sources of weed spread and eliminating them so that you never have to use the toxic chemicals again.

In response, the FS states at DEIS 2-48 that consideration of these issues and proactive methods is beyond the scope of this document.

The SCNF's response makes no sense. The stated Purpose and Need for this project includes:

- Eliminate new invaders (weed species not previously reported in an area) before they become established,
- Contain or reduce known and potential weed seed sources throughout the SCNF,
- Prevent or limit spread of established weeds into areas containing little or no infestation. (DEIS ES-1).

9.2 The stated Purpose and Need would be well-served by limiting the type of management activities that facilitate the spread of noxious weeds. Is the Forest Service really unable to manage the forest without building or reconstructing more roads, and with less soil disturbance? What are the environmental and economic trade-offs of some level of reduction of soil disturbance? Of the points included in the Purpose and Need, most are directly responded to by considering reducing or stopping new roads and logging until the noxious weed problem is brought under control on the NF. The SCNF claims that the proposed project is an integrated approach to noxious weed management, yet is not willing to consider a moratorium on logging and road building activities in vulnerable areas, which would be a very integral—indeed the most effective way there is of limiting spread of noxious weeds!

9.3 Fires and other activities will have cumulative effects that are undoubtedly present or will recur on the Northern Rockies forests of the SCNF; cumulative effects in existing and potential burned areas should have been addressed in this analysis. The introduction of noxious weeds into burned areas would not be an issue if human vectors had not transferred noxious weed seeds into the vicinity of burned areas. While the noxious weed seeds spread by crews and equipment during fire suppression activities may enable noxious weed spread through some of the burned area, their effects were likely localized. Roads in the vicinity of the burned areas likely have the greatest potential for spreading noxious weed seeds. These roads should be considered for temporary closure or, optimally, for obliteration. Road closure and obliteration is justified given that the roads also pose the potential to erode fragile post fire soils. Roads within the project area should be carefully mapped.

**9.1** The DEIS recognized and discussed the root causes of weed spread and incorporated the principles and concepts of integrated weed management in all alternatives (see Section 1.A.1). The FEIS contains these same discussions. See also Response 2.1.

**9.2** See Response 2.1.

**9.3** See Response 2.1. Fire is recognized as a disturbance, the effects of which greatly enhance the risk of weed expansion and establishment. Public access and uses compound this risk. Post-fire road closures may be initiated from actions described in Burn Area Emergency Plans. Road inventories have been performed on the Forest and are displayed on the Challis National Forest Travel Map and the Salmon National Forest Travel Map, readily available to the public.

## Comment Letter No. 9

**9.4** | One purpose of the project is to comply with presidential executive orders (DEIS ES-1). This includes Executive Order 13112. How is the proposal consistent with the following sections of Executive Order 13112?

Section 5: (b) The first edition of the Management Plan shall include a review of existing and prospective approaches and authorities for preventing the introduction and spread of invasive species, including those for identifying pathways by which invasive species are introduced and for minimizing the risk of introductions via those pathways, and shall identify research needs and recommend measures to minimize the risk that introductions will occur. Such recommended measures shall provide for a science-based process to evaluate risks associated with introduction and spread of invasive species and a coordinated and systematic risk-based process to identify, monitor, and interdict pathways that may be involved in the introduction of invasive species.

Or,

Sec. 2. Federal Agency Duties. (a) Each Federal agency whose actions may affect the status of invasive species shall, to the extent practicable and permitted by law,

(1) identify such actions;

(2) subject to the availability of appropriations, and within Administration budgetary limits, use relevant programs and authorities to: (i) prevent the introduction of invasive species; (ii) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; (iii) monitor invasive species populations accurately and reliably; (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and (vi) promote public education on invasive species and the means to address them; and

(3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

**9.5** | Roads appear to play a role in the known occurrences of noxious weeds (DEIS Map 3-1) and may play a further role in the presence of yet uninventoried infestations that are out there. We challenge the FS to give an accurate percentage of the miles of roads on the SCNF that have never had noxious weeds. Likewise, these infestations on the roads readily expand into cutting units, especially the more intensive the logging done in the particular units. The FS just throws up its hands and accepts that they will be carrying out management activities that inevitably cause more spread of weeds, disingenuously calling the present DEIS a "prevention" strategy!

The premier tool of prevention of new noxious weed invaders deserves the highest priority. Instead, all prevention strategies assume weeds will invade, then prescribe expensive control methods of unknown efficacy after the fact.

**9.4** The concepts of integrated weed management, described in Section 1.A.1 of the FEIS are consistent with Executive Order 13112. Section 2 of the Order refers to Forest actions that are addressed in Response 2.1.

**9.5** There are few available data to identify roads that have “never” had noxious weeds.

## Comment Letter No. 9

Without first significantly reducing the type of soil disturbing activities that facilitate noxious weed invasion, the proposed treatment effects may be negated, indeed, overwhelmed by the spread of weeds caused by more of the same road building and logging. By arbitrarily limiting the scope, the FS has failed to show a genuine, pressing need to risk the ecosystems by applying poisons.

Under the NEPA regulations at 40 CFR § 1501.7 ("Scoping"), it states:

There shall be an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. This process shall be termed scoping. . . .

(a) As part of the scoping process the lead agency shall:

(2) Determine the scope (§ 1508.25) and the significant issues to be analyzed in depth in the environmental impact statement.

- 9.6 | Despite public comment and the obvious source of most of the problem, the DEIS avoids the issue. Nowhere does the analysis evaluate the effectiveness of limiting new developments on the Forest in meeting a large part of the Purpose and Need—preventing the spread of noxious weeds.

- 9.7 | Interestingly, the DEIS identifies "cultural control" and site "restoration" as one method available for noxious weed control. Cultural control generally involves manipulating a site to increase the competitive advantage of desirable species and decrease the competitive advantage of undesirable species (DEIS 2-8&9; 2-18&19). The DEIS entirely fails to take into account that management activities such as logging, road construction, mining, and livestock grazing are a reverse "cultural control." They decrease the competitive advantage of desirable species and increase the competitive advantage of undesirable species. In effect, the SCNF is busily instituting noxious weed encouragement projects over thousands of acres of national forest land annually, resulting in noxious weed invasions the present weed control project is designed to do battle with!

- 9.8 | The DEIS fails to meet NEPA's requirements that a reasonable range of alternatives be fully analyzed. The Forest Service Handbook, chapter 20, section 23.2 states that the purpose and intent of alternatives are to "ensure that the range of alternatives does not foreclose prematurely any option that might protect, restore and enhance the environment." Under NEPA, an environmental impact statement must contain a discussion of "alternatives to the proposed action" [42 U.S.C. 4332(2)(D)]. As interpreted by binding regulations of the CEQ, an environmental impact statement must "(r)igorously explore and objectively evaluate all reasonable alternatives" [40 C.F.R. 1502.14(a)]. The importance of this mandate cannot be downplayed; under NEPA, a rigorous review of alternatives is "the heart of the environmental impact statement." 40 C.F.R. 1502.14. Similarly, case law has established that consideration of alternatives which lead to similar results is not sufficient to meet the intent of NEPA. [Citizens for Environmental Quality v. United States, 731 F.Supp. 970, 989 (D.Colo. 1989); State of California v. Block, 690 F.2d 753 (9th Cir. 1982).]

NEPA regulations at 40 CFR § 1502.4(a) state:

Agencies shall make sure the proposal which is the subject of an environmental impact statement is properly defined.

And at 40 CFR § 1508.25, NEPA regulations state:

Scope consists of the range of actions, alternatives, and impacts to be considered in an environmental impact statement. . . . To determine the scope of environmental impact statements, agencies shall consider:

(a) Actions (other than unconnected single actions) which may be:

(1) Connected actions, which means that they are closely related and therefore should be discussed in the same impact statement. Actions are connected if they:

(i) Automatically trigger other actions which may require environmental impact statements.

- 9.9 cont. | In considering these clauses straight from NEPA, it is clear that the impacts of various land disturbing actions that the SCNF carries on, (impacts which include creating the conditions for further spread of noxious weeds) are fully

- 9.6** Results of public scoping and the analysis of public comments are presented in Sections 2.B.2, 2.B.3, and 2.B.4. There was a wide range of comments (from elimination to expansion) regarding Forest uses. See also Responses 9.1 and 2.1.
- 9.7** Your opinion is noted.
- 9.8** A full range of alternatives was identified and considered. Several of those considered were eliminated from detailed analysis for the reasons described in Section 2.E. See also Response 2.1.
- 9.9** Many authorized Forest-use allocations are connected actions in regards to potential land disturbances and potential noxious and invasive non-native species invasion. These uses are subject to NEPA review, and identify specific weed prevention and establishment mitigation measures, BMPs, and SOPs. The Forest does not consider these use allocations to be connected to Forest-wide treatment actions in the control or eradication of established weed infestations.

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- 9.9 cont. ▲ "connected" in the NEPA sense. Thus, the decision of the FS to limit the scope of the EIS to exclude the weed-spreading nature of those other land disturbing activities is illegal.
- 9.10 With the selection of action alternatives such as the proposed alternative or alternative 1, a lot of follow-up will be necessary. And at what cost, environmentally and economically? At what cost without addressing the fundamental causes of weed infestation and weed spread? At what cost if the fundamental causes of weed infestation and weed spread are addressed? The DEIS fails to take those issues on, although it is clear that more actions, with their resulting environmental and economic effects, must be undertaken.
- 9.11 The decisionmaker and concerned public do not have the needed information to determine how alternatives maximize long-term net public benefits. The DEIS does not include a complete economic analysis.
- 9.11 The DEIS fails to take into account the estimated costs of follow-up control actions, and the costs of control in the unspecified areas mentioned (areas discovered in future surveys) within the DEIS. The full costs of these actions are decidedly not anticipated. The DEIS is a huge failure in NEPA compliance with such a cursory treatment of the economics of the situation.
- In the process of formulating and evaluating the effects of implementing the Forest Plan for the SCNF, the vast environmental impacts of noxious weed invasions resulting from the kind of development actions contemplated was vastly underestimated. That is evident from the failure of the previous weed control actions, and the levels of infestation described in this DEIS. The overwhelming majority of actions outlined in the Forest Plan involve ground disturbing actions which result in providing prime sites for noxious weed invasion. The *Integrated Scientific Assessment* from the Interior Columbia Basin Ecosystem Management Project recognizes the seriousness of the noxious weed problem in the region.
- 9.12 Noxious weeds are such a grave problem on the SCNF that what is called for is a formal Forest Plan Amendment process. It is typical of an agency obsessed with extraction of resources as its prime focus to propose a short-term, stop-gap, and possibly ineffective measure as evidenced by the DEIS's proposal.
- The chemical herbicides proposed pose health risks to workers and the general public, create unknown risks to animals, plants, and other components of the ecosystems (as stating in our scoping comments), require uncertain levels of follow-up treatments (both with more herbicides and non-chemical means), and are of unknown effectiveness.
- 9.13 Even though herbicides can have widely varying impacts on organisms across species, families and taxonomic groups, the DEIS does not acknowledge this and the DEIS does not disclose that there could be serious unknown impacts to various TES species, MISs and biological communities across the project area.
- 9.14 Follow-up is critical for many of the weed species, yet follow-up treatment is given little attention—the costs are considered negligible in this DEIS. Research on weed management, and in-the-field experience have not been considered.
- It is also clear that the proposal is really a programmatic plan for the SCNF, as it provides for noxious weed control actions on the NF beyond those specific locations mentioned in the DEIS. The DEIS states on page 1-15 "The period of weed treatment treatment under the Proposed Action would continue until a change in weed conditions on the SCNF becomes evident, consistent with proposed weed management goals." "The expected time frames and goals for accomplishing the Proposed Action management objective would vary depending on the extent and severity of weed infestations" (DEIS 2-37). "An adaptive weed management would be used to determine appropriate future treatments on the SCNF if new weed infestations are discovered or existing infestations expand" (DEIS 2-19). There is no information on how long this open-ended venture will last, for the proposed action or the other alternatives.
- Since this DEIS proposes additional activities on unspecified sites, this needs to be dealt with at the Forest Plan Decision/Amendment level rather than at the project level.

- 9.10** Follow-up monitoring and treatment effectiveness are addressed in Section 2.C.3 of the FEIS. Cost comparisons of the alternatives are also discussed and displayed in Tables 2-5 and 2-6 of the FEIS.
- 9.11** Economic analysis is adequately discussed in Section 4.D.4 and Tables 2-5, 2-6, and 4-8 of the FEIS. Cost comparisons among the alternatives are based on costs per acre. The nature of the treatment (i.e., initial, follow-up, new site, etc.) is not considered.
- 9.12** As discussed in Section 2.E of the FEIS, a Forest Plan Revision is a more appropriate avenue for addressing Forest use allocations. See also Response 2.1.
- 9.13** A thorough analysis is presented in Chapter 4 of the FEIS.
- 9.14** See Response 9.11. Cost comparisons among alternatives are based on costs per acre whether initial or follow-up treatments.

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In addition, weed control efforts beyond those specified may not be treated due to uncertainties of funding according to the DEIS. This further reveals the incomplete, stopgap characteristic of this proposal. Nobody really knows how much needed control, based on later surveys, will actually be carried out. This is more reason why noxious weeds should be dealt with using a Forest Plan Amendment.

**9.15** | The DEIS maps and lists invasive species infestations (DEIS Map 3-1 and Appx B). What methods were used? Are these methods accurate and complete and likely to identify all areas of infestation?

**9.16** | The EIS should propose a detailed monitoring plan. The monitoring proposed in the EIS lacks specifics. How soon after treatment would monitoring take place? How thoroughly? The monitoring plan should assess weed levels as well as evaluating any detrimental ecological impacts of the application of poisons to ecosystems.

This is a major omission from the DEIS. How will anyone know, in the future, what control actions would be safe and effective without the district committing to a systematic way of gathering data and feedback from the project, and providing a written report of that monitoring? No fully informed decision about future treatment plans could be made.

**9.17** | The DEIS is rife with uncertainties and incomplete information on the dangers of herbicides. Much of our concern about the proposal is grounded firmly in the knowledge that previously unknown dangers became evident when uninformed decisions have been made. The case study of the use of DDT and its effects on bird shells is one of perhaps thousands of examples. Furthermore, in this DEIS many dangers are mentioned. Also:

Picloram is a relatively mobile, persistent, and toxic herbicide...(DEIS 4-25)

**9.18** | And while this EIS is relatively short on the potential dangers of herbicide use, the DEIS for the Noxious Weed program for the Bitterroot NF next door found that:

Picloram can stay active in soil for relatively long periods of time, maintaining toxicity to plants for up to a year (BNF DEIS 4-20).

Picloram generally affects members of the Asteraceae (composite), Fabaceae (legume), Polygonaceae (buckwheat), and Apiaceae (parsley) families... (BNF DEIS 4-16).

...there have been some concerns that HCB [hexachlorobenzene, a byproduct of picloram] is carcinogenic (BNF DEIS 4-21)

2,4-D ... in its butyl ester form [is]... moderately toxic to birds (BNF DEIS 4-21).

2,4-D ... can kill or injure many broadleaf plants (BNF DEIS 4-16).

Studies in rats showed 2,4-D, was not cancer causing, though liver damage was seen at relatively low doses. Pregnant rats showed no evidence of birth defects, though fetuses showed evidence of toxic effects (BNF DEIS 4-21).

2,4-D can bioaccumulate in animals. Residues have been reported in milk, eggs, and meat products (BNF DEIS 4-21).

[S]ensitivity [to 2,4-D] varies greatly between animal groups (BNF DEIS 4-21).

Dicamba is slightly toxic to mammals... (BNF DEIS 4-22).

Dicamba... is effective on plants in the Asteraceae (composite) and Fabaceae (legume) families (BNF DEIS 4-16).

- 9.15** A formal field survey/inventory procedure has been developed using data dictionaries with GPS units. Where inventories were performed, the data are complete and accurate.
- 9.16** The monitoring discussion in Section 2.C.3 of the FEIS has been revised to outline specific monitoring requirements.
- 9.17** Your opinion is noted. Research described in the FEIS describes current research regarding toxicity of herbicides. Since toxicity is a function of dosage and exposure, the Forest identifies the methods and handling procedures to be employed in using herbicides to control weeds so that dosage and exposure are minimized and that herbicide use occurs in as safe a manner as possible.
- 9.18** Your opinion is noted.

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The manufacturing process of dicamba has the potential to result in trace amounts of 2,7-dichlorobenzo-p-dioxin as a contaminant (BNF DEIS 4-22).

Metsulphuron methyl is water soluble and remains in the soil unchanged for varying lengths of time, depending on soil type and moisture availability. The half-life can range from 120 to 180 days (BNF DEIS 4-22).

Metsulphuron (Escort) is ... used to control plants in the mustard or borage families (BNF DEIS 4-17),

The half-life [of clopyralid methyl] can range from 15 to 287 days depending on soil content and climatic conditions (Infoventures 1995e) (BNF DEIS 4-22).

Clopyralid... affects members of four plant families: Asteraceae, Fabaceae, Solanaceae (nightshade), and Polygonaceae (Dow AgroSciences 1997) (BNF DEIS 4-16).

Affect of the herbicide [imazapic] on perennial grasses and other broadleaf weeds can vary greatly Within a plant family (BNF DEIS 4-16).

Estimated exposures [for imazapic] exceed high risk only under extreme assumptions for one species, the longtail vole, during the use of 2,4-D and dicamba (BNF DEIS 4-23).

Of all groups of wildlife species, amphibians are potentially the most sensitive to herbicides because of their complex life cycle; almost all species require moisture of some form of water to complete their life cycle, and most are aquatic in their egg or larval stages (BNF DEIS 4-23).

Sub-lethal concentrations of some contaminants may increase susceptibility of [amphibian] larvae to disease, increase predation of larvae by impacting swimming ability, or by retarding growth rates (BNF DEIS 4-23)

Picloram (Tordon 22K) applied at rates greater than 1 1/2 pints per acre would have the greatest impact on non-target vegetation species, though this treatment is only proposed for small areas infested with ... goatweed and leafy spurge (BNF DEIS 4-24).

The list shows that a large number of roadside treatment stream crossings would occur for the Proposed Action... (BNF DEIS 4-9).

[underlining for emphasis]

9.19

The FS claims "no synergistic effects from herbicide application would occur" (DEIS 4-30)? How does the FS know that this or other herbicides do not have synergistic effects? How many combinations of herbicides have been tested? How does the FS know that combinations of new, as-of-yet unapproved herbicides will not have synergistic effects when they are introduced and applied?

The herbicides proposed here would impact a broad range of plant and animal species (including humans). There are other uncertainties concerning safety. In a letter from Dr. John D. Graham, Director, Program on Risk Analysis and Environmental Health, Harvard University School of Public Health included in the NEPA analysis for another project in Region One, the Priest Lake Noxious Weed Control Project FEIS, pp. C-1 and 2:

The results of two studies ... suggest an association between the occupational use of 2, 4-D and non-Hodgkin's lymphoma.

**9.19** These conclusions are derived from Environmental Protection Agency (EPA) models discussed in Section 4.B.2.b in Chapter 4 of the FEIS, which will apply to new or updated chemicals as well. The models indicated the effects of mixing chemicals were additive but not synergistic. As noted in Section 2.C.1.d in Chapter 2, new or updated chemicals: 1) will be required to comply with EPA regulations; 2) must be added to the Forest Service's list of approved chemicals; and 3) will be accompanied by risk assessments.

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As a means of resolving these issues, workshop participants stressed the need for future studies to develop more reliable and precise estimates of 2, 4-D exposure and to distinguish more clearly between 2, 4-D and other agents in the collection and analysis of data and the reporting of results.

Also:

The single canine epidemiologic study suggested that pet dogs may be at risk from exposure to 2, 4-D or to areas treated by lawn care service. Although this study is supportive of a finding of carcinogenicity, there are questions about its applicability to human carcinogenicity because of poor information on exposure and possible non-comparability between canine and human lymphomas. (Science Advisory Board, EA at C-3).

9.20 | This DEIS mentions that in some cases a mixture of herbicides will be used, yet dismisses the unique dangers mixtures inherently include, without any solid exploration of the issue.

9.21 | The discussion of the dangers herbicides present to humans is entirely too brief. Little or no results of research are presented.

NEPA Regulations have important provisions for dealing with "Incomplete or unavailable information." At 40 CFR § 1502.22, it states:

When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.

(a) If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.

(b) If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement:

(1) A statement that such information is incomplete or unavailable;

(2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment;

(3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and

(4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, "reasonably foreseeable" includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason.

9.22 | We also point out that the DEIS does not disclose the credentials and expertise of the members of the ID Team in dealing with herbicides and their effects. Are there individuals with solid credentials for determining the potential effects of using chemical herbicides as prescribed in the DEIS on the ID Team?

9.23 | Disclosure of uncertainty is particularly important with regards to biological control agents. Biological control agents pose a substantial risk associated with the potential to switch host plants or compete with other herbivorous insects. The degree of research and current knowledge level associated with the proposed biological control organisms should be thoroughly disclosed.

9.24 | Additionally, the EIS Interdisciplinary team must include someone with a thorough knowledge of the potential toxicity of herbicides. At 40 CFR fl 1502.6, it states:  
Environmental impact statements shall be prepared using an inter-disciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts (section 102(2)(A) of the Act). The disciplines of the preparers shall be appropriate to the scope and issues identified in the scoping process (fl 1501.7). (Emphasis added).

- 9.20** See Response 9.19.
- 9.21** A full analysis of human health and safety is provided in Section 4.D.1 of the FEIS and fully referenced in Chapter 9. The FEIS also discloses the status of information and research that has been conducted on the herbicides proposed for use. Uncertainties concerning potential effects of herbicide use are addressed through use of mitigation, BMPs, SOPs, and monitoring to further reduce potential impacts associated with herbicide use.
- 9.22** Chapter 8 describes the credentials of the ID team. The team's experience in preparing NEPA documents, across a wide range of scientific disciplines, provides more than adequate credentials for preparing this EIS.
- 9.23** Biological controls are discussed in Section 2.C.1.b of the FEIS. As noted, they will not be applied without APHIS approval. Appendix C identifies the list of biological controls approved for use.
- 9.24** See Response 9.22.

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- 9.25 | What particular expertise and knowledge does the ID Team and decisionmaker have? Who is CH2M Hill, why were they selected to prepare the EIS, and what are their biases? Will the ID Team and decisionmaker simply sign off on the EIS/ROD or will they critically examine these documents or the assumptions made?
- We prefer manual control over chemical control because we feel that as few chemicals as possible should be injected into the ecosystem. Even if they have been shown to be relatively harmless to other plants and animals, we feel that there is too much that we don't know about ecosystems to be so certain. Many of the adverse impacts the Forest Service may be causing have not been investigated, and likely will never be investigated for herbicide formulations and combinations of herbicides and other stresses.
- 9.26 | For instance, numerous chemicals are being found to affect any of numerous elements of endocrine, or hormone systems, of wildlife and humans. This can compromise development, reproduction, behavior, sexual integrity, and immune and nervous system functioning. The association in several dozen epidemiological studies of phenoxy herbicides such as 2,4-D with cancer, for instance, as well as the association of 2,4-D with birth defects, may be related to action of 2,4-D on the endocrine system.
- A so-called "inert" ingredient in Banvel CST (active ingredient: dicamba), which is used in Region 6, is ethylene glycol, which has caused birth defects and a decrease in male fertility in laboratory animals. The decrease in male fertility was not reported in the Region's information profile on dicamba formulations, including the inert ingredient, ethylene glycol. Ethylene glycol appears to be an endocrine disruptor.
- Chemicals that differ widely in molecular structure are involved in endocrine disruption, such that any given component of an herbicide formulation may be an endocrine disruptor and you could not know that unless it has been tested for various mechanisms of endocrine disruption such as mimicking estrogen or blocking testosterone. Most herbicide formulations have not been tested for any mechanisms of endocrine disruption and likely will never be tested. (O'Brien 1997).
- 9.27 | There is too little site specific analysis. The effects of chemical herbicides on plants, animals, and humans should be thoroughly considered. Any waterbodies in the project area should be thoroughly mapped. Given the potential for herbicide chemicals to be dissolved in water, the EIS must thoroughly discuss the aquatic ecosystems, including fish presence. The presence of any threatened, endangered, or sensitive species in the project area and project effects on these species must be carefully analyzed. We are concerned with the possibility of herbicide chemicals bioaccumulating in big game species using the winter range.
- 9.28 | The potential for herbicide chemicals to be absorbed into soil particles must also be thoroughly analyzed.
- 9.29 | Cumulative effects in the project area should be disclosed.
- 9.30 | A thorough economic analysis must be central to the EIS. Losses in ecosystem integrity (including species, ability to provide ecosystem services, and levels of biodiversity in the project area) should have been incorporated in the economic analysis. Future costs of noxious weed management should be considered.
- 9.31 | What data is there on TES and MIS wildlife, aquatic and plant species populations, population trends or habitat? Do you plan to go forward with herbicide treatments regardless of data on declining population trends, near minimum viable populations, or below-minimum viable populations of plant/wildlife/aquatic species populations? Do you plan to go forward with herbicide treatments even if there is a lack of data on population viability of MIS/TES plant/wildlife/aquatic species populations, and lacking data on potential impacts to specific populations?
- 9.32 | The FS says that prevention, information, and education programs would take place under all alternatives developed for this project (DEIS 2-27&28). What specific programs are planned and how will they be implemented? Are they effective?

- 9.25** See Response 9.22.
- 9.26** Your preference is noted. The FEIS acknowledges data are often incomplete or lacking, especially in regards to proprietary inert ingredients. Sections 2.C.1.d, 4.B.2, 4.B.3, and 4.D.1 of the FEIS have been revised to expand on the characteristics and effects of inert ingredients and potential endocrine-disrupting herbicides. See also Responses 7.4 and 7.5.
- 9.27** Each of the potentially affected resources has been identified, described, and thoroughly analyzed. Site-specific impacts are described for representative locations and species. For example, site-specific analyses under a variety of environmental conditions (physical and biological) and representative species groups, along with extensive reviews of representative herbicides, are fully discussed throughout Chapter 4, and Appendices F, H, I, J, and L. The site-specific implementation process in Section 2.C.6 of the FEIS details the evaluation procedures to select the appropriate site-specific treatment options. Section 4.B.3.b (Wildlife Resources), Section 4.B.2.b (Aquatic Resources), and Appendix J (Herbicide Characteristics) of the FEIS note that herbicides proposed for use on the S-CNF do not bioaccumulate.
- 9.28** See discussion of leaching provided in Section 4.B.2.b.
- 9.29** Adequate discussions of cumulative effects have been disclosed throughout Chapter 4 of the FEIS.
- 9.30** See Sections 4.C.4 and 4.D.4 and Tables 2-5, 2-6, and 4-8 for a discussion of the many sources of economic losses attributed to weed infestations. Although losses of ecosystem integrity and biodiversity are discussed, placing economic merits on intrinsic values was not attempted.
- 9.31** Typically, wildlife management agencies, such as the Idaho Department of Fish and Game, manage populations. Land management agencies, such as the Forest Service and Bureau of Land Management (BLM), manage habitat and monitor habitat trends. The population information that is available from the wildlife management agencies is included in Section 3.C.3 of the FEIS. Because of this difference in management responsibilities between agencies, the scope of this FEIS focuses on the foreseeable effects of weed treatments, or limited treatments, on individual species and their source habitat. Habitat-based evaluation is a reasonable method of assessing potential project effects on S-CNF wildlife resources. In addition, the analyses in Sections 4.B.1, 4.B.2, and 4.B.3 conclude that there would be minimal to no adverse impacts to Management Indicator Species (MIS) or Threatened, Endangered, and Sensitive (TES) species, thus no significant effects to populations or population viability are expected. Source habitat for these species would improve in varying degrees, depending on the alternative, which would also improve population viability of all species in the long term.
- 9.32** Many programs are organized by the counties through the Cooperative Weed Management Areas (CWMAs). Specific Forest activities include pamphlets, brochures, county-fair booths, and wildflower walks with elementary and middle school children to name a few. Education and learning are always effective.

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- 9.33 | The FS states that biological agents would be released on the SCNF as part of the various alternatives (DEIS Section 2). How many of these agents are native organisms? Non-native organisms? What are the reasonably foreseeable impacts of such agents, including impacts to non-target vegetation, biological communities, biological diversity, soils and other resources and values on the forest? What are the unknowns? What are the reasonably foreseeable impacts of biological control agents compared with other methods? What are the unknowns?
- 9.34 | The DEIS states that some alternatives would result in increased sedimentation compared to others (DEIS 4-12 et seq). This is allegedly because fewer infested acres would be treated and destabilization of soil from noxious weed growth would continue. Over what time frame are the comparisons made? Long-term or short-term? And how much follow-up treatment would have to occur over the long-term under the various action alternatives to eliminate or reduce invasive species?
- 9.35 | The FS has treated hundreds or thousands of acres of the SCNF a year since the mid-80s (DEIS 1-5). What is the effectiveness of these treatments over the long-term when combined (or not combined) with measures described in paragraphs 2 and 5 of this letter? Has any long-term research been conducted? Is there any reason to expect different results this time?
- 9.36 | You state that areas where herbicides will be sprayed could include roadless areas, proposed wilderness, RNAs, W&S rivers and other remote and recreationally important lands (DEIS 4-64). How do you plan to keep people from being sprayed in such areas, especially where travel distances are long and installations of signs will be difficult? And what of the non-human species that may be impacted by spraying? How will important populations of these species be impacted in these areas?
- 9.37 | Given the rugged topography of many areas of the SCNF and the potential for rapidly changing weather conditions, how can the FS predict herbicide dispersal under this project (DEIS Mitigation Measures)? What is the effectiveness of the mitigation measures at controlling drift of herbicides (whether sprayed aerially or from the ground)? The FS should disclose the potential for herbicide drift under various weather conditions and other conditions. The distance a sprayed biocide can travel is highly variable. Fog, inversions, warm temperatures, thermals, and wind affect the droplet settling time and the distance drift is carried, occasionally sweeping biocide particles 10 to 50 miles away. (Grier, Norma, 1988, J. Pest. Reform 7(4)). These factors should be considered.
- 9.38 | What is the role of road decommissioning, road closure, and travel management restrictions in preventing the introduction and spread of invasive species? Is the implementation of these measures adequate across the SCNF? Have travel management restrictions been consistently enforced on the SCNF? Not enforced? Effects measured?
- 9.39 | The DEIS states that trucks and ATVs are proposed to be used for chemical spraying in this project (DEIS 2-15&16). The environmental analysis should have assessed the direct, indirect, and cumulative impacts of all road construction, reconstruction, and modifications of access management whether planned or unplanned as part of this action. The FS should disclose whether the motorized use proposed here is likely to lead to further motorized use or access in illegal or environmentally sensitive areas. All road construction and access route proposals must be accompanied by a complete analysis specifying the number of miles, location, cost, and quality of road construction. The analysis must include the current and future open road density and total road density in the general project areas, including the analysis area. The analysis should also include a description (with accurate maps and tables) of all roads—temporary, system, nonsystem, other public and private, etc. and all roads and other routes to be used in this project. This should document all roads/routes in the project area. Locations of road/route closures should be revealed, the method of closure, and what if any traffic would be allowed on the "closed" roads. In addition, the FS must examine the de facto effectiveness of its road/route closures, and explain how closure effectiveness will be ensured through proper monitoring. Impacts of road use, other access route use, and off-road use in all areas should be analyzed. The FS should analyze whether any use of roads or access routes in this project by the FS could directly or indirectly lead to the risk of other parties using roads or access routes. The FS should analyze whether any use of roads or access routes in this project by the FS could directly or indirectly lead to the risk of other parties using any off-road areas.
- 9.40 | Chemical spraying via motor vehicles (trucks, ATVs and airplanes or helicopters) or even backpack sprayers could limit the ability of the operators to observe what sensitive resources they are spraying, due to rapid speeds and the  
cont. ↓

- 9.33** Disclosure of biological agents is contained in Appendix C and Section 2.C.1.b of the FEIS. The effects of biological control treatments are thoroughly described in Section 4.B.1. All of the insects currently used as biological control agents on the Forest, like the non-native species they combat, are non-native.
- 9.34** The analyses of soil resources and sedimentation are described in Sections 4.B.2, 4.C.1, and 4.C.3 of the FEIS. Long-term and short-term impacts are described. The need for follow-up treatment is dependent on the type of treatment, target species, size of infestation, extent of the seed bank, etc., and cannot be quantified.
- 9.35** A discussion of previous effectiveness monitoring is included in the FEIS in Sections 1.C.1 and 1.C.2.
- 9.36** Mitigation measures presented in the FEIS will adequately inform the public about spraying areas. Chapter 4 adequately addresses the potential effects of treatments on human and non-human populations.
- 9.37** Mitigation measures and treatment requirements describe a fairly narrow window of suitable aerial spraying opportunities, including prohibitions on spraying during inversions and when weather forecasts predict winds and other unsuitable conditions. Appendix E of the FEIS describes aerial spray recommendations and spray dispersion models.
- 9.38** Two transportation plans are in effect on the S-CNF (Salmon NF Transportation Plan and Challis NF Transportation Plan). Travel management restrictions are identified in both transportation plans, however, the travel management plans allow off-road travel. Where travel is restricted, it has been generally accepted by the public.
- 9.39** The two current Forest travel plans will not be modified to support any activities proposed in this FEIS, including any plans relating to the current management of roads. There are no proposals to construct, maintain, or decommission roads in this FEIS. It is recognized that there is a chance that the public may use roads that have been used by Forest personnel in their treatment activities.
- 9.40** There is little risk of over-application from truck, ATVs, or backpack sprayers because they do not move rapidly. In addition, truck applications include a driver and an applicator and are equipped with highly sensitive and responsive spray equipment to reduce the risk of inaccurate or over-application. Flaggers and ground observers on the aerial applications reduce the risks of over-application for that treatment method. The need for follow-up treatments cannot be quantified (see Response 9.34). However, mitigation measures and label directions limit the frequency of application.

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- 9.40 cont. need to observe driving/flying/walking rather than watching the sprayed targets. Aerial spraying, proposed in the scoping notice, entails additional risks and environmental effects that should be fully evaluated in the environmental analysis. The DEIS also states that aerial applications of herbicides will be proposed in areas that are remote. We are concerned that, if this is the case, then heavier applications could occur in these areas with resulting impacts to non-target plants, soils, watersheds, and other non-target resources. The analysis should disclose the full impacts of spraying any areas with extensive infestations, spraying heavier volumes and/or spraying in remote habitats. Follow-up treatment is a foreseeable action for many of the weed species and is contemplated. All follow-up treatments must be analyzed in the NEPA document in terms of wildlife, watershed, economic and other impacts.
- 9.41 Roads and access routes should only be built in this project area if they are consistent with objectives for the protection of wildlife, aquatic species, watersheds, soils, and recreation. Road/route closure and road/route obliteration should be considered on existing, ongoing, and planned roads/routes in the project area.
- 9.42 Roads are the number one problem facing our public lands today. In fact, they may be greatly contributing to the problem being addressed in this project. We are strongly opposed to any and all road construction, including temporary roads, spurs, and system roads. We are opposed to activities that may lead to more off-road motorized vehicle use. The project should be modified to avoid building any roads or access routes. The obliteration of any and all non-essential system and nonsystem roads in this watershed must be included in the project. Steven Johnson, Kootenai National Forest Hydrologist pointed out in his February 1995 paper "Factors Supporting Road Removal and/or Obliteration" that "Roads have been identified as the major impact on the forest environment." He also points out that roads, even those which have become significantly overgrown, increase sedimentation, re-direct and concentrate snowmelt runoff, and increase flow production levels.
- 9.43 We are fully opposed to the development of any and all roadless areas and wildernesses. We are fully opposed to motorized vehicle use in any and all roadless areas and wildernesses. The analysis must disclose if this area includes roadless areas (including all inventoried roadless areas, unroaded areas, and uninventoried (de facto) roadless areas) and wildernesses. We request that the analysis disclose whether or not the project area borders any roadless, wilderness, "wilderness study" areas, or undeveloped sections of Park lands, including those managed by the State of Montana, U.S. Forest Service, U.S. Park Service, or BLM. The EIS should analyze what impacts all aspects of the project will have on roadless characteristics, eligibility for future wilderness designation and values and resources associated with these areas.
- 9.44 The FS should have prepared comprehensive effects analyses for each of the proposed activities on all forest management indicator species. What are the species-specific habitat losses expected to occur as a result of implementing each alternative? We request projections of effects on these species both site-specifically and in regards to habitat forest-wide as a result of the proposal. The analysis should show that the indicator species identified are in fact appropriate indicators of environmental changes in these areas for this type of project. If the biologists feel it is appropriate to document impacts using substitute species, they should accompany such a substitution with reasonable justification.
- 9.45 The FS should have addressed the related issues of "population viability" and "distribution throughout its geographic range" in regards to all species of concern, in order to comply with USDA Regulation 9500-4 and 36 CFR 219.19. To adequately analyze population viability, you must explicitly consider population dynamics. Population dynamics refers to persistence of a population over time—which is key to making predictions about population viability. The District should fully analyze population growth rate, population size, linkages to other populations, and the dynamics of other populations in examining population dynamics.
- 9.46 The analysis should have established that the species in the analysis area are still part of viable populations in the surrounding landscape following the impacts from past development actions on lands of all ownership. The analysis should be expanded to include a cumulative effects analysis area that would include truly viable populations. Identification of viable populations must be done at some geographic scale. This means if the analysis cannot identify viable populations of MIS and TES species of which the individuals in the analysis area are members, the analysis fails to assure the maintenance of viable populations and falls far short of meeting the requirements of a scientifically sound "ecosystem" analysis.
- 9.46 What documentation is there that demonstrates that the proposed 15, 50, 100 ft. etc. buffers proposed would be effective (DEIS 2-44&45)?

- 9.41** No roads will be built or closed in support of this project. See Responses 9.39 and 2.1.
- 9.42** See Responses 9.41 and 9.38.
- 9.43** The FEIS discloses areas designated for special uses (see Section 3.D.4). All criteria pertinent to these special uses were applied and analyzed as part of Section 4.C.4.
- 9.44** The effects analysis describes the effects on both species and their habitat through the discussion of source habitats, as noted in Wisdom et al. (2000). See Section 4.B.3 and also Response 9.31.
- 9.45** The cumulative effects analysis encompassed the landscape scale of the entire S-CNF, which is considered adequate for this proposal. See also Response 9.31.
- 9.46** See Response 2.26.

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- 9.47 | Why are there no maps of the alternatives or the specific proposed areas where spraying and treatment would take place (or schedules and quantities of materials sprayed)? How is it possible for the public to evaluate this proposal in the absence of this information?
- 9.48 | INFISH Guidelines allows the FS to only "apply herbicides, pesticides, and other toxicants, and other chemicals in a manner that does not retard or prevent attainment of Riparian Management Objectives and avoids adverse effects on inland native fish" (INFISH DN A-12). What are the cumulative effects of herbicide spraying combined with other past, present, reasonably foreseeable events/activities, including impacts on spawning fish and fish food sources? What herbicides and other chemicals will leach into streams? What are the margins of error for herbicide spraying? How will the FS thus avoid adverse effects to inland native fish or fish habitat? What are the populations, population trends, and levels of habitat for MIS and TES fish species in the project area? How will the FS meet other requirements PACFISH, memoranda of agreement on aquatic species, conservation strategies for aquatic species, and the like? How will the FS meet the latter two for terrestrial species that might be impacted, also?
- 9.49 | There are numerous waterways on 303(d) lists for the SCNF (DEIS 3-72&73). We are concerned that this project will impact these waterways further, despite mitigation measures. How effective will mitigation measures be?
- 9.50 | The FS needs to conduct proper surveys for MISs, TES species and other key species and assure the public that they are protected.
- 9.51 | Several thousand elk migrate to the SCNF (DEIS 3-65). The project could impact elk and other ungulates in grassland habitat, calving areas and other habitat. The impacts of heavy spraying in these areas are not fully evaluated.
- 9.52 | Some of the TES birds known to the SCNF and other migratory birds may be vulnerable to proposed spraying because of locations where they nest, the susceptibility to eggs to sprayed particles, or other factors (DEIS Wildlife). The FS needs to consider impacts to other species of migratory birds as well. The FS and its agents must not take migratory birds in violation of the Migratory Bird Treaty Act.
- The FS must ensure the public that this project conforms with recent Executive Orders on Migratory Birds, Environmental Justice, and Riparian Areas regarding targeted (or potential non-target sprayed) areas and targeted (or potential non-target sprayed) resources.
- 9.53 | "Of all groups of wildlife species, amphibians are potentially the most sensitive to herbicides because of their complex life cycle; almost all species require moisture of some form of water to complete their life cycle, and most are aquatic in their egg or larval stages" (BNF DEIS 4-23; see also this DEIS 3-44). Several amphibians and aquatic species could be impacted by the project. The FS does not assure the public that mitigation measures are adequate to protect these species.
- 9.54 | Impacts of noise, disturbance and other potential effects to bald eagles, grizzlies, wolves, wolverines, martens, fishers, lynx, goshawks and similar species requiring remoteness (or freedom from disturbance) resulting from this massive project needs to be more clearly disclosed (DEIS 3-81).
- 9.55 | Does the FS conclusively know all the byproducts or impurities in the herbicides it proposes spraying (DEIS 2-12 to 16)? What substances do these herbicides break down into and what are their effects? Does the FS conclusively know all of the adverse effects of such byproducts, impurities, and substances? Of substances yet to be introduced and used?
- What are the long-term impacts of the herbicides, byproducts and impurities proposed for use here?
- 9.56 | What types of substances do the herbicides proposed for use degrade into? Do these substances produce any adverse effects?
- 9.57 | What organisms can be impacted from diluted chemicals and surface run-off?

- 9.47** Weed infestations are displayed for the S-CNF in Map 3-1 and for the individual Ranger Districts in Maps 3-2 through 3-8. Appendix J of the FEIS has been expanded to provide additional information on the toxicology profiles of herbicides used or proposed for use on the S-CNF; typical and maximum application rates for herbicides on the S-CNF, aquatic assessment levels of concern, and risk quotients; and buffer widths and associated restrictions on herbicide application. Annual implementation and site selection are based on district priorities, previous treatment and monitoring results, recent inventory data, and site-specific implementation that best achieve weed management goals for each district and the Forest overall.
- 9.48** Sections 4.B.2 and 4.B.3 of the FEIS provide an in-depth analysis of project impacts, risks, and cumulative effects on aquatic and terrestrial species.
- 9.49** The full analysis is presented in Sections 4.C.1 and 4.C.2 regarding mitigation measures and their effectiveness on these waters.
- 9.50** A Biological Assessment in connection with this FEIS has been prepared for the USFWS and NMFS. The Biological Assessment fully addresses and analyzes the project effects to TES. Potential project effects on Forest Service sensitive species (which includes all MIS) are evaluated in the Biological Evaluation contained in Appendix L of the FEIS. See also Response 9.31.
- 9.51** Section 4.B.3 adequately discusses impacts of spraying.
- 9.52** See Response 2.19. The S-CNF does not anticipate any “take” of migratory birds through implementation of the proposed project. Effects on migratory bird species and rationale are addressed in Section 4.B.3 of the FEIS.
- 9.53** The stated mitigation measures are adequate to provide reasonable assurance that chemicals will not enter the environment at harmful concentrations. Mitigation measures described in this FEIS are in addition to herbicide label restrictions. Herbicide label restrictions are developed by the manufacturer and EPA to ensure that application of herbicides are conducted in a manner that protects human health and the environment. See Section 4.B.2 and Responses 2.52 and 7.4.
- 9.54** Effects of, or from, such disturbance have been analyzed and effectively mitigated. See Sections 2.D.3, 4.B.2, and 4.B.3 of the FEIS.
- 9.55** The FEIS acknowledges there are unknowns regarding the risk of breakdown by-products. The analysis of the long-term effects used the most current and up-to-date research available. The research shows that there are likely no or minimal effects from the application of these herbicides at the rate and method proposed. See also Responses 7.5 and 9.26.
- 9.56** See Response 9.55.
- 9.57** It is unreasonable to develop a comprehensive list of all potentially impacted organisms. A full analysis of the effects of chemical treatments on representative species is presented in Sections 4.B.2 and 4.B.3 of the FEIS.

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- 9.58 | What are the full impacts of any new herbicides that may be approved by EPA or may be used here in addition to those listed in the DEIS?
- 9.59 | The FS states that "many people...regard pesticides as a necessary part of their business and as a relatively safe tool, if used properly" (DEIS 4-79). What about chemically sensitive individuals in the area who are not informed of herbicide use or have difficulty leaving the area (including residents, travelers, hunters, anglers and recreationists)? What about cumulative effects to them? Is chemical sensitivity increasing? Increasing among certain populations? What is the nature of the cumulative (and additive and synergistic) effects of chemical sensitivity in populations?
- 9.60 | Did the soil testing mentioned on DEIS 4-53 test the actual groundwater to determine whether any herbicides entered the groundwater or just test the soil to a certain depth? For all chemicals to be used? How long did the soil testing last?
- 9.61 | During what times of the seasons would herbicide spraying take place and what vulnerable plant and animal species could be impacted at various times of the year? At what volumes? What would be the effects?
- 9.62 | What woody plant (including young trees, shrubs, etc.) mortality would occur as a result of spraying? What species? How would this affect regeneration, rare plants, biological communities, and wildlife habitat?
- 9.63 | We note that there is a general discussion, but there is not a lot of discussion of specific impacts of noise, disturbance and human presence on wildlife resulting from the action alternatives (DEIS-Wildlife/TES species/noise).
- 9.64 | How would herbicides affect young organisms, fetuses, or eggs of wildlife at these critical times in their lives?
- 9.65 | What are the impacts to snakes? The BNF DEIS states that herbicide spraying could increase snake mortality rates temporarily (BNF DEIS 4-28)? What about amphibians and other reptiles?
- 9.66 | Since levels of funding "would ultimately determine the schedule for addressing and implementing treatment priorities" how would this effect what treatment priorities #1-6, the degree to which IWM is used, or the minimum tool approach to be used (DEIS ES-6)? Could funding levels override these (for example could aerial spraying be used where not appropriate, or could certain weed populations be targeted before others where not appropriate)?
- 9.67 | How is issue #7 considered in this analysis (DEIS ES-21)?
- 9.68 | You state that "recreational and commercial uses... have facilitated the spread of introduced species throughout the SCNF" (DEIS 1-2). What steps are you taking to reduce the spread?
- 9.69 | In 1989, the CNF reported that "the noxious weed project acres covered within the Challis National Forest EA totaled 30,020 acres" (DEIS 1-5). Weed projects also took place on the SNF (DEIS 1-5). Herbicides were used in on virtually all acreages (DEIS 3-19). Yet there is little analysis of the success of spraying and other treatment in these very areas, the issue of whether additional treatments have been necessary, and success and cumulative effects of these methods.
- 9.70 | What does the EIS mean when it says Congressional authority did not occur until 2000 (DEIS 1-15)?
- 9.71 | The FS states "The SCNF Noxious Weed Management Program EIS is not a general management plan for the project area or a programmatic EA [?]. It is a linkage between the Forest Plans, weed management activities, and requirements established by NEPA" (DEIS 1-17). What kind of NEPA decision is this? What kind of activity is this? It seems the FS wants to have it both ways. The FS should have analyzed this as a programmatic amendment and conducted the appropriate analysis.
- 9.72 | Neither IWM or IPM are defined in the glossary (DEIS I-17). The FS should have explained these, explained what it is trying to carry out, and explained what alternative treatment protocols are possible. Several of the other acronyms are not explained in the text.

- 9.58** New chemicals would require full EPA registration and completed risk assessments. All established buffers and mitigation measures would apply, hence the anticipated impacts of new chemicals would be minimal.
- 9.59** The risk to human health is fully analyzed in Section 4.D.1. Mitigation measures are designed to inform the public so avoidance measures can be taken.
- 9.60** Both soil and groundwater were tested for those chemicals listed. See Section 4.C.2 of the FEIS.
- 9.61** Chapters 2, 3, and 4 of the FEIS adequately describe herbicide application, the resources potentially impacted, and the effects of application on the environment.
- 9.62** It is expected that non-target woody species would not suffer significant mortality at the concentrations proposed and the applied mitigation measures. See Section 4.B.1.
- 9.63** The level of impact analysis is adequate; it is noted in the FEIS that any effects will be temporary.
- 9.64** A full analysis is presented in Section 4.B.3. See also Response 7.5.
- 9.65** There is a potential for minimal short-term risks to all wildlife species, as discussed in Section 4.B.3.
- 9.66** The priority process is clearly described in Section 2.C.2 of the FEIS. See also Response 9.47.
- 9.67** See Response 2.1.
- 9.68** The FEIS addresses prevention and treatment strategies for weed management. See Section 1.A.1.
- 9.69** The 30,020 acres presented in Section 1.C.1 of the FEIS are the acres within the Challis National Forest Noxious Weed and Poisonous Plant Control EA project area, not the acres of weed infestations or acres treated. Section 1.C.2 discusses the past treatment strategies. Little monitoring was performed in the early years of weed treatment. Since the late 1990s monitoring has increased in importance. Recent monitoring protocols and results are summarized in Sections 1.C.1 and 1.C.2 of the FEIS.
- 9.70** Formal combining of the two national forests required Congressional authority, which did not occur until 2000.
- 9.71** This is a Final Environmental Impact Statement on the treatment of noxious and non-native invasive weeds across the S-CNF.
- 9.72** IWM/IPM are thoroughly described in the FEIS in Sections 1.A.1 and 2.C, and are included in the list of acronyms and abbreviations in Chapter 7.

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- 9.73 | What is considered to be the approved management plan, the FS Strategy (DEIS 1-18)?
- 9.74 | Grazing is proposed as a treatment (DEIS 2-11). To what degree does grazing contribute to the introduction or spread of noxious weeds itself? What are the impacts of grazing for this EIS and across the SCNF?
- 9.75 | Regarding grazing:  
[Livestock grazing already impacts the vast majority of the SCNF. Approx. 80% of the NF is allocated to grazing (DEIS 3-76). To what degree is this already-permitted grazing contributing to the spread of invasive species? How will it impact invasive species and native species? Are any of the 20% of areas unallocated to grazing proposed for grazing in this project and how will these areas be impacted?
- 9.76 | [Livestock grazing has caused a tremendous amount of damage on public lands for the benefit of a handful of ranchers who profit off public lands at the expense of both taxpayers and biological integrity. We have specific comments regarding your analysis, and recommend steps you should be taking in considering allowing grazing to continue on these allotments.  
  
[The vast majority of riparian areas in the West have been heavily trampled, the fisheries habitat all but ruined, and the water polluted by excessive sedimentation and livestock waste.  
  
[Given the large-scale and undeniable damage to ecosystems that livestock have caused here in the western U.S., we are opposed to continuing this practice on public lands. The idea of somebody's domestic animals eating up the riparian areas—the most biologically diverse portion of terrestrial ecosystems—and leaving waste in the creeks and springs on our national forests is bad enough. That the public pays for these devastating activities in the form of subsidies for welfare ranchers is a symptom of government intransigence.  
  
[We are aware of the potential for grazing impacts on the land to be severe in some sites. An issue thus arises that no amount of livestock grazing can be sustained on some portions of these allotments in the near future due to the needs the area has for recovery.]
- 9.77 | [What effect will the grazing have on habitat for endangered, threatened, sensitive, and management indicator species? What are the results of surveys in the areas for any of these species which may use the habitat in the allotment area?  
  
[The EIS should analyze the significance of the impacts of past impacts on populations of these species accruing from livestock grazing, its connected actions, and other human development activities. The EIS should discuss the available data from Forest Plan implementation monitoring on how populations have responded to grazing and other management actions. If sufficient data is not available to indicate trends for these species, the EIS should say so and the analysis be expanded to acquire the information so that cumulative impacts from further grazing and other ongoing actions in the area can be adequately analyzed.
- 9.78 | [What is the significance of the impacts from past livestock grazing and other management actions on the diversity of plant species in the analysis area?
- 9.79 | [Livestock grazing has adversely impacted many riparian areas. Fragile riparian ecosystems tend to be heavily impacted by livestock. It is ultimately reasonable to withhold grazing from all riparian areas. We request that a grazing alternative such as this be included for full analysis and comparison with other alternatives.
- 9.80 | [What is the condition of all watersheds and other riparian areas in the analysis area, especially in regards to past management activities including livestock grazing? Please analyze the significance of the adverse impacts grazing has had upon fish and other aquatic organisms. The EA should disclose the results of up-to-date monitoring and surveys of fish habitat and watershed conditions.
- 9.81 | [What are the impacts on water quality, temperature, stream channel morphology alone, and cumulatively with roads, natural and prescribed fire, logging and other management projects? How have streamflow quantities changes—do you have baseline information on this?
- 9.82 | [What are the impacts on water quality, temperature, stream channel morphology alone, and cumulatively with roads, natural and prescribed fire, logging and other management projects? How have streamflow quantities changes—do you have baseline information on this?
- 9.83 | [What are the impacts on water quality, temperature, stream channel morphology alone, and cumulatively with roads, natural and prescribed fire, logging and other management projects? How have streamflow quantities changes—do you have baseline information on this?

- 9.73** Your comment is unclear regarding the 'approved management plan'. The Forest Service policy and strategy for weed management is called Stemming the Invasive Tide: Forest Service Strategy for Noxious and Nonnative Invasive Plant Management (1998), is described in Section 1.E.3, and is also available on the Internet.
- 9.74** The impacts of controlled livestock grazing as a treatment option are fully explained in Section 4.B.1. Livestock grazing is identified as one of many vectors of weed spread.
- 9.75** Specific criteria and requirements where controlled livestock grazing may be considered as a treatment option have been developed and described in Section 2.C.1. The required project operation plan is a specific mitigation measure.
- 9.76** Your opinion is noted. See Response 2.1.
- 9.77** Your opinion is noted. See Response 2.1.
- 9.78** See Response 9.75. The analysis of potential impacts from this treatment option are presented throughout Chapter 4.
- 9.79** Cumulative effects from past, present, and foreseeable activities on the S-CNF are discussed throughout Chapter 4. MIS and TES species are specifically discussed in Sections 4.B.2 and 4.B.3. See also Responses 9.31 and 9.50.
- 9.80** This FEIS is not a livestock grazing allocations environmental impact statement.
- 9.81** See Response 2.7.
- 9.82** A summary of rangeland conditions is presented in Section 3.C.1.b.4 of the FEIS. See also Response 9.80.
- 9.83** The question is unclear. If you are referring to how general livestock grazing has impacted these resources, see Response 2.7. If you are referring to weed treatment impacts on these resources, see Chapter 4 of the FEIS.

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- 9.84 | [The EIS should show that the proposed alternatives would comply with the Clean Water Act and all state water quality laws and regulations. This includes stating the beneficial uses of the streams and how these beneficial uses have been impacted or degraded by past management actions, and how these beneficial uses would be impacted by the various alternatives.
- 9.85 | [Please disclose how much money the Forest Service has received annually for each allotment since the present AMPs were written. Please disclose how much has been spent by the Forest Service each year in administering each allotment (please itemize these costs).
- 9.86 | [The analysis should contain all costs and adequately discuss all current, in place benefits—the costs of past and proposed specific improvements should be fully disclosed. The analysis should include ongoing and future impacts to recreation, and all costs related to the project including costs of preparing the analysis, all specialist support and consultation, costs associated with travel management and administration, road maintenance, weed control, costs of doing fencing, water, and other related improvements.
- 9.87 | [We request an economic analysis that compares the expense of restoring these damaged areas, on a continuing basis, with a no-grazing scenario.
- 9.88 | [Plants that cattle don't eat are more likely to survive, shifting the natural balance of grass, forbs and shrubs. This creates perfect conditions for many noxious weeds. The invasion and spread of noxious weeds by cattle is widely known and accepted. Many roads are open so that permittees can move cattle around, therefore the impacts of open roads on noxious weeds is a grazing problem as well. Please analyze the site-specific and cumulative impacts in the allotment.
- 9.89 | [What new invaders are present and how will these be controlled when wandering livestock eat seed or carry it to new sites? For existing weed sites, effective management would involve yearly follow-up and monitoring of each noxious weed site and closure of affected main roads to prevent vehicular spreading to even more areas.
- 9.90 | [Cows trample and eat young trees— examining new plantations in national forests provide graphic examples. What is the impact of grazing on the trees and plants of these allotment areas?
- 9.91 | [Compaction by cattle likely slows seedling growth rates, creates stress for any plant that is stepped on, and may impact roots of larger trees as well. Compacted soils on slopes don't retain moisture as well, and this can cause more runoff than uncompacted slopes, and impact riparian areas that typically absorb the water. Please analyze the effects of cattle on native plant diversity and soils.
- 9.92 | [We are concerned that detrimental soil thresholds may already have been exceeded in grazed areas. The EIS should include disclosures of the amount of detrimental soil conditions due to past activities.
- 9.93 | [The EIS should analyze the degree to which livestock grazing has affected the succession of forested stands in the area, and thus will continue to cumulatively impact the vegetation and wildlife species. From the abstract of Belsky and Blumental (1995):  
Ponderosa pine and mixed-conifer forests of the western interior United States have changed structurally and compositionally since settlement of the West by Euro-Americans. Many of these forests historically consisted of widely spaced trees underlain by dense grass swards; however, over the last 100 years they have developed into dense, often diseased, flammable thickets. These changes, sometimes referred to as a decline in "forest health", have been attributed primarily to two factors: active suppression of low-intensity fires that formerly reduced tree recruitment, and selective logging of fire-tolerant and disease-resistant trees. A third factor, livestock grazing, is seldom discussed, although it may be more important than the other factors. Livestock alter forest dynamics (1) by reducing the biomass and density of understory grasses and herbs, which otherwise outcompete conifer seedlings and prevent dense tree recruitment, and (2) by reducing the abundance of fine fuels, which formerly carried low-intensity fires through forests. Grazing by livestock have thereby contributed to increasingly dense forest thickets. Exclosure studies have shown, in addition, that

- 9.84** The impacts of each alternative are fully discussed in Section 4.C.1 of the FEIS, and the current and past conditions are described in Section 3.D.1.
- 9.85** This information goes beyond the scope of the FEIS.
- 9.86** An in-depth cost analysis of the alternatives is disclosed in Section 4.D.4 of the FEIS.
- 9.87** An economic analysis of restoration of areas damaged by livestock grazing is beyond the scope of this FEIS.
- 9.88** See Response 9.80.
- 9.89** Table 3-3 categorizes and describes established, new, and potential invaders of weed species on the S-CNF. Section 2.C.6 of the FEIS describes the site-specific implementation process for prioritizing and treating new invaders.
- 9.90** See Response 9.80.
- 9.91** See Response 9.80.
- 9.92** See Response 9.80.
- 9.93** See Response 9.80.

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cattle and sheep alter ecosystem processes by reducing the cover of herbaceous plants and litter, disturbing and compacting soils, reducing water infiltration rates, and increasing soil erosion.

- 9.94 | [Have there been any permittee violations of the grazing permits? We would like to see a complete documentation of these violations and discussion of the action taken by the Forest Service, in the EIS. Such a discussion is fully within the scope of the analysis, since compliance with permit conditions is assumed in EA impacts analyses.]
- 9.95 | We have a concern that most herbicides "are not truly selective at the species level" (DEIS 2-12). Non-target species and non-target biological communities will be impacted. How will you mitigate these impacts?
- 9.96 | New herbicides should not be added until the FS has conducted a NEPA analysis of the effects on the kinds of resources examined in this EIS (DEIS 2-12).
- 9.97 | Since aerial spraying is proposed on very large infestations of weeds and remote areas (DEIS 2-16), it entails added risks from heavy spraying and added risk to sensitive resources that may not be adequately identified on a reasonable scale. What specific resources will be impacted and how will they be impacted? How will these risks be reduced in the mitigation measure process?
- 9.98 | The EIS mentions OHVs as vectors of weed spread, but not mention what other vectors of weed spread exist (DEIS 2-28).
- 9.99 | How much of which treatment option would be or could be used when two are listed ("mechanical and chemical" etc.) The FS states that "a combination" or "one or the other" could be used (DEIS 4-7&16 etc.), but how much of each? Which? Under the worst case scenario? And what would be the impacts?
- 9.100 | Up to 2000 acres of grazing could take place under alternative 2 (DEIS 2-43). Where? How much? Under what conditions? What resources could be impacted? What impacts would occur? What mitigation measures are provided?
- 9.101 | Widespread spraying could occur and you will only be protecting "known" populations of sensitive plants (DEIS 2-45)? What about unknown populations that you have not looked for or found? How will you protect them?
- 9.102 | The Proactive Prevention Alternative and Alternative E should have been analyzed in detail in this analysis (DEIS 2-49&50). If a minimum tool emphasis is part of this EIS, then you should have provided alternatives that truly emphasize a framework for a minimum tool approach. The proposed action and alternative 1 are only window dressing.
- 9.103 | Is the extensive presence of invasive species in a minority of ranger districts realistic or simply the result of adequate data collecting (DEIS 3-2)? The EIS emphasizes potential impacts to these few ranger districts to a greater degree than impacts to other ranger districts. The FS states "as more inventories are completed, weed acres and distribution will surely increase" (DEIS 3-5). Given the open-ended nature of this project and the potential for heavy treatment in the other ranger districts, the FS has not adequately analyzed the full impacts of this project on potential treatment areas across the entire SCNF (DEIS - Sections 3 and 4).
- 9.104 | Were all TES included in the analysis? How did the FS determine known occurrences and known suitable habitat (DEIS 3-27)?
- 9.105 | Thorough plant and animal surveys, over an appropriate period of time, should take place. These surveys should be conducted by appropriately trained personnel and should take place at times of the year when applicable plant and animal species are likely to be detectable and identifiable. The analysis should disclose whether any factors could have affected the ability of surveyors to detect applicable species and should disclose whether any species could have been present, but may have been undetected.

- 9.94** See Response 9.80.
- 9.95** The FEIS recognizes and discloses the potential risks to non-target plants in Section 4.B.1. The mitigation measures, included in Section 2.D.3, are designed to reduce these risks.
- 9.96** The consideration of using new chemicals must satisfy the requirements stated in Section 2.C.1.d and be approved through an Administrative Decision from the Forest Supervisor.
- 9.97** A full analysis on the use of aerial herbicide application on all resources is presented throughout Chapter 4 of the FEIS. Mitigation measures are designed to reduce the risks of aerial applications to all environmental and human resources. See also Response 9.37.
- 9.98** The vectors are adequately described in Chapter 2 and Section 3.C.1 of the FEIS.
- 9.99** The combination of treatments is described in Section 2.C. The distribution of the specific treatment is site-specific and varies by weed species, the physical site characteristics, the size of infestation, and the weed management goal for the site. The treatment methods are described thoroughly in Chapter 2; potential impacts from the combined treatments are fully described throughout Chapter 4.
- 9.100** The controlled grazing treatment option is described in Section 2.C.1.c of the FEIS. The impacts of this option when used in combination with other treatments are described throughout Chapter 4.
- 9.101** Mitigation measures have been revised in the FEIS requiring a field survey to determine if species are present. If species are present, the appropriate buffer zone mitigation would apply.
- 9.102** The rationale for dismissing these alternatives for detailed analysis is discussed in Section 2.E.
- 9.103** Map 3-1, Table 3-3, and Appendix B reflect the inventoried extent of weed infestations up to 2001. The FEIS analysis fully describes the impacts of weed treatment activities as defined in the four alternatives. See also Response 9.47.
- 9.104** See Response 9.50.
- 9.105** Your opinion is noted. See also Response 9.31.

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- 9.106 | There are several aquatic species that are declining or at risk due to several factors (DEIS 3-40 to 3-44). These species have "relatively narrow habitat requirements" (DEIS 4-13). How would a potential addition of herbicides to waterways add new stresses to these rare aquatic populations?
- 9.107 | How would the food sources of these aquatic species be impacted, and ultimately, these species?
- 9.108 | The yellow billed cuckoo may be found in the SCNF and prefers dense vegetation (DEIS 3-48). Bald eagles and lynx are known to nest or occur in forested areas. What particular areas of habitat or populations may be treated? What is potential for impacting these listed species?
- 9.109 | Spotted bats, big-eared bats, fishers, wolverines, boreal owls, flammulated owls, great gray owls, goshawks, three-toed woodpeckers, sage grouse and other species are known to depend on trees, grass, and other non-target vegetation that may be sprayed or treated as part of this project (DEIS 3-50 to 52). The same applies to many of the MIS species listed on 3-52. What particular areas of habitat, populations, forage habitat, and other areas may be treated? How would the noise and disturbance associated with activities contemplated or planned in this EIS effect habitat or populations of these species? What is the potential for impacting these species?
- 9.110 | Are minimum viable populations of all species, including those listed barely at minimum viable levels or below minimum viable levels now or at the time of the Forest Service (1987a) ensured? How is local persistence of species ensured?
- 9.111 | Of the 21 bird species on DEIS 3-61&62, the trend interpretation of approximately 15 included declines, "no data," or "uncertain." How would the SCNF ensure the viability and conservation of these species across the SCNF? If the project were implemented?
- 9.112 | Elk migration and elk winter range is important since "several thousand animals" migrate into the SCNF every winter (DEIS 3-65). How would non-target vegetation that is important forage for elk populations be affected? Where are important summer, fall, winter and spring elk habitat areas located? When would the activities take place and how would the noise and disturbance of activities affect elk? How would vegetation be affected during "sever winters" (DEIS 3-65)?
- 9.113 | We are concerned that several 303(d) stream segments in the project area have already impacted by chemical contaminants, degradation of habitat, sedimentation, changes in pH level, and other factors (DEIS 3-72&73). The potential addition of chemicals into these streams as a result of this project should be carefully considered. The FS should consider the degree to which this project would add new pollutants of the same type as listed pollutants or would add new pollutants of a new type from listed pollutants, and may degrade the streams further. How will this be strictly avoided?
- 9.114 | There are serious unknowns here not fully addressed in the DEIS. The FS admits that "little is understood about the relationship between groundwater and surface water" (DEIS 3-74), but the FS assumes that these resources can be protected. The serious unknown factors of this project should be addressed.
- 9.115 | Are only quartzites, granitic rocks, volcanic rocks, and sedimentary rocks found in the SCNF (DEIS 3-74)? It appears that there may be some soil types with fairly high infiltration risks and some with fairly high run-off risks (DEIS 3-74&75; also DEIS 4-56 et seq). Has the FS analyzed all soil types in the SCNF likely to be impacted by the project, the properties of each, and the potential effects of all activities and substances on them? What is the proximity of particular areas of soil to resources of concern and how will these resources be affected?
- 9.116 | The FS admits that "large and small-scale timber removal activities have occurred throughout the SCNF" (DEIS 3-77). How much? Where? How has logging and associated activities affected the introduction and spread of invasive species?
- 9.117 | We are concerned about the impacts of the project on the 11 RNAs (DEIS 3-78). Specifically, what resources and biological communities were the RNAs established to protect? Other special interest areas and areas of natural heritage concern? Where are these located with respect to proposed activities? What activities are permitted and not

- 9.106** A thorough analysis is presented in Section 4.B.2. Mitigation measures are designed to minimize risks to all species.
- 9.107** See Response 9.106.
- 9.108** A full analysis for these species and their source habitat is presented in Section 4.B.3. See also Response 7.9.
- 9.109** See Response 9.108.
- 9.110** See Response 9.31.
- 9.111** See Response 9.31. Several mitigation measures are presented in Section 2.D.3 that are designed to minimize the potential for adverse effects to all species.
- 9.112** See Responses 2.39 and 9.62.
- 9.113** A full analysis can be found in Sections 4.B.2 and 4.C.1 of the FEIS. The mitigation measures described in Section 2.D.3 are designed to minimize the potential adverse impacts from chemicals accessing waterways.
- 9.114** See Section 4.C.1. The site-specific implementation process, strict mitigation, and buffer zones provide reasonable protection of applications in surface water and shallow water tables.
- 9.115** There are more than 500 soil map units identified on the S-CNF that describe soil types, soil properties, and soil characteristics. Due to the complexity of soils across the Forest, the analysis focused on the soil characteristics expected from their geologic sources. Guidelines were developed (see Appendix F, Leaching Sensitivity and the decision tree [Figure 2-1] in Chapter 2) to determine which treatment options are appropriate on a particular site.
- 9.116** Past, present, and future human uses including logging have been addressed in Chapters 3 and 4 of the FEIS.
- 9.117** There are 20 Research Natural Areas (RNAs) – 11 in the original Challis NF and 9 in the original Salmon NF. RNA designation was directed toward maintaining ecosystem processes and focusing on unique or rare vegetation characteristics. A full analysis is presented in Section 4.C.4.b of the FEIS, and mitigation measures designed to minimize impacts to special designated areas are presented in Section 2.D.3. Weed treatment activities are allowed in RNAs. Map 3-11 is provided in the FEIS showing the RNAs, inventoried roadless areas, and other special designation areas.

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- 9.117 cont. | permitted in these areas? What impacts to these areas, communities, and resources will occur? How will you protect them from adverse impacts?
- 9.118 | The FS's discussion of roadless areas only considers impacts to the 329,000 acres where roadwork is not allowed (DEIS 3-79). Are there any roadless areas where roadwork, or timber development could be allowed? What risk do these activities pose to the introduction and spread of invasive species? What preventative or other steps will you take to stop the introduction and spread of invasive species in roadless areas where roadwork, logging, or other development activities could potentially occur?
- 9.119 | What data has been collected to determine whether invasive species or treatment have not affected existing and eligible W&S rivers in the SCNF (DEIS3-79 to 81)? What data and research exists? Did the data collected analyze the potential impacts of higher levels of treatment proposed or higher levels of infestation possible in coming years? For what reasons were the W&S rivers established or found eligible for listing (including the presence of any sensitive plants or other organisms likely to be affected)? How would the project affect them? The DEIS admits that invasive species can impact these areas (DEIS 4-66)
- 9.120 | The FS says there have been "no reported instances" that worker health or safety have been affected (DEIS 3-82). What studies have been conducted? What medical tests were conducted? For how long? Were workers and other people in the areas considered? Were the reporting mechanisms likely to detect all human safety and health concerns that might emerge? Over a sufficiently long period of time?
- 9.121 | The human health and safety sections of the DEIS do not address the fact that (1.) there are serious known human health effects from the substances to be allowed for use, (2.) there are serious unknown health effects from the substances to be allowed for use, (3.) the DEIS discounts the very real health effects of these substances and essentially makes claims as to the safety of these substances which cannot be demonstrated (such as those on Appx. J, DEIS 4-79, and DEIS 4-87, for example), and (4.) the DEIS relies on arbitrary impact thresholds (for example the LD50 divided by 10 for aquatic organisms (DEIS 4-18). See DEIS 3-82 to 85 and DEIS 4-76 to 89. There is ample evidence that the FS has not adequately addressed concerns such as those in items (1)-(4.) above regarding herbicides; for example, see the extensive reference list of research, articles, and other literature and website information following Belsky et. al. in the literature cited section of this letter. Impacts to wildlife and native plants (especially MIS and TES listed species and other important species) may also be serious; however, the impacts on these types of species are even more of an unknown because of the inherent difficulty (and legal and moral questionability) of testing and assessing impacts of chemicals on wild animals and other dispersed species. The FS considers intensive release of these substances into the human and natural environment without adequate analysis or safety procedures. This DEIS is inadequate.
- 9.122 | The environmental consequences section assumes full funding and implementation every year (DEIS 4-2). What if this assumption proves to be invalid - can any of the analysis in the DEIS Section 4 be relied upon?
- 9.123 | How were rates of weed spread determined (DEIS 4-4)? Has weed spread been occurring at the rates used? In all areas? In other areas? Is this portion of the analysis accurate?
- 9.124 | What does the FS mean by "desertification" (DEIS 4-5). Actual desertification or conditions similar to desertification? How do global and regional climate changes and weather variations affect the spread and introduction of invasive species? Have these factors been considered? Is global warming a concern regarding invasive species? How does the agency and federal government propose addressing global warming, and invasive species impacts induced by global warming?
- 9.125 | The FS should analyze the impacts of the heavy recreational use, motorized use, extractive development and other activities listed on DEIS 4-6.
- 9.126 | We note that aerial spraying has the highest potential to harm native vegetation and sensitive plant species of all activities (DEIS 4-8). Is use of this technique prudent?

- 9.118** Treatment activities will follow the interim and final direction in the Roadless Area Conservation Rule. The appropriate mitigation measures will apply for whatever treatment activities occur in roadless areas.
- 9.119** Section 3.D.4.c and Table 3-16 in the FEIS have been revised to show the eligibility criteria for the Wild and Scenic river segments. Section 4.C.4.c analyzes how the specific eligibility criteria may be affected by treatment activities.
- 9.120** The FEIS notes that there were no reported instances of herbicide impacts to workers on the S-CNF. Since there were no reports of worker health problems, the S-CNF has not conducted tests or studies of impacts on worker health.
- 9.121** See Response 7.4. The analysis in Chapter 4 of the FEIS is accurate in addressing risks to the natural and human environment. References cited in Chapter 9 support this analysis.
- 9.122** The analysis is based on full funding and implementation of treatments up to 18,000 acres a year. Under reduced funding, it is likely that reduced implementation would occur. However, the analysis and prioritization remains the same. See also Response 9.47.
- 9.123** The rate of spread calculations are based on climate and plant characteristics such as a species capability to reproduce, physiology, and seed viability. The calculations were used to show how potentially prolific noxious weeds can be.
- 9.124** Desertification is explained in the text of the FEIS. Global warming is beyond the scope of this FEIS. Weeds are opportunistic and have characteristics that take advantage of several environmental conditions. See Section 3.C.1.a.2.
- 9.125** These activities are discussed in the cumulative impacts analysis throughout Chapter 4 of the FEIS.
- 9.126** As indicated in the FEIS, the aerial application of herbicides, along with the appropriate mitigation measures, is the most effective, efficient, and safest method to meet the stated weed treatment goals.

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- 9.127 | The DEIS only analyzes "several" supposed worst case scenarios for a number of resources (DEIS 4-14 et seq). Are these scenarios realistic worst case scenarios? Is there a possibility of worse events occurring? Have any of the scenarios actually occurred or are you hypothesizing about the results? What are the long-term results? The FS only considers "several" scenarios - could any other worst scenario events occur and what are their impacts.
- 9.128 | How was the LC50 divided by 10 standard developed (DEIS 4-18)? Was this standard determined to be safe (or to have no impacts) for every substance considered here? For new substances that could be used when approved? How is this not an arbitrary standard?
- 9.129 | The FS only describes what would happen within 4 miles of a release and assumes that this is a short distance (DEIS 4-27). We do not assume this is a short distance. How would resources and organisms closer to the site of the actual spill be affected?
- 9.130 | What is the risk of wind drift (DEIS 4-27). How do local weather conditions and local weather anomalies affect wind drift? Have there been any occurrences where wind drift distributed large quantities of chemicals in areas outside of the target zone or any occurrences where wind drift distributed chemical over much larger areas than the target zone?
- 9.131 | It appears that several of the action alternatives have moderate to high long-term habitat threats or moderate to high short-term disturbance threats, but the DEIS never quite explains these (DEIS 4-36&37). We are especially concerned about the large number of these for the proposed action and alternative 1. Why are these considered, given the threats they propose?
- 9.132 | The FS claims there are not likely to be direct impacts on wildlife. What data and research was collected to document this claim (DEIS 4-39)?
- 9.133 | Herbicide impacts can vary widely among species. Is there data on the impacts to all types of species here, especially MIS and TES species that could be impacted?

Thank you for allowing us to comment.

Sincerely,

Sherman Bamford  
The Ecology Center

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- 9.127** Assumptions associated with the worst-case scenarios are discussed. A number of scenarios were presented to represent a reasonable range of possibilities, across a variety of physical settings, for analysis and comparison purposes.
- 9.128** The LC50 divided by 10 value was developed and approved by the EPA as being a conservative standard of safety. This and other recognized safety standards are discussed in Chapter 4, Section 4.B.2 and Appendix J.
- 9.129** The referenced FEIS section analyzes the concentrations and effects along points closer than the 4-mile distance.
- 9.130** A full discussion of wind drift is presented in Section 4.B.2.b of the FEIS. Several mitigation measures address wind drift and appropriate buffers in Section 2.D.3. See also Responses 9.37 and 2.26.
- 9.131** Table 4-2 has been revised to provide clarity between the text and the table.
- 9.132** The text in Section 4.B.3.b has been revised with supporting references to clarify impacts to wildlife.
- 9.133** The effects analysis included a wide range of representative species and their source habitat, including MIS and TES species. See Sections 4.B.1, 4.B.2, and 4.B.3 of the FEIS.

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## Comment Letter No. 9

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BOARD OF COMMISSIONERS  
CUSTER COUNTY, IDAHO  
P.O. BOX 385 - CHALLIS, IDAHO 83226  
(208) 879-2360

January 11, 2003

Salmon-Challis National Forest  
Re: Salmon-Challis National Forest Noxious Weed Draft EIS  
50 Highway 93 South  
Salmon Idaho 83467

Attention: William Diage  
Re: Salmon-Challis National Forest Noxious Weed Draft EIS

On behalf of the citizens of Custer County, the Custer County CWMA and our Noxious Weed Department, the Custer County Board of County Commissioners submits the following comments relative to the above listed Draft EIS. As commissioners and landowners we are very concerned about the spread of noxious weeds and have established an aggressive program to halt the spread of these invasive plants through our Department of Noxious Weeds. It is with interest then that we have read the Salmon-Challis National Forest Noxious Weed Draft EIS.

We believe the proposed action to be the correct one. A plan that keeps all the tools (aerial and ground based herbicide applications plus mechanical, biological, and controlled grazing) and combinations of those tools available in the battle against invasive weeds allows for the most flexibility and opportunity to be innovative.

10.1

That being said, we do have some concerns. The draft plan outlines some very ambitious levels of weed control. Ramping up from 3371 acres of ground sprayed in 2001 to 60,000 to 80,000 acres per year will not be easy nor will it be inexpensive. We realize that not all these acres are slated for chemical treatment, however by your own admission, weed treatments prior to 1995 were "very limited in scope" (pg ES-5) at 586 acres or less. It has taken six years to get to 3371 acres plus a large infusion of one time "black moneys" or wildfire dollars. This draft does not address funding nor, as we have been told, is that its intention. However, funding is critical if any plan is to be successful.

10.2  
cont.

The phrase that concerns us most is defined as a "custodial action." Custodial action is determined to be necessary (and we quote) "if funding and staffing levels are inadequate for full implementation of the IWM program, treatment at a specific weed site may be deferred." This phrase is the weasel clause! In all the glory and planning laid out in this Draft EIS, this clause takes it all away! There is no COMMITMENT to controlling noxious weeds on the Salmon-Challis National Forest! If weed control is not a high

- 10.1** The FEIS analyzes yearly treatments up to 18,000 acres not 80,000 acres. The FEIS recognizes the uncertainty of annual funding in regard to weed treatment. The prioritization process, District weed treatment goals, and the site-specific implementation process take into consideration and are a means of addressing the uncertainties of funding.
- 10.2** All programs and activities on the Forest are subject to annual funding direction and potential limitations. Noxious and invasive weed control has been and will continue to be a top priority and a commitment on the S-CNF. If funding for this program becomes limited, the prioritization process, the site-specific implementation process, along with District weed treatment goals described in this FEIS, will be used to determine which sites are treated. See Section 2.C.2 of the FEIS.

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10.2 ↑ priority for the personnel located at the district and/or forest level, you have created a  
cont. | beautiful out—just implement a custodial action and do nothing!

By law (7 USCA § 2418) federal agencies are to develop programs to eradicate undesirable plants and “establish and adequately fund an undesirable plants management program through the agency’s budgetary process....” (Bottom of page 1-17-top of page 1-18) This law has been on the books since 1974. Two others, the 1998 *Forest Service Strategy for Noxious and Nonnative Invasive Plant Management* and the Presidential Executive Order #13211, further strengthens and further defines the FS role in noxious weed control.

The statement on page 1-5 was intended to draw attention to the rapid spread of noxious weeds and the need for action. We could not agree more about the need for action. And it does draw attention as well. When the acres of spotted knapweed on the North Fork District grow from approximately 1000 acres in 1987 to the 2001 level of more than 50,000 acres, how can we not question your commitment, even when you are required to do so by law?

10.3 | The Summary Description (pgs 1-12 thru 1-15) of the Proposed Action lays out a sound framework for the control of noxious weeds. A time line for action under the “adaptive management” section would help. How long does it take “to determine appropriate future actions?” The process is outlined as to the hows but not the when. If the time line is so cumbersome that action cannot be taken when a new invader is found, we may have missed our best chance of stopping its further spread beyond an initial plant or two.

10.4 | The chemicals listed for potential use to control weeds are rather exhaustive and lists most if not all the chemicals now commonly used in the battle against invasive species. No where can we see how new chemicals can be added to this list as they might become available. Do we have to wait for the next EIS before new chemicals can be added to this list? Biological treatments have a statement to the affect that “(n)ew, APHIS-approved biological controls may be substituted for current agents if more appropriate, or if current agents are no longer available or APHIS approved.” Such a statement needs to be included for chemical control as well.

10.5 | Although rather ambitious, limiting the amount of chemical treatment to 15,000 acres per year (pg 2-30) limits the ability to control invasive species. The author does state that some of the work after the initial year will be follow-up work. Most of the work being done in ensuing years could be follow-up. A better statement might be that no more than 15,000 acres of “new” ground will be treated using aerial or ground application.

10.6 ↓ Management Practices and Mitigation Measures (a.) number 6 page 2-42 needs to be  
cont. | more specific. As it now reads, all equipment is to be cleaned. We are fairly sure that the author only intends that spray equipment be subject to these requirements, but that is not clear. Further clarification is in order. A requirement that might limit the introduction of new invaders would be to require all equipment, whether it be for road

- 10.3** See Response 10.2. As you mention, the framework to address new infestations is sound. However, a timeline to take action actually limits the treatment options. Chapter 2 of the FEIS carefully outlines the treatment objectives and the circumstances that trigger a particular response. Manpower, size, location of infestation, target species, time of year, and other factors are all variables used to establish treatment goals and priorities. This strategy allows a quick and effective response to new infestations and non-native species. See also Response 9.47.
- 10.4** There is flexibility in the use of new chemicals providing they meet specific criteria and are EPA-approved. See Section 2.C.1.d of the FEIS.
- 10.5** Your suggestion is noted.
- 10.6** The mitigation mentioned does indeed refer to all vehicles working within an infestation site and is taken from the Region 4 Best Management Practices for weed prevention and management. See Appendix A of the FEIS.

Comment Letter No. 10

- 10.6 cont. ↑ building, fire, whatever be required to be cleaned before entering the S-CNF and/or moving within the forest.
- 10.7 The Management Practices and Mitigation Measures (a.) number 11 on pg 2-44 as it relates to no disturbance zones effectively eliminates any type of weed control in these areas. By not allowing entry into these areas from March through August, any opportunity to treat when most noxious weeds are vulnerable to treatment has been taken away. Most chemical treatments work best when the plants are young and actively growing. Biological agents forage during this time and are best transplanted during this time as well. Mechanical control is also limited to a timeframe when most plants have already set seed. Care should be taken to not disrupt the nesting sites, but to eliminate any opportunity for effective weed control may very well in itself be the undoing of the nesting sites through habitat degradation.
- 10.8 Management Practices and Mitigation Measures (b.), numbers 12 and 13 pages 2-44 and 2-45, place unrealistic restrictions on the use of chemicals. Restrictions for use next to water and in riparian areas have been researched in the development and licensing of the various chemicals. Placing further restrictions above and beyond the label is unnecessary and self-defeating.
- 10.9 Management Practices and Mitigation Measures (c.) numbers 18 and 19 pg 2-46 applies to all methods of treatment or to aerial application only? We would agree with the limits for aerial application but not for ground application for the reasons stated above.
- 10.10 Page 3-77 and elsewhere credits tourism with providing more than 600 jobs in Custer County, over 200 in Lemhi County and less than 50 in Butte County. Our studies would show something entirely different. The CLEM model in 1992 and an update for Custer County alone in 2000 has Custer County tourism employment numbers closer to 350. Although these numbers have no real bearing on this Draft EIS, it is important that you have them right. We would think the same error is true for both Butte and Lemhi counties, as well.
- As an aside—the study dealing with mechanical control of spotted knapweed on pg 4-95 attained minimal or no control using either mowing or hand pulling. For anything other than a few isolated plants, this type of control is not a viable option in the war against spotted knapweed.
- The inventory numbers and/or presence or absence of certain weeds does not necessarily agree with our inventories. Rather than discuss these differences here, we will work through the Custer County Coordinated Weed Management group to address these differences, as they have no bearing on the outcome of this Draft EIS.
- 10.11 cont. ↓ Education of the public is vital to and key to any successful weed control program. The mention of any type of educational program seems to be lacking in this Draft EIS. If the plan is to use the CWMA's associated with the S-CNF to conduct an educational program, that is great, but say so. The Draft EIS does allude to the fact that human

- 10.7** The existing Salmon and Challis Land and Resource Management Plans and the Bald Eagle Pacific Recovery Plan designate these buffers for the protection of these resources.
- 10.8** Buffer zones are applied to waterways and shallow water tables to reduce the risk of chemicals reaching water. This added safeguard beyond possible label instructions is valid and warranted for public land treatments and protection of public resources. See also Response 2.26.
- 10.9** Mitigation measures stated in Section 2.D.3.c apply to the Proposed Action specifically for the aerial application of chemicals. This has been clarified in the FEIS.
- 10.10** The figures shown are from the Idaho Department of Commerce as reported by Runyan et al. (1999). It is not surprising that figures from different sources would vary. The point being made is that tourism is an important factor in the local economy.
- 10.11** The roles of education, public awareness, and the cooperative association with the CWMAs are included in the IWM discussion in Section 1.A.2 of the FEIS. See also Response 9.32.

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10.11  
cont.

↑ activities are in part responsible for the spread of invasive species and suggests the elimination of some of those activities as a means to control or eliminate the spread of noxious weeds. A much better approach would be to enlighten the public of the threat that noxious weeds has on the environment they enjoy. You further suggest that visitors to the S-CNF tend to return year after year; their help could be invaluable. Another ally in the fight against noxious weeds is far better than a disgruntled public that has control of the purse strings.

10.12

One final concern deals with how this Draft EIS dovetails into other such management programs. Two areas, the Sawtooth National Recreational Area and the Frank Church Wilderness are not included in this plan. Both of these areas impact the S-CNF, especially Custer County. All our best efforts may go for naught if the weed problems associated with these areas are not a part of the overall grand plan. Cooperation and coordination with these two entities is crucial to this plans success. How or where do these areas fit into a true IWM program?

Thank you for the opportunity to comment. The plan lays out a very ambitious noxious weed program. We would like to see more of a commitment to the actual implementation of the program, but believe it is a step in the right direction. We reserve the right to make further comments as more information becomes available.

For the Citizens of Custer County,

*Lin J. Hintze* / *188*  
Lin Hintze, Chair  
Custer County Commissioners

**10.12** There is no formal direction provided in this FEIS linking other weed management programs across geographical or administrative boundaries. Continued coordination is important and best performed through cooperative efforts of the local and neighboring CWMAs and when planning and implementing specific treatment activities.

Comment Letter No. 11

\*\*\*\*\*  
----- Forwarded by William B Diage/R4/USDAFS on 01/16/2003 01:59 PM -----

Janna Brimmer  
<Janna.Brimmer@n  
oaa.gov>  
01/15/2003 05:12  
PM  
To: wdiage@fs.fed.us  
cc:  
Subject: Weeds DIES Comments

Over all, I didn't see anything in the DEIS that sent up flags, just a few minor things that will probably be easier to address at this stage. You've probably already planned to address most of these.

- 1) Page 1-5. 1.C.2. Previous Weed Management Efforts. Consider adding info from 2002 season.
- 2) Page 1-19. 1.G. Supporting Documents and Past Analysis. Add 2002 consultation.

- 11.1 | 3) Page 2-11. Chemical Treatment. My initial reaction was that the DEIS should only suggest use of herbicides we've consulted on for the SCNF.
- 11.2 | However, after making a few calls, I learned this can be extended to ones that the Forest Service has completed risk assessments on.

- 4) Page 2-42. Best Management and Mitigation Measures. Consider checking the 2002 Biological Opinion to make sure that all the Terms and Conditions and Reasonable & Prudent Measures have been captured.

Also, consider checking the Cottonwood BLM Biological Opinions to see that all the T & C's & RPM's in those for aerial spraying were captured [http://www.nwr.noaa.gov/lpublicat/2002/2002\\_noxious\\_weed\\_200200385\\_07-11-2002.pdf](http://www.nwr.noaa.gov/lpublicat/2002/2002_noxious_weed_200200385_07-11-2002.pdf)

11.3

- 5) Page 2-49. Figure 2-1. (also page ES-20) Needs to consider designated critical habitat for chinook salmon, sockeye salmon, and bull trout. Also needs to consider Essential Fish Habitat for chinook salmon.

- 6) Page 3-42. Snake River Steelhead. Critical habitat was administratively withdrawn April 30, 2002.

- 7) Page 3-43. Bull Trout. Critical Habitat has been proposed- it's in the public comment phase.

11.4

- 8) Page 3-79. Wild and Scenic Rivers. Last sentence implies that weeds have expanded on the FCRRW, which of course is true. Consider including a statement where the reader can find more info on the 'Church.

- 9) Page 4-8. First paragraph. Need to develop very specific criteria for when/where aerial application is appropriate. I don't know if it needs to be included in the final EIS, but we will need to consult on it.

Like I said, nothing earth-shattering. I would have liked to have given this a more thorough consideration, but I think this captures the high points. Please call or email if you have any questions- 756-6496. It's been good working with you-

11.5

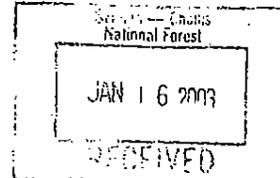
Cheers!

- 11.1** For purposes of consistency throughout the FEIS, the baseline described in Chapter 3, Affected Environment, has been established to reflect data obtained through 2001.
- 11.2** Your suggestion is noted. Previous Biological Assessments and consultation documentation are referenced in the Biological Assessment for the Proposed Action that was prepared for the USFWS and NMFS.
- 11.3** The mitigation measures in Section 2.D.3 of the FEIS are consistent with the 2002 Biological Assessment and Biological Opinion.
- 11.4** Chapter 3 in the FEIS has been revised to describe the occurrence and status of the referenced habitats on the S-CNF.
- 11.5** Section 2.D.2.b of the FEIS lists the criteria that will be used to evaluate the proposed aerial application sites. Map 2-3 has also been included in the FEIS depicting weed locations that meet the stated aerial application evaluation criteria.

Jan 21 03 02:17p

p. 1

To: Mr. William Diage,  
Planning Team, Ecologist  
Salmon-Challis National Forest  
USDA Forest Service  
50 Highway 93 South  
Salmon, Idaho 83467



From: Friends of the Bitterroot  
P.O. Box 442  
Hamilton, Montana 59840

Subject: Salmon-Challis National Forest Noxious Weed Management  
Program DEIS

Date: January 14, 2003

Dear Mr. Diage:

We appreciate the opportunity to comment on your Salmon-Challis National Forest Noxious Weed Management Program DEIS.

The weed DEIS developed four action alternatives; No Action (continue current program), Proposed Action, Alternative 1 and Alternative 2. (DEIS at 2-29 to 2-39)

The Proposed Action Alternative includes aerial spraying and "a maximum of 15,000 treatment acres per year of herbicide application" by ground and aerial methods (DEIS at 2-30).

Alternative 1 is essentially the same as the Proposed Action Alternative but does not include the "aerial application" of herbicides (DEIS at 2-38).

Alternative 2 proposes to use mechanical, biological, controlled grazing and combinations of treatments. No herbicide application would be used in this Alternative (DEIS at 2-39).

Friends of the Bitterroot (FOB) views noxious weeds as a major ecological threat to forest and rangeland, but we are equally concerned about the fate of herbicide residues in soil and water, as well as their effects on human health, on wildlife and on plant diversity and succession.

FOB supports an integrated approach to weed management on public lands, that emphasizes preventative measures aimed at minimizing or eliminating soil-disturbing activities that are known causes of weed introduction and spread, including ORV use, logging, and commercial livestock grazing.

In response to various noxious weed proposals by the USFS, Friends of the Bitterroot has developed an organizational position on this issue:

Principals of Noxious Weed Control on Public Lands  
Friends of the Bitterroot Organizational Position

12.1  
cont.

The stated purpose and goals of policies, plans, and programs should be to prevent further spread of invasive species, to prevent impacts from existing infestations, and to restore the land's resistance to exotic species.

- 12.1** The stated purpose and need of the project discussed in Sections 1.C.3 and 1.C.4 of the FEIS are consistent with this comment. The proposed noxious weed management program prepared specifically for the S-CNF and described in this FEIS has been prepared within the overarching framework and guidelines of existing U.S. Forest Service-wide policies, plans, and programs. This FEIS is not establishing National Forest policy, nor is it modifying existing Land and Resource Management Plans. Modification of existing S-CNF Land and Resource Management Plans through Forest Plan Revision is the appropriate process for addressing some of the visions and other resource management practices described in your comment and are well beyond the scope of this weed-focused FEIS. Those processes are the appropriate forum for working toward articulating things like 100-year visions, and discussing potential modifications of land use allocations that may contribute to the root causes of weed infestations on the forest such as logging, roads, ORVs, and livestock grazing.

12.1  
cont.

Policies, plans and programs should articulate a 100-year vision of how the public and the Forest Service wants National Forest lands to be, in terms of ecosystem health and invasive species, at a region-wide, landscape level.

This vision should detail what steps need to be taken to get there in project-planning, and thus, should "back-cast" from the desired long-range future condition.

Policies, plans and programs should examine the nature and causes of invasive species establishment and spread. Consideration should be given to all soil disturbing activities, which would include logging, road construction and reconstruction, regular and off-road motorized vehicle use, and livestock grazing. Such "root causes" should be clearly identified in policies, plans and programs with respect to their role in invasive species' spread.

Policies, plans and programs should focus equally on prevention, treatment, and restoration. The focus on prevention should result in a reduction in the root causes of species invasions.

Policies, plans and programs should identify damage thresholds, at the site-specific level, for restricting and prohibiting particular activities which contribute to the spread of invasive species.

Policies, plans and programs should direct National Forests to reduce their reliance on herbicides through prevention, reliance on natural processes and pre-project planning (e.g., not thinning beyond certain thresholds of canopy cover). Herbicides should be used only as a last resort and only in the context of prevention and restoration such that a treadmill of chemical treatments and re-treatments will not occur.

NEPA documents pertaining to new policies, plans and programs should have an alternative that focuses on prevention and restoration and involves restricting and prohibiting activities that are known to be causing weed invasions.

12.2  
cont.

Off-road vehicle (ORV) trails should be closed unless posted open. Motorized travel should be limited to designated travel routes. Cross-country motorized travel should not be allowed. If no monitoring or insufficient monitoring of invasive species infestations is occurring on ORV travel routes, then use should be curtailed. If enforcement of ORV travel is not occurring to insure that users are remaining on designated routes, then use should be curtailed.

ORV use should not be allowed in Wilderness areas, wilderness study areas, or roadless areas. There should be no distinction made between cars, trucks and ORVs, because there is essentially no difference in their on-the-ground impacts with respect to invasive species spread.

There should be no logging on sites with extensive invasive species' infestations.

There should be consideration of the value in retiring livestock allotments as they become vacated to prevent the spread of invasive species.

**12.2** The purpose of this FEIS is not to analyze or amend the existing land use allocations on the Forest. It is not amending the National Forest travel plans nor is it amending permitted livestock grazing, timber management, or authorized recreational activities. Modifications to permitted land use allocations are appropriate during Land and Resource Management Plan revision. The effects of these Forest uses and activities are addressed in the FEIS as potential vectors of weed infestation and spread. Their potential cumulative effects on Forest resources, together with those of proposed weed treatments, are assessed in Chapter 4 of the FEIS. See also Response 12.1.

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p.3

12.2  
cont.

↑ Livestock grazing should be restricted in areas infested with weeds, and prohibited in areas where prevention, control and restoration efforts have occurred.

The precautionary principle says, 'When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context the proponent of an activity, rather than the public, should bear the burden of proof. The process of applying the Precautionary Principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action.' Certainly, this method of protecting public interests should be incorporated into invasive species management.

The Development of the Precautionary Principle:  
The risk assessment procedures that have been used by government EIS analysts are beginning to give way to precautionary principles, as described by Montague, 1999.

Science has no way to analyze the effects of multiple exposures, and almost all modern humans are routinely subjected to multiple exposures: pesticides; automobile exhaust; dioxins in meat, fish and dairy products; prescription drugs; tobacco smoke; food additives; ultraviolet sunlight passing through the earth's damaged ozone shield; and so on. Determining the cumulative effect of these insults is a scientific impossibility; so most risk assessors simply exclude these inconvenient realities. But the resulting risk assessment is bogus.

Risk assessment is inherently an undemocratic process because most people cannot understand the data, the calculations, or the basis for the risk assessor's judgment.

Now after 20 years, the public is catching on, that risk assessment has been a failure and in many cases a scam. Rather than allowing citizens to reach agreement on what's best, it has provided a patina of "scientific objectivity" that powerful corporations have used to justify continued contamination of the environment. With a few rare exceptions (sulfur dioxide emissions, for example) dangerous discharges have increased geometrically during the period when risk assessment has been the dominant mode of decision-making. It is now obvious to most people that risk assessment is a key part of the problem, not an important part of any solution.

In place of risk assessment, a new paradigm is ripening: the principle of precautionary action. The precautionary principle acknowledges that we are ignorant about many important aspects of the environment and human health. It acknowledges scientific uncertainty and guides our actions in response to it.

The DEIS discusses Integrated Weed Management (IWM) at 2-8 to 2-16, but in fact the Proposed Action Alternative and Alternative 1 both rely mainly on herbicide spraying for the vast majority of the treated acres, (approximately 15,000 acres per year; DEIS at 2-38).

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p. 4

12.3 In reality, the S-CNF Weed LEIS refused to take a "hard look" at an alternative described as 'The Proactive Prevention Alternative', yet the DEIS (see ES-21), under issues #6 and #7, acknowledges they are a public concern, refers to the Proactive Prevention Alternative development, but then arbitrarily and capriciously dismisses full consideration and development of that alternative.

"The intent of the [Proactive Prevention Alternative] alternative is to address and take action on human activities that promote the spread of weeds, specifically, close roads, modify authorized livestock grazing permits, and alter existing timber, mining, and recreational OHV activities".

Instead, the DEIS claimed the 1987 S-CNF LRMP authorized those "uses", and then stated that "any modification of these authorized uses would require a forest plan amendment, necessitating additional public scoping and further NEPA analysis". (DEIS at 2-48)

12.4 We maintain the S-CNF weed plan DEIS did not consider a true "IWM" program (or alternative) because it essentially gives only lip service to controlling the human activities causes of weed spread, fails to really address the introduction and spread of noxious weeds, and then relies on herbicide ground and aerial application as the overwhelming method of control.

Some of the significant problems and dangers associated with aerial spraying of herbicides are discussed in the following by Dr. Ted Kerstetter.

12.5 Aerial Spraying - A Danger to You and to Wildlife:  
 Aerial spraying of herbicides cannot be justified because of the danger of prolonged exposure of wildlife and humans to the chemicals proposed for use. Mountain valleys, because of their topography, are exceptionally subject to atmospheric inversions, during which air is trapped in the valley for days or even weeks at a time. (Witness the smoke that filled the mountain valleys during the fires of 2000.) If spraying is done when inversions are occurring, spray drift will be trapped in valley air, and exposure of people and animals will be prolonged, even though the actual concentration of the chemical in the air may be small.

Since the toxic effect of a chemical is due to both time of exposure and dose, the impact can be serious and impossible to predict.

The EPA has been charged with the responsibility of developing test methods for the endocrine disrupting ability of pesticides, but the agency is no where near completing the process. A request for 20 million dollars in the FY 2002 budget to speed up the process was apparently not granted; the status of test development remains in limbo. Moreover, only a handful of pesticides have been tested, mostly by academic laboratories. Exposing the animal and human residents of the Bitterroot Valley to the suite of herbicides the BNF intends to spray, especially Tordon, is (consequently) an uncontrolled experiment, the results of which may not be known for years.

12.6 cont. The hormonal systems that moderate development of fetuses, e.g. estradiol, testosterone, thyroxine, MTH, and others, are exquisitely tuned to tiny amounts of hormone binding to the appropriate receptors.

- 12.3** The decision to dismiss the Proactive Prevention Alternative was neither arbitrary nor capricious. Section 2.E of the FEIS clearly states the rationale for its elimination from detailed analysis. See also Response 2.1.
- 12.4** Your opinion is noted. IWM principles and practices are incorporated into all alternatives.
- 12.5** A mitigation measure has been added to Section 2.D.3.c of the FEIS stating that aerial herbicide application will not occur during periods of inversion.
- 12.6** The herbicide descriptions in Chapter 2 and impact assessments in Sections 4.B.2 (Aquatic Resources), 4.B.3 (Wildlife Resources), and 4.D.1 (Human Health and Safety) in Chapter 4 of the FEIS have been revised to further reflect potential effects of herbicides. See also Responses 7.4 and 7.5.

12.6  
cont.

Endocrine disrupting chemicals (EDC's), which may include some or all of the herbicides proposed for use, interfere with control of fetal development by hormones; when this happens, birth defects or impaired functioning of organ systems (including the brain) in newborn babies and wildlife can result.

Many white-tailed deer in the Bitterroot Valley are showing evidence of genital abnormalities that have been recently documented in a scientific journal.

The herbicide of choice for aerial spraying, Tordon, is the organochlorine chemical picloram, combined with unknown "inert" ingredients which increase its toxicity. When picloram was considered for recertification in 1995, two branches of the EPA, Ecological Effects and Environmental Fate and Groundwater, recommended against its continued use.

The recommendations were not accepted. Consider the following (summarized in the Journal of Pesticide Reform fact-sheet on picloram):

1. Picloram is contaminated with the carcinogen hexachlorobenzene (HCB). HCB, in addition to causing a variety of cancers, also damages bones, blood in the immune system, and the endocrine system. Nursing infants and fetuses are particularly at risk.
2. Picloram is toxic to juvenile fish at concentrations less than 1 part per million. In Montana (near Sheridan), roadside spraying of Tordon killed 15,000 pounds of fish in a hatchery 1/4 mile downstream from the Tordon treatment.
3. Picloram is persistent and highly mobile in soil. It is widely found as a contaminant of groundwater and has also been found in streams and lakes. It is extremely toxic to plants, and drift and runoff from picloram treatments have caused startling damage to crops.

(Dr. Ted Kerstetter serves on the FOE steering committee and the HEAL team, and is a retired professor of physiology.)

12.7

The S-CNF Weed DEIS fails to adequately assess potential significant effects including cumulative effects from active ingredients, inert ingredients, adjuvants and breakdown compounds of the herbicide's formulation on threatened, endangered and sensitive species. It appears that the S-CNF managers do not actually know (or fail to disclose) what potentially adverse impacts could result from the selected action.

12.8

Active and inert ingredients of herbicides have the potential to cause significant harm to various wildlife rare species, especially amphibian species. Although a number of sensitive species have potential habitat in the S-CNF's DEIS project area, there has not been an adequate disclosure of the direct, indirect and cumulative impacts to these species from exposure to sub-lethal, chronic, sub-chronic or non-threshold doses of the full formulation herbicide mixture.

One of NEPA's primary requirements is to inform the public about the likely environmental effects of proposed agency actions, and alternatives to those actions.

**12.7** A full analysis is provided in Sections 4.B.1 (Vegetation Resources and Noxious Weeds), 4.B.2 (Aquatic Resources), 4.B.3 (Wildlife Resources), and 4.D.1 (Human Health and Safety). See also Responses 7.4, 7.5, and 9.50.

**12.8** See Responses 12.7 and 2.52.

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As the CEQ's NEPA regulations state: "NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before action is taken. . . . Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA." 40 C.F.R. 1500.1(b) (emphasis added).

NEPA and applicable regulations require that agencies disclose in EIS's the basic information necessary for informed decision making and public participation. See our *Ecosystems v. Clark*, 747 F.2d 1240, 1248-49 (9th Circuit 1984). Failure to include in an EIS information that is "important, significant, or essential" to decision making renders an EIS inadequate. See our *Ecosystems v. Clark*, 747 F.2d at 1244, n.5.

40 C.F.R. 1502.22 imposes three mandatory obligations on the agencies in the face of scientific uncertainty: (1) a duty to disclose the scientific uncertainty; (2) a duty to complete independent research and gather information if no adequate information exists (unless the costs are exorbitant or the means of obtaining the information are not known); and (3) a duty to evaluate the potential, reasonably foreseeable impacts in the absence of relevant information, using a four-step process.

NEPA requires specific steps in the face of uncertainty. The agency "cannot avoid NEPA responsibilities by cloaking itself in ignorance." *Fritiofson v. Alexander*, 772 F.2d 1225, 1244 (5th Cir. 1985). The existence of incomplete or unavailable scientific information concerning significant adverse environmental impacts triggers the requirements of 40 C.F.R. 1502.22. This provision requires the "disclosure and analysis of the costs of uncertainty [and] the costs of proceeding without more and better information." *Southern Oregon Citizens Against Toxic Sprays, Inc. v. Clark*, 720 F.2d 1475, 1478 (9th Cir. 1983). "On their face these regulations require an ordered process by an agency when it is proceeding in the face of uncertainty." See *Our Ecosystems v. Clark*, 747 F.2d 1240, 1244 (9th Cir. 1984).

Section 2(c), U.S.C. 1531(1) of the ESA requires that the Forest Service "shall seek to conserve endangered and threatened species and shall utilize their authority in furtherance of the purposes of this chapter." Similarly, section 7(a)(1), 16 U.S.C. 1536 (3) requires that federal agencies shall further the purposes of the ESA by "carrying out programs for the conservation of endangered and threatened species."

12.9

The DEIS fails to provide enough information regarding the ecological impacts of herbicides to allow the decision-maker to make an informed decision. In addition, it fails to adequately define the impacts that will result from the Noxious Weed Management Program. The information presented in the DEIS leads to more questions than answers and certainly fails to guarantee that the Noxious Weed Management Program will protect the listed fish species.

EPA fact sheets disclose that seven of the 12 listed herbicides were at least moderately toxic to fish while tests on amphibians had not been completed for most of the chemicals.

**12.9** See Responses 12.7, 9.26, and 9.50.

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- 12.10 | Nearly all of the herbicides being considered for use have not been tested for chronic effects to terrestrial species while others were deemed to be toxic to birds, insects, and humans. 2,4-D, Dicamba, Glyphosate, Imazapyr, Picloram, Sulfometron, and Pyridinecarb are all moderately to highly toxic to aquatic species. However in the S-CNF's DEIS discussion of direct impacts to fisheries, the Forest Service never actually discloses what the expected impacts on native fish and amphibian populations will be.
- 12.11 | Failing to discuss this important information fails to guarantee consistency with the NEPA's viability provisions and fails to uphold the Forest Service's responsibility under the ESA.
- 12.12 | With so much information missing regarding the impacts of herbicides on fish and amphibians the Forest Service has an obligation to either collect such information or delay the program until many of the important questions can be answered.

The full formulation of herbicides include both active ingredients, inert ingredients, and adjuvants, each of which may have significant effects on sensitive wildlife species within the proposed project area. Potential impacts to resident wildlife populations include not only death, but a variety of non-lethal effects that might hamper reproduction, migration, and other elements of affected species' life cycles.

- 12.13 cont. | The discussions provided in the S-CNF's Noxious Weed DEIS mainly focused on exposure to a lethal dose of the active ingredients, and basically ignores potentially significant impacts of inert ingredients. This failure to fully disclose and assess impacts of the proposed application of herbicides is not in compliance with the NEPA and the NFMA.
- There is essentially no meaningful mention of the potential for inert ingredients, additives and environmental factors to influence toxicity of the proposed herbicides. There was no discussion of the toxicity of individual inert ingredients, adjuvants or additives in the full formulation to fish and wildlife, nor was there an analysis of cumulative or synergistic effects from these substances on these species or on humans.
- Surfactants are added to certain herbicides. Surfactants may have significant effects on wildlife species including fish and amphibian species, but these effects were not adequately disclosed or analyzed.
- The DEIS apparently failed to address important scientific literature and failed to disclose that unassessed surfactants can be more toxic to many species than the active ingredient in a pesticide formulation.
- At no time are the effects from all chemicals in the full formulation of the full herbicide mix, including adjuvants, assessed, nor are any of the other potential forms of exposure assessed.



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12.13  
cont.

The herbicides being proposed are not being applied separately from any other chemicals. It appears that inert ingredients and adjuvants can be, and often are more toxic than the active ingredients and thus need to be fully disclosed and analyzed as to their potential for adverse impact.

The DEIS apparently failed to take a hard look at potentially significant cumulative effects from the active ingredients, inert ingredients, adjuvants and breakdown compounds of the herbicide's full formulation on potentially sensitive species.

The S-CNF's Weed DEIS, apparently without taking a hard look at the potential cumulative adverse impacts of herbicide spraying, then assures the public that the aquatic resources, species, surface water and groundwater will be fully protected by application of BMPs. (DEIS at 4-103, 105: 4-14) The DEIS acknowledges that "aerial spraying ... perhaps represents the greatest potential to expose aquatic organisms and amphibians to contaminants either through direct application or wind drift." (DEIS at 4-27) Again, the S-CNF DEIS maintains that BMPs would protect the aquatic resources, (4-28).

The DEIS states that, "the Forest Service (2001a) concluded that no synergistic effects from herbicide application would occur. This was because: 1) the EPA currently supports an additive model in predicting synergistic effects, ...". (DEIS at 4-30; see also L-19)

The DEIS's Programmatic Biological Evaluation (DEIS at L-1 to L-20) apparently presumes that adverse effects from weed infestations will cause more harm to sensitive and T&E species than the herbicides could potentially cause. The BE alleges that benefits from the reduction of noxious weed infestations through the Proposed Action Alternative "... would be especially important to salmonids with narrow habitat requirements ... such as westslope cutthroat trout, ... bull trout, and the Snake River steelhead, spring/summer chinook salmon, and sockeye salmon. Benefits from the Proposed Action could contribute to the recovery and well-being of those sensitive and protected fish species." (DEIS at L-17)

The BE goes on to say that application of BMPs and "application of herbicides in accordance with EPA registration label requirements and restrictions" will likely mitigate any potential problems.

12.14  
cont.

While the DEIS indicates that the ESA and EPA requirements will provide further safeguards for listed and sensitive species, the S-CNF Weed DEIS failed to disclose that a Federal District Court recently ruled that the EPA had violated the Endangered Species Act by failing to protect salmon from pesticides:

On July 2, 2002, the U.S. Federal District Court in Seattle ordered the U.S. Environmental Protection Agency (EPA) to take action to protect Pacific salmon from pesticides.

The court found the EPA has a legal obligation under the federal Endangered Species Act to review the impacts of pesticide use and curtail uses that are harmful to salmon. This process begins with a consultation between EPA and the National Marine Fisheries Service (NMFS), the expert U.S. salmon agency.

**12.14** During ESA consultation for the 2002 proposed weed treatments, the NMFS did not discuss this referenced court ruling nor did they prohibit the use of herbicides in weed treatments on the S-CNF in their concurrence on the Biological Assessment. The referenced federal court ruling is irrelevant in this FEIS. A Biological Assessment in connection with this FEIS has been prepared in consultation with the USFWS and NMFS. The Biological Assessment fully addresses and analyzes potential project effects on TES. Potential project effects on Forest Service sensitive species (which includes all MIS) are evaluated in the Biological Evaluation contained in Appendix L of the FEIS. The S-CNF consults routinely, and on an ongoing basis, on all actions on the Forest that could potentially affect Federally listed plant and animal species as required under the ESA.

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12.14  
cont.

The court decision, issued by Judge John Coughenour, called EPA's "wholesale non-compliance" with its Endangered Species Act obligations "patently unlawful."

Earthjustice represented the Northwest Coalition for Alternatives to Pesticides, Washington Toxics Coalition, and the commercial fishermen's organizations; Pacific Coast Federation of Fishermen's Associations and Institute for Fisheries Resources.

EPA's own documents find that current uses for several dozen pesticides are likely to result in surface water contamination levels that threaten fish or their habitat. Additionally, water monitoring by the US Geological Survey detected fourteen pesticides in salmon watersheds at concentrations at or above levels set to protect fish and other aquatic life. Combined, the EPA's findings and the US Geological Survey detections identified 55 pesticides that pose documented threats to salmon.

The Court found that "EPA's own reports document the potentially significant risks posed by registered pesticides to threatened and endangered salmonids and their habitat", and that "it is undisputed that EPA has not initiated, let alone completed, consultation with respect to the relevant 55 pesticide active ingredients."

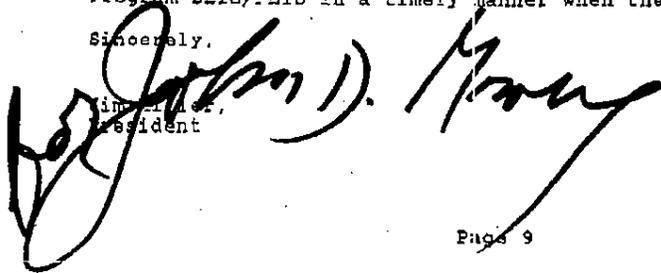
It is highly likely that the USDA Forest Service, the Regional Forester, and the S-CNF Supervisor were aware of the District Court's July 2002 ruling.

The DEIS elsewhere states that, "under the provisions of the ESA, federal agencies are directed to conserve endangered and threatened species, and to ensure that actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of any threatened or endangered species, or result in the destruction or adverse modification of their critical habitats." (DEIS at 5-3)

We maintain that, since a federal court has determined that the EPA had not complied with the ESA and had not consulted with the NMFS as required, the S-CNF cannot demonstrate or assure that there will be no adverse impacts to sensitive and ESA-listed species from the Proposed Action's herbicide spraying program. The EPA's own documents appear to fly in the face of the FS's bald assertion that the herbicides will have no effect on salmon.

Please continue us on your mailing list for this project and please send us any future documents for your S-CNF Noxious Weed Management Program DEIS/FEIS in a timely manner when they become available.

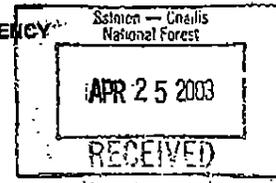
Sincerely,

  
John D. Macey  
President

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
 REGION 10  
 1200 Sixth Avenue  
 Seattle, WA 98101



APR 16 2003

Reply to  
 Attn of: ECO-088

Ref: 01-081-AFS

William Diage, Planning Team, Ecologist  
 USDA Forest Service  
 50 Highway 93 South  
 Salmon, Idaho 83467

Post-It Fax Note	7671	Date	# of pages
To	Jenni Y.	From	DIAGE
Co./Dept.	CH2	Co.	S-CNF
Phone #		Phone #	752-5562
Fax #	375-5310	Fax #	

Dear Mr. Diage:

The U.S. EPA has reviewed the draft environmental impact statement (DEIS) for the **Salmon-Challis National Forest (S-CNF) Noxious Weed Management Program (CEQ # 020458)**. We reviewed it according to our responsibility under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA).

Section 309, independent of NEPA, specifically directs the EPA to review and comment in writing on the environmental impacts associated with all major federal actions. For further explanation of our EIS review responsibility, please refer to the *EPA's Section 309 Review: The Clean Air Act and NEPA*.

The proposed action includes aerial and ground-based herbicide treatments, and mechanical, biological, controlled grazing and treatment combinations to eradicate, reduce and/or slow the spread of noxious weeds and invasive nonnative weeds on more than 66,000 acres on the S-CNF.

Based on our evaluation, we have rated this draft EIS, EC-2, Environmental Concerns - Insufficient Information. Enclosed is an explanation of the EPA rating system. This rating and a summary of our comments will be published in the *Federal Register*.

We believe the following issues should be addressed in the final EIS.

**Alternatives**

13.1

The DEIS eliminates the Proactive Prevention Alternative suggested in public comments though the draft states that the major causes of noxious weed infestations are the very actions which this alternative would address. The EPA disagrees that the need to do a forest plan amendment and a further NEPA analysis is a basis for eliminating further consideration of this alternative. The NEPA regulations require the consideration of a reasonable range of alternatives that would meet the stated purpose and need for the proposed action (CFR 40 1502.14 (a)).



**13.1** The Proactive Prevention Alternative was seriously considered for detailed analysis. The rationale for its dismissal is clearly explained in Section 2.E of the FEIS. See also Response 2.1.

13.2 The HPA also disagrees with the draft's conclusion that although human activities may contribute to the spread of noxious and ~~invasive~~ nonnative species, these activities are beyond the scope of this EIS. The project purpose includes, "Prevent or limit the spread of established weeds into areas containing little or no infestation." The Purposed Proactive Prevention Alternative would address this stated purpose. Therefore, consideration of this alternative appears to be within the scope of this NEPA analysis, and the FEIS should further evaluate and consider this alternative.

13.3 For all three alternatives, the DEIS shows that 18,000 acres a year would be treated. However, if the same acreage is treated under each option, the FEIS should discuss why one choice is expected to be more effective in reducing infestation than another.

**Herbicide Use**

13.4 The EIS should also discuss the effectiveness of herbicides used on weed seed pods, which can be viable for more than ten years. According to the DEIS, repeated herbicide application is necessary for a long period of time, greatly increasing the risk to the environment. The FEIS should explain the environmental impacts of using herbicides and/or livestock grazing as weed treatment options, the mixing of different chemicals, and the effectiveness of repeated applications.

13.5 According to the DEIS, herbicides have been used exclusively in the past, the FEIS should include a discussion regarding why the Forest Service proposes to continue to use herbicides when, according to the DEIS, weed infestation has significantly increased since 1965.

13.6 The FEIS should 1) provide a strategy for prevention and early detection of invasion, and 2) discuss control procedures for each species and a time frame to achieve these management goals.

To help prevent the spread of noxious weeds, we recommend the Forest Service:

- 13.7
1. Ensure that equipment tracks and tires are cleaned prior to transportation to a non infested site.
  2. Focus control efforts at trail heads and transportation corridors to prevent tracking of seed into un infested areas.
  3. Attempt to control the spread from one watershed to another to reduce the likelihood that water could transport seeds.
  4. Consider rerouting trails or roads around localized infestations to reduce available areas for spreading noxious weeds.

**Other Comments**

13.8 cont. According to the DEIS, there has been past monitoring on program implementation and measuring the effectiveness on target species. The results of the monitoring need to be included

- 13.2** The stated project purpose and need (see Section 1.C of the FEIS) are addressed in the concepts and implementation of Integrated Weed Management, in addition to the concurrent implementation of Best Management Practices and mitigation measures pertinent to individual Forest projects and authorized allocated Forest uses.
- 13.3** Tables 2-5, 2-6, and 4-8 compare and contrast the environmental impacts, effectiveness, efficiency, costs, and benefits of the alternatives, including the relative effectiveness of reducing weed infestations. The stated goals of the various alternatives also recognize the limitations and ineffectiveness among the alternatives.
- 13.4** Chapter 4 of the FEIS contains a full analysis of the various weed treatments proposed. Some herbicides (Tordon, Transline) have residual effects that have been effective on emergent seedlings. No herbicides are effective against ungerminated seeds. Follow-up treatments are often required to eradicate established infestations due to existing seed sources. No distinction is made between an initial treatment and a follow-up treatment. The mitigation measures (Section 2.D.3) and the site-specific implementation process (Section 2.C.6) are designed to minimize risk to the environment including sensitive resources. The effectiveness of applications will be evaluated through the implementation and effectiveness monitoring program described in Section 2.C.3 of the FEIS. The effects of mixing different chemicals were analyzed in models developed by the EPA and were found to be additive but not synergistic (see Section 4.B.2.b).
- 13.5** Past treatments have been effective where they have occurred (see Section 1.C.2 of the FEIS). The spread has outpaced the available treatment opportunities. This is reflected in the annual treatment of approximately 3,500 acres under the No Action Alternative, which represents existing conditions, as opposed to the annual treatment of 18,000 acres under a more effective weed management treatment program analyzed in this FEIS.
- 13.6** The S-CNF weed prevention strategy is included in Section 1.A.1, Integrated Weed Management, and in Appendix A: USDA Forest Service Region 4 Best Management Practices for Weed Prevention and Management of the FEIS. Control procedures for each species identified in this FEIS are described in Appendix C. Control strategies are included in the prioritization process and the site-specific implementation process. Management goals are described for each alternative and often for each Ranger District. Placing a timeline for these goals is unrealistic due to uncontrollable variables, such as funding, future rate of weed spread, treatment effectiveness, and District prioritization.
- 13.7** Your recommendations are noted. See Appendix A, Region 4 Best Management Practices.
- 13.8** See Sections 1.C.1 and 1.C.2 of the FEIS. See also Response 2.18.

13.8  
cont. ↑ in the FEIS.

13.9 EPA requirements for drift control should be disclosed as well as a monitoring plan to determine compliance with Forest Service drift control requirements and what impact helicopter downdraft has on chemical drift.

13.10 The FEIS should provide more information on uninventoried weeds such as how will these weeds be treated under the management objectives and the priority listing presented in Section 2.C.2 of the DEIS; how many acres there are in the S-CNF; the significance of uninventoried weeds to the Forest Service's overall objectives.

13.11 Appendix A addresses Best Management Practices for noxious weeds but doesn't mention invasive nonnative species. Do BMPs apply equally to both categories or are they limited to noxious weeds only? If so, Appendix A should be modified to include BMPs for invasive nonnative species. Would this modify the preferred alternative if it is not applicable to the non noxious weeds?

13.12 Please explain the difference between control and containment. Table 2-2 shows that weeds on more than 25 acres would be contained while weeds on five to 25 acres would be controlled.

13.13 We recommend the FEIS include a detailed, comparative discussion of the costs of various treatment methods, such as closing roads and changing grazing allotments. The final document should also disclose the cost of each alternative based on full funding and partial funding. These figures should be factored into the overall environmental impact analysis.

I apologize for the long delay of this letter. Thank you for your patience. If you have any questions regarding these comments, please contact me at (206) 553-6911 or Dan Robison, PE, (509) 353-2707.

Sincerely,



Judith Leckrone Lee, Manager  
Geographic Unit

Enclosures

- 13.9** As stated in Section 2.D.3.b in the discussion of management practices and mitigation measures, “All chemicals will be applied in accordance with EPA registration label requirements and restrictions.” Effectiveness monitoring to assess the effectiveness of buffer zones will be established (see Section 2.C.3 of the FEIS).
- 13.10** The process used to prioritize and treat new infestations is fully described in Section 2.C.6 Site-Specific Implementation Process.
- 13.11** For the purpose of this FEIS, the Region 4 Best Management Practices contained in Appendix A are applied to non-native invasive species as well as state and county designated noxious weeds.
- 13.12** The definitions of controlled and contained are included under the priority descriptions in Section 2.C.2 of the FEIS.
- 13.13** The estimated cost of each alternative is included in Tables 2-5 and 2-6 and Section 4.D.4 of the FEIS. Activities associated with authorized land use allocations are not addressed in this FEIS (see Section 2.E). The cost analysis is based on cost per acre regardless of full funding or partial funding.