United States
Department of
Agriculture

**Forest
Service**

Pacific
Southwest
Region

Volume 3

R5-MB-167D
August 2008

Noxious Weed Treatment Project

Final Environmental Impact Statement

Response to Comments and Letters – Volume 3

Modoc National Forest

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Volume 3 – Part 1 – Response to Comments

Introduction

The Draft Environmental Impact Statement was published and made available to the public for review from December 30, 2004 to February 14, 2005. During the 45-day comment period the Forest Service heard from 23 individuals who provided comments by phone, letter, fax or email (note: several individuals, organizations, or agencies submitted more than 1 letter). All comment letters were reviewed by the interdisciplinary team, although several were postmarked after February 14, 2005s. Those that did not file within the comment period do not have standing for appeal.

Commenters generally fit into one of two groups. One group raised concerns primarily focused on elimination of any use of herbicides and requested additional non herbicide treatment methods be considered. This group expressed a desire to see more information about the impacts in the FEIS regarding herbicide impacts to people, wildlife, soil, and water. They expressed concerns about the risk of use of herbicides and the adequacy of the analysis. The scope of the project to treat established weed infestation sites, and this group also wanted to expand the decision document to consider items outside the scope of the project including elimination of management activities such as timber, range, and road building activities. This group also wanted an analysis of the effectiveness of such non-ground disturbing integrated weed management activities as prevention, education, cooperation and coordination, inventory, and research.

Comments fitting into the other group focused on an aggressive treatment program that included additional herbicides and expanded adaptive management. This group also included some Commenters who also requested additional non-herbicide treatments. The Commenters in this group focused on information to improve the EIS and requested early treatment of current weed infestations.

Both groups pointed out errors and inconsistency in the DEIS.

The 23 comment submissions during the comment period are classified into the following categories.

Letter Classification	Number of Timely Letters
Within California	22
Other States	1
Groups or Organizations	5
Individuals	5
Local Governments	6
State Agencies	2
Federal Agencies	2
Tribal Governments	3
Total	23

Content Analysis Process

Content analysis is a method developed by a specialized Forest Service unit, the Content Analysis Team (CAT), for analyzing public comment. This method employs both qualitative and quantitative approaches. It is a systematic process designed to provide a mailing list of respondents, distinguish specific comments in each response, evaluate similar comments from

different responses, and from those identify specific concerns. Responses refer to single, whole submissions from respondents, e.g., letters, emails, faxes, presentations at public meetings, etc. Comments refer to identifiable expressions of concern made within responses. The process also provides a relational database capable of reporting various types of information while linking comments to original letters.

Through the content analysis process the interdisciplinary team strives to identify all relevant issues, not just those represented by the majority of respondents. Breadth and depth of comment are important. In addition to capturing relevant factual input, the process identifies the relative emotion and strength of public sentiment behind particular viewpoints. The intention is to represent the public's viewpoints and concerns as fairly as possible, and to present those concerns in such a way as to assist the team in effectively responding to them.

Although this analysis attempts to capture the full range of public issues and concerns, it should be used with caution. The respondents are self-selected; therefore their comments do not necessarily represent the sentiments of the entire population. However, the analysis does attempt to provide fair representation of the wide range of views submitted. In considering these views, it is important for the public to understand that this process makes no attempt to treat input as if it were a vote. In no way do the results of content analysis attempt to sway decision makers toward the will of any identifiable majority. What the content analysis process does is ensure that every comment is considered at some point in the decision process.

Response to comments

The responses to comments by the Modoc National Forest were handled in accordance with 40 CFR 1503.4. "An agency preparing a final environmental impact statement shall assess and consider comments both individually and collectively, and shall respond by one or more of the means listed below, stating its response in the final statement. Possible responses are to:

- Develop and evaluate Alternatives not previously given serious consideration by the agency.
- Supplement, improve, or modify its analyses
- Make factual corrections.
- Explain why the comments do not warrant further agency response citing the sources, authorities, or reasons which support the agency's position and, if appropriate, indicate those circumstances which would trigger agency reappraisal or further response."

Part 2 of this Volume Contains Letters and Comments Received

All of the substantive comments received on the draft statement have been duplicated and printed as in Part 2 of this volume.

In Volume 3, Part 2, Comments Received on DEIS is a table (Table V3-2: mail log) that lists the letter number, name of the individual, organization, agency, or tribe that submitted the letter; the purpose of the letter, and the page number of the first page of the letter.

Format of Response to Comments

The response-to-comment section groups individual comments by major resource area. Under each major resource area a short general public concern statement summarizes a single or group of similar comments. Specific comments/quotes taken from the letters are provided and include an identifier that ties the comment back to the original comment source. The identifier indicates

an individual, group, agency, or organization and its location, followed by the number of the letter. The identifier also includes a series of numbers used for database tracking. Finally, the Forest Response to the public comment is presented.

Adaptive Management (Early Detection – Rapid Response)

Public Concern: The Modoc National Forest should utilize adaptive management to learn something for next time.

Adaptive management - it means let's learn something for next time. Will find out when you monitor if you've had success or not. Depends on what month you monitor, though.... (Individual, Tucson, AZ - #39.3.11400.210)

Modoc Forest Response:

During development of the FEIS and finalizing the response to comments, the Modoc National Forest decided to clarify Adaptive Management to a narrower definition and insure that the program was in line with National, Regional and Forest Integrated Weed Management principles. Therefore, we have replaced the adaptive management discussions and program with what is more appropriately called an Early Detection and Rapid Response Strategy. This strategy will allow us to treat new occurrences of the identified noxious weeds, new species of noxious weeds, and expansion of identified sites with the methods that are within the effects analysis in this FEIS. These treatments will be consistent with the project Design Standards as disclosed in the FEIS (Chapter 2, Table 2-4).

In addition to Early Detection and Rapid Response, the Forest will also have a monitoring program, which will include implementation monitoring (whether the work was done) and effectiveness monitoring (whether the treatment worked). If, through monitoring, the Forest finds that a treatment is not effective, other treatment methods can be used.

Public Concern: The Modoc National Forest should use Early Detection – Rapid Response (adaptive management) for using new chemicals when they become available.

The Forest Service's Preferred Alternative #4 best represents an Integrated Weed Management (IWM) approach, with the inclusion of cultural methods (seeding) in addition to physical and chemical methods. Alternative #4 is also the only Alternative that includes an adaptive management strategy. EPA agrees that, of the presented Alternatives, Alternative 4 is environmentally preferred. We support an IWM approach and encourage the Forest Service to more fully implement IWM, which emphasizes the integration and coordination of weed control techniques. (Federal Agency or Official, San Francisco, CA - #19.3.24400.370)

I am writing to lend the California Department of Food and Agriculture, Noxious Weeds Program's support towards Alternative 4, the Agency's preferred Alternative with adaptive management. The Modoc National Forest is to be congratulated on including this Alternative, as it is the only Alternative that will successfully allow noxious weeds to be eradicated in the forest. Alternatives 1, 2 and 3 are simply not adequate to address the level of noxious weed infestations found in the Modoc National Forest. (State Agency or Official, Sacramento, CA - #28.1.24400.371)

To this we would add our concerns to those of the Modoc County Board of Supervisors that the plan should provide for the possible use of new herbicides in the future as they may become available and appropriate. It is our hope that this document can provide for the eventualities of the future as well as today. (Agriculture Industry, Cedarville, CA - #43.2.11400.371)

We advocate for long-term adaptive management using a flexible approach while maximizing efficiency only when toxic chemicals are not part of the equation. (Public Interest Group/Political Party, Eureka, CA - #33.79.11400.371)

The flexibility afforded by the adaptive management program should be balanced with the need for additional impact analysis and public disclosure. Recommendation: Identify what mechanism will be used for impact analysis and public disclosure should the adaptive management strategy lead to the application of new herbicides that have not been analyzed in this NEPA document. Limit use of new herbicides to only those registered by the EPA and State of California and approved for the intended use. (Federal Agency or Official, San Francisco, CA - #19.27.11400.380)

Another general observation regarding the discussion of chemical herbicides is an appendix could be added that describes to the general public why one herbicide might be chosen over another in the treatment of a specific weed. Adaptive Management is to be adopted, which CNPS appreciates, but there is no discussion of what herbicide will be used , if any, if a new population of a species of concern is located in or adjacent to a treatment area. (Preservation/Conservation Organization, Sacramento, CA - #29.6.33210.371)

It is environmentally sound to have the ability to move to a new chemical when available. Almost with fail, new chemicals allow for either lower rates or fewer applications. They are more effective, occasionally less expensive and regularly more environmentally friendly than those herbicides they replace. The opportunity to maintain or increase effective treatment results while enhancing environmental protection is one our members choose on a daily basis. (Agriculture Industry, Alturas, CA - #37.5.33210.830)

We also encourage the US Forest Service to utilize any new herbicide(s) or other treatment technology (Issue 3) that causes weeds to be treated effectively and cheaply without causing harm to the environment (Issue 4) or people (Issue 1 and 2) that use the forest system. (Regional or Other Governmental Entity, Alturas, CA - #6.5.11400.371)

Forest Supervisor Silva explained to the County that this was to be a living, evolving document utilizing adaptive management in order to adapt to changing conditions and knowledge. The County believes this to be essential in the case of the treatment of noxious weeds where the places of infestation, the knowledge of treatment options and the science of herbicide formulation can change rapidly. (County Agency or Official, Alturas, CA - #17.2.11400.371)

Nowhere in the adaptive management section (Appendix I, pages 341 and 342) is it clearly stated that adaptive management can be used to select new and better chemicals to treat noxious weeds. Given the reluctance of some interested publics to approve chemical use, the opportunity to choose new chemicals when they become available could be critical. The history of herbicide use shows that newer chemicals can often be used at lower rates, require fewer applications and can overall be friendlier to the environment.

If the intent is to allow adaptive management to be used in this effective way and the County certainly hopes that is the case, then the County believes it is important to clearly state that intent. That way there will be no misunderstanding several years into the program when a new forest supervisor and forest botanist are in place. (County Agency or Official, Alturas, CA - #17.3.11400.160)

(We) strongly urge the inclusion of language that clearly allows for the use of future generations or improved herbicides as they become available. (Agriculture Industry, Alturas, CA - #37.9.11400.001)

It should be well within the capability of this document to develop an efficient and practical process for accessing improved chemicals as they become available. Given the torturous path the development of this document has taken, constructing an amendment to solve this issue does not appear to be an attractive Alternative. (County Agency or Official, Alturas, CA - #17.4.11400.190)

Our members have been told at DEIS presentations that this document allows for the use of appropriate new chemicals as they become available and are properly labeled and registered. Forest staff has said that the adaptive management strategy displayed in the document will allow for this to happen. Modoc County Farm Bureau's concern is that the adaptive management section in the DEIS Appendix I does not really say new chemicals can be used. It clearly mentions adaptive management may be used to treat new infestations that may occur and that treatments other than what was originally prescribed could take place. Nowhere does it clearly state that new approved chemicals can be applied. Modoc County Farm Bureau believes that given the regular turnover in Forest personnel, the document needs to be crystal clear on this very important issue. If Forest staff misspoke and it not the Forest's intention that this document allow for the use of future appropriately approved chemicals, we believe that to be a grave omission. We believe this flexibility is essential if this document is to have longevity that the Forest claims is the goal. We strongly encourage the ability to adapt new chemicals be clearly stated in the document. (Agriculture Industry, Alturas, CA - #37.3.11400.210)

Modoc Forest Response:

To insure compliance with Forest Service Policy and to insure public involvement in future decisions on new treatment methods, the FEIS displays an Early Detection – Rapid Response approach. Early Detection – Rapid Response will include use of only those methods and herbicides displayed in the FEIS on sites that would have the same effects as disclosed in the FEIS.

Herbicides other than those analyzed in this FEIS may be used provided the effects are within those displayed in the FEIS and the herbicides provide for the use of less active ingredients. (Alternative 6)

Public Concern: The Modoc National Forest should utilize NEPA analysis, and not an adaptive management process, to respond to expanding or new infestation sites.

Further, Alternative 4 allows "for treatment of expanding populations in current or newly discovered sites through adaptive management opportunities." (pg iv) This final embellishment would allow the Forest to treat new sites with no attempt at analysis of those sites! (Public Interest Group/Political Party, Eureka, CA - #33.15.24400.210)

Modoc Forest Response:

Early Detection – Rapid Response is critical for an effective management program and is called for in the National, Regional, and Forest Integrated Weed Management Strategies. Using methods and herbicides analyzed in the FEIS to

treat new or expanding infestations as they develop rather than taking on an additional one or multiple-year analysis to pull or herbicide treat small isolated new sites, does not meet the need for proactive management. Surveys and appropriate review will be completed prior to implementation of any activities annually, and a determination that the effects are within those displayed in the FEIS. See the FEIS, Chapter 2, Early Detection – Rapid Response, for a discussion of implementation of the Early Detection – Rapid Response strategy.

Public Concern: The Modoc National Forest should make provision for further NEPA analysis, should new information or changed circumstances necessitate it.

In addition to providing "the opportunity to treat sites of the identified species that have developed or expanded using the same treatments as outlined in this environmental impact statement," Adaptive Management will allow "adopting these methods based on new guidance received from other agencies or adopting information from the California Invasive Plant Council or recognized scientific groups. Various combinations of the methods will be utilized depending on new information of changed circumstances." (p. 20-21, emphasis added) Still, despite admitting there will be "new guidance," "new information" and "changed circumstances," the Forest makes no provision for further NEPA analysis. (Public Interest Group/Political Party, Eureka, CA - #33.15.24400.210)

Modoc Forest Response:

During planning of the annual work plan, if new information, changed environmental circumstances, and/or new guidance results in the proposed treatments to have environmental effects outside of those disclosed in this FEIS, then additional analysis will be conducted in accordance with NEPA and Forest Service policy.

Public Concern: The Modoc National Forest should implement Alternative 4 with a more aggressive Early Detection – Rapid Response (adaptive management) program.

Alternative 4 wisely describes the use of an integrated pest management strategy allowing for the use of the best tools for each site-specific weed infestation. Alternative 4 also realistically acknowledges that noxious weeds do not recognize boundaries and allows for adaptive management to most efficiently eradicate new infestations in the forest as they occur, in a timely manner. Without adaptive management, eradication of noxious weeds in the forest will be impossible. Alternative 4 is also the only Alternative that realistically recognizes the true timeframe, a minimum of ten years that will be required to make headway towards the eradication of noxious weeds in the forest. (State Agency or Official, Sacramento, CA - #28.2.24400.371)

The County supports the Preferred Alternative, Alternative 4, and strongly urges your consideration of the adaptive management question previously discussed. (County Agency or Official, Alturas, CA - #17.7.24400.371)

Modoc Forest Response:

We agree that an Early Detection – Rapid Response approach is the best method for the eradication or control of new noxious weeds infestations or species. It is also recognized that the eradication and control of noxious weeds may take a long

time. For these reasons and because of public comment, Alternatives 5 and 6 have been added in the FEIS and include an Early Detection – Rapid Response component with a ten-year time frame for implementation. All Alternatives will be considered equally by the decision maker.

Early Detection – Rapid Response will include use of those methods (and herbicides) displayed in the FEIS on sites that would have the same effects as disclosed in the FEIS.

Under Alternative 6 use of additional herbicides may be used if the risks and environmental impacts are less than those displayed in the FEIS.

Air Quality

Public Concern: The Modoc National Forest should disclose the effects of herbicide volatilization caused by fire.

Another alarming issue about glyphosate is the acute toxicity of the fumes from the chemical if they are volatized. Volatization could occur through prescribed fire, an escaped campfire, or any other wildfire situation if the fire produced enough heat to cause decomposition of the chemical. According to lab studies, when heated to decomposition, glyphosate emits very toxic fumes of nitrogen oxides and phosphorus oxides (Sax and Lewis 1989). How is the MNF able to ensure that the areas where herbicides are applied will not also be subjected to enough heat that noxious toxic fumes will not endanger firefighters, the community, the terrestrial, air, and aquatic environment? (Preservation/Conservation Organization, Somes Bar, CA - #40.28.33211.252)

Modoc Forest Response:

Products of combustion of wood and vegetation include particulate matter, oxides of nitrogen, carbon monoxide, and volatile organic compounds (VOCs). Other constituents of smoke include toxins such as benzene and formaldehyde, which are recognized as hazardous air pollutants by EPA and are carcinogenic (HFQLG SFEIS, page 285).

Degradation over time would reduce the amount of glyphosate, reducing the potential amount of products produced. Glyphosate residues on plants were reduced 90 percent after 6-7 months, and 99 percent after 10 months (Segawa et al. 2001). Additionally, not all of the herbicide would be converted to one product, further reducing potential exposure.

Based on very conservative assumptions (no degradation of herbicide, the entire amount of herbicide is converted to each possible product) phosphoric acid intake by firefighters at the maximum rate on this project is estimated at 0.08 mg/cubic meter (based on 0.02 mg/cubic meter per pound of glyphosate/acre (Dost)). This is a factor of 13 below the OSHA permissible exposure limit of 1 mg/cubic meter. Potential exposure to non-firefighters and terrestrial and aquatic environments would be reduced with distance from a fire, as smoke is diluted with air.

The potential effects of combustion products are common to all risk assessments of materials that might be subject to burning. The combustion products of burning wood and vegetation are respiratory irritants as well as carcinogens, and exposure to these combustion products should be avoided. There is no basis for believing

that the presence of low or even high levels of glyphosate residues will have a significant impact on this hazard (Dost 1982).

Public Concern: The Modoc National Forest should consider that the inert ingredients of glyphosate and hexazinone have on depleting stratospheric ozone.

Glyphosate and hexazinone are inert ingredients. Many inert substances are considered to deplete stratospheric ozone. (Preservation/Conservation Organization, Somes Bar, CA - #40.22.33210.250)

Modoc Forest Response:

Glyphosate and hexazinone are active ingredients in herbicide formulations, not inert ingredients. In the FEIS, hexazinone is not proposed for use in any of the Alternatives. None of the inert ingredients known to be included in any of the herbicide formulations is known to cause ozone depletion. Inert substances are discussed in the FEIS in the Human Health Section of Chapter 3 of the FEIS, and in Appendix F.

Aerial Spraying

Public Concern: The Modoc National Forest should not use aerial spraying to treat noxious weeds.

We strongly support that aerial spraying is eliminated from consideration as a viable Alternative treatment option. The aerial application of herbicides over wide areas is supercilious and irresponsible. The non-specific use of herbicides reduces the likelihood for success. It does however permit the herbicide to adversely impact a variety of sensitive non-target species of plants and wildlife as well as humans. Widespread aerial application of herbicides may also result in air, water, and soil contamination, which could potentially impact Modoc County residents, the project area, and adjacent wildland systems for years. (Public Interest Group/Political Party, Eureka, CA - #33.65.33210.380)

Modoc Forest Response:

The FEIS considered aerial spraying and did not carry it forward for detailed analysis. Approximately 98% of the sites are too small for effective use of aerial spraying. The sites that may be appropriate for aerial spraying would require a separate, site-specific environmental analysis. They may be evaluated in the future. Aerial spraying was dropped from the 1998 proposed action as a result of public comment and analysis of the feasibility of its use for the known sites.

Alternatives

Public Concern: The Modoc National Forest should consider Alternatives that contain non-herbicidal as well as herbicidal treatment methods.

Alternatives are too restrictive. The DEIS fails to consider Alternative treatments in keeping with an IPM approach. In particular, treatments that could take the place of chemical herbicides are not adequately considered, such as the use of propane blow torch spot killing, or infrared heat wands, which are used by many organic farmers. These methods are often less expensive than herbicide spraying. The DEIS alternatives are too black-and-white, and

there is no in-between alternative that would allow for use of less toxic methods first on sites slated for chemical herbicide treatments. We ask that this provision be included in the Final EIS. (Tribal Agency or Official, Burney, CA - #34.9.24000.210)

The Forest repeatedly throughout the DEIS provides an inadequate description of the alternatives. By doing so, the Forest skews the analysis to improperly support its conclusion. NEPA requires that the alternatives be objectively evaluated. The Forest also fails to provide a reasonable range of alternatives. By disregarding the literature (see citations later in this comment letter), the DEIS is lacking reasonable and feasible alternatives that must be included as part of the possible effective treatment methods. (Public Interest Group/Political Party, Eureka, CA - #33.45.23100.210)

Again, the Forest is providing an inadequate range of and description of alternatives in an attempt to skew the analysis to improperly support its preferred alternative. (Public Interest Group/Political Party, Eureka, CA - #33.51.24400.210)

Our first problem with the alternatives is that none of the 4 considered alternatives include a full spectrum on Integrated Weed Management techniques. The Alternatives propose either chemical and physical or just physical (with some mention of cultural as a subset of physical), yet fail to provide an integrated multi-technique non-chemical alternative (p.19-21). Alternatives 2 (the proposed action) and 4 (the preferred alternative) are the only ones that receive a reasonable discussion and evaluation, yet they also are the ones that involve the greatest associated risks to the environmental resources this project is trying to protect and maintain. NEPA requires a balanced and objective analysis of all alternatives. (Public Interest Group/Political Party, Eureka, CA - #33.38.23100.210)

The DEIS should contain a comparison of a reasonable range of feasible alternatives, and it does not. It should objectively evaluate potential treatment methods, based on what has been proven successful before and is repeatedly included as management options within the literature (see methods discussion later in comment letter), and it does not. It should provide an accurate and unbiased comparison of the effectiveness of treatment methods, supported by weed experts, and it does not. Making the claim that the weed invasion will continue uninhibited and at the same rate as doing nothing without the use of herbicides, is not true; is not supported by the literature, and is not an acceptable disclosure of information as required by NEPA. (Public Interest Group/Political Party, Eureka, CA - #33.54.23100.210)

An alternative should have been developed that emphasizes non-toxic methods of control, while not completely foregoing herbicides. Other methods of control should have been included in this alternative, such as the use of propane blow torch spot killing, or infrared heat wands. These are highly effective weed control methods used by many organic growers. For small infestations, like the yellow starthistle sites, this is very plausible. It is less labor intensive than backpack herbicide spraying. It is also less expensive than chemicals. The Forest Service could invest in several of these units, and then they would be on hand whenever needed for spot treatments. This technique can also be used for any of the large biennial or perennial thistles. They can be cut back to the ground, and then the torch applied to the crown. Once the crown is killed, the plant cannot sprout back. The "least toxic alternative" could emphasize non-toxic methods of control wherever feasible, while still allowing judicious uses of the least toxic herbicide, glyphosate. The range of alternatives is too narrow. By narrowing the alternatives to "no action" (Alt. 1), "no herbicides" (Alt. 3) and "the full range of chemicals"(Alt. 2 and 4), a bias is automatically in place to force the decision maker to choose the alternative that permits the use of chemicals that are

inappropriate. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.16.23100.371)

Modify the Preferred Alternative to include a greater variety of treatment methods available to the Forest Botanist. Including more treatment options provides more flexibility for choosing the most appropriate control, depending on the level of infestation and growth form of the plant, and is consistent with an integrated weed management approach. (Federal Agency or Official, San Francisco, CA - #19.7.24400.371)

The Forest needs to address the DEIS's lack of a reasonable range of alternatives. Alternatives 2 and 3 are the same; just Alternative 3 is without herbicide use (p.19-20). Why is there only one no pesticide use alternative? Why aren't several different approaches and techniques evaluated in a no pesticide alternative? At a minimum an Alternative 5 should exist, that mirrors Alternative 4's long-term adaptive management opportunities, and includes no pesticide use, which could obviate the need for project level EAs. The lone no pesticide alternative (#3) is treated throughout the DEIS as the ugly stepsister, never given a fair evaluation. All alternatives need to be objectively evaluated, without the biased presentation given forthcoming in the DEIS. (Public Interest Group/Political Party, Eureka, CA - #33.46.23300.210)

The Forest has an obligation to the public and the land and natural resources it is entrusted with to complete a full evaluation of all alternatives. (Public Interest Group/Political Party, Eureka, CA - #33.147.24000.060)

Many of the statements supporting the wide spread and frequent use of herbicides in the document appear biased, and misleading, as well as unsubstantiated and conclusory. A full range of feasible alternatives has not been completely evaluated and or thoroughly exhausted. Long-term Integrated Pest Management (IPM) techniques were not fully or adequately considered. (Public Interest Group/Political Party, Eureka, CA - #33.2.23100.370)

Modoc Forest Response:

As a result of public comment, additional treatment methods were analyzed in Alternatives 5 and 6. The FEIS section on "Alternatives and Treatment Methods Considered but Eliminated from Detailed Study" in Chapter 2 has been expanded to better explain why some treatment methods are not considered in detail in the FEIS.

The range of Alternatives in the DEIS consisted of the following: (1) Alternative 1, the no-action Alternative; (2) Alternative 2, the proposed action, which includes areas of hand treatments, herbicide use, and areas of hand treatments combined with herbicide use; (3) Alternative 3, a hand-treatment Alternative; (4) Alternative 4, the Proposed Action, with modifications for length of time, Early Detection – Rapid Response, and other recommendations from scoping.

The FEIS contains two additional Alternatives: (5) Alternative 5 expands on the non-herbicidal methods and includes Early Detection – Rapid Response; (6) Alternative 6 expands on both the non-herbicide and herbicide methods. These new Alternatives were designed after receiving public input (written comments and public meetings). The Forest Service held meetings and phone calls with those who provided substantive comments on the DEIS to insure that development of Alternatives 5 and 6 responded to the concerns expressed during the comment period.

Hand, mechanical and other physical treatment methods do not negate the need for site-specific analysis as required by NEPA. These methods require the same level of analysis as do herbicidal treatments; the required analysis is contained in this FEIS.

The FEIS evaluates those ground-disturbing IPM techniques that can eliminate or reduce existing weed infestations or infestations that become established. The FEIS does not evaluate existing prevention, coordination and cooperation, inventory or other non-ground disturbing IPM techniques associated with noxious weeds.

Public Concern: The Modoc National Forest should not use dangerous chemicals to control noxious weeds.

We are opposed to the use of dangerous chemicals on the forest to control noxious weeds. We believe that other alternatives were not given proper analysis under NEPA and that the one non Chemical Alternative was written off with no scientific justification, even though hand pulling, along with burning and mulching have been more successful then (sic) chemicals in numerous examples in California. Furthermore, Alternatives 2 and 3, the most dangerous an illegal proposals, are the only alternatives seriously analyzed. One of these alternatives call for and unspecified amount of spraying over a 10-year period with no specific acreage disclosed. (Preservation/Conservation Organization, Somes Bar, CA - #40.3.24000.210)

Modoc Forest Response:

All the herbicides proposed for use in this FEIS are approved by the United States Environmental Protection Agency, and have been approved for use in the State of California by the Department of Pesticide Regulation. The use of these chemicals will be in accordance with US EPA-approved label directions. The FEIS provides for the safe application of herbicides in limited quantities (See tables 2-14 through 2-15 Chapter 2 of the FEIS for application rates).

All Alternatives in the FEIS are developed and analyzed equally. Alternative 3, which only includes physical treatment methods, is evaluated to the same level as the other Alternatives. Potential treatment acres have been clarified for all Alternatives; they are shown in Chapter 2, table 2-11 of the FEIS, and in Appendix B. The FEIS does not provide for an unspecified amount of spraying. In the FEIS, the amount of additional acres to be treated under Early Detection – Rapid Response was capped at 100 acres per year. Of these, Project Design Standards would limit which of these acres could potentially be treated with herbicides.

Public Concern: The Modoc National Forest should treat all known noxious weed or invasive species infestations.

With the no treatment policy over the past two years, every effort should be made to treat all known infested areas and sites, now. (Domestic Livestock Industry, Adin, CA - #31.2.24000.370)

To achieve effectiveness, all Programs/Projects can not just manage a single species of prioritized invasive species. A full community of invasive species needs to be managed simultaneously. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.10.33100.371)

Modoc Forest Response:

The purpose and need of the DEIS and FEIS identifies treating 14 species of noxious weeds. The 14 species to be treated are those that were identified as the highest priority, with the greatest potential for successful treatment in the long run. New noxious weed species will be treated through the Early Detection – Rapid Response Strategy, provided the treatments are within the environmental effects disclosed in this FEIS, and treatments are within the framework of the ROD. While the Forest Service recognizes the need to treat and eradicate all noxious weeds and invasive species, priorities must be established and work accomplished within funding opportunities.

The Forest Service hopes to begin implementing the chosen Alternative for Noxious Weed control immediately following this planning process. The Forest objective is to treat all noxious weed occurrences as soon as possible; however, based on funding levels, treatment will be prioritized annually as described in the FEIS. Alternatives 1 through 4 analyze the effects of attempting to treat all current infestations; Alternatives 5 and 6 reflect the probable implementation expected within anticipated funding levels.

Public Concern: The Modoc National Forest should not implement Alternatives 1 or 3.

The County opposes Alternatives 1 and 3 as they will not accomplish the necessary treatment goals and are in direct conflict with local land use planning. (County Agency or Official, Alturas, CA - #17.5.24000.190)

In summary MCFB opposes Alternatives 1 and 3. Neither of these alternatives will be effective in stemming the tide or the increasing populations of noxious weeds on the Forest. We also oppose Alternative 2 because it is too passive in addressing the burgeoning noxious weed problem. (Agriculture Industry, Alturas, CA - #37.7.24000.380)

Modoc Forest Response:

Alternative 1, the No-Action Alternative, is required to be evaluated by law, and is used as a baseline to assess the proposed action and other action Alternatives. Alternative 3 was developed in response to public comment, which requested a no-herbicide treatment Alternative. The FEIS developed an expanded no-herbicide treatment (Alternative 5) in response to other comments on the DEIS. In response to the comments from Modoc County, the Forest also expanded the options under the fully integrated weed management program to include an additional herbicide and two distinct herbicide mixes (Alternative 6). All action Alternatives are analyzed in depth and address the project's purpose and need. There has been no pre-determination of which Alternative will be selected. The FEIS analyzes each Alternative to the same level as the other Alternatives. Alternative 2 is the original Proposed Action.

Public Concern: The Modoc National Forest should treat noxious weeds with a longer timeframe.

Using your numbers, if the low numbers of acres, 300, were treated each year it would take 29 years to cover and treat the current population of noxious weeds. If the number of acres treated on the high side, 1500 acres, were treated, it would take almost six years to cover and

treat the current population of noxious weeds. The length and scope of this proposed project could very possibly not even be large enough to cover and treat the current issue. This project and its scope need to be extended out to a minimum of forty years and a minimum of 8700 acres treated annually. The acreage of infestation and variety of species of noxious weeds are not diminishing. With the vastness, inaccessibility, and geography of our national forest many sites go unnoticed and untreated for several years. This is a compounding and serious problem that should not be overlooked. (Domestic Livestock Industry, Adin, CA - #31.6.21100.371)

Modoc Forest Response:

Forest Service policy generally provides for a 5- to10-year time frame for implementing an activity based on a NEPA decision. Once the ROD is signed and as the project is implemented over this time period, and as new information is encountered, an evaluation of the new information will be conducted as per FSH 1909.15. This means that we will review the new information against the existing environmental documentation to determine if the environmental analysis and documentation adequately considers the new information already, or should be corrected, supplemented, or revised. Treatment under the decision made on this EIS may continue beyond the 10 year analysis timeframe as long as the effects of treatment are within those analyzed in the FEIS.

The Alternatives added in the FEIS (Alternatives 5 and 6) provide the decision maker with additional treatment scenarios (number of acres treated, methods available) to effectively meet the Purpose and Need of the project, which is to eradicate or control the spread of 14 noxious weed species.

Alternatives 5 and 6 were added to the FEIS to evaluate the possibility that large infestations may not be able to be eradicated during the next 10 years without aerial or broadcast spraying, very large volunteer workforces, or budgets that are larger than the can reasonably be expected.

Public Concern: The Modoc National Forest would not meet the stated purpose or objectives of effectively and efficiently eradicating and or controlling their noxious weed problems.

The Forest proposed to treat “about 1500 acres per year over a period of about 5 years” (p.7). This would mean that about 7,500 acres total would be treated in the lifespan of the project. There were 8,676 acres in need of immediate treatment as of 2002 and that acreage has the most likely grown to this point. Treating less than 20% of the problem per year will not allow the Forest to meet their stated purpose or objectives of effectively and efficiently eradicating and or controlling their noxious weed problems. (Public Interest Group/Political Party, Eureka, CA-#33.19.20000.371)

Modoc Forest Response:

There are 6,908 gross acres of the 14 identified noxious weed species on 541 inventoried sites. Under each Alternative, over 90% of the current number of infestations (sites) of noxious weeds on the Forest would be treated. Each Alternative treats these inventoried sites within the framework of the Project Design Standards. The description of each Alternative in Chapter 2 details the extent to which each Alternative responds to the purpose and need of the Noxious Weed Treatment Project.

The number of acres to be treated each year will be based on budget received, Project Design Standards, and treatment priorities.

Public Concern: The Modoc National Forest should not implement Alternative 2.

Alternative 2, the preferred (sic) [proposed] alternative, calls for the use of chemicals on 15 noxious weed species in 465 locations covering 8,700 acres. It says that 300-1500 acres will be treated a year and 75% of sites will be sprayed and Best Management Practices will be used. 38 5th field watersheds will be exposed to chemical treatments, including municipal water supplies. However, to analyze such an impact, action alternatives must be specific and not vague or conclusory. The difference between 300 and 1500 acres of chemical treatment a year with known dangerous chemicals is huge and significantly changes the cumulative watershed effects. Furthermore, it is stated under the Proposed Action section of the EIS that over 1500 acres may be treated annually over 6 years to accomplish a total of 8, 676 acres. An EIS with admitted significant effects needs to contain specific information for the decision maker and the public to draw reasoned conclusions. We have yet to read a more vague proposal with less documented studies and less necessary analysis. (Preservation/Conservation Organization, Somes Bar, CA - #40.8.24200.240)

The County also is not in support of Alternative 2 because of its non-aggressive approach to the critical problem of the noxious weed explosion throughout the Forest. (County Agency or Official, Alturas, CA - #17.6.24200.371)

Modoc Forest Response:

Treatments proposed under Alternative 2 could potentially treat portions of 38 5th field watersheds. This represents less than 3% of the total acreage of National forest System lands on the Modoc National Forest. There are currently no designated municipal watersheds on the Modoc National Forest. Any herbicides designated for use in Alternative 2 will be applied in accordance with US EPA-approved label directions and Project Design Standards.

Alternative 2 was developed as the proposed action. It was based on the funding considerations and potential for treating known, high-priority noxious weed species sites with proven methods that had been used on the Modoc National Forest and adjacent lands. Alternative 2 is a reasonable Alternative; there has been no pre-determination of which Alternative will be selected. The FEIS analyzes the Alternative to the same level as the other fully analyzed Alternatives.

Public Concern: The Modoc National Forest should not implement the proposed project.

We also feel that because both the Pit River and Upper Klamath Rivers, which are used by thousands of California, are in danger of being severely impacted by this project that we are also commenting on behalf of the public trust which would be violated by this project. (Preservation/Conservation Organization, Somes Bar, CA - #40.2.33100.380)

Modoc Forest Response:

There is no evidence that the Noxious Weeds Treatment Project is putting the Pit River and Klamath Basin at risk. The project and its action Alternatives would meet the standards and objectives set forth in Regional Water Board's Basin Water

Quality Plans. Through the application of Project Design Standards, including BMPs, it is unlikely that proposed treatments would exceed state and federal water-quality objectives for the Pit River and Upper Klamath River (refer to the Hydrology and Soils Specialist Report, Appendix T).

Public Concern: The Modoc National Forest should implement Alternative 3 so herbicides are not utilized.

I want to strongly encourage you to choose alternative three. The Proposed Alternative that includes the use of Garlon, Round-up, 2-4D, Hexazinone, Dicamba, Clopyralid on up to 1,500 acres a year is unacceptable, increasing the local community and watersheds health risks. We have known for years that alternative to sprays work - let's actually admit that there is evidence of this (such as the Salmon River and southern Oregon projects) and give this method a chance. (Individual, Eugene, OR - #32.1.24300.380)

Alternative 3 is the non-chemical treatment that does not jeopardize the health of the humans, animals and waterways. Why are you not doing a serious analysis of it? Why isn't it truly a selectable alternative? (Individual, Grangeville, ID - #38.4.24300.210)

Finally, I want to say Alternative 3 - The Multi-Method Approach Of Hand Pulling, Burning, and Mulching - is the most forward thinking plan; this non-chemical treatment does not jeopardize the health of the people, animals and waterways of Northern California. It actually puts people to work in the community. Please Take This Alternative Seriously. Hand pulling, mulching, and burning are not impossible, as the pessimists would have you believe? The recent success in the Salmon River and Southern Oregon are Evidence that spraying is unnecessary. Hand pulling, mulching, and burning is a Multi-method approach that not only works, it can be used to create Jobs, and help bring the community together. Please choose alternative three. Don't spray! (Individual, Eugene, OR - #32.6.24300.371)

Presenting the no herbicide alternative as an absolutely useless noxious weed control technique for 19 million dollars is misleading and ridiculous. This is post hoc rationalization, meant to skew evaluation. If this is really the case then why even consider it at all? It appears the Forest has decided that herbicides are the only possible way to treat invasive weeds and is intent on using the DEIS to convince decision makers and the public of the same thing. (Public Interest Group/Political Party, Eureka, CA - #33.53.33240.835)

Modoc Forest Response:

Alternative 3 is a reasonable Alternative; there has been no pre-determination of which Alternative will be selected. The FEIS analyzes the Alternative to the same level as the other fully analyzed Alternatives. The FEIS displays the pro's and con's of both herbicidal and non-herbicidal treatments.

Public Concern: The Modoc National Forest should implement Alternative #4 with a 20 year treatment period.

The Lassen County Department of Agriculture supports alternative #4 with the following recommended change: extend the treatment period from 10 years to 20 years in order to more fully exhaust the seed bed of scotch thistle (refer to page 328 - Herbicide, of the Draft EIS). (County Agency or Official, Susanville, CA - #2.1.24400.380)

DEIS - page v, para.2. I think 10 years is optimistic if the proposal is to cover a piece of ground only once each year. page vii, para. 6. Scotch thistle seeds can remain viable for 30 plus years. (Individual, Tucson, AZ - #41.2.33100.210)

Modoc Forest Response:

Forest Service policy generally provides for a 5- to10-year time frame for implementing an activity based on a NEPA decision. Once the Record of Decision is signed and as the project is implemented over this time period, and as new information is encountered, an evaluation of the new information will be conducted as per FSH 1909.15. This means we will review the new information against the existing environmental documentation to determine if the environmental analysis and documentation adequately consider the new information, or whether they should be corrected, supplemented, or revised.

Public Concern: The Modoc National Forest should implement Alternative #4 as presented in the DEIS.

due to the size and scope of the noxious weed problem known to exist [on the] Modoc National Forest[,] the Modoc County Agricultural Commissioners Office wholeheartedly endorses alternative #4 as the preferred action for noxious weed treatment within the Modoc National Forest. (County Agency or Official, Alturas, CA - #25.2.24400.371)

We support the Modoc National Forest's preferred alternative No. 4 ... (Regional or Other Governmental Entity, Alturas, CA - #6.1.24400.001)

Will be supporting Alternative 4... (County Agency or Official, Alturas, CA - #21.1.24400.380)

We do support the preferred alternative, Alternative 4. (Agriculture Industry, Alturas, CA - #37.8.24400.001)

I am writing to lend the California Department of Food and Agriculture, Noxious Weeds Program's support towards Alternative 4, the Agency's preferred alternative with adaptive management. The Modoc National Forest is to be congratulated on including this alternative, as it is the only alternative that will successfully allow noxious weeds to be eradicated in the forest. Alternatives 1, 2 and 3 are simply not adequate to address the level of noxious weed infestations found in the Modoc National Forest. (State Agency or Official, Sacramento, CA - #28.1.24400.371)

Modoc County Cattlemen's Association supports Alternative 4, the Preferred Alternative. (Agriculture Industry, Cedarville, CA - #43.1.24400.001)

Modoc Forest Response:

Alternative 4 will receive full consideration along with the other Alternatives in the FEIS.

Public Concern: The Modoc National Forest should implement Alternative #4 as presented in the DEIS with the assistance from the California Department of Food and Agriculture.

The California Department of Food and Agriculture's Noxious Weed Program looks forward to a renewed working relationship with the Modoc National Forest in the eradication of A-rated noxious weeds in the forest. If my staff or I can be of any further assistance in seeing that the control, containment, and ultimate eradication of A-rated noxious weeds resume in the Modoc National Forest, as laid out in the Alternative 4 of the your draft EIS, please do not hesitate in contacting me. (State Agency or Official, Sacramento, CA - #28.7.10400.371)

Modoc Forest Response:

The Forest Service will coordinate with the California Department of Food and Agriculture to implement decisions made in the Record of Decision. The Forest Service actively seeks the participation of multiple agencies to ensure the best science, treatment methods and prevention measures are incorporated into the treatment of noxious weeds.

Public Concern: The Modoc National Forest should implement Alternative #4 and it should be aggressively and immediately implemented.

Alternative 4 is the only alternative that will promote ecosystem health of forested and rangeland habitats by maintaining or improving native forb and grass species, ultimately preventing the loss of wildlife habitat. Failure to immediately and aggressively eradicate these small noxious weed sites will result in their further spread resulting in adverse impacts to humans, animals, both domestic and wild, and native plant communities.

Further, immediate action is needed because inventories show these many small sites are growing at an alarming rate, as treatment was not permitted over the past several years because an EIS was not yet in place. (State Agency or Official, Sacramento, CA - #28.6.24400.380)

Modoc Forest Response:

The Forest Service will begin implementing the selected Alternative following the NEPA process.

Public Concern: The Modoc National Forest should allow for repeated visits to the treatment areas.

CNPS is supportive of the general purpose of the proposal, and considers the analysis of herbicide use within Chapter 4 to be thorough and well considered. CNPS would support the choice of Alternatives that produce the greatest chances of eliminating weed populations rather than just controlling them. CNPS therefore supports an Alternative that will allow repeated visitation of weed infestations until such time as seed banks become exhausted. (Preservation/Conservation Organization, Sacramento, CA - #29.2.23000.371)

Modoc Forest Response:

The FEIS clarifies treatment to include multiple visits to sites until treatment objectives are achieved. For some sites, these seed bank visits will continue until the site is eradicated. For larger sites, return visits will continue for annual control, within funding levels.

Public Concern: The Modoc National Forest should modify Alternative 4 to clarify the acreages to be treated.

On page 20 of the DEIS the Forest states, "The Modoc National Forest proposes to authorize annual treatments of weed infestations ranging from an estimated 300 to 3,000 acres." We assume from this statement that 3,000 acres is the cap on annual treatments, and we are informed that under Alternative 4, 300,000 acres may be treated with herbicides in ten years, perhaps with just one herbicide, which we can only assume since specifics are never given. This is a very large amount of acreage, far more than the miniscule amount the DEIS

constantly claims will be treated, and the impacts of this extent of treatment are not at any point factored into the analysis. (Public Interest Group/Political Party, Eureka, CA - #33.20.24400.210)

The preferred alternative further "eliminates the cap on the number of acres to be treated annually" (p. iv), thus mooting the analysis of impacts by allowing an unknown number of acres that can be treated. This is clarified some at page 20, when "The Modoc National Forest proposes to authorize annual treatments of weed infestations ranging from an estimated 300 to 3,000 acres." We assume from this statement that 3,000 acres is the cap on annual treatments, and we are informed that under Alternative 4, 300,000 acres may be treated with herbicides in ten years, perhaps with just one herbicide, which we can only assume since specifics are never given. This is a very large amount of acreage, far more than the miniscule amount the DEIS constantly claims will be treated, and the impacts of this extent of treatment are not at any point factored into the analysis. (Public Interest Group/Political Party, Eureka, CA - #33.14.24400.210)

Modoc Forest Response:

The total acres proposed for treatment under each Alternative are presented in Chapter 2, Table 2-11, of the FEIS. Annual treatment acreages for all Alternatives reflect the total number of acres treated, including first-time and follow-up treatments. The FEIS assumes budget limitations will serve as a cap on the amount of annual acres treated. The FEIS clarifies the role of budget in limiting the amount of acres to be treated. We are unsure of the source of the 300,000-acre figure provided in the comment; it is not correct.

Public Concern: The Modoc National Forest should not expand the time period from 5 years to 10 years in Alternative 4.

Alternative 4 is patently illegal in that it "builds on the proposed action by increasing the treatment periods from a maximum of 5 years to at least 10 years" (p. iv, emphasis added). By not providing a time limit the project becomes open-ended and places into the future decisions that must be made NOW -- if this is a project EIS and it is the final say on what the impacts will be. (Public Interest Group/Political Party, Eureka, CA - #33.13.24400.130)

Modoc Forest Response:

Forest Service policy generally provides for a 5-to10-year time frame for implementing an activity based on a NEPA decision. Once the ROD is signed and as the project is implemented over this time period, and as new information is encountered, an evaluation of the new information will be conducted as per FSH 1909.15. This means that we will review the new information against the existing environmental documentation to determine if the environmental analysis and documentation adequately consider the new information, or whether they should be corrected, supplemented, or revised.

Public Concern: The Modoc National Forest should further clarify and adequately analyze Alternative 4.

Alternative 4 is particularly vague and conclusory. (Preservation/Conservation Organization, Somes Bar, CA - #40.9.24400.210)

While the DEIS is replete with instances in which analysis is inadequate for sites described in the DEIS, as we show later in these comments, it goes over the top in the analysis for the preferred alternative. Alternative 4 was prepared in response to CAT's scoping comments in which we pointed out that one herbicide application would not be sufficient to reduce and eliminate noxious weeds. The Forest cleverly responded by expanding the proposed action to allow it to do, essentially, whatever future projects it decides to do without pesky environmental analysis. (Public Interest Group/Political Party, Eureka, CA - #33.12.24400.210)

Modoc Forest Response:

All Alternatives were further clarified in the FEIS. Chapter 2 of the FEIS provides a detailed description of each Alternative, and the Alternatives are presented in Chapter 2, tables 2-5 through 2-9. Alterative 4 was designed to meet the Purpose and Need of the project as disclosed in Chapter 1 of the FEIS. Alternative 4 was evaluated within the framework of NEPA analysis. Alternative 4 will receive full consideration, along with the other Alternatives, in the FEIS.

Within the FEIS, features within Alternative 4 have been modified in response to public comments. These changes include dropping the use of Hexazinone and further defining the Early Detection – Rapid Response strategy. Alternatives 5 and 6 were developed to meet the purpose and need of the project, and to address public concerns for expanded physical treatment methods (Alternative 5), as well as for an expanded herbicide toolbox (Alternative 6).

Analysis

Public Concern: The Modoc National Forest should undertake further analysis and data gathering.

This DEIS is unfunded, unscientific, neglectful and not supported by science. We ask that you re-issue a DEIS that has scientific assessments and consultations referenced in it, includes scientific documentation on the success of non-chemical methods and the harmful effects of the chemicals proposed, has alternatives that incorporate and takes seriously the Native American and the public comments about human and the environmental health, and provides detailed economic assessment that included where funding is to come from, and effects of chemicals to recreation, local jobs, and drinking water. The current DEIS is insufficient, unscientific, would result uncertain impacts, is not supported by documentation, is locally and scientifically controversial, threatens municipal watershed, human and ecosystem health, the Klamath and Pit river tribal trusts, unfairly impacts low income and minority people, and is not in compliance with local and international laws. (Preservation/Conservation Organization, Somes Bar, CA - #40.92.21000.002)

Modoc Forest Response:

The FEIS further clarifies and analyzes the effects of implementation of each of the Alternatives. The effects analyses have been conducted using the best available science as disclosed in the FEIS. In addition, public comments and additional scientific literature suggested through the public comment period were used in formulating the FEIS. The objective of the FEIS is to be consistent with state and federal laws and regulations, and to disclose the effects of the proposed action and Alternatives.

Public Concern: The Modoc National Forest should clarify in the EIS the sources for information it relies on for analysis and provide analysis definitive site specific treatments.

There are major deficiencies with the Forest's noxious weed treatment analysis. It relies on only one source (CA DFA) for information about the species and methods to treat them. It fails to include within the DEIS other expert information. It often ignores the advice of its own source(s). It provides a one sided, herbicide first, silver bullet, approach. It insists on using a determination of herbicide and physical option for most sites to be decided later, on the fly, based on some unknown and undisclosed protocols and criteria. (Public Interest Group/Political Party, Eureka, CA - #33.75.13100.210)

Modoc Forest Response:

This FEIS relies on the best available science, including peer-reviewed journals, EPA documents, SERA reports, and other sources. The *literature cited* section of the FEIS indicates numerous documents were used in the analysis. Appendix E, Herbicide Information, and Appendix G, Weed Species Ecology and Impact, provide the general public with an easy-to-read example of the literature available and used in the analysis.

FSM 2080.5 defines a noxious weed as "Those plant species designated as noxious weeds by the Secretary of Agriculture or by the responsible state official." In the State of California, the California Department of Food and Agriculture (CDFA) is the responsible government agency that the Forest Service is required to coordinate with as outlined in FSM 2080 and FSM 1580.

The FEIS analyzes the effects of various treatments on each site to allow resource specialists the opportunity to analyze action over a 5- to 10-year period. The criteria for determining which sites use hand treatments, herbicidal treatments, and hand treatments along with herbicidal treatments, have been clarified in the FEIS.

All treatment Alternatives call for development of an annual operating plan that follows the criteria listed in the FEIS and Record of Decision.

Public Concern: The Modoc National Forest should adopt international Forest Stewardship Council criteria.

The pest management criteria of the international Forest Stewardship Council restrict the type of pesticide which can be used in forestry practices of certified forests to those which are neither toxic nor persistent, and which do not concentrate up the food chain in a biologically active form. The Forest would provide a program of weed abatement that is protective of the natural environment and resources as required by the Modoc NF Forest Plan if it analyzed herbicides for their impacts based on the FSC criteria. No attempt of this nature has been made in the DEIS. (Public Interest Group/Political Party, Eureka, CA - #33.165.13100.160)

Modoc Forest Response:

The DEIS and FEIS disclose how the proposed action and Alternatives are consistent with the principles espoused by the Forest Stewardship Council. All Alternatives are consistent with federal laws and regulations.

The FEIS includes the analysis of potential human health and environmental effects. In addition, the national risk assessments produced by Syracuse Environmental Research Associates, Inc. (SERA), under contract to the Forest Service, contain extensive analysis of potential effects. The SERA risk assessments can be found in the project file, and on the National Forest Service website.

All herbicides identified for use in the FEIS are approved by the United States Environmental Protection Agency and the California Department of Pesticide Regulation. Any proposed herbicide use will be in accordance with label directions. In the amounts proposed, the herbicides are not persistent and will not bio-concentrate up the food chain.

Public Concern: The Modoc National Forest should assess the environmental impacts as required by NEPA.

The DEIS analysis is overly simplistic and does not take the required "hard look" at environmental impacts as required under NEPA. It does not adequately analyze the effects to wildlife from the project. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.32.13100.350)

Science based study requires inclusion of "cause and effect" analyses. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.14.13000.300)

The Forest focuses solely on eradication and control of noxious weeds, yet fails to meet a major NEPA requirement of evaluating the effects of proposed treatments into the foreseeable future. Do they have any evidence of what will happen to the lands after repeated chemical applications? How will the soil and habitats be forever altered? What species will be expected to establish and grow? What are the long-term impacts of the proposed action? Studies have shown that herbicides can persist for many years in grasses, soils, and water and thus continue to impact species composition including desirable vegetation and wildlife for many years post project completion (Whisenant and McArthur 1989). (Public Interest Group/Political Party, Eureka, CA - #33.201.30300.380)

Modoc Forest Response:

36 CFR 1502.1 states in part "…Agencies shall focus on significant environmental issues and Alternatives and shall reduce paperwork and the accumulation of extraneous background data. Statements shall be concise, clear, and to the point, and shall be supported by evidence that the agency has made the necessary environmental analysis…" The FEIS summarizes information from the various sources, which outlines in detail the effects of the Alternatives and mitigation measures on the various components of the environment.

The FEIS disclosed the persistence of the various chemicals and the potential effects in several locations, including the Environmental Effects section of the FEIS, Herbicide Fact Sheets in Appendix E, and Appendix F. The FEIS continues to use the specialist reports and the herbicide worksheets located in the project records, which indicate minimal risks of long-term herbicide treatment under typical application rates and exposures.

The proposed action and Alternatives provide for limited treatments of noxious weeds with both herbicidal and non-herbicidal treatments. Whisenant and McArthur (1989) dealt with triclopyr applied directly to soil to eliminate broadleaf

plants that compete for nutrients and water with planted pine trees. As stated in the comment, the object was to change plant communities and wildlife habitat in the long run.

"The half-life of triclopyr in plant tissues listed in the studies summarized in this paper range from four to 291 days and in one study triclopyr remained detectable in an evergreen brush field ecosystem for a year. Another study found that on the average, for the species sampled there was a 42% decline in residues after six days, 72% after 28 days and 98% after 365 days after treatment. The herbicide tends to dissipate more quickly in soil and litter than in vegetation. In the environment, triclopyr would cause more damage to animal habitat due to eliminating vegetation, the intended purpose of the herbicide, than due to triclopyr toxicity to animals." [*Environmental Fate of Triclopyr*, Carissa Ganapathy, Environmental Monitoring & Pest Management Branch, Department of Pesticide Regulation, Sacramento, CA 95814-5624]

The Forest Service believes that the effects analysis contained in the FEIS appropriately discloses the effects of implementing the Alternatives. The FEIS analysis the topics of concern expressed in the questions. The comment statement does not identify changes needed or missing elements in the analysis.

Analysis - Site Specific

Public Concern: The Modoc National Forest should include more site-specific information.

The Forest's DEIS is missing crucial information for evaluating and analyzing the environmental effects of proposed herbicide use at the different infestation sites. Missing in the DEIS is an analysis of how differences in climate, soil, topography, weather, and other factors will impact what treatments may be used and how efficacious they will be. (Public Interest Group/Political Party, Eureka, CA - #33.156.31000.210) (Public Interest Group/Political Party, Eureka, CA - #33.74.31000.380) (Public Interest Group/Political Party, Eureka, CA - #33.39.31000.380)

Modoc Forest Response:

The FEIS contains site-specific analysis on the environmental effects of herbicides proposed for use on the Forest. The FEIS contains further clarification and analysis of physical and other factors as they relate to all noxious weed treatments considered.

Appendix B in the FEIS provides site-specific treatment information for all infestation sites included for treatment in this FEIS, and includes information on the proposed treatment method under each Alternative.

Public Concern: The Modoc National Forest should provide a site specific analysis.

A fundamental weakness of the Modoc EIS is that, though intended to be written as a project EIS ["The Modoc National Forest proposes to implement a control and eradication project for noxious weeds." Cover page, Modoc Weed DEIS, emphasis added], it fails to be adequately comprehensive so that the Forest can avoid further NEPA procedures at the site-specific

level. The EIS instead appears as a programmatic EIS, with decisions deferred to the future. Improperly, these decisions will be made without a means of disclosure to either the Responsible Official or the public and lacking analysis of impacts. (Public Interest Group/Political Party, Eureka, CA - #33.6.13100.131)

The Forest fails to fully inform the public on what chemicals will be used where and when. Herbicide treatment is described in minimal detail, "noxious weed sites may be treated with any one of the herbicides identified and will be determined by treatment timing, treatment strategy or application method"(p.7). These detail never surface adequately for full disclosure within the DEIS. Each site application is different, in different terrain, in different settings, facing different impacts, both direct and indirect, of repeated herbicide application. The Forest knows the sites and knows the species, thus it can name with some accuracy, which herbicides it plans to use. NEPA requires specific project details for project evaluation. All parts and phases of the proposed action must be fully described. All connected actions must be included in the proposed action description. Even in Appendix B, site specific proposed treatments, the Forest fails to inform which herbicides will be used when by stating "Noxious weed sites may be treated with any one of the herbicides identified and will be determined by treatment timing, treatment strategy, or application method" (p. 165). (Public Interest Group/Political Party, Eureka, CA - #33.7.12110.380)

Modoc Forest Response:

The FEIS further clarifies site-specific treatments and limitations. Herbicides will be used according to label instructions appropriate to the weed being treated, and based on effectiveness and resource factors present. The FEIS displays the treatment options and limitations for each site. The FEIS states which herbicides may be used on different plants (Table 2-14 in Chapter 2 of the FEIS), and lists in detail the constraints that limit herbicide use at sites based on resource concerns evaluated in the FEIS. Resource concerns are listed as major headings in Chapter 3 of the FEIS, and direct, indirect and cumulative effects to the resource are described. Furthermore, Appendix B in the FEIS provides site-specific information for all infestation sites included for treatment in this FEIS, and includes information on the proposed treatment method under each Alternative.

Public Concern: The Modoc National Forest should provide for other weed treatment methods.

The Forest has also failed to consider creative treatments such as "The Bradley Method" (Fuller and Barber 1985). The following excerpt was taken from the Integrated Vegetation Management's Technical Bulletin, Bio-Integral Resource Center, Berkeley, CA. (Drlik et al 1998): "The Bradley method is an approach that was developed by the Bradley sisters in Sydney, Australia. It combines the strategies of containment and reduction and can be used most successfully in natural areas where weed stands are close to or intermingled with native vegetation. This approach uses carefully planned hand weeding to tip the ecological balance in favor of the native vegetation, which is then allowed to regenerate and fill the area where the weeds have been removed. The weeding is always done outward from the edge of the best stands of natives. The Bradley's recommend choosing an area you can visit easily and often, where the native vegetation meets a mixture of natives and weeds not worse than 1 weed to 2 natives. Using this method, the two Bradley sisters (both over fifty) cleared a 40-acre woodland reserve so successfully that the area needed only slight attention once or twice a year (mainly in vulnerable spots such as roadsides and creek banks) to be maintained weed-free. To do this they expended only a minimum amount of time: an average of 45 minutes

per day between the two of them. This low-cost, low-impact approach enables restoration to occur with minimal labor or equipment." (Public Interest Group/Political Party, Eureka, CA - #33.49.33240.371)

Table 2-2 lists a comparison of three weed management methods by alternative (p.26). Only cultural (seeding), physical (hand pulling/grubbing), and herbicides (ground application) treatment methods are evaluated. This table fails to fully inform as important information is lacking. The full ranges of feasible treatment methods are not included in the table. Complete information disclosure should include biological controls, prescribed fired, grazing, mowing, and tillage into any comparison of management methods for noxious weeds. It does not consider or compare integrating a combination of approaches as included in IWM strategies the Forest is directed to implement. (Public Interest Group/Political Party, Eureka, CA - #33.50.33100.210)

It has also been mentioned that simply covering Canada thistle with boards, sheet metal, or black tarps can kill the plants (Nuzzo 1997). This would seem to be a reasonable approach to treating a species of whose 28 infestations are all smaller than .2 acres in size (p. 213-14). Yet creative, seemingly simple, and for some reason unconventional options such as this are completely ignored in the DEIS. (Public Interest Group/Political Party, Eureka, CA - #33.140.33200.210)

Even the California Department of Food and Agriculture (see Encycloweedia website) cautions that herbicide is not the ultimate answer saying, "It is important to know that several ecotypes of Canada thistle occur that differ in their susceptibility to herbicide treatment." They also note that the "rate, timing, and effectiveness of different herbicide treatments may vary." Yet the Forest proposes to spray all 28 sites (p. 212). Where is the discussion of this in the DEIS? Why does the Forest insist on their chemical silver bullet and fail to fully inform and analyze effective treatments? (Public Interest Group/Political Party, Eureka, CA - #33.141.33210.210)

All these small infestations can easily, effectively, and economically be treated using hand pulling/digging followed by aggressive re-vegetation efforts using desirable native species such as perennial grasses and forbs (CA DFA website, Fitzsimmons and Burrill 1993, Graham and Johnson 2003, Krueger and Sheley 2002, WA Noxious Weed Control Board 1999, Weeds BC website). Why doesn't the Forest propose to use the recommended low-impact methods? (Public Interest Group/Political Party, Eureka, CA - #33.144.33200.210)

Modoc Forest Response:

The FEIS section on "Alternatives and Treatment Methods Considered but Eliminated from Detailed Study" in Chapter 2 has been expanded. As a result of public comment, additional treatment methods have been included within Alternative 3. In addition, Alternatives 5 and 6 were developed. Alternatives 5 and 6 will provide for use of limited and controlled grazing, use of tarps to eliminate smaller infestations, and seeding of disturbed or bare areas caused by treatment. Alternatives 4 and 6 provide for a full, integrated weed-treatment approach using both herbicidal and non-herbicidal treatments, until weed sites are controlled or eradicated over an extended period of time.

The Proposed Action, Alternative 2, includes low-impact (hand treatments, limited hand-held mechanical tools, and limited herbicide use)methods as does

Alternative 4. Alternatives 5 and 6 were developed to respond to the request for additional treatment methods.

Public Concern: The Modoc National Forest should accurately analyze past herbicide application.

The DEIS notes at page 67 that "According to reports field by the Modoc County Agricultural Commissioner an average of approximately 200,000 pounds of herbicides (approximately 140 different herbicides) have been utilized in Modoc County, primarily of agriculture crops on private land adjacent to Federal Lands) on an annual basis for over ten years (Department of Pesticide Regulation, 1991-2002 Annual Pesticide Use Reports, Indexed by Herbicide - Modoc County)." The facts show a different story, in yet another inaccurate representation of, well, the facts. Pesticide Use Reports for Modoc County for these years show 195,000 or less total pounds of pesticide used per year, including adjuvants, chemicals added to pesticide to increase their efficacy and registered in California as pesticides. Of the total of pesticides, approximately 25 to 30% is herbicides. Further analysis by CATS reveals that in 2002, no triclopyr was reported to be used in forestry or any other site in Modoc County, just 83 pounds of dicamba were used, 606 pounds of clopyralid, and 1,720 pounds of glyphosate. The additional amounts of herbicide allowed to be used, particularly under Alternative 4, would mean that the amount of these herbicides used in the County would be greatly increased by the Forest's activities. In terms of the effect on the local environment, this use cannot be trivialized in its potential for impact by misrepresenting the actual use of pesticides and these herbicides in Modoc County. (Public Interest Group/Political Party, Eureka, CA - #33.189.30310.210)

At the bottom of page 41 the DEIS mentions past herbicide use for the first time. "Specific conditions of herbicide contamination from past Forest activities, including noxious weed treatment, are unknown, but presumed low since sites are scattered, volumes have been low, and treatments have been only occasional." The Forest must inform the public and decision makers about the environmental effect of past herbicide use within the Modoc NF. Information disclosure is required for a complete and accurate analysis. Page 67 includes a table of noxious weed species that have treated with herbicides in the past and at how many locations. Unfortunately the Forest fails to include essential information, and thus rendering this table useless for the purposes of evaluating environmental effects of the proposed actions. Where were these herbicide treatments done? In Modoc NF? How big were the infestations? Population sizes? How big now? What chemicals were used? When? What were the climate and weather conditions? What were and now are the physical conditions of the sites (soil types, vegetative communities, etc)? How many treatments were required? What species exist there now? How has the environmental communities changed since treatment? What other treatment methods were used? Where can we find the EA s that facilitated these projects? Where are the reports of the monitoring that led the Forest to conclude that these 11 years of herbicide use has yielded "moderate to high success." (Public Interest Group/Political Party, Eureka, CA - #33.23.30310.210)

The DEIS claims that herbicide use "during the last 11 years on the Forest and adjacent lands has shown to be the most effective method at suppressing infestations and eradicating new populations" and further notes that "isolated infestations have been treated with consistently moderate to high success" (p. 67). Where is the evidence to support this claim? According to the chart supplied to explain this claim, physical controls were used for only one of the weeds. What was the efficacy of those efforts? With nothing but herbicides used for noxious

weeds in Modoc County it's no wonder they've been the most effective. (Public Interest Group/Political Party, Eureka, CA - #33.30.33210.380)

Modoc Forest Response:

The FEIS clarifies the type and amount of herbicides that have been used on the Modoc National Forest to date in Chapter 3 of the FEIS.

Effective treatment of noxious weeds on areas across the United States, using both herbicidal and non-herbicidal treatments, was used and evaluated. Literature used in development of the DEIS and FEIS focuses on combined use of integrated weed treatment methods. The Alternatives limit or restrict herbicides from sensitive wildlife and riparian areas, and hand treatments are restricted for noxious weeds that are rhizomatous. Every treatment has its positive and negative points.

Public Concern: The Modoc National Forest should analyze the effects of weeds on natural systems.

Page 3 states that studies completed in other parts of the country show invasive plants are very harmful to ecosystems, etc., but these studies are not footnoted or listed for the reader's knowledge-if sources are not made available for the reader then they should not be mentioned for qualitative effect. (Tribal Agency or Official, Fort Bidwell, CA - #35.7.33210.201)

Modoc Forest Response:

The effects of noxious weeds on the environment are documented throughout the FEIS. The reference for the comment about page 3 is "Pulling Together: A national strategy for management of Invasive Plants." Federal Interagency Committee for Management of Noxious and Exotic Weeds (eds). BLM/WO/GI/98/003/1740. 2nd Ed. Government Printing Office. 22 pages.

Public Concern: The Modoc National Forest should analyze impacts to non-target plant species.

The DEIS fails in its analysis of the effects of the treatments that may be used to combat invasive plants. Evidence exists, for example, that herbicides may create conditions more hospitable to invasive species than were present before the chemicals were used. McDonald and Everest (1996) of the USFS Pacific Southwest Research Station, found that cheatgrass populations, not observed in the study plots at the beginning of a study exploded in an herbicide-treated plot (at 743,667 plants per acre with 22% foliar cover) where it was 6 times greater in number of plants and more than 7 times greater in foliar cover than in the control plot (130,300 plants per acre, 3% foliar cover) two years after treatment. Of particular interest is that this study was done to consider the most effective means of reducing bearclover, another possibly high priority threat. McDonald and Everest (1996) found that the cheatgrass was colonizing bare ground. George Harper of the Canadian Forest Service found similar dynamics in comparable ecological conditions in British Columbia. As he notes in his Brush River Brushing Trial site project report (http://www.for.gov.bc.ca/research/forprod/fordyn/projects/ep1179/ep1179.htm) "Total number of plant species present varied considerably over all plots, independent of treatment. Total number of species are higher in glyphosate than in other treatments due to the ability of invading plant species to colonize on exposed sites. The initial reduction of shrub and herb

cover of naturally occurring species following herbicide application probably allows for the establishment of such 'invaders." That herbicides appear to be a disturbance factor that actually encourages invasive species to colonize and spread in herbicide-treated areas clearly must be analyzed in the DEIS. (Public Interest Group/Political Party, Eureka, CA - #33.166.13000.210) (Public Interest Group/Political Party, Eureka, CA - #33.167.13000.210)

A study done by the British Columbia Ministry of Forests Research Program in the Upper McKay Creek near Lillooet, B.C. found that the choice of herbicides can have a profound effect on the plant species content and diversity many years after treatment (http://www.for.gov.bc.ca/hfd/pubs/Docs/Lmh/Lmh45.htm). "The abundance of several low shrub species (black twinberry, black gooseberry, thimbleberry, trailing raspberry, red raspberry, birch-leaved spirea, and black huckleberry) was reduced for nine years following application of glyphosate. Hexazinone tended to have a longer-lasting effect than glyphosate on the abundance of grasses and forbs." As this report observes, "Plant communities naturally change over time, but sudden shifts in structure and composition may negatively affect the availability of food for wildlife." Lacking an analysis of the impacts over the long-term that may be expected from the use of various herbicides on non-target plant species composition and abundance, and lacking adequate guidance for which herbicides and other treatment options are suited or not suited for various ecological conditions common within the Modoc National Forest, the DEIS cannot serve as an appropriate tiering document for future decisions regarding invasive species as it is currently written. (Public Interest Group/Political Party, Eureka, CA - #33.168.13100.382)

Modoc Forest Response:

The referenced study (McDonald and Everest (1996) of the USFS Pacific Southwest Research Station) is not relevant to the Noxious Weed Treatment Project. The study was conducted to evaluate treatment methods for reducing competing native vegetation for survival of ponderosa pine seedlings. The methods used do not mimic or relate to the directed spray and individual wicking of plants with herbicide applications called for in the Modoc National Forest Noxious Weed Treatment Project. The trials discussed in the McDonald and Everest (1996) article are concerned with the release of ponderosa pine in a native bear clover community. Treatments were designed to exclude all native vegetation that would compete with the ponderosa pine seedlings. The Modoc National Forest will not be mixing herbicides to spray on native plants to exclude all competing native vegetation (bear clover, grasses and forbs in the study) to enhance the growth of ponderosa pine seedlings as part of this project.

However, the study does point out those surface dressings, such as mulches, will not be effective on rhizomatous species. This is one of the reasons that the Modoc National Forest Noxious Weed Treatment Project desires to use herbicides, especially on rhizomatous noxious weeds. The study referenced found that even after a combination of a high consumption burn that has killed the stems and crowns of the targeted native species, and then application of mulch, the rhizomatous species were still present. Results from this study showed that small mulches were ineffective. "Furthermore," the study reports, "mulches probably would not be effective, even if they were larger."(Page 6, McDonald and Everest (1996) of the USFS Pacific Southwest Research Station)

The referenced study by the British Columbia Ministry of Forests Research Program is not relevant to the Noxious Weed Treatment Project. The study was conducted to evaluate treatment methods for reducing competing vegetation for

survival of lodgepole pine seedlings. The methods used do not mimic or relate to the spot and individual herbicide applications called for in Modoc NF Noxious Weed Treatment Project. "A series of research trials was established in 1986– 1987 in the Kamloops Forest Region to study the effectiveness of chemical and manual treatment methods for controlling competing vegetation, and to study the impact these brushing treatments have on the range resource. The three trials discussed herein are concerned with the release of lodgepole pine *(Pinus contorta var. latifolia*) growing in competition with the Dry Alder, Willow, and Pinegrass plant communities, as well as with the effects of chemical and manual brushing treatments on forage production and livestock use." (quote is from the introduction to the study "Brushing and Grazing Effects on Lodgepole Pine, Vascular Plants, and Range Forage in Three Plant Communities in the Southern Interior of British Columbia: Nine Year Results." The brushing methods used do reflect the high cost of hand treatments and the effectiveness of herbicides on controlling undesirable species.

Public Concern: The Modoc National Forest should analyze declining native plant biodiversity.

CNPS is concerned that the DEIS does not apply a scientific approach informed by plant ecology to the problem of declining native biodiversity. While we realize that the non-ground breaking aspects of the Modoc National Forest Noxious Weed Management Strategy and Action Plan do not have to be addressed under the EIS, they should be addressed more fully in association with actions under the Integrated Weed Management Plan, and in the comparative economic analyses found on p. 69 and thereabouts. (Preservation/Conservation Organization, Sacramento, CA - #29.3.33100.310)

Modoc Forest Response:

Invasions of exotic plant species can seriously threaten the survival of native communities. In an eight-year cooperative study between the University of Montana and the US Forest Service Intermountain Research Station, where spotted knapweed was invading native plant communities, measurements of plant community response demonstrated that periodic application of rate-selective herbicides to noxious weeds can restore native bunchgrass structure and maintain non-target forb diversity. The researchers found that herbicide treatments had a high efficacy on the target weed. The study also found that after only single applications of herbicide, the treated noxious weed species recovered to untreated levels by the sixth year. This results from a portion of the seed remaining dormant in the soil but viable for many years, and underscores the need to exhaust the seed bank (Rice et al. 1997). One purpose of the Modoc National Forest Noxious Weed Treatment Project is to reduce the impact of noxious weeds on native plant biodiversity. "The eradication and control of these plants will meet the need and requirement of the forest to promote the ecosystem health of forested and rangeland habitat by maintaining or improving native forbs and grass species, ultimately preventing the loss of wildlife habitat." (Page 111, Modoc National Forest Noxious Weed Treatment Project DEIS) To protect native plant biodiversity the FEIS establishes the directed spray and wick application of herbicides directly to targeted plants, with repeat applications determined on a site-by-site basis depending in part on monitoring data. Riparian Conservation Areas zones are established to ensure only targeted plants and areas are treated in compliance with herbicide label instructions.

The FEIS clarifies the costs and effects of additional treatments. Detailed economic analysis is included in the project record. Economic impacts associated with prevention, coordination and cooperation, inventory and monitoring associated with 2005 Modoc National Forest Integrated Weed Management Strategy are not relevant to the decision to be made.

Public Concern: The Modoc National Forest should provide analysis of the long term environmental impacts of herbicides.

Chart on page 26, do not understand what numbers 2-4 signify. With regard to "cost" is this determined only in dollars or is there analysis that considers long term environmental impacts of using herbicides? (Tribal Agency or Official, Fort Bidwell, CA - #35.19.21200.371)

Modoc Forest Response:

Table 2-2 in Chapter 2 of the FEIS indicates what treatment methods apply to which Alternatives. The effects analysis in Chapter 4 of the DEIS (Chapter 3 in the FEIS) discloses the environmental impacts of each Alternative by specific resource concern in the short and long term.

Public Concern: The Modoc National Forest should analyze the effects of herbicides on the environment.

The EIS states that riparian areas will be treated with pesticides up to 10 feet from waterways without the typical site-specific buffer and that there will be a separate NEPA analysis address aquatic impacts for this action. These are obviously connected action and cumulative actions that need to be addressed in a single NEPA document. We are very concerned that there is none of the typical analysis cited in the DEIS that would come with a much smaller timber sale EA. Thirty-eight watersheds will be effected but not a single Watershed Analysis is cited in the DEIS. There are no surveys referenced for Threatened, Endangered, Sensitive, or Management Indicator Species of any kind. There is no Biological Opinion or Assessment, no Wild and Scenic Rivers Assessment, Management Species Report or Soils Report or Hydrology report. Nor are effects of mixing chemicals, surfactant, nor toxic inerts addressed. What are the cumulative effects of ongoing private and county spray practices? Where is the assessment that addresses the effects to wetlands and groundwater, or drinking water in the municipal watershed? In fact, in the very few places where a necessary assessment or surveys are mentioned, it is merely to claim that they will be done later. Even in the case of surveying for wildlife and plant species it is claimed they will be conducted after the action begins. How ever there is more than significant documentation and scientific controversy recorded on the effect of the chemicals to be used on groundwater, fisheries, birds, amphibians, grazing animals, soils, etc. How is the decision maker and public to provide input without the necessary NEPA analysis? (Preservation/Conservation Organization, Somes Bar, CA - #40.10.30310.002)

Modoc Forest Response:

The FEIS summarizes the wildlife, watershed, soils, and other resource technical specialist reports. The FEIS contains the analysis necessary for the decision maker to make an informed decision about the possible impacts of implementing any of the Alternatives or treatment methods. The FEIS contains the effects analysis for treatment of Streamside Management Zones (SMZs) for streams, lakes and special aquatic features as specified by the Modoc National Forest LRMP as

modified by the Sierra Nevada Framework Record of Decision (ROD). There are no plans for any aquatic weed control under the action Alternatives.

As disclosed in the FEIS, the SMZs that would be adopted across the Forest would be consistent with the SNF ROD. In summary, under Alternatives 2 and 4 the SMZs would contain a no-herbicide treatment zone from the channel edge, or high water mark, for a linear distance of 10 feet. From 10 feet from the edge of the high-water mark to the outer edge of the SMZ, noxious weeds would be treated by application of Glyphosate by either directed spray onto the plant or wicking the herbicide directly onto the plant. Under this scenario, the Forest hydrologist determined that this would not pose a risk of either direct or indirect effect to water quality with the application of Project Design Standards 15, 17, 20, 22, 23, 25, 29 and 34. A cumulative watershed effects analysis was completed and it was determined by the Forest hydrologist that under Alternatives 2 and 4, the application of Project Design Standards 14, 16, 24 and Design Standard 18b, it is unlikely that the treatment of noxious weeds by herbicides would result in an adverse cumulative effect to soil or water quality. This is especially true as that Alternatives 2 and 4 proposes to treat less then 2% of the NFS lands contained within the Modoc National Forest and these herbicides being applied do not bio-accumulate in the soil horizon, nor did they have a half life greater then 9 to 12 months.

Under Alternative 6, it was determined by the Forest hydrologist that with the application of Project Design Standards 18, 19, 22, 24, 25, 29 and 34, the treatment of the SMZs with herbicide methods would not result in a direct or indirect effect to soil or water quality from the introduction of herbicides being delivered by surface runoff, subsurface movement, or aerial drift process into the stream courses, lakes or other special aquatic areas. Therefore it is likely that the Central Valley and North Coast Water Quality Basin Plans pesticide standard would be met, and thus there would be no downstream effect. Hence, there would no direct or indirect effect to water quality. Within the jurisdictional area for the Lahontan Regional Water Board, the SMZs would be treated in a similar manner as was discussed for Alternatives 2 and 4. The No-Detect Pesticide Standard would be met; hence, there would be no direct or indirect effect to water quality.

Under Alternative 6, it was determined by the Forest hydrologist that with the application of Project Design Standards 14, 16, 24 and Design Standard 18b, it is unlikely that the treatment of noxious weeds by herbicides would result in an adverse cumulative effect to soil or water quality. This is especially true because Alternative 6 proposes to treat less than 2% of the NFS lands contained within the Modoc National Forest, and the herbicides being applied did not bio-accumulate in the soil horizon, nor did they have a half-life greater then 9 to 12 months. Please refer to Hydrology and Soils Specialist Report for a more detailed description of the direct, indirect and cumulative effects to soil and water quality from the action Alternatives.

Public Concern: The Modoc National Forest should identify which chemical formulations will be used.

There are two forms of glyphosate; N-(phosphonomethyl) glycine and isopropylamine salt of glyphosate. Which form and product is the MNF proposing to use? Glyphosate products contain different inert ingredients, such as ammonium sulfate, benzisothiazolone, 3-iodo-2-propynyl butylcarbamate, isobutene, methyl pyrrolidinone, pelargonic acid, polythoxylated

tallowamine, potassium hydroxide, sodium sulfite, sorbic acid, and isopropylamine. (Preservation/Conservation Organization, Somes Bar, CA - #40.24.33211.210)

Triclopyr is a selective herbicide used to kill broadleaf plants. Two forms of triclopyr are used in herbicides. Trade names for herbicides containing triclopyr include but are not limited to Access, Crossbow, ET, Garlon, Grazon, PathFinder, Redeem, Rely, Remedy, and Turflon. The main manufacturer is Dow AgroSciences. The herbicide may be mixed with picloram or with 2,4-D to extend its utility range. While just triclopyr is known as 3,5,6-trichloro-2-pyridinyloxy acetic acid, herbicides contain either triethylamine salt of triclopyr, or the butoxyethyl ester of triclopyr. Which form and what products is the MNF proposing to use? (Preservation/Conservation Organization, Somes Bar, CA - #40.30.33211.210)

Clopyralid is a selective herbicide used to kill broadleaf plants. Clopyralid is often sold under the brand names Transline, Stinger,Reclaim, Confront, and many others, and is produced primarily by Dow AgroSciences. Clopyralid comes in three different forms, the triethylamine salt of clopyralid, the triisopropylamine salt of clopyralid, and the monoethanolamine salt of clopyralid. Which form(s) is the MNF proposing to use, and which product? Clopyralid is a long lasting, persistent herbicide that has even been banned from use in Washington because contaminated plant material in compost was affecting the growth of future crops because it does not break down in the composting process Coddington, 2002). Clopyralid is also extremely persistent in soil, according to an EPA review, with persistence as long as 14 months. (Preservation/Conservation Organization, Somes Bar, CA - #40.33.33211.210)

Modoc Forest Response:

Glyphosate is the common name for N-(phosphonomethyl) glycine. All commercial formulations used in forestry contain the isopropylamine salt of glyphosate. Inert ingredients in glyphosate are addressed in the FEIS and Appendix F. The list of inert ingredients in the comment attributed to glyphosate formulations are listed on several anti-pesticide advocacy websites as being in Ready-to-Use (RTU) formulations of glyphosate, which the Modoc is not proposing to use.

Both triclopyr butoxyethylester (BEE), and triclopyr triethylamine salt (TEA) are proposed for use. In the DEIS (page 22) Garlon 3a, Garlon 4, and Remedy are examples of commercial products containing these triclopyr formulations. Redeem is not proposed for use in the FEIS.

The commercial formulation of clopyralid proposed for use by the Forest Service contains clopyralid as the monoethanolamine salt. In the DEIS (page 22) Transline, Stinger, and Curtail are examples of commercial products containing this clopyralid formulation. Curtail is not proposed for use in the FEIS as it is not registered in California. Composting (against label directions) of plant material containing clopyralid is not proposed.

Clopyralid is described as “persistent” to “non persistent”. Site-specific environmental variables drive these determinations. Clopyralid half-lives in soil vary, depending on environmental variables, although many sources cite half-lives ranging from 10 days to 3 months. (SERA 1999a)

Public Concern: The Modoc National Forest should address concerns for sensitive plants.

The Forest Botanist is said to determined that there is a may effect individuals and habitat determination, but not result in trend toward federal listing or loss of viability for all 21 Modoc sensitive plants. However there is no BO/BE reference, no surveys done, no methodology mentioned or any information at all given to support this claim. Therefore the process is not transparent and viability is not guaranteed for rare, endangered and threatened. (Preservation/Conservation Organization, Somes Bar, CA - #40.72.32100.210)

Modoc Forest Response:

The procedures for making determinations regarding sensitive plants have been documented in the FEIS as follows: "This section has been summarized from the Biological Evaluation (BE) and the Addendum to the BE, evaluating the effects of the Preferred Action Alternative. The information within the BE is written in accordance with direction established in the Forest Service Manual (FSM 2672.4)." BEs and BAs are finalized after selection of the preferred Alternative in the FEIS, and are filed in the project record.

"If based on the biological evaluation, the Forest determines that the proposed action may affect a listed species or its habitat, informal consultation with FWS is mandatory." (FSM 2671.44.)

Consultation with US Fish and Wildlife Service (FWS) is not required for Forest Sensitive plant species. Informal consultation was initiated for the Threatened plant species, slender Orcutt grass. The US Fish and Wildlife Service is only required to prepare a Biological Opinion following formal consultation. Formal consultation was not required for this project for slender Orcutt grass due to a May Affect, Not Likely to Adversely Affect (NLAA) determination.

"Surveys have been conducted across the Forest for a variety of projects." (BE, Davidson, 2002) Guidelines and methodology for sensitive species management are found in Forest Service Handbook 2609.25. "If potential habitat area is assumed occupied by the sensitive plants, an evaluation of effects can be done without additional surveys due to the overall beneficial effect of controlling noxious weeds." (BE, Davidson, 2002)

Public Concern: The Modoc National Forest should consider future budgets in determining if long-term herbicide treatments are feasible.

The DEIS identifies Alternative 4 - the Adaptive Management approach which relies heavily on herbicides as the tool of choice to eradicate and/or control the various targeted species of noxious weeds throughout the Modoc National Forest. The likelihood of achieving success is clearly dependant on a continued and expanded budget to the Modoc National Forest for its annual program. Government budgets are prone to ups and downs over time. The use of several of the proposed herbicides will eliminate all other vegetation in the managed population sites. If there is an inability for the US Forest Service to persistently and thoroughly manage all of the targeted populations, it is likely that the infestations will be worse than when the program started. The US Forest Service budgets are declining if anything, which will make it harder to achieve the Modoc National Forest goals identified in the DEIS. The effects of the lack of persistence was seen in Siskiyou County between 1986

and 1995. In the 1980's the herbicide program was fairly large. It collapsed largely due to budget shortfalls and the Ag Commissioners change in focus. This caused a significant increase at the managed sites. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.15.33240.210)

Modoc Forest Response:

The implementation of any of the action Alternatives would require sustained funding over multiple years. Funding for the treatment program will come from appropriated funds, Forest Resource Advisory Committee funds, and possibly grants. Noxious Weed inventories are currently being funded by grants received by Modoc County, and Forest Service appropriated funds. The completion of the planning process is a foundation for the establishment of a sustained funding base and the opportunity to apply for grants and other funds.

Alternatives 5 and 6 reflect what is possible under the current and expected budget allocations. Alternatives 1 through 4 reflect the costs associated with what is needed to fully achieve project objectives. The FEIS does show that it is more overall cost effective to use herbicides to meet objectives on many sites, particularly rhizomatous sites.

Public Concern: The Modoc National Forest should analyze the effectiveness of herbicide use on target species.

The DEIS does not identify specific criteria for determining the programs effectiveness either at the site or the Forest level. It seems to rely on general observations and/or professional judgment, which has proven to be inadequate at the scale that the DEIS is at. Without having an accurate evaluation of the success of various treatments, at different locations/habitats, for the different targeted noxious weed species, it is very unlikely that the US Forest Service can realistically determine what works and what doesn't. Furthermore, there can be no meaningful adaptive management approach to controlling the targeted species through the Modoc National Forest Without an accurate evaluation of the methods and actions taken through the application of a comprehensive effectiveness criteria. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.5.30100.210)

The DEIS misleads the reader by promoting the ideas that herbicides are safer for the environment than manual methods and that they are by far the most effective tool to eradicate or control the targeted invasive species. In fact there are little to no examples that exist that show that how there has been a long term (10 years or more) and wide-spread (at the National Forest level) success for effectively controlling, let alone eradicating the target species using the herbicides identified for use in the preferred alternative. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.1.33200.210)

Modoc Forest Response:

The FEIS details the effectiveness of both non-herbicidal and herbicidal treatments. Appendix H of the FEIS sets forth a monitoring plan to determine if our prescriptions and activities are accomplishing the goals and objectives established. This includes monitoring herbicide levels within and immediately adjacent to proposed treatment sites.

The FEIS does provide information on how non-herbicidal and herbicidal treatments would be considered effective or inadequate.

The FEIS does not indicate that herbicides are safer for the environment. The FEIS discloses the effects of herbicidal and non-herbicidal treatments on the environment, and their effectiveness. It further discloses the risks of both herbicidal and non-herbicidal treatments on the human and natural environments.

Public Concern: The Modoc National Forest should not use the Noxious Weed Management Strategy and Action Plan, as it does not comply with agency policy or NEPA.

The "Modoc National Forest Noxious Weed Management Strategy and Action Plan" (hereafter, "Weed Plan") developed in 2003 is not a NEPA document. It did not address the role that livestock have played as vectors in weed establishment on the forest, or the role that overgrazing, or seeding of exotic grasses, or decades of spraying 2,4-D on sage brush, has played in long term habitat alteration in this region. The Weed Plan is also completely lacking in ecological considerations and does not comply with regional and national policy. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.13.10000.100)

Modoc Forest Response:

The Modoc National Forest Noxious Weed Management Strategy (2005), identifies the major vectors and causes of the existing populations of the noxious weeds on the Forest. The strategy does not identify overgrazing as a major vector for the Modoc National Forest. The major causes of noxious weed infestations have been shown to be roads. More than 90% of currently inventoried noxious weed sites are within ¼ mile of a road. Isolated sites of noxious weeds occur in fire areas, and old logging decks that were once connected to the road system.

The 2005 Modoc National Forest Integrated Weed Management Strategy does not require NEPA analysis as outlined in the FSM 2080, which specifies that only ground-disturbing and site-altering activities require NEPA analysis.

FSM 2080.44.6. "Determining the risk of noxious weed introduction or spread as part of the NEPA process for proposed actions, especially for ground-disturbing and site-altering activities." All proposed actions, including this one, require analysis as to what risks the action poses to the introduction and spread of noxious weeds. The Noxious Weed Risk Assessment for this project is contained in Appendix J of the FEIS. FSM 2080 direction is further defined in the 2005 Modoc National Forest Integrated Weed Management Strategy.

The Modoc National Forest Noxious Weed Management Strategy (2005), does contain substantial preventive measures for preventing spread of noxious weeds by domestic grazing.

Public Concern: The Modoc National Forest should analyze the source of noxious weed establishment and spread, and analyze various prevention measures in the EIS.

The DEIS is lacking ecological information relative to the causes and prevention of noxious weed establishment. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.12.30000.210)

The EIS must address, analyze, and mitigate all potential vectors for establishment and spread of noxious weeds before resorting to toxic chemicals. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.22.13100.380)

The Modoc NF cannot shirk its responsibility under the law to fully address this issue using the best available science and the inclusion of ecological studies. The DEIS fails to take the required "hard look" at the sources and vectors of weed establishment. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.9.13000.371)

The DEIS fails to analyze the sources of noxious weed establishment and spread. This is necessary in order to develop effective prevention strategies. Livestock grazing and its impact on noxious weed establishment and impacts on biological diversity on the Modoc National Forest was not addressed in the DEIS and was not identified as an issue, although public commenters identified this issue during scoping for the project EIS. It is an established fact that grazing livestock are vectors for weed establishment, and that decades of overgrazing is at the center of the ecological collapse of intermountain and Great Basin native plant communities. In response to raising this issue, the DEIS claims, on page 15, that analysis of grazing and its effect on spreading noxious weeds is "beyond the scope of purpose and need." No further analysis of this issue is provided in the DEIS. Livestock grazing has presented on-going threats to native plant diversity and ecological functions for decades in the region. Sensitive habitats such as ephemeral vernal pools, wetlands, meadows and streams have been degraded from trampling and congregation of cattle, destroying many of these unique resources and resulting in a complete loss of the native flora in many instances. The Modoc Noxious Weed EIS cannot pretend to present a scientific solution to the ecological impact of non-native invasive species without also addressing the relationship between large grazing non-native herbivores such as cattle and sheep and noxious weed establishment and spread. (Preservation/Conservation Organization, Sacramento, CA - #29.9.36100.382)

The Forest Service should analyze all of the factors which favor the establishment and spread of noxious weeds, including grazing, OHV use, use of non-native grasses to seed areas after wildfire, mining, and silvicultural practices; and the agency must design management practices or prescriptions to reduce the risk of infestation or spread of noxious weeds because of these activities. (Preservation/Conservation Organization, Sacramento, CA - #29.10.30000.382)

Missing from this discussion is a complete list of the factors that caused each of the invasions. Without knowing what lead to past noxious weed infestations how can the Forest effectively prevent re-infestation? (Public Interest Group/Political Party, Eureka, CA - #33.22.30000.382)

Instead of increasing the environmental damage with these sprays, you should address the causes of the spread of noxious weeds more diligently - logging, road building, grazing and ATV use. The evidence points these as the main reasons for the spread of invasives. These are the main causes of the spread of these weeds, are practically ignored in this DEIS. Why? (Individual, Eugene, OR - #32.5.38000.371)

The Purpose and Need for Action section is inadequate. Specifically, the DEIS does not own up to the overwhelming evidence indicating that fire suppression, logging, grazing, recreation and other resource uses are by far the most likely vectors that resulted in the present infestation and are the highest risks for reinfection and spread. This must be corrected. We can't make progress if we are unwilling to admit the causes. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.20.30300.210)

While the DEIS is thorough on toxicology, it does not enter into the complex issue of disturbance ecology. The region has been highly modified from its natural condition over many decades of habitat type conversion from farming, logging, off-highway recreational uses, and especially because of overgrazing of arid environments. Because of its aridity, recovery of degraded sites is slow. Invasive species enter the area from similarly degraded environments in the Great Basin, where many weeds have been established for decades. Disturbance will also follow treatment, and there is little discussion of likely [plant] successions following treatment. (Preservation/Conservation Organization, Sacramento, CA - #29.5.13000.300)

In order to meet the need for the project, the EIS must include, evaluate, and mitigate the role that livestock grazing, mining, geothermal development, roads, and OHV uses are playing in the establishment of weeds and degrading Native habitats throughout the region. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.7.20000.053)

The DEIS contains no analysis or study of the reasons why these 15 target noxious weeds have become established on the Modoc NF. Although CIBA and other commenters have brought this issue up repeatedly over the last 7 years, the issue of livestock as vectors of noxious weed establishment and spread was not discussed and was dismissed as an issue. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.10.21100.823)

The DEIS also failed to include the study and analysis, and mitigations for, the impact of OHV recreational uses, mining, geothermal exploration, and other vectors for the transmission of noxious weeds. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.11.21100.371)

The disturbance impacts that facilitate weed establishment associated with overgrazing and congregations of cattle or sheep must be addressed in the EIS. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.27.21100.333)

if the same destructive land practices such as backwoods fire fighting without precautions, road-building, cattle grazing, off road vehicle use, logging and mining continue in the forest and the root of the problem is never addressed, how can weeds be sustainably controlled? (Preservation/Conservation Organization, Somes Bar, CA - #40.7.30000.002)

The EIS must address and analyze all potential vectors for establishment and spread of noxious weeds. Development of alternatives, and mitigations, must be driven by analysis of all relevant issues, particularly in the development of a truly integrated vegetation or pest management program (IPM). Prevention is an essential aspect of IPM that cannot be realistically addressed without concomitant analysis of the causes of weed invasions. (Preservation/Conservation Organization, Sacramento, CA - #29.13.23100.371)

Missing from this discussion is a complete list of the factors that caused each of the invasions. Without knowing what lead to past noxious weed infestations how can the Forest effectively prevent re-infestation? (Public Interest Group/Political Party, Eureka, CA - #33.22.30000.382)

Missing from the DEIS is a complete list of the factors that caused each of the invasions and a list of ways the Forest plans on preventing the same problems from re-occurring. Without knowing what lead to past noxious weed infestations how can the Forest effectively prevent re-infestation? The Forest fails to discuss way of preventing re-infestations following successful treatments. The Forest fails to include in this DEIS a true integrated weed management plan that would include limiting and reducing activities that have led to past

invasions. The Forest has ignored consideration of past activities that have caused the type of disturbances that led to and will lead to future noxious weed introduction and spread. The Forest failed to include analysis of the impacts of cattle grazing, logging, off-road activities, and excessive roads that facilitate noxious weed dispersal. Disturbances that have lead to past and will lead to future noxious weed infestations must be dealt with as part of this plan. No long-term noxious weed treatment plan that allows invasions to continue uninhibited can be considered environmentally and economically effective. The Forest needs to include in the EIS their plan for treating disturbance-causing activities that lead to noxious weed infestations within Modoc NF. (Public Interest Group/Political Party, Eureka, CA - #33.24.30000.210)

The DEIS mentions that logging road-building and grazing has spread noxious weed, yet does not mention ATV use. Although it was identified in scoping there is no plan in the DEIS to stop the spread of weeds. In fact there is not even a statement that truck and ATVs used to spray will be washed before or after application or between sites. With out dealing with how to keep weed free areas weed free and public education this entire project will accomplish is polluting public land and water and weeds will persist. Furthermore the unchecked large scale grazing on the Modoc Forest makes weed control impossible. (Preservation/Conservation Organization, Somes Bar, CA - #40.52.30310.371)

A cow's nitrogenous waste [alters] soil chemistry allows weeds to grow better and [their] trampling destroys native vegetation. Many of the chemicals to be used adversely affect soils ability to use most nitrogen and kill mycorrhizal fungi. OHV use is prioritized in the forest and goes unchecked and had never been addressed in a NEPA document. Sensitive Cryptogenic ground crust is grazed on unchecked in the Forest. Firefighters are not asked to wash vehicles even when they are coming from know noxious weed sites and no information on how not to spread weeds is provided to recreators. How are weeds to be addressed by the use of [chemicals] that have not even been [proven]as effective when the same harmful land practices go unchecked? How are native plants to recolonize an area that has had sensitive soils destroyed by grazing, compaction, and chemicals? (Preservation/Conservation Organization, Somes Bar, CA - #40.55.30310.210)

Preventative measures that limit ground and vegetation disturbance, such as restricting livestock impacts in areas that are at risk of noxious weed invasion, and inclusion of emphasizing the use of least toxic methods of control must be included in the environmentally preferred alternative, and all action alternatives. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.29.24000.371)

Modoc Forest Response:

Prevention of Noxious Weeds is outside the scope of the proposed project and is addressed in the 2005 Modoc National Forest Integrated Weed Management Strategy. The focus of the proposed project and FEIS is to analyze the effects of control methods on specific species of noxious weeds. It is not to prevent the spread or educate the public about noxious weeds. The FEIS will clarify that control methods such as those proposed will continue to be necessary when prevention and education measures are not as successful as desired. The FEIS states that prevention and education efforts are underway, and procedures are in place to provide for the prevention of noxious weeds and the education of the public on the methods they need to follow to assist in preventing the spread of noxious weeds. Chapter 1 of the FEIS contains an expanded discussion of the

Integrated Weed Management Strategy of 2005, as well as a discussion of the causes of noxious weed spread on the Modoc National Forest.

The Forest is also complying with direction in the Forest Land and Resource Management Plan, as amended by the Sierra Nevada Forest Plan Amendment, to complete a Noxious Weed Risk Assessment for all planned projects on the Forest. The risk assessment for the prevention and spread of noxious weeds as a result of this project is included in Appendix A of the FEIS. The risk assessment assigns an expected risk level to proposed activities and identifies any weed-related actions that need implementation before, during, or after project implementation. The FEIS will clarify that OHVs and grazing are not major vectors for the spread of noxious weeds on the Modoc National Forest.

Public Concern: The Modoc National Forest should consider limiting or removing other management activities in the design and analysis of this project and EIS.

The project Design Standards (p. 239) should consider other Forest actions, such as grazing, prescribed burns, and logging, in the development of the annual work plans so weed treatments can be timed to compliment or mitigate the effects of these activities. (Federal Agency or Official, San Francisco, CA - #19.11.33000.371)

The Forest should also evaluate the designs of fuel breaks and other forest maintenance activities that open canopies, disturb the soils, and provide an optimal medium for weed establishment and proliferation. (Public Interest Group/Political Party, Eureka, CA - #33.28.34000.371)

The Forest must also consider limiting logging activities at or near noxious weed sites. Logging activities also have the potential to facilitate the distribution of noxious weeds. (Public Interest Group/Political Party, Eureka, CA - #33.27.35000.371)

The Forest needs to consider the elimination of livestock and cattle grazing in the Modoc NF. Grazing is one of the principle contributors to the spread of noxious weeds (California Department of Food and Agriculture, CA DFA, website). Livestock typically prefer to graze perennial native grasses and forbs thus reducing their biomass, density, diversity, and reproductive capabilities. This culmination of adversity eliminates native competition from exotic annuals. Additionally, the soil disturbance resulting from livestock trampling and the bare ground produced by grazing of grasses not adapted to such pressure, provides ample opportunity for noxious seed germination. Livestock are also responsible for invasive seed dispersal through carrying seeds stuck in their fur and hooves and by ingesting seed and later excreting the seed in new locations, often scarified and prepared to germinate. Finally, through soil compaction from trampling, livestock are responsible for reducing infiltration rates in soil thus reducing soil moisture levels. The Forest demonstrates no acknowledgement of this or intention to treat this within the DEIS. The exclusion of livestock grazers from the project areas in order to facilitate the restructuring of soil, provide a competitive advantage to native perennials, and eliminate an additional vector of seed dispersal, is necessary to achieve the desired goals of the DEIS. Without the exclusion of cattle, the proposed actions chances of being successful are lowered, as the adverse effects of this type of grazing can overcome suppression efforts and increase weed distribution. (Public Interest Group/Political Party, Eureka, CA - #33.25.36000.201)

Modoc Forest Response:

Eliminating logging or grazing on the Modoc National Forest is outside the scope of this FEIS. The project to control and eradicate specific noxious weeds using a range of treatment methods is not the proper place to challenge decisions that have already been made in law, regulation, or policy. The laws governing the Forest Service have declared that lands administered by the Forest Service are for multiple uses. The Modoc National Forest Land and Resource Management Plan has indicated what areas are available for what uses and established sideboards for implementing individual projects. Site-specific projects that implement grazing, logging, mining, and new recreational projects are analyzed through the process called for by the National Environmental Policy Act (NEPA).

The design of individual projects such as range improvements, fire breaks, and forest thinning operations all require a noxious weed risk assessment. That project's risk assessment, along with the project design and NEPA analysis, will help the line officer make decisions that limit the spread of noxious weeds—either by treating the noxious weeds or limiting operations in areas of noxious weed infestations.

The Forest is also complying with direction in the Forest Plan, as amended, to complete a noxious weed risk assessment for all planned projects on the Forest as they are proposed. The risk assessment assigns an expected risk level to proposed activities and identifies any weed-related actions that need implementation before, during, or after project implementation.

Public Concern: The Modoc National Forest should analyze the effects of grazing, OHV use, road building and other ground disturbing activities.

7. We note that a number of Scoping Issues raised by Native Americans were dismissed, particularly the analysis of grazing and its effect in spreading noxious weeds, as well as OHV use, and also the effects of road building and ground disturbance resulting from development projects on Modoc National Forest lands. For example, the DEIS does not appear to provide for restoration of disturbed soils, which are the most prone to noxious weed infestations. The Final EIS should address this issue, (Tribal Agency or Official, Burney, CA - #34.7.21100.002)

Modoc Forest Response:

All scoping issues were considered during the scoping period. They were placed in one of the following categories: used in alternative development, issues addressed by mitigation or design features common to all alternatives, issue already decided, addressed in the effects analysis, beyond scope of purpose and need, or no issue.

Consultation and coordination with federally recognized tribes and the California Indian Basketweavers Association is documented in the FEIS under the Public Involvement and Tribal Consultation sections. The purpose of this consultation and coordination was to identify and resolve issues which are incorporated in the FEIS.

Noxious weed establishment vectors are beyond the scope of this FEIS. The major causes of noxious weed infestations have been shown to be roads—more than 90% of currently inventoried noxious weed sites are within ¼ mile of a road. This

data was obtained from mapping of Noxious Weed sites, and is discussed in Chapter 3, "Past, Present, and Reasonably Foreseeable Actions." Isolated sites of noxious weeds occur in fire areas and old logging decks that were once connected to the road system.

The Forest also complies with direction in the Forest Land and Resource Management Plan, as amended by the Sierra Nevada Forest Plan Amendment, to complete a Noxious Weed Risk Assessment that provides for the prevention of noxious weeds when site-specific ground disturbing activities are proposed and analyzed on the Forest. The risk assessment assigns an expected risk level to proposed activities and identifies any weed-related actions that need implementation before, during or after each ground disturbing project. The noxious weed risk assessment for this project, which includes all ground disturbing activities used in this analysis, is contained in Volume 2, Part 1, Appendix J.

Public Concern: The Modoc National Forest should consider closing and decommissioning roads to prevent the spread of noxious weeds.

An aggressive weed management strategy should also include prevention activities in coordination with weed treatments. A review of noxious weeds occurrences indicates that roads are a major vector for introduction of noxious weeds on the Forest (p. 38). Road closures should be coordinated with treatments to maximize effectiveness. The DEIS states that the number of roads in the forest is the result of past activities such as timber sales, camping, hunting and off-road vehicle use (p. 8). If these activities no longer occur in some areas, decommissioning roads to mitigate the spread of noxious weeds should be considered. (Federal Agency or Official, San Francisco, CA - #19.13.41000.371)

Consider the closure and/or decommissioning of roads in areas, where appropriate, to mitigate against further spread of noxious weeds. (Federal Agency or Official, San Francisco, CA - #19.14.41300.371)

The Forest needs to consider closing roads and blocking off popular turn around spots and other unnecessary high traffic areas at or near noxious weed sites. The DEIS mentions these elements as high priority and as known pathways of weed spread (p. 8). The Forest must work to treat the cause of the problem and not just the problem itself. It is similar to simply drilling cavities without considering more frequent brushing and flossing to improve oral health routines. (Public Interest Group/Political Party, Eureka, CA - #33.26.41300.371)

As roads and landings have been identified as excellent areas for noxious weeds to take hold and thrive, page 113, can we include closing roads and eliminating existing landings in little used areas? (Tribal Agency or Official, Fort Bidwell, CA - #35.25.41300.371)

The DEIS does not in any way address declining native biodiversity due to land management practices that have facilitated invasive or noxious weed establishment. While costs and impacts are compared with a "no-treatment alternative" in the DEIS, the strategy of using some funds to prevent further invasion through different land management practices has not been addressed as it is a non-ground breaking alternative. This is not a valid reason for exclusion from the DEIS, as the changes in land use might themselves impact the ground in such a way as to trigger NEPA consideration. These might include road closures and their economic and land use impacts, if such closures could be eliminate an obvious invasive corridor. (Preservation/Conservation Organization, Sacramento, CA - #29.4.30000.310)

Modoc Forest Response:

Major state and county roads are the primary vectors for the spread of noxious weeds; closure of these roads and other major access points is outside the scope of this analysis. Road closures are not considered appropriate for this project. While a road closure may prevent introduction or re-introduction of noxious weed species into an area treated, closing a road will not control or eradicate a single existing occurrence or noxious weed site.

Biodiversity and Ecosystem Health

Public Concern: The Modoc National Forest should clearly identify desired future condition by plant community type.

To achieve effectiveness, all Programs/Projects must clearly identify the Goals and objectives, including the desired future condition. The desired future condition needs to identify what plant community (native or not) is needed at each site. A plant community that best meets the goals and objectives needs to be part of the desired condition. Identification of the type of ecosystem being managed will help provide varying direction. Ecosystem ex: Agricultural, Urban/Suburban, and Wildland. All laws, regulations, and policies need to be followed. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.7.22000.360)

Modoc Forest Response:

The desired future condition is healthy ecosystems of forested and rangeland habitats, which requires that targeted noxious weeds be controlled or eradicated from the Modoc National Forest.

The desired native plant community at each site is that of the surrounding native plant community. The Modoc National Forest is proposing to remove noxious weeds from all native plant communities, while following applicable Design Standards. Re-vegetation of the treated areas will match adjacent native plant communities.

The Forest is guided by its Forest Plan, as amended by the Sierra Nevada Forest Plan Amendment (SNFP), and the Northwest Forest Plan. The Mission and Goals of the Modoc National Forest can be found in the Forest Plan, Chapter 4. Standards and Guides for pest management can also be found in Chapter 4. Management goals and strategies for noxious weed management are to manage weeds using an integrated weed management approach according to the priority set forth in Forest Service Manual 2081.2:

- **Priority 1: Prevent the introduction of new invaders**
- **Priority 2: Conduct early treatment of new infestations**
- **Priority 3: Contain and control established infestations**

Public Concern: The Modoc National Forest should continue to enhance native plant habitat.

The Society is supportive of efforts by the Modoc National Forest to promote and enhance native plant habitats through the elimination of invasive non-native species. The Modoc

National Forest region contains the Modoc Plateau, a region with a number of unique edaphic features, rare plants, and plant communities that have not yet been well studied by scientists. The presence of homogenous stands of non-native weeds or invasive species are indeed related to, and symptomatic of, depleted native plant diversity and degraded habitats. (Preservation/Conservation Organization, Sacramento, CA - #29.1.33100.310)

Modoc Forest Response:

Thank you for your comment. The Modoc National Forest is committed to enhancing native plant habitats within its boundaries.

Commodity Production

Public Concern: The Modoc National Forest should not undertake this project to increase livestock grazing opportunities.

We can only conclude that result of the project may in fact be to increase grazing opportunities for livestock as opposed to protecting overall species diversity and ecosystem function. Nowhere in the purpose and need of the proposed project is managing invasive weeds for the benefit of livestock mentioned, except in terms of grazing as a factor that increases the rate of establishment and spread for most noxious weeds (Preservation/Conservation Organization, Somes Bar, CA - #40.54.36000.371)

Modoc Forest Response:

The Purpose and Need for the FEIS is to implement a program to control and eradicate identified species of noxious weeds (Chapter 1 of the FEIS). The eradication and control of these plants will meet the need and requirement of the Forest to promote ecosystem health of forested and rangeland habitats by maintaining or improving native forbs and grass species, ultimately preventing the loss of wildlife habitat. Other resources, such as recreation and range, may also benefit from controlling weeds.

Public Concern: The Modoc National Forest should not emphasize commodity production in this project.

The agency's emphasis on commodity production (livestock forage) rather than resource protection fails to objectively analyze the issue where there are "unresolved conflicts concerning alternative uses of available resources." NEPA Sec. 102. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.8.30000.823)

The stated need is clearly presented as being oriented towards protecting natural resources. The need is not presented as being commodity oriented. Yet, given that, it is not clear why the entire DEIS has an agricultural commodity-based bias. There is a virtual lack of ecology-based scientific analysis of the problem in the DEIS, and ecology does not seem to have informed the development of alternatives. All 15 of the noxious weeds targeted are pest plants under the California State Department of Food and Agriculture (CDFA)'s pest rating system (DEIS p. 4), a different rating system than that used by the Forest Service under current planning direction. Noxious weeds, as defined by the State CDFA, do not differentiate between native or non-native species. These are considered pests by CDFA because they interfere with agriculture. In the case of the 15 weeds in the DEIS, they are all

prickly, resinous, poisonous to livestock, or in some other way not palatable or edible-not food-for livestock. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.4.20000.200)

Modoc Forest Response:

The project is designed for protection and enhancement of resources, and not with commodity production as a goal. The respondent does not indicate what unresolved conflicts concerning Alternative uses of available resources are in conflict with the project, or where the DEIS is lacking in analysis. The weeds chosen for eradication and control were selected because they were identified as a threat to ecosystems, and deviate from the desired conditions.

In consideration of the California State Department of Food and Agriculture's Pest Rating System and consultation with the Modoc Noxious Weeds Working Group and the Modoc Agricultural commissioner, and current inventory of noxious weed species on the forest, those species targeted for treatment were identified.

Coordination

Public Concern: The Modoc National Forest should coordinate with adjacent landowners.

We encourage the Modoc National Forest staff to work cooperatively in the best manner suitable with adjoining private landowners to treat invasive species, for example, common crupina (Crupina vulgaris), within the Big Valley Ranger District. (Regional or Other Governmental Entity, Alturas, CA - #6.4.60000.371)

Noxious weeds know no boundaries and untreated infestations on the Forest soon spread throughout the Forest and onto adjacent private lands. (Agriculture Industry, Alturas, CA - #37.2.60000.371)

DEIS - page 159, Inventory, Mapping and Monitoring, para. 1, Not only should the Forest Service "share Information with our neighbors and partners", it should include their private land in the inventory to the extent acceptable to owners. Objectives: Suggest including private inholdings when meeting these objectives if such inclusion is OK with the property owners. Proposed Actions: Suggest including private land inholdings where OK with owner. (Individual, Tucson, AZ - #41.14.30110.650)

There should be a very focused and continuing effort for on-site collaboration between the Forest Service and the private land owner in terms of inventory; yearly planning, program implementation, and monitoring. All the right words are in the DEIS re: the law, regulation, policy, etc. but, except for page 10, para.4, third bullet (a great commitment!), actual contact with the landowner seems to be left up to a sort of middleman called the Modoc County Noxious Weed Working Group. As dedicated as this working group may be, I don't sense that its mission is to foster the kind of hands-on partnership that I am suggesting. Am I wrong about this? I suggest the Forest Service take a pro-active stance with the private land owner and attempt to establish an on-site, one-on-one engaging relationship. We all know that sometimes that won't work. But sometimes it will work. If ever it can work, this is the time and place because, as the DEIS says, noxious weeds know no boundaries. (Individual, Tucson, AZ - #41.1.12140.371)

Being a private landowner, don't see enough collaboration between forest service and private landholders, on-site. Modoc County Working Group has become a middle man. Talk directly with private inholder on actual annual work plan if work is adjacent to that private property. On page 17, DEIS, Design Criteria, add 'collaborate with private landholder when working on weeds near or next to that private property.' Main concern is some kind of one on one, direct contact with inholder, on-site. (Individual, Tucson, AZ - #39.1.12140.720)

DEIS - page 18, Monitoring should include the private land of willing and cooperating inholders. (Individual, Tucson, AZ - #41.7.30110.650)

DEIS - page 156, para. 4, Since the document discusses the area within the Forest administrative boundary, it should treat inholdings with the same specificity as national forest land when it comes to inventory, planning, monitoring, etc. as long as its is OK with the property owner. (Individual, Tucson, AZ - #41.11.30100.650)

DEIS - page 159, Inventory, Mapping and Monitoring, para. 1, Not only should the Forest Service "share Information with our neighbors and partners", it should include their private land in the inventory to the extent acceptable to owners. Objectives: Suggest including private inholdings when meeting these objectives if such inclusion is OK with the property owners. Proposed Actions: Suggest including private land inholdings where OK with owner. (Individual, Tucson, AZ - #41.14.30110.650)

DEIS - page 164, fifth bullet: Suggest inclusion of private inholdings in this plan if the private owners have made arrangements to treat their weeds. (Individual, Tucson, AZ - #41.17.12140.650)

Modoc Forest Response:

The Modoc National Forest only has authority to plan and implement noxious weed treatment on National Forest system lands. However, it is recognized that for such a treatment program to be effective, it is critical that coordination with private and other agency landowners, as specified in Section 1 of the Modoc National Forest Integrated Weed Management Strategy, needs to occur.

The Modoc National Forest recognizes that a cooperative approach in treating noxious weeds that includes private land inholdings, state lands, tribal lands, and other federal lands within the boundaries of the Modoc National Forest, is crucial in the eradication and/or control of noxious weed species. To this end, the Forest is collaborating with the Modoc Noxious Weed Working Group. To date, the Modoc County Agriculture Commissioner has conducted the bulk of noxious weed inventory and treatment on private lands. As the Modoc National Forest Weed Treatment Project is implemented, collaboration with landowners with inholdings within the boundaries of the Modoc National Forest will be necessary for effective noxious weed treatments.

Monitoring water quality on private land is the responsibility of the US EPA, Regional Water Boards, or the State of California—not the US Forest Service.

DATA

Public Concern: The Modoc National Forest should use current data, and not information from 2002, in completing this Analysis.

To evaluate the current levels of weed infestation and set the stage, the Forest uses data collected three years ago in 2002 (p. 6). This data cannot be considered complete and accurate in terms of the current analysis. Over the course of the last three years existing weed populations could have expanded or decreased, and thus changed the preferred treatment option. New outbreaks of either existing or previously undetected invasives could have occurred. Many of the small sized sites of close proximity may have combined into one larger site, where additional treatment methods may now be the preferred option. Without a more accurate, up to date description of the problem, including all the current sizes and locations of the noxious weeds, deducing treatment options can only be moderately effective at best. Again, this is where really using IPM techniques would be most effective, yet a truly integrated plan is not proposed. (Public Interest Group/Political Party, Eureka, CA - #33.18.21100.371)

Modoc Forest Response:

In development of the FEIS, the Forest Service used the most current data available. Inventory efforts are continuing, which will yield additional information on weed occurrences and best treatment options within the framework of the FEIS. Information concerning infestations of the 14 identified species that was gained through the continuing inventory, has been added to the analysis. The FEIS is based on the Modoc National Forest 2005 data base of all resources and activities.

Document Clarity, Definitions, Corrections, Editorial Issues, etc.

Public Concern: The Modoc National Forest should use the Sierra Nevada Forest Plan Amendment Definition of a noxious weed:

Weed Defined, p.4. The Society objects to the definition given for "noxious weeds" because it does not differentiate between native and non-native species. The California Food and Agriculture code, Section 5004 as quoted in the DEIS, declares that no weed will be deemed noxious "if the designation will be detrimental to agriculture." The use of this definition exhibits agricultural bias.

Use of the California State Department of Agriculture definition means that an invasive non-native grass, such as Bromus inermis (smooth brome), a highly invasive plant found throughout the Modoc NF, cannot be declared "noxious" because livestock eat it. Many non-native grasses have been planted throughout the region via aerial seeding in order to provide more forage for livestock. The Modoc Noxious Weed EIS focus is on invasive species that have no livestock forage value. While the EIS is limited to targeting 15 non-native species, we are concerned that the door is left open to target native species with the use of this biased definition.

For example, many livestock owners and ranchers, as well as county agriculture commissioners and Forest Service range managers, consider native genera in the Madiinae tribe of the Sunflower family to be noxious weeds. The group, commonly called "tarweeds," includes native wildflowers in the genera Hemizonia, Deinandra, Centromadia, Harmonia, Kyhosia, Anisocarpous, Hemizonella, Jensia, Carlquistia, Madia, and Holocarpha. All

contain rich protein food in their seeds that are relished by birds and small mammals. However, they are prickly, resinous species that are not eaten by livestock, and because they are not forage species they have been called noxious weeds.

The Sierra Nevada Forest Plan Amendment, or SNFPA, which now guides Noxious Weed management on the 11 forest of the Sierra Nevada, including the Modoc NF, addressed the importance of defining the term "noxious weed" as "there are subtle differences [in definitions] worth noting.

For the purposes of this FEIS noxious weeds are those non-natives with an extraordinary capacity for multiplication and spread at the expense of native plants. They may or may not be officially designated as noxious weeds." SNPPA FEIS, Vol. 2, Ch.3, p.308, emphasis added.

The Modoc NF must adhere to the SNFPA under the statutory requirements of the National Forest Management Act, NFMA. 16 U.S.C Section 1600 - 1687. NFMA requires the agency to follow its forest plan. 36 C.F.R. Section 219.10 (e). The proper use of definitions must be corrected in the Modoc NF Noxious Weed FEIS. (Preservation/Conservation Organization, Sacramento, CA - #29.7.33100.371) (Preservation/Conservation Organization, Sacramento, CA - #29.8.33100.371)

The FEIS must eliminate the use of commodity driven definitions of noxious weeds. Noxious weeds may only be non-native species under the SNFPA SNPPA FEIS, Vol. 2, Ch. 3, p. 308. ...The Modoc NF must adhere to the SNFPA under the statutory requirements of the National Forest Management Act, NFMA. 16 U.S.C. ? 1600 - 1687. NFMA requires the agency to follow its forest plan. 36 C.F.R. ? 219.10 (e). The proper use of definitions must be corrected in the Modoc NF Noxious Weed FEIS. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.5.21200.160)

Modoc Forest Response:

Forest Service Manual 2080 direction is to coordinate with state and county agencies in prevention, control, containment, and monitoring efforts involved with the management of noxious weeds. Following this direction, we have coordinated with the Modoc County Noxious Weed Working Group and the California Department of Food and Agriculture in defining and identifying species of noxious weeds.

The SNFPA did not change the definition of a noxious weed as stated in the EIS or the Noxious Weed Management Strategy and Action Plan. Page 3 of the Record of Decision for the Sierra Nevada Forest Plan Amendment – Final Supplemental Environmental Impact Statement states, "The SEIS represents an analysis and planning document and does not provide management direction."

Page 36 of the ROD restates the priorities for treating noxious weeds as set forth in FSM 2081.2, which are also reflected in our Noxious Weed Management Strategy as well as in the EIS.

Page 63 of the ROD lists the following standard and guidelines related directly to pesticide use: "97. Limit pesticide applications to cases where project level analysis indicates that pesticide applications are consistent with riparian conservation objectives." "98 Within 500 feet of known occupied sites for the California red-legged frog, Cascades frog, Yosemite toad, foothill yellow-legged

frog, mountain yellow-legged frog, and northern leopard frog, design pesticide applications to avoid adverse effects to individuals and their habitats." And "99. Prohibit storage of fuels and other toxic materials within RCAs and CARs, except at designated administrative sites and sites covered by a Special Use Authorization."

The Alternatives were developed to conform and address the standards and guidelines of the Forest Plan, as amended.

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

There is a discrepancy in the identification of water body buffer zones. Page 99 states that "no pesticide weed treatment will occur within 100 feet of water," and page 111 and Appendix D (p.239) indicate that Glyphosate will be applied within 100 feet and up to 10 feet from water. Recommendation: In the Final EIS, clarify the buffer zone width for pesticide application near water resources. (Federal Agency or Official, San Francisco, CA - #19.19.31120.380)

Modoc Forest Response:

The FEIS clarifies the width of the stream management zones, and these widths are consistent with the MDF Land and Resource Management Plan (Forest Plan) as amended by the Sierra Nevada Framework Record of Decision.

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

The DEIS contains two tables Table 2-1a on page 23-25, and Table E-1 on pages 248-249. The footnotes associated with the legend for these tables do not match the tables. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.40.21200.380)

Modoc Forest Response:

The tables and footnotes have been corrected in the FEIS.

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

We're not sure what the Forest uses to define a small infestation or site size, but 40 (83%) of the toadflax sites are .1 acre or less in size (p. 214-15). In fact on page 165 at the start of Appendix B the Forest defines small occurrences as those that are less than .1 acre. The Forest has neglected to include the population numbers for these sites in Appendix B. (Public Interest Group/Political Party, Eureka, CA - #33.98.30100.371)

Modoc Forest Response:

As stated in the DEIS and FEIS, population numbers are not available for all sites. Estimates of size and population numbers are used for analysis.

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

Table 1-1, Rating A- What does "Quarantine interceptions to be rejected or treated?." Mean? Especially, how can an A rated plant or seed be "treated". (Tribal Agency or Official, Fort Bidwell, CA - #35.9.31120.240)

Modoc Forest Response:

"Quarantine interceptions to be rejected or intercepted" means that the State of California can confiscate A-rated weeds wherever they may be found. The State of California maintains agriculture product inspection stations to intercept threats to agriculture production. If A-rated plants are picked up at these stations they are confiscated and destroyed. If found on private property, the state can insist that the landowner destroy the plants. In the FEIS, A-rated plants are treated as described in Chapter 2.

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

DEIS - page 8, line 1 or 2. Don't forget New Pine Creek. (Individual, Tucson, AZ - #41.3.21200.210)

Modoc Forest Response:

New Pine Creek has been added to the list of communities.

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

DEIS - page 8, para. 5. 30 plus years. Not 10. (Individual, Tucson, AZ - #41.4.24200.210)

DEIS - page 20, para. 2, 10 or 30 plus? (Individual, Tucson, AZ - #41.9.24200.210)

Modoc Forest Response:

Alternative treatment timeframes have been clarified in the FEIS (Table 2-11 in the FEIS).

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

DEIS Page 19, last para. Sounds like one annual treatment. Might need more than one on some sites. (Individual, Tucson, AZ - #41.8.24200.371)

Modoc Forest Response:

The FEIS analysis is based on treating each site at least one time annually. Some sites and treatment methods may require additional treatments during the same year. Herbicidal treatments may be required if the first treatment does not achieve at least 85% effectiveness. Non-herbicidal treatments may require several treatments per year for sites or conditions that allow plants to re-sprout or grow to seed development.

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

DEIS - page 133, next to last line, Please change our address to: Tucson, AZ. (Individual, Tucson, AZ - #41.10.21200.001)

Modoc Forest Response:

Your Address has been changed from your summer New Pine Creek, CA address to your winter address in Tucson, AZ.

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

DEIS - page 161, first line, Suggest after the word "groups, insert "and individual land owners". (Individual, Tucson, AZ - #41.16.21200.650)

Modoc Forest Response:

The Noxious Weed Management Strategy 2005 was rewritten based on comments received during the comment period on the DEIS, although the strategy is a stand-alone document, and is included in the FEIS only as a reference document.

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

It is unclear from the DEIS how much of the total Forest would be treated by alternatives 2, 3 or 4. Page 20, .6% of Forest; page 91, less than 5% of Forest and less than 3% of Forest; page 112 less than .005% of land base. What % of the Forest would be treated under what alternative? (Tribal Agency or Official, Fort Bidwell, CA - #35.23.24000.730)

Modoc Forest Response:

The amount of land to be treated has been clarified in the FEIS (Chapter 2, Table 2-11).

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

On page vii reference is made to "LOPs" but there is no explanation for this acronym. What does LOPs mean? (Tribal Agency or Official, Fort Bidwell, CA - #35.6.21200.340)

Modoc Forest Response:

LOPs are limited operating periods. Limited operating periods are used to limit management or recreational activities around animal nest or den sites.

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

Wavyleaf Thistle (Cirsium undulatum) is no longer listed as a noxious weed on the California Department of Food and Agriculture's Pest Ratings Noxious Weed Species List, and thus should be removed from your target weed species list. (State Agency or Official, Sacramento, CA - #28.3.21100.371)

Modoc Forest Response:

Wavyleaf thistle has been removed from the analysis.

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

9. 2,4-D was omitted from the list of proposed pesticides on p. 337 (Appendix H), and should be included in the list. (State Agency or Official, South Lake Tahoe, CA - #30.14.33211.001)

Modoc Forest Response:

The FEIS was corrected to include 2,4-D as an herbicide to be monitored under the water-quality monitoring plan.

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

The DEIS mentions the use of vehicle-based applications of herbicides (p. 17, 75, 93), however the description of the preferred alternative on page 20 includes only spot treatments and backpack applications of herbicides. Horseback application is included on page 93. Recommendation: Clarify the mode of herbicide application in the preferred alternative. If truck-mounted delivery systems are used, include mitigation that will prevent the spread of seed from driving vehicles into infested areas, a concern specifically identified for knapweeds (p. 330). (Federal Agency or Official, San Francisco, CA - #19.22.33200.371)

Modoc Forest Response:

Appendix A of the FEIS (Modoc National Forest Noxious Weed Management Strategy 2005) lists prevention measures to be applied when vehicles could spread noxious weed seeds. All herbicidal treatments would be applied through use of herbicide applicators described in chapter 2 of the FEIS. Truck-mounted boom application of herbicides (broadcast spraying) is not proposed in the FEIS. Vehicles would be used to transport herbicides as described in Chapter 2 of the FEIS. Regardless of the mode of transport, the application of herbicide would be by directed foliar spray or wicking on foliage. Prevention guidelines, as outlined in the Integrated Weed Management Strategy of 2005, will be followed.

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

Of all of the 8,646 acres to be treated under this project, only 29.28 acres (0.03%) is proposed to be hand treated and the rest is proposed for herbicide spraying (p. 212). On page 165, at the beginning of DEIS Appendix B - Site Specific Proposed Treatments, the Forest states that the physical/manual treatment "is proposed when occurrences are small, consisting of <100 plants or the site is <. 1 acre." This statement is contradicted within this appendix as several sites consisting of less than .1 acre or having less than 100 plants are proposed to receive herbicides or herbicide/physical treatments. (Public Interest Group/Political Party, Eureka, CA - #33.78.21200.371)

Modoc Forest Response:

DS-5a in Table 2-4 states that physical and manual treatment will be used when occurrences are small—fewer than 100 weed plants or a tenth of an acre or less. Sites of a tenth of an acre or less with over 100 plants would likely be treated with herbicides until the population is reduced to less than 100 plants. This Design Standard applies to Alternatives 2 and 4.

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

Chart of page 23 and 24, do not understand how the numbers 2-11 correlate to the chart. (Tribal Agency or Official, Fort Bidwell, CA - #35.18.10300.720)

Modoc Forest Response:

The numbers 2-11 in Table 2-1a of the DEIS are footnotes that refer to each herbicide and its limitations of use and/or effectiveness. Table 2-1a is no longer in the FEIS, and the information presented in Table 2-1a of the DEIS can be found in Table 2-14. Limitations to herbicidal use can be found in the Design Standards listed in Table 2-4 of the FEIS.

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

On the top of page 7, which is it, 160 acres with Common crupina on it or 860 acres. The paragraph is unclear. This same paragraph shows up under a graph later in the DEIS. (Tribal Agency or Official, Fort Bidwell, CA - #35.14.14200.760)

Modoc Forest Response:

The FEIS clarifies that the 160-acre common crupina site on federal land is part of the larger 860-acre site mostly located on private land.

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

10. P. 238 includes a list of agencies to be notified in case of an herbicide spill (Appendix C, Spill Contingency Plan, p. 238). However, the list is incomplete. Spills should be reported to the state Office of Emergency Services (OES). After being notified of a spill, OES will contact appropriate responder agencies including the Regional Water Boards, and others. Please include OES in the notification list. You may also contact OES for more information about spill reporting procedures. (State Agency or Official, South Lake Tahoe, CA - #30.15.33210.719)

Modoc Forest Response:

The spill plan has been corrected.

Public Concern: The Modoc National Forest should correct inconsistencies on page 30 concerning ecosystem health and native plant communities.

On page 30 Table 2-3 compares impacts each alternative is predicted to have on meeting the goal to maintain or improve ecosystem health and native plant community structure (a fundamental project purpose). The no herbicide alternative provides the means for "ecosystem health and native plant community structure stabilizing and gradually improving but at a much slower rate than Alternative 2 or 4." This contradicts the previous pages assumption that the no herbicide option would be ineffective. It then says that "noxious weeds are controlled and eliminated in number of sites and acres" using the no herbicide alternative. This again contradicts claims made on the previous page. While we agree that the ecological impacts regarding ecosystem health and native plant community structure will be positive from not using herbicides, we also feel that slower is better for long-term purposes and needs of the project such as these. (Public Interest Group/Political Party, Eureka, CA - #33.55.24000.210)

Table 2-3 is biased and clearly demonstrates the Forest's preference for Alternative 4 (p.29-32). It is also fails to compare all treatment methods and feasible alternatives through omission. Table 2-3 shows the Forest's incorrect and biased assumption that adoption of the no action and no herbicide alternatives (1 and 3 respectively) would both be completely and equally ineffective (p.29). The DEIS states that no herbicides means the zero weeds will be controlled or eradicated. It goes so far as to claim that using methods that do not include lots of herbicide applications the weed infestations in Modoc National Forest could double in the next 10 years to over 16,000 acres, the same rate as if nothing was done. The assumption that a treatment alternative not including herbicides (alt. 3) will have the same impact as doing nothing is absurd. Literature repeatedly states that physical control methods are extremely effective in controlling smaller weed infestations. (Public Interest Group/Political Party, Eureka, CA - #33.52.24000.210)

Modoc Forest Response:

The error in Table 2-3 that identified similarities between Alternative 1 and 3 has been corrected in the FEIS. Estimates on the rate of spread were evaluated, and are reflected in the FEIS based on cost of hand treatments and number of years that subsequent return treatments are required.

The FEIS will clarify that the implementation of Alternative 3 will have a greater effectiveness than the No-Action Alternative. However, those weed species that cannot be controlled by hand treatments (e.g., those species with rhizomes) would continue to expand their infestations with the implementation of Alternative 3.

Public Concern: The Modoc National Forest should edit the document for clarity, definitions, corrections, and editorial changes as follows:

As written on pages v and 20 there would be alternative funding and work crews available for alternative 4 whereas there is no such alternatives suggested for alternatives 2 or 3, why is that? (Tribal Agency or Official, Fort Bidwell, CA - #35.4.24400.835)

Modoc Forest Response:

The statement on page 20 of the DEIS applies to all action Alternatives. The statement on funding and work crews is not an Alternative to be analyzed. Chapter 2 of the FEIS contains an implementation section.

Public Concern: The Modoc National Forest should more clearly display environmental effects.

Appendix B does not list the definitions for treatments. This needs to be added to FEIS. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #27.1.21200.001)

The Forest provides us with a helpful table of important aquatic species whose habitat is not in the project area and will not be affected thusly (p. 49). The Forest fails to provide us with a similarly easy to read table of all (not just some) important, sensitive, or listed aquatic species of whose habitat is within the project area and who will be potentially impacted by the project. The Forest needs to provide a map (similar to the one containing known noxious weed sites of 2003) with information regarding the location and known habitats of all sensitive and listed species (including plants, aquatic species, and all wildlife) so we can compare the locations of noxious weed sites and proposed treatments in the vicinity. The DEIS must provide information that allows for the reader to draw their own environmental effects conclusions and not be solely reliant on biased Forest reporting. (Public Interest Group/Political Party, Eureka, CA - #33.195.13100.340)

Modoc Forest Response:

The treatment table has been consolidated and expanded to show limitations, treatment methods, and environmental concerns by site.

Public Concern: The Modoc National Forest should include a more effective spill plan in the FEIS.

We are opposed to the use of ATV and boats to transport dangerous chemicals. We feel that they are accident prone and dangerous. Furthermore we feel both your scenarios for spill and spill response plan are unrealistic, downplay the dangers of spilling know toxins and scale of a spill. We also believe the spill response plan in the DEIS is ineffective. (Preservation/Conservation Organization, Somes Bar, CA - #40.57.33210.210)

Last but not least we wonder where the funding will come from to provide the unspecified amount of chemicals for such a large spray program, and whom will pay for the inevitable spills and leaks that will come from transporting and mixing of chemicals on public lands, in some cases with dangerous All Terrain Vehicles and in boats. (Preservation/Conservation Organization, Somes Bar, CA - #40.17.14120.380)

Modoc Forest Response:

Neither the DEIS nor the FEIS propose the use of boats for transporting herbicides. Funding for the treatment program will come from appropriated funds, Forest Resource Advisory Committee funds, and possibly grants. Noxious Weed inventories are currently being funded by grants received by Modoc County and Forest Service appropriated funds.

The DEIS (page 303) describes the spill scenario used for the human health-risk assessment. This spill scenario analyzes a 200-gallon field solution being dumped into a small pond. The size of the pond is arbitrary. However, based on several assumptions, it is also conservative (i.e., it likely overestimates exposures). As described on page 303, the risk assessment assumes the maximum contamination possible, and human exposure is assumed to occur immediately after the spill. Instantaneous mixing is assumed, as well as no degradation of the spilled material. This is admittedly an arbitrary scenario and is used for analysis purposes only. Scenarios that are more or less severe, all of which may be equally probable or improbable, could easily be constructed. The size of a spill from an ATV would be encompassed by this spill scenario.

Economic Conditions and Values

Public Concern: The Modoc National Forest should consider the economic impact of spraying on recreation.

…recreationalist may forgo recreation in such areas, sometimes permanently. Fortunately, Aaron Douglas, a USGS research economist, and his associates have completed an economic study of the value of recreation in the Klamath River Basin. The study included a survey of river recreators. Please refer to these new studies in the EIS economic analysis and consult with Mr. Douglas and his associates to obtain their expert opinion about how fishermen and other river recreators are likely to react to toxic herbicide spraying within ten feet of streams and to warning signs which will alert the public to the spraying. (Preservation/Conservation Organization, Somes Bar, CA - #40.15.70000.383)

Modoc Forest Response:

The Modoc NF examined the Aaron J. Douglas publication "Estimating Recreation Trip-Related Benefits for the Klamath River Basin with TCM and Contingent Use Data." We found no data directly correlated to the economic impact of spraying on reduced recreation use. While there may be some short-term impact on riparian recreation use in site-specific areas, all spray activities in or near riparian areas are for the purpose of maintaining or improving riparian resources. This will benefit long-term recreation use.

Public Concern: The Modoc National Forest should consider environmental and social costs in addition to economics.

The Forest again refers to the need to "economically" deal with noxious weed species in the DEIS (p. 7). Nowhere are the costs (environmental and social) of long-term frequent herbicide use evaluated because the effects are inaccurately minimalized. These are cost that must be included into any discussion of economics. Where are the references and information sources from where management effectiveness and cost approximations were derived? Using a blanket statement like high cost/low effectiveness (or low cost/moderate to high effectiveness) allows the reader to draw a potentially false conclusion. Is this information from studies or past projects dealing with the same invasive weeds in the same ecosystems? Or are these figures pulled from different projects, treating different weeds, in different ecosystems erroneously applied to this project? NEPA requires clear and concise analysis, not an outline of information provided elsewhere. The EIS must "stand alone", yet the

economic analysis within it cannot do so. (Public Interest Group/Political Party, Eureka, CA - #33.151.13100.800)

Modoc Forest Response:

In addition to detailed site-specific environmental analysis, the FEIS contains a social analysis, including an examination of potential environmental justice issues, and a civil rights impact analysis.

Public Concern: The Modoc National Forest should use geographically appropriate economic data for the estimated treatment costs.

The Tables on page 72 of the DEIS that compare estimated treatment costs for alternatives 2 and 3 are incomplete, ineffective, and fail to provide an object economic picture. First the numbers come from a 2004 project in New Mexico, while the proposed project is in Northern California? Why does the Forest believe that information applies to this project other than subject matter? How were these numbers and figures obtained? The Forest should consider doing their own financial and economic analysis based on projects in Northern California or Southern Oregon. (Public Interest Group/Political Party, Eureka, CA - #33.153.13100.800)

Modoc Forest Response:

The cost estimates for single treatments made for the Carson-Santa Fe DEIS could be very similar to one-time treatment costs incurred on the Modoc National Forest, since the high desert physiographic portions of these forests and many of the weeds species examined are the same. However, the FEIS contains revised cost estimates. The revised cost estimates were developed by the Modoc National Forest Interdisciplinary Team. The costs information examined includes contributions from the Fremont - Winema National Forests, the Carson National Forest, the Eldorado National Forest, the Stanislaus National Forest, the Pacific Northwest Region, cost information from Joe Moreo of the Modoc County Department of Agriculture, the cost study by Celestine Duncan on Spotted Knapweed, the costs for controlling weeds with goats by Lani Lamming, and the cost information on manually treating weed costs for the Salmon River project provided by Peter Brecker from the Salmon River Restoration Council.

Public Concern: The Modoc National Forest should provide adequate economic analysis.

…these tables [The Tables on page 72] provide a misleading representation, showing an incomplete and inadequate no chemical alternative. Without an adequate range of alternatives the economic analysis is skewed to support herbicide application. A real IPM strategy, incorporated into an IPM alternative, utilizing the superior cost-effective control and eradication non-herbicide methods described by the experts (see previous sections detailing treatment methods for each noxious weed cited in the literature) would provide a very different and more attractive bottom line that would restore balance and fact-based evaluation to the current economic analysis. The tables are organized differently, specifically to mislead and skew information improperly in favor of using herbicides. (Public Interest Group/Political Party, Eureka, CA - #33.154.13100.800)

The stated purpose of the project "is too economically implement ? a program to control and eradicate 15 identified species of noxious weeds" (p. 3). The Forest has failed to provide a plan that will meet this purpose. The complete economic picture has not been fully presented

for evaluation. There is no proof provided that long-term herbicide application will actually eradicate the targeted invasive species or do so relatively economically when a full range of alternatives is considered. (Public Interest Group/Political Party, Eureka, CA - #33.150.20000.800)

The stated purpose of the project "is too economically implement a program to control and eradicate 15 identified species of noxious weeds" (p. 3). We will refer to this statement through out this comment letter. The Forest has failed to provide a plan that will meet this purpose. The complete economic picture has not been fully presented for evaluation. This will be discussed further upon reaching the economics section of the DEIS. There is no proof provided that long-term herbicide application will actually eradicate the targeted invasive species or do so economically. (Public Interest Group/Political Party, Eureka, CA - #33.3.20000.830)

The proposed Alternative 4 doesn't even [have] an estimated treatment costs table, just is stated to be the most cost effective? Based on what data? (Public Interest Group/Political Party, Eureka, CA - #33.155.24400.800)

Modoc Forest Response:

The FEIS contains a revised economic analysis based on revised Modoc National Forest cost estimates. See the response to the comment “The Modoc National Forest should use geographically appropriate economic data for the estimated treatment costs”. The EIS does not claim that herbicides alone are an effective treatment of all noxious weed species or sites.

The deciding official is responsible for determining the appropriate level of social and economic analysis EIS. The analysis is to be "cost effective" and "commensurate with complexity of issue, scope of decision, and significance of expected results."

FSM 1903 provides policy for Forest Service planning. It states, "Conduct appropriate level of analysis commensurate with complexity of issue, scope of decision, and significance of expected results to arrive at decisions" (FSM 1903 (2)). FSM 1904 lists responsibility for Forest Service planning. FSM 1904.1 states that line officers are responsible for managing and controlling any planning process which leads to decisions for which they are the responsible officials.

FSM 1970 provides direction for social and economic analysis in Forest Service planning. FSM 1970.3 (6) states "Select cost effective methods of conducting economic and social impact analyses to ensure that the degree of analysis is commensurate with the scope and complexity of the proposed action."

FSM 1970.6 states, " The responsible line officer determines the scope, appropriate level, and complexity of economic and social analysis needed. In many planning and management situations, certain laws and regulations or Forest Service policy specify analysis requirements (FSM 1901, 1903). In other situations, the scope and depth of analyses depend on the potential effects of the program or project planned or under review."

Public Concern: The Modoc National Forest should consider the economic benefits of using herbicides.

Also, herbicides are cheapest cost to taxpayer, since [we] have many weeds and they are spread out. (County Agency or Official, Alturas, CA - #21.3.24400.833)

Modoc Forest Response:

The FEIS examined a wide variety of treatment methods for all weed species and treatments. Cost-effectiveness is one factor that the decision maker will use to choose between Alternatives.

Public Concern: The Modoc National Forest should put unemployed Modoc County residents to work by paying them to pull noxious weeds.

Modoc County is depicted as poverty stricken and economically challenged part of California (p. 36-37). The Forest has an opportunity to provide long-term seasonal employment for a few physical laborers pulling and digging noxious weeds. (Public Interest Group/Political Party, Eureka, CA - #33.152.70000.815)

Modoc Forest Response:

The Forest plans to use, whenever possible, a wide variety of approaches to treat weeds. The work force may include volunteers, private contractors, seasonal crews, conservation camp crews, inmates, and partnerships with other agencies and organizations.

Public Concern: The Modoc National Forest should provide data to show the economic effectiveness of herbicides.

Support for the analysis of the economic and financial effectiveness of the alternatives on page 71 is based on the claim that "Modoc County has experienced demonstrable success using herbicides to control several weed species that this Alternative treats". There is no reference to any evidence to support this broadly conclusory statement. (Public Interest Group/Political Party, Eureka, CA - #33.32.33210.380)

Modoc Forest Response:

The project record includes studies and reports comparing the cost effectiveness of Alternative treatment types. In addition, personal communications with the Modoc County Agricultural Commissioner have supported the cost effectiveness of herbicide treatments over other treatment methods. The Nature Conservancy Noxious Weed Treatment Handbook is an example of another source of the effectiveness of herbicides on noxious weeds (Tu et al. 2001).

Environmental Justice

Public Concern: The Modoc National Forest should consider the effects of herbicides on American Indians.

The California Indian Basketweavers Association commented extensively on the proposed action from the point of view of a minority group that will be adversely affected to a greater extent than the average citizen. They asked for a focus on restoration and healthy ecosystem

creation and elimination of causes of infestation. They asked for other non-chemical methods, before chemicals were considered. They also asked for monitoring program and infestation prevention guidelines. They expressed the need for an integrated approach to noxious weed management. (FSM 2080, WO Amendment 2000-95-5) They asked for Weed Management Plan and a science based analysis. Asked for proof of an adequately funded program. They asked for mapping of weed free areas and plan to keep them that way. They asked for attention to be given to historic disturbance patterns. They asked for mitigation measures for wildlife including use of a native seed bank. They asked for a restoration plan. They asked for a commitment of funding and time to native seed banks and parents. They asked Earl Alexander, a retired soil scientist from PSW, for a discussion of soil types and requirements of the plants that grow on them. They asked that the Forest Service include all the references, scientific information and recommendations that are incorporated in the DIES (it was not). They asked for herbicide free zones for basket and cultural areas. (Preservation/Conservation Organization, Somes Bar, CA - #40.11.30000.743)

Effects to Minorities - A significant issue in this DEIS is the " May affect Native American Plant sites, collection, for medicinal and basket" the DEIS concluded that the project May effect for short term but not eliminate species over large area. DEIS p 31. It is well known that certain sites are more assessable and are traditional gathering areas. It is also well documented that chemical, such as round-up and 2,4-D can persist for years after application. Furthermore it is admitted in the DEIS that multiple chemicals will be used in some sites (this makes many chemicals extra impactful to health) for up to a ten year period in unspecified areas. It is also well documented that many basket weavers care for and enhance certain sites, mainly by burning. Effects to Native people from consuming edible plants, fish and game is also documented. If this project is to effect the location of plants, health of fisheries, health of game species, and health of water quality it will be a threat to the local tribes way of life, tribal trust species, water rights and health through toxic exposure and change of diet. Therefore this project will have a disproportional impact to Native people. This project also may break numerous treaties. (Preservation/Conservation Organization, Somes Bar, CA - #40.12.70000.743)

Modoc Forest Response:

The Forest recognized early in the planning process there was the potential for effects toward basket weavers and other members of tribal communities. Consultation and coordination with federally recognized tribes and California Indian Basketweavers Association is documented in the FEIS under the Public Involvement and Tribal Consultation sections. The purpose of this consultation and coordination was to identify and resolve issues, which are incorporated in the FEIS. The annual work plans will continue this consultation with each federally recognized tribe. In addition, the risks to human health, including members of the public, from the use of herbicides in this project are evaluated in Appendix F and discussed in Chapter 3.

Public Concern: The Modoc National Forest should consider effects of herbicides on the Hispanic population.

Hispanics are 12% of population and growing and we believe that the chance of Hispanics being disproportionately exposed to the pesticides more then others through jobs in the woods should be addressed. (Preservation/Conservation Organization, Somes Bar, CA - #40.16.33210.743)

Modoc Forest Response:

The demographic information for the counties affected indicates the population of Hispanics as follows: Modoc 12.6% (Population of Modoc County is 9,650), Lassen 14.1%, and Siskiyou 8.3% (CED 2005). Percentage of the population of an area has little to do with the potential effects on a population. The important figures for analysis are those utilizing the area. The 2001 use figures for the entire Modoc National Forest indicate that of the individuals utilizing the forest 0.3% of the Forest Visitors are Hispanic; 0.2% are Asian; 0.4% American Indian or Alaska Native; 1.1% Native Hawaiian or other Pacific islander; and 98% are white. The EIS correctly reflects minimum impacts to humans regardless of race or ethnicity. In addition, the risks to human health, including workers and members of the public, from the use of herbicides in this project are evaluated in Appendix F and discussed in Chapter 3.

Contracts awarded to "Small Business Administration qualified Contractors" will include health and safety precautions, herbicide fact sheets, spill plans and requirements for personal protective equipment (PPE). When non-English speaking herbicide applicators will be employed, safety training in the language of the crew will be conducted. All contracts will be supervised and inspected by government employees who will ensure compliance with all safety requirements. In addition, the contact will require bilingual "batchers" and crew foremen who speak the language of the treatment application crew.

Public Concern: The Modoc National Forest should not violate tribal trust responsibilities

The DEIS incorrectly indicates that the proposed action will not result in a violation of Environmental Justice requirements as outlined in the Executive Order 12989.. Native Americans in [particular] have asked that the US Forest Service refrain from using herbicides in and around their ancestral territories and lands currently managed or controlled by several groups, bands, and/or tribes of Native Americans. The proposed action would violate the tribal trust responsibilities of the United States government. Various tribal entities are managing noxious weeds without the use of herbicides. They are developing programs and creating new types of employment to help assist them in their currently high levels of unemployment. The proposed action would harm these tribal noxious weed programs and deprive them of a growing economic opportunity. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.3.33210.743)

Modoc Forest Response:

Trust responsibility includes government-to-government consultation on a regular basis. The annual work planning will be done through consultation with all federally recognized tribes. One tribe is using chemicals to treat weeds on trust lands, and has trained and qualified employees for herbicide treatment. Contracts and agreements to treat weeds could supplement their existing employment programs.

Public Concern: The Modoc National Forest should provide supportive documentation for the statement that herbicides "may affect specific sites for short period of time."

Under Issue 2, herbicides impacting Native Americans, the preferred alternative is stated "may affect specific sites for short period of time." Where are the studies to support this assumption? Does the Forest consider ten plus years to be a short time? (Public Interest Group/Political Party, Eureka, CA - #33.59.33210.760)

The proposed alternative does not adequately address concerns that Indian people have about native plant and seed gathering in sprayed areas. The results of studies listed show there is residual herbicide on plants and in root systems. (Tribal Agency or Official, Fort Bidwell, CA - #35.11.24000.371) Native basketweavers and plant material collectors are concerned about the use of herbicide in sacred sites and historic collection and foraging areas. While there is a list of species identified as culturally significant (p. 37), the DEIS fails to evaluate potential significant adverse impacts associated with herbicide use on or near these species, let alone health effects to native tribal peoples of using these plant post spraying activities. What about cultural impacts of important plants or sites being forever degraded and or changed by herbicide spraying? The Forest is forgetting an important point when dealing with the tribes. They don't trust the US government as they have been lied to, cheated by, killed, prosecuted, and otherwise mistreated by it ever since its arrival on this continent. Native Americans are not likely to want to disclose information regarding sacred sites or traditional collecting grounds. They are also likely to ignore (or possible be unable to read and comprehend) posted warning signs regarding the dangers immediately following spraying of herbicides. (Public Interest Group/Political Party, Eureka, CA - #33.190.38100.760)

Do not apply herbicides near native seeds and plants that Tribes and their weavers harvest. (Tribal Agency or Official, Fort Bidwell, CA - #35.12.38100.383)

Modoc Forest Response:

The FEIS displays that the selected herbicide active ingredients are not persistent in the soil.

The Forest recognized early in the planning process there was the potential for effects toward basket weavers and other members of tribal communities. Coordination with the California Indian Basketweavers Association is documented in the FEIS under the Public Involvement section. The purpose of this consultation and coordination was to identify and resolve issues which are incorporated in the FEIS.

Health effects to native basket weavers and plant material collectors have been analyzed in the national risk assessments (the SERA reports in the reference section), Appendix F (the Human Health Risk Assessment), and Environmental Justice sections of the FEIS. Specific to gatherers and weavers, the California Environmental Protection Agency, Department of Pesticide Regulation completed a study, "Residues Of Forestry Herbicides In Plants Of Interest To Native Americans In California Forests". This report is discussed in the Tribal Issues and Native Americans effects section, later in this chapter. The report concluded:

"Due to varied environmental conditions, different plant growth stages, and time of herbicide applications, results were highly variable. In general, low residue levels

were detected in the roots, shoots, foliage, and berries of plants treated with granular hexazinone and also in roots of bracken fern treated with glyphosate, triclopyr, or liquid hexazinone. Although levels were low, residues persisted in many of the sampled media, with glyphosate remaining detectable in bracken fern roots at 67 weeks post-application, the last sampling period for that plant-herbicide combination."

In the FEIS, Chapter 3, Alternative 2, it states, "Also gatherers sampling shoots, foliage, and berries in glyphosate, triclopyr, or liquid hexazinone treatment areas may be exposed to herbicide. The highest residue levels were generally observed on application day or four weeks following application (second sampling interval) with residues remaining detectable in plant materials for several weeks thereafter… As herbicide residues were found to move off-site to non-treatment areas, plant gatherers and basket weavers may want to select plants beyond the 100 ft down slope from treated areas for up to 12 weeks following treatment."

Herbicide Effects

Public Concern: The Modoc National Forest should address human and environmental effects of herbicides.

The DEIS failed to document the adverse impacts of the chemicals proposed in the project. The DEIS selectively portrays all of the chemicals in the best possible light, almost exclusively leaving out all the scientific evidence of their harmful impacts in the environment and to human health. The DEIS thus exhibits an unprofessional bias and turns NEPA on its head. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.37.13100.380)

Modoc Forest Response:

The FEIS addresses the potential environmental and human-health impacts of herbicides, based on best available science that has been peer reviewed. This analysis is disclosed in Chapter 3, and in Appendix F of the FEIS and supporting resource specialist documentation.

Public Concern: The Modoc National Forest should address surfactants and their potential environmental effects.

Page 18 mentions the use of surfactants. What are they? Where will they be used? How much and in what concentration? Surfactants when used in conjunction with herbicides not only increase the pesticides' effectiveness but also have the potential to greatly increase toxicity potential, something of which its impacts must be disclosed. The Forest must include the facts in regards to which surfactants it will be using. Again the DEIS mentions that surfactants may be used, without mentioning what chemicals will be involved, and added toxicity risks associated, still failing to provide full information disclosure (p.21). (Public Interest Group/Political Party, Eureka, CA - #33.198.21100.210)

Modoc Forest Response:

We have expanded our analysis of surfactants, including NPE-based surfactants, in the FEIS. See FEIS Chapter 3 and Appendix F. For this project, surfactants considered for use include NPE-based surfactants, silicone-based surfactants, and vegetable oils. The use of NPE-based surfactants is analyzed in detail because of

the potential presence of nonylphenol (currently on U.S. EPA's inerts list 2) and the potential for toxic effects, including endocrine disruption. An analysis of the ingredients in the surfactants considered, other than NPE-based surfactants, did not identify any of specific toxic concern.

Public Concern: The Modoc National Forest should address the potential environmental effects of multiple herbicides.

The EIS should have addressed the potential for application of multiple chemicals at one site over time if more than one target species is present, and the synergistic health and environmental effects that will result from the application of multiple chemicals, surfactants, and the inert ingredients used at the same place over time. (Preservation/Conservation Organization, Somes Bar, CA - #40.18.21100.380)

Modoc Forest Response:

We have expanded our analysis of synergism in the FEIS. See FEIS Chapter 3 – Herbicide Section, and Appendix F.

We found nothing in the literature that indicates any synergistic effects would be realized from combinations of the herbicides proposed for use. Synergism has rarely been observed in toxicological tests involving combinations of these herbicides with other commercial pesticides. The herbicide mixtures proposed for this project have not shown synergistic effects in humans who have used them extensively in forestry and other agricultural applications. Based on the very low exposure rates estimated for this project, any synergistic or additive effects, if any, are expected to be insignificant (Appendix F).

Public Concern: The Modoc National Forest should clarify past herbicide use on the Modoc National Forest in the FEIS.

The DEIS states that specific conditions of herbicide contamination from past Forest activities, including noxious weed treatment, are unknown but presumed low (p. 41). Including a summary of past herbicide applications on the Forest would be helpful in this discussion and in establishing a baseline condition. Recommendation: In the Final EIS, summarize the past herbicide use on the Forest. Include the name of the herbicide, its persistence in the environment, and method of application (aerial or land-based). Identify which areas of the Forest have been treated and approximately how often. (Federal Agency or Official, San Francisco, CA - #19.18.30310.380)

The following statement on p. 41 appears to have been corrupted by an apparent typographical error so that it is not understandable: "Currently, the method of meeting state and federal water quality objectives on NFS lands within, but are minimized wherever possible by the Forest's application of Best Management Practices." The statement should be corrected so that it is understandable. (State Agency or Official, South Lake Tahoe, CA - #30.16.21200.246)

Modoc Forest Response:

The FEIS clarifies the type and purposes of herbicide applications that have been used on the Modoc National Forest in the past. The typographical error has been corrected.

Public Concern: The Modoc National Forest should not utilize herbicides as they will alter the soil profile to the point where no vegetation, except possibly exotics, will be able to survive.

The proposed actions are also purposed "to promote the ecosystem health of forested and rangeland habitats by maintaining or improving native forbs and grass species with minimal disturbance to the soil and natives to maintain habitat, prevent erosion, and damage to the soil profile" (p. 3). We believe that the preferred alternative, which relies primarily on long-term frequent herbicide application, will not fulfill this need and requirement of the DEIS. Over the following pages we will provide evidence that the chemical dependant plan preferred will damage these habitats, greatly disturb the soil and native species, as well as alter the soil profile to the point where no vegetation, except possibly exotics, will be able to survive. (Public Interest Group/Political Party, Eureka, CA - #33.4.20000.002)

Modoc Forest Response:

Directed foliar spray and/or wicking on foliage, along with the Project Design Standards, should prevent any herbicide application to non-targeted species. Therefore, the native plant diversity of the Forest will not be compromised in this regard from treatment by herbicides in this project.

There are numerous reports of harmful effects of herbicides to microorganisms in laboratory studies. Contrary to laboratory results, most agriculture field studies have shown either no effect or a slight stimulation of soil microorganisms by glyphosate. Because most of the information regarding effects of glyphosate on soil microorganisms comes from agricultural studies, a recent study was conducted to address the effects of glyphosate on forest soils and forest microorganisms (Busse MD, Ratcliff AW, Shestak CJ, Powers RF. 2001. Glyphosate Toxicity and the Effects of Long-Term Vegetation Control on Soil Microbial Communities. Soil Biol. Biochem. 33:1777–89). The above-referenced research by Busse et al. concluded that "Long-term, repeated applications of glyphosate had minimal affect on season microbial characteristics, despite substantial changes in vegetation composition and growth."

Public Concern: The Modoc National Forest should not rely on herbicides to control weeds as they will destroy microbiotic crusts.

Use of toxic chemicals to react to noxious weeds is an on-going toxic addiction unless it is part of an explicit program to prevent the establishment and spread of noxious weeds and to eliminate the need to use herbicides. Herbicide applications often leave the soil barren, which is a condition that favors reestablishment by weeds, unless steps are taken to insure otherwise. Herbicide applications in themselves generally do nothing to change the conditions which allowed the noxious weeds to establish in the first place. Herbicide applications cause the destruction of ground cover of microbiotic crusts, which has a considerable ability to prevent establishment or spread of noxious weeds. (Preservation/Conservation Organization, Forks of Salmon, CA - #42.26.33210.380)

Modoc Forest Response:

Soil crusts are complex associations of cyanobacteria, algae, micro fungi, mosses, and lichens, and are generally found in arid lands or deserts where vegetation is sparse.

If soil crusts even exist in the areas where weeds are present, directed spray application should have little effect on the dominant ground cover (be it soil crust or bare soil). If soil crusts are present, then it would most likely be in areas that do not have substantial plant cover, and there would be no need to apply herbicides. It should be remembered that the majority of the noxious weed locations are 0.10 acres or less in size, and many of these sites have plants that inter-mixed with other vegetation, and this would affect the need for rehabilitation.

Public Concern: The Modoc National Forest should not rely on herbicides to protect water quality.

"The majority of stream flow volume produced on the Forest occurs during spring snowmelt. Relatively few of the Forest's streams are perennial (flowing all year long in most years). The majority of the Forest's waterways are either intermittent (flowing part of the year in most years) or ephemeral (flowing only in direct response to precipitation, usually less than 30 days per year). Most intermittent streams and some ephemeral streams flow during spring snowmelt, and are mostly dry in late summer and fall, except immediately following a precipitation event. The amount of water that runs off these watersheds is more related to the type of precipitation events (snowmelt versus rainfall) and rainfall intensity. High intensity and short duration summer storms has a tendency to yield more runoff then fall and wintertime storms. As the runoff increases, so does the energy to eroded the hillsides and transport sediment to the stream network" (p. 39). Nowhere does the DEIS include analysis of the impacts of applying herbicides in or near temporarily dry intermittent or ephemeral streams. Neither the project Design Standards (p. 17) nor Appendix D (p. 239-244) adequately informs regarding the Forest's policy on spraying near or in temporarily dry intermittent or ephemeral streams. Does the Forest only plan on using glyphosate or any other of the herbicides in these areas? Are intermittent or ephemeral streams included in the definition of the inner 10 feet of the SMZ for Class I-IV stream courses? Does the Forest propose any sort of no spray buffer zone around them for mobile chemicals, such as 2,4-D, triclopyr and hexazinone? The Forest needs to adequately inform in regards to project criteria regarding all active and potentially active watercourses including temporarily dry intermittent and ephemeral streams. (Public Interest Group/Political Party, Eureka, CA - #33.182.31130.380)

Modoc Forest Response:

Potential adverse environmental effects based on herbicide chemistry and persistence were considered in developing herbicide-use restrictions within streamside management zones.

The designated SMZ for perennial streams, lakes and other live or standing water is 300 feet; for seasonally flowing streams or seasonally wet areas is 150 feet. This includes springs, seeps and other special aquatic features. Seasonally flowing streams include intermittent and ephemeral streams. See FEIS, Chapter 2, figure 2-2, Summary of Design Standards for Treatments in Relation to Surface Water.

Public Concern: The Modoc National Forest should not use any chemicals for any reason on National Forest lands due to synergistic effects.

environmental risks associated with this chemical [Dicamba], the other herbicides proposed for use, including the inert ingredients, and any other chemicals used on the MNF, including

but not limited to rodenticides, fire retardants, fire propellants, and any other pesticides, and the potential for synergistic effects with surfactants, and between chemicals if multiple chemicals are used at the same location over time. We also believe that what we do know enough about the risks to know that the toxicity of these chemicals far outweigh any of the dubious benefits of herbicide treatments. (Preservation/Conservation Organization, Somes Bar, CA - #40.39.30310.380)

Modoc Forest Response:

We have expanded our analysis of synergism in the FEIS. See FEIS Chapter 3 – Herbicide Section and Appendix F.

We found nothing in the literature that indicates any synergistic effects would be realized from combinations of the herbicides proposed for use. Synergism has rarely been observed in toxicological tests involving combinations of these herbicides with other commercial pesticides. The herbicide mixtures proposed for this project have not shown synergistic effects in humans who have used them extensively in forestry and other agricultural applications. Based on the very low exposure rates estimated for this project, any synergistic or additive effects, if any, are expected to be insignificant (Appendix F).

Public Concern: The Modoc National Forest should indicate whether prescriptions will be prepared.

4. The DEIS is unclear about the scope of the herbicide "prescriptions" called for under BMP 5.13 (p. 243). The DEIS should be revised to indicate whether prescriptions will be prepared for each specific treatment site, or generically for each of the different herbicides, or on some other basis. (State Agency or Official, South Lake Tahoe, CA - #30.8.33210.380)

5. The list of factors to be considered in the herbicide "prescription" (p. 243) does not include weather forecasts. The DEIS should be revised to require that prescriptions specify conditions under which treatments will be postponed or canceled when precipitation is expected (wind speed/direction, temperature and humidity are already listed as factors considered in the prescription). The prescription should also specify how often prevailing weather conditions are to be measured, and how often weather forecasts will be checked to prevent applications prior to rainstorms that could pollute runoff or percolating storm water. (State Agency or Official, South Lake Tahoe, CA - #30.9.33210.246)

Modoc Forest Response:

Treatment of noxious plants within the SMZs treatment zone prescriptions is addressed, by alternative, in the FEIS, Chapter 2, Table 2-4 (Design Standards). It is based on site-specific information available to the ID Team. The specific prescriptions will be formulated during development of the annual work plan. See also Chapter 2, figure 2-2, Summary of Design Standards for Treatments in Relation to Surface Water.

BMP 5.13 requires that the spray application of pesticides be accomplished according to prescription that accounts for terrain, and specifies the following: spray-exclusion areas, and factors such as formulation, equipment, droplet size, spray height, application pattern, flow rate, and the limiting factors of wind speed and direction, temperature, and relative humidity.

Public Concern: The Modoc National Forest should acknowledge DiTomaso's findings on limitations of herbicides.

DiTomaso's table in Appendix G repeatedly mentions problems with using herbicides as part of an integrated, long-term management strategy (p. 334-35). 2,4-D, dicamba, triclopyr, and glyphosate are all reported by DiTomaso to be most effective on seedlings, as is hand pulling which has lower adverse impact potential. DiTomaso reports that these herbicides are not effective in early years of a long-term strategy and do not provide control of seeds germinating after treatment. Clopyralid use includes injuries to desired natives and facilitation of other invasives in its list of drawbacks (p. 335).....

Modoc Forest Response:

DiTomaso's table in Appendix G of the DEIS gives both advantages and disadvantages of a number of treatment methods. These methods include mechanical, cultural, biological, and herbicidal. The FEIS is designed to provide the decision maker a full range of action Alternatives. No single treatment method is completely effective at eradicating noxious weeds, and all have limitations associated with them. Information on the treatment methods and limitations has been condensed in the FEIS, and this information is displayed in Tables 2-1, and 2-3 through 2-8 in Chapter 2 of the FEIS.

Public Concern: The Modoc National Forest should not use chemicals.

CATS wants the Forest to manage and control the noxious species in Modoc Forest. The public would welcome a long-term non-chemical integrated approach, one that can set a precedent of extraordinary foresight and leadership in effective invasive species management for the rest of the USFS. (Public Interest Group/Political Party, Eureka, CA - #33.148.24000.371)

I just read in my local newspaper that the Modoc National Forest plans attempts to eradicate and/or control the spread of noxious weeds with chemical application of some very, very dangerous chemicals. These chemicals include: 2-4D, Clopyralid, Dicamba, Garlon, Round-up, and Hexidone. This certainly is the devils brew. (Individual, Grangeville, ID - #38.1.20000.380)

Modoc Forest Response:

The FEIS analyzes a range of Alternatives, including two no-herbicide Alternatives. The effects analyses have been conducted using the best available science, public comments, and peer-reviewed scientific literature, as disclosed in Chapter 3.

Public Concern: Herbicides are not effective, and there are many unanswered questions about herbicide use.

There is nowhere in the EIS where any scientific support is offered indication that the listed herbicides or treatment will be effective here, nor is there any indication how effectiveness will be monitored, nor how long of herbicide spraying will be needed. Which leads to many important unanswered questions. These include, how will effectiveness be measured? Will the Modoc National Forest demonstrate effectiveness? What are the suspected connected actions? Will this project lead to continual herbicide treatments over decades without effective results? Why were certain weeds chosen for treatment? Is it based on probability of

eradicating or for maximizing grazing for cows? Why are class 3 pests (low priority) such as star thistle, that have no chance of being eradicated, being targeted? Is there funding to keep up such an unfocused and arbitrary herbicide program? If maintaining Native Forbs and grass species is part of the Purpose and Need why are non-native grasses, such as the type brought in by livestock not addressed? Will spraying not also cause a loss of wildlife habitat, as much wildlife will avoid or be unable to reproduce as well in chemically treated areas? Most of the herbicides proposed for use severely effect nitrogen uptake by plants and beneficial microorganisms. (Preservation/Conservation Organization, Somes Bar, CA - #40.5.30000.002)

Modoc Forest Response:

Monitoring treatment effectiveness is an important part of a comprehensive invasive species management program. Monitoring treatment efficacy helps to validate treatment priorities, adapt future treatment techniques to meet project needs, determine the effect of treatments on non-target organisms, and generally complete project implementation. Monitoring treatment activities also allows program managers to identify changes in the extent, distribution and density of the invasive species populations and changes to the environment, non-target organisms and other biotic and abiotic factors in the affected ecosystem.

Numerous methodologies can be used for detailed quantitative measurement of the changes in existing infestations of invasive species following treatment. Changes in distribution, relative density, and the infestation size (extent) are important characteristics that will be used to measure treatment efficacy. The Treatment Effectiveness Monitoring strategy is detailed in Appendix H of the FEIS.

Yellow starthistle is an aggressive species, and there is concern there would be negative impacts to native plant communities if it spreads. The Forest Service is therefore targeting starthistle for treatment because our current infestations are limited (4.07 acres), and opportunities for eradication are high.

Funding for the prevention program will come from various sources. In the past, RAC funds were used to purchase educational materials concerning noxious weed prevention, identification, and management for the various libraries in Modoc County. Noxious weed inventories are currently being funded by grants received by Modoc County and Forest Service appropriated funds.

There are other invasive plants that will not be treated in this analysis. Those species will be addressed through other actions through the implementation of the 2005 Modoc National Forest Integrated Weed Management Strategy. The purpose and need of the DEIS and FEIS is to identify and treat 14 noxious weeds; the remaining weeds that exist on the Forest could be treated in future documents.

Many of the treatment sites are less than 0.10 acres, so there will not be a large concentration of herbicides in any given area. There are very few wildlife species where their entire home range would be compromised by implementation of the activities described in the FEIS. Although some individuals may be impacted, there will not be a trend towards listing nor will there be any detrimental impacts to wildlife populations. Noxious weeds are not considered an important habitat component for native wildlife; therefore, wildlife habitat will not incur a net decline.

The intent of using herbicides is to kill noxious weeds, which are plants. Herbicides use various mechanisms to do this. The concern is to prevent negative herbicide effects to non-target plants. This will be accomplished through Riparian Conservation Areas and pre-treatment surveys for TES plants, as discussed in the Design Standards in the FEIS, Appendix D, and by method of application (directed spray and wick treatments), as discussed under the Alternatives in Chapter 2. Riparian Conservation Areas, pre-implementation surveys, and treatment methods will adequately protect TES plants. Additionally, no noxious weed species are found within 150 feet of the only T&E plant species on the Forest, slender Orcutt grass (determined by applying a buffer around the slender Orcutt grass GIS (geographical information systems) polygons and intersecting it with the Forest weed layer).

The FEIS is proposing to use glyphosate; based on a recent study completed by the Forest Service Pacific Southwest Research Center at Redding, California, glyphosate does not adversely affect soil microbial activity, nor is it an herbicide that remains in the soil for longer than nine months. None of the remaining herbicides that are proposed to be used under this project are classified as pre-emergent herbicides. This means that none of these herbicides bio-accumulates in the soil profile, or has a half-life greater than 9 to 12 months.

Herbicide Effects – Don't use specific herbicides.

Public Concern: The Modoc National Forest should not utilize 2,4-D.

Analysis of impacts of the chemical herbicides on human health and wildlife is inadequate. The source of the analysis is not given (is it Dow and Monsanto?). In particular, the use of 2,4- is not justified, especially since less toxic chemicals could have the same effect on the noxious weeds. The herbicide 2,4-D is a known carcinogenic chemical and was long outlawed in the National Forests. Overall, this is another area needing further investigation. (Tribal Agency or Official, Burney, CA - #34.10.33211.380)

There is no justification for inclusion of the cancer causing, mutagenic, persistent, dioxin-containing chemical 2,4-D in the "Preferred Alternative." The proposal to permit 2,4-D for this purpose on National Forest lands is an abuse of discretion. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.17.33211.380)

2,4-D has particularly worrisome toxicity issues associated with its use. It is highly mobile and variable in its toxic impacts depending on which form of 2,4-D is being used. The DEIS fails to identify which forms of 2,4-D can be used in the project, thus mooting the analysis of its environmental (and health) effects before its started. According to the EPA, 2,4-D in its"acid and amine salt forms are "practically non-toxic" to "slightly toxic," while ester forms of 2,4-D are "slightly toxic" to "highly toxic" to fish. Some forms of 2,4-D may lead to adverse acute and chronic effects. Some esters are "moderately toxic" to freshwater invertebrates, which may be sources of food for salmonids. (Public Interest Group/Political Party, Eureka, CA - #33.160.33211.380)

Therefore this project [2,4-D] could cause server effect to cows. (Preservation/Conservation Organization, Somes Bar, CA - #40.46.33211.350)

The affects of several of the herbicides proposed for use is both inadequate, incomplete, or unacceptable. One example of this is in the 2,4-0 formula Weedone. Weedone is a carcinogen and mutigen and bio-accumulates in fish, is endocrine disruption and acutely toxic to

invertebrate species. Reduces successful hatching of bird eggs, is toxic to amphibians, mycorrhizal fungi, rihizobial bacteria, and its breakdown products are accutely toxic to fish. It also has been demonstrated to have sub-lethal effects on fish defined as effects that decrease the overall survival fitness in fish and result in reduced reproductive success.(Preservation/Conservation Organization, Forks Of Salmon, CA - #42.27.13100.380)

Modoc Forest Response:

The effects of 2,4-D are disclosed in Chapter 3 of the FEIS. It is a selective, foliar-absorbed, translocated, phenoxy herbicide used mainly in post-emergence applications. The action that kills plants mimics natural plant hormones. It is effective against many annual and perennial broadleaf weeds. Plants are most susceptible when they are young and growing rapidly. The average field half-life is 10 days. An important use of 2, 4-D is in riparian areas for products with an aquatic label.

Public Concern: The Modoc National Forest should not utilize Glyphosate.

Glyphosate … is has inert ingredients. Yet glyphosate is the chemical that is proposed to be sprayed up to 10 feet of waterways and is well known for problems with drift. Glyphosate alone contains 12 inert ingredients that are know to have serious health effects including genetic damage, reduced fertility, thyroid damage, toxicity to fish species, anemia, developmental problems, reduced newborn survival, skin irritation, and even cancer. (Preservation/Conservation Organization, Somes Bar, CA - #40.21.33211.380)

Glyphosate containing products are acutely toxic to animals, including humans. Laboratory studies have found that all glyphosate containing products include medium term toxicity (salivary gland lesions) long-term toxicity (inflamed stomach linings) genetic damage (in human blood cells) effects on reproduction (reduced sperm counts in rats, increased frequency of abnormal sperm in rabbits), and carcinogenicity (increased frequency of liver tumors in male rats and thyroid cancer in female rats) (Cox 1998). (Preservation/Conservation Organization, Somes Bar, CA - #40.25.33211.380)

To propose using Roundup up to 10 feet from creeks and rivers including the Upper Klamath and Pitt Rivers is criminal. Diabetics, and others with weak immune systems who are highly allergic to these chemicals could be harmed if you choose to use this method. (Individual, Eugene, OR - #32.2.31120.383)

Furthmore this chemical [glyphosate] has been found to cause genetic and immune system damage to fish and amphibians and has a half-life of up to 174 days, which magnifies our concerns. (Preservation/Conservation Organization, Somes Bar, CA - #40.29.33211.381)

Modoc Forest Response:

It is understood that glyphosate can have toxic effects at sufficient doses. This is the basis for the risk assessment contained in SERA 2003 and in Appendix F, as well as the analysis of effects to wildlife.

Using the proposed application method, within the SMZs, directed-spray treatment of individual plants and/or wicking on the plant indicates that there is a low risk of aerial drift. Our analysis indicates, under Alternatives 2 and 4, that it is very unlikely that glyphosate would reach a stream course using the planned treatment criteria within the SMZs. Due to the low concentrations and amount of acres being

treated, it would still meet the Basin Water Quality Plans for the North Coast and Central Valley Regional Water Board. Since the Basin Water Quality Plans for the North Coast and Central Valley RWBs would be met, it is unlikely that any herbicide would be introduced into the Klamath River or Pit River.

Within the Lahontan Regional Water Board jurisdictional area, the Zero Detect Pesticide Standard would be met under all action Alternatives. This would be accomplished through Project Design Standards that call for a 10-foot no-treatment zone along streams, lakes, and special aquatic features. Herbicides will be restricted to application of glyphosate within the SMZs.

As for the potential effects of glyphosate on human health, the uncertainty factors used in the development of the Reference Dose (RfD) take into account much of the variation in human response. The uncertainty factor of 10 (for sensitive subgroups in the human population) is sufficient to ensure that most people will experience no toxic effects. "Sensitive" individuals are those that might respond to a lower dose than average, which includes women and children. As stated in National Academy of Sciences (NAS 1993), the quantitative differences in toxicity between children and adults are usually less than a factor of approximately ten-fold. An uncertainty factor of 10 for sensitive subgroups may not cover all individuals that may be sensitive to herbicides because human susceptibility to toxic substances can vary by two to three orders of magnitude. Factors affecting individual susceptibility include diet, age, heredity, pre-existing diseases, and life style. Individual susceptibility to the herbicides proposed in this project cannot be specifically predicted. Unusually sensitive individuals may experience effects even when the Hazard Quotient is equal to or less than 1.

Public Concern: The Modoc National Forest should not utilize hexazinone.

For example, use of a highly mobile and persistent herbicide such as hexazinone where snow melt will discharge water, quickly and intensely as described at page 39, many months later when the chemical still retains most of its original toxicity, is likely to result in removing hexazinone far from the site of application. Although hexazinone is considered to be of low overall toxicity, its impact is greatly magnified in effect by significant downstream movement. (Public Interest Group/Political Party, Eureka, CA - #33.157.33211.380)

Modoc Forest Response:

Hexazinone was dropped from consideration in the FEIS as a result of detailed analysis of the comments received during the comment period. Hexazinone is a pre-emergent herbicide that is most effective when applied directly to the soil to prevent seed germination.

Public Concern: The Modoc National Forest should not utilize triclopyr.

Triclopyr has many different documented toxicities. Triclopyr causes an increase in breast cancer, an increase in genetic damage such as dominant lethal mutations, an increased incidence of reproductive problems, and damage to the kidneys. The ester form of triclopyr is highly toxic to fish, inhibits behaviors in frogs that help them avoid predators, and decreases the survival rate of baby birds. Triclopyr also inhibits the growth of mycorrhizal fungi, and with fixation of atmospheric nitrogen. Triclopyr is mobile in soil and readily contaminates wells, streams, and rivers. The major breakdown product of triclopyr (3,5,6-trichloro-2-pyridinol) disrupts normal growth and development of nervous systems and accumulates in

fetal brains. We are very concerned that these same effects will occur in wildlife and people if the MNF uses this chemical on our National Forest. (Preservation/Conservation Organization, Somes Bar, CA - #40.31.33211.380)

Modoc Forest Response:

We have greatly expanded our analysis of human-health effects in the FEIS. The Human Health Risk Assessment for triclopyr includes an assessment of TCP, as does the SERA Risk Assessment. TCP acute and chronic toxicity is similar to triclopyr. The risk assessment for triclopyr encompasses the metabolite TCP, as only a fraction of triclopyr would degrade to TCP (10 %) (EPA, 1998b).]

The study the commenter appears to be referring to is Das and Barone (1999). In this study, in an in vitro culture system, TCP demonstrated no significant inhibition of cholinesterase activity. TCP inhibited neurite outgrowth at or below 0.2 ug/ml. The authors concluded that the implications of these in vitro data could be important if TCP reaches significant levels in vivo in the fetal nervous system.

In vitro studies cannot be directly translated to a risk assessment, but are indicative of potential effects. In vitro effects do not necessarily equate to in vivo effects because of the multitude of systems that are interacting in the whole organism.

This is why in vivo studies are so critical, and why in vitro studies are of somewhat limited value. Threshold values for effects (such as the RfD) are based on the lowest NOEL from in vivo studies. These in vivo studies, particularly those that involve multigenerational exposure or exposures during development, should account for formation and activation stages of life, which is the case with the TCP acute toxicity NOAEL. Refer to the SERA risk assessment on triclopyr for a further discussion of TCP toxicity.

Public Concern: The Modoc National Forest should not utilize clopyralid.

Yet while Clopyralid is persistent in soil, it volatilizes easily, move away from the application site, and can adversely affect nontarget broadleaf plants, according to the EPA. Because of the toxicity of Clopyralid, volatilization of only one percent of applied Clopyralid would be enough to damage nontarget plants. As a result, Clopyralid could jeopardize all nontarget plants, lichens, bryophytes, and mosses, including survey and manage, MIS, and rare, threatened, or endangered flora and fauna on the MNF. Clopyralid is also toxic to beneficial insects. How will the MNF ensure that nontarget plants and beneficial insects are not adversely impacted by herbicide use, particularly with the risk of drift? (Preservation/Conservation Organization, Somes Bar, CA - #40.34.33211.380)

Modoc Forest Response:

Application of clopyralid, using the methods described in chapter 2 of the FEIS, is designed to treat targeted species while minimizing impacts to non-targeted species. This includes directed foliar spray and wicking on foliage. Project Design Standards and label directions will be used to minimize the risk of aerial drift and inadvertent treatment of non-target species.

The Addendum to the BE for Sensitive Plant Species lists a hazard quotient of less than 1 for clopyralid for both monocots and dicots resulting from application within 50 feet of the plant location.

According to the EPA, clopyralid does not evaporate easily and is not toxic to bees (Appendix E, Herbicide Fact Sheet). Clopyralid does not volatilize readily in the field (T. Lanini, per. obs.). The potential to volatilize, however, increases with increasing temperature, increasing soil moisture, and decreasing clay and organic matter content (Helling et al. 1971). (http://tncweeds.ucdavis.edu/products/handbook/11.Clopyralid.pdf)

Public Concern: The Modoc National Forest should not utilize dicamba.

Dicamba acts by mimicking auxins in the plant, resulting in abnormal cell division. It also acts by inhibiting an enzyme found in the nervous system, acetylcholinesterase. Inhibition prevents the smooth transition of nerve impulses. It inhibits enzymes in animal livers that detoxify and excrete foreign chemicals. An oral dose of 3.5 oz. would kill an average sized human. Dicamba caused reproductive problems even at extremely low doses in laboratory tests. These adverse effects were exhibited in both mammals and birds. Dicamba is also alarmingly mutagenic, significantly increasing the unwinding rate, or single strand breaks, of the genetic material in rat livers. It also caused unscheduled DNA synthesis and an increase in sister chromatic exchanges. Dicamba has also caused mutations in bacteria. Dicamba greatly increases the risk of contracting the cancer non-Hodgkin's lymphoma up to two decades after exposure. There are also impurities in the products that increases the potential carcinogenicity, such as dimethylnitrosamine, which causes cancer in lab animals (Preservation/Conservation Organization, Somes Bar, CA - #40.36.33211.380)

Dicamba volatizes easily from plant surfaces, particularly when temperatures are over 85F, which are exceeded daily in the summer on the MNF. Vapors can drift up to 5-10 miles, which greatly increases the chance of contamination of nontarget plants, wildlife, water sources, streams, and areas that could be adversely affected. Dicamba is know to be extremely mobile in soils and is water-soluble. EPA's water quality database shows about one third of surface water samples analysis contained Dicamba. There are numerous studies that show dicamba leeches into water. Another documented effect of Dicamba was that it increases the incidence of plant diseases, Bipolaris sorokiniana, or leaf spot disease, and the take-all infection. It also reduces germination of other plants, such as oak seedlings, and reduced the soils ability to fix nitrogen. Dicamba is also persistent in the soil, and has been documented to last as long as 13 months. Dicamba also persists longer in dry soils than in wet soils. We are extremely concerned about the toxicity, drift potential, and persistence of this chemical. (Preservation/Conservation Organization, Somes Bar, CA - #40.37.33211.002)

Dicamba also contains numerous toxic inert ingredients. Virtually all the testing that has been done on Dicamba have been on the chemical itself, not the products and their inert ingredients and contaminants. There is evidence that these other ingredients greatly increase the toxicity and the health risks. We are very concerned that these health risks are largely unknown and believe that the EIS should disclose how little we know about the health (Preservation/Conservation Organization, Somes Bar, CA - #40.38.33211.719)

Modoc Forest Response:

Application of dicamba, using the methods described in chapter 2 of the FEIS, is designed to treat targeted species, while minimizing impacts to non-targeted species. This includes directed foliar spray and wicking on foliage. Project Design Standards and label directions will be used to minimize the risk of aerial drift and inadvertent treatment of non-target species.

Based on soil analysis, use of dicamba on sensitive or shallow soils was identified as a potential risk to groundwater contamination, due to the high leaching potential and mobility of the chemical. Project Design Standards were specifically developed to mitigate the potential risk to groundwater from the application of dicamba. According to the EPA, dicamba does not evaporate easily and is not toxic to bees (Appendix E, Herbicide Fact Sheet).

Appendix F of the FEIS analyzed the potential for human and animal health risks associated with the use of dicamba.

Herbicides – Surfactants and Ingredients

Public Concern: The Modoc National Forest should assess the negative affects of various ingredients in the herbicide formulas.

The DEIS fails to adequately assess the negative affects of various ingredients in the herbicide formulas. An example of this is where the DE1S states, " A major difference between the effect of glyphosate and glyphosate formulations on aquatic and terrestrial organisms is attributed to the polyethoxylated tallow amine surfactant (POEA) used in Roundup formulations. For fish, the surfactant is more toxic than glyphosate." These affects of POEA are not adequately addressed in the risk assessment or the general text. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.29.33210.210)

Most inert ingredient, even ones that are registered as pesticides or known carcingenics are not listed on product labels, and therefore their environmental and health effects are not addressed in the DIES. However the EPA has classified many inert ingredients as hazardous and 70% are of unknown toxicology. 487 hazardous pollutants are used as inerts, yet only 8 are listed on the label. Eleven are restricted for use, as pesticides yet are included in herbicides and not even included on the label. 14 are labeled as "extremely hazardous and 209 are considered hazardous air and water pollutants. 127 are known to be occupational hazards. 84 must be must be reported to the Toxic Chemical Release Inventory. The known carcinogen Crystalline quartz silica is used in 1,560 products, yet is not included on the label. 75% of suspected or known carcinogens used as inerts are not listed on labels (Preservation/Conservation Organization, Somes Bar, CA - #40.20.13000.719)

Modoc Forest Response:

We have expanded our analysis of inert ingredients in the FEIS in Chapter 3 and Appendix F. The issue concerning inert ingredients and the toxicity of formulations is discussed in USDA (1989, pages 4-116 to 4-119). The approach used in USDA (1989), the SERA Risk Assessments, and the Human Health Risk Assessment for the FEIS to assess the human health effects of inert ingredients and full formulations has been to (1) compare acute toxicity data between the formulated products (including inert ingredients) and their active ingredients alone; (2) disclose whether or not the formulated products have undergone chronic toxicity

testing; and (3) identify, with the help of U.S. EPA and the chemical companies, ingredients of known toxicological concern in the formulated products and assess the risks of those ingredients.

Researchers have studied the relationships between acute and chronic toxicity, and while the biological end-points are different, relationships do exist and acute toxicity data can be used to give an indication of overall toxicity (Zeise, et al. 1984). The court in NCAP v. Lyng, 844 F.2d 598 (9th Cir 1988) decided that this method of analysis provided sufficient information for a decision maker to make a reasoned decision. In SRCC v. Robertson, Civ.No. S-91-217 (E.D. Cal., June 12, 1992) and again in CATS v. Dombeck, Civ. S-00-2016 (E.D. Cal., Aug 31, 2001) the district court upheld the adequacy of the methodology used in USDA, 1989 for disclosure of inert ingredients and additives.

While these formulated products have not undergone chronic toxicity testing like their active ingredients, the acute toxicity comparisons, the U.S. EPA review, and our examination of toxicity information on the inert ingredients in each product leads us to conclude that the inert ingredients in these formulations do not significantly increase the risk to human health and safety over the risks identified for the active ingredients.

The effects of POEA surfactant in the Roundup formulation on fish is addressed in the FEIS (Human Health and Safety section). For fish, the surfactant is more toxic than glyphosate and this is reflected in a lower no observed effect concentration (NOEC) for Roundup than glyphosate. For exposures via percolation and runoff, the acute and chronic exposures would still be below the Roundup NOEC (by at least a factor of 13); hence no adverse effects to fish would be anticipated. A spill involving Roundup, like glyphosate itself, would represent a risk of toxic effects.

Past water monitoring in Region 5 confirm the low risk of water contamination with glyphosate (USDA 2001 as referenced in Appendix F). Recent water analysis of the Pit River in conjunction with the Pit River Watershed Assessment indicated that herbicides have not been detected. (Pit River Alliance 2004, 339-346)

Public Concern: The Modoc National Forest should disclose the impacts from surfactants and inert ingredients.

The scientific controversy surrounding the use of the inert ingredients and the lack on information that surrounds them is an additional reason for the use of chemicals on the forest to be considered to impactful to the environment. Some chemicals to be used in this project such as Banvil, are up to 40% inert ingredients, yet only Dicamba, the active ingredient, is even mentioned. In Banvil's case ethylene glycol is used, which is known to cause serious health effect such as convolutions, heart problem, malformations and kidney problems. However there is not even a discussion of inert in the DEIS. The information in the DIES in regards to chemicals and effects of chemicals only uses information that is provided by chemical corporations while ignoring controversy over surfactants and inert ingredients. This constitutes a failure to disclose information in the record. Therefore I would like to reference "Worst Kept Secrets: Toxic Inert Ingredients in Pesticides available on the Northwest Coalition for Alternatives to Pesticides website and provide the following information for

consideration. See: www.pesticide.org. (Preservation/Conservation Organization, Somes Bar, CA - #40.19.13000.380)

The DEIS fails to analyze and report on the environmental effects of the surfactants that are likely to be mixed with glyphosate, or any of the chemicals. The DEIS does not display what surfactants will be used. The importance of data regarding the full formulation of the products when used with a surfactant is affirmed in the SERA report on surfactants used with glyphosate:"All of the formulations are chemical mixtures and must be considered as mixtures in toxicity assessments. In this context, an assessment of the specific surfactants in any of the formulations or generalizations about the toxicology of surfactants as a group may not apply to the formulations. This consideration places extreme importance on data regarding the toxicity of the formulations themselves. The lack of such data will render any predictions about the effects of the formulations on glyphosate highly uncertain." (SERA 1997). The report also acknowledges that simply studying the reports of toxicity of the surfactants alone "do not provide a basis for predicting either the toxicity of the formulations or their effects on the toxicity of Rodeo." (SERA 1997). The report also found that there are almost no studies to base conclusions upon, but "A major qualitative difference between the effect of glyphosate and glyphosate formulations [the full product] on aquatic and terrestrial organisms concerns the surfactant used in Roundup. The surfactant is much more toxic than glyphosate to aquatic organisms."(Emphasis added). The report also states that several of the surfactant formulations used with Rodeo products could not be ascertained and that "No studies were found regarding toxicity of the surfactants to aquatic or terrestrial vertebrates" and for human health impacts, "a search of the scientific literature was conducted to find studies on the toxicology of the surfactant formulations?No studies were found." The DEIS reported LC50 toxicities of >1,000 ppm when these data do not exist in the literature. Moreover, glyphosate in the form of Rodeo or Accord is never used without a surfactant. The surfactant must be identified, and its toxicity in combination with glyphosate must be displayed. The addition of a surfactant exponentially increases the toxicity of glyphosate to fish as well as amphibians, according to the SERA report Glyphosate-Human Health and Ecological Risk Assessment (2003) contracted by the Forest Service. The data in the EIS should have included this correct data, and should have been summarized with the surfactant data side by side, in order to compare the difference that the surfactant makes on glyphosate toxicity, for example: Species LC50, Rodeo alone LC 50, Rodeo with R11 * surfactant, Typical fish 97 ppm 2.3 ppm; Sensitive fish (eg, salmonid) 10 ppm 1.3 ppm, Daphne magna (water flea) 930 ppm 11.0 ppm, ppm= parts per million LC50=concentration needed to kill half of the population * Or, if R11 is not the surfactant that will be used with Rodeo, whatever surfactant is proposed for use should be displayed along with its toxicity values. Surfactants proposed for use in the project must also be analyzed for their potential environmental and health effects. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.47.13100.380) (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.48.13100.380)

Surfactants also have the to potential to cause significant adverse impacts to non-target vegetation and wildlife (including aquatic species) (see Appendix A). This information must be included and analyzed within the DEIS. Without including information regarding the surfactants, adjuncts, and inerts the Forest is proposing to use as part of this project, it improperly skews the analysis in favor of the proposed alternative. (Public Interest Group/Political Party, Eureka, CA - #33.200.13100.380)

We are able to determine from table 2-1a (p. 23-25) that glyphosate will be used exclusively in Streamside Management Zones (SMZ) and in water buffer zones. Yet the use of

glyphosate is not protective of aquatic organisms. Studies have shown glyphosate to have negative impacts on amphibian populations, largely due to the presence of surfactants either in glyphosate formulations or as adjuvants required for efficacy. According to Canadian Wildlife Service, (Pauli and Berrill, "Pesticides and Behaviour in Tadpoles" http://www.pmac.net/tadpoles.htmn) "neural stage embryos and newly hatched tadpoles of green frogs were exposed to low levels of the herbicide glyphosate. Following 96 hours of exposure to the herbicide, surviving animals were moved to fresh water. Nominal glyphosate concentrations of 1.2 to 4.0 ppm initially caused tadpoles paralysis from which they eventually recovered. During the first 24 hours of exposure to 8.0 ppm, all tadpoles either died or were completely paralyzed. Furthermore, almost all of the survivors from the first 24 hours of exposure died before the completion of the 96-hour exposure period. Follow-up tests indicated that much of the toxicity could be attributed to the surfactant used in the Round-Up formulation of glysophate" Because it is entirely within the realm of possibility that glyphosate formulations will be used in the summer months when rain events can occur soon after application and amphibian populations could be expected to inhabit areas where herbicides were recently applied due to changes in available moisture, such possibility of impacts must be considered when determining that glyphosate will be used to such an extent for protective reasons. (Public Interest Group/Political Party, Eureka, CA - #33.178.33211.381)

Modoc Forest Response:

The FEIS greatly expands the analysis of surfactants and inert ingredients (Chapter 3 and Appendix F). See the response to the previous comment. Under Alternatives 2 and 4, no glyphosate is proposed to be applied over water or within 10 feet of the wetted edge of stream channels, lakes, or special aquatic features. Under Alternative 6, the aquatic formulation of glyphosate will be applied from the high-water mark to 10 feet inward. No application is planned over water or within the defined channels. Please refer to Chapter 2, Figure 2-2 of the FEIS.

Herbicides – Use additional Herbicides to Be More Effective

Public Concern: The Modoc National Forest should allow use of Tordon.

Tordon, though not labeled in California, is a chemical that may be used in California but only by federal agencies. Tordon is a residual chemical that when applied may be effective on scotch thistles for up to three years. It is the most effective known chemical to control Scotch Thistles. (Domestic Livestock Industry, Adin, CA - #31.5.33211.371)

As a Federal Agency you are exempt from California laws and have the ability and discretion to use Tordon. State County, and private individuals do not have this exemption and are left with more costly and labor-intensive methods. You have the advantage!! (Domestic Livestock Industry, Adin, CA - #31.7.33211.371) Why don't you use Tordon? (County Agency or Official, Susanville, CA - #20.1.33211.380)

Amend table 2-0: Project Design Standards, page 1- Draft EIS, to include the use of Picloram (Tordon): See Attachment 1 and Weedar 64 (2.4-D>aquatic formulation). Use of Tordon would allow for far better residual control and the aquatic formulation of 2.4-D would allow for a reduction of the 1,000 foot Buffer Zone around water resources, making chemical treatments more effective. (County Agency or Official, Susanville, CA - #2.2.33211.371)

Amend table 2-0: Project Design Standards, page 1- Draft EIS, to include the use of Picloram (Tordon): … Use of Tordon would allow for far better residual control … would allow for a reduction of the 1,000 foot Buffer Zone around water resources, making chemical treatments more effective. (County Agency or Official, Susanville, CA - #2.2.33211.380)

Modoc Forest Response:

The Forest Service's (Region 5) long-standing policy is to use only pesticides registered by both the State of California and U.S. EPA within those portions of Region 5 that are within California (2150 Policy on the Use of Pesticides not registered By the State of California, 9/8/1999).

Public Concern: The Modoc National Forest should include Weedar (2,4-D – Aquatic formulation).

Amend table 2-0: Project Design Standards, page 1- Draft EIS, to include the use of … Weedar 64 (2.4-D>aquatic formulation). Use of … the aquatic formulation of 2.4-D would allow for a reduction of the 1,000 foot Buffer Zone around water resources, making chemical treatments more effective. (County Agency or Official, Susanville, CA - #2.2.33211.380)

Modoc Forest Response:

The Design Standards in Chapter 2 do not include use of 2,4-D near standing or flowing water under Alternatives 2 and 4. Concerns from US Fish and Wildlife Service about the potential impacts of 2,4-D led to the establishment of the 1000-Riparian Conservation Area around live water for Alternatives 2 and 4. Analysis contained in the FEIS shows that use of approved aquatic formulations near water will not adversely affect water quality, as provided in alternative 6.

Public Concern: The Modoc National Forest should include Telar (chlorsulfuron).

When reviewing the plan, on page 107 there is a list of chemicals that will be used as part of the treatment work. We noticed that Telar, Chlorsulfuron was not included in the list of chemicals that could be used. This chemical has been used locally by UC Cooperative Extension on many research projects, showing its effectiveness on many noxious weeds. It has also been used by private landowners throughout Northeastern California to treat many species including Perennial Pepperweed and Scotch Thistle. We would like to see you include this chemical in the environmental document.

As part of your adaptive management strategy, the herbicide Telar should be used as a tool in the forest's integrated pest management strategy. Telar is the only tool that is currently available to successfully eradicate some of the deep-rooted perennial species such as perennial pepperweed, and effectively prevents seed development of scotch thistle in its later stages of development. (State Agency or Official, Sacramento, CA - #28.5.33211.371)

Modoc Forest Response:

Based on comments received on the DEIS, Alternative 6 was developed to include the use of chlorsulfuron as an herbicide treatment.

Public Concern: The Modoc National Forest should include Transline.

...supports adaptive [management] with use of new herbicides. Just learned of a new herbicide related to Transline. (County Agency or Official, Alturas, CA - #21.2.11400.371)

Modoc Forest Response:

The FEIS identifies the use of clopyralid (Transline is a commercial product containing clopyralid) as an appropriate tool for the treatment of noxious weeds on National Forest System (NFS) lands within Modoc County.

Public Concern: The Modoc National Forest should aggressively treat noxious weeds utilizing herbicides.

We are pleased to see the National Forest progress in getting an aggressive program in place to treat noxious weeds using herbicides. Noxious weed invasion is a large threat to the health and productivity of public and private rangelands throughout the west. Anything but an aggressive approach will result in continued large infestations of many of these species. (Conservation District, Susanville, CA - #3.1.33210.371)

Modoc Forest Response:

Alternatives 4 and 6 of the FEIS call for the use of herbicides and other treatments in the treatment of noxious weeds on NFS lands.

Public Concern: The Modoc National Forest should consider organic herbicides in noxious weeds control.

The Forest has neglected to consider the use of non-toxic organic herbicides and other weed control methods utilized by organic farming practices. For example St. Gabriel Laboratories produces an organic herbicide called BurnOut. It is advertised to work faster than RoundUp (the glyphosate the Forest is proposed to liberally apply) and by meeting NOP Organic Farming Requirements is less likely to have adverse impacts to the environment or human health. If the Forest insists on using herbicides, why not use ones that are least likely to have adverse environmental impacts? (Public Interest Group/Political Party, Eureka, CA - #33.48.33211.210)

Modoc Forest Response:

Products such as BurnOut are formulated with acetic acid (vinegar in various concentrations). Vinegar can be an effective herbicide on seedling annuals, but its effectiveness on deep-rooted or rhizomatous plants, or on woody plants, is poor. It results in above-ground foliage kill but often the weeds will re-sprout, as the roots are not affected. In the concentrations needed to be an effective herbicide (20%), acetic acid is a dangerous irritant with the potential to cause severe chemical burns to applicators (Young 2004).

Herbicides – Use Alternative Treatment Methods.

Public Concern: The Modoc National Forest should consider additional control methods for controlling and eradicating noxious weeds, including biological control.

Though the DEIS does not address or favor biological control, it is being done in Modoc County by the County Agriculture Commissioner. Since insects don't recognize real estate boundaries, nor political boundaries, it is assumed that the bugs will work their way into any and all areas that contain the target invasive weed. (Regional or Other Governmental Entity, Alturas, CA - #6.3.33250.200)

There is no mention of using biological control … as a vegetation management tool. …Leaving [this] method out is leaving your "tool box" of options short and we recommend that [it] should be included in this environmental document. (Conservation District, Susanville, CA - #3.3.33200.371)

Several bio-controls agents have been used in the U.S., although only two have been used in California Ceutorhyncus litura and Urophora cardui (Beck 2004, CA DFA website, Nuzzo 1997). Also Orellia ruficauda and Puccinia punctiformis have been shown to cause considerable damage to these thistles (Nuzzo 1997). As reported by Nuzzo (1997), it has been suggested by several sources that a combination of bio-control agents might be the most effective control method. The literature suggests that this is a reasonable alternative that must be included in DEIS analysis and evaluation. (Public Interest Group/Political Party, Eureka, CA - #33.138.33250.210)

Many experts recommend the use of biological controls for managing knapweeds, yet the DEIS dismisses this option. It is completely reasonable and feasible for use on diffuse knapweed (management objective to control/contain, page 6) and the two larger infestation sites of spotted knapweed. Several biological control agents have been established in the U.S. to attack knapweeds. Only two, the bronze knapweed root borer (Spenoptera jugoslavica) and the banded gall fly (Urophora affinis), are currently established, effective, and used for control of diffuse and spotted knapweeds, and both are compatible for dual release (Beck 2005, CA DFA website, Carpinelli 2003, Drlik et al 1998, Mauer et al 1987, USDA-APHIS 1994). In drier climates, the knapweed flower weevil (Larinus minutus) has shown itself to be a very effect control of diffuse and spotted knapweeds in Oregon and Washington (Waldo 2001). The DEIS needs to include and evaluate reasonable alternatives that avoid and minimized potential environmental impacts. (Public Interest Group/Political Party, Eureka, CA - #33.132.33250.210)

The DEIS dismisses and fails to consider the option of using bio-control agents on yellow starthistle even though the literature shows that it has proven effective. Six different insects have become established in California for controlling Yellow starthistle. Two in particular, the false peacock fly (Chaetorellia succinea) and the hairy weevil (Eustenopus villosus), have been shown to have significant impact on seed production (DiTomaso 2001). DiTomaso (2001) also states that several plant pathogens have shown promise as bio-control tools, and in particular the naturally occurring in California and host specific Ascophyta n. sp. Even in DiTomaso's table in Appendix G bio-control is recommended to be part of any integrated management strategy and that they provide the possibility of long-term and sustainable management (p. 334). Isn't that the picture goal of noxious weed management? (Public Interest Group/Political Party, Eureka, CA - #33.122.33250.210)

The Mediterranean sage root crown weevil (Phrydiuchus tau) has been established and used as an effective control in California and other states (CA DFA website, Graham and Johnson 2004, Moser and Crisp 2000, Oregon Noxious Weed website, WA Noxious Weed Control Board 1999, Wilson et al 1994), yet the DEIS fails to discuss this viable options for the larger infestations. (Public Interest Group/Political Party, Eureka, CA - #33.114.33250.210)

Musk thistle has three insects established, and often utilized, as bio-control agents; thistle head weevil (Rhinocyllus conicus), thistle crown weevil (Trichosirocalus horridus), and thistle crown fly (Cheliosia corydon). The first two of which show the effective results (Beck 2004, CA DFA website, Conservation Commission of Missouri 2004, Fick, Heidel 1987, USFS FEIS website, Wilson et al 1992). Again here is another example of literature recommended management strategy, effective for long term population control, and possibly an important part of an IWM plan that has been omitted from analysis in the DEIS. (Public Interest Group/Political Party, Eureka, CA - #33.111.33250.210)

Although no biological agents are commonly used, a specific strain of Rhinocyllus conicus (thistle head weevil) and a thistle crown weevil (Trichosirocalus horridus) both have been shown to feed on Scotch Thistle (CA DFA website), both of which could be introduced and used for treating large populations of other noxious weeds in Modoc (see later discussion). These options must be considered if the EIS is to be comprehensive. (Public Interest Group/Political Party, Eureka, CA - #33.94.33250.210)

The Forest also never investigated the native rust pathogen, Puccinia thlaspeos, which has been found to be an affective biological control [for Dyer’s woad] (CA DFA website, Weber County Weed Abatement website, Whatcom Weeds website, WA Noxious Weed Control Board 1999, Kedzie-Webb 1996). The rust stunts growth and minimizes seed production. Important information must be considered and cannot be ignored or arbitrarily given the short rejection. (Public Interest Group/Political Party, Eureka, CA - #33.86.33250.210)

While we recognize and appreciate the concerns associated with the introduction of biological agents, they have been proved to be useful and safe for control of noxious weeds in other locals. Biological controls are "considered to be environmentally safe, energy self-sufficient, cost-effective, and often self-sustaining" according to DiTomaso, one of the Forest's own experts (2001). DiTomaso (2001) also says that the goal of a bio-control program is to exert sufficient environmental stress to reduce a weed's dominance within the plant community and shift the competitive balance to more desirable species. Isn't that the goal of the Modoc Noxious Weed Plan? Page 27 of the DEIS states biological controls were "dropped from inclusion within the proposed action" because they are usually utilized on large weed occurrences greater than 50 plants. Four of the noxious weeds listed in this project (Dalmatian toadflax, Dyer's woad, Musk thistle, and Common Crupina) all occur in sites known to be greater than five acres and are spatially located in a clumped distribution (see DEIS Noxious Weed Sites Map 2003). (Public Interest Group/Political Party, Eureka, CA - #33.60.33250.371)

(cont from comment 60) All four of these species have been shown to be effectively and efficiently treated using biological controls (See discussion later for individual noxious species treatments). Surely the population size and number of individuals for these weeds could support a large enough population of biological agents to be worthwhile, and control the larger infestations while the smaller ones are being physically eradicated. Four of the noxious weeds listed in this project have had biological control agents already distributed and established throughout the Modoc Plateau (p. 66-67). Yellow starthistle, spotted and

squarrose knapweeds, and St. Johnswort (Klamath Weed) control efforts have led to the establishment of several bio-control agents already in Modoc county (p. 67).(Public Interest Group/Political Party, Eureka, CA - #33.61.33250.371)

Another reason given for dropping biological controls from treatment method consideration was the time (years) it takes to become effective. The battle against invasive weeds will be an ongoing one, one the Forest plans on waging for ten plus years (see preferred Alternative 4). Timing and attacking the small sized sites and populations of weeds should be of immediate priority to prevent further establishment, growth, and greater management problems. An effective strategy not even considered by the DEIS would be to release biological control agents on all large and clumped sites/populations at the start of treatment operations (e.g. beginning of year 1). This would give the bio-control agents an opportunity to establish and be effective controlling and reducing the size of these large outbreaks while the Forest focuses their immediate resources on eradicating small sites. This would increase the efficiency, including economical and effectiveness aspects, of the project. (Public Interest Group/Political Party, Eureka, CA - #33.62.33250.371)

The DEIS then states that bio-controls could be used for knapweeds, but will only control, not eradicate the targeted weeds (p.27). This is a misleading and misinforming statement. Table 1-2 shows that the Forest's objective for diffuse knapweed is "contain/control"(p.6). So where is the problem? Again, bio-controls could control and reduce the knapweed population sizes while other weeds are targeted for treatment and then later eradicated by integrating physical, fire, and cultural treatments. Biological control treatment options need to be analyzed and considered on a site-specific basis. At a minimum, the Forest must accurately present the evidence and impacts associated with the various alternative processes. By presenting biased and contradictory statements the analysis is skewed to support the preferred alternative. (Public Interest Group/Political Party, Eureka, CA - #33.63.33250.210)

Modoc Forest Response:

Alternatives 5 and 6 were developed in response to public comment received by the Modoc National Forest. These Alternatives incorporated physical, cultural, and herbicidal methods to treat noxious weeds on NFS lands.

Biological controls were analyzed and then dropped from detailed consideration. Biological controls are effective in controlling noxious weed infestations, but do not eradicate noxious weeds. See Chapter 2, Table 2-10, Treatment Methods Eliminated From Consideration. A major objective of this FEIS is to eradicate the small infestations currently on the Forest. This would be best achieved through herbicide and/or manual methods, and not through biological controls.

Most of the weeds that have the potential for this type of treatment are .1 acre in size with the largest occurrence 7.5 acres. Usually biological controls are utilized on larger weed occurrences that can support insect population growth and dispersal over the time it takes for total control of the weed. A population of 50 plants, for example, may not support enough insects for control to occur.

Biological controls take years and sometimes decades to become effective. Insect populations must be of sufficient size that no seeds are allowed to mature and disperse (i.e., 100% of the seed source has been destroyed). According to data from California Department of Food and Agriculture, biological controls could be used for knapweeds but "Successful establishment may take from one to several years. They will not eradicate knapweeds."

Public Concern: The Modoc National Forest should consider the success of the Klamath Forest have in the use of non-toxic weed control.

Furthermore, members of the Klamath Forest Alliance have a 20 year history of developing alternatives to chemical spray plans and involvement in National Forest Activities, eight years of experience in successful and non-toxic noxious weed control, and many of us are forest workers and users that would be directly exposed to chemicals in the forest. (Preservation/Conservation Organization, Somes Bar, CA - #40.1.33210.002)

Modoc Forest Response:

Effects to Forest workers and users is addressed in the human-health section of Chapter 3 in the FEIS and in Appendix F.

The FEIS points out that the Forest will utilize available volunteers, employees, and contractors to implement non-herbicide methods when possible.

Public Concern: The Modoc National Forest should consider additional control methods for controlling and eradicating noxious weeds, including grazing.

Selective use of other treatment methods that were eliminated from consideration could be incorporated into the preferred alternative. The weed sheet for musk thistle indicates that targeted grazing of thistle with goats and other farm livestock can help control musk thistle. Cattle and sheep prefer the vegetative tissues of musk thistle, with goats preferring the musk thistle flower heads over palatable subclover and grass pasture. The weed sheet concludes: "the use of goats and other livestock can represent an important management technique and can be effective in a long-term integrated approach for the control of musk thistle" (p. 324). (Federal Agency or Official, San Francisco, CA - #19.5.33230.371)

The weed sheets warn that disturbed soils and overgrazed trampled sites predispose land to colonization of many noxious weeds (Appendix G). Grazing activities are being addressed separately via noxious weed risk assessments for grazing permit renewals that may recommend mitigation measures such as adjusting grazing seasons in infestation areas (p. 63). Physical, chemical and cultural treatments in the Noxious Weed Treatment Project should be timed with organized grazing activity to prevent the disturbance conditions that spread noxious weeds and to optimize other treatments. For example, the weed sheet for Scotch thistle states that herbicides cannot be used as a stand-alone solution but must be linked with good grazing practices (p. 329).

(Federal Agency or Official, San Francisco, CA - #19.8.36100.371)

There is no mention of using … grazing as a vegetation management tool…. Leaving [this] method out is leaving your "tool box" of options short and we recommend that [it] should be included in this environmental document. (Conservation District, Susanville, CA - #3.3.33200.371)

Yet the Forest has dropped this feasible and reasonable option from inclusion in the alternatives and treatment methods of the DEIS. The same can be said regarding grazing, as goats and sheep have shown to control spotted knapweed (Beck 2005, Carpinelli 2003, Dirlik et al 1998, Waldo 2001). (Public Interest Group/Political Party, Eureka, CA - #33.131.33230.210)

Goats will graze on scotch thistle in early rosette stage, reducing population sizes and lowering seed production, and have been used successfully as part of a weed management plan (CA DFA website, Schuster and Prather, WA Noxious Weed Control Board, Kadrmas and Johnson 2002). Again grazing goats was not considered when it is obviously a feasible option for the large populations the Forest is only intending to control anyway. (Public Interest Group/Political Party, Eureka, CA - #33.93.33230.210)

Early season focused sheep grazing can be used to control Dyer's woad (Kedzie-Webb 1996). This is best accomplished before the flowering stage (April-June). Recent studies have suggested that properly timed grazing may increase mortality and reduce reproductive performance (Kedzie-Webb 1996). (Public Interest Group/Political Party, Eureka, CA - #33.84.33230.210)

Grazing was also "eliminated from consideration" because "this method is nonselective and may provide for noxious weed re-establishment in a denser stand"(p.27). While we agree that grazing might not be the appropriate treatment method for some of the weed sites, it could be the most efficient and effective method when integrated with others at some site locations, and be effective on the majority of acres. For example grazing sheep have been used effectively as control agents for Dyer's woad and Dalmatian toadflax (both of which have large site sizes) (see discussion below for citations). If sheep grazing was integrated with bio-control agents for the large and clumped sites of these two weeds, analysis could reasonable show that populations could be controlled and reduced while the Forest was eradicating small more manageable weed sites. Also grazing has been shown to be effective controlling young Yellow Starthistle plants (DiTomaso 2001). If integrated with burning, bio-controls, mowing, or even to as a treatment for re-growth after hand pulling or other methods, grazing could be efficiently and effectively utilized for controlling Yellow Starthistle. Grazing treatment options need to be at least analyzed and considered on a site-specific basis, particularly in light of its effectiveness for the dominant species; lacking such analysis, the DEIS is not comprehensive nor informative. (Public Interest Group/Political Party, Eureka, CA - #33.66.33230.210)

Modoc Forest Response:

Alternatives 5 and 6 were developed in response to public comment received by the Modoc National Forest. These Alternatives incorporated physical, cultural, and herbicidal methods to treat noxious weeds on NFS lands. Under Alternatives 5 and 6, the use of limited and controlled grazing with goats is proposed for the treatment of musk thistle.

Public Concern: The Modoc National Forest should consider additional control methods for controlling and eradicating noxious weeds, including prescribed fire.

Prescribed burn activities should also be considered in the context of planned weed treatments. The weed sheets indicate that depending on the timing of burn events, fire can help provide control of noxious weeds (yellow starthistle, Dalmatian toadflax) or enhance their survival (yellow starthistle). For knapweeds, it states: "an integrated approach using fire and herbicides may be more successful than herbicides alone. Applying the correct herbicide to newly emerged plants following a burn is an effective approach" (p. 331).

(Federal Agency or Official, San Francisco, CA - #19.9.33220.371)

Prescribed fire may be effective as a control, depending on timing and competitiveness of surrounding vegetation, and has shown to be effective when used in the dormant season in

both Oregon and North Dakota (CA DFA website, Nuzzo 1997, Thunhorst and Swearingen 2001). Burning in the dormant off season would appear to be another excellent management technique to integrate into the Forest's strategy, yet is not included as a feasible alternative in the DEIS. (Public Interest Group/Political Party, Eureka, CA - #33.139.33220.210)

Prescribed burns, followed by aggressive re-seeding efforts, can reduce knapweed infestations (CA DFA website, Waldo 2001). Again, why is this not part of the integrated weed management strategy discussion when it is recommended by the Forest's own source? (Public Interest Group/Political Party, Eureka, CA - #33.129.33200.210)

Prescribed burning can be used to remove dense stands of mature thistles and provide a good growing medium for competing vegetation, like subterranean clover (CA DFA website). If the Forest's own source considers this a viable option, then why was it not considered? (Public Interest Group/Political Party, Eureka, CA - #33.109.33200.210)

Prescribed fire was "eliminated from consideration" because "this method is nonselective and may provide for noxious weed re-establishment in a denser stand"(p.27). We do not dispute these points, but instead return to the evidence that the project's purpose would be better met applying non-chemical IWM techniques. Fire has been shown to be effective treating several of the noxious weeds to be treated in this project including Musk thistle (most sites are clumped or larger than 5 acres), Yellow starthistle (most sites clumped together), and knapweeds (for spatial distribution and site size see DEIS Noxious Weed Sites Map 2003). We'll provide supporting literature, that has been ignored and not analyzed by the Forest, in the following discussion below. Prescribed fire treatment options need to be at least analyzed and considered on a site-specific basis. Again, the integration of multiple non-chemical treatment methods, including the use of prescribed burns, could provide the most efficient, effective, and environmentally friendly management option if considered as an alternative in detailed study as part of a IWM plan. By not analyzing the complete evidence and arbitrarily grasping at just the negative points, the Forest again skew the analysis in favor of the preferred alternative. (Public Interest Group/Political Party, Eureka, CA - #33.64.33220.210)

Modoc Forest Response:

> **Prescribed fire was eliminated from consideration on page 27 of the DEIS because it is non-selective and may provide for noxious weed re-establishment in a denser stand. The risk is that after a prescribed fire, annual grasses may move in, such as medusa head or cheatgrass, which can have negative effects on ecosystems.**
>
> **"Geographical information system analysis…The remaining 18% of noxious weeds appear to be split between fire occurrences and past logging operations. The largest infestation of noxious weeds (6,000 of dyer's woad) on the Forest appeared after the Long Damon Fire. This occurrence of noxious weeds most likely moved into the burned area following the suppression of the fire. Noxious weeds have also been found in other areas of both wild and prescribed fire, making fire the second major vector of weeds on the Forest…" Modoc National Forest Weeds Management Strategy page 3.**

Public Concern: The Modoc National Forest should consider additional control methods for controlling and eradicating noxious weeds, including mowing.

Timely mowing is also a feasible control method for knapweeds, as it will reduce seed production (CA DFA website, Mauer et al 1987, Waldo 2001). Yet the Forest has dropped

this feasible and reasonable option from inclusion in the alternatives and treatment methods of the DEIS. (Public Interest Group/Political Party, Eureka, CA - #33.130.33240.210)

Mowing can be used as a control, although the timing is critically related to its success as a management tool (CA DFA, Thunhorst and Swearingen). Again, the Forest defies recommendations found in the literature (including their own source) and omits this reasonable tool as part of an integrated management plan. (Public Interest Group/Political Party, Eureka, CA - #33.137.33240.210)

The Forest states that frequent mowing is partially to blame for widespread Yellow Starthistle distribution along roadways (p.28). This is an unsupported and conclusory statement, it is misleading and again skews the DEIS evaluation, as early season mowing have shown to be an effective treatment for Yellow starthistle (DiTomaso 2001). (Public Interest Group/Political Party, Eureka, CA - #33.69.33240.210)

The DEIS is incorrectly states that for mowing to be effective it "must be conducted throughout the growing season and for several years" and that "infrequent mowing is ineffective and not recommended as a control strategy"(p.27-28). This is not universally true. Mowing has been shown to be an effective control method on Musk thistle during late bloom stages, resulting in 80% kill rates after two treatments (see later discussion and citations). Depending on timing, mowing could be integrated with other methods to add efficiency and effectiveness to treatment strategies. Caltrans' District 1 Roadside Vegetation Management Advisory Committee (DRVMAC) has met for 8 years and evaluated many roadside treatment options tried by the District. Mowing done at the optimal time and height has proven most effective for most species (as per personal communication with P. Clary DRVMAC member). (Public Interest Group/Political Party, Eureka, CA - #33.68.33240.210)

Mowing was also "eliminated from consideration" because "this method is nonselective and may provide for noxious weed re-establishment in a denser stand"(p.27). While mowing might not be the appropriate treatment method for some and maybe most of the weed sites, it could be the most efficient and effective method when integrated with others at some site locations. Mowing has been utilized for controlling several of the noxious weeds troubling the Modoc area including Scotch thistle, Musk thistle, Mediterranean Sage, and Yellow Starthistle. (Public Interest Group/Political Party, Eureka, CA - #33.67.33240.371)

Four management methods recommended by the Forest's own expert and ignored by the DEIS for evaluation and analysis are tilling, mowing, grazing, and prescribed burning. Tillage, used in early summer, can be effective on roadsides. Mowing, a cost effective late season tool, is also a popular treatment method along highways and in recreational areas (DiTomaso 2001). These would apply at 5 of the 24 sites that are small and located along highway 139 (see DEIS's Noxious Weed Sites map), yet there is no discussion in the DEIS of their potential inclusion. Even DiTomaso's table in Appendix G says that mowing is relatively inexpensive and can be a very effective method for moderate infestations (p. 333). (Public Interest Group/Political Party, Eureka, CA - #33.119.33200.210)

The Forest incorrectly lumps together its dismissal of mowing and tillage. While both are methods of mechanical treatment, they are very different techniques, with different impacts and feasibilities of use and effectiveness. Many of the large weed infestation sites are along or nearside highways and other roads that would make access to these site easy and mowing a viable and reasonable treatment option. Mowing treatment options need to be at least analyzed and considered on a site-specific basis, because without doing so the Forest is continuing to skew the analysis to improperly support the preferred alternative. (Public Interest Group/Political Party, Eureka, CA - #33.70.33240.210)

Modoc Forest Response:

The Modoc National Forest has many areas with a high density of rocks that would impede the viability of mowing. For this reason, mowing is not a treatment method considered in the FEIS. Mowing would reduce, but not necessarily eliminate, seed production in spotted and diffuse knapweeds. Rosettes are generally too low to mow. Mowing would generally not provide complete control, although it can be effective with moderate infestations and erect growth form (DEIS, Appendix G).

DiTomaso's table in Appendix G finds that mowing generally would not provide complete control. It can damage late-season natives and biological control insects. Improper timing or growth of starthistle can lead to increased infestation. DiTomaso found that early mowing of musk thistle is ineffective, and mowing alone would not eliminate an infestation. DiTomaso's table shows that mowing is not effective for Mediterranean sage due to prostrate growth habit of the rosettes. The Forest only considers using weed eaters in Alternatives 5 and 6 as part of the physical+ methods of noxious weed treatment.

Public Concern: The Modoc National Forest should consider additional control methods for controlling and eradicating noxious weeds including cultural treatments.

The weed sheets also emphasize the importance of establishing native vegetation to fill available niches in the control of noxious weeds. This is identified as critical for preventing Dalmatian toadflax and knapweeds reinfestations, and recommended for Mediterranean sage and Scotch thistle treatments. The DEIS states that areas with over 1/4 acre of bare soil as a result of treatment will be evaluated to assess need for revegetation (p. 17). Seeding should be considered for areas of any size, especially in combination with hand pulling where soils are already disturbed. Native seeds of local genetic origin should be used wherever possible. (Federal Agency or Official, San Francisco, CA - #19.10.33300.371)

Seeding should be included for more circumstances, including during physical treatments for indicated weed species where soils are amenable. (Federal Agency or Official, San Francisco, CA - #19.12.33300.371)

The decision should not restrict revegetation to only areas 1/4 acre or larger. All areas needing seeding should be revegetated. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #27.2.33300.360)

"Re-vegetation with desirable and competitive plant species can be the best long term sustainable method of suppressing weed invasion, establishment, or dominance" (DiTomaso 2001). Typically re-seeding is done with native species or perennial grasses. The Forest must fully inform within the DEIS and let both the public and USFS decision makers know when and where they plan on utilizing this technique. Further, it must reveal what species will be used, what impacts can be expected from sowing each species. Page 334, Appendix G of the DEIS, describes this as an excellent technique for late winter, early spring, good for first and second year treatment strategies, and always should be part of integrated management approach, yet the Forest fails to discuss its use in detail (Public Interest Group/Political Party, Eureka, CA - #33.118.33300.210)

Integrating the cultural strategy of revegetating treated sites with perennial grasses is recommended to prevent spread and reinfestation (CA DFA website, Graham and Johnson 2004, Moser and Crisp 2000). In fact the California Department of Food and Agriculture's

website on noxious weeds states "Utilizing the weevil with good perennial grass management has shown the most success." Again the Forest has failed to provide or incorporate this information into its analysis of treatment options. (Public Interest Group/Political Party, Eureka, CA - #33.115.33200.210)

When and where does the Forest propose to utilize the recommended cultural treatment method for this noxious weed? The key to controlling most noxious weeds is to limit seed production, and Musk thistle control is no different (USFS FEIS website). Musk thistle seedlings compete poorly with native vegetation, so perennial grasses can be used to prevent spread or reinfestation as part of a cultural and integrated approach (Beck 2004, CA DFA website, USFS FEIS website). (Public Interest Group/Political Party, Eureka, CA - #33.105.33100.210)

On page 6 the DEIS states that the management objective for this weed is to control and contain (not eradication), which fits with the literature. As an aggressive, adaptable, deep-rooted perennial, prevention is the key with Dalmatian toadflax management. Since seedlings are at a competitive disadvantage, cultural control methods focusing on maintaining well adapted native perennial grasses can produce competition problems for the toadflax seedlings and help prevent reinfestation (CA DFA website, Moser and Crisp 2001, Lajeunesse 2004, WA Noxious Weed Control Board 2003). Does the Forest plan on revealing its plans and strategies regarding potential cultural treatments? If this is part of preferred alternative 4, when will the Forest disclose the criteria for this obviously recommended and effective treatment method? (Public Interest Group/Political Party, Eureka, CA - #33.95.33300.210)

The Forest neglects to tell us how and when they may decide to employ cultural treatment methods..... Therefore all the literature encourages the use of competitive perennial grasses to prevent establishment, site size expansion, re-establishment, or spread of Scotch Thistles (CA DFA website, Schuster and Prather, WA Noxious Weed Control Board 2000, Kadrmas and Johnson 2002, Julian and Rife). "Competitive plants are key to long-term control of Scotch thistle because its seedlings are less competitive against established perennials" (Schuster and Prather). The Forest must seriously consider this as their first plan of attach for this weed species, especially for the large populations that they only propose to "control" (p.6). (Public Interest Group/Political Party, Eureka, CA - #33.87.33300.210)

Project Design Standards included revegetation planning: "Areas with bare soil that have resulted from treatment that are greater than 1/4 acre in size would be evaluated to assess need for revegetation. Re-vegetation seed mixes would be designed on a site-specific basis to consider objectives and conditions at each site potential." DEIS, Table 2-0, p. 17. While we are supportive of this mitigation, we are concerned that it is too vaguely worded. The EIS must state a firm commitment to revegetation with native species either through planting or seeding. Furthermore, the EIS must specify that seed mixes be composed of native species only.

(Preservation/Conservation Organization, Sacramento, CA - #29.14.33300.371)

Modoc Forest Response:

Cultural treatments are proposed in the FEIS under each of the action Alternatives. Information on the proposed cultural treatment methods can be found in Chapter 2, Table 2-2 of the FEIS. The majority of the acres proposed to be treated by cultural methods are displayed in Chapter 2, Table 2-11, Comparison of Treatment Methods by Number of Sites and Acres. Project Design Standards 20 and 21 were

specifically designed to mitigate the creation of bare areas from the treatment of noxious weeds.

Public Concern: The Modoc National Forest should consider additional control methods for controlling and eradicating noxious weeds, including tilling.

Tillage, used in early summer, can be effective on roadsides… These would apply at 5 of the 24 sites that are small and located along highway 139 (see DEIS's Noxious Weed Sites map), yet there is no discussion in the DEIS of their potential inclusion. (Public Interest Group/Political Party, Eureka, CA - #33.119.33200.210)

The literature repeatedly mentions tillage as effective, for areas where practical, although this option was omitted from consideration by the DEIS (Calweed 1997, CA DFA website, Graham and Johnson 2004, Moser and Crisp 2000, Roche and Wilson 1999, WA Noxious Weed Control Board 1999). Also not evaluated, frequent mowing during the growing season is reported to be used to reduce and prevent seed production (Graham and Johnson 2004, Moser and Crisp 2000). (Public Interest Group/Political Party, Eureka, CA - #33.113.33240.210)

Tilling in early spring (before the plant bolts) or in the fall (during rosette stage) can also be effective (Hinkamp article). Mowing repeatedly, until seed reserves are gone, may also work (Whatcom Weeds website). While tilling and mowing are often difficult and not practical in remote forest settings, this 6,000-acre patch where is dissected by Highway 139, making for easy access and increasing feasible treatment options. Why wasn't accessibility analyzed? The Forest has also failed to consider "The Bradley Method" (Fuller and Barber 1985), which is a low impact low cost long-term solution to large infestations. (Public Interest Group/Political Party, Eureka, CA - #33.85.33240.210)

Modoc Forest Response:

Tillage was eliminated from consideration because it is non-selective, may provide for a denser weed stand after treatment, and is unfeasible in areas with high rock content. Repeated tillage may be an effective strategy to exhaust root reserves for some species in an agricultural setting, but is not generally an option in natural areas.

Public Concern: The Modoc National Forest should utilize methods other than chemicals.

The Forest's needs for the project include "controlling and eradicating the noxious weeds when infestations are small and easier to treat so that the treatment is effective, efficient and cost effective" (p.4). Literature repeatedly states that non-chemical methods of treatment are especially effective in controlling and eradicating small populations of invasive species. This provides the added benefit of not introducing toxic chemicals into the environment, which have documented and unknown risks and costs to both human health and the natural world. (Public Interest Group/Political Party, Eureka, CA - #33.41.20000.371)

There are many methods of treating noxious weeds that have been very successful throughout California and Oregon. As a forest restoration worker I personally have seen hand pulling, mulching, burning, and biological controls be proven successful for Knapweed, Scotch broom, Star thistle, and Dyer's Woad. These methods are more successful and cheaper then the spraying of known dangerous and controversial chemicals. With the groups such as

Lomakatzi Restoration Project and the Salmon River Restoration Council I have seen entire populations of noxious weeds eliminated and controlled without the use of chemicals. These options are unjustly eliminated from analysis or called ineffective without reason or analysis. I have yet to see any scientific proof that spray has been effective and have more often seen plant resistance build to chemical application. (Preservation/Conservation Organization, Somes Bar, CA - #40.91.33100.210)

[Long-term non-chemical integrated approach] The initial investment described above may be higher, though not substantially so, than would have been incurred using chemicals, but within a few short years, less than the 10 or more proposed in alternative 4, the use of resources to maintain what will undoubtedly be an on-going problem is minimalized. Surely the Forest could usefully employ such effective and cost efficient noxious weed treatment methods for treating the large, and small, infestations in the Modoc National Forest. It seems that it would be particularly helpful when used as part of an integrated weed management plan and in conjunction with bio-controls, re-vegetation, and other non-chemical methods. The Forest has failed to evaluate such approaches and has thus skewed the analysis, including the economic analysis, to support the preferred alternative. (Public Interest Group/Political Party, Eureka, CA - #33.149.24400.830)

Modoc Forest Response:

Alternative 5 was developed in response to public comment requesting a non-herbicide approach to treat noxious weeds. Alternatives 3 and 5 are selectable Alternatives. The FEIS analyzes all action Alternatives to the same level.

Public Concern: The Modoc National Forest should utilize non-herbicide treatments in sites limited to one known site of only .1 acre, such as common crupina.

Even for these four species whose infestations are limited to one known site of only .1 acres, the Forest insists on proposing to use herbicides to eradicate them (p. 212). Common crupina only reproduces by seeds, and since their seeds are relatively short lived (less than three years), elimination probabilities are much higher than with most other noxious weeds (CA DFA website, Graham and Johnson 2003, Weeds BC website). Yet the Forest fails to fully evaluate a reasonable range of proven alternative treatment methods. (Public Interest Group/Political Party, Eureka, CA - #33.143.23100.210)

Modoc Forest Response:

Table 2-2 in Chapter 2 of the FEIS displays the recommended treatments being considered under Alternatives 2 through 6. This includes the herbicidal and non-herbicidal treatments of smaller-sized populations of noxious weeds.

Both common crupina and plumeless thistle are winter annuals with taproots, and can be pulled. Tall whitetop is a perennial with rhizomes that can break off and grow new plants. If the infestation is still small enough with roots that can be completely removed, the manual methods may be used.

Common Crupina has been identified on one site at .1 acres. The FEIS has identified treatment options, including physical and/or herbicidal treatment to ensure eradication. For all small infestations, the Forest has identified the need to eradicate them. However, no one treatment method can ensure the eradication of

infestations; therefore, both physical and herbicidal treatments have been identified for use.

Implementation

Public Concern: The Modoc National Forest should consider the use of volunteers and community stakeholder support in the treatment of noxious weeds.

We request that the Modoc National Forest incorporate all of our comments into the final EIS and that an alternative to the use of herbicides that enlists community and stakeholder involvement be adequately addressed and chosen as the preferred alternative for this project. It is the most effective and safest alternative. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.32.23000.002)

The Modoc National Forest should rely largely on building community/stakeholder support over time, rather than thinking the agency by itself can achieve the goal of control and/or eradication by itself. This larger stakeholder involvement has proven to be more successful as seen in the Salmon River CNWP. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.16.12140.835)

To achieve effectiveness, all Programs/Projects must have a means of support that can insure the level of treatment to achieve the desired level of control. Approach needs to be consistent with the areas customs and culture, as well as be received with acceptance and support by the local community. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.12.12140.061) (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.13.12140.061)

To achieve effectiveness, all Programs/Projects must include strong participation from all related stakeholders, emphasizing landowners, residents, businesses, managers, resource users, non government organizations, other community groups, schools/academia, and tribes. Strategies need include these stakeholders in planning, assessment, education, prevention, implementation, monitoring, and in gaining financial support. Treatments tools must be safe for the environment and humans. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.11.12140.060)

Modoc Forest Response:

The Noxious Weed Treatment Project enjoys wide support from community members, county governments, private landowners, state and federal agencies, and tribal groups. While the FEIS has been modified to address use of volunteers in hand treatments of noxious weeds, the noxious weed program cannot be designed around the hope that volunteers will be available to treat noxious weeds on the forest.

Public Concern: The Modoc National Forest should consider non-chemical methods, as application of herbicides is not effective.

There are various examples of how the application of herbicides is not being effective at reducing and/or eradicating targeted species and populations of noxious weeds. In response the DEIS needs to identify and incorporate information and articulate the successes that are occurring in various communities that rely on non-chemical methods such as in the Salmon River, California -- Klamath and Six Rivers National Forests. The following is information

should be included in the Final EIS. It is a Program Overview of the Salmon River Restoration Council's(SRRC) - Cooperative Noxious Weed Program (CNWP), with Results and Costs. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.2.13000.380)

Modoc Forest Response:

Our review of the information did not reveal evidence of herbicides not being effective in the treatment of noxious weeds. The Modoc NF recognizes the volunteer work of the Salmon River Restoration Council. The Modoc National Forest does not have such a volunteer group. While the FEIS has been modified to address the use of volunteers in hand treatments of noxious weeds, the noxious weed program cannot be designed around the use of volunteers.

Public Concern: The Modoc National Forest should ensure all employees and contractors are properly trained in the application of herbicides.

1. Chemical treatment; a. Train Forest Service employees to properly handle and apply noxious weed chemicals b. Contract with County Departments of Agriculture to chemically control noxious weeds. c.Contract with private companies or individuals for chemical control and application. (Domestic Livestock Industry, Adin, CA - #31.4.33210.371)

Modoc Forest Response:

All employees and contractors who apply herbicides on national forest land will be properly trained and certified in their handling and transportation. [Appendix C, Noxious Weed Control Pesticide Safety and Spill Plan, DEIS Page 237]

Public Concern: The Modoc National Forest should ensure applicators are trained in the identification of noxious weeds.

Who is training and overseeing the applicators? Will there be a registered botanist accompanying them into the forest for each spray site to make sure they hit the correct targets? How similar to the invasive weeds look to native species? The map depicts some pretty extreme and rough terrain to be transporting mass amounts of toxic chemicals around, and thus increasing the potential for spills and accidents. Using non-chemical alternative treatment methods reduces the potential for forest catastrophes that are inherently included with herbicide use. (Public Interest Group/Political Party, Eureka, CA - #33.191.30110.201)

Modoc Forest Response:

The Forest botanist or other qualified person would be certified as a contracting officer’s representative (COR), and would administer all contracts pertaining to herbicide application. In addition, the Forest botanist would provide training on identification of target weed species and treatment locations.

Public Concern: The Modoc National Forest should use various work forces to control noxious weeds.

Consider either contracting directly with the Lassen County Department of Agriculture or funding a RAC Grant proposal by the Lassen County Department of Agriculture for noxious weed control on the Modoc National Forest. (County Agency or Official, Susanville, CA - #2.3.10400.371)

There are also many ways to treat these areas that include but are not limited to: 1.Hand treatment; a. Office personnel that write prescription b.Fire Fighting crews before fire season c. California Conservations Crews d. Invite environmentalists to a weed pulling/education session e. Contracts with individuals, contractors, or Counties f. Forest Service employees carry shovels and stop and cut out small infestations when they come across them. (Domestic Livestock Industry, Adin, CA - #31.3.33240.371)

Modoc Forest Response:

The Modoc National Forest will consider using public and private contractors, and Forest Service employees to implement control and eradication of noxious weeds.

Public Concern: The Modoc National Forest should correct errors in the Forest Plan.

The existing Modoc NF Plan said that we didn't know about weeds in the late 1980's. That's not true. It said there were no problems along this line - that's not true. We had cheatgrass then. Look at the first paragraph on page 9 in the Forest Plan. We knew about cheatgrass then. (Individual, Tucson, AZ - #39.4.21200.210)

Modoc Forest Response:

The focus on the treatment of noxious weeds is currently at a different level than it was in the 1980s. The Forest recognizes the need to eradicate and control noxious weeds to insure that the current populations do not expand and thereby threaten the natural environment of the Forest.

Integrated Pest Management

Public Concern: The Modoc National Forest should use best available science in formulating integrated pest management methodology.

Science based analysis of all relevant issues must be used to develop an integrated pest management program (IPM). (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.23.13000.210)

Treat easily accessible sites differently than sites hidden in rough terrain. Treat small site immediately and quickly while still manageable. Treat and control large sites to prevent growth and reduce population sizes over the long-term. Eradication might not be a practical goal for large infestations, and the objective will need to be control and reducing populations to manageable levels. We expect the Forest to live up to their stewardship responsibilities and undertake a full and thorough investigation of the many feasible non-chemical treatment methods used on different noxious weed infestation sites in Modoc National Forest. IPM first requires that the biology of the pest be understood. This has been ignored by the Forest in its rush to embrace herbicides. (Public Interest Group/Political Party, Eureka, CA - #33.80.33200.371)

Modoc Forest Response:

The FEIS analyzes the effects of a wide range of action Alternatives, utilizing best available and peer-reviewed science. The effects analysis is disclosed in Chapter

3. Appendix G, Noxious Weed Species Information, contains weed-species information with Internet links to further weed-species information.

The wide range of Alternatives, including Alternatives 5 and 6, which were developed in response to public comments, is consistent with Region 5 direction on Integrated Pest Management.

The Modoc National Forest Integrated Weed Management Strategy was updated in 2005, and takes into account the public comments gathered during the DEIS comment period. The strategy calls for the Forest noxious weed coordinator to participate with the Modoc Weeds Working Group in prevention and treatment activities. Design criteria in the FEIS requires development of a coordinated annual work plan to focus efforts on achievable goals, as well as to measure progress of the Noxious Weed Treatment Project.

Public Concern: The Modoc National Forest should implement the recommendations of the 2001 General Accounting Report to Congress, No. GAO-01-815.

The National Academy of Sciences and the National Research Council, chartered by Congress to advise the federal government about scientific matters, and the National Institutes of Health, have issued many warnings against the over reliance on chemicals used for agriculture and the environmental health threat that this "chemical treadmill" poses. That is why, in 1993, the nation adopted integrated pest management as national agricultural policy, with the express purpose of reducing chemicals in the environment. We ask that you refer to the 2001 General Accounting Report to Congress, No. GAO-01-815, Agricultural Pesticides: Management Improvements Needed to Further Promote Integrated Pest Management, Report to U.S. Senate Committee on Agriculture, Nutrition, and Forestry for further information. The concerns the public have about the toxicity of chemical herbicides is based on fact. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.19.13100.380)

Modoc Forest Response:

In 1998, the Forest Service, in conjunction with other agencies, developed a strategy for the management of noxious weeds. The strategy entitled, *Pulling Together: A National Strategy for Invasive Plant Management* (1998) focused on three primary goals: 1) prevention, 2) control, and 3) restoration.

The GAO report (2001) recommended the missing elements of 1) leadership, 2) focusing IPM efforts on clearly articulated results (goals), and 3) developing methods of measuring progress of IPM be implemented by the Secretary of Agriculture.

The Modoc National Forest Integrated Weed Management Strategy was updated in 2005 to reflect the missing elements identified in the GAO report, taking into account the public comments gathered during the DEIS comment period. The strategy calls for the Forest noxious weed coordinator to participate with the Modoc Weeds Working Group in prevention and treatment activities. Design criteria in the FEIS require development of a coordinated annual work plan to focus efforts on achievable goals, as well as to measure progress of the Noxious Weed Treatment Project.

Public Concern: The Modoc National Forest should protect long-term ecosystem function by use of integrated pest management strategy.

The DEIS objectives listed on page 7 for implementing the proposed treatment activities would be best met using a flexible long term adaptive IPM strategies. Can the Forest adequately "protect the ecosystem function and biodiversity of the Modoc" by repeatedly applying toxic chemicals for years? What will be the long-term impacts of all the proposed herbicide applications? Where is the evidence that they will actually be effective preventing the spread of and eradicating noxious weeds in Modoc National Forest? What about the other 17 species of invasive weeds in Modoc County? IPM strategies are necessary for the ongoing struggle to deal with invasive species. (Public Interest Group/Political Party, Eureka, CA - #33.36.33210.310)

Modoc Forest Response:

The Modoc National Forest is implementing Integrated Weed Management Strategies (IWM) through the use of the Modoc National Forest Noxious Weed Management Strategy and Action Plan, and those actions described in the Alternatives of the FEIS.

All herbicides identified for use in the FEIS are approved by the EPA and the California Department of Pesticide Regulation. Any proposed herbicide use will be in accordance with label directions. The Project Design Standards (as disclosed in Chapter 2, Table 2-4 of the FEIS), were specifically designed to ensure that the ecosystem function, processes, and biodiversity of the Modoc National Forest are protected during the weed-eradication process.

Appendix H, Monitoring Plan, in the FEIS, focuses on implementation, effectiveness, and environmental effects.

Chapter 1, Purpose of and Need for Action, provides for the treatment of the identified 14 noxious weed species, as well as treatment of new species currently not found on the Modoc NF.

The Early Detection – Rapid Response strategy outlined in Alternatives 4, 5, and 6 allow for the treatment of additional noxious weeds, provided the treatments are consistent with the Project Design Standards, as outlined in the FEIS.

Public Concern: The Modoc National Forest should prepare an invasive-species management plan in consultation with affected tribes.

The Pit River Tribe supports an integrated approach to noxious weed control, and notes that the Forest Service Manual (FSM 2080 et seq.) requires a Forest-wide Invasive Species Management Plan prepared in consultation with affected Tribes and with public NEPA review. Without such a long-term plan, it is not possible to ascertain whether preventative and restorative methods will be implemented and whether the methods proposed in the DEIS will have the desired lasting effects. In general, we find the DEIS to be lacking in preventative and restorative methods that will avert future noxious weed problems, and forestall the spread of the problem. (Tribal Agency or Official, Burney, CA - #34.5.21100.371) (Tribal Agency or Official, Burney, CA - #34.6.33200.380)

Modoc Forest Response:

Consultation and coordination with federally recognized tribes and the California Indian Basketweavers Association are documented in the FEIS under the Public Involvement and Tribal Consultation sections. The purpose of this consultation and coordination was to identify and resolve issues that are incorporated in the FEIS.

Public Concern: The Modoc National Forest should stop the spread of noxious weeds.

We realize that the noxious weeds are a problem and that they take over and choke out native plants that are important to humans and animals. After reading the Environment Impact Statement it is clear that actions are needed to stop the spread of the noxious weeds mentioned in the EIS plan. (Tribal Agency or Official, Alturas, CA - #18.1.33200.371)

We feel that if all other measures have been exhausted then herbicides is the only avenue left to control or eradicate the mentioned noxious weeds. (Tribal Agency or Official, Alturas, CA - #18.2.33210.371)

Modoc Forest Response:

Alternatives 5 and 6 were added following public comment on the DEIS. With the addition of these Alternatives, the FEIS contains a full and reasonable range of Alternatives for the treatment of noxious weeds.

Public Concern: The Modoc National Forest should promote hand treatment, prevention, and education with research for the treatment of noxious weeds.

I favor a weed control program that promotes prevention and education, with research[;] and am concerned that the use of herbicides will harm soil, water, wildlife, fish and plants. (Individual, Minneapolis, MN - #24.1.33100.002)

My suggest that...To promote manual methods of integrated weed management (Individual, Minneapolis, MN - #24.5.33240.371)

Prevention in a truly integrated management program is necessary for effective control. Without such preventative measures, weeds will simply return, or new, more aggressive species will take the place of those that have been sprayed. Grazing practices can be altered to effectively control noxious weeds (Belsky 2000, Brossard 2000). (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.25.33200.002)

Modoc Forest Response:

The FEIS contains two action Alternatives (Alternatives 3 and 5) that propose the treatment of noxious weeds using hand and other non-herbicidal treatment methods. Alternative 5 was added in response to public comment. Alternate 6 includes the expanded use of non-herbicide treatments of Alternate 5 with limited use of herbicides, treating up to 522 acres of the 6,908 infested acres with herbicides.

This EIS focuses on the treatment of noxious weed infestations on the Forest. Therefore, issues of prevention and education are outside the scope of this document. Prevention and education are addressed in the 2005 Modoc NF Noxious Weeds Integrated Weed Management Strategy (see Appendix A of this FEIS).

Public Concern: The Modoc National Forest should complete all surveys for TES plants prior to the completion of NEPA.

The Forest continues providing skewed analysis without all the information on pages 44 and 45 of the DEIS. "Although surveys are not complete in all proposed treatment areas, sufficient analysis of the risks to TES plants can be accomplished with current information; before any treatment is accomplished a survey will be done. There are no known instances where sensitive plants and noxious weeds occur in such close proximity that the proposed control measures would impact the sensitive plants to such a degree that it would contribute to a trend towards federal listing or loss of viability to the population or species." If surveys are not complete can the Forest make this leap of no effect analysis without all the information? Surely the locations of the weeds and sensitive plants might have altered greatly during the last 3 years and by the time of treatment. Does the Forest plan on producing an EA each time it wants to spray near sensitive species? The Forest plans on completing the surveys and obtaining all the information prior to treatment but post completion of NEPA documentation and decisions. (Public Interest Group/Political Party, Eureka, CA - #33.29.32110.340) Modoc Forest Response:

> **The GIS layer for known TES plant locations has been built over a period of many years. Surveying for TES plants is a continuing process. Places surveyed previously may have new occurrences. Plants in known locations may not come up some years due to climate or other natural events. A contract was recently signed for delineation of vernal pools and fens on the Forest, habitats that harbor a number of TES plant species, and additionally several 'watch list' species. This new knowledge, when it becomes available, will provide continuing improvement to the TES plant species location database.**
>
> **Table 2-4 in the FEIS states that an inventory of noxious weed sites will occur for all Alternatives. In conjunction with this inventory, TES plants within the noxious weed sites will be identified and the TES plant layer will be updated.**
>
> **Currently, these are the known noxious weed sites within 50 feet of sensitive plants. Impacts to individual sensitive plants, or even to occurrences of these sensitive species from these few noxious weed treatments, would not cause a downward trend of the species or a listing. Project Design Standards were developed to minimize the potential for adverse effect on TES species.**
>
> **As with other projects, surveys for sensitive plants are done before ground-disturbing actions. If sensitive plants and/or habitats are found, various methods can be used to reduce impact, such as flag and avoid, avoid habitat, and/or the implementation of Limited Operating Periods (LOPs) designed to protect sensitive species during vulnerable stages of growth.**

Public Concern: the Modoc National Forest should utilize herbicides only as a last resort in its IPM Program, if at all.

The Modoc National Forest Noxious Weed Management Strategy and Action Plan (Sylva et al. 2003) mentioned on page 5, "stresses integrated pest management." IPM strategies consider chemicals a last resort. The Forest repeatedly presents the scene as one where herbicides are the only hope to save Modoc National Forest from the invasive weeds. Nowhere are IPM strategies considered as a starting point. Where are the considerations of beginning and attempting to control and eradicate first using non-chemical means, of which

there are many that have proven affective? The Forest must also be realistic about desired levels of control and what the resources (both physical environment and economic) can sustain.

The Forest clearly shows their preference for chemical treatments and complete disregard for non-chemical IPM strategies when it states "treatment methods would include herbicides, physical methods or a combination of both"(p.7). This statement seems to render the DEIS pro forma, merely a document to support a previously reached decision. Where is the fair and unbiased discussion and possibility of non-chemical treatment methods? (Public Interest Group/Political Party, Eureka, CA - #33.33.33100.380)

The DEIS assumes that Integrated Pest Management (IPM) is the integration of various tools. The FElS should identify that an IPM approach uses herbicides only as" a last resort". Herbicides are used only after all other methods have failed. The FEIS should adopt a preferred alternative that uses the latter definition of IPM (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.31.21100.371)

At the bottom of page 9 a small paragraph is dedicated to Integrated Weed Management (IWM) and states it "is the use of all available and feasible weed control techniques in an organized, coordinated, and mutually supportive manner." The DEIS fails to include IWM components that require "review of all available weed control techniques for each weed problem, selection and integration of effective control techniques, monitoring control effectiveness, and evaluation and modification of control techniques as necessary." IWM control techniques categorized as physical, cultural, domestic animal, and biological need to be reviewed and integrated in an organized, coordinated, and mutually supportive manner. Each weed site needs to be evaluated using all feasible weed control techniques based on the biology of the plant. Although the alternatives section dismisses non-chemical techniques, the literature supports their use, especially in an integrated approach as is touted, but not incorporated in the proposed project. (Public Interest Group/Political Party, Eureka, CA - #33.37.33100.371)

A really key point has been neglected in the DEIS is that each individual weed site needs to be evaluated to determine the most appropriate treatment method, and this can and must be done within the EIS. Challenges such as size of site, number of plants, density of plants, species of invasive weeds, and terrain, and proximity to water sources, sensitive vegetation/wildlife, and human activity areas must be taken into consideration. For example in some of the sites containing many acres, biological controls, combined with other methods, could provide the best results. Burning and reseeding with native perennials can eliminate some invasive weeds. Physical hand pulling and grubbing are often thought to be the most effective control method for small invasive weed infestations (many of the proposed actions will be to treat sties that are very small). Grazing, when integrated with other treatment methods (mowing, burning, biological controls) can also be an effective method of controlling large outbreaks. Integrating multiple treatment methods depending on the dynamics of each weed site is really the key to IPM and IWM strategies and should be the focus of the Modoc noxious weed treatment strategy. Is the Forest committed to IWM or is it just using the term as a buzzword? (Public Interest Group/Political Party, Eureka, CA - #33.72.33200.210)

EPA understands that the eradication and control of noxious weeds is vital to healthy ecosystem functioning and commends the Forest Service for this effort, as well as the larger Noxious Weed Management Strategy. However, we are concerned that the treatment project relies primarily on herbicide use (p. viii) without demonstrating that this use will occur within

an integrated weed management decision-making framework. (Federal Agency or Official, San Francisco, CA - #19.2.21100.371)

The Forest's Weed Management Plan is timely and it is important; CATS welcomes and supports well thought out efforts to prevent and control invasive plants and noxious weeds to support and sustain the natural environment. We applaud the Forest's stated commitment to Integrated Pest Management and Integrated Weed Management though we question the environmental effects and efficacy of the current plans for implementing this policy. (Public Interest Group/Political Party, Eureka, CA - #33.1.13100.371)

The best option is to formulate an IPM approach that would first launch a large-scale assault on all small sites of noxious weeds in the first year. The best chance for eradication is swift and immediate attacks while the populations are still low and can be effectively (and with relatively low environmental impacts) done with non-chemical physical/manual treatments.

When describing physical/manual treatments in the DEIS the Forest states, "this treatment may not be appropriate for all noxious species"(p.7). This statement is both unsubstantiated and conclusory. It is an obvious attempt to mislead decision makers and the public and attempt to sway opinion against non-chemical treatment methods. In fact, as we will show in these comments, physical/manual treatments might be the most appropriate depending on the location and size of the particular site for each noxious weed. Literature and experience of other land management agencies demonstrate that effective non-chemical treatments exist for all the invasive species of concern in the Modoc NF. (Public Interest Group/Political Party, Eureka, CA - #33.34.33240.371)

Modoc Forest Response:

Alternatives 5 and 6 were developed in response to public comments on the DEIS. Alternative 5 focuses on non-herbicidal treatment of noxious weeds, and Alternative 6 incorporates the combination of non-herbicidal and herbicidal treatments of noxious weeds. The wide range of Alternatives, including Alternatives 5 and 6, is consistent with Region 5 direction on Integrated Pest Management.

The Modoc National Forest is committed to treating noxious weeds within the framework of an Integrated Weed Management Strategy (IWM) through the use of the Modoc National Forest Noxious Weed Management Strategy and Action Plan. The IWM incorporates coordination and cooperation; prevention and education; control and project planning; administration; and planning, inventory, mapping monitoring, and research.

The Modoc National Forest Integrated Weed Management Strategy was updated in 2005, and takes into account the public comments gathered during the DEIS comment period. The strategy calls for the Forest Noxious Weed Coordinator to participate with the Modoc Weeds Working Group in prevention and treatment activities. Design criteria in the FEIS require development of a coordinated annual work plan to focus efforts on achievable goals, as well as to measure progress of the Noxious Weed Treatment Project.

Annually, a work plan will be developed that identifies the appropriate treatment method to be applied on a site-specific basis in accordance with Project Design Standard, and direction contained within the FEIS and its accompanying Record of Decision.

Human Health

Public Concern: The Modoc National Forest should clarify the terms “safety factor”, “unacceptable risk” and “acceptable risk.”

The U.S. EPA's Integrated Risk Information System website tells another story: 1.2.2.2.1. The use of the term "safety factor." The term "safety factor" suggests, perhaps inadvertently, the notion of absolute safety (i.e., absence of risk). While there is a conceptual basis for believing in the existence of a threshold and "absolute safety" associated with certain chemicals, in the majority of cases a firm experimental basis for this notion does not exist. (Public Interest Group/Political Party, Eureka, CA - #33.173.13100.719)"1.2.2.2.2.

The implication that any exposure in excess of the ADI is "unacceptable" and that any exposure less than the ADI is "acceptable" or "safe." In practice, the ADI is viewed by many (including risk managers) as an "acceptable" level of exposure, and, by inference, any exposure greater than the ADI is seen as "unacceptable." This strict demarcation between what is "acceptable" and what is "unacceptable" is contrary to the views of most toxicologists, who typically interpret the ADI as a relatively crude estimate of a level of chronic exposure which is not likely to result in adverse effects to humans. The ADI is generally viewed by risk assessors as a "soft" estimate, whose bounds of uncertainty can span an order of magnitude. That is, within reasonable limits, while exposures somewhat higher than the ADI are associated with increased probability of adverse effects, that probability is not a certainty. Similarly, while the ADI is seen as a level at which the probability of adverse effects is low, the absence of all risk to all people cannot be assured at this level." ("Reference Dose (RfD): Description and Use in Health Risk Assessments" Background Document 1A. 3/15/93. http://www.epa.gov/iris/rfd.htm , emphasis added) (Public Interest Group/Political Party, Eureka, CA - #33.174.13100.719)

Modoc Forest Response:

The comment addresses several instances in the DEIS where a statement is made that expected exposures would be at levels considered ‘safe’ by US EPA. These statements were not correctly written. This FEIS does not describe the use of herbicides as being safe or not safe; rather, the use of herbicides is described as resulting in levels of risk considered acceptable or not. Refer to Chapter 3 (Human Health and Safety Section of the FEIS) and to Appendix F.

As for the comments regarding the ADI, we agree with these statements. The risk assessment in Appendix F uses the Reference Dose (or RfD), which is a similar concept to an ADI, but the concepts expressed by the commenter are correct. There is no black and white in discussing risks of potential effects. The introduction in Appendix F discusses the concept of uncertainty in risk assessments as does the lead-in paragraphs in Appendix F, Section 5 (Risk Characterization). Uncertainty is also addressed in Chapter 3 of the FEIS.

Public Concern: The Modoc National Forest should better describe risks to workers and the public.

The Forest continues their trend of biased reporting, comparing the alternatives in regards to the four major issues raised during the scoping public comment process (p. 31-32). For Issue 1, herbicides effecting human health, the Forest admits, "if an alternative is selected which authorizes the use of herbicides, there is a potential that health problems could surface." Who

are they talking about? The workers? The public? The DEIS comparison then attempts to hide this risk by stating, "there is a very little possibility of a small number of individuals to be effected by the use of herbicides." Where is the evidence to back that statement? Then the Forest continues to lobby for herbicide use stating that without them potential for increased exposure to adverse effect of noxious weeds will increase. This makes it sound like the slower removal of invasive weeds will have the potential for a greater impact on human health than applying toxic chemicals for ten plus years over many thousands of acres. Is this what the Forest intends to convey? Is this consistent with scientific evidence? (Public Interest Group/Political Party, Eureka, CA - #33.58.33210.719)

Modoc Forest Response:

The human health and safety analysis has been improved for the FEIS. Appendix F addresses risks to human health (including workers and the public) from the use of these proposed herbicides. Chapter 3 also describes health risks to workers from manual methods of treatment (see the Human Health and Safety Section in Chapter 3).

Public Concern: The Modoc National Forest should disclose the human health and safety issues of the herbicides proposed for use.

The Forest cannot reasonably stand behind its claim of safety for these chemicals. The analysis does not fully inform when it refers to safety of the chemicals. (Public Interest Group/Political Party, Eureka, CA - #33.175.12110.719)

The Klamath Forest Alliance mission statement includes the promotion of healthy communities and ecosystems. Therefore we are very concerned with the impacts to the community through effects to forest workers whom will be disproportionately exposed to harmful toxins, effects to the local communities due to drift (especially for dicamba which evaporates at temperatures in the 80's), and effects to recreation. (Preservation/Conservation Organization, Somes Bar, CA - #40.13.14200.719)

Modoc Forest Response:

The FEIS addresses the potential environmental impacts and human health of herbicides based on best available peer-reviewed science. This analysis is disclosed in Chapter 3 (Human Health and Safety section), and in Appendix F (Human Risk Assessment) of the FEIS, and supporting resource specialist documentation.

Public Concern: The Modoc National Forest should disclose the human health and safety issues of the herbicides proposed for use.

We are very concerned about the effects to members of our groups, forest workers, local citizens, and Native Americans due to toxic exposure from 24-D, Round-up, Dicamba, Hexazinone, Triclopyr, and Clopyralid. All of these chemicals are associated with scientific and medical controversy, contain dangerous inert ingredients, and are harmful to the air, water, animals, plants and soils which we depend on. (Preservation/Conservation Organization, Somes Bar, CA - #40.1.33210.002)

Modoc Forest Response:

Environmental and human health effects are addressed in Chapter 3 in the FEIS and in Appendix F of the FEIS. Further responses are contained in this Appendix.

Work performed by contractors, Forest employees, volunteers and inmate crews will include health and safety precautions, herbicide fact sheets, spill plans and requirements for personal protective equipment (PPE). All work performed will be supervised by government employees who will ensure compliance with all safety requirements as detailed in FSH 6709.11, The Health and Safety Code Handbook.

Public Concern: The Modoc National Forest should clarify data regarding the toxicity of 2,4-D.

Also, exposures to concentrations of 1 part per million or less of the butoxyethanol form of the chemical is lethal for salmon and some other fish-particularly for juveniles. Figures from the EPA and the World Health Organization show acute LC50 toxicity to a number of different fish at rates as low as 0.4 ppm. Yet, the DEIS mysteriously shows LC 50 values for fish in the range of 263 to 358 ppm. After reading the text, it appears that the values shown in the table were more likely to be EC50 values, or the concentration level at which growth inhibition is first seen. These types of errors and omissions of data are unacceptable. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.44.13100.381)

Modoc Forest Response:

Table 4-13 of the DEIS (page 120) lists the LC50 for 2,4-D acid correctly as being 263 mg/L for minnow and 358 mg/L for trout. The text that follows incorrectly describes these values as EC50 values. This has been corrected in the FEIS. The confusion expressed by the commenter is due to the fact that Table 4-13 did not identify the 2,4-D as the parent acid, while the reader assumed it was referring to the butoxyethanol ester formulation of 2,4-D. As stated in SERA (1998), the LC50 values for fish are much lower with ester formulations of 2,4-D, as compared to the parent acid or the amine formulations. In the FEIS, it is clarified that only the amine formulations will be used near streams. As stated in the DEIS, the parent acid LC50 for fish can be used as a conservative value when analyzing risks from the amine formulations.

Public Concern: The Modoc National Forest should clarify the effects of herbicides on forest workers in the EIS.

Page 75 admits "potential human health risks to workers and the public from herbicides would be the greatest under Alternative 4." It is also stated on the same page "potential health risks to workers and the public would be the lower under Alternative 3." Yet when the Forest compares the health risks associated with each alternative at the end of chapter 2, all three action alternatives are listed as having the same effects. Since much of the work will be performed by Forest employees including G5 and G7 personnel who hope to have a long career with the USFS, aren't human health risks of particular importance to their co-workers? (Public Interest Group/Political Party, Eureka, CA - #33.188.21200.719)

The Forest completely disregards the potential of applicator health concerns, instead stating that if the label information is followed no health hazards should exist. Any time herbicides are used there is a human health risk associated with that use, and the Forest is obligated to include information about such. Studies have shown that hand applicators are at greatest risk

from herbicide applications, that the risk is real and has reasonable potential, and that protective gloves may be ineffective protection, even though label recommended (Canning et al 1998, Lin 1999, Nielsen and Andersen 2001, and USFS Region 5 study of exposure of hand applicators to granular hexazinone in forest settings from 1993-1995). Again the Forest must provide all the information necessary to make a competent evaluation. Omitting pertinent information from scientific studies skews the analysis improperly in favor of the Forest's preferred alternative. (Public Interest Group/Political Party, Eureka, CA - #33.192.13100.719)

These points are true for workers as well. Pesticide transport on clothing and especially shoes and its deposition on other surfaces, such as carpets (or the interior of cars and trucks) is well documented.. (Public Interest Group/Political Party, Eureka, CA - #33.186.14200.383)

Modoc Forest Response:

We have expanded our analysis of human health effects in the FEIS. As described in the Human Health Risk Assessment (Appendix F), pesticide applicators are likely to be the individuals who are most exposed to a pesticide during the application process. Two types of worker exposure assessments were considered: general and accidental/incidental. The term *general exposure assessment* is used to designate those exposures that involve estimates of absorbed dose based on the handling of a specified amount of a chemical during specific types of applications. The accidental/incidental exposure scenarios involve specific types of events that could occur during any type of application, including wearing contaminated gloves.

Spencer et al. 1997 was referenced in the SERA Risk Assessment for hexazinone, and was considered when estimating the range of exposure.

Review of these referenced studies indicate that gloves are effective in providing protection from herbicide exposure.

Lin, 1999 - Assessing the permeation of different herbicide emulsion concentrate formulations of 2,4-dichlorophenoxyacetic acid (2,4-D) as 60.8 and 83.5% butoxyethyl ester (BEE) and 46.8% dimethyl amine salt (DMAS) through four types of glove materials (lined unsupported nitrile, unlined unsupported butyl, Silver Shield laminate, and Viton). The results showed that these gloves could provide at least 6 hours protection (6-8) for these formulations.

Canning, et al., 1998 – This paper investigated the interaction of two organophosphate insecticides (not proposed for use) with glove surfaces under laboratory conditions.

Neilson and Anderson, 2001 – This paper evaluated the effect of nonylphenolethoxylate on dermal penetration of methiocarb, paclobutrazol, and pirimicarb (not proposed for use) —and the protection against dermal penetration offered by protective gloves made of latex or nitrile in experiments without a glove barrier. Both glove materials showed resistance against pesticide penetration. That nitrile protected against penetration of pirimicarb for only 18 hr as opposed to the total protection by nitrile against paclobutrazol indicates the importance of the chemical characteristics of pesticides that affect glove materials differently. Thus, the complete protection against penetration of one pesticide may not occur for

another. Finally, the paper stressed the importance of replacing gloves regularly during a work day.

Public Concern: The Modoc National Forest should analyze TCP.

The DEIS makes no mention of the degradate TCP, which EPA researchers have found is especially hazardous to children. At very low concentrations (0.2ppm) the chemical has the ability to inhibit normal nerve cell growth, an implication for fetal brain growth. This is likely to similarly impact the growth of nerve cells in developing tadpoles, fish, or other organisms exposed to the chemical. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.46.21100.380)

Modoc Forest Response:

We have expanded our analysis of human health effects in the FEIS. The Human Health Risk Assessment for triclopyr includes an assessment of TCP. TCP acute and chronic toxicity is similar to triclopyr. The risk assessment for triclopyr encompasses the metabolite TCP, as only a fraction of triclopyr would degrade to TCP (10 %) (EPA, 1998b).]

The study in question appears to be by Das, K.P. and Barone, S. In an in vitro culture system, TCP demonstrated no significant inhibition of ChE activity on NGF-stimulated neurite outgrowth in PC12 cells at any concentration tested. TCP inhibited neurite outgrowth at or below .2 ug/ml. It concluded that the implications of these in vitro data could be important if TCP and chlorpyrifos have quantitatively different effects during development, and reach significant levels in vivo in the fetal nervous system.

In vitro studies cannot be directly translated to a risk assessment, but are indicative of potential effects. In vitro effects do not necessarily equate to in vivo effects because of the multitude of systems that are interacting in the whole organism.

This is why in vivo studies are so critical, and why in vitro studies are of somewhat limited value. Threshold values for effects (such as the RfD) are based on the lowest NOEL from in vivo studies. These in vivo studies, particularly those that involve multigenerational exposure or exposures during development should account for formation and activation stages of life.

Public Concern: The Modoc National Forest should identify the effects of the proposed treatment on the most sensitive people.

The DEIS does not identify and needs to identify various human populations that are some of the most sensitive people to exposure to chemicals, including the proposed herbicides or herbicide formulas. These include: a) pregnant women/applicators who may not know they are pregnant; b) exposure of babies to herbicides or their formulations; c) elderly people with health complications; and d) sick people. Some of our concerns are related to synergistic reactions, bio-accumulation, persistence in environment, low dose impact, migration through the environment, and lack of data and transferability of knowledge.
(Preservation/Conservation Organization, Forks Of Salmon, CA - #42.17.21100.719)

Concern is especially magnified for sensitive populations including those with compromised immune systems, children and the elderly. Dr. Robert Kreutzer of the California Department of Health Services reported in the results of the Department's annual survey of California

health indicators that 16.9%, or five million Californians, are sensitive to chemicals and that 6.4%, or close to two million Californians, have been medically diagnosed as having chemical sensitivity that affects their health status. (Kreutzer, Neutra, Lashuay. 1999. Prevalence of People Reporting Sensitivities to Chemicals in a Population-based Survey. American Journal of Epidemiology) In a personal communication Dr. Kreutzer assured us that the findings of his 1999 report corresponded with other studies of chemical sensitivity in the general population and field experiences of his office in chemical release accidents. If herbicides are used to the extent they could be used on the Forest, up to 3,000 acres per year and up to 4 pounds of active ingredient, a sizeable percent of the general population may not be able to use the Forest or may display symptoms if the do. This has not been adequately considered in the EIS. If it were so analyzed, it is likely the determination would be that only non-chemical treatment methods should be used in these areas. (Public Interest Group/Political Party, Eureka, CA - #33.184.13100.719)

Modoc Forest Response:

As stated in Appendix F, the uncertainty factors used in the development of the Reference Dose (RfD) takes into account much of the variation in human response. The uncertainty factor of 10 (for sensitive subgroups in the human population) is sufficient to ensure that most people will experience no toxic effects. "Sensitive" individuals are those that might respond to a lower dose than average, which includes women and children. As stated in National Academy of Sciences (NAS 1993), the quantitative differences in toxicity between children and adults are usually less than a factor of approximately 10-fold. An uncertainty factor of 10 for sensitive subgroups may not cover all individuals that may be sensitive to herbicides, because human susceptibility to toxic substances can vary by two to three orders of magnitude. Factors affecting individual susceptibility include diet, age, heredity, preexisting diseases, and life style. Individual susceptibility to the herbicides proposed in this project cannot be specifically predicted. Unusually sensitive individuals may experience effects even when the Hazard Quotient is equal to or less than 1.

Public Concern: The Modoc National Forest should consider all protective measures for workers and the general public.

On page 78 under the heading of toxicity of herbicides the EIS states that except in extreme cases the spraying herbicides will not pose an identifiable risk to workers or the general public however all protective measures should be taken to protect those doing the spraying of herbicides. (Tribal Agency or Official, Alturas, CA - #18.4.33210.719)

Modoc Forest Response:

The Project Design Standards for the action Alternatives are incorporated to protect public safety. [Chapter 2, Page 17 of the DEIS]

All employees and contractors who apply herbicides on National Forest land will be properly trained and certified in their handling and transportation. This includes the use of all applicable personal protective equipment intended to help protect applicators. [Appendix C, Noxious Weed Control Pesticide Safety and Spill Plan, DEIS Page 237]

Public Concern: The Modoc National Forest should undertake a worst case analysis concerning the safety of herbicides.

Although the Forest is required to undertake a worst case analysis concerning safety of herbicides, the DEIS states that "Analysis of herbicide use in this EIS assumes compliance with the product label during handling and application" (p. 77). Where is the worst case analysis in this assumption? Such analysis is labeled "implausible" on page 84, with reference to examples such as "spray over entire naked body, wearing heavily contaminated gloves for an extended period" (p, 84). In fact, the possibility of exposure from wearing heavily contaminated gloves is not implausible in the least. Studies of worker exposures have shown that personal habit has much to do with pesticide exposure rates. A monitoring study of Forest Service workers found higher than anticipated levels of triclopyr in the urine of applicators for whom dermal patches indicated that exposure levels should not have resulted in such levels. The claim only spray over an entire naked body would result in excessive exposure is inaccurate. Forest workers using a particularly dusty batch of a pellet form of hexazinone were found to have higher than expected levels of exposure. Accidents occur. Backpack spraying is the highest reported application method causing accidental exposure to pesticides in California. Drift occurs. Drift damage by 2,4-D is behind numerous restrictions on its use in areas of California where damage to sensitive crops has been found miles from application sites. The Forest cannot rely on herbicide registration by the EPA, as expressed in the product label, to verify safety for normal use. It must undertake a worst-case analysis. (Public Interest Group/Political Party, Eureka, CA - #33.176.33210.719)

Modoc Forest Response:

We have expanded our analysis of human health effects in the FEIS. The Forest completed a Risk Assessment (Appendix F) to analyze the risks of the herbicides proposed to workers and the general public. The Forest did not rely on herbicide registration by the EPA to verify safety for normal use.

With regard to a worst-case scenario, the Forest is not required to undertake a worst-case analysis concerning safety of herbicides. In the Human Health Risk Assessment (Appendix F) almost no risk estimate is given as a single number. Usually, risk is expressed as a central estimate and a range (lower and upper), which is sometimes very large. The monitoring studies the commenter refers to were included in the SERA Risk Assessments for triclopyr (Spencer, et al (2000) and hexazinone (Spencer, et al. (1997)), and were considered when estimating the range of exposure.

Public Concern: The Modoc National Forest should consider that the herbicide applications will occur in the most-used places of the Forest.

A well designed IPM strategy, would give high priority to treatment of areas adjacent to stream courses, roads, trail systems, and administrative sites (campgrounds, parking lots, trail heads, river accesses) where application of herbicides is an immediate human health concern. The direct and indirect impacts of herbicide application create unnecessary hazardous conditions in the areas most used by public and forest recreational users. (Public Interest Group/Political Party, Eureka, CA - #33.183.33210.719)

On page vi it is stated that the health risks for humans coming into contact with herbicides within several hours of spraying is very low, though throughout the DEIS it is made clear to the reader that noxious weeds are most commonly found in high traffic areas, roadways,

streams, trails, campgrounds and landing sites. Therefore the risk of exposure to humans with several hours of herbicide application would be quite likely and not "very low" as stated. (Tribal Agency or Official, Fort Bidwell, CA - #35.5.33210.719)

Modoc Forest Response:

The FEIS has been revised to state that noxious weeds on the Forest are not located in high-traffic areas where humans can come in contact with treated noxious weed sites. Noxious weeds are not located in campgrounds. While most infestations are located within ¼ mile of a road or old log landing, these areas are generally not subject to use by humans on foot. The noxious weed occurrences appear to have been spread by trucks hauling hay long distances, and by spreading infested gravel and cinders as road base or surface.

For Alternatives that consider the use of herbicides, signs regarding herbicide use will be placed at access points to treatment areas prior to initiating treatment. Signs would list herbicides to be used, effective dates, and name and phone number of Forest contact.

The FEIS addresses the potential environmental impacts and human health of herbicides, based on best available peer-reviewed science. This analysis is disclosed in Chapter 3 (Human Health and Safety section), Appendix F of the FEIS, and supporting resource specialist documentation.

Public Concern: The Modoc National Forest should evaluate the potential health hazards to the general public from exposure to herbicides.

Included on page 64, as recreational activities within Modoc NF are berry picking and mushroom picking. "Some of these activities may occur on sites where noxious weed control activities are planned." As required by NEPA, the DEIS needs to evaluate the potential and health hazards for people who pick and consume berries or mushrooms in areas that have just been sprayed. Food gathers and others will walk through these areas and can pick up herbicide residues on their clothing and shoes which can lead to exposures after leaving the Forest, such as when they enter their home or place of business. (Public Interest Group/Political Party, Eureka, CA - #33.185.38100.380)

Modoc Forest Response:

Appendix F of the FEIS provides an exposure assessment for the general public from oral and dermal exposure from contaminated vegetation. Additionally, for Alternatives that consider the use of herbicides, the Forest would place signs regarding herbicide use at access points to treatment areas, prior to treatment. The signs would list herbicides to be used, effective dates, and name and phone number of the Forest contact.

Public Concern: The Modoc National Forest should not utilize R-11 as a surfactant in the implementation of this project.

Region 5 USFS has shown a preference for using R-11 as a surfactant. Research has shown R-11 to be acutely toxic, linked with cancer and mutations, associated with neurological effects, and as an endocrine disruptor (see appendix A of this comment letter which is

chalked full of herbicide toxicity information the Forest failed to include in their analysis). (Public Interest Group/Political Party, Eureka, CA - #33.199.33210.719)

Modoc Forest Response:

The DEIS did not contain information specific to the risks of using nonylphenol ethoxylate-based surfactants. The FEIS includes analysis concerning the potential human health effects and risk of using nonylphenol ethoxylate-based surfactants, such as R-11. Refer to the Human Health Section in Chapter 3 and Appendix F in the FEIS.

Public Concern: The Modoc National Forest should identify the human health risk to workers and the general public posed by the use of glyphosate in the EIS.

People who were occupationally exposed to glyphosate herbicides had a threefold higher risk of hairy cell leukemia, a form of the cancer non-Hodgkin's lymphoma. In addition, glyphosate has been associated with an increase in miscarriages, premature births, and attention deficit disorder, and breast cancer. We are concerned that the human population and the wildlife will be exposed to the same health risks. In one situation a woman exposed to this chemical by kneeling in a treated area had an extreme skin reaction.
(Preservation/Conservation Organization, Somes Bar, CA - #40.26.33211.719)
(Preservation/Conservation Organization, Somes Bar, CA - #40.27.33211.380)

Modoc Forest Response:

The Human Health and Safety Risk Assessment in Appendix F of the FEIS contains a discussion of the potential human health effects from exposure to glyphosate. This discussion is based on the national-level glyphosate risk assessment (SERA 2003, found in the project files). Glyphosate has not been determined to be a carcinogen. Glyphosate is not a neurotoxin.

For Alternatives that consider the use of herbicides, the Forest would place signs regarding herbicide use at access points to treatment areas, prior to treatment. The signs would list herbicides to be used, effective dates, and name and phone number of the Forest contact.

Public Concern: The Modoc National Forest should identify the human health risks posed by the use of clopyralid in the EIS.

Clopyralid is associated with substantial reproductive problems, including skeletal abnormalities in fetuses, an increase in hydrocephaly, a reduction in the number of red blood cells, and a reduction in the weight of fetuses. It is unknown whether Clopyralid causes cancer. (Preservation/Conservation Organization, Somes Bar, CA - #40.35.33211.719)

Modoc Forest Response:

The Human Health and Safety Risk Assessment in Appendix F of the FEIS contains a discussion of the potential human health effects from exposure to clopyralid. This discussion is based on the national-level clopyralid risk assessment (SERA 2004, found in the project files). Clopyralid has not been determined to be a carcinogen, although a contaminant found in clopyralid, hexachlorobenzene, has been determined to be a carcinogen. For that reason, a cancer risk assessment is

conducted in Appendix F for this contaminant. There is no evidence that clopyralid causes reproductive effects.

Public Concern: The Modoc National Forest should identify the human health risks posed by the use of 2,4-D in the EIS, especially any effects caused by dioxin.

2,4-D exposure has been linked with increased risk of the cancer non-Hodgkin's lymphoma in a series of studies. These include studies of farmers in the U.S. and Canada; workers in 2,4-D manufacturing plants; professional lawn care applicators; and gardeners. In addition, exposure to 2,4-D-treated lawns has been associated with an increased risk of lymphoma in dogs. 2,4-D's ability to cause cancer has been controversial since the first of these studies was published. 2,4-D disrupts the normal functions of hormone systems: it decreases blood concentrations of the metabolic hormone thyroxine and increases production by the testes of estradiol, a female sex hormone. The U.S. Environmental Protection Agency has reported that 2,4-D is contaminated with dioxins, including the notorious 2,3,7,8-TCDD. TCDD causes a variety of reproductive problems, cancer, and damage to the immune system. Among the many "inert" ingredients in commercial 2,4-D products are the carcinogen crystalline silica, the neurotoxin solvent xylene, and the teratogen and eye irritant 2-ethyl-1-hexanol. Recent research has shown that 2,4-D causes cancer. Examples include tamoxifen, cisplatin, and melphalan. 2,4-D causes endocrine disruption. Significant research and regulatory resources have been focused recently on chemicals that disrupt the normal functions of the endocrine system, the glands and hormones that regulate the growth and development of animals. Although much research remains to be done, experimental evidence suggests that 2,4-D disrupts animal endocrine systems. Thyroxin is a hormone produced by the thyroid that is involved in the regulation of metabolism.

Dioxins are a family of compounds that include "extremely toxic and potent" chemicals. Dioxins gained notoriety as contaminants of the 2,4-D-containing herbicide Agent Orange used during the Vietnam War. The little testing that has been done shows that current 2,4-D products are contaminated with dioxins, including 2,3,7,8-TCDD, the most toxic dioxin. 2,3,7,8-TCDD was found in 2 of the 8 samples analyzed for EPA by 2,4-D manufacturers. A closely related dioxin (1,2,3,7,8-pentachlorodibenzo-p-dioxin) was found in 3 of the 8 samples tested.The effects of Agent Orange on Vietnam vets are well documented.

The Washington Department of Agriculture recently surveyed fertilizer products, including one 2,4-D containing product. Their analysis showed that it was contaminated with 2,3,7,8TCDD and the same pentadioxin found by EPA as well as three related dioxins.46 Adverse health effects associated with 2,3,7,8-TCDD and other dioxins include wasting disease (weight loss), chloracne (a severe skin disease), an increased risk of diabetes, weakening of the immune system, decreased fertility, alterations in levels of sex hormones, increased risk of miscarriages, decreased sperm production, increased frequency of severe birth defects, and cancer. Dioxins are persistent and increase in concentration as they move up the food chain. (Preservation/Conservation Organization, Somes Bar, CA - #40.41.33211.719)

Modoc Forest Response:

The Human Health and Safety Risk Assessment in Appendix F of the FEIS contains a discussion of the potential human health effects from exposure to 2,4-D. This discussion is based on the national-level 2,4-D risk assessment (SERA 1998a, found in the project files) as well as more recent work completed by US EPA

during the re-registration process for 2.4-D. These references discussed the human-health hazards represented by 2,4-D, including whether 2,4-D is considered a carcinogen, as well as the inert substances and possible dioxin contaminants. Appendix F summarizes these discussions.

Public Concern: The Modoc National Forest should evaluate human health risks to laborers involved in hand treatment of noxious weeds.

Chapter 4 & #150; Environmental Effects 75 the DEI[S] states "Potential human health risks to workers from physical noxious weed control measures are minor and include cuts, burns, allergies and skin irritation to individuals doing the work...therefore, no human health effects are anticipated by physical removal of weeds."

MY COMMENT

In Contra Costa County when hand labor including the use of weed eaters and other hand held weed management equipment are used over a period of time by the same employee, there is a significant risk for repetitive motion injuries including carpel-tunnel syndrome. In one year worker's compensation claims for crews doing manual control were reported to be 40% of the crew. This is a large increase over weed management crews using herbicides. Use of manual methods to control weeds has led to numerous workers being injured, causing significant long term cost to the county. Once a worker suffers from this type of injury it is unlikely they can successfully return to the same type of work. Also employees doing manual-physical weed management are at increased risk for other types of on the job injuries such as falls, sprains and deep lacerations. Manual-physical control means more workers in the field and in transport over a much longer time span, ergo greater risk for physical injury both repetitive or accidental. (Individual, Concord, CA - #16.1.13100.719)

Modoc Forest Response:

The FEIS discusses the risks to human health for workers involved in the manual removal of noxious weeds (Chapter 3, Human Health and Safety Section).

Public Concern: The Modoc National Forest should not utilize chemicals as they are dangerous to humans.

The fact that preferred Alternative allows for an unspecified amount of acreage to be sprayed over ten years is also troubling. We have learned a lot about these nasty chemicals over the years and should start making real attempts to phaseout their use when other methods have proven to work. Again, look at the cases on the Salmon and in Southern Oregon. Numerous Cancers, birth defects, low sperm count, skin problems, hormonal problems, kidney damage, mutations, nervous system damage, and brain damage, are just a few health effects caused by the pesticides that are planned to be sprayed in the proposed alternative. (Individual, Eugene, OR - #32.3.24400.383)

Modoc Forest Response:

We have expanded our analysis of human health effects in the FEIS. The FEIS addresses the potential risks to human health to workers and the public from the proposed herbicides. This analysis is disclosed in Chapter 3 (Human Health and Safety section) and Appendix F (Human Risk Assessment) of the FEIS and supporting resource specialist documentation.

Public Concern: The Modoc National Forest should consider the potential for asthma in all Alternatives.

The DEIS indicates in the manual treatment discussions that many people are allergic to some of the noxious weeds and that this may lead to asthma. The DEIS needs to identify that many of the applicators may be allergic to the same noxious weeds, which can lead to asthma. In addition the DEIS needs to identify and include that it is well accepted that a number of the proposed herbicides to use are known to increase the likelihood and occurrence of asthma in humans. (Preservation/Conservation Organization, Forks of Salmon, CA - #42.18.33210.719)

Modoc Forest Response:

The commenter did not disclose references for the assertions about asthma being caused by herbicides. In our literature review, we found no correlation between herbicides and asthma.

Contracts awarded will require compliance with Occupational Safety and Health Administration (OSHA) regulations, and will include health and safety precautions, herbicide fact sheets, spill plans, and requirements for personal protective equipment (PPE). All contracts will be supervised by and inspected by government employees, who will ensure compliance with all safety requirements.

For Alternatives that consider the use of herbicides, signs regarding herbicide use will be placed at access points to treatment areas prior to initiating treatment. Signs would list herbicides to be used, effective dates, and name and phone number of the Forest contact.

Public Concerns that are general in nature and addressed in detail in specific sections of the DEIS, FEIS, and this appendix are listed here.

There is nowhere in the EIS where any scientific support is offered indication that the listed herbicides or treatment will be effective here, nor is there any indication how effectiveness will be monitored, nor how long of herbicide spraying will be needed. Which leads to many important unanswered questions. These include, how will effectiveness be measured? Will the Modoc National Forest demonstrate effectiveness? What are the suspected connected actions? Will this project lead to continual herbicide treatments over decades without effective results? Why were certain weeds chosen for treatment? Is it based on probability of eradicating or for maximizing grazing for cows? Why are class 3 pests (low priority) such as star thistle, that have no chance of being eradicated, being targeted? Is there funding to keep up such an unfocused and arbitrary herbicide program? If maintaining Native Forbs and grass species is part of the Purpose and Need why are non-native grasses, such as the type brought in by livestock not addressed? Will spraying not also cause a loss of wildlife habitat, as much wildlife will avoid or be unable to reproduce as well in chemically treated areas? Most of the herbicides proposed for use severely effect nitrogen uptake by plants and beneficial microorganisms. (Preservation/Conservation Organization, Somes Bar, CA - #40.5.30000.002)

Modoc Forest Response:

Monitoring treatment effectiveness is an important part of a comprehensive invasive species management program. Monitoring treatment efficacy helps to

validate treatment priorities, adapt future treatment techniques to meet project needs, determine the effect of treatments on non-target organisms, and generally complete project implementation. Monitoring treatment activities also allows program managers to identify changes in the extent, distribution and density of the invasive species populations and changes to the environment, non target organisms and other biotic and abiotic factors in the affected ecosystem.

Numerous methodologies can be used for detailed quantitative measurement of the changes in existing infestations of invasive species following treatment. Changes in distribution, relative density, and changes in the infestation size (extent) are important characteristics which will be used to measure treatment efficacy. The Treatment Effectiveness Monitoring strategy is detailed in Appendix H of the FEIS.

Yellow starthistle is an aggressive species, and there is concern there would be negative impacts to native plant communities, if it spreads. The Forest Service is therefore targeting star thistle for treatment, because our current infestations are limited (4.07 acres) and opportunities for eradication are high.

Funding for the prevention program will come from various sources. In the past, RAC funds were used to purchase education materials concerning noxious weed prevention, identification, and management for the various libraries in Modoc County. Noxious Weed inventories are currently being funded by grants received by Modoc County and Forest Service appropriated funds.

There are other invasive plants that will not be treated in this analysis. Those species will be addressed through other actions through the implementation of the 2005 Modoc National Forest Integrated Weed Management Strategy. The purpose and need of the DEIS and FEIS is to identify and treat 14 noxious weeds; the remaining weeds that exist on the Forest could be treated in future documents.

Many of the treatment sites are less than 0.10 acres, so there will not be a large concentration of herbicides in any given area. There are very few wildlife species where their entire home range would be compromised by implementation of the activities described in the FEIS. Although some individuals may be impacted, there will not be a trend towards listing nor will there be any detrimental impacts to wildlife populations. Noxious weeds are not considered an important habitat component for native wildlife therefore wildlife habitat will not incur a net decline.

The intent of using herbicides is to kill noxious weeds, which are plants. Herbicides use various mechanisms to do this. The concern is to prevent negative herbicide effects to non-target plants. This will be accomplished through adequate Riparian Conservation Areas and pre-treatment surveys for TES plants as discussed in the Design Criteria, Appendix D, and by method of application which is directed spray and wick treatments, as discussed under the Alternatives in Chapter 2. Riparian Conservation Areas, pre-implementation surveys, and treatment methods will adequately protect TES plants. Additionally, no noxious weed species are found within 150 feet of the only T&E plant species on the Forest, slender Orcutt grass (determined by applying a buffer around the slender Orcutt grass GIS (Geographical Information Systems) polygons and intersecting it with the Forest weed layer).

The FEIS is proposing to use Glyphosate and based on a recent study completed by PSW at Redding, CA, Glyphosate does not adversely affect soil microbial

activity nor is it a herbicide that remains in the soil for longer then 9 months; none of the remaining herbicides that are proposed to be used under this project are classified as pre-emergent herbicides. This means that none of these herbicides bio-accumulates in the soil profile or has a half-life greater than 9 to 12 months.

NEPA

Public Concern: The Modoc National Forest should insure specialists are allowed to provide an unbiased evaluation.

This survey demonstrates that federal agencies stifle and interfere with the experts who provide the basis for the agencies' claims that their decisions area based on proper consideration of the environmental effects of agency actions. If the Forest, or the Forest Service, or the USDA has, in evaluating the project at issue here, directed its scientists and environmental professionals -- for non-scientific reasons -- to change the conclusions of their analysis, this will have corrupted the Forest's decision-making process. The Forest will have considered and weighed improper factors in making its analysis and in drawing its conclusions. To that end, has the Forest, or the Forest Service, or the USDA, or anyone in the Bush Administration, for non-scientific reasons, directed any Forest scientist, or environmental professional, to change their analysis, or the conclusions of their analysis? Have any commercial interests inappropriately induced the reversal or withdrawal of scientific conclusions or decisions through political intervention? Have Forest scientists and environmental professionals been stifled in their ability to openly express concerns about the biological needs of species and habitats because they fear retaliation if they were to do so? Are Forest scientists allowed to do their jobs as scientists? Have any Forest scientists or other personnel been directed to inappropriately exclude or alter technical information from the DEIS? Have the presentation and analysis of feasible alternatives been improperly impacted? Have potential effective treatment methods received a biased evaluation? (Public Interest Group/Political Party, Eureka, CA - #33.204.11000.720) (Public Interest Group/Political Party, Eureka, CA - #33.205.11000.720)

Modoc Forest Response:

No reports or specialist's input have been changed to support a particular point of view.

Public Concern: The Modoc National Forest should evaluate effects of proposed treatments into the foreseeable future, as called for in NEPA.

The Forest focuses solely on eradication and control of noxious weeds in the DEIS, yet fails to meet a major NEPA requirement of evaluating the effects of proposed treatments into the foreseeable future. Does the Forest have any evidence of what will happen to the lands after repeated chemical applications? How will the soil and habitats be forever altered? What species will be expected to re-establish and grow? What are the long-term impacts of the proposed action? All this information needs to be included in the EIS. (Public Interest Group/Political Party, Eureka, CA - #33.5.30300.380)

Modoc Forest Response:

The FEIS and the supporting specialist reports do evaluate the short- and long-term impacts of implementation of all of the Alternatives. The FEIS summarizes the analysis utilized in developing and projecting the effects analysis into the future. Based on analysis of past actions in Modoc County, the herbicides proposed for use in this FEIS when applied according to label directions and following project Design Standards will not result in the occurrence of adverse cumulative effects. As stated in the EIS the herbicides will not alter soil chemistry or wildlife habitat. The FEIS displays the direct, indirect, and cumulative effects of all Alternatives.

Public Concern: The Modoc National Forest should evaluate the cumulative impacts associated with the possible causes of noxious weed infestations to insure compliance with NEPA.

NEPA requires an environmental impact statement to include analysis of actions which are not part of the federal agency's proposed action when the impacts are "cumulative impacts ... [involving] the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions." 40 C.F.R. ? 1508.7. The purpose given for the project is "to economically implement those portions of the Modoc National Forest Noxious Weed Plan that call for implementation of a program to control and eradicate 15 identified species of noxious weeds." DEIS, p. 3. The "Noxious Weed Management Strategy and Action Plan" developed in 2003 by the Modoc National Forest did not address management activities or impacts from over grazing or OHV use or any other activities that have resulted in facilitation or as vectors of noxious weed establishment. The plan was not a NEPA document and was not subject to public review. The Modoc Noxious Weed DEIS "purpose and need" is to implement the aforementioned plan that is not a NEPA document, while meeting the "need and requirement of the Forest to promote the ecosystem health of forested and rangeland habitats by maintaining or improving native forbs and grass species, ultimately preventing the loss of wildlife habitat." DEIS, p. 3. Given this broad stated need, analysis of land uses that directly, indirectly, and cumulatively have contributed to the establishment and spread of noxious weeds, and as vectors, therefore are well within the scope of analysis required by the EIS. The agency cannot dismiss issues without a discussion of why they are not significant, or providing a reference to their coverage elsewhere. 40 C.F.R. ? 1501.7. The relationship of the ecological problems associated with noxious weeds, their impacts on native biological diversity and wildlife habitat, and the causes and vectors of their establishment have not been addressed by the Modoc NF in any prior planning document. (Preservation/Conservation Organization, Sacramento, CA - #29.11.30310.371) (Preservation/Conservation Organization, Sacramento, CA - #29.12.30310.371)

Modoc Forest Response:

The Noxious Weed Management Strategy and Action Plan (Appendix A of the FEIS) identifies the major vectors of noxious weed spread on the Forest. OHVs and over-grazing are not major vectors on the Forest. The Noxious Weed Management Strategy and Action Plan is not a ground-disturbing activity, and in accordance with direction contained in FSH 2080 does not require NEPA analysis. Chapter 3 of the FEIS evaluates and discloses the impact that the presence of noxious weeds has on other resources as well as the direct, indirect, and cumulative effects of all Alternatives.

Public Concern: The Modoc National Forest should address vectors that cause the spread of noxious weeds.

The DEIS says that other actions are being now and in the future to address vectors of infection. This is fragmenting a decision into action now and action later with no assessment of the total project. This is a NEPA violation. More importantly, however, it is irresponsible to progress with a spray decision now when you have made no provision (e.g. budget and staffing) to accomplish these promised future tasks. We see these as hollow promises. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.19.10000.131)

Modoc Forest Response:

The cause of the noxious weed infestations is identified in the Modoc National Forest Noxious Weed Management Strategy and Action Plan located in Appendix A of the FEIS. The FEIS discloses that over 90 % of noxious weed infestations are along roads.

The proposed project and Alternatives were developed to eradicate and/or control existing infestations. The decision to be made is to select appropriate control measures—not prevention, education, research, inventory, or other IPM measures. The EIS does not address or consider a spray-only Alternative. A decision to treat noxious weeds is needed prior to getting funding. A NEPA decision must be made prior to ground-disturbing activities such as hand treatments, or hand treatments combined with limited herbicide spraying of individual noxious weeds.

Public Concern: The Modoc National Forest should only select the Alternative that causes the least damage to the environment, and not consider the cost of the various methods.

The Forest Service has failed to properly interpret Section 101 of the National Environmental Policy Act. According to the Forest Service Handbook, the preferred alternative " is the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources" (FSH, Zero Code-05 -Definitions). The potential cost savings from using herbicides over other treatment options is not a factor that the FS can legally use to override other considerations determining the preferred alternative. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.28.23000.131)

Modoc Forest Response:

FSH 1909.15_zero_code (2005) page 7 of 15, defines the environmentally preferred Alternative as an Alternative that best meets the goal of Section 101 of NEPA and required by 40CFR 1505.2(b) to be identified in the Record of Decision. Ordinarily, this is the Alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. In some situations, there may be more than one environmentally preferred Alternative.

FSH 1909.15_zero_code (2005) page 10 of 15, defines the preferred Alternative as the Alternative which the agency believes would best fulfill its statutory mission and responsibilities, giving consideration to environmental, social, economic, and other factors and disclosed in an environmental impact statement.

The FEIS analyzes all Alternatives—including the no-action Alternative—to provide the decision maker with the information needed to select an Alternative that would best fulfill the purpose and need of the project and the Agency's statutory mission.

Public Concern: The Modoc National Forest should not ignore scientific evidence or the level of controversy, to justify the Alternatives.

The level of controversy, documentation and science ignored for the benefit of justifying these alternatives is arbitrary and illegal. It is hard for us to envision a more controversial and impactful project than what is proposed in this EIS. (Preservation/Conservation Organization, Somes Bar, CA - #40.4.13100.380)

Modoc Forest Response:

The analysis did not ignore the available scientific information concerning potential effects from the use of these herbicides. References provided in comments were also considered. The analysis utilized extensive documented information from US EPA, as well as the national level risk assessments. Legitimate scientific controversy was not ignored in the development of the FEIS.

Public Concern: The Modoc National Forest should evaluate site-specific impacts in treating each noxious weed site to insure compliance with NEPA.

The Forest can make a bad decision, it can make a decision that will ruin the environment and leave lasting negative impacts that can never be repaired, but it cannot make these decisions without fully informing the decision maker and the public about its activities and their impacts. By leaving unevaluated impacts related to the length of the project, number of acres to be treated in any year and, most critically, treatment of sites for which the size, location and other factors are currently unknown, informed decision making and informed public participation are not fostered as required by NEPA. In analyzing an activity it proposes to undertake, the Forest must consider at what point it must analyze the site-specific impacts of a project. When an impact statement is prepared, site-specific impacts need not be fully evaluated until a "critical decision" has been made to act on site development. For a programmatic EIS, general conditions are described and a decision is reached regarding the broad impacts of the program. When individual projects are to be implemented, an Environmental Assessment is prepared, a narrower analysis that tiers to the programmatic EIS to analyze whether there is significant or new site-specific information not previously disclosed in the programmatic EIS. In the current EIS, either the Record of Decision will be the "critical decision" that implements site-specific projects OR some future decision will be necessary, thus necessitating further analysis. It can't be had both ways. In summary, to make the ROD for the current EIS legal, the site-specific evaluation must be made either in the EIS or in future EAs. There are no plans described in the DEIS, however, to conduct an EA prior to implementing action on any individual site. The analysis is not merely deferred, it is never planned to be done. This is in direct violation of NEPA. (Public Interest Group/Political Party, Eureka, CA - #33.16.10000.210) (Public Interest Group/Political Party, Eureka, CA - #33.17.10000.210)

Modoc Forest Response:

This FEIS contains site-specific information and analysis sufficient for the deciding officer to make an informed decision of the effects of implementing all the treatment methods analyzed. The FEIS describes when additional analysis will be

required. None of the treatment methods will have long-term irreversible or irretrievable environmental effects. The FEIS discloses the environmental effects of the proposed action and Alternatives for the decision maker and the public.

Public Concern: The Modoc National Forest should insure compliance with ESA.

The Forest repeatedly states that the use of herbicides will not lead to extinction or viability of population even though may they may negatively impact individuals of listed or sensitive species (flora and fauna). Does the Forest have 'take' permits as required under the ESA? (Public Interest Group/Political Party, Eureka, CA - #33.196.13100.135)

Modoc Forest Response:

Section 7 of the Endangered Species Act (ESA) does not require a "take" permit if a Biological Assessment determines that an action has "no effect" or "may affect, but is not likely to adversely affect" a listed species. The effects to federally listed species have been mitigated in consultation with the US Fish and Wildlife Service. Consultation has occurred and will continue to occur on an annual basis as outlined in the ESA. Management for sensitive species is under a different process, which does not require a take permit.

Public Concern: The Modoc National Forest should insure compliance with applicable environmental laws.

This project is defined by uncertain impacts and scientific controversy, it is of great intensity, it does not comply with any Watershed Analysis or Recovery Plans, and has a very significant effect on the environment and human health. Yet there is no mention of compliance with the environmental laws that govern the Modoc National Forest nor is most of the current science on the effect of the proposed chemicals disclosed. These laws that are violated in this DEIS include but are not limited to; the Endangered Species Act, the Clean Water Act, the Clean Air Act, the Sierra Nevada Forest Plan, the Northwest Forest Plan the National Forest Management Act, the Basin Plan, laws that govern relations with Native and low income peoples, and the International Migratory Bird Treaty Act. (Preservation/Conservation Organization, Somes Bar, CA - #40.90.13100.130)

In addition, the section does not point out the conflict among laws relating to noxious weeds and those which define the core function of the Forest Service and the national functions, including the NWFP, ACS, ESA, WSRA and CWA to which the Forest is also subject. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.21.11000.130)

Modoc Forest Response:

The Modoc National Forest has not identified any conflicts with environmental laws governing this project.

The Project Design Standards in Chapter 2, and Best Management Practices listed in Appendix D, were developed to comply with laws, regulations, and plans that affect implementation of Forest management activities. The FEIS and ROD for this project clarify compliance with the specific laws.

Public Concern: The Modoc National Forest should insure it does not violate viability standards.

We are concerned that many bird species in the Modoc such as the Sage Grouse and Spotted Owls are threatened and do not have a recovery plan in the Modoc Forest. We are also concerned there is no discussion in the EIS on whether treatments will occur in Critical Habitat. We are concern this project is going to violate viability standards of the NFMA and the International Migratory Songbird treaty Act. (Preservation/Conservation Organization, Somes Bar, CA - #40.60.32110.130)

Modoc Forest Response:

Sage grouse is not a federally listed species and does not have an associated recovery plan. The northern spotted owl has a recovery plan; however, there is no critical habitat identified on the Modoc National Forest. The California spotted owl is not a federally listed species and does not have an associated recovery plan. The FEIS, associated specialist reports, and supporting documents found in the project record indicate that based on the design criteria, limited herbicide application by direct spray or wick application to the noxious weeds in scattered small sites will not adversely affect sage grouse populations.

Public Concern: The Modoc National Forest should insure compliance with laws.

It is said that project design criteria reduces impacts to wildlife. This is not supported by either documentation or science. The fact is no surveys have been completed for this project, nor are planned pre-implementation. Because there is no known noxious weeds in known marten, spotted owl, peregrine falcon or willow fly catcher activities areas currently it is assumed that there is no effect. However, without surveys and with the management flexibility in Alternatives 2 and 4 this determination is arbitrary and not support by science. Ground nesting birds are said to not be effected due to spot treatments, yet it is stated that patches under a quarter acre will not be revegitated in he EA. Drift due to evaporation is very common in high temperatures (like are common in the Modoc National Forest), and it is assumed that the only effects are from reduced cover and not from ingestion of treated plants. We would like to reference the effects to bird in the chemical description part of these comments at this point to illustrate the chemical effects to bird and the scientific controversy surrounding them. We also would like to point out that many of the bird in the Klamath Basin and near the Klamath Basin that are imperiled are due to pesticides and we would like to point out your obligations under the Endangered Species Act, International Migratory Bird Treaty Act, and Forest Plan to the viability of bird species. (Preservation/Conservation Organization, Somes Bar, CA - #40.62.33210.130)

Modoc Forest Response:

As clarified in the FEIS and found in the various wildlife reports, many of the noxious weed occurrences are within past disturbance areas where previous project surveys were conducted. Analysis utilized existing data and geographic information contained in the Forest Service resource database. Confirmation surveys will be accomplished annually prior to any treatment following appropriate protocols. If surveys confirm the presence of federally listed, sensitive, or MIS, appropriate management protections as called for in the Modoc Forest Plan (as amended) will be implemented as stated in the ROD.

Bird numbers in the area of the Klamath Wildlife Refuge (adjacent to the Modoc National Forest) show that populations are increasing in the spring. The data from the Refuge indicates that birds are not in peril. Risks to wildlife from herbicide use are analyzed in the specialist's reports and documented in Chapter 3. The biological assessments and evaluations for this project indicate and conclude that the project will not threaten the viability of a species, and that the project complies with the Endangered Species Act, International Migratory Bird Treaty Act, and the Forest Plan.

The issue of drift is addressed in Chapter 3, Air Quality section of the FEIS.

Public Concern: The Modoc National Forest should insure compliance with agency rules, plans, and policies.

The DEIS "Preferred Alternative" No. 4 fails to demonstrate compliance with the USDA national policy to reduce pesticide reliance, called IPM. Alternative 4 relies almost exclusively on the use of chemicals to control weeds. The DEIS gives scant attention to prevention of weed establishment, an essential element of IPM. The Forest Service is required to follow an IPM approach to pest management under USDA policy. IPM was explicitly developed in order to move the nation away from reliance upon chemicals for pest control. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.20.24400.160)

Modoc Forest Response:

All Action Alternatives were designed to meet the requirements of Integrated Pest Management (IPM). For the project, prevention doesn't meet the purpose and need to control and eradicate noxious weeds. Prevention is addressed in the Modoc NF Noxious Weed Management Strategy and includes education of the public, contractors, and Forest Service employees by instituting prevention measures such as weed free forage and fill requirements and incorporating weed prevention practices and mitigation measures into all Forest activities.

The policy of the U.S. Department of Agriculture and the Forest Service is to implement Integrated Pest Management (IPM). IPM is defined as a decision-making and action process incorporating the biological, economic, and environmental evaluation of pest host systems to manage pest populations. One of the benefits of IPM can be the reduction in the use of pesticides, as prevention and monitoring are used to reduce the necessity of direct action. However, IPM is most effective when all the tools potentially necessary are available. Herbicides are one of the tools needed in an IPM program involving vegetation management, including the management of noxious or invasive species.

An Integrated Weed Management (IWM) program is an interdisciplinary pest management approach for selecting methods for preventing, containing, and controlling noxious weeds in coordination with other resource management activities to achieve optimum management goals and objectives. Methods include: education, preventive measures, herbicide, cultural, physical or mechanical methods, biological control agents, and general land management practices, such as manipulation of livestock or wildlife grazing strategies that accomplish vegetation management objectives (FSM 2080.5). Forest Service directives and information on IPM do not reference moving away from any one tool.

Public Concern: The Modoc National Forest should clarify why NEPA has caused delay in treatment of noxious weeds.

Yet, in yet another, perhaps careless contradiction found at page 66 we are informed that NO treatment of noxious weeds has been undertaken by the Forest "due to frustration with the length of time it takes to prepare and approve environmental documents." We are concerned with the apparent reluctance of Forest personnel to undertake environmental review of Agency actions shown by this statement. That dealing with noxious weeds has been delayed for this reason demonstrates a lack of responsible stewardship that is distressing to us. How much less costly will the current project be now than if it had been undertaken a decade ago? Five years ago? (Public Interest Group/Political Party, Eureka, CA - #33.31.11000.160)

Modoc Forest Response:

This statement has been edited in the FEIS to indicate that limited noxious weed treatments occurred under past, approved NEPA documents. As stated in the EIS the NEPA analysis for treating noxious weeds was first begun in 1993. However, due to the complexity and controversy, completion of the project took until now.

Public Concern: The Modoc National Forest should clarify how the proposed action is in compliance with the guidance found in USDA Forest Service Guide to Noxious Weed Prevention Practices (USDA 2001).

The overwhelming reliance on chemical methods for weed control in the DEIS Preferred Alternative is also out of step with the guidance found in USDA Forest Service Guide to Noxious Weed Prevention Practices (USDA 2001). (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.24.24400.160)

Modoc Forest Response:

The Guide to Noxious Weed Prevention Practices does not describe control and eradication practices. For that reason, it is not an appropriate document to provide guidance for a control project. The USDA Forest Service Guide to Noxious Weed Prevention Practices – Northern Region (1999) has been used in the development of the 2005 Modoc National Forest Integrated Weed Management Strategy. This guide provides a toolbox of ideas for use in mitigating identified weed risks in resource management operations. The guide adds no new requirements or regulations.

Public Concern: The Modoc National Forest should clarify how the proposed action is in compliance with the guidance found in USDA Forest Service Guide to Noxious Weed Prevention Practices (USDA 2001).

Other elements of integrated weed management policy found in the Forest Service Guide include: avoid creating soil conditions that promote weed germination and establishment; minimize soil disturbance; where project disturbance creates bare ground, consistent with project objectives, re-establish vegetation to prevent conditions to establish weeds; revegetation disturbed soil in a manner that optimizes plant establishment for that specific site. Additional excerpts from the Guide relative to grazing are included at the end of this letter. These should be incorporated into the FEIS. The DEIS and weed plan fails to incorporate these preventative and restorative measures into the DEIS. The Weed Plan and DEIS must include direction to revegetate native plant species and to minimize soil

disturbance whenever possible. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.26.21100.160)

Modoc Forest Response:

With the application of Project Design Standards (2-4 of the FEIS) that incorporate Region 5 Soil Quality Standards (R5 SQS) and Best Management Practices (BMPs), the soil quality and site productivity of the treated areas would be protected and enhanced under the action Alternatives. This would meet management direction to protect soil resources. See the soils section of the FEIS. For a more detailed description refer to the Soils Specialist Report.

Public Concern: The Modoc National Forest should clarify how the proposed action protects culturally important plants.

The FEIS should demonstrate a commitment to insure that before any spraying, inventory and monitoring of Native American culturally important plants should take place as required by the forest plan (Sierra Nevada Forest Plan Amendment, Vol. 4, Appendix E, p. 121).

In order to understand the impacts and outcomes of agency activities, "status and change" and "cause and effect" monitoring is necessary. Culturally important plants and other resources should be surveyed for and monitored prior to weed spraying or other actions related to the Noxious Weed EIS. Inventory of culturally important, traditional plant resources should be included in each proposed project, and every effort should be made to ensure that traditional plant resources are protected from herbicide spraying. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.3.30100.160)

Modoc Forest Response:

Consultation and coordination with federally recognized tribes and California Indian Basketweavers Association is documented in the FEIS under the Public Involvement and Tribal Consultation sections. The purpose of this consultation and coordination was to identify and resolve issues which are incorporated in the FEIS. The Annual Work Plans will continue this consultation with each federally recognized tribe.

Monitoring treatment effectiveness in relation to the spread of noxious weeds onto tribal gathering areas is an aspect of the monitoring plan described in Appendix H of this FEIS.

Public Concern: The Modoc National Forest should not violate the Forest Plan.

There are many cases where this DEIS would go directly against the Modoc Forest Plans own Standard and guidelines…Sensitive Plans B (G) Prior to project implementation, conduct inventories if potential habitat or known populations locations are identified. (Preservation/Conservation Organization, Somes Bar, CA - #40.76.32100.160)

There are many cases where this DEIS would go directly against the Modoc Forest Plans own Standard and guidelines…F. (G) Within planning period, develop Species Management guidelines for all species on the sensitive species plant list. These documents will provide information on background and present status of the species; new population locations, potential enhancement opportunities; key areas necessary for long term protection; and

maximum impact levels. (Preservation/Conservation Organization, Somes Bar, CA - #40.77.32100.160)

Modoc Forest Response:

As identified in the Project Design Standards in Table 2-4: Project Design Standards for Alternatives 2-6, DS-01, "Annually the Weed Coordinator will develop the annual work plan for treating noxious weeds specifying locations and treatments. The proposed plan will be provided to the forest botanist, forest biologist, district biologists, forest hydrologist and forest soil scientist for revision. The revised annual work plan will be provided to the US Fish and Wildlife Service, California Department of Fish and Game and the appropriate Regional Water Quality Control Boards, well in advance of treatment initiation to allow for adjustments based on new information. To provide additional protections and help to avoid direct impacts to resident and transient wildlife, and to plants; site-specific surveys will be conducted prior to implementation of project activities. Consultation on the Annual Work Plan will be conducted with the tribes.."

The Forest is in the process of developing Species Management Guides for sensitive species. Currently, the Modoc National Forest has Conservation Strategies for *Ivesia paniculata* and *Gratiola heterosepala*. Other Forests have written Strategies and Guides for species that are also on the Modoc sensitive species list, and can be used with discretion on the Forest. The region is also preparing guides, one of which will be useful on the Modoc NF -- *Cypripedium montanum*.

Public Concern: The Modoc National Forest should first consider the use of preventive measures.

The US Forest Service, in their Fire Effect Information System website says "control with herbicides is temporary, as it does not change conditions that allow infestations to occur." The Conservation Commission of Missouri's Vegetation Management Guideline for Musk Thistle only lists chemical control treatment options for lands that are not high-quality natural areas. Does the Forest not consider the land they are entrusted with protecting to be a high-quality natural area? They need to first change the conditions that allow infestations to occur, before jumping headfirst onto the herbicide bandwagon. (Public Interest Group/Political Party, Eureka, CA - #33.108.33000.382)

Modoc Forest Response:

The 2005 Modoc National Forest Integrated Weed Management Strategy is consistent with information and policy that outlines prevention as a primary element in noxious weed management. Forest Service policy does recognize however that treatment measures are necessary to remove infestation sites to return the area to a natural condition.

Public Concern: The Modoc National Forest should insure the FEIS complies with the Forest Plan Standards and Guidelines to protect soil resources.

There are many cases where this DEIS would go directly against the Modoc Forest Plans own Standard and guidelines… F. During project planning, verify all areas where soil productivity has been degraded. These areas will either be included in the project plan for

restoration and improvement, or added to the Watershed Improvement Needs (WIN) inventory. (Preservation/Conservation Organization, Somes Bar, CA - #40.78.31200.160)

There are many cases where this DEIS would go directly against the Modoc Forest Plans own Standard and guidelines… G. Complete an SRI Order or field-verified SRI Order 3 during the planning phase of each site-disturbing or vegetative manipulation project. Assess impacts of proposed management activities on the soil resource. Develop specific soil mitigation measures and soil conservation management practices for each project site as needed. (Preservation/Conservation Organization, Somes Bar, CA - #40.79.30100.160)

Modoc Forest Response:

The FEIS Soils analysis complies with the Forest Plan Standards and Guidelines and reflects the impacts of the various Alternatives on the soils resources. An Order 3 Soil Resource Inventory Survey (SRI) was conducted and published for the Modoc National Forest in 1993. Field reviews by the Forest watershed specialists have verified that projects across the Forest do not vary in soil characteristics from those found in the Forest Soils Survey.

In Chapter 2, Design Standards (DS) 20, 21, 22, 23, 24a and 24b were developed and included in the FEIS Alternatives to comply with the Forest Plan Soils Standards and Guidelines.

Future manual or chemical treatments could result in a condition that may need some time of rehabilitation depending on time of year, surrounding vegetation, soil moisture content, or other local factors. This could be seeding, mulching, or other treatments, depending on local conditions.

Public Concern: The Modoc National Forest should insure the FEIS complies with the Forest Plan Standards and Guidelines, which require coordination with the California Department of Fish and Game and the US Fish and Wildlife Service.

There are many cases where this DEIS would go directly against the Modoc Forest Plans own Standard and guidelines…Other Standard and guidelines of interest include coordination with Fish and Game, Fish and Wildlife Service and public when species may be affected. (Preservation/Conservation Organization, Somes Bar, CA - #40.89.12140.160)

Modoc Forest Response:

From the beginning of this project, California Department of Fish and Game and US Fish and Wildlife Service have been involved in the analysis process. Project Design Criteria were developed by the Forest Service in cooperation with both agencies. Ongoing consultation will be conducted annually to ensure protection to wildlife, plant, and aquatic species.

Public Concern: The Modoc National Forest should insure the FEIS complies with the Forest Plan Standards and Guidelines for riparian-dependant species.

There are many cases where this DEIS would go directly against the Modoc Forest Plans own Standard and guidelines….2. (G) Where uses conflict favor protection of riparian-dependant recourses (water, fish, vegetation, wildlife, and aesthetics) over other resources. (Preservation/Conservation Organization, Somes Bar, CA - #40.75.31120.160)

Modoc Forest Response:

The project complies with Forest Plan Standards and Guidelines in that it is in support of riparian areas as the removal of noxious weeds favors the development of riparian-dependant resources. Physical and herbicide treatments will be limited within riparian areas to prevent adverse environmental impacts, and comply with the Best Management Practices for protection of water resources.

Public Concern: The Modoc National Forest should insure the FEIS complies with the Forest Plan Standards and Guidelines for visual management.

There are many cases where this DEIS would go directly against the Modoc Forest Plans own Standard and guidelines…B. Blend treated area with non-treated area for natural appearance. No distinct edge between treated and non-treated area should be evident. (Preservation/Conservation Organization, Somes Bar, CA - #40.80.33000.160)

Modoc Forest Response:

This Visual Quality Objective (VQO) was developed for the foreground zone of state highways 139 and 299. Due to the nature of the weed infestation (size and distribution), and because the treatment called for in the Action Alternatives are spot treatments, these treated areas should not be evident over the landscape.

Public Concern: The Modoc National Forest should insure the FEIS complies with the Forest Plan Standards and Guidelines for protecting streams.

There are many cases where this DEIS would go directly against the Modoc Forest Plans own Standard and guidelines… (G) To minimize the risk of run-off site cumulative impacts from management activities on stream channel conditions and water quality, conduct a cumulative watershed effects analysis of each land-disturbing activity on the appropriate second- or third-order watershed prior to undertaking.(Preservation/Conservation Organization, Somes Bar, CA - #40.82.30310.160)

There are many cases where this DEIS would go directly against the Modoc Forest Plans own Standard and guidelines…Water 1 (G) Identify methods and techniques for applying BMPs during project level environmental analysis and incorporate into associated project plan and implementation documents. (Preservation/Conservation Organization, Somes Bar, CA - #40.81.31100.160)

Modoc Forest Response:

A cumulative watershed effects (CWE) Analysis was completed on 6th Field Watersheds for project level activities. This analysis was completed in accordance with Region 5's Cumulative Watershed Effects (CWE) Analysis Methodology. This methodology is based on the creation of soil disturbance or the creation of areas of soil compaction, and these areas are known as equivalent roaded acres (ERAs).

Within the affected 6th Field Sub-watersheds, none of the sub-watersheds are exceeding the Threshold of Concern (TOC), or 80% of TOC. Since the project-level activities that would create additional ERAs (i.e., grubbing) are impacting less than 5% of the identified 6th Field Sub-watersheds, it was determined that project-level activities would not result in an adverse cumulative effect to water quality.

Since none of the chemicals to be applied under the action Alternatives bio-accumulate in the soil profile, all of the Alternatives would meet their respective Basin Water Quality Plans, and all the herbicides have a half life of less then 9 to 12 months, it is not likely that the project-level activities would result in adverse cumulative effects to water quality.

Best Management Practices (BMPs) listed in Appendix D of the FEIS would be incorporated into contract clauses and provisions. For the contractor to meet the terms and conditions of the performance-based contract, he or she would have to implement the specified BMPs. A Contract Officer Representative (COR) would insure that the BMPs are implemented. This project, as well as other projects implemented in 2005, would be evaluated under Region 5's Best Management Practices Evaluation Program (BMPEP) in 2006.

Public Concern: The Modoc National Forest should insure the FEIS complies with the Forest Plan Standards and Guidelines for bald eagles.

There are many cases where this DEIS would go directly against the Modoc Forest Plans own Standard and guidelines…Under Bald Eagles (G) The forest will assist in recovery of the species. To accomplish this goal, the Forest will survey and manage potential sites in addition to those currently occupied. (Preservation/Conservation Organization, Somes Bar, CA - #40.83.32110.160)

Modoc Forest Response:

The Forest Service is working with the US Fish and Wildlife Service and will continue to do so annually to protect and enhance bald eagle habitat. The project complies with bald eagle management direction contained in the Forest Plan.

Public Concern: The Modoc National Forest should insure the FEIS complies with the Forest Plan Standards and Guidelines for willow flycatcher habitat.

There are many cases where this DEIS would go directly against the Modoc Forest Plans own Standard and guidelines…(G) Within willow flycatcher habitat (primarily riparian areas), maintain viable population through the application of Riparian Management Prescription. (Preservation/Conservation Organization, Somes Bar, CA - #40.84.32110.160)

Modoc Forest Response:

Currently there are no known weed occurrences within occupied or potential willow flycatcher habitat. If future weed occurrences are found within occupied habitat, nesting pairs would be protected as determined by the resource specialist.

Public Concern: The Modoc National Forest should insure the FEIS complies with the Forest Plan Standards and Guidelines concerning the Swainson's hawk.

There are many cases where this DEIS would go directly against the Modoc Forest Plans own Standard and guidelines… (S) Manage 25 acres around each nest site and designate that stand as a Swanson's Hawk nest area. (Preservation/Conservation Organization, Somes Bar, CA - #40.85.32110.160)

Modoc Forest Response:

There are no weed occurrences within 15 miles of historically known Swainson's hawk nest area. If future weed occurrences are found within occupied habitat, nesting pairs will be protected as determined by the resource specialist, in compliance with Forest Plan management direction.

Public Concern: The Modoc National Forest should insure the FEIS complies with the Forest Plan Standards and Guidelines concerning vegetative diversity.

There are many cases where this DEIS would go directly against the Modoc Forest Plans own Standard and guidelines...Vegetative diversity (G) In the development of vegetation manipulation projects, assess acreages of vegetation types and serial [seral] stages within the management area prior to activities and predict result changes for each alternative. (Preservation/Conservation Organization, Somes Bar, CA - #40.88.33000.160)

Modoc Forest Response:

There are no anticipated changes to seral stages as a result of implementing any of the action Alternatives. The small percentage of the Forest that would be affected by these treatments, and the scattered distribution of the infested sites, would not result in changes to seral stages. Also, the directed foliar spray and wicking of foliage methods of applying herbicides would minimize any adverse effects to non-target species.

Public Concern: The Modoc National Forest should insure the FEIS complies with the Forest Plan Standards and Guidelines concerning management indicator species.

There are many cases where this DEIS would go directly against the Modoc Forest Plans own Standard and guidelines...For the other Management Indicator species there are numerous standard and guidelines that call for maintaining viability though Limited Operating period and buffers that are ignored in the DEIS. Many of these species are bird species, which have been found to be extra sensitive to chemical especially during reproduction. In some cases (such as the bald eagle) chemicals are why they became a concern. (Preservation/Conservation Organization, Somes Bar, CA - #40.87.32130.160)

Modoc Forest Response:

FEIS Project Design Standards provide for limited operating periods and Riparian Conservation Areas for TE&S and MIS plant and animal species, as specified in the Forest Plan as amended, and are applicable to all action Alternatives.

Public Concern: The Modoc National Forest should insure the FEIS complies with the Forest Plan Standards and Guidelines concerning the Osprey.

There are many cases where this DEIS would go directly against the Modoc Forest Plans own Standard and guidelines…Osprey calls for 30-acre nest zone. (Preservation/Conservation Organization, Somes Bar, CA - #40.86.32130.160)

Modoc Forest Response:

FEIS Project Design Standards provide for limited operating periods and Riparian Conservation Areas for TE&S and MIS plant and animal species, as specified in the Forest Plan as amended, and are applicable to all action Alternatives. In order to protect osprey and its habitat hand treatments, goat grazing, and/or glyphosate may be used to treat noxious weeds in occupied habitat.

Public Concern: The Modoc National Forest should insure the FEIS complies with the Forest Plan Standards and Guidelines concerning recreation facilities.

There are many cases where this DEIS would go directly against the Modoc Forest Plans own Standard and guidelines…1 (G) Establish and Maintain appropriate recreation facilities and services to: B. Prevent unsanitary conditions, water and air pollution, fires and other impairment of recourses. (Preservation/Conservation Organization, Somes Bar, CA - #40.74.52000.160)

Modoc Forest Response:

There are no noxious weed occurrences in developed recreation facilities. Project Design Standards prevent unsanitary conditions, water and air pollution, and impairment of resources.

Public Concern: The Modoc National Forest should insure the FEIS complies with the Weed Management strategy.

Each Forest Service district office, as a branch of USDA, must demonstrate their commitment to IPM policy by implementing the means to reduce herbicide use throughout the region, not by increasing chemical pesticide uses. Herbicide use should not be adopted unless prevention and avoidance practices have been exhausted. The Modoc Weed Plan and the DEIS fail to demonstrate that prevention options concerning the sources and vectors of weeds have been evaluated. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.21.33100.100)

Modoc Forest Response:

Pesticides remain a key component in an IPM approach to noxious weed control (USDA Forest Service 1998, Stemming the Invasive Tide, Forest Service Strategy for Noxious and Non-Native Invasive Plant Management). The 2005 Modoc National Forest Integrated Weed Management Strategy outlines the prevention strategies and identifies sources and vectors of noxious weed spread. Prevention practices will not eliminate existing noxious weed occurrences. The EIS documents the effects of Alternative treatments for controlling selected noxious weeds on the Modoc National Forest (Chapter 3). Chapter 2 of the EIS details the Alternatives selected for detailed analysis and describes those methods that were not analyzed and why they were not chosen for consideration at this time.

Public Concern: The Modoc National Forest should insure the FEIS complies with the Clean Water Act.

How are we to believe the BMPs, which have been proven ineffective in monitoring over and over again, can be effective mitigation when they are not even incorporated into project

design? This project has a great chance of violating the Clean Water Act and the non-degradation standard of the Basin Plan. (Preservation/Conservation Organization, Somes Bar, CA - #40.49.31100.130)

Modoc Forest Response:

Best Management Practices were incorporated into the Project Design Standards as disclosed on pages 17 and 18 (Chapter 2) and Appendix D of the DEIS. The BMPs were developed in conjunction with the State of California Water Resources Control Board and certified by the US EPA as land-management practices designed to meet the Clean Water Act. These practices, procedures, and programs comply with the provisions and requirements of Sections 208 and 319 of the Federal Clean Water Act, including the guidelines of the Water Quality Control Board (Basin Plans) developed by the nine RWQCBs in the state. The Project Design Criteria and Best Management Practices (BMPs) listed in Appendix D were developed based to comply with laws, regulations, and plans, that affect implementation of Forest management activities. The FEIS and ROD for this project clarify compliance with the specific laws.

The BMPs will be incorporated in performance-based contract clauses or work agreements, and the COR will be responsible for ensuring that these BMPs are implemented. The implementation and effectiveness of BMPs will be evaluated under Region 5's Best Management Practices Evaluation Program (BMPEP).

Annually, Region 5 completes a BMP Implementation and Effectiveness Report to the State Water Resources Control Board (SWRCB). The purpose of the report is to determine if BMPs were implemented properly, and whether they were effective in protecting water quality and meeting state and federal water-quality objectives as well as the RWB's basin plans. A copy of the most recent report (2005) will be placed in the planning file, and is available upon written request to the Modoc National Forest. The respondent did not indicate what Basin Plan and non-degradation standards could be violated.

Monitoring

Public Concern: The Modoc National Forest should incorporate the Klamath National Forests methods for eradicating spotted knapweed.

For determining effectiveness of eradication efforts, we request that you incorporate the Klamath National Forest's effectiveness criteria for eradicating spotted knapweed in the Salmon River. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.6.13000.371)

Modoc Forest Response:

Treatment effectiveness will be determined by effectiveness monitoring as detailed in Appendix H. This monitoring will meet Forest Service national standards and National Resource Information System (NRIS) Terra Invasives data management guidelines.

Public Concern: The Modoc National Forest should utilize spray cards for monitoring contamination of surface waters.

8. P. 338 states, "Samples will not be taken during the herbicide application because of the measures, discussed above, which will be taken to ensure that herbicides do not directly enter water." The potential for pesticides to reach waters through spray drift is discussed on p. 82 of the DEIS. There is significant potential for herbicides to enter surface water from spray drift, despite the BMPs provided in the DEIS, especially when herbicides may be applied near waterbodies up to the proposed 10-foot buffer zone. BMP 5.9 (p. 242) indicates that "monitoring methods include spray cards . . ." If samples will not be taken during pesticide applications, the DEIS should clarify under what circumstances, and how, spray cards will be used to determine the extent to which contamination of surface waters is expected. (State Agency or Official, South Lake Tahoe, CA - #30.13.31100.241)

Modoc Forest Response:

The FEIS has clarified monitoring requirements and procedures in Chapter 2, Design Standards, Appendix D, Best Management Practices; and Appendix H, Monitoring. The effects of potential herbicide applications by Alternative are displayed in Chapter 3 of the FEIS.

Specific Design Standards for protection of water resources by Alternative have been consolidated in Chapter 2 and listed as Design Standards (DS-) 14, 15, 16, 17, 18, and 19. Further Design Standards (DS-) 28, 29, and 34 provide further protection of water resources and limit the potential for drift into water resources.

BMP 5.9, Pesticide Application Monitoring and Evaluation, describes a variety of methods to be used during the monitoring phase of the project. Spray cards, direct measurement, and dye tracing are among methods to use. The type of pesticide, type of equipment, application difficulty, public concern, beneficial uses, monitoring, availability of laboratory analysis and applicable federal, state and local laws and regulations are all factors considered when developing the monitoring plan.

Direct measurement is the method to be utilized during the monitoring phase to ensure that the project is in compliance with RWB's Basin Plans (Central Valley, Lahontan and North Coast), as well as state and federal water quality objectives.

Public Concern: The Modoc National Forest should describe what water quality monitoring data from past activities is used.

3. The following statement appears in Appendix D (p. 240): "The 1989 Region 5 vegetation management EIS . . . required monitoring of water quality for herbicide treatments applied on national forests in California. Results of this monitoring are discussed in this FEIS, and data from many post-1989 herbicide monitoring projects are summarized in Appendix B." However, we could not locate such a discussion of past monitoring results in the DEIS, nor could we locate a summary of such data in Appendix B. The DEIS should be revised to include a discussion of the monitoring results referred to in the above quote. As noted in Comment #1.d above, data and information reviewed by Lahontan Regional Board staff indicate that herbicides may frequently be detected in surface and/or ground waters when they are used in a forest setting. (State Agency or Official, South Lake Tahoe, CA - #30.7.21200.380)

Modoc Forest Response:

Based on monitoring within Region 5 from 3 different National Forests (Bakke 2001) the following conclusions are drawn concerning application of herbicides:

Hexazinone: This herbicide has the ability to enter shallow aquifers when applied to shallow- and coarse-textured soils. On these types of soils, hexazinone can leach through the soil profile and be transported through the saturated zone. Low concentrations in sub-surface water would indicate any amount contributed to surface water would be very small. Groundwater is a likely source of continuing contamination, but hexazinone groundwater studies have not detected similar lengthy persistence times. Low concentrations in sub-surface water would indicate any amount contributed to surface water would be very small. Hexazinone has been dropped from consideration in the FEIS.

Tricloypr: The detection of this herbicide in a water sample was determined to be the result of not establishing a Riparian Conservation Area along the ephemeral portion of the headwater of an ephemeral drainage. When the storm occurred, this portion of the drainage likely ran water. There were no detections in other samples. The use of untreated Riparian Conservation Areas on ephemeral drainages (ten feet is the smallest implemented Riparian Conservation Areas involved in these projects) is needed to avoid levels of triclopyr in water that exceed the Region 5 FEIS expectations.

Glyphosate: There were no detections in water or sediments in any samples taken after reforestation projects. The one type of project with a detection of glyphosate involved treatment of noxious weeds within the riparian zone (private lands and did not apply BMPs). Even here, only one of twelve samples had detection, and that was at a low level (15 ppb), below any level of concern for human health or aquatic resources (SERA, 1996a). Recently, the amount of post-treatment sampling done for glyphosate has dropped considerably, as most sampling protocols call for sampling only if a storm occurs within 90 days of application and causes a rise in stream levels. With glyphosate generally applied in late spring to late summer, this condition rarely occurs. Based on monitoring to date, glyphosate applications, as generally practiced in reforestation projects, would not result in stream sediment or water contamination.

Public Concern: The Modoc National Forest should notify the Lahontan Regional Board within two weeks of any pesticide residue detections and that annual monitoring summaries are provided.

2.a. The generic Monitoring Plan established in the DEIS (Appendix H) is a good framework to guide water quality monitoring efforts. We understand it may be necessary to make last-minute field decisions about specific monitoring locations due to uncontrollable factors such as weather, and access, which may make it impractical to prepare site-specific monitoring plans in advance.

b. Appendix H has a section on project monitoring "Evaluation and Reporting" which calls for record keeping (including maps, sample documentation, lab documentation, field notes, etc.). The DEIS states (p. 340) "If herbicide residue is detected, the Forest Supervisor/District Ranger or Forest Ecosystem Officer will be notified and advised if further monitoring of the location is recommended."

c. We request that the Lahontan Regional Board also be notified, within two weeks, of any pesticide residue detections within our Region, and that the MNF prepare annual Monitoring Summary Reports and provide these reports to the Regional Boards. Monitoring Summary Reports should include maps delineating herbicide treated areas and showing the locations of monitoring sites, and should indicate the types of pesticides applied, and concentrations of any pesticides detected. The Monitoring Summary Reports would provide valuable information to develop improved management practices for reducing pesticide discharges. Lahontan Regional Board staff supports the proposed monitoring program, and envisions a cooperative approach working with the MNF using monitoring data as a guide to prevent and minimize pesticide discharges to water. Data would be reviewed by Regional Board staff and used to investigate incidences of detected pesticides, evaluate causes, and consult with USFS to improve BMPs and to recommend corrective action.

d. We request that Monitoring Summary Reports and Regional Board notification be addressed in Appendix H of the DEIS. (State Agency or Official, South Lake Tahoe, CA - #30.6.30100.180)

Modoc Forest Response:

The specific sites that will be monitored annually will be based on the annual Program of Work and will include a pre-treatment sample as well as post treatment samples as identified in the Water Quality Monitoring Plan (Appendix H of the FEIS).

If detection of herbicide residue is found within the waters of the Lahontan Regional Board area, the Forest will inform the Board within two weeks of receiving notification from the laboratory. The Forest prepares the Forest Monitoring and Evaluation Report annually and provides copies to interested parties. The report is posted on the Forest World Wide Web Site.

Native Plants

Public Concern: The Modoc National Forest should recognize the effects of herbicides to non-target plants.

Recent research in Sierra Nevada national forests has documented spraying impacts to non-target plants outside target spray areas. This and other research on non-target plant impacts should be incorporated into the EIS. (Preservation/Conservation Organization, Somes Bar, CA - #40.73.33210.382)

Modoc Forest Response:

Spraying impacts to non-target TES plants have been addressed in the Biological Assessment (BA) and Biological Evaluation (BE). Spraying impacts to other non-target plants have been addressed in the Addendum to the Botany Report. Impacts to non-target plants will be minimized by application method (directed spray or wicking) and Riparian Conservation Areas.

Public Concern: The Modoc National Forest should recognize the effects of herbicides to federally listed species.

Slender Orcutt grass (*Orcuttia tenuis*) is a federally listed species, threatened, in the Modoc National Forest (p. 43). Two of its nine occurrence's within MNF are said to be within 300' of noxious weeds listed in this project. How close within 300' are they? 100'? 50'? 10'? 3'? Which noxious weed sites are they referring to? What is the proposed treatment method for that particular weed site? How big is that population and site size? What are the physical conditions of the area? Will water runoff be going directly from the weed sites into the pool habitats that the Slender Orcutt grass lives? What about herbicide drift? Or possible spills? This is all-important information the Forest needs to and has so far failed to provide, even though it is essential to evaluate potential environmental effects. The Forest also neglects to tell us what chemicals they might propose to use in these areas; only that dyer's woad and scotch thistle are the weeds nearby. Page 248 of the DEIS says that 2,4-D is the most economical and effective treatment for Dyer's woad and Scotch thistle needs high strength combinations of herbicides (p. 249). Page 247 of the DEIS says that 2,4-D is highly mobile in the soil, which restricts its use around water sources and high ground water tables. The Forest must discuss what chemicals will be used and their potential impacts. (Public Interest Group/Political Party, Eureka, CA - #33.193.13100) (Public Interest Group/Political Party, Eureka, CA - #33.194.13100.341)

Modoc Forest Response:

There are no weed occurrences within 150 feet of slender Orcutt grass. USFWS has approved a 100-foot herbicide buffer for this species; manual treatment can be applied within the 100-foot buffer. This buffer has been determined adequate for slender Orcutt grass using the methods discussed in the FEIS. Additionally, the 1000-foot Design Standard around surface or live water where 2,4-D will not be allowed to be applied gives further protections. Noxious weed occurrences, DH001ISTI for dyer's woad and DG059ONAC for Scotch thistle, are beyond the 100-foot safety buffer, and therefore, there should be no effect. The proposed treatment for the 0.1 acre of dyer's woad is physical. The proposed treatment for the 1.43 acres of Scotch thistle is physical and/or herbicide. Target weed species for all six proposed chemicals can be found in Tables 2-11a and b of the FEIS.

Pre-treatment surveys will be conducted as needed and determined in the annual work plan meeting. Riparian Conservation Areas are discussed in the Design Standards, and the Spill plan is in Appendix C, "Noxious Weed Control Pesticide Safety and Spill Plan."

Public Concern: The Modoc National Forest should recognize the toxicity of 2,4-D to vascular plants

All forms of 2,4-D that were tested had relatively high toxicity to vascular plants. (Public Interest Group/Political Party, Eureka, CA - #33.161.33211.382)

Modoc Forest Response:

Because of the toxicity to plants, 2,4-D has been classified as an herbicide. That is the reason that it has been selected as one of the herbicides for noxious weed control.

Public Concern: The Modoc National Forest should recognize potential effects of triclopyr on non-target plants.

It has been documented that triclopyr can have unintended effects on plants that are not the target of the herbicide application. These effects include drift damage, genetic damage, inhibition of mycorrhizal fungi, reduction of nitrogen cycling, damage to mosses and lichens, and stimulation of algae blooms. (Preservation/Conservation Organization, Somes Bar, CA - #40.32.33211.382)

Modoc Forest Response:

Unintended effects on non-target plants from triclopyr will be minimized by application methods, adherence to label instructions, and adherence to the Design Standards, which includes Riparian Conservation Areas.

It is unclear as the respondent did not provide how it has been "documented" that triclopyr can have unintended effects on plants that are not the target of the herbicide application. It would be true that the vegetation on the forest may be at risk if the herbicide was to be applied via aerial dispersal or by broadcast dispersal. But since the majority of the sites (>80%) are small in size (0.10 acre or less) and the proposed activity is to apply triclopyr via directed foliar spray application, it is unlikely that non-target species would be affected. Directed spray treatment does not lead to a high risk of aerial drift. The Design Standards in Table 2-4 of the FEIS would limit the potential effects to soils. Therefore the risk of triclopyr affecting non-targeted plants and soils is considered to be very low.

Public Concern: The Modoc National Forest should re-vegetate with native plant species.

The Final EIS should address … provisions to revegetate with native plant species, as without it, the Forest Service cannot assure long term effectiveness of noxious weed control. (Tribal Agency or Official, Burney, CA - #34.8.33300.363)

Modoc Forest Response:

Cultural treatments are proposed in the FEIS under each of the Action Alternatives (see Table 2-2 in the FEIS). Resource specialists will evaluate all sites as the noxious weeds are controlled or eradicated, and make recommendations for revegetation on a case by case basis, depending on site characteristics such as size, surrounding native plant community, soil type, moisture availability, etc. Forest Service Handbook 2600.25 50.03 states, "*To the extent practicable* (our italics), seeds and plants used in erosion control, fire rehabilitation, riparian restoration, forage enhancement, and other vegetation projects shall originate from genetically local sources of native plants."

Public Concern: The Modoc National Forest should recognize the effects of other exotic plants on native systems and how herbicide treatments will exacerbate this problem.

We wonder why it appears that exotic grasses are not targeted at all. There is the possibility that all broadleaf plants will be killed by herbicides, yet the species composition will remain largely exotic because no native grasses are present. If the exotic grass species are already

dominant, conditions will not be conducive for re-establishment of native grass species. (Preservation/Conservation Organization, Somes Bar, CA - #40.53.33100.382)

Modoc Forest Response:

There are other invasive plants that will not be treated in this analysis. Those species will be addressed through other actions through the implementation of the 2005 Modoc National Forest Integrated Weed Management Strategy. The purpose and need of the DEIS and FEIS is to treat 14 noxious weeds; treating the remaining weeds that exist on the Forest could be covered in future documents.

Noxious Weeds

Public Concern: The Modoc National Forest should conduct analysis of control of Knapweed.

Some experts warn against herbicide use against knapweeds as it only provides temporary control, not preventing germination from seeds in soil, needing long-term re-treatments, and due the cost being prohibitive for large infestations (CA DFA website, Mauer et al 1987, USDA-APHIS 1994). The DEIS fails to discussion this important information and instead proposes to stick universally with their silver bullet for all knapweed treatments, regardless of contradicting expert advise. (Public Interest Group/Political Party, Eureka, CA - #33.133.33210.210)

Using perennial grasses and forbs can be effect for providing competition for knapweed seedlings and prevent spread and reinvasion (Beck 2005, Dirlik et al 1998, Waldo 2001). "A two-year study of four grasses - Paiute orchardgrass, Covar sheep fescue, Critana thickspike wheatgrass, and Ephriam crested wheatgrass - found that the greater the biomass produced by the grass, the more it reduced the number of diffuse knapweed seedlings" (Mauer et al 1987). None of these experts or their literature are mentioned in the DEIS. The Forest has failed to include a reasonable discussion of their plans using cultural methods for knapweed control and prevention of re-infestation following treatments. (Public Interest Group/Political Party, Eureka, CA - #33.128.33300.210)

Although the format of the DEIS obscures the information, our analysis reveals that for spotted knapweed the DEIS proposes to use only herbicide on 2 sites, and herbicides and physical treatments for 13 of 15 (86.7%) of the small .1 acre sites (p. 234-35). One of those small sites is listed as having a population size of one, yet the Forest wants to spray it anyway, opposing the literature's information. Although the format of the DEIS obscures the information, our analysis reveals that for their treatment of diffuse knapweed the Forest proposes to use only herbicides for 3 sites (totaling only 1.43 acres) and a potential combination of herbicides then physical methods in the other 10 sites (p. 215-16). The Forest's management goal is only to contain and control diffuse knapweed, yet they propose to use chemicals and increase the risk of potential adverse environmental impacts. Again 10 of these sites small infestations are of .1 acre or less in size and one has a total population size of one. Where is the reasoning for ignoring the literatures' treatment recommendation and relying on their silver bullet? Finally all three squarose knapweed infestations are small, listed at .1 acres each, yet the DEIS proposes to use herbicide/physical treatments. Again the Forest has contradicted itself, proposing to use herbicides on small occurrences of knapweeds. This flies in the face of the statement on page 165 stating that physical/manual treatments are proposed when there are less than 100 plants and the site size is less than .1 acre. In fact Engeland (1988) states that areas of severe knapweed infestation can be best

treated using a group of people working a few hours daily over a period of several weeks, something the Forest has omitted from discussion. The Forest must disclose how they made these decisions and where their information came from when using strategies that are contradicted by expert literature. (Public Interest Group/Political Party, Eureka, CA - #33.126-127.33200.210)

Hand pulling and digging of knapweed infestations has been shown to be an effective treatment method, especially for small infestations and Diffuse knapweed (CA DFA website, Carpinelli 2003, Dirlik et al 1998, Engeland 1988, Waldo 2001). In spite of the fact that the Forest's own source recommends this method, the DEIS again neglects discussion of its effectiveness and focuses on their silver bullet of herbicide use for the knapweeds. (Public Interest Group/Political Party, Eureka, CA - #33.125.33200.210)

2) Diffuse knapweed should be considered for eradication and not merely containment/control (Chapter 1, page 6), as eradication is still very possible given the current infestation levels of diffuse knapweed in the forest. (State Agency or Official, Sacramento, CA - #28.4.33100.371)

Modoc Forest Response:

Knapweeds are readily controlled with herbicides (Beck 2006; Waldo 2001). Out of 15 spotted knapweed occurrences, only two are scheduled for treatment only by herbicide. Those are the two largest spotted knapweed infestations at 4.15 and 1.93 acres. The other 13 sites will be treated by physical and/or herbicides. Design Standard DS-05a in Table 2-4 of the FEIS states that sites of 0.10 acres or less with over 100 plants would likely be treated with herbicides until the population is reduced to less than 100 plants.

Please note that Alternatives 3 and 5 are no-herbicide Alternatives.

The four grasses referenced (Paiute orchardgrass, Covar sheep fescue, Critana thick spike wheatgrass, and Ephraim crested wheatgrass) are all fertile non-natives which would compete with native plants. This is a situation that the Forest is trying to avoid.

The DEIS included cultural methods, and the Design Criteria in the FEIS includes, "Areas with bare soil that have resulted from treatment would be evaluated by resource professionals to assess need for re-vegetation. Re-vegetation seed mixes would be designed on a site-specific basis to consider objectives and conditions at each site potential." Forest Service Handbook 2609.25 50.03 also states, "To the extent practicable, seeds and plants used in erosion control, fire rehabilitation, riparian restoration, forage enhancement, and other vegetation projects shall originate from genetically local sources of native plants."

The spotted knapweed infestation with one plant had been treated (the plant pulled) at the time of discovery. Site-specific weed treatments are in Appendix B in the FEIS. The DEIS on page 165 says the "Physical/manual" treatments "may not be appropriate for all noxious species." Diffuse knapweed has root buds that are stimulated to re-sprout new plants if the entire root is not removed. Noxious weed species that can re-sprout can be scheduled for manual/herbicide or herbicide treatment. Treatment method is also dependent on funding. The suggestion of "best treated using a group of people working a few hours daily over a period of

several weeks" may not be practicable or economical on the 645 noxious weed sites on the Modoc National Forest.

The objective of the Noxious Weed Treatment Project is to eradicate or control and contain the occurrences of 14 specific noxious weed species (Table 1-1 in the FEIS) from Modoc National Forest lands. It is recognized that the best chances for eradication are those noxious weeds that have few sites on the forest and those sites are small with few plants such as those occurrences of Diffuse knapweed.

Public Concern: The Modoc National Forest should conduct analysis of control of Canada thistle.

Attacking the root system and established clones is the key for treatment (Beck 2004, Nuzzo 1997). Hand cutting can lead to effective control (Thunhorst and Swearingen 2001). Unfortunately the Forest fails evaluate in the DEIS this method of treatment for Canada thistle. Even worse, and in contradiction with the literature and their own stated treatment method for small occurrences (p. 165), the Forest proposes to use herbicides as their only treatment for all 28-infestation sites (p. 212). Why ignore a low impact and effective treatment alternative when all the sites for this weed are small, most (93%) are .1 acre or less (p. 213-14)? (Public Interest Group/Political Party, Eureka, CA - #33.135.33200.210)

It should come as no surprise that perennial grasses can compete effectively with Canada thistle (Beck 2004, CA DFA website, Nuzzo 1997). The Forest must disclose their plan in the DEIS for using cultural cultivation methods as part of their IWM for this thistle. (Public Interest Group/Political Party, Eureka, CA - #33.136.33300.210)

Nuzzo (1997), in a report for the Nature Conservancy, states "at this time there are no control methods suitable for wide spread use in natural areas that eradicate, rather than reduce Canada thistle." The Forest fails to cite Nuzzo in the DEIS and instead is focused on eradication for all Canada thistle infestations. (Public Interest Group/Political Party, Eureka, CA - #33.134.13000.371)

Modoc Forest Response:

Thunhorst and Swearingen (2001) reported a variety of methods for treating Canada thistle that included but is not limited to hand cutting and chemical means. Sites of Canada thistle included for treatment in this FEIS are scheduled for treatment by either herbicide and/or physical methods as disclosed in Appendix B of the FEIS. In natural areas where Canada thistle is interspersed with desirable plants, targeted application of a systemic herbicide such as glyphosate may be effective (Thunhorst and Swearingen 2001).

Appendix B of the FEIS presents physical/manual treatment for infestations of noxious weeds less than 0.10 acre in size. However, this treatment is not appropriate for all noxious weed species. Because Canada thistle is an aggressive, rhizomatous weed that is difficult to control, it has been scheduled for herbicide treatment, except where prohibited by Design Standards.

Please note that Alternatives 3 and 5 are no-herbicide Alternatives.

Project Design Standards DS-20 and DS-21 (listed in Table 2-4 in the FEIS) would be applied for bare areas created by weed treatments.

Nuzzo (1997) reports that "*C. arvense* should be removed from high quality natural areas when it is first observed. The plant is very tenacious and difficult to control once established. In lower quality areas, management effort should be influenced by the extent of invasion; greater effort is warranted in areas that have new and/or small invasions, which are more likely to be eliminated or contained." Almost all the occurrences on the Modoc are small, 0.1 acre in size. The chance for elimination is therefore quite high. Nuzzo goes on to say, "Management programs should be designed to kill established clones since the species spreads primarily by vegetative expansion of the root system. It takes at least two growing seasons to determine whether a particular control method is effective." Although he does say that "At this time [1997 – 8 years ago], there are no control methods suitable for wide-spread use in natural areas that eradicate, rather than reduce *C. arvense*," because our infestations are small (32 of 33 sites are less than 0.2 acre in size), we feel we can eradicate these small infestations of this aggressive weed. Nuzzo does say that, "Cutting or applying herbicide to shoots after a very severe winter may add sufficient stress to kill plants."

Public Concern: The Modoc National Forest should conduct analysis of control of Crupina.

Crupina seedling populations have been reduced using prescribed burns (Weeds BC website). Using fire in combination with native revegetation efforts should be a viable option for larger infestations, such as the 160 acre one mentioned to be adjacent to Modoc NF (p. 7). (Public Interest Group/Political Party, Eureka, CA - #33.145.33200.371)

Modoc Forest Response:

In Chapter 2, Alternatives and Treatment Methods Considered but Eliminated from Detailed Study, prescribed fire was eliminated from consideration in all action Alternatives since this method is non-selective and may provide for noxious weeds re-establish in a denser stand. Further, the cost associated with providing site-specific prescribed fire plans as well as the need to have trained fire crews available during and after treatment is cost prohibitive particularly since the chances of having a period of weather conditions during the same time that noxious weeds need to be treated can not be adequately predicted seasonally or for the planning period.

Please note that Alternatives 3 and 5 are no-herbicide Alternatives.

Public Concern: The Modoc National Forest should conduct analysis of control of Yellow Starthistle.

Why is the Forest not proposing to use physical treatments for the majority of yellow starthistle infestations? Why do they insist on having the option of spraying first? Hand pulling, hoeing, and other manual removal methods are most effective for smaller infestations. They are an "important tool in steep or uneven terrain" and "typically cause minimal environmental impact" (DiTomaso 2001). Although the format of the DEIS obscures the information, our analysis reveals that 22 of the 24 known yellow starthistle infestations are .1 acre or smaller (p. 212), yet the Forest has failed to explain why this is not their preferred method at these sites. Again page 165 of the DEIS states that small occurrences of less than .1 acre are proposed to get the physical/manual treatment. Even in the DEIS it says that these treatments "late season strategies allow for flexibility and can save costs" in areas

with smaller infestations (p. 333). In areas where the starthistles are working against other competitive vegetation, hand pulling is particularly easy and effective. Why is there no discussion or analysis of integrating physical and cultural treatments? Even the Forest's own expert lobbies for combining cultural cultivation and and hand pulling. Using the "Bradley method", it is possible to control large starthistle infestations at low costs while risking low impacts (DiTomaso 2001). (Public Interest Group/Political Party, Eureka, CA - #33.117.33200.210)

Page 25 of the DEIS shows that the Forest proposes to potentially use any and all six herbicides included in the DEIS as management tools on the yellow starthistle, yet these are not even the recommended approach of the Forest's own information source. The Forest again fails to objectively discuss the potential problems and disadvantages of their silver bullet, blanket herbicide use. (Public Interest Group/Political Party, Eureka, CA - #33.123.33211.210)

DiTomaso does not even mention hexazinone as a potential herbicide for yellow starthistle management, yet the Forest has included it in their arsenal of chemicals for that species (p. 25). What expert source provided this recommendation? (Public Interest Group/Political Party, Eureka, CA - #33.124.33211.371)

Modoc Forest Response:

Please note that Alternatives 3 and 5 are no-herbicide Alternatives. In addition, all action Alternatives include manual treatment components. See Table 2-11 of the FEIS.

Cultural treatments can be found in the Design Criteria, Appendix D: "Areas with bare soil that have resulted from treatment would be evaluated by resource professionals to assess need for re-vegetation. Re-vegetation seed mixes would be designed on a site-specific basis to consider objectives and conditions at each site potential.' The Bradley Method (http://members.efn.org/~ipmpa/noxappend2.html) is recommended for areas that can be visited easily and often, a stipulation that can rarely be met on the Forest.

Yellow starthistle is an aggressive species, with many acres of land infested in California. The Modoc Forest Service is targeting yellow starthistle for manual and/or herbicide treatment, and we feel, because our current infestations are limited (4.07 acres total), the opportunity for eradication is high.

Hexazinone has been dropped from analysis as it is a pre-emergent herbicide and the FEIS calls for utilizing only post-emergent herbicides.

Public Concern: The Modoc National Forest should conduct analysis of control of Mediterranean sage.

Although the format of the DEIS obscures the information, our analysis reveals the following information. We commend the Forest on proposing to use physical methods on 28 sites and 3 acres of this noxious weed (p. 212). Yet we couldn't find a valid explanation of why the DEIS states the Forest's preference for using herbicides as well for 8.6 acres (74% of the invasive sage), especially when their own source notes that the hairy leaf surfaces may reduce herbicide effectiveness (CA DFA website, Oregon Noxious Weed website). Digging can effectively control small infestations by severing the roots of individual plants (CA DFA website, Graham and Johnson 2004, Moser and Crisp 2000, Oregon Noxious Weed website,

Roche and Wilson 1999, WA Noxious Weed Control Board 1999). There is no discussion on using this preferred method within the DEIS or why it is not used for all sites in conjunction with recommended bio-controls and cultural re-seeding (see further discussion below). (Public Interest Group/Political Party, Eureka, CA - #33.112.33200.210)

Modoc Forest Response:

The occurrences of Mediterranean sage that have been targeted for a combination of physical and mechanical, as well as herbicidal treatments, are either larger than 0.1 acre in size or have 100 or more plants. Design Standards DS-05a and DS-05b prescribe physical and mechanical methods for infestations of 0.10 acre or less, with fewer than 100 plants (DS-05a) or 25 plants (DS-06a).

Please note that Alternatives 3 and 5 are no-herbicide Alternatives.

The Biological Control Program in California is an integral component of the Plant Health and Pest Prevention Service's (PHPPS) Pest Prevention Program of the State of California Department of Food and Agriculture. The California Department of Agriculture releases biocontrols within the state. The Mediterranean sage weevil (*Phrydiuchus tau*) has been released as a biocontrol agent for the noxious weed, Mediterranean sage, and it is established in California and has successfully controlled infestations in some areas. This control agent has been found on some plants on the Forest, and its population may expand over time.

Public Concern: The Modoc National Forest should conduct analysis of control of Musk Thistle.

The Forest proposes to use a combination of herbicides and physical treatments for all 15 sites of this weed (p. 212). Yet the literature states that hand cutting and or mowing (if the timing is right) have been shown to effectively control small infestations (Beck 2004, CA DFA website, Conservation Commission of Missouri 2004, Fick, Heidel 1987, USFS FEIS website, Wilson et al 1992). In Kansas, at the Konza Prairie, repeated hand chopping effectively eliminated Musk thistle from 350 acres, needing only ten (year one) to five (year four) person days of labor to complete the task (Conservation Commission of Missouri 2004, Heidel 1987). Hand pulling is a common and effective practice for infestations of low population numbers (USFS FEIS website). (Public Interest Group/Political Party, Eureka, CA - #33.106.33200.210)

Although the format of the DEIS obscures the information, our analysis reveals that the DEIS fails to provide populations numbers, so we are left to assume that the 10 sites (66.7% of musk thistle sites) of .1 acre size are all small infestations (p. 220). One of these .1-acre sites one only has 4 plants on it and obviously is a reasonable and feasible candidate for hand treatment. Only three of all 15 sites have over 80 plants, and even that seems to be a relatively small number of individuals. According to the Forest's own protocol (p. 165), the physical/manual treatment is proposed when occurrences are small, consisting of less than 100 plants. Again, why then does the Forest feel obligated to rely on herbicides to treat such small infestations? (Public Interest Group/Political Party, Eureka, CA – #33.107.33240.210)

Modoc Forest Response:

Alternatives 5 and 6 of the FEIS provide the analysis for treating musk thistle with limited grazing, manual methods, and herbicides. See Table 2-2 in the FEIS as well

as the Project Design Standards in Table 2-4. According to DS-05a and b, infestations with less than 100 plants would be treated with manual methods. Table 2-3 in the FEIS lists the effectiveness of various weed treatments for the control of musk thistle.

Public Concern: The Modoc National Forest should conduct analysis of control of Dalmatian Toadflax.

The object is to contain and control, yet hand treatments that have been found to be extremely effective if done repeatedly for 5 - 10 years, and are excluded from proposed use for this weed. Where is the rational for this type of decision? At the Magnusson Butte Preserve, in Washington, a decade long hand-pulling experiment proved how effect non-chemical treatment could be over a 28-acre preserve. Flowering stems were reduced 90-90% over the preserve over the first couple of years and by the third year that the few remaining flowering stems were significantly smaller. An increase in native and non-native grasses and perennial forbs was also notice post hand pulling treatments (Carpenter and Murray 1998). This was not considered in the DEIS. (Public Interest Group/Political Party, Eureka, CA - #33.99.33240.210)

Cutting stands of Dalmatian toadflax in spring and early summer can help lower reproduction in larger stands (Carpenter and Murray 1998). (Public Interest Group/Political Party, Eureka, CA - #33.102.33240.371)

There are several problems related to herbicides and effective treatment of toadflax infestations mentioned in the literature due to the plants' high genetic variability. Herbicides have been shown to have mixed results, tending to run off of the waxy toadflax leaves and are considered to be impractical for large sized infestation sites due to economic, logistic, and environmental constraints (CA DFA website, Harris and DeClerck-Floate 2003, Hansen, Lajeunesse 2004, Moser and Crisp 2001). (Public Interest Group/Political Party, Eureka, CA - #33.103.33210.210)

While grazing is not normally used to manage Dalmatian toadflax, preliminary results of field trials in Montana show that sheep can be used to help suppress stands and limit seed production (Lajeunesse 2004). This again fits well with the contain/control objective listed in the DEIS. (Public Interest Group/Political Party, Eureka, CA - #33.100.33230.210)

It is recommended that all treatment programs are initiated during June when root carbohydrate reserves are at their lowest, making root system recover the most difficult (Carpenter and Murray 1998). The Forest neglects to tell when they propose to treat this weed. (Public Interest Group/Political Party, Eureka, CA - #33.96.33200.210)

Yet amazingly, and in contradiction with their own source information, the Forest's DEIS proposed to spray herbicides on all Dalmatian toadflax infestations. For some reason the Forest says that physical/manual treatment may not be appropriate for all noxious species, yet herbicide treatment is (p. 165). This reasoning must be shared with the decision maker and the public. (Public Interest Group/Political Party, Eureka, CA - #33.104.13100.210)

Modoc Forest Response:

All action Alternatives include a manual treatment component. Table 2-2 in the FEIS lists the various treatment methods proposed for each Alternative. Appendix B of the FEIS lists site-specific treatment methods for all noxious weed sites proposed for treatment in this FEIS.

The CA DFA website quoted, http://www.cdfa.ca.gov/phpps/ipc/weedinfo/linaria.htm, informs the reader that for toadflax, the plants develop an extensive system of vertical and creeping lateral roots that produce new shoots. Root fragments can produce new plants. Toadflax roots can penetrate soil to depths of 2 m or more. Lateral roots are typically 5-20 cm below the soil surface and can extend outwards to 3.5 m in all directions. For grubbing or hand-pulling, the website suggests that "Complete removal of the root system is generally infeasible."

The website also does not find mowing very effective, "Mowing generally provides very limited control of Dalmatian toadflax. Mowing may prevent seed production, but does not appear to significantly deplete root carbohydrate reserves. Mowing also reduces the competitive effects of surrounding vegetation."

Given the waxy leaf surface of Dalmatian Toadflax, Lajeunesse (2004) and Moser and Crisp (2001) recognize that herbicide treatments resulted in mixed results. Moser and Crisp's (2001) study was based on using herbicides not proposed for use in this project. According to Lajeunesse (2004) and Moser and Crisp (2001), manual methods are effective for small infestations although no mention of effectiveness on large sites is mentioned.

The reason manual treatments may not be a preferred method of treatment for Dalmatian toadflax is because of the extensive and deep root system of this plant.

Treatment methods considered, such as grazing, but eliminated in the FEIS, are discussed in Chapter 2, along with the reasons for this decision.

Work plans will be developed annually, as detailed in the Design Standards. Which infestations will be treated and when and how depends on a number of factors, such as the species priorities, location priorities, Riparian Conservation Areas, when the contract goes out for bids and is accepted, etc. Treatment will be scheduled on an annual basis, and some weeds will be treated first and the others will be treated after that. Some treatments work best in the early stages of growth, and others work during bolting, or later in the fall. If at all possible, treatments for toadflax, as for many other noxious weeds, will be when the root reserves are low.

Please note that Alternatives 3 and 5 are no-herbicide Alternatives.

Public Concern: The Modoc National Forest should conduct analysis of control of Scotch thistle.

By far the most effective way to deal with Scotch Thistle is prevention, and the Forest has obviously the need to get on with this, as there are 396 Scotch thistle sites in the Modoc National Forest (p. 6). Preventing seed production and spread, as well as controlling small populations, should be the first priority (Schuster and Prather), something the Forest has neglected to include in DEIS analysis. Seedbank longevity is the major management challenge, as seeds may remain viable for up to 20 years (CA DFA website). (Public Interest Group/Political Party, Eureka, CA - #33.88.33100.210)

Small infestations are effectively treated and eradicated by hand pulling or digging, cutting the plants below the soil (CA DFA website, Schuster and Prather, WA Noxious Weed Control Board 2000, Kadrmas and Johnson 2002, Julian and Rife). (Public Interest Group/Political Party, Eureka, CA - #33.89.33240.371)

Although the format of the DEIS obscures the information, our analysis reveals the following information. We applaud the Forest for proposing to physically treat 188 (47%) of the scotch thistle sites, although we are concerned that these sites only make up 21 acres (1.4%) of the total area infested by this thistle (p. 212). The Forest has neglected to provide their reasoning for only considering spraying on 1347 acres, 93%, of the infestation area. Some information must be provided on the rational and criteria for treatment selection of the 149 sites and 80 acres proposed for herbicide/physical treatments.

Again several of the sites listed for potential herbicide treatment (p. 220-34) have larger sizes and low population numbers. Didn't the Forest itself say that it would use the physical/manual treatment method for small occurrences? (Public Interest Group/Political Party, Eureka, CA - #33.91.33210.210)

Also from table 2-1a (p. 23-25) we learn that Scotch thistle treatment, of which there are an estimated 400 sites covering 1,450 acres, will include the use of "high strength combinations" of herbicides. This point is made in a footnote to the table. Nowhere can we find what is meant by this phrase. Does the Forest actually plan to use higher strength, and also likely to be more toxic, herbicides despite constantly describing those they plan to use as of little or no effect, and use them in combination, despite saying that herbicides would not be mixed? (Public Interest Group/Political Party, Eureka, CA - #33.179.21200.371)Modoc Forest Response:

Modoc Forest Response:

Appendix B of the FEIS lists site-specific information including the proposed method of treatment for all noxious weed sites considered in this project. Scotch thistle is difficult to eradicate by manual methods because root buds tend to re-sprout. Design Standard DS-05a in Table 2-4 of the FEIS states that sites of 0.10 acres or less with over 100 plants would likely be treated with herbicides until the population is reduced to less than 100 plants.

The Modoc National Forest Noxious Weed Treatment Project is focused on implementation of control measures as part of the 2005 Modoc National Forest Integrated Weed Management Strategy. The Plan addresses prevention, education, and other issues, where the Project addresses control/eradication.

Table 2-1a in the DEIS incorrectly displayed, that “herbicides will not be mixed together during application” (page 21 DEIS). Herbicide mixtures have been added as treatment methods in Alternative 6 in the FEIS. Application rates will be within the range recommended on the Herbicide Fact Sheets that have been prepared for the USDA Forest Service and are listed in Table 2-14 in Chapter 2 of the FEIS.

Please note that Alternatives 3 and 5 are no-herbicide Alternatives.

Public Concern: The Modoc National Forest should conduct analysis of control of dyer’s woad.

Although the format of the DEIS obscures the information, our analysis reveals that of the 61 Dyer's woad sites, one is 6,000 acres large and makes up 96.5% of what is found in the Modoc National Forest (p.216-18). Since the Forest's own information, and other experts concur, that managing large sized infestations of Dyer's woad with herbicides is not thought to be cost effective (CA DFA website, Kedzie-Web 1996), the Forest should evaluate other potential means of dealing with the larger sized infestations. What impact does this fact,

coupled with the large number of acres involved, have on the economic analysis? Recommended methods the Forest eliminated from consideration are grazing, tilling, and mowing. (Public Interest Group/Political Party, Eureka, CA - #33.83.33200.830)

The Forest insists on having the option of using pesticides on 27 of the 61 sites where this weed is found (p.212). The literature, including the Forest's own noxious weed information in Appendix G, repeatedly states that hand pulling (and digging) is the most effective method of controlling small infestations (CA DFA website, Weber County Weed Abatement website, Whatcom Weeds website, WA Noxious Weed Control Board 1999, Hinkamp article, Kedzie-Webb 1996). Although the format of the DEIS obscures the information, our analysis reveals the following information. We commend the Forest on proposing to use physical and hand methods on 34 small sized sites but are disappointed that this makes up only 4.33 acres (0.07%) of the Dyer's woad acreage to be treated. There are plenty more of the sites where physical treatments would most likely be effective. (Public Interest Group/Political Party, Eureka, CA - #33.81.33210.210)

Modoc Forest Response:

Alternatives 5 and 6 do not include the 5,658 acre dyer's woad infestation for treatment. There are no dyer's woad sites where only herbicide treatment is considered. Where herbicide treatment is a possibility, manual methods are also considered ("manual and/or herbicide). Please note that Alternatives 3 and 5 are no-herbicide Alternatives.

Public Concern: The Modoc National Forest should not use herbicides since effective non-chemical treatments exist for all noxious weeds.

When describing physical/manual treatments the Forest states "this treatment may not be appropriate for all noxious species"(p.7). This statement is both unsubstantiated and conclusory. It is an obvious attempt to mislead decision makers and the public and attempt to sway opinion against non-chemical treatment methods. In fact, as we will show in these comments, physical/manual treatments might be the most appropriate depending on the location and size of the particular site for each noxious weed. Literature and experience of other land management agencies demonstrate that effective non-chemical treatments exist for all the invasive species of concern in the Modoc NF. (Public Interest Group/Political Party, Eureka, CA - #33.43.33240.371)

Modoc Forest Response:

"Physical/manual" treatments might be the most appropriate depending on the location and size of the particular site for each noxious weed. Location and size are not the only variables, however. It also depends on plant species and root systems. Noxious weeds such as Dalmatian toadflax have an extensive system of vertical and creeping lateral roots that produce new shoots. Root fragments can produce new plants. Toadflax roots can penetrate soil to depths of 2 m or more. Lateral roots are typically 5-20 cm below the soil surface and can extend outwards to 3.5 m in all directions. Such roots systems are more than a challenge to remove by manual methods. The EIS documents that cost effective non-herbicide treatments are not readily available for implementation.

See Figure 2-2 in Chapter 2 of the FEIS for a visual depiction of the implementation treatment flowchart. Specific site information, along with the decision flowchart,

were used to determine the treatment methods for each noxious weed site as presented in Appendix B of the FEIS.

Public Concern: The Modoc National Forest should base treatments on current weed inventories.

Its (DEIS) information regarding population sizes at most sites is unknown, although it has determined which category of treatments, what species, and the site size regardless. (Public Interest Group/Political Party, Eureka, CA - #33.76.30110.371)

Modoc Forest Response:

The EIS is based on the best information available. Population sizes change annually depending on such factors as weather or past treatment effectiveness. Site-specific analysis of each site was completed to determine categories of treatments for each site based on environmental, location, and other site factors for each species. The annual work plan provides for adjustments to insure treatment effects are within the environmental effects disclosed in the FEIS and ROD.

Public Concern: The Modoc National Forest should identify which plants can be treated by hand in the FEIS.

Which plants have root systems that can be treated by hand? Which if any of the plants have root systems that can be treated by hand (rather than chemicals) at some point in their lifecycle? (Tribal Agency or Official, Fort Bidwell, CA - #35.16.33100.371)

Modoc Forest Response:

The FEIS contains an updated table that specifies which treatment methods are appropriate for each species (Table 2-10 in Chapter 2 of the FEIS).

Public Concern: The Modoc National Forest should consistently use hand methods to treat all appropriate weeds.

CATS commends the Forest in their foresight and environmental stewardship displayed by proposing to treat this noxious weed species [Klamath Weed] with only physical hand and digging methods. Since this species has only small infestations of .1 acre and a limited number of sites (six), this makes logical sense and follows the advise of the literature and experts in the field of weed management. It also follows as reasonable since the Forest's stated management objective is to contain and control this species. It is disappointing that the same leadership has not been consistently displayed throughout the planning for this project. (Public Interest Group/Political Party, Eureka, CA - #33.142.33240.371)

Modoc Forest Response:

The Forest is using various methods to treat noxious weeds including hand pulling.

Public Concern: The Modoc National Forest should address the issue of plants acquiring herbicide resistance.

It is well documented that the use of herbicides to control some of the species targeted in the DEIS can end up with herbicide resistant strains of these species or "super weeds", which are much more difficult to control. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.22.33210.371)

Modoc Forest Response:

Herbicide resistance is discussed in the Addendum to the Noxious Weed Risk Assessment:

Herbicide Resistance

A number of weed species that once were susceptible to and easily managed by certain herbicides have developed resistance (http://weeds.cas.psu.edu). Herbicide resistance is the inherited ability of a plant to survive and reproduce following exposure to a dose of herbicide normally lethal to the wild type. In contrast, tolerance can be defined as the inherent ability of a plant to survive an herbicide treatment at a normal use rate.

In a plant, resistance may be naturally occurring or induced by such techniques as genetic engineering. Resistance may occur in plants by random and infrequent mutations; no evidence has been presented to demonstrate herbicide-induced mutation.

Through selection, where the herbicide is the selection pressure, susceptible plants are killed while herbicide resistant plants survive to reproduce without competition from susceptible plants. Thus, the appearance of herbicide resistance in a field is an example of rapid weed evolution (http://cottoninfo.ucdavis.edu/images/GL_herbresist.pdf). Following is a table of herbicide-resistant weeds in California. The chart shows that most of the resistance, at least in California, has been developed in cropland and roadside situations.

Table 2. Specific instances of herbicide-resistant weeds in California and situations of occurrence (for additional information or updates see: University of California Weed Research and Information Center website at *www.wric.ucdavis.edu*).[1]

Species	Common Name	Area or Field Situation	Year of Occurrence	Herbicide Material Involved
Senecio vulgaris	Common Groundsel	Orchard	1981	Triazine (atrazine)
Lolium perenne	Perennial ryegrass	Roadside	1989	Sulfonylurea (sulfometuron)
Cyperus difformis	Smallflower Umbrella sedge	Rice	1993	Sulfonylurea (bensulfuron)
Sagittaria montevidensis	California Arrowhead	Rice	1993	Sulfonylurea (bensulfuron)
Salsola tragus	Russian thistle	Roadside	1994	Sulfonylurea (sulfometuron)
Echinochloa crus-galli	Barnyardgrass	Cotton	1995	Dinitroaniline
Ammania auriculata	Redstem	Rice	1997	Sulfonylurea

Species	Common Name	Area or Field Situation	Year of Occurrence	Herbicide Material Involved
				(bensulfuron)
Scripus mucronatus	Ricefield Bulrush	Rice	1997	Sulfonylurea (bensulfuron)
Echinochloa phyllopogon	Late Watergrass	Rice	1998	Thiocarbamate (thiobencarb)
Echinochloa phyllopogon	Late Watergrass	Rice	1998	Arylozyphenoxy (fenoxaprop)
Lolium rigidum	Rigid ryegrass	Orchard	1998	Glyphosate

[1] From http://cottoninfo.ucdavis.edu/images/GL_herbresist.pdf

Since weeds contain a tremendous amount of genetic variation that allows them to survive under a variety of environmental conditions, the development of a resistant species is brought about through selection pressure imposed by the continuous use of an herbicide. It is, therefore, advantageous to have several herbicides in the weed control 'toolkit.'

Weed characters that are conducive to rapid development of resistance to a particular herbicide include annual growth habit, high seed production, high percentage rate of yearly seed germination, several reproductive generations per growing season, extreme susceptibility to a particular herbicide, and a high frequency of resistant genes.

Herbicide characteristics that may lead to rapid development of herbicide resistance include a single site of "action," broad spectrum of control, and long residual activity in the soil. Other factors include lack of elimination of weeds that escape herbicide control, continuous or repeated use of a single herbicide or several herbicides with the same mode of action, high herbicide use rate relative to the amount needed for weed control, and presence of roadside areas and the quality and methods of weed control used in those areas.

Weed management strategies that discourage the evolution of herbicide resistance include herbicide rotation (the use of a variety of herbicides, with broadly different modes of action where possible) in the long-term management approach. If selection pressure is maintained through the continuous use of the same herbicide, herbicide resistance will soon render it ineffective (http://cottoninfo.ucdavis.edu/images/GL_herbresist.pdf).

Many of the treatment sites on the Forest are less than .10 acres, so there will not be a large concentration of herbicides in any given area.

Public Concern: The Modoc National Forest should clarify the priority for treatment of noxious weeds.

Will each alternative focus on those plants listed as making up the largest percentage of noxious weeds in the Forest, Scotch thistle and Dyer's wode, or do some focus on plants considered especially fast invading like Dalmation toadflax? (Tribal Agency or Official, Fort Bidwell, CA - #35.10.21200.371)

The DEIS states "the species of highest priority for treatment (such as the knapweeds, yellow starthistle, Dalmatian toadflax) are in small scattered locations"(p.10). All three of these high priority weeds can be effectively treated using physical techniques when found in small population sizes, according to the literature. These will be reviewed in detail later in these

comments when discussing the alternatives section of the DEIS. This statement is contradicted when the Forest states "the highest priority is to eradicate those small infestations of noxious weeds", yet on page 6 two of the three species just mentioned as being high priority and small (Dalmatian toadflax and Diffuse knapweed) are listed under the contain/control objective, which is reserved for large infestations.

A major part of the Forest's justification for the preferred alternative is its belief that herbicides are the only way to eradicate the invasive weeds, and physical methods can only control. This is also contradicted by the literature, as will be demonstrated later in these comments. (Public Interest Group/Political Party, Eureka, CA - #33.71.33240.371)

We agree that treatment sites need to be prioritized to be most effective as mentioned earlier. Placing a high priority of treatments for known pathways of spread from current infestation sites is commended for containment purposes (p.8). As we describe later in these comments, this can be done effectively and the least intrusively using physical/manual treatments. (Public Interest Group/Political Party, Eureka, CA - #33.44.33240.371)

Modoc Forest Response:

The objective of the Noxious Weed Treatment Project is to eradicate or control and contain the occurrences of 14 specific noxious weed species (Table 1-1 in the FEIS) from Modoc National Forest lands. It is recognized that the best chances for eradication are those noxious weeds that have few sites on the forest and those sites are small with few plants.

In the DEIS, treatment priorities are found in Table I-1 of Appendix I. The FEIS clarifies treatment priorities further in Chapter 2, Tables 2-12 and 2-13. Noxious weed species prioritized for treatment are listed in Chapter 2 of the FEIS.

Public Concern: The Modoc National Forest must begin treating noxious weeds on Forest Service lands.

The current policy of not treating noxious weeds on the Modoc National Forest simply must not continue. (County Agency or Official, Alturas, CA - #17.1.11000.371)

With well over a million acres, the Modoc National Forest administers over half the area in the county. Noxious weed infestations are well documented on Modoc National Forest lands with official records going back 50 years or more. It is imperative that such a large agency landholder actively and aggressively treat these noxious weed infestations each year, as they threaten not only the environmental quality of these public owned lands, but also the neighboring privately owned ground is placed at risk if noxious weed infestations are allowed to grow unabated. (County Agency or Official, Alturas, CA - #25.1.33200.201)

Modoc County Farm Bureau is pleased that after several years of not treating noxious weeds on the Forest, Modoc National Forest is in the final planning stages to allow for resumption of weed treatment. (Agriculture Industry, Alturas, CA - #37.1.33100.380)

Modoc Forest Response:

The Forest Service agrees with the urgency to treat noxious weed infestations. This EIS was prepared to disclose to the public and decision maker the possible environmental effects of implementing various treatment methods. Treatment will

begin the season after release of the decision and any resolution of administrative appeals, and/or legal decisions upholding the decision.

Public Concern: The Modoc National Forest should utilize the Modoc Noxious Weed Working Group priorities in establishment of its priority list for control.

The Modoc Noxious Weed Working Group has identified in its Strategic Plan three (3) priority invasive species to control. They are Dyer's woad (Isatis tinctoria), Yellow Starthistle (Centaurea solstitialis), and Tall Whitetop (Lapidium latifolium) (aka perennial pepperweed). We encourage the Modoc National Forest to consider these species as high priority for treatment within the forest boundaries. (Regional or Other Governmental Entity, Alturas, CA - #6.2.33100.371)

Modoc Forest Response:

The FEIS outlines the priorities for treating noxious weeds. The priorities were established considering priorities from the Noxious Weed Working Group as well as other considerations including number of species occurrences, location, and environmental factors. The FEIS clarifies treatment priorities further in Chapter 2, Tables 2-12 and 2-13. Noxious weed species prioritized for treatment are listed in Chapter 2 of the FEIS.

Public Concern: The Modoc National Forest should have the same tools available for treating noxious weeds as available to private land owners.

The Forest environment deserves the same opportunity as provided private lands. (Agriculture Industry, Alturas, CA - #37.6.30000.650)

Modoc Forest Response:

The Modoc National Forest has many of the same tools available, but not all the chemicals. This FEIS addresses only those which will be utilized at this time.

Public Concern: The Modoc National Forest should aggressively treat noxious weed infestations.

We are pleased to see the National Forest progress in getting an aggressive program in place to treat noxious weeds using herbicides. Noxious weed invasion is a large threat to the health and productivity of public and private rangelands throughout the west. Anything but an aggressive approach will result in continued large infestations of many of these species. (Conservation District, Susanville, CA - #3.1.33210.371)

Modoc Forest Response:

Alternatives 2 through 6 analyze the effects of various rates of noxious weed treatment.

Public Concern: The Modoc National Forest should complete extensive studies for all programs, projects as well at each population site three times annually.

To achieve effectiveness, all Programs/Projects must develop a comprehensive strategy, that identities all of the integrated elements, including a cost benefits analysis and the level of success that is expected. (See SRRC 13 Steps in brochure-handout). Proven methods need to

be utilized, where appropriate. Strategies need to include various assessments and recommendations including: identifying what values needs to be protected and restored; what are the risks associated with the noxious weeds; opportunities and constraints; short and long term cost of management, and timeline of actions to be taken. Action Plans must include tasks such as: preventing the spread at all levels; stakeholder education; coordination/communication; completing a comprehensive inventory of all prioritized species; developing annual work plans for each species; tracking and effectiveness monitoring; and an inclusive program that covers all of the vectors and emphasizes early detection, rapid, response, thorough and persistent treatment, zero seed prescription, and uses the most appropriate tool. Each population needs to visited at least 3 times a year and have at least 2 sets of eyes per visit. Many species need to be managed year round. All life stages need to be easily identified. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.8.21100.370)

Modoc Forest Response:

Appendix A of the FEIS contains the 2005 Modoc National Forest Integrated Weed Management Strategy which includes prevention, education, coordination, and inventories. The IWM Strategy and FEIS address the need to treat infestations with the appropriate method.

Public Concern: The Modoc National Forest should not utilize herbicides without also studying the cause and sources of weed infestations, plant resistance, and response.

Simply targeting the plants for eradication, without also studying the causes and sources of change, does nothing to ameliorate the problem. Also, the use of highly questionable and controversial chemical controls is likely to further exacerbate the problems. This has been documented in agriculture--whereby plants develop resistance to the sprays and only the toughest weeds survive the spraying, or, new weeds take the place of those that have been sprayed. The purpose and need given for the EIS is not met by either of these outcomes. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.31.20000.371)

Modoc Forest Response:

The purpose of this FEIS is to eliminate current infestations. Appendix A of the FEIS contains the 2005 Modoc National Forest Integrated Weed Management Strategy that outlines the prevention, education, inventory, and coordination efforts that in combination with the eradication and control methods outlined in the FEIS should ameliorate the noxious weed problem.

Use of an IWM treatment program including various herbicides will mitigate the development of resistant plants.

Public Concern: The Modoc National Forest should not use the herbicides listed in the EIS as they facilitate the explosive growth of grasses.

Several of the chemicals proposed for use in the DEIS are commonly known to facilitate the explosive growth of grasses, including non-native invasive grasses. These are triclopyr, clopyralid, dicamba, and 2,4-D. Since there are high numbers of non-native grasses already present in the Modoc NF region, this effect should be analyzed and should be included in the

development of alternatives and mitigations in the FEIS. For example, the non-native invasive grasses cheat grass (Bromus tectorum) and smooth brome (Bromus inermis), occupy thousands of acres of the region and must have at least as much impact on native biodiversity and plant community composition as the 15 species considered in this DEIS. Other grasses of concern include goatgrass (Aegilops cylindrica) and medusa-head grass (Taeniatherum caput-medusae). (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.36.13100.372)

Modoc Forest Response:

Continuous broadcast use of one herbicide or a combination will often select for plant species that have the greatest tolerance, say grass species if the herbicides target broad-leaf plants (http:// wric.ucdavis.edu/yst/manage/management10.html). If this happens, species diversity could be reduced. However, in the action Alternatives that use herbicides (Alternatives 2, 4 and 6), broadcast spraying is not an option. Application methods are by wick or directed spray treatment. Additionally, 'continuous' spraying is not proposed in the FEIS, although several spaced treatments of chemical and/or manual methods may take place within a year for stubborn noxious species. Therefore, the native plant diversity of the Forest will not be compromised in this regard from treatment by herbicides in this Project.

Public Concern: The Modoc National Forest should clarify the amount of infested acres and the amount of acres to be treated.

The following statement troubles us: "To treat all affected areas it is estimated that 3 percent of the national forest lands would be treated"(p.8). If the Modoc National Forest is 1,600,000 acres large (as stated on p.7) then three percent of that is 48,000 acres. Does that mean the Forest is proposing to use herbicides on up to 48,000 acres, primarily in riparian areas, along trails and roads, and in administrative sites? That is greater than five and a half times as many acres as is discussed for treatments throughout the DEIS. How many acres is the Forest planning on spraying, or, how many may be sprayed in the actual life of the project? This is information the Forest must provide at least an estimate of in the DEIS. (Public Interest Group/Political Party, Eureka, CA - #33.21.13100.371)

Modoc Forest Response:

Table 2-14 in Chapter 2 of the FEIS lists the number of acres proposed for treatment under each Alternative.

Recreation

Public Concern: The Modoc National Forest should not utilize carcinogenic chemicals in areas of heavy recreation use, and recognize that recreation is a source of income locally.

Fishing, hunting, swimming and camping are common recreational uses on the Klamath River and Pit Rivers. Many people have jobs in recreation. Use of known carcinogenic chemicals in heavily recreated areas (such as the near rivers and roads where weeds are common) will effect recreation, a source of income locally. (Preservation/Conservation Organization, Somes Bar, CA - #40.14.50000.719)

It is very possible that hikers and other recreational forest users may wind up in this situation. (Public Interest Group/Political Party, Eureka, CA - #33.187.53310.383)

2,4-D is so dangerous it should be banned, and should especially not be allowed on public land where people recreate. (Preservation/Conservation Organization, Somes Bar, CA - #40.47.33211.500)

A well designed IPM strategy, would, for example, give high priority to treatment of areas adjacent to stream courses, roads, trail systems, and administrative sites (campgrounds, parking lots, trail heads, river accesses). Where application of herbicides is an immediate human health concern. The direct and indirect impacts of herbicide application create unnecessary hazardous conditions in the areas where the public and forest recreational users most use, especially for sensitive populations including those with compromised immune systems, children and the elderly. Only non-chemical treatment methods should be used in these areas. (Public Interest Group/Political Party, Eureka, CA - #33.35.50000.719)

Modoc Forest Response:

The FEIS includes an expanded analysis of human health risks from the use of the herbicides considered (refer to Appendix F and the Human Health and Safety section of Chapter 3). This shows that 2,4-D and dicamba represent an increased risk to the public over the other herbicides proposed for use. However, the analysis also shows that none of these herbicides is a carcinogen. (SERA TR 04-43-17-06d for Dicamba, and SERA 2,4-D Human Health and Ecological risk Assessment Final Report September 30, 2006)

There are no known noxious weed sites within designated campgrounds. Design Standard DS-36 requires that signs regarding herbicide use be placed at access points to treatment areas prior to initiating treatment. Signs will list herbicides to be used, effective dates, and name and phone number of the Forest contact.

Public Concern: The Modoc National Forest should designate additional wilderness areas.

To designate each of the following areas, with acres as Wilderness: Big Rattlesnake 48,000, Captain Jack 67,000, Lost River 87,000, Medicine Lake Highlands 41,000, North Warner 96,000, South Warner additions 46,000, and to preserve all roadless areas and unroaded areas. (Individual, Minneapolis, MN - #24.4.62210.621

Modoc Forest Response:

Consideration of additional wilderness areas is a land-management planning decision, and will be considered during Plan Revision. (FSM 1900)

Public Concern: The Modoc National Forest should include the BMPs for recreation areas in the DEIS.

BMPs which apply to recreational areas must be cited and applied since spraying in areas used by outdoor enthusiasts and other recreators could be utilized without further decision. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.25.31100.500).

Modoc Forest Response:

BMPs are specifically designed to insure Forest management activities meet the intent of the Clean Water Act. They are not for recreational facilities such as campgrounds or trails. BMPs related to recreation are designed to mitigate the potential effects to water quality by the management of recreational sites.

There are no known noxious weed sites within designated campgrounds. The FEIS contains the following mitigation measure: "Within developed campgrounds, noxious weeds will be treated using hand treatment methods. When herbicide use is required, only glyphosate will be used."

Site Treatment of Specific Noxious Weeds

Public Concern: The Modoc National Forest should eliminate dyer's woad by hand before it reaches the Ft. Bidwell reservation.

Currently there is no Dyer's wode on the Ft. Bidwell reservation. Dyer's wode is creeping closer to our western boundary- this appears to be a plant that can be eradicated with physical treatment. When would it be treated under any of the alternatives? (Tribal Agency or Official, Fort Bidwell, CA - #35.15.21200.371)

Modoc Forest Response:

Dyer's woad, as with all species, cannot be treated until the responsible official issues a decision.

Public Concern: The Modoc National Forest should disclose in the EIS the criteria that determine what will occur at each site.

The Forest must provide within the EIS the criteria that determine what occurs at each site. The decision makers and public must be informed as to what treatments, including which herbicides, would be used for what criteria, for what site. Without more direction provided in the EIS, the decisions of what treatment, or even which herbicide, is to be made in the field, and thus outside the scope of this NEPA document. This is a major contention of ours, that this DEIS is thus intended to be used as programmatic, when in fact it is a project level document.

Here are some examples of site-specific questions the Forest must ask: What is the natural history of the sites including, but not limited to, soil types, amount of rainfall, species of animals, and competitive vegetation present? How is the land being used in present, future, and past plans and activities? What is the history of weed control in the Modoc NF? Is this a recent invasion or an old problem? How old? What bio-control agents might be present or available? How did the weeds get there and by what means are they being dispersed (Drlik et al 1998)? All of these answers must be presented in the EIS. "It is important to determine and document the methods most effective for different sized infestations, different communities, and the specific characteristics of the site, including soil type, exposure, drainage, and degree of disturbance, human or otherwise" (Mauer et al 1987). (Public Interest Group/Political Party, Eureka, CA - #33.73.21100.210)

Obviously there are many alternatives and options for implementing the most environmental and economically effective treatment plans. IPM and specifically IWM need to become part of the Modoc DEIS. Each site for each species of noxious weeds will present a different set

of challenges, strategies, and treatment methods. What is used when, where, and how will have to be determined on an individual site and species basis as is required by a true IWM plan. (Public Interest Group/Political Party, Eureka, CA - #33.146.23000.371) The Forest neglected to provide noxious weed species and their treatment method analysis in the DEIS, instead it improperly scatters these sections in the Appendixes. The DEIS does not disclose the thought process, criteria, and reasoning for treatment decisions. The Forest needs to remember that this DEIS is for a project and is not programmatic. (Public Interest Group/Political Party, Eureka, CA - #33.77.21000.371)

Modoc Forest Response:

This FEIS evaluates each site and provides the decision maker the ability to approve an IWM program for that site based on site conditions, concerns, and species. The FEIS discloses the thought process, criteria, and reasoning for the treatment decisions. Appendix B of the FEIS lists the treatment methods for each site for each Alternative.

Public Concern: The Modoc National Forest should be specific as to which herbicides would be applied to which sites.

"Herbicides will not be mixed together during application"(p.21), yet on page 22 it states that combinations of herbicide treatments will be used according to what is most effective for a particular location. While the DEIS provides a list of partial herbicide selection criteria, we are still left in the dark as to what exactly determines which chemicals are applied to what sites. This seems to be an essential piece of information the Forest is failing to provide. The Forest is attempting to by-pass NEPA and differing decisions to the future. (Public Interest Group/Political Party, Eureka, CA - #33.8.13100.131)

Modoc Forest Response:

Applying one herbicide to a treatment area one year, and another to the same treatment area the next year, does not constitute mixing herbicides. This is because the first herbicide chemically degrades within a year. Application of different herbicides in subsequent years in the same location does not adversely affect the environment.

In the FEIS, we added two Alternatives (5 and 6) that use various “tank mixes”, or combinations of herbicides. The reason for this is that after release of the DEIS, the Forest was advised that by combining herbicides, we could actually use less active ingredient and simultaneously be more effective in treating an area where there is more than one noxious weed species.

To clarify the issue of herbicide selection, we added tables 2-4 through 2-8 in the FEIS. They give site-specific treatment information displayed by Alternative. They show weed species, distance to water, types of herbicides to apply, and other information.

Public Concern: The Modoc National Forest should be more specific as to how treatments will be prioritized or applied on each site.

In its analysis of the proposed alternative, Alternative 2, and the preferred alternative, Alternative 4, the DEIS does not specify, for example, which of two control activities,

physical or chemical, will occur on the majority of sites. Further, it does not specify which of several herbicides will be used at most sites. Because the conditions and the approach to treatment at each site differs, and these differences are not adequately described within the EIS, an Environmental Analysis (EA) will have to be prepared for each site before activity can be undertaken to determine whether new and significant information exists. In addition to those already mentioned, the differences include the amount of application, the proximity of the project site to the public, the number of workers and the number of applications, all of which were cited by the court in Salmon River Concerned Citizens v Robertson (32 F.3d 1326 (9th Cir. 1994).) as such that 'may raise new and significant environmental impacts that were not previously considered" and therefore requiring further analysis. (Public Interest Group/Political Party, Eureka, CA - #33.10.24000.210)

Modoc Forest Response:

The FEIS treatment methods have been combined, by Alternative, into one table listing specific treatment methods under each Alternative. This information is presented in Appendix B of the FEIS.

An EA is not necessary to determine whether new and significant information exists. In accordance with Forest Service Handbook 1909.15.18.1 states: "Review and Documentation of New Information Received After a Decision Has Been Made. If new information or changed circumstances relating to the environmental impacts of a proposed action come to the attention of the responsible official after a decision has been made and prior to completion of the approved program or project, the responsible official must review the information carefully to determine its importance. If, after an interdisciplinary review and consideration of new information within the context of the overall program or project, the responsible official determines that a correction, supplement, or revision to an environmental document is not necessary, implementation should continue. Document the results of the interdisciplinary review in the appropriate program or project file….Use errata sheets to make simple corrections….If the responsible official determines, based on evaluations described in section 18.1, that a supplement to or revision of an FEIS is appropriate, issue a notice of intent to supplement or revise an FEIS…"

Soils

Public Concern: The Modoc National Forest should address groundwater, soil permeability, and potential herbicide transport to water sources in the FEIS.

The DEIS does not provide information regarding depth to groundwater or soil permeability in herbicide treatment areas on the Forest. This is important for considering impacts to groundwater from water-soluble herbicides (Clopyralid, Dicamba, Hexazinone, and Triclopyr, p. 87). The DEIS identifies the areas with soils that exhibit rapid permeability and/or are excessively drained and proposes mitigation by using only Glyphosate and physical/cultural methods in these areas. However, since Clopyralid is highly soluble in water (p.253) and has a high potential to contaminate groundwater (p. 246), and Hexazinone and Dicamba are persistent and can leach into groundwater (p.276, 260-261 respectively), an assessment should be made regarding the potential transport of herbicides into groundwater in areas of moderate permeability or that may contain fractured soils.

This analysis should include a discussion of potential impacts to sources of drinking water (public systems or private wells) within or in proximity to areas proposed for herbicide applications or subject to runoff from areas receiving herbicide applications. (Federal Agency or Official, San Francisco, CA - #19.16.31100.243)

Include information about groundwater and soil permeability in the Final EIS. Identify areas with shallow groundwater conditions and assess the potential for water-soluble herbicides, especially Clopyralid, to enter groundwater.

Develop soil depth criteria to prevent herbicide transport into groundwater and incorporate these criteria as mitigation measures in the Final EIS. Identify drinking water sources near proposed herbicide treatment areas and evaluate whether applications may adversely affect public water systems or private drinking water sources. (Federal Agency or Official, San Francisco, CA - #19.17.31100.380)

Modoc Forest Response:

In the FEIS, Project Design Standards were developed to ensure that the use of clopyralid, dicamba, and triclopyr did not adversely affect groundwater resources and soil permeability. Hexazinone was dropped from consideration, based on comments that were received on the DEIS.

The Ft. Bidwell Indian Reservation public water supply is the only known public water source or small water system that occurs within or adjacent to the Forest boundary. The Modoc NF has entered into an agreement with the Ft. Bidwell Reservation Tribal Council not to use herbicides in treating known noxious-weed infestations within the contributing area of the Ft. Bidwell water source.

There are no other known municipal water sources or other small water systems within or adjacent to the Modoc National Forest that have not been identified within the Noxious Weed FEIS. If the respondent knows of such locations, please advise us and we will take steps to protect these small water systems. The Modoc County Division of Public Health completed monitoring of the known small water systems within the county. In their monitoring, they did not detect the presence of the herbicides that are proposed to be used under this project.

Public Concern: The Modoc National Forest should reconsider using glyphosate since it will harm the soil and limit future growth potential of non-target vegetation.

On page 88 of the DEIS the Forest states that the only herbicide to be sprayed in the rapidly permeable soils is glyphosate. Although the format of the DEIS obscures the information, our analysis reveals that when looking at the map it is evident that are over 25 weed sites, including the 6,000 acres site of dyer's woad that the Forest is proposing to treat using herbicides/physical methods (p. 217), a Scotch thistle site slated for the same fate (p. 231), and 6 spotted knapweed sites also on the herbicide chopping block (p. 235). This sounds like the Forest is proposing to use an awful lot of glyphosate for a really long time.

Evidence exists that glyphosate, especially when used repeatedly, has the ability to alter soil make up, including eliminating important microbes and microorganisms necessary for the natural cycling process of nutrients, enhancing the growth and populations of others, thereby

harming soil and limiting future growth potential of non-target vegetation. (Public Interest Group/Political Party, Eureka, CA - #33.202.33211.205)

Furthermore, this information was well obscured within the DEIS. We had to combine the information from page 88, Appendix B, and the map of noxious weed sites to determine what weeds and which sites were located in this soil type. By our analysis of the various bits of scattered information, it's clear that up to 6,750 pounds of glyphosate products could be used in the Forest, particularly under Alternative 4, and much of used in SMVs and in a large area where soils are permeable. Given the known effects of the use of glyphosate on soil health and productivity for non-target species, CATs is particularly concerned about the obfuscation and inadequate review of the information. The Forest must provide this and more of this type of information in an easily accessible and understandable format within the DEIS. By hiding and excluding all the information the Forest has skewed the analysis improperly in favor of its preferred alternative. (Public Interest Group/Political Party, Eureka, CA - #33.203.33211.230)

Modoc Forest Response:

It is unclear what evidence the respondent is referring to in regards to the effects of glyphosate on soil resources. A recent peer-reviewed scientific study completed by the Forest Service Pacific Southwest Research Station in Redding, California (Matt D. Busse, Alice W. Ratcliff, Carol J. Shestak and Robert F. Powers) and published in Soil Biology & Biochemistry 33 (2001) 1777-1789, concluded that when glyphosate is applied to a soil-free medium, it was toxic to bacteria and fungi. However, when it was applied to forest and range soils, glyphosate was not toxic to soil bacteria and fungi, including microbial activity.

Public Concern: The Modoc National Forest should disclose the potential long-term impact (direct, indirect, and cumulative) on ecosystem health (soils) and native plant community structures that occur with frequent and heavy herbicide application.

The DEIS provides misinformation by not including the potential long-term impacts (direct, indirect, and cumulative) on ecosystem health and native plant community structures that occur with frequent and heavy herbicide application. Herbicides have been shown to completely alter soil profiles, forever altering soil balances and associated microorganisms. After repeated toxic chemical applications at these sites, what plants will grow back? Can the Forest show that natives will take as opposed to new exotics? (Public Interest Group/Political Party, Eureka, CA - #33.56.30300.380)

Modoc Forest Response:

Under Alternatives 2, 4, and 6, it is not proposed to use frequent and heavy herbicide applications. The FEIS clarifies that the proposed action to eliminate noxious weed species uses a variety of treatment methods that are most effective. Project Design Standards, as contained in Chapter 2, Table 2-2 of the FEIS, were developed in part to ensure that project-level activities did not result in a long-term adverse effect to the natural environment.

Public Involvement

Public Concern: The Modoc National Forest should not dismiss or trivialize public concerns.

Concerns brought forward by the public about toxic herbicides are dismissed and trivialized in the DEIS. See page 126, "Opposing Viewpoints Concerning the Use of Herbicides." This is unprofessional and an abuse of discretion, and turns NEPA on its head. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.18.12000.131)

In the development of alternatives during scoping, the agency cannot dismiss issues without a discussion of why they are not significant, or providing a reference to their coverage elsewhere. 40 C.F.R.1501.7. These issues have not been covered elsewhere. The relationship of the ecological problems associated with noxious weeds, their impacts on native biological diversity and wildlife habitat, and the causes and vectors of their establishment have not been addressed by the Modoc NF in any prior planning document. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.15.21100.131)

Modoc Forest Response:

The DEIS section accurately portrays the comments received during scoping and summarizes the major points of contention concerning herbicides. Scoping issues were not dismissed; they were placed in one of the following categories: Used in Alternative Development, Issues Addressed by Mitigation or Design Features Common to All Alternatives, Issue Already Decided, Addressed in the Effects Analysis, Beyond Scope of Purpose and Need, or No Issue.

The FEIS will contain detailed information as it summarizes and discloses to the decision maker the main points of disagreement with the analysis by members of the public who commented on the DEIS. Each comment on the DEIS is addressed in detail in this volume.

The FEIS is predicated on the fact that noxious weeds adversely affects native biological diversity and wildlife habitat, and provides an analysis and information necessary for the deciding officer to choose various treatment methods. The FEIS discloses that roads are the primary vector for the introduction of noxious weeds on the Modoc National Forest.

Treating or addressing all possible vectors of noxious weed infestation is outside the scope of this project and analysis. The 2005 Noxious Weed Management Strategy for the Modoc National Forest provides decision makers with choices for addressing the spread of noxious weeds during individual project development and the annual program of work.

Public Concern: The Modoc National Forest should extend the public comment period on the DEIS.

We would like to request an extension of time in the comment period for this DEIS. Many people have called to ask CIBA about this DEIS. It would be most helpful to give other parties with an interest in the Modoc National Forest some more time to comment on this project. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.2.12200.010)

Modoc Forest Response:

The DEIS was mailed out to the public two weeks prior to the start of the comment period. The comment period was actually 47 days long due to automatic extension for periods that would end on a Sunday and/or Holiday. The DEIS was also posted on the web two weeks prior to the official start of the comment period. Over 200 documents were mailed to potentially interested individuals, those who had participated in the project for over 10 years, and cooperating tribal governments along with state and federal agencies. In addition news paper news releases were issued and the required legal notice was published in the Federal Register. Permit holders were notified and copies were provided to public libraries in Modoc County. The Forest Service believes the public had sufficient time to review the document and comment, and received no phone calls or requests for extension during the comment period. The lengthy and complete responses from CIBA and other groups and government agencies indicate that a complete review was possible during the 47-day comment period.

Public Concern: The Modoc National Forest should utilize the Modoc Forest website to notify the public about treatment locations.

The project Design Standards (p. 17) include the posting of signs regarding herbicide use at access points to treatment areas prior to initiating treatment. EPA suggests that this information also be made available offsite, such as on the Modoc Forest website, for use by individuals planning visits to the forest. (Federal Agency or Official, San Francisco, CA - #19.26.12100.380)

Modoc Forest Response:

The Forest does maintain information about its noxious weed program at: http://www.fs.fed.us/r5/modoc/projects/noxious-weeds/noxious_weed.shtml

Public Concern: The Modoc National Forest should have utilized all scoping comments in the development of the DEIS.

We are very concerned that the DEIS does not address or consider the substantive issues we submitted during scoping. We affirm in this record that the comment letters we sent to the agency dated July 28, 1998 and May 25, 2001, were not acknowledged, and we now incorporate those letters by reference, since none of the issues we brought up then have yet to be properly addressed. Indeed, although our comments were well referenced using scientific, peer-reviewed and published documentation, the DEIS does not acknowledge having read or incorporated any of the information we provided to the agency. NEPA requires the agency to "study" significant issues, and the information in the EIS must be of "high quality," using "accurate scientific analysis, expert agency comments, and public scrutiny." 40 C.F.R. 1500.1 (b). Furthermore, alternatives must be "rigorously explored." 40 C.F.R. 1502.14. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.1.21100.210)

Modoc Forest Response:

The Modoc National Forest utilized all scoping comments in development of the issues included for analysis in the FEIS. In Chapter 1 of the FEIS, significant issues identified from scoping comments encompass the concerns of the Commenters scoping letters. The commenter did not indicate which substantive issues were not addressed.

Tribal Issues and Native Americans

Public Concern: The Modoc National Forest is commended for its scoping actions and consultation with tribes.

EPA commends the Forest Service for its scoping actions and consultation with Tribes and the California Indian Basketweavers Association. (Federal Agency or Official, San Francisco, CA - #19.23.10300.370)

Modoc Forest Response:

The Forest has continued its consultation with tribes through the development of the response to comments and final environmental impact statement. Information gathered during government-to-government consultation meetings will be utilized by the decision maker in the final decision. The Forest Tribal Liaison Officer also directly contacted the California Indian Basket weaver's Association, Resource Analyst to offer continued meetings to understand and insure their concerns were addressed in the FEIS and considered in making the decision.

Public Concern: The Modoc National Forest should utilize government-to-government processes when notifying tribes.

In regard to notification of herbicide use in Traditional Cultural Properties (TCPs), the DEIS states that any proposed use of herbicide should include advance notification of appropriate tribal organizations and individuals who may use the site (p. 123). EPA requests that the Forest Service make a commitment to conduct this notification and consult with Tribes on a government-to-government basis, consistent with Executive Order 13175. (Federal Agency or Official, San Francisco, CA - #19.25.10300.380)

Modoc Forest Response:

The Forest recognized early in the planning process there was the potential for health effects toward basket weavers and other members of tribal communities. Consultation and coordination with federally recognized tribes and California Indian Basketweavers Association is documented in the FEIS under the Public Involvement and Tribal Consultation sections. The purpose of this consultation and coordination was to identify and resolve issues which are incorporated in the FEIS.

The Annual Work Plans will continue this consultation with each federally recognized tribe. Some Traditional Cultural Properties have been identified on the Forest.

Tribal and Public Concern: The Modoc National Forest should consult on a government-to-government level in the treatment of noxious weeds:

The Tribe's willingness to use or refusal to use chemical treatments of noxious weeds has depended on the Council in government. This Council has not had the opportunity to determine its stance so holds to the prior position of "no chemical treatment, especially near riparian areas." (Tribal Agency or Official, Fort Bidwell, CA - #35.2.10300.244)

How does USFS intend to meaningfully involve Tribes in the annual work plan process, especially in light of both their trust responsibility and the often changing leadership of the Tribes? (Tribal Agency or Official, Fort Bidwell, CA - #35.17.33240.371)

In regard to notification of herbicide use in Traditional Cultural Properties (TCPs), the DEIS states that any proposed use of herbicide should include advance notification of appropriate tribal organizations and individuals who may use the site (p. 123). EPA requests that the Forest Service make a commitment to conduct this notification and consult with Tribes on a government-to-government basis, consistent with Executive Order 13175. (Federal Agency or Official, San Francisco, CA - #19.25.10300.380)

Modoc Forest Response:

Consultation with federally recognized tribes is documented in the FEIS under the Tribal Consultation section. The purpose of consultation was to identify and resolve concerns throughout the analysis process. Those concerns are incorporated in the FEIS.

Formal consultation with the new Ft. Bidwell Indian Community Council was done on April 6, 2005 to give the current Council a background of past partnership with the tribe to treat weeds, to discuss their issues individually, and generate ideas of the development of the annual work planning.

The Annual Work Plans will continue this consultation with each federally recognized tribe.

The Forest consulted with federally recognized tribes as described on page 13 of the DEIS. Line officers meet regularly with the tribes as part of the Forest's ongoing program of work.

Executive Order 13175 is one of several laws and executive orders the Forest uses to guide the Tribal Relations Program (FSM 1500 Chapter 1563.11 - Exhibit 01). Executive Order 13175 is used regularly to accommodate tribal access related to Traditional Cultural Properties and will continue to be used as guidance for consultation on the annual work plans.

There are Traditional cultural properties (TCPs)eligible to the National Register of Historic Places on the Forest. Recently some cultural representatives have expressed concerns about the use of herbicides around TCPs. In the past, when the Forest has planned activities around TCPs, the consultation process has been focused to ensure the Forest enhances the cultural properties that make those properties eligible. The Forest will continue to work with cultural representatives on treatment methods at TCPs eligible to the National Register through the annual work planning process.

Tribal and Public Concern: The Modoc National Forest should work with other federal agencies to fulfill trust responsibility for treating noxious weeds.

The BLM and BIA are two additional federal agencies with trust responsibilities to the Tribe which also have noxious weed programs on or near the reservation and in our aboriginal territories, how does the proposed alternative, 4 work in conjunction with those two agencies to meet your joint responsibilities to the Tribe? (Tribal Agency or Official, Fort Bidwell, CA - #35.3.10500.040)

Modoc Forest Response:

The Forest does not have responsibility to treat weeds on the Reservation. There is a cooperative agreement between BLM and BIA to treat weeds on the Reservation.

The 2005 Modoc National Forest Integrated Weed Management Strategy included in Appendix A of the FEIS identifies the use of the Modoc County Noxious Weed Working Group as the framework for interagency cooperation. In addition to regular government-to-government consultation, the tribes have been invited to be partners in the Working Group. Some of the Tribes participate with the Working Group others do not.

The Strategy includes cooperation for inventory and monitoring weeds and treatment efforts. In cooperation with the BLM Surprise Valley Resource Area the Forest did an inventory of weeds using temporary employees and GPS/GIS technology on the Ft. Bidwell Reservation in FY 2002.

In FY 04, the Forest and BLM provided technical assistance to the Environmental Coordinator and the Tribal Forester of the Ft. Bidwell Reservation on weed identification and treatment methods.

Tribal and Public Concern: The Modoc National Forest should work with tribes to inventory, analyze, and consider cultural plant species in the FEIS.

Cultural plant species include but are not limited to the list of plants developed by the California Indian Basketweavers Association (CIBA) in its May 25, 2001 comment letter, Attachment A, and in Forest Plans for the Modoc National Forest. Cultural Plant Species must also include those identified in the Ethnobotanical Study of the Central Medicine Lake Highlands by Twyla Miller and Tribal informants. (Tribal Agency or Official, Burney, CA - #34.2.13000.760)

USFS needs experienced enthnobotonist to demarcate where no herbicides can be applied. (Tribal Agency or Official, Fort Bidwell, CA - #35.13.33210.760)

Therefore we ask that the next item be included in the Final EIS. Inventorying of the cultural plant species, including consultation with the Tribe as to the best methods of treatment that will protect these species, must be conducted before each area is treated. This is a requirement not only of government-to-government consultations under the Federal Trust Responsibility to Indian Tribes, but also of the Sierra Nevada Forest Plan Amendment, Appendix E. While "coordination" and yearly meetings with "appropriate tribal personnel to review upcoming treatment locations" is provided for in Appendix A, page 161, we would like to see a more define provision for ongoing site-specific consultations regarding each location and the best treatment methods appropriate to these, as well as the monitoring of cultural plant species that have been identified. (Tribal Agency or Official, Burney, CA - #34.4.10300.371)

On Tuesday February 8th, members of the Pit River Tribe (the Tribe) and Tribal Environmental Staff met with Dan Meza, who gave a very general presentation regarding the DEIS. The Forest Supervisor also previously met with the Pit River Tribal Council regarding this project. However, this general meeting was also not specific to each area treated or to particular issues. Therefore we maintain that the Forest Service has not obtained Tribal input

as to individual areas and the cultural plant species that may be affected by the proposed treatments. (Tribal Agency or Official, Burney, CA - #34.3.10300.040)

We feel that the weeds mention should be treated by hand to each individual plant in riparian areas as well as food and gathering areas and applied in different ways to areas away from water, food, and gathering grounds. (Tribal Agency or Official, Alturas, CA - #18.3.33240.760)

Modoc Forest Response:

The tribal consultation process is described in Chapter 1 of the FEIS. Tribal consultation with the federally recognized tribes began in March 1998 with preliminary telephone calls to individual tribes. Later, formal letters were sent to each tribe and face-to-face consultation meetings were held between line officers and tribal officials. Line officers traveled to each tribe's preferred meeting location.

The FEIS incorporates data from, "Ethnobotanical Surveys of the Medicine Lake Highlands (Klamath, Modoc, and Shasta-Trinity National Forests)".

The Forest currently uses several sources of information to identify culturally significant plants as part of its ongoing work with tribal communities. Most of the cultural plants in the references are very common plants which are widely distributed and include large populations on the Forest. Additionally most of the plant communities are very common on the surrounding National Forests and BLM lands. Because most cultural plant communities are so common, it is impossible to inventory the entire 1.6 million acres of the Forest for this analysis. This work would be done in consultation with the tribes during the annual work planning

Tribal and Public Concern: The Modoc National Forest should collaborate and develop partnerships to treat weeds.

Finally, the Tribe would like to see a provision for collaborative management and partnership with the Tribe, leading to protection and restoration of culturally important species in areas that are proposed to be treated. In particular, we request provisions and attendant funding for designing Tribal projects and utilizing Tribal crews in areas where Tribal consultations reveal a high level of native plant resources of Tribal importance. (Tribal Agency or Official, Burney, CA - #34.13.10300.040)

Modoc Forest Response:

2005 Modoc National Forest Integrated Weed Management Strategy included in Appendix A of the FEIS identifies the use of the Modoc County Noxious Weed Working Group as the framework for interagency cooperation. In addition to regular government-to-government consultation, the tribes have been invited to be partners in the Working Group. Some of the Tribes participate with the Working Group others do not.

The Strategy includes cooperation for inventory and monitoring weeds and treatment efforts. In cooperation with the BLM Surprise Valley Resource Area the Forest did an inventory of weeds using temporary employees and GPS/GIS technology on the Ft. Bidwell Reservation in FY 2002.

In FY 04, the Forest and BLM provided technical assistance to the Environmental Coordinator and the Tribal Forester of the Ft. Bidwell Reservation on weed identification and treatment methods.

The Pit River Tribe and the Forest have a signed participating agreement for collaborative management and partnership in the Medicine Lake Highlands. The agreement provides for funding to design tribal projects and utilizes tribal crews in areas where consultation reveals a need to enhance overall cultural values. This includes restoration of native plant resources.

The FEIS in chapter 1 under the implementation section identifies tribes, local governments and private contractors as the primary applicators for herbicide and other treatment methods. Volunteers and Forest crews will implement manual methods as funded and personnel permit.

Tribal Concern: The Modoc National Forest should address the need to protect cultural life and needs of Native Americans.

Page 63, regarding how Cultural or heritage resources are managed- the Tribe was told by the USFS archeologist that there are many, many cultural sites in the Forest that should qualify for the National Register of Historic Places; however, no money has ever been allocated for this to take place. We suffered the USFS "management" of cultural resources with the Rainbow Gathering in 2004 and want different assurances from the USFS today and in the future- how will any of these alternatives address the need to protect our Cultural life and needs? (Tribal Agency or Official, Fort Bidwell, CA - #35.22.32110.380)

Modoc Forest Response:

The purpose and need of the FEIS is to treat noxious weeds. The Alternatives are analyzed to disclose the effects of treatment methods on Forest resources.

Under the Regional Programmatic Agreement between the California State Historic Officer and the Regional Forester, treatments that consist of soil disturbance of cumulatively 1 cubic meter of soil or less are considered to have no significant effects to cultural resources. Hand pulling and grubbing are consistent with this determination.

Under the Programmatic Agreement a determination of eligibility is not required for this type of undertaking.

Public Concern: The Modoc National Forest should recognize that noxious weeds have a role in the environment.

Use of CDFA definitions in this EIS, opens the door in this to the use of herbicides on Native species that have cultural importance to Native American traditional practices. The CDFA has a history of promoting the use of herbicides to kill tarweeds, or Madia species, that are Native and culturally important plants, as well as other culturally important plants. Many of the other so-called noxious weeds targeted by CDFA happen to be important foods for wildlife. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.6.33210.760)

Modoc Forest Response:

The FEIS uses weed definitions based on Forest Service Manual Direction. FSM 2080.5 - Definitions sections provide for the following: " Noxious Weed. Those plant species designated as noxious weed by the Secretary of Agriculture or by the responsible State official." "Undesirable Plants. Plant species that are classified as undesirable, noxious, harmful, exotic, injurious, or poisonous pursuant to State or Federal laws."

The 14 plant species identified for treatment in the FEIS have been identified in accordance with FSM direction.

Although wildlife may use noxious weeds for both food and cover, Forest Service direction clearly states that "Manage habitats for all existing native and desired non-native plants, fish, and wildlife species in order to maintain at least viable populations of such species." (FSM 2670.12). The Modoc National Forest Plan also follows this direction. These regulations were written to implement the National Forest Management Act (36 CFR 219.3), and is echoed in Executive Order 13,112 (February 3, 1999). The noxious weeds that are selected for control and eradication within the FEIS are not considered "desired non-native plants", and are on the Modoc County and State of California Department of Agriculture noxious weed lists. None of the plants are tarweeds.

Tribal: The Modoc National Forest should adequately address concerns about native plant and seed gathering.

There are comprehensive social and economic data in this DEIS. The data point out Modoc is a very poor county. It also points out that Indians make up about 4.2% of the County's population. There is over 60% unemployment on the reservation. Subsistence hunting and gathering continue to be culturally and economically imperative for the Tribe. We disagree with the statement on page 74 that no minority population is likely to be disproportionately affected by any of the alternatives. (Tribal Agency or Official, Fort Bidwell, CA - #35.20.21200.371)

Modoc Forest Response:

The Forest recognized early in the planning process there was the potential for health effects toward basket weavers and other members of tribal communities. Coordination with California Indian Basketweavers Association is documented in the FEIS under the Public Involvement section. The purpose of this consultation and coordination was to identify and resolve issues which are incorporated in the FEIS.

Health effects to Native basket weavers and plant material collectors have been analyzed in the SERA reports, Human Health Effects, and Environmental Justice sections of the FEIS. Specific to gatherers and weavers, the California Environmental Protection Agency, Department of Pesticide Regulation completed a study, "Residues of Forestry Herbicides in Plants of Interest to Native Americans in California Forests". This report is discussed in the Tribal/Native American effects section, later in this chapter. The report concluded:

"Due to varied environmental conditions, different plant growth stages, and time of herbicide applications, results were highly variable. In general, low residue levels were detected in the roots, shoots, foliage, and berries of plants treated with

granular hexazinone and also in roots of bracken fern treated with glyphosate, triclopyr, or liquid hexazinone. Although levels were low, residues persisted in many of the sampled media, with glyphosate remaining detectable in bracken fern roots at 67 weeks post-application, the last sampling period for that plant-herbicide combination."

Furthermore, the "Tribal/Native American effects section below, reported that, "Also gatherers sampling shoots, foliage, and berries in glyphosate, triclopyr, or liquid hexazinone treatment areas may be exposed to herbicide. The highest residue levels were generally observed on application day or 4 weeks following application (second sampling interval) with residues remaining detectable in plant materials for several weeks thereafter… As herbicide residues were found to move off-site to non-treatment areas, plant gatherers and basket weavers may want to select plants beyond the 100-ft. down slope from treated areas for up to 12 weeks following treatment."

Water and Watersheds

Public Concern: The Modoc National Forest should rely on the extensive ground water testing completed by the Modoc County Department of Environmental Health in concluding that past herbicide use has not enter the ground water.

Extensive ground water testing was done in 1988 on small water systems throughout Modoc County. The results indicate that there was no evidence of ground water contamination from herbicides leaching into the water table. Our department supports Alternative 4 because if the herbicide labels are followed correctly there should be minimal or no impact to the environment. (County Agency or Official, Alturas, CA - #23.1.24400.380)

Modoc Forest Response:

The groundwater testing done in 1988 was considered in the analysis. This is documented in the Project File.

Public Concern: The Modoc National Forest should clarify water quality objectives and the effects the Alternative treatments would have on meeting those objectives.

1.a. On p. 41, the DEIS discusses water quality objectives for pesticides contained in Water Quality Control Plans (Basin Plans) for the Regional Water Quality Control Boards with jurisdiction over the project (the Central Valley Regional Board, North Coast Regional Board, and Lahontan Regional Board). The DEIS acknowledges the Lahontan Regional Board's water quality objective for pesticides (referred to herein below as the "Lahontan Region non-detect pesticides objective"), which prohibits pesticides in state waters and bottom sediments at concentrations exceeding the lowest available detection levels. b. The DEIS considers potential water quality effects in detail beginning on p. 87, and concludes on p. 88 " . . . it is unlikely that either Alternative 2 or 4 [the two alternatives involving pesticide use] would introduce pesticides into either the North/South Fork of the Pit River or Klamath River that are in excess [of] public standards for waters that are used as municipal supply. Therefore, it has been determined that Alternatives 2 and 4 would meet state and federal water quality objectives." c. The conclusion quoted in Comment 1.b above, that Alternatives 2 and 4 would meet state water quality objectives, considers only Basin Plan objectives for

pesticides for the Central Valley Region and North Coast Region. The conclusion fails to consider the Lahontan Region non-detect pesticides objective, and whether the project will lead to violations of that objective. (State Agency or Official, South Lake Tahoe, CA - #30.3.10500.246).

d. Lahontan Regional Board staff has reviewed data and information from a number of sources (see partial list of references, attached) indicating that herbicides applied in a forest setting often migrate to surface or ground waters where they may exceed detection limits. In our opinion, therefore, the project has significant potential to lead to exceedances of the Lahontan Region non-detect pesticides objective. The available data are fairly limited in scope, and deal with a limited number of herbicides but our analysis suggests that hexazinone and triclopyr frequently migrate to surface waters (glyphosate is less likely to lead to contamination). Due to limited available data, the potential for other herbicides to lead to violations of the objective has not yet been established. (State Agency or Official, South Lake Tahoe, CA - #30.4.13100.210)

f. Based on the information in Comments 1.a through 1.d above, the DEIS should be revised to disclose that there is significant potential for exceedances of the Lahontan Region non-detect pesticides objective. (State Agency or Official, South Lake Tahoe, CA - #30.5.10500.180)

Modoc Forest Response:

The Forest recognizes that each regional water board has developed water-quality objectives, as disclosed in their basin water quality plans. Project Design Standards 18-a and 19-a, found in table 3-13, were specifically designed to meet the Lahontan Regional Water Board's zero-detect standard for pesticides, as disclosed in its Basin Water Quality Plan.

The effects the Alternative treatments would have on meeting state and federal water-quality objectives are discussed in Chapter 3, Soils and Water, Effects to Water Resources.

With the application of the identified Project Design Standards in the FEIS, it is unlikely that project-level activities related to herbicide application would result in exceeding the standards of the Basin Water Quality Plans for the three regional water boards. As described in Appendix H, Monitoring Plan, water quality monitoring will be conducted to insure water quality objectives are met.

Public Concern: The Modoc National Forest should insure that that the dangers to water quality and groundwater in the project area are fully disclosed.

The dangers to water quality and ground water in the project area from Alternatives 2 and 4 and thus human and ecosystem health, are potentially great yet barely discussed in the DEIS. This is a failure to disclose, a violation of the public trust, a failure to take a hard look at impact, and a failure to admit uncertainty and scientific controversy. This is unacceptable in municipal watersheds and endangered species habitat for fish and renders the proposed and preferred alternatives illegal. (Preservation/Conservation Organization, Somes Bar, CA - #40.51.24000.210) Until these issues are addressed the Modoc Forest will not meet the purpose and need of this project. (Preservation/Conservation Organization, Somes Bar, CA - #40.56.20000.210).

Modoc Forest Response:

The Project Design Standards listed in tables 3-11, 3-12, and 3-13 were developed to minimize impacts to soil quality, surface waters, and groundwater resources. Project Design Standard 37 specifies that herbicide applicators follow directions on the pesticide labels. These labels contain application requirements approved by the U.S. E.P.A. Following these directions will ensure minimum risk to public health and safety.

Public Concern: The Modoc National Forest should manage invasive plant species at the 5th or 4th field watershed level.

To achieve effectiveness, all Programs/Projects must include a strategy that includes the management and evaluation of all of the invasive plant species at the present in 5th or 4th Field the watershed level, which may include more than one planning unit and managing agencies jurisdiction. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.9.21100.240)

Modoc Forest Response:

During the analysis of the potential effects to water quality, it was determined that the appropriate scale to evaluate the effects to water quality would be at the 6th Field HUC Sub-watershed level.

Public Concern: The Modoc National Forest should clearly articulate that herbicides will be sprayed within 10 feet of open running waters.

The DEIS is misleading and unacceptable. An example is "Fish eating animals such as bald eagle and osprey are not expected to be effected by potential contamination to fish, due to the use of the riparian approved glyphosate near 100 feet of water with a 10 foot no spray buffer next to any water body." The EIS needs to clearly articulate that herbicides will be sprayed within 10 feet of open running waters, which is unacceptable to us. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.30.21000.240)

Modoc Forest Response:

As specified in the Project Design Standards in the FEIS, herbicides would be applied within 10 feet of flowing water only under Alternative 6. Under Alternative 6, the only herbicide that would be applied within 10 feet of flowing water would be aquatic glyphosate. In the areas under the Lahontan Water Quality Control Board jurisdiction (see Figure 3-2), with Alternative 6 no herbicide treatment will occur from the high-water mark for a distance of 10 feet. From a distance of 10 to 100 feet from the high-water mark, only aquatic glyphosate will be used. At a distance greater than 100 feet from the high-water mark, the other herbicides shown in the Alternative may be applied.

Public Concern: The Modoc National Forest should summarize information which is cited or tiered to Appendix H.

Appendix H contains a reference for a document entitled "A review and assessment of the results of water monitoring for herbicide residues for the years 1991 through 1999." A summary of this document, including monitoring data, should be included in the Final EIS

and integrated into the analysis, comparing monitoring sites to the geography of this project. Discuss how this data relates to conclusions drawn regarding significance of impacts and likelihood of exceeding the water quality standards and objectives mentioned. (Federal Agency or Official, San Francisco, CA - #19.15.31100.240)

Modoc Forest Response:

The results of the water monitoring for 1991 through 1999 are discussed under Region 5 monitoring section under Soils and Water in Chapter 3 of the FEIS.

Public Concern: The Modoc National Forest should insure the FEIS and ROD make a commitment to fully implement the included BMPs.

EPA commends the Forest Service for including BMPs in this project that are designed to comply with the Clean Water Act (Appendix D). Since Federal pesticide labels do not account for impairment of designated uses of a particular water body as a result of use, following these instructions alone may not ensure compliance with the Clean Water Act. We recommend the Forest Service make a commitment to fully implement the BMPs and to include them in the Final EIS and the Record of Decision. (Federal Agency or Official, San Francisco, CA - #19.20.31120.380)

Modoc Forest Response:

We concur. BMPs will be fully implemented.

Public Concern: The Modoc National Forest should protect specific watersheds from the use of herbicides.

The DEIS states that the Fort Bidwell Tribe is currently not using herbicides on the Reservation and expressed concern about the use of herbicides within the subwatershed associated with the Reservation (p. 85). The subwatershed boundaries are not identified in the DEIS, however, according to the fold-out project map and the site-specific proposed treatments list in Appendix B, the weed locations in the four Town and Range coordinates near Fort Bidwell Reservation (T46N R16E, T46N R15E, T47N R16E, and T47N R15E) all correspond with weed treatment sites that are either listed as physical only or physical and/or chemical for the preferred alternative. Recommendation: Illustrate the boundaries of the subwatershed associated with the Fort Bidwell Reservation in the Final EIS and assess the practicability of using non-chemical treatments on weed sites within this subwatershed. (Federal Agency or Official, San Francisco, CA - #19.24.31100.380)

...to fully perserve the following streams: washington, Hulbert, Juniper, Willow, Ash, Dutch Flat, Johnson, Rush, Boles, Fletcher, Dayden, Honey, Twenty-mile, Twelve-mile. (Individual, Minneapolis, MN - #24.3.31120.244)

Modoc Forest Response:

The project record includes a sub-watershed map delineating the drainage that contributes to the Fort Bidwell Indian Reservation public water supply. This area is not identified as a municipal watershed, and has no limiting soil characteristics. However, the Modoc NF has entered into an agreement with the Ft. Bidwell Reservation Tribal Council not to use herbicides in treating known noxious-weed

infestations within the sub-watershed of concern. Further consultation would occur to identify suitable treatment methods for this area of concern.

Public Concern: The Modoc National Forest should insure proper management practices are instituted to protect water quality.

We support the objective of eradicating and controlling noxious weeds. We recognize that noxious and invasive plant species may significantly impair water quality and that substantial water quality benefits may result from weed control efforts. (State Agency or Official, South Lake Tahoe, CA - #30.1.33100.246)

Herbicides are often an effective and efficient means of controlling weeds, but may impair water quality unless suitable management practices are instituted. (State Agency or Official, South Lake Tahoe, CA - #30.2.33210.246)

Modoc Forest Response:

The suitable management practices are identified in the FEIS as Project Design Standards, which include the site-specific application of Best Management Practices (BMPs). In 2001, the identified BMPs were certified by the State of California and approved by the US EPA as effective land management practices in meeting state and federal water quality objectives.

Public Concern: The Modoc National Forest should address the potential for ground water contamination in areas with shallow ground water and associated mitigation.

7.a. The DEIS notes (p. 88) that there are three infested areas where soils exhibit rapid permeability and/or soils are excessively drained. Application of water soluble herbicides to these areas "could potentially adversely affect water quality by impacting the ground water table or adjacent wet areas." The DEIS specifies that herbicide treatments in these areas would be limited to glyphosate.b.Areas with shallow ground water may also be subject to ground water contamination. (Pp. 246-247 note that several of the proposed herbicides are highly mobile in soil.) The DEIS should address the potential for ground water contamination in areas with shallow ground water, and prescribe requirements to prevent contamination in such areas. (State Agency or Official, South Lake Tahoe, CA - #30.12.31100.243)

Modoc Forest Response:

Based on new information determined following the release of the DEIS, the portion of the document referring to sensitive and shallow soils has been modified. Project Design Standards DS-22 through 24 would be applied. Based on recent research conducted at Pacific Southwest Research Station in Redding, California, it was determined that the application of glyphosate to sensitive and shallow soils would allow for the treatment of noxious weeds and provide a desired level of protection to not only the soil resource, but also the groundwater resource.

Public Concern: The Modoc National Forest should discuss the use of herbicides that absorb to soil particles, in relation to intense rain events.

The DEIS limits herbicide use to glyphosate on permeable soils, but there is no discussion of the use of herbicides that adsorb to soil particles, such as glyphosate, where runoff producing

rain events that discharge sediment (pg 39) which may be contaminated with herbicide residue. Though not very persistent, glyphosate will be used in large amounts during summer months when these particularly short but intense rain events occur. (Public Interest Group/Political Party, Eureka, CA - #33.158.33211.241)

Modoc Forest Response:

See Chapter 3, Soils and Water, Alternative 6 of the FEIS. Glyphosate is the only herbicide proposed for use when spraying within 10 feet of bankfull along stream channels. If glyphosate is carried into a stream by runoff, it would preferentially bind with the soil particles over partitioning into water (SERA 2003b).

Public Concern: The Modoc National Forest should include mitigations for use of triclopyr near intermittent and ephemeral streams.

There is no mitigation proposed for the use of triclopyr BEE near intermittent and ephemeral streams. Triclopyr is moderately persistent and moderately toxic. What's more, triclopyr breaks down to TCP, which exhibits similar toxicity and environmental fate, thus the toxicity of triclopyr is extended considerably with the additional action of TCP. Thus, using this chemical where rainfall events or snow melt could move it off site should be considered in the analysis, but is not. (Public Interest Group/Political Party, Eureka, CA - #33.159.33211.241)

Modoc Forest Response:

For Alternatives 2 and 4, triclopyr would be applied only outside the edge of the Riparian Conservation Areas (RCAs) (Design Standard DS-17). For Alternative 6, Design Standard DS-18a does not allow application of triclopyr within 25 feet of the edge of the high-water mark. (See figure 2-1 in the FEIS). The Environmental Consequences section for Soils and Water describes the impacts from herbicides on the environment.

Public Concern: The Modoc National Forest should allow more time for the public to consider the impacts of herbicides on water and riparian habitat species.

Modoc Forest Response:

The scoping and DEIS comment periods were as required by law. All interested parties were provided the same amount of time to provide comments to the DEIS.

Public Concern: The Modoc National Forest should not use glyphosate, as it contaminates water.

Glyphosate is a broad-spectrum herbicide, and a known water contaminate. (Preservation/Conservation Organization, Somes Bar, CA - #40.23.33211.246)

Modoc Forest Response:

The Forest Service recognizes that glyphosate is highly water soluble. The spray methods used would be targeted spraying or hand application of herbicides to the target plants, thereby minimizing drift directly to surface water. However, if glyphosate is carried into a stream by runoff, it would preferentially bind with the soil particles over partitioning into water (SERA 2003b). Refer to discussions of glyphosate in Chapter 3, Direct and Indirect Effects for Alternatives 2, 4, and 6 for a description of properties and effects of the herbicide.

Public Concern: The Modoc National Forest should consider the cumulative impacts to municipal water supplies and other beneficial uses of water.

The North and South Forks of the Pitt River and the Klamath River are designated as Municipal water supply and in the case of the Pit River thousand or Californians are affected by water quality through the California aqueduct. Both the Klamath River and the Pit River are suffering from enormous cumulative watershed effects from logging, grazing, water diversions, and chemical contamination, which are impacting their beneficial uses. This project will have significant cumulative impacts to the beneficial uses of the Pit and Klamath River. Three separate Water Quality Boards have jurisdiction over the waters in the Modoc forest. None have referenced recommendations of consultations in the DEIS. We are concerned that impacted watersheds are currently going through the TMDL process and many sub watersheds are listed as impaired on non-functioning. We are practically concerned with the effects to nutrients in the rivers water chemistry. We are concern the only mention of mitigation designed to not harm the beneficial uses of the municipal watershed in the project area is use of BMPs. However the BMP and how they will be implemented are unspecified, and BMP are often proven ineffective in the off chance monitoring is done. We are concerned that even in the planning process BMPs, such as BMP 1.8 stream management zone protection, which calls to the identifying of stream management zone and then actions in those zones design to improve riparian areas, are being ignored. (Preservation/Conservation Organization, Somes Bar, CA - #40.48.30310.246)

Modoc Forest Response:

The FEIS contains a discussion of domestic watersheds and domestic water supplies. No formal municipal watersheds or whole communities use water on the Forest. There are, however, domestic water users scattered throughout, or downstream from, the Forest on numerous streams. Sampling in the Pit River near Alturas, California during 2001 to 2005 showed that while glyphosate, triclopyr, 2,4-D, and dicamba were found, none of the samples exceeded the reporting limit.

Chemical treatments proposed in the Alternatives are scattered in small patches across the watersheds, making it unlikely that herbicide concentrations would be additive with similar treatments at the watershed scale. The potential for cumulative effects is negligible due to the implementation of Design Standards that limit direct and indirect effects, the scattered nature of the treatments, and the dilution over time and space by mixing and addition of inflow downstream (Chapter 3, Environmental Consequences, Alternative 2—cumulative effects).

In review of the Central Valley RWB list of Impaired Water Bodies, the Pit River was identified as an Impaired Water Body for Nutrients, Oxygen and Temperatures with the probable cause of Agriculture. The TMDL Priority is considered to be low

based on the Statewide 303d listing. In review of the North Coast RWB 303d list of Impaired Water Bodies, the Klamath River is on the 303d listing for temperature, nutrients and dissolved oxygen. The TMDL is still under development and no order from the RWB concerning TMDLs for the Klamath River has been adopted. It should be noted that by executive direction signed on April 30, 2004 by Celeste Cantu Executive Director of the State Water Resources Control Board identified that " The section 303(d) listing/delisting effort is not designed, intended or able to change existing water quality standards".

No evidence was offered or site-specific information that BMP 1.8 Streamside Management Zone Designation was not being applied. Within Appendix D of the FEIS, the method of implementation of BMP 1.8 was described. In addition, Project Design Criteria was developed to insure that proposed activity within the SMZ was consistent with BMP 1.8 and 1.19. It should be noted that an SMZ is not a zone of exclusion, rather it is a zone where management activities are designed to improve riparian areas and all vegetation work must be done in a manner that will benefit stream health.

Public Concern: The Modoc National Forest should include a complete cumulative watershed effects analysis.

With no Cumulative Effects analysis, no stream surveys and only anecdotal information to go on such as, " Specific conditions of contamination from past Forest Activities, including noxious weed treatment, are unknown, but presumed low?" and "the impacts of this use (chemical use on private land in project area) on downstream water quality are not known", we believe this DEIS does not to constitute the "hard look" necessary in an DEIS for a project with admittedly significant impacts. Furthermore this project is a violation of the public trust, as no scientific information nor surveys were used to prove the project, which uses chemicals with know carcinogenic effects within riparian reserves, in municipal watershed, will not impact water quality and no violated water quality objectives. Not even antidotal information is offered on how water quality objectives will be met. We are also concerned with the chance of a spill into vital clean water system such as what recently occurred on the 1-5 on the Siskiyou Summit in which a 24-D spill contaminated many peoples drinking supply. However this spill only effects a small number of people rather then the thousand that could be affected if a similar spill occurred in the project area or in route. Also a discussion on spraying of roadways due to them being conduant for run off and in many cases located in riparian areas should be in the DEIS. A discussion a private and county chemical use, coupled with each alternatives impacts to waterways should be included in he DEIS and a Cumulative Watershed Effect analysis. This should include specific acreages, stream surveys, CWE modeling and studies and surveys that address current impacts of chemical ad management on waterways. All past, present and reasonably foreseeable impacts need to be addressed in these documents. (Preservation/Conservation Organization, Somes Bar, CA - #40.50.30310.240)

Modoc Forest Response:

A cumulative watershed effects analysis has been completed, and a summary of the findings is included in the FEIS, chapter 3, Soils and Water, Cumulative Watershed Effects. This analysis does not address chemical carcinogenic effects; these effects are included in the Human Health Risk Assessment portion of the FEIS.

Riparian Areas

Public Concern: The Modoc National Forest should clarify distances from the High Water Mark for herbicide application, and demonstrate in the FEIS that water quality will be protected.

The potential for this chemical to leach, runoff and persist in aquatic environments and habitat for TE&S species must be evaluated in the EIS. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.52.13100.341)

The California Department of Fish and Game recommends buffers from herbicides of a minimum of 100 feet along all perennial streams, seeps, and springs and a minimum 50 foot buffer along all intermittent/seasonal streams. Federal courts have ruled that the use of 2,4-D,triclopyr BEE and TEA and dicamba products must be restricted to use outside of 20 yards of streams supporting endangered fish. See: Washington Toxics Coalition et al. v. EPA, Case No. C01-0132C, US District Court, Western District of Washington, Seattle. Jan. 22, 2004. If impacts are severe enough that the products are not safe for endangered fish, they are not likely to be safe for other sensitive species. The DEIS did not weigh this information accurately. The proposed action only provides 10 foot buffers alongside streams. The FEIS should clearly present the planned course of action and demonstrate that no imprudent chemical applications will occur in sensitive, riparian and aquatic habitats. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.56.13100.240)

Modoc Forest Response:

Table 3-14 in the FEIS describes distances from the High Water Mark for each of the herbicides proposed for use for Alternatives 2, 4, and 6.

The effects of each Alternative on water quality are described in detail in Chapter 3 of the FEIS. Tables 3-11 and 3-12 show the Project Design Standards that will protect the soil and water resources.

Public Concern: The Modoc National Forest should address the possibility that headwater streams are more likely to be adversely affected by herbicide contamination.

On page 49 in the DEIS the Forest mentions how weed control at the headwaters of watercourses can have beneficial ecologic effects, yet they fail to mention potential adverse impacts if chemicals enter into the watershed at this point. The amount of water in headwater streams is usually considerably less than it is downstream, thus herbicide contaminants are less diluted and more likely to have adverse impacts. Headwater streams often serve as nursery sites to aquatic organisms, including fish. These factors are not integrated into the analysis, particularly for the effects to intermittent and ephemeral streams. The Forest again fails to provide relevant site-specific information and a balanced analysis of impacts. (Public Interest Group/Political Party, Eureka, CA - #33.181.31120.380)

Modoc Forest Response:

See response to previous concern.

Project Design Standards would apply to all parts of streams, including headwaters. Under Alternatives 2 and 4, no herbicides would be applied within 10 feet of streams, lakes, or other special aquatic features. Under Alternative 6, aquatic glyphosate is the only herbicide proposed for use within 10 feet of stream channels, except in the jurisdictional area of the Lahontan Regional Water Board. In the jurisdictional area of the Lahontan Regional Water Board, there will be no herbicides applied within 10 feet of streams.

Public Concern: The Modoc National Forest should not allow herbicide use within streamside management zones (SMZs)

The use of gyphosate within 10 feet of water is very controversial and dangerous and the 100 ft buffer is arbitrary at best. (Preservation/Conservation Organization, Somes Bar, CA - #40.64.33211.380)

6.a. According to BMP 1.8 (p. 240), a Streamside Management Zone (SMZ) would be designated along riparian areas, streams, and wetlands. Please clarify whether the 10-foot buffer zone established elsewhere in the DEIS (see Project Summary, above) is intended to satisfy this BMP requirement. (State Agency or Official, South Lake Tahoe, CA - #30.10.31120.244)

The Forest states in the DEIS that "riparian invasive weeds could be treated with herbicides up to ten feet of the stream channel" (p.8). For some herbicides in particular, this is too close to be protective and drastically increases the likelihood of direct and indirect impacts of the project on riparian dwelling species (including sensitive amphibian and fish reproduction). The DEIS needs to contain a description of how the decision that ten feet would be adequately protective was reached, that is, to describe on what scientific evidence is that conclusion based? (Public Interest Group/Political Party, Eureka, CA - #33.177.33210.244)

Alternatives 2 and 4 both allow herbicides within 10 feet of riparian areas; despite the labeling on the herbicides this is too close. This is a very dry area, waterways need intense protections and these alternatives put those precious systems at too great a risk. (Tribal Agency or Official, Fort Bidwell, CA - #35.8.21200.371)

Modoc Forest Response:

Please see the glossary for definitions of Streamside Management Zone and Riparian Conservation Area.

Aquatic glyphosate, which is approved by the EPA for use in water, would be used up to 10 feet from the High Water Mark for Alternatives 2 and 4. See the discussion of Design Standards in Chapter 3, Design Standards, of the FEIS. With a distance from the High Water Mark as small as 10 feet, glyphosate was found to be non-detectible.

For Alternative 6, it is proposed to apply aquatic glyphosate up to the High Water Mark for streams and lakes. However, there are less than 15 acres of noxious weed infestations within 10 feet of streams, lakes, springs, and meadows Forest wide. The relatively small infestation, coupled with the targeted application method and the characteristics of glyphosate described in earlier comment responses, would result in minimal effects.

The treatment within the identified SMZs was based on effects analysis. The potential risk to water-quality assessment was based on scientific information

from industry, the EPA, and water-quality monitoring within Region 5 for vegetation manipulation on multiple National Forests, using similar chemicals. Refer to discussions of glyphosate in Chapter 3, Direct and Indirect Effects for Alternatives 2, 4, and 6, for a description of properties and effects of the herbicide.

All Alternatives meet the requirements of the BMPs.

Public Concern: The Modoc National Forest should apply for a waste discharge permit.

The Management Agreement with the regional water board does not contemplate this type of activity. BMPs for spraying on river bars, in water ways, and in other recreational settings would have to be developed and adopted before this agreement could be relied upon. Therefore, the Forest Service must apply for a waste discharge permit. (Preservation/Conservation Organization, Forks of Salmon, CA - #42.23.31100.240)

Modoc Forest Response:

The Forest determined Alternatives 2, 4 and 6 are consistent with BMP 5.12 (Streamside Wet Area Protection During Pesticide Spraying). Since the activities are consistent with BMPs, and there are no plans to spray within river bars and waterways and in other recreational settings, there would not be a need to obtain a waste discharge permit.

The Master Agency Agreement (MAA) is with the State Water Resources Control Board (SWRCB), and not the Regional Water Boards (RWBs). However, part of that agreement is to meet the standards and objectives of the nine RWBs' Basin Water Quality Plans. The intent of BMPs was to meet the requirements of the Clean Water Act, thereby complying with the Basin Water Quality Plans. BMPs in 2001 were certified by the California SWRCB and approved by the US EPA as appropriate land-management practices in meeting the requirement of the Clean Water Act. Since the Basin Water Quality Plans for the three Regional Water Boards would be met and the project is consistent with the MAA, there is not a need to obtain a waste discharge permit.

Wildlife and Fish

Public Concern: The Modoc National Forest should provide analysis supporting the effect on terrestrial wildlife species.

There is a May effect individuals, but not a likelihood of causing a loss of viability or result in a trend toward federal listing determination for Northern Goshawk, Spotted Owl, Sage Grouse, Sandhill Crane, Swainson's Hawk, Great Grey Owl, California Spotted Owl, Willow Flycatcher, American Marten, California Big Horned Sheep, California Wolverine, Pallid Bat, Sierra Nevada red-fox, and Townsend's big eared bat. There is a May effect determination for bald eagle and an admitted risk to Management Indicator Species. These determinations are not supported by any analysis, no methodology is mentioned and the DEIS admits no surveys were done. However many reports and studies show that some animals are

disproportionably effected by pesticides, such as bird species (of which six of the above species are), and grazing animals. This is especially true when chemicals are combined in one area. We also wonder if inert ingredients were considered in this determination. (Preservation/Conservation Organization, Somes Bar, CA - #40.59.32100.210)

Analysis of impacts on wildlife is inadequate. This is an area we would like to have additional time to investigate further. (Tribal Agency or Official, Burney, CA - #34.11.13100.350)

Inadequate Documentation of Effects to Wildlife from Noxious Weeds. The DEIS makes certain claims about the impact to wildlife from noxious weed presence that suggest a dire emergency. Some documentation has been cited regarding general harmful impacts, but none of the literature or studies cited demonstrate long-term harmful impacts and none are specific to the plants of concern in the Modoc NF. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.30.23100.210)

Modoc Forest Response:

Based on public comment, Chapter 3 of the FEIS the wildlife section has been expanded to address the concerns listed above, but is still summarized from the various specialist reports. The full effects analyses for each terrestrial TES and MIS species are found in the Biological Assessment, Biological Evaluation, and the MIS report; all of these documents can be found in the Appendix Volume for this FEIS.

Public Concern: The Modoc National Forest should provide analysis supporting the effect on terrestrial wildlife species in view of inadequate wildlife surveys.

Surveys have not been conducted in proposed treatment areas. Says surveyed will be conducted before specific treatments done. Therefore not applicable to NEPA unless there is an SIR and not looked at cumulative nor is important management information even going to be addressed. Also this means timing if surveys will be off. (Preservation/Conservation Organization, Somes Bar, CA - #40.58.30300.210)

Modoc Forest Response:

It is unclear what is meant by “SIR”; there are different documents that utilize this acronym. Surveys for wildlife will be conducted annually as dictated by Project Design Standards (Table 2-4 of FEIS) as well as on page 5 of the Biological Assessment; the statements about surveys are as follows.

With respect to wildlife habitat, several approaches were used to analyze the potential effects to the various species. Historical occupancy information from corporate and District files provided the basis for determining “occupied” habitat. A second set of GIS queries was employed to determine “potential” habitat. Weed occurrence data was then overlayed with both occupied and potential habitat to determine the extent of the potential effects to federally listed, Forest Service sensitive and Management Indicator Species.

In addition, the project design for eradication of specific noxious weed occurrences will mitigate or avoid impacts to federally listed species and their habitats.” These surveys will be conducted utilizing the specifications prescribed in protocols for various species outlined in U.S. Forest Service, Region 5 direction.

In the areas that are planned for treatment where we have currently active territories, we will make sure that activities will not disturb federally listed, Forest Service sensitive, and management indicator species (see Design Standard DS-10 in Table 2-4 of the FEIS). Areas that have no survey information will be surveyed to the appropriate protocol to determine occupancy. Inherent in these protocols is the appropriate timing and number of visits to determine occupancy. If the areas are occupied, then appropriate mitigations will be followed including the use of Limited Operating Periods.

Public Concern: The Modoc National Forest should provide analysis supporting potential effects on pallid bats.

Insectivorous MIS species are said to potentially affected, as are pallid bats, then killing these species is justified by the small acres to be treated. 8,676 acres is my no explanation a small impact. Furthermore case law states assuming MIS effects without any surveys illegal. MIS species are a surrogate for the health of all species on the forest and cannot be written off in such an arbitrary manner. (Preservation/Conservation Organization, Somes Bar, CA - #40.65.32130.381)

Modoc Forest Response:

The BE has been expanded to account for potential herbicide effects. The Biological Evaluation and the FEIS state that pallid bats may forage up to 3 miles from their roost sites and that they forage 1 ½ feet to 8 feet above the ground; nevertheless, they will glean prey from the ground (Zeiner et al. 1990). However, Pallid bats would have a potential risk of both direct contact with herbicides and ingestion of contaminated insects at three sites. These sites are larger infestations and therefore a large part of the potential foraging area could receive herbicide treatment. This is described in detail in the wildlife section of Chapter 3 of the FEIS and in the BE. Since weed sites to be treated are small (mostly less than ¼ acre) scattered throughout 1.6 million acres, and these patches are often not homogenous patches of weeds, it is not likely that a species that forages over hundreds of acres, often above the weed canopy would consume 100% of its diet in contaminated insects. Therefore, a determination has been made that spraying of the larger sites may impact individuals, but is not likely to cause a trend toward listing.

Public Concern: The Modoc National Forest should correctly reflect the impacts of glyphosate on fish species.

the DEIS reports data that is contradicted by the data in the SERA report. In the DEIS, glyphosate is described as "slightly toxic" to fish and other aquatic organisms (p. 269). The LC50 for Rodeo and Accord for "fish" is given as >1,000 ppm. The "source" for this data is listed as "Table 2" but no such table exists. We could not find any data that corresponds to this figure. The LC50 for glyphosate is as low as 10 ppm for sensitive species like salmonids. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.49.21200.380)

Modoc Forest Response:

“Table 2” in the Herbicide Fact Sheet for glyphosate was mislabeled. Instead of referring to Table 2, the reference should have read as Table E-7, which was published on pages 272 and 273 of the DEIS. The Herbicide Fact Sheet was

prepared under contract for the US Forest Service by Information Ventures Inc. The commenter is correct; the LC50 for glyphosate is as low as 10 ppm for sensitive species (SERA 2003). The impacts of herbicides on fish species are disclosed in the Wildlife and Fish Section in Chapter 3 of the FEIS.

Public Concern: The Modoc National Forest should address impacts of noxious weed removal on the disturbance to raptors.

The DEIS states that Bald Eagles are easily disturbed at or near their nesting sites, that there are noxious weeds locations near Bald Eagle nesting sites but that they will not be disturbed by treating the areas. It cannot be both. There is a contradiction here. Will Bald Eagles be disturbed if alternative 2, 3 or 4 goes into affect? (Tribal Agency or Official, Fort Bidwell, CA - #35.21.70000.813)

It is stated that Riparian Conservation Area will provide for viability of terrestrial TES, golden Eagles and Osprey, yet elsewhere in the document it stated they need large buffer zones, no survey are completed, and you are planning to spray in these areas. Many weeds are decades old and their need to native birds beetles butterflies and small mammals need to be addressed. How will they be replaced? (Preservation/Conservation Organization, Somes Bar, CA - #40.66.32100.381)

Modoc Forest Response:

Modoc National Forest direction will be used for all wildlife species. In Table 2-4 of the FEIS and in the Biological Assessment, it states that Limited Operating Periods (LOP) will be established around actively nesting pairs of bald eagles. Limited Operating Periods for other raptors, such as golden eagle and osprey, will also be followed as per the direction in the project Design Standards listed in Table 2-4 of the FEIS. These LOPs are designed so that no management activities will occur until after young raptors have fledged, thereby mitigating potential effects from disturbance that would be caused by management activities. In order to protect these species, annual surveys are prescribed in the FEIS.

With respect to bald eagles, ongoing consultation between US Forest Service and US Fish and Wildlife Service is detailed in the Biological Assessment on pages 2 and 3. This consultation is part of the annual work plan process (DS-01 in Table 2-4 of the FEIS).

Public Concern: The Modoc National Forest should address impacts of noxious weed removal on wildlife species particularly on the food and cover value of the noxious weeds.

The DEIS did include partial documentation of the general ways that noxious weeds are known to alter habitat. But there is no specific evidence and documentation in the DEIS of this impact in regards to the 15 plant species. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.33.13100.300)

This issue [noxious weeds becoming food sources for native wildlife] is also significant because the health of the entire food web is dependent upon the continuing health of small mammals. The northern spotted owl, goshawk, fisher, marten and other rare or threatened predatory species are harmed when the food base for native species is depleted. These types of impacts-indirect and cumulative--must be considered, analyzed, and appropriate

mitigations designed. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.35.13100.300)

The DEIS also does not include studies that show the food value and the role in the ecology of native wildlife of the 15 species targeted. This is a significant issue, because in many areas, where native plants have been reduced or completely eliminated, non-native species are now fulfilling a need for wildlife. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.34.13100.350)

Modoc Forest Response:

To date there are no weed occurrences so large that wildlife do not have Alternative native plants that they can forage on. Eighty-nine percent of the weed occurrences are .10 acre or less, and most have native plant species within that matrix. Therefore, removal of weeds will enhance the native plants that these animals have evolved with. There are several papers that indicate this conclusion is valid. Researchers have shown that wildlife benefit from removing noxious weeds from the native plant communities by increasing the quality and quantity of forage as well as the value of carrying capacity (Bedunah and Carpenter 1989, Trammel and Butler 1995, Lavelle 1986, Guenther 1989, Thompson 1996, and Rice et al. 1997.) See pages 103 and 104 of the DEIS.

There are instances of animals successfully utilizing noxious weeds for forage and cover. Owen and Sogge (2002) found there was no evidence that southwestern willow flycatchers in their study area did not exhibit poorer nutritional condition or were suffering any negative physiological effects to nesting and foraging in tamarisk, even though this exotic plant usually supports a smaller and less diverse insect prey base for flycatchers. Other research indicates that noxious weeds have a significant impact on native wildlife. Schmidt and Whelan (1999) documented increased nest predation on American robins, who nested in Lonicera and Rhamnus. Ortega, Pearson, and McKelvey (2004) state that knapweed invasions reduce potential native food sources for deer mice leading to decreased indices of breeding productivity these animals. See the Center for Invasive Plant Management website for a additional information. (www.weedcenter.org/inv_plant_info/impact_bibliog.htm.

Although wildlife may use noxious weeds for both food and cover, Forest Service direction clearly states that "Manage habitats for all existing native and desired non-native plants, fish, and wildlife species in order to maintain at least viable populations of such species." (FSM 2670.12). The Modoc National Forest Plan also follows this direction. These regulations were written to implement the National Forest Management Act (36 CFR 219.3), and is echoed in Executive Order 13,112 (February 3, 1999). The noxious weeds that are selected for control and eradication within the FEIS are not considered "desired non-native plants", and are on the Modoc County and State of California Department of Agriculture noxious weed lists.

Public Concern: The Modoc National Forest should consider a recent injunction related to salmonids on 2,4-D, triclopyr, and dicamba.

Moreover, a recent federal judge ordered an injunction on the use of 2,4-D, triclopyr, and dicamba, three of the six herbicides proposed for use, in areas where endangered salmonids occur. See: Washington Toxics Coalition et al. v. EPA, Case No. C01-0132C, US District

Court, Western District of Washington, Seattle. While none of the endangered or threatened salmonids listed in the injunction occur in the Modoc NF, it is prudent to incorporate the same precautionary measures, since the Modoc NF is home to three Federally listed endangered fish (the Shortnose sucker, Lost River sucker, and Modoc sucker), one federally listed threatened fish (the Warner sucker), the Federally listed endangered Shasta crayfish, and 11 Forest Service listed "sensitive" fish and amphibian species. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.45.13100.341)

Modoc Forest Response:

The effects analysis for each aquatic threatened, endangered, and sensitive species is found in the Biological Assessment and Biological Evaluation. These documents can be found in the project files for this FEIS.

Public Concern: The Modoc National Forest should address how the lack of information as cited in the Modoc National Forest 2003 monitoring affects analyses for sensitive species.

The Monitoring and Evaluation Report FY 2003 for the Modoc NF shows that trends are unknown and inventories have not been conducted for a number of sensitive species, as required by the forest plan. The Modoc NF cannot accurately assess the impacts of proposed projects that potentially impact rare wildlife when the agency does not have accurate and up to date information concerning their status. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.55.13100.340)

Modoc Forest Response:

Inventories are not complete on all 1.6 million acres of the Forest for the twenty-one sensitive plant species. Additionally, inventories are only good for a period of five years. This situation is addressed in the Design Criteria, where annual work plans will be developed, and surveys for sensitive plants species will take place at those sites that will be treated that year, pre-implementation.

Forest Plan monitoring for wildlife was to be a combination of habitat and animal surveys, depending on the species. The surveys for mule deer, pronghorn, and sage grouse are carried out by the California Department of Fish and Game and US Fish and Wildlife Service. Most of the species that require "surveys" are surveyed during the planning phase ("project induced"), as per Forest Plan direction on pages 5-16 to 5-20. The exceptions to this are mallard, Canada goose, and sandhill crane. Pre-project surveys as per Design Criteria will help ameliorate this shortfall. Forest Plan direction dictates that surveys for habitat are conducted to "insure quantity and quality of the habitat maintain viable populations."

Public Concern: The Modoc National Forest should provide documentation of consultation with the Fish and Wildlife Service including appropriate information on recovery plans.

We recommend the Final EIS include a description of the Section 7 Endangered Species Act consultation with the USFWS and, at a minimum, the biological assessment/biological evaluation prepared for this consultation. If the USFWS has issued a Biological Opinion for the project, it should be included as an appendix to the Final EIS. (Federal Agency or Official, San Francisco, CA - #19.28.32110.380)

Yet no buffers are given and no agencies have been consulted nor are critical habitat or recovery plans even mentioned. [For bald eagle nests] (Preservation/Conservation Organization, Somes Bar, CA - #40.69.32110.001)

The DEIS fails to disclose if this [4 weed occurrences] is NSO [Northern Spotted Owl] critical habitat. (Preservation/Conservation Organization, Somes Bar, CA - #40.70.32110.001)

Modoc Forest Response:

Ongoing consultation between US Forest Service and US Fish and Wildlife Service is detailed in the Biological Assessment on pages 2 and 3, which is located in the project record for the FEIS. There was no Biological Opinion for this project, but the Fish and Wildlife Service has provided a letter of concurrence.

Direction from the various recovery plans is cited in Biological Assessment on page 3. Buffers for Limited Operating Periods are stated in the Project Design Standards in Table 2-4 in Chapter 2 of the FEIS.

The Northern Spotted Owl has a recovery plan, however, there is no critical habitat identified on the Modoc National Forest as per Federal Register, Wednesday 15, 1992, Rules and Regulations, Volume 57, Number 10. The Managed Late Successional Area (MLSA) as well as ongoing consultation with USFWS provides protection for northern spotted owl and its habitat in the Medicine Lake Highlands. Currently, there is only one occurrence of squarrose knapweed scheduled for treatment within northern spotted owl habitat; this occurrence will be removed by hand.

Public Concern: The Modoc National Forest should provide habitat for wildlife.

My suggest that the habitats of the following species be fully preserved: bald eagle, northern spotted owl, northern goshawk, Swain's hawk, sage growse, greater sandhill crane, great gray owl, California spotted owl, willow flycatcher, palid bat, Townsend's big eared bat, Californa wolverine, American marten, Sierra Nevada red fox, Californ bighorne sheep, golden eagle, prarie falcon, Warnner sucker, Shasta Crayfish, cowhead lake chub, shortnosed sucker, lost river suckere, Modoc sucker, blended orrcutt grass, mountain ladies slipper (Individual, Minneapolis, MN - #24.2.32000.340)

Modoc Forest Response:

The Modoc National Forest Land Management Plan provides guidance to ensure habitat for all wildlife species is maintained. The Weed FEIS incorporates these standards and guidelines.

Public Concern: The Modoc National Forest should analyze the effects of herbicides on animals.

Triclopyr, hexazinone, gyphosate, and 2,4-D have all been shown in studies to be toxic, even in low concentrations to amphibians, salmonids, and even mammals (Wan et al 1987, Wan et al 1988, Berrill et al 1993, Johansen and Geen 1990, Hietanen et al 1983, Mann and Bidwell 1999). The Forest must include all scientific information for adequate analysis of the proposed project. (Public Interest Group/Political Party, Eureka, CA - #33.197.13000.381)

Also on page 30, Table 2-3 states that all four alternatives would have the same impacts on each of the following: threatened, endangered, and sensitive (TE&S) plants; TE&S terrestrial and aquatic wildlife; and management indicator species (MIS) terrestrial and aquatic wildlife. Pesticides are inherently risky and will have impacts. These must be accounted for. This information is misleading and based on dangerous assumptions in a blatant attempt to sway the decision making process. We would like to see peer reviewed studies (or at least references to them) backing these assumptions before toxic chemicals are irreversibly introduced into the environment. (Public Interest Group/Political Party, Eureka, CA - #33.57.32000.380)

Modoc Forest Response:

The effects analyses have been conducted using the best available peer-reviewed science, as disclosed in Chapter 4 of the DEIS. Public comments and additional scientific literature are used in the FEIS. Based on the small size of the potential treatment areas in relation to the occupied and potential habitat of each terrestrial wildlife species, the potential risk to any given wildlife species is relatively small except for sage grouse. The Forest Supervisor decided to include a new Design Standard (DS-12a) to protect sage grouse, based on the analysis contained in the Biological Evaluation. The effects of herbicides on wildlife are disclosed in the FEIS, as well as the supporting wildlife specialist reports.

There is a risk from 2,4-D to small mammals, but it is important to note that the risk scenarios involve either 100% absorption of the chemical through direct contact, or significant ingestion of contaminated insects. This would be unlikely in the majority of treatment areas for the following reasons: 1) the use of directed spray and wick applications, 2) the limited number of acres proposed for treatment, and 3) the small size of the majority of occurrences. The conditions for the study conducted by Heitanen et al. (1983) consist of laboratory dosing designed to identify toxic responses by animals to herbicides.

Public Concern: The Modoc National Forest should specifically address the effects of glyphosate and dicamba on wildlife.

The effect of herbicides on bird and their great effect in their decline are well documented yet ignore in this analysis. Most of the chemicals proposed have been found be very harmful to bird species. For instance Glyphosate treatments in forest have reduced the nesting success of songbird and treatment with Rodeo has reduced populations of Marsh wren and Sora. Exposure of Mallard eggs to dicamba has been shown to cause stunted growth in embryos and well as eye malformations. Dicamba has been found to contaminate ground and surface water; therefore it is extra dangerous to waterfowl such as Sandhill cranes, one of which is located within drift distance (Dicamba evaporates at 85 degrees). (Preservation/Conservation Organization, Somes Bar, CA - #40.61.33210.381)

Modoc Forest Response:

Chapter 3 of the FEIS analyzed the effects of using herbicides, including use of glyphosate and dicamba, on avian wildlife populations. The papers by Santillo, Brown and Leslie (1989) and Linz, Blixt, Bergman, and Bleier (1996) show that the alteration and simplification of songbird habitat caused the impacts to the bird species. Our proposed treatment methods are very different. Our methods focus on targeted areas, and will maintain native vegetation on-site.

Project Design Standards, as disclosed in Table 2-2 of Chapter 2, were developed to mitigate the potential effect to ground and surface waters from the effects of utilizing herbicide applications, including the potential risk of aerial drift.

Public Concern: The Modoc National Forest should specifically address the effects of 2.4-D on wildlife.

Most of the TES and Management Indictor species on the forest are bird and sage grouse, willow flycatchers, Sand Hill Crane have a herbivores and have occurrences very close to areas to be treated yet 2,4-D has been shown to lower hatching success, cause blood cells to quit dividing, hurt chick survival rate, and cause genitalia deformities, and reduce growth. (Preservation/Conservation Organization, Somes Bar, CA - #40.43.33211.340)

Impacts of 2,4-D in the environment are equally disturbing. It is extremely toxic to fish, especially salmon which are impaired on the Klamath River, and birds even a very low doses. (Preservation/Conservation Organization, Somes Bar, CA - #40.42.33211.381)

2,4D is also synergistic with other pesticides and is way more toxic when used with other pesticides, as is planned in this project. 2,4D is a known toxin to amphibians, which are acutely affected by chemical and are not also associated with water; therefore they are likely to be exposed. 2,4D is also toxic to earthworm, thus soil productivity, small mammals, which are prey to martens, and grazing animals, such as antelope and the all important animal for the Modoc National Forest, the cow. (Preservation/Conservation Organization, Somes Bar, CA - #40.45.33211.381)

Modoc Forest Response:

Chemicals can affect animals, depending on the concentrations to which they are exposed. The effects of 2,4-D on wildlife (sage grouse, willow flycatcher, and greater sandhill crane) are disclosed in the FEIS as well as the supporting wildlife specialist reports.

According to the SERA worksheets, the greatest potential risk to small mammals from 2,4-D is the ingestion of contaminated insects. There is also a risk from direct contact with 2,4-D for small mammals, but it is important to note that the risk scenario involves 100% absorption of the chemical. While it is true that 2, 4-D can cause neurotoxicity and some degenerative changes to various organs in small mammals, both scenarios would be unlikely in the majority of treatment areas for the following reasons: 1) the use of directed spray and wick applications, 2) the limited number of acres proposed for treatment, and 3) the small size of the majority of weed occurrences.

Public Concern: The Modoc National Forest should consider the effects of direct herbicide contact on wildlife.

Personal experience if birds fleeing areas due to human impact is used as a reason bird will not be affected by this action. First that means they will have to shift ranges, which is not disclosed, Where they are to go is also not disclosed. Furthermore it is admitted that hexidone and 2,4-D have high risk of poisoning and we would argue that dicamba also would. Small animals are said to be protect by overhead canopy, which is unscientific and preposterous. Hexidone effects on animals are admitted to be limited and conflicting, which constitutes

uncertainty and controversy. (Preservation/Conservation Organization, Somes Bar, CA - #40.63.13100.381)

Modoc Forest Response:

The DEIS on page 111 states that "First, it is unlikely that mammals would come into direct contact with herbicides due to their secretive natures and their use of cover (Sullivan 1990)." This statement comes from a scientific paper found in the Journal of Wildlife Management, which is a peer-reviewed journal.

The "Fight or Flight" response is well documented in both scientific and popular literature. With the exception of some invertebrates, most terrestrial vertebrate animals flush when people approach. It is the main driving force behind the Limited Operating Periods that are a framework to animal protection measures in large scale and project level planning.

Most of the weed occurrences are in small patches that are under 0.1 of an acre and are not homogenous. Directed spray and wicking plants, while avoiding nests (which will be a service contract design criteria), should minimize direct effects.

Hexazinone is no longer being proposed for use within this FEIS. See the response to comments above for 2,4-D and dicamba.

The terrestrial wildlife reports include an analysis of Management Indicator Species. According to the Modoc Forest Plan, maintaining viable populations of Management Indicator Species would enable the Forest to maintain viable populations of *all* existing native and desired non-native vertebrate species within the planning area (Forest Plan, p. 4-25).

Public Concern: The Modoc National Forest should address the impacts of the proposed actions on the Greater Sandhill crane territories.

58 Greater Sand Hill crane territories Forest Wide (Migratory Bird TREATY ACT) A 210 acre buffer was around each territory to determine acreage of occupied habitat utilizing WHR data layer for the Forest p 57 .1 mile is given as distance from nest to weed occurrences there water that chemicals could drift of spill into? (Preservation/Conservation Organization, Somes Bar, CA - #40.71.32110.381)

Modoc Forest Response:

The 210 acre buffer was utilized to determine potential effects of physical and chemical treatments to sandhill cranes. This information is explained in the Biological Evaluation. The majority of the sandhill crane nests found on the Modoc National Forest are within the emergent vegetation, muskrat house or on duck nesting islands within the wetted edge of reservoirs and lakes (George Studinski, personal communication); these areas are not proposed for treatment under the FEIS.

Public Concern: The Modoc National Forest should better address the effects on animal species associated with water.

The DEIS inadequately assess the affects of the preferred alterative on various species including fish, macro-invertebrates, amphibians and others. Amphibians are extremely

susceptible to herbicides due to their permeable skin membranes. There arc a number of potential candidate amphibians for ESA listing. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.24.32000.210)

We are very concerned there is virtually no discussion of amphibians, aquatic species, arthropods, and many other import species in the DEIS. Amphibians especially are affected by chemical and are declining faster then almost any other species. It is neglect to not address amphibians or the controversy around chemical effects to them. Lastly we are very concerned with wetland and aquatic species, such as the sandhill crane, suckers, and salmon from inert and active chemical ingredients. We are concerned with the lack of disclosures of the effect to these and other species from surfactants. (Preservation/Conservation Organization, Somes Bar, CA - #40.68.33210.381)

Page 36 of the DEIS mentions that "many creeks flow from the Warner Mountain Range into the North and South Forks of the Pit River, an important tributary to the Sacramento River." The Forest is planning on using several herbicides, including glyphosate, that have been shown to have a detrimental impact on aquatic organisms near water sources. The Pit River watershed is home to several rare, endangered, threatened, and sensitive aquatic species and the Sacramento River is known the have runs of endangered and threatened Chinook salmon. (Public Interest Group/Political Party, Eureka, CA - #33.180.32110.381)

Modoc Forest Response:

The full effects analyses for each terrestrial TES and MIS species are found in the Biological Assessment, Biological Evaluation, and the MIS report; all of these documents can be found in Volume 2, Appendix V of the FEIS.

We have expanded our analysis of surfactants, including NPE-based surfactants, in the FEIS. See FEIS Chapter 3 and Appendix F. For this project, surfactants considered for use include NPE-based surfactants, silicone-based surfactants, and vegetable oils. The use of NPE-based surfactants is analyzed in detail because of the potential presence of nonylphenol (currently on U.S. EPA's inerts list 2) and the potential for toxic effects, including endocrine disruption. An analysis of the ingredients in the surfactants considered, other than NPE-based surfactants, did not identify any of specific toxic concern. None were on U.S. EPA Inerts Lists 1 or 2.

Public Concern: The Modoc National Forest should analyze the impacts to reptiles, amphibians, and invertebrates.

The affects of several of the herbicides proposed for use is both inadequate, incomplete, or unacceptable. Another examples is that the DEIS states that Glyphosate, Haxazinone, and Troclopyr Bee all exceed NOELINOEAL impacts to reptiles, amphibians, invertaebrates and Glyphosate for fish as identified in surrogate species tests. These impacts are unacceptable to us and society. (Preservation/Conservation Organization, Forks Of Salmon, CA - #42.28.33211.381)

Modoc Forest Response:

There are no listed reptiles, amphibians, or invertebrates on the Modoc National Forest. Due to the limited extent of the areas to be treated by herbicides (for all Alternatives all treatments including herbicides will treat less than 0.5% of total

Forest lands) there would not be any adverse effects to populations of reptiles, amphibians, and invertebrates resulting from treatments proposed in this FEIS.

Attachments

Letter to Lassen County Board of Supervisors advocating the use of Tordon for controlling noxious weeds. (County Agency or Official, Susanville, CA - #2.4.99999.371)

Attachment from Californian's for Alternatives to Pesticides on the effects of NPE and Degradates. (Public Interest Group/Political Party, Eureka, CA - #33.206.99999.380)

Excerpt from USDA Forest Service Guide to Noxious Weed Prevention Practices. 2001. Version 1.0, Dated July 5, 2001. (Tribal Non-Governmental Organization/Tribal Member, Kelsey, CA - #36.57.99999.371)

Modoc Forest Response:

The above large attachments were reviewed by the ID Team and available to the decision maker.

No Comment – Request for Information

No comments. Send DEIS. (Individual, Santa Ynez, CA - #1.1.12000.)

Modoc Forest Response:

The DEIS was sent out as requested.

Volume 3 – Part 2

Letters Received on DEIS

Volume 3 – Part 2 – Comments Received on DEIS

Introduction

This part of Volume 3 includes copies of the letters, phone calls, and emails received from individuals; federal, state, and local agencies; interest groups; and Tribes that provided substantive comments on the Noxious Weed Treatment Project Draft Environmental Impact Statement that was published on December 30, 2005.

Mail Log and Page Number of Letter or Comment Record

The following table is a copy of the mail log numbers, submitter information, and the page number for each letter or message received. Form letters, requests for information, requests for copies of the DEIS, and requests to be added to the mailing list have not been duplicated or included in this part.

Table V3-2: Mail Log

No.	Organization	Last Name	First Name	Rcvd. Date	Subject of Letter	Page Number
1		Franklin	Bonnie	12/27/2004	Request for DEIS	Not Included
2	Lassen County, Department of Agriculture	Smith	Kenneth	1/6/2005	Comment on DEIS	193
3	Honey Lake Valley Resource Conservation District	Anton	Robert	1/21/2005	Comment on DEIS	195
4	California Wilderness Coalition	Francisco	Lea	1/20/2005	Address change	Not Included
5	California Indian Basketweavers Assoc.	Parker	Vivian	2/1/2005	information sent	Not Included
6	Modoc Noxious Weed Working Group	Steffek	Mark	2/9/2005	Comment on DEIS	196
7	USDI, Office of Environmental Policy and Compliance	Patricia	Port	2/9/2005	Comment on DEIS	197
8		Chichizola	Regina	1/7/2005	Request for DEIS	Not Included
9	California Indian Basketweavers Assoc.	Parker	Vivian	1/13/2005	information sent	Not Included
10	Salmon River Restoration Council	Bruckere	Petey	1/18/2005	Request link to site	Not Included
11		Nord	Torben	1/19/2005	Request for DEIS	Not Included
12		Dubose	Dave	1/28/2005	Request for DEIS	Not Included
13		Copeland	John	1/28/2005	Request for DEIS	Not Included
14		Thesken	Jay	1/28/2005	Request for DEIS	Not Included
15		Giffen	Craig	2/2/2005	Comment on DEIS	198
16		Case	Bob	2/7/2005	Comment on DEIS	199
17	Modoc County, Board of Supervisors	Dave	Bradshaw	2/9/2005	Comment on DEIS	200
18	Alturas Rancheria	DelRosa	Wendy	2/7/2005	Comment on DEIS	202
19	US Environmental Protection Agency Region IX	Hanf	Lea	2/8/2005	Comment on DEIS	203
20	Lassen County, Board of Supervisors			1/25/2005	Comment on DEIS	213
21	Modoc County, Department of Agriculture	Moreo	Joe	1/28/2005	Comment on DEIS	214
22	Californians Against Toxic Substances	Clary	Patty	2/9/2005	Request Info	Not Included

No.	Organization	Last Name	First Name	Rcvd. Date	Subject of Letter	Page Number
23	Modoc County, Department of Health Services	Farnam	Greg	2/10/2005	Comment on DEIS	215
24		Swanson	John	2/10/2005	Comment on DEIS	216
25	Modoc County, Department of Agriculture	Moreo	Joe	2/10/2005	Comment on DEIS	217
26	California Department of Food and Agriculture	Piroske	Carrie	2/11/2005	Phone Question	Not Included
27	California Indian Basketweavers Assoc.	Parker	Vivian	2/11/2005	Phone Question	Not Included
28	California Department of Food and Agriculture	Bezark	Larry	2/11/2005	Comment on DEIS	218
29	California Native Plant Society	Chipping	David	2/13/2005	Comment on DEIS	220
30	CA Regional Water Quality Control Board Lahontan	Churchill	Jason	2/14/2005	Comment on DEIS	224
31		Albaugh	Dale	2/14/2005	Comment on DEIS	230
32		Silvaggio	Tony	2/14/2005	Comment on DEIS	232
33	Californians for Alternatives to Toxics	Harrison	Pete	2/14/2005	Comment on DEIS	233
34	Pit River Tribe Environmental Department	Berditschevsky	Michelle	2/14/2005	Comment on DEIS	276
35	Ft. Bidweel Indian Community	Townsend	Jana	2/14/2005	Comment on DEIS	279
36	California Indian Basketweavers Assoc.	Parker	Vivian	2/14/2005	Comment on DEIS	282
37	Modoc County Farm Bureau	Ingraham	Elizabeth	2/15/2005	Comment on DEIS	298
38		Artley	Richard	2/15/2005	Comment on DEIS	300
39		Giffen	Craig "Red"	2/11/2005	Comment on DEIS	302
40	Klamath Forest Alliance + Klam. Siskiyou Wildlands C	Chichizola	Regina	2/17/2005	Comment on DEIS	303
41		Giffen	Craig "Red"	2/17/2005	Comment on DEIS	322
42	K. F. A. + CA Citizens for Alternatives to pesticides	Greenburg	Geba	2/18/2005	Comment on DEIS Received Late	325
43	Modoc County Cattlemen's Association	Smith	Dennis	2/18/2005	Comment on DEIS Received Late	333
44		Kessler	John	3/31/2005	Comment on DEIS Received Late	334
45		Hultgren	Arne	4/4/2005	Comment on DEIS Received Late	335
46		Estes	Catherine	4/4/2005	CATS Form Late Received Late	336
47		Katzenmeyer	Adene	4/8/2005	CATS Form Letter Received Late	336
48		Anderson	Karen	4/18/2005	CATS Form Letter Received Late	336
49		Schmidt	Marlene	4/19/2005	CATS Form Letter Received Late	336
50		Volberg	Kristin	5/31/2005	CATS Form Letter Received Late	336
51		Richardson	Jeff	1/20/2006	Add to Mailing List	Not Included