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**Subject:** Regional Noxious Weed Strategy

**To:** Forest Supervisors

Enclosed is the Region 5 Noxious Weed Strategy. This strategy has been developed to guide our actions in the management of noxious weeds.

Noxious weeds are a serious environmental concern throughout the Region. They threaten natural diversity, habitat for fish, wildlife and native plants, soil stability, and ecosystem processes. Noxious weeds are spreading at an alarming rate in California, and fast encroaching onto National Forest System lands. This strategy was developed to address this threat, and to work cooperatively with our neighbors to check the spread of weeds statewide.

Based on the emphasis areas identified in the national Forest Service noxious weed strategy, "Stemming the Invasive Tide", the Region 5 strategy uses the six emphasis areas to guide regional goals and objectives. They include: 1) Coordination and Cooperation; 2) Prevention and Education; 3) Control; 4) Inventory, Mapping, and Monitoring; (5) Research; and (6) Administration and Planning. Each emphasis area identifies objectives and a list of proposed actions to carry forward the Region's noxious weed program. Annually we will develop a specific action plan based on available budgets.

Please distribute the enclosed strategy to forest line and staff officers, and feel free to share with our cooperators. If you have questions regarding the strategy, contact Cheri Rohrer (707) 562-8682 or Steve Bishop (707) 562-8689, Rangeland Management Staff.

/s/John A. Neissess(for)  
BRADLEY E. POWELL  
Regional Forester

Enclosure



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# NOXIOUS WEED MANAGEMENT STRATEGY

## USDA FOREST SERVICE

### Pacific Southwest Region

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## INTRODUCTION

The spread of invasive weeds in the Pacific Southwest Region (Region 5) is threatening the ecosystem health of our Forest and rangeland ecosystems. The spread of noxious weeds and nonnative invasive plant species reduces biological diversity, impacts threatened and endangered species, wildlife habitat, modifies vegetative structure and species composition, changes fire and nutrient cycles, and degrades soil structure.

Millions of acres of public lands in the West are rapidly undergoing the greatest degradation due to the spread of invasive non-native plants (Stemming the Invasive Tide). Within the last 20 years in California, studies show that yellow starthistle alone has increased from 1 million acres to at least 12 million - about 12 percent of the state's land base (as reported by California Department of Food and Agriculture). Current inventories indicate that weeds are spreading at an increasing rate within The region.

Public awareness of the environmental problems associated with the spread of invasive weeds has increased. The national noxious weed budget for the Forest Service has nearly doubled since Fiscal Year 1997. Recently the Forest Service, Bureau of Land Management, and the Federal Interagency Committee for the Management of Noxious and Exotic Weeds have prepared strategies for the management of noxious and invasive weeds. In February 1999, President Clinton issued an executive order emphasizing the importance of addressing the noxious and invasive weed problem and created the Invasive Species Council.

Increased public awareness has also initiated changes in noxious weed management within the state. Weed Management Areas (WMA's), which coordinate weed management across jurisdictional boundaries, now cover much of the state, recognizing the need for coordinated management and control of noxious weeds. National forests have become active participants in WMA's. The California Department of Food and Agriculture (CDFA) along with County Agricultural Commissioner Offices have increased their efforts to address the statewide problem of noxious weed spread. This year the California State Legislature has passed and the Governor has signed AB1168 enhancing the authority for noxious weed management to the CDFA, and appropriating \$200,000 annually for the next 3 years to research, manage and eradicate noxious weeds through local WMA's.

Under the National Forest Management Act (NFMA), and the Forest and Range Renewable Resource Planning Act (RPA) forests were given the task of preparing Land and Resource Management Plans (LRMP's) to establish management direction along with long-range goals and objectives. During the development of forest LRMP's in the 1980's and early 1990's, the problems caused by noxious weeds were not widely recognized. The Region is now in the process of updating forest LRMP's for 11 national forests through the Sierra Nevada Framework Project and will include noxious weed management guidelines.

In 1995, the Forest Service revised its national policy on noxious weed management (FS Manual 2080). The new policy places stronger emphasis on integrated weed management. It outlines responsibilities for integrated pest management, prevention and control measures, cooperation and information collection and reporting. The Regional Forester was given the responsibility for providing leadership in maintaining a consolidated noxious weed inventory, developing and implementing noxious weed management cooperative agreements or MOU's with other Federal and State Agencies, offering weed management regional training, and developing public information and education programs to improve awareness of noxious weeds and integrated weed management.

In 1998, the Forest Service developed in conjunction with other federal agencies a strategy for the management of noxious weeds. That strategy, entitled *Pulling Together: A National Strategy for Invasive Plant Management*, focused on three primary goals, effective prevention; control; and restoration. The Forest Service also developed a national strategy focusing on five areas, prevention and education; control; inventory, mapping, and monitoring; research; administration and planning.

In response to national direction and regional needs, the region has developed this *Noxious Weed Management Strategy and Action Plan*. Tiered to the national strategy, the Regional strategy emphasizes actions necessary to: promote the overall management of noxious weeds; to prevent the spread of weeds; control existing stands of weed infestations; promote the integration of weed issues into all forest service activities.

The primary goals in the Region's noxious weed strategy are to:

- Increase the understanding and awareness of noxious weeds and the adverse effects they have on wildland ecosystems.
- Develop and promote implementation of a consistent integrated pest management (IPM) approach. Institutionalize consideration of noxious weeds in all planning and project analyses.
- Develop strong partnerships and cooperation with private landowners, county governments, state and federal agencies, extension service, universities, and the research community for a consolidated and united approach to managing invasive species.

The Region's strategy uses six emphasis areas to address the goals identified above. They are:

- Coordination and Cooperation
- Prevention and Education
- Control
- Inventory, Mapping, and Monitoring
- Research
- Administration and Planning

Within each emphasis area, the strategy identifies objectives and proposed action items to carry the regional noxious weed program forward.

The Regional Weed Coordinator, the Regional Pesticide Use Manager, and a group of interested Forest noxious weed coordinators will review the following proposed actions annually. The group will select one or more of the proposed actions to complete in a given fiscal year. An Annual

Action Plan will be developed. Each action item selected for completion will have a person selected to be responsible for completion, development or implementation of the action item.

## **I. COORDINATION AND COOPERATION**

The spread of invasive weeds ignores all boundaries. The only way that Forest Service can succeed in the control and prevention of noxious weeds is through coordination and cooperation with our neighbors and partners. Coordination with other agencies and groups in the management of noxious weeds is the key to the success of the Region's noxious weed program. It will take common goals and common resources to carry out the goals of this strategy.

Objectives:

- Use WMA's to consolidate and coordinate weed control across jurisdictional boundaries.
- Ensure that adequate scientific expertise, organization skill, and administrative support is available for local weed management efforts.
- Minimize barriers to noxious weed prevention and control efforts.

Proposed Actions:

- Encourage all forests to be active participants and leaders in WMA's
- Coordinate with federal, state, local and private groups to:
  - Control
  - Inventory and monitor
  - Conduct research
  - Implement prevention programs to prevent spread of weeds
  - Develop education program
- Facilitate formation of and participate in interagency state and national cooperative groups
- Work with local tribes to identify and control noxious weeds in areas of concern to tribal members.
- Work with other program areas to gain support and investment in the prevention, education, and control of noxious weeds.
- Coordinate with other resource areas

## **2. PREVENTION AND EDUCATION**

Prevention can help slow or prevent the introduction and establishment of noxious weeds in wildland. Education is an integral part of prevention. Having an informed workforce as well as cooperators, and the public is an important part of managing invasive species.

Currently, forest service staff, permittees, and publics have a limited understanding of the potential impacts that noxious weeds have on forest ecology. Even fewer understand what can be done to reduce the risk. Prevention is one of the most cost effective methods to control the spread of noxious weeds.

## Objectives:

- Forest Service employees will be well informed on noxious weed issues.
- Prevention measures such as weed-free forage, straw, and fill requirements will be instituted.
- Weed prevention practices and mitigation measures will be incorporated into all FS activities.
- Noxious weed prevention clauses will be incorporated into Forest Service contracts, and permits
- Noxious weed risk assessments will become an integral part of project planning.
- Educational materials to increase public awareness of noxious weed issues will be used in conjunction with other agencies and other resource areas within the Forest Service.
- Institute a public education campaign on all forests.

## Proposed Actions:

- Develop regionally approved standard clauses for equipment cleaning for timber, fire, engineering, recreation, watershed improvement and other contracts
  - Educate personnel in need for standard clauses
  - Require their use where needed
- Prepare and implement Regional Special Order requiring the use of weed-free forage and straw.
- Require the use of weed-free materials in facilities maintenance and constructions.
  - Gravel
  - Fill
  - Straw
  - Weed-free seed mixes
- Incorporate noxious weed standards, guidelines and prevention practices into Forest Land and Resource Management Plans (LRMP's).
- Encourage the adoption of noxious weed prevention practices by other agencies.
- Develop regional training course for noxious weed prevention. Target audience will be all employees who have field going and public contact responsibilities, line officers and key staff.
- Develop a regional Noxious Weed Website both intra and Internet wide for posting noxious weed awareness information.
- Develop a public education program, including interpretive signs in campgrounds and trailheads, use of brochures with maps and permits, school visits, etc.
- Develop a regional communication strategy for invasive weeds which will coordinate activities with other agencies, state

### **3. CONTROL/PROJECT PLANNING**

Many districts have instituted successful noxious weed control projects. However, many units have yet to implement viable noxious weed control programs. Given the number of acres infested and projections for new infestations, it is clear that present funding levels are insufficient. This funding level has limited the region's capability to build an effective noxious weed control program.

Each forest has a Noxious Weed Management Coordinator and a Forest Pesticide-Use Coordinator. These duties are collateral along with other responsibilities. Few forests currently have the tools and

knowledge needed for effective weed project planning and implementation. Also, few forests have staffing and funding dedicated to weed management.

### Objectives

- The region's high priority is to identify and eradicate new infestations and new species on National Forest Lands.
- The requirements of NEPA have been met on all forests, allowing them to treat noxious weed infestations.
- Use an Integrated Pest Management (IPM) approach to noxious weed management that would include prevention, biological control, mechanical, cultural and chemical controls.
- Have at least one individual trained in wildland weed ecology and pesticide application on each forest.
- Prepare a noxious weed risk assessments for all ground disturbing projects.

### Proposed Actions:

- Region will coordinate an effort to complete a noxious weed based IPM desk guide for forest and district use. This will be a high priority item. Information to be included in the handbook is detailed at the end of this document.
- Develop a desk reference as an interim Noxious Weed Handbook. (Call Jim)
- Encourage personnel to obtain and maintain state pesticide use certification, whether or not restricted use chemicals will be used. Require each forest to have at least one certified pesticide applicator by FY 2004.
- Provide employees with information on state certification training availability
- Provide outline and examples for project-level risk assessments.
- District or forest weed coordinators must review risk Assessments.
- Provide guidelines and background information for conducting human health risk assessments
- Provide guidance and training on how NEPA applies to invasives.
- Reissue Region 5 Native Plant Policy updated to include relevance to noxious weed management.
- Provide training opportunities for noxious weed ecology and management.

## 4. ADMINISTRATION AND PLANNING

Forest LRMP's provide the direction for national forest management. Within the Region, forest LRMP's have not considered noxious weed management. The Sierra Nevada Framework Project, when implemented, will amend forest LRMP's for the 11 Sierra Nevada forests with standards and guidelines for management of noxious weeds. To attain an aggressive noxious weed management program, there needs to be consistent direction across all the national forests within the region.

Considerations for noxious weed issues are limited or lacking in many project plans and analyses. The omission comes from a combination of factors. One factor is the limited funds available for noxious weed management in the region. Limited funds, resources and staffing result in low visibility and priority for the noxious weed program.



The National funding criteria favor regions that treat large infestations of noxious weeds. Many forests within the region are relatively free of noxious weeds, but have large infestations adjacent to their boundaries. As a result, the region doesn't compete well for limited funds. The region's emphasis is to aggressively treat new infestations as they appear on forest lands before they become established. In addition, there are conflicting laws and regulations within the state that make the planning and implementation of IPM projects difficult and expensive. The region must examine ways to become more competitive for national funds, and ways to manage our existing funds more efficiently.

#### Objectives:

- Ensure that Forest LRMP's include standards and guidelines for noxious weed management.
- Encourage forests to develop 3-5 year noxious weed action plans.
- Noxious weeds will be considered in Forest and project planning.
- Ensure that the region is competitive for noxious weed funding.
- Improve visibility in the management of noxious weeds; become more competitive for "cost share" funds; increase interaction and participation with local partners to help with funding opportunities; become more active with local weed groups; increase or improve inventories.
- Market the program to receive additional funds based on the factors that make Region 5 unique.

#### Proposed Actions:

- Reevaluate funding allocation criteria for the forests.
- Encourage forests to amend forest LRMP's to incorporate noxious weed management, where current direction is deficient.
- Require forests to produce a 3-5 year plan for noxious weed management program development as a requirement for augmented funding.
- The region will provide a list of cost share opportunities to forests. Provide support for developing grant proposals (examples of successful grants).
- Annually review potential for new invaders, and potential for existing invaders to move into new areas, and then plan prevention measures accordingly.
- Develop and propose budget criteria that will reflect the needs and strengths of the region. Some of these factors include:
  - Availability of a large number and variety of cooperators and collaborators
  - Ecological, Political, and Social Complexity
  - Biological diversity - California has a great variety of ecotypes, unique species and rich resource values requiring a wide variety of noxious weed management methods.
  - Existing pristine areas now at risk and not yet lost. Since California national forests are relatively noxious weed free, prevention is the most efficient method along with aggressive control of small infestations.
  - Encourage ID teams to include a weed specialist.

## 5. INVENTORY, MAPPING AND MONITORING

Early detection and containment of noxious weeds is the most efficient method of controlling their spread. Key to early detection is the development and maintenance of an effective inventory and mapping system. Most forests in the region have some form of a noxious weed inventory. Inventories range from mapping on a quad, up to entry into GIS layers. A few forests have several species entered into GIS layers. A complete and interactive inventory with GIS capabilities is critical for the region to effectively compete for national funding opportunities, report and track existing infestations, and treat known populations of noxious weeds. It is equally important to share information with our neighbors and partners.

Monitoring is essential to provide information necessary for long term planning and decision-making. A monitoring program is needed to evaluate changes in plant populations and whether management activities, noxious weed control projects, and prevention programs are achieving their desired goals. There are no consistent monitoring protocols available to assist planners and project managers in measuring short term or long term effects. As a result, IPM projects may or may not meet the desired goals and objectives outlined in the project plan.

### Objectives:

- Determine the distribution of noxious weed species through systematic inventories on all NFS lands (delimiting surveys)
- Re-inventory at set intervals to determine the rate of spread and detect new weed infestations.
- Develop and implement automated databases for the storage and retrieval of information on noxious weeds. Ensure that the forests implement Forest Service inventory and monitoring protocols and that data is stored in the Terra module of NRIS. Coordinate inventory standards with BLM, CDFR, and other state and county agencies.
- Ensure that monitoring standards across the region address short and long term monitoring requirements.

### Proposed Actions:

- Review the national protocol to if the region's requirements can be met. Additional information may be required to meet the forest's needs.
- Include in Region 5 handbook and desk reference inventory, and monitoring protocols. Provide training or training materials in the use of the NRIS-TERRA database system.
- Include inventory and monitoring protocol in the Region 5 Noxious Weed Management Handbook to help project managers effectively complete inventory and monitoring projects.
- Crosswalk the national weed monitoring and inventory protocol with the state of California inventory system. Develop procedures to periodically share information with the state of California.
- Increase Forest Service participation in CalWeed Database.

## 6. RESEARCH

Research efforts are continually needed to examine new IPM strategies for the control of noxious weeds. The region presently cooperates with California universities by providing research sites for studies.

The region needs to continue to encourage research on the ecology of noxious weed species, with an emphasis on practical application to management.

Objectives:

- The Regional Office (RO) will disseminate relevant research results to units.
- The RO will serve as a clearinghouse for research needs.
- The RO and Forests will facilitate continued research opportunities on NFS lands.
- Engage the Pacific Southwest Research Station (PSW) in noxious weed research projects.

Proposed Actions:

- Develop a list of research projects coordinated with PSW.
- Use the Region's website to make research results available.
- Encourage forests to provide sites for research for noxious weeds.
- Support local efforts as needed to promote interagency research.

### CONTRIBUTORS TO THIS REGIONAL STRATEGY:

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## **APPENDIX A:**

### **OUTLINE FOR 3-5 YEAR PLAN FOR EACH NATIONAL FOREST:**

The working group responsible for developing this strategy plan identified a need to assist forests in the development of a forest level 3 to 5 year noxious weed management strategies and action plans. The following is an outline or checklist of items that may be included in a forest strategy. This checklist follows the same basic format of this Regional Strategy.

#### I. Introduction

- Existing Condition – overview of status of infestation on forest by weed species, brief description of the state of knowledge of the problem
- Description of forest's program to date
- Reference to LMP direction re: weeds, FSM, FS National Strategy

#### II. Coordination and Cooperation

- Describe existing active cooperative efforts, WMAs, volunteers, etc.
- Opportunities for additional cooperation
- Outline action items (if appropriate, identify target date, responsible person)

#### III. Prevention and Education

- Describe existing prevention/education activities
- Describe opportunities; provide examples (e.g., fire pre-attack plan, resource advisor list; cultural practices to minimize soil disturbance, internal presentations to educate FS workforce)
- Outline action items (e.g., incorporate contract clauses for equipment cleaning into all contracts involving ground disturbance)

#### IV. Control / Project Planning

- Describe existing projects, status of NEPA documents for weed control
- Opportunities: Prioritization of treatment areas, increase state certified applicators if appropriate, have an initial attack plan for dealing with small, new infestations
- Include revegetation plan in weed control projects (follow Region 5 Native Plant Policy)
- Action items

#### VI. Administration / Planning

- Status of LRMP planning efforts underway (Framework, Southern California plan amendment)
- Existing strategies/program document
- Opportunities: finish and implement forest 5-year strategy, forest weed program coordinators take an active role in budget process, participate in regional/national noxious weed 1189

## VII. Inventory, Mapping, And Monitoring

- Identify existing situation. Present inventory and monitoring status, information tie to what cooperators are doing, inventories, GIS info
- Opportunities: bring inventories to standard, get inventory information into database
- Action items

## VIII. Research

- Identify any existing cooperative efforts for research
- Identify any potential for cooperative research
- Identify any action item tied to cooperative efforts.

## APPENDIX B

### REGIONAL NOXIOUS WEED MANAGEMENT DESK GUIDE

As part of the Regional strategy, the need to develop a Regional Noxious Weed Management Desk Guide was identified as a high priority need. The intent of the desk guide is to immediately provide forests with a reference that can be used by Forest and District Noxious Weed Coordinators in their “every day” dealings with noxious weed management. The desk guide would be loosely bound so information could be added as needed. Many of the items are very voluminous, so references, bibliographies and locations for the information will be provided, rather than provide the information in the Desk Guide. Following is a list of items that would be part of the initial desk guide.

1. National and Region 5 Noxious Weed Strategies	2. FSM 2080 – Noxious Weed Management
3. NRIS – Terra Database Information	4. Project Risk Assessment Format and Examples
5. <i>Region 5 Noxious Weed Best Management Practices (BMP’s)</i>	6. Contract and Permit “C” Clauses for preventing Invasive weed spread (Certification and Inspection Forms)
7. Region 5 Native Plant Use Policy	8. Region 5 BAER Noxious weed Policy
9. Noxious Weed Information related to the Sierra Nevada Framework Project	10. <i>KV information related to the management of invasive weeds</i>
11. <i>Weed Free Forage Information and Special Order</i>	12. <i>Grant information for supplemental funding for invasive weed management Projects</i>
13. <i>Region 5 Standardized methods and protocols for Inventory and monitoring</i>	14. <i>List of Contacts for others working in Invasive Weed Management</i>
15. MOU examples and other information about the development of Weed Management Areas	16. State Noxious Weed list and County Weed lists
17. Control methods and information for specific invasive weeds	18. <i>Information on human and other health risks related to various commonly used herbicides</i>
19. California State Pesticide Certification training materials	

Note: *Italicized Items are not yet readily available or need to be developed.*