UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

February 8, 2004

Mr. Robert Haggard
Noxious Weeds
Modoc National Forest
800 West 12th Street
Alturas, CA 96101

Subject: Draft Environmental Impact Statement, Noxious Weed Treatment Project, Modoc National Forest, California (CEQ #050008)

Dear Mr. Haggard:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced Draft Environmental Impact Statement (DEIS) pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act. Our detailed comments are enclosed.

The Modoc National Forest proposes to implement a control and eradication project for 15 noxious weed species on 300 to 1,500 acres per year. Herbicide use is projected for 75 percent of the project. Three project alternatives and a no action alternative were analyzed. The preferred alternative #4 includes an adaptive management program that will allow for treatment of all new infestations discovered since the 2002 weed inventory.

Based on our review, we are rating the Preferred Alternative (#4) as Environmental Concerns - Insufficient Information (EC-2) (see enclosed "Summary of Rating Definitions"). We have concerns regarding the integration of weed treatments within alternatives and with other Forest activities, impacts to water quality, toxicity of herbicides to wildlife, and impacts to tribes from herbicide use.

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.

We appreciate the opportunity to review this DEIS. When the Final EIS is released for public review, please send one copy to the address above (mail code: CMD-2). If you have any questions, please contact me or Karen Vitulano, the lead reviewer for this project. Karen can be reached at 415-947-4178 or vitulano.karen@epa.gov.

Sincerely,

/S/

Lisa B. Hanf, Manager
Federal Activities Office
Cross Media Division

Enclosures:
Summary of EPA Rating Definitions
EPA's Detailed Comments

Project Alternatives

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.

The Draft Environmental Impact Statement (DEIS) states that mowing and tillage as treatment methods were eliminated from consideration in all alternatives because of various limitations (p. 27-28), some of which also apply to herbicide treatments (including nonselectivity and critical timing). Information in Appendix G: Weed species ecology and impact (weed sheets) indicates that for some species, mowing can prove effective when timed carefully. This applies to yellow starthistle ("very effective with moderate infestation and erect growth form" p. 333) and knapweeds ("a single mowing in the bud to early flower stage has been most effective, reducing seed production by greater than 75%" p. 331). Where these infestations occur alongside roads, carefully-timed mowing should be an available tool for addressing certain weed infestations. Careful timing is also required in planning herbicide treatments (Table 2-1a).

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).

Additionally, the use of volunteers for hand pulling weed abatement events could be included in the preferred alternative. If volunteer activities are reasonably foreseeable, they should be integrated into the treatment strategy and included in the Final EIS.

Recommendation:

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.

Integration of treatments with Forest activities

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).

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, Dalmation 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).

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 Dalmation toadflax and knapweeds reinfestations, and recommended for Mediterranean sage and Scotch thistle treatments. The DEIS states that areas with over ¼ 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.

Recommendation:

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. Seeding should be included for more circumstances, including during physical treatments for indicated weed species where soils are amenable.

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.

Recommendation:

Consider the closure and/or decommissioning of roads in areas, where appropriate, to mitigate against further spread of noxious weeds.

Water Quality

According to the DEIS, with the application of Best Management Practices (BMPs), it is unlikely that either Alternative 2 or 4 would introduce pesticides into either the North /South Fork of the Pit River or Klamath River that are in excess of water quality standards for municipal supply (p. 90) (California Code of Regulations, Title 22, Division 4, Chapter 15). Alternatives 2 and 4 include application of two herbicides with numerical standards: 2,4-D (Maximum Contaminant Level: 0.07 mg/L); and Glyphosate (MCL: 0.7 mg/L)(p. 41). The DEIS also references the water quality objective of the Lahonton Regional Water Quality Control Board (RWQCB) for pesticides as "not to exceed the lowest detectable levels using the most recent detection procedures available."

Recommendation:

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.

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.

Recommendation:

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.

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.

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.

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.

<u>Herbicides</u>

The six herbicides proposed for use and the weed species for which they are effective are detailed in Table 2-1 (p. 22). The DEIS states that toxicity to birds and mammals is of concern, and two herbicides, 2,4-D and Hexazinone include moderate risks of poisoning in the impact analysis, with the other herbicides carrying a lower risk of poisoning (p. 111). Table 2-1 indicates that weed species are susceptible to more than one herbicide. EPA understands that

any herbicide program should rotate between herbicides to prevent the development of resistance, but a hierarchy approach can still be adopted, where the least toxic products are selected first, especially for those species which respond to multiple herbicides (e.g., knapweeds). The selectivity of the herbicide should also be considered to minimize harm to native plant populations.

Recommendation:

In annual treatment planning, adopt an approach that minimizes the use of 2,4-D and Hexazinone through the use of a hierarchy for herbicide selection which chooses the least toxic, most selective herbicide first.

Appendix E, Table E-1 should list the registered product names and the EPA Registration numbers for all products to be used in the project.

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).

Tribal Consultation and Public Involvement

EPA commends the Forest Service for its scoping actions and consultation with Tribes and the California Indian Basketweavers Association. 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.

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.

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.

Adaptive Management

The Adaptive Management strategy for the preferred alternative allows for the treatment of all new infestations that have occurred since the 2002 weed inventory as well as adopting methods contained in the DEIS to reflect new information received from other agencies and the California Invasive Plant Council (p. 99). It also allows for the use of new herbicides that may become available that are better suited to a particular application (p. 341). The environmental and human health impacts from herbicide use that are evaluated in the DEIS are specific to particular herbicides. 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.

Endangered Species

The DEIS states that the Forest Service will consult and obtain concurrence or a biological opinion from the U.S. Fish and Wildlife Service on the biological assessment if it makes a “may affect” determination (p. 11).

Recommendation:

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.