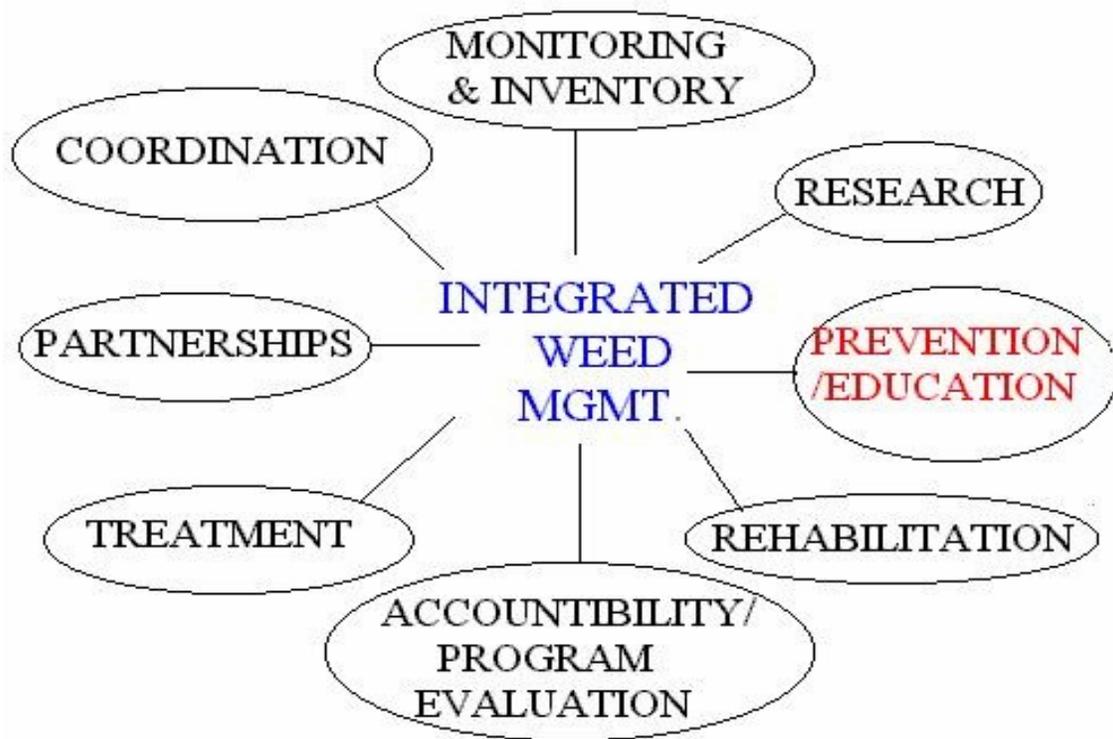


Draft date, October 29, 2003

Frank Church – River of No Return Wilderness Noxious Weed Prevention Plan

Introduction

It has been well-established that the most effective method for managing noxious weeds is to prevent their invasion. Prevention is both the most economical and ecologically sound method for weed management. However, no single element of Integrated Weed Management (IWM) operates independently. Within Prevention are aspects of Education, early Detection, on-going Monitoring, site Restoration, general Land Use Practices, and other elements of IWM. All elements of IWM are inter-connected in a variety of relationships. The challenge for land managers, and the primary philosophy of IWM, is to incorporate a variety of strategies in a coordinated, multi-disciplinary, ecological approach with the goal of maintaining or developing healthy plant communities that are relatively weed-resistant.



Prevention is one element of IWM. All elements are inter-related. A coordinated approach of a variety of tactics is the primary strategy of IWM.

Prevention Aspects of Integrated Weed Management

The primary focus of this Prevention Plan is the Prevention/Education element of IWM. Its goal is to increase public and agency personnel awareness about the noxious weed issue. To be most effective, however, the elements of IWM should not function independently. Prevention goes well beyond public Education. To illustrate the broad-based, multi-disciplinary approach land managers in the FCRONR have taken, the Prevention aspects of other elements of IWM are highlighted below.

Inventory

- Continuing Inventory efforts provide the opportunity for repeated field visits and the detection of new invaders and new infestations of established species.
- Identification of weed-free areas provides baseline data on healthy, intact ecosystems.

Treatment

- Treatment practices restrict the encroachment of noxious weeds onto adjacent lands.
- Treatment practices limit the number of seeds produced and/or inhibit rhizomatous growth.

General Land Management Practices

- Minimizing soil disturbances by vehicles, machinery, wildlife, livestock, and recreation impacts is central to preventing weed establishment.

Monitoring/Evaluation

- Annual Monitoring efforts provide evaluation of effects of various treatments on weed populations and nontarget resources and determine population trends such as expansion rates and habitat susceptibility.
- Adaptive strategies can be determined and implemented to maximize prevention efforts.

Partnerships/Coordination

- Information-sharing and a coordinated/cooperative approach within and outside the agency allow for a broad, regional perspective and rapid response to new infestations.
- The process of educating and motivating individuals to promote noxious weed management and prevention has positive, long-term, compounding effects.

Restoration

- Establishment of competitive, healthy plant communities in areas susceptible to invasion hinders the introduction or re-introduction of noxious weeds.

The implications of Prevention encompass more than posting notices at trailheads and airing media segments. All elements of IWM--not only Education-- contribute to Prevention.

Implementation Strategies

In order to broaden the base from which support for noxious weed prevention can be drawn, Forest Service land managers in the FCRONR intend to enlist the assistance of a variety of groups and individuals for implementation of this plan. Environmental groups, regional, state, and local recreation associations, and community and civic groups are examples of potential partners who could play a part in Prevention. It is these stakeholders who can make the greatest difference in preventing weed spread in the Wilderness. Current partners involved in Prevention measures in the Wilderness include the Student Conservation Association, private landowners, Western White Water Association, Idaho Aviation Association, the National Outdoor Leadership School, various jetboat outfitters, private and commercial float boaters, and volunteer groups and individuals.

A general framework for the Prevention process can be outlined as, “Planning a comprehensive (Information & Education) program is best achieved by adhering to certain principles and guidelines that have been developed through repeated trial and evaluation cycles....(E)lements that appear to be common among planning models include: 1) identifying the issues or problems that the I&E program will address, 2) inventorying existing programs and materials, 3) identifying the audience or community, 4) developing goals and objectives, 5) designing messages, 6) selecting strategies to communicate the message, and 7) evaluating the I&E effort.” (Laurie Matthews, *A Planning Model for Development of a Comprehensive Wilderness Information and Education Program*, 1996)

An adaptive Prevention strategy will be most effective. On-the-ground findings and feedback from Forest Service personnel and user groups will provide on-going evaluation of the Prevention Plan. Adaptation will refine the message and the audience(s) to which it is directed. In order to foster the inclusive nature of this plan, prevention actions can best be achieved through interaction and discussion with affected parties, rather than through regulation. The Forest Service would prefer to enlist the support and assistance of individuals and groups rather than alienate them.

Agency Direction

Direction for the management of noxious weeds, and specifically their prevention, is outlined under the National Strategy for Invasive Plant Management (Pulling Together), the Federal Noxious Weed Act of 1974 as amended, Forest Service regulations at 36 CFR 222.8, Region 1 and Region 4 priorities for noxious weed management strategy, Forest Plan Direction from each of the managing National Forests, and Forest Service Order #04-00-052. Forest Service Manual Zero Code 2080 concerns Noxious Weed Management.

Preventing invasion of noxious weeds depends at least partly on an active and informed public and workforce. Forest Service employees and Wilderness visitors must understand and do their part to ensure a weed-free environment. This

Prevention Plan will address separately these two broad audiences: Forest Service personnel and Wilderness visitors. Prevention measures targeted to a more broad audience are also outlined. Both current actions and possible future intentions are listed.

I. Internal Education

Internal Education refers to the process of training employees and representatives of the agency in the various elements of IWM. Agency personnel, both permanent and seasonal, must be informed about the conditions under which weeds become established, how weeds are spread, and the effects weeds have on all resources. Implementing this knowledge can minimize weed spread because of resulting altered land management activities. Personnel should be encouraged to incorporate weed prevention and control messages into their day-to-day work priorities and appropriate public information materials.

Some particular messages to be communicated through the process of Internal Education are as follows:

- Weeds can be spread by many land management activities and are detrimental to many activities on public lands.
- Integrating preventive measures into daily and authorized activities can improve the health of the land at little cost.
- Integrating prevention messages into informational materials will raise awareness at little additional cost.
- Weeds are spreading at an alarming rate--ignoring them is not an option.
- Working with partners in the weed control effort is vital to helping improve the health of the land.
- Using pilot projects and demonstration areas, education and outreach efforts will help illustrate the nature of the problem and options for dealing with it.

Region 1 and Region 4 of the Forest Service have both drawn up Best Management Practices (BMPs) for noxious weeds. Both of these sets of BMPs are included in the Appendix of this Prevention Plan. The objectives of the BMPs are to reduce the risk of spreading noxious weeds, prevent the establishment of new invaders, integrate weed management into all resource programs, and build awareness within the agency. Another challenge facing Wilderness managers is to ensure that the strategies outlined in the BMPs are being implemented on the ground by all agency personnel.

II. Wilderness User Groups

Wilderness access and recreation are two of the primary means of introduction and continuing spread of weed infestations. Some of the most common areas in which weed infestations are located in the FCRONR are along trail systems, in boater camps, adjacent to backcountry airstrips, and in and around horse and backpacker camps. To reverse this trend a well-planned, comprehensive education program targeted at recreationists is necessary.

Recreationists must understand the threats posed by invasive plant species, change behavior that results in the spread of nonnative plants, and provide support for management efforts. To bring about this understanding, the Forest Service must reach targeted audiences with clearly articulated messages.

The lists below outline currently implemented Education measures targeted at particular recreation groups as well as suggestions which have been proposed for the future. As noted above, the Forest Service is seeking assistance in the implementation of this plan. The intention is to have representatives of the various user groups and other stakeholders implement measures to reach their constituents. These lists should not be considered a finalized plan. They are merely provided as draft examples of the extensive variety of Education options available for development and implementation.

River Users (Float Boaters/Jet Boaters)

Current Actions

- Noxious weed information included in permit packages to river users.
- General noxious weed information and specific management actions posted at all launch sites.
- Noxious weed information and education incorporated into oral presentations to all private float groups at launch sites.
- Variety of weed materials (brochures, identification cards, etc.) available to floaters at launch sites.
- Forest Service River Patrol personnel provide noxious weed information in their contacts with river user groups.
- Established network of volunteer groups, individuals, outfitters, and landowners for treatment, inventory, and logistical support.

Future Intentions

- Develop and provide I&E package to rafting and jetboat outfitters.
- Develop and implement I&E actions with recreation associations (Western Whitewater, Idaho Whitewater Association, etc.)

Horse packers / Backpackers

Current Actions

- Noxious weed information posted at trailheads.
- Weed-Seed Free Feed regulation enforced.

Future Intentions

- Standardize and elaborate trailhead display.
- Coordinate with State agencies and their Education efforts to increase compliance with the certified Weed-Seed Free Feed regulation.
- Develop and implement I&E actions with recreation associations (Backcountry Horsemen of America, Rocky Mountain Elk Foundation, Foundation for North American Wild Sheep, local riding and hiking groups, etc.)
- Develop and provide I&E package to hunting and pack-trip outfitters.
- Make I&E materials available at outdoor and feed/stock supply retailers.
- Coordinate prevention measures with the Idaho Department of Fish & Game.
- Incorporate noxious weed information into Hunter Education courses, IDFG Check Stations, and during hunting/fishing license purchase.

Backcountry Pilots

Current Actions

- Established network of volunteer groups and individuals (Idaho Aviation Association, 180/185 Club) for treatment, inventory, and logistical support.
- High Inventory and Treatment priority given to all backcountry airstrips in the Wilderness.

Future Intentions

- Coordinate Education and Prevention efforts with applicable state aviation agencies.
- Coordinate efforts with state, county, and local agencies for implementation of IWM principles at airports outside of Wilderness.
- Provide I&E materials at airfields outside of Wilderness.
- Develop and implement I&E actions with recreation associations (Idaho Aviation Association, 180/185 Club, etc.)

Other Audiences

The following is a list of Prevention and Education measures targeted to a more general audience. While these efforts may not specifically address Forest Service personnel and Wilderness users, they are included in this Prevention Plan because of their inherent value. Other audiences (for example non-Wilderness Forest visitors, children, and

community and volunteer groups) may benefit from noxious weed Prevention and Education.

Current Actions

- Initiation of FCRONR Cooperative Weed Management Area to coordinate management efforts with state and federal initiatives
- Completion of display board depicting species identification, the impacts of noxious weeds, and the FCRONR Noxious Weed Management Plan for use at County Fairs, conferences, annual meetings, and in Forest Service offices.
- Survey of noxious weed I&E materials completed by 1999 Student Conservation Association crew.
- Variety of programs in local school systems.
- On-going process of Partnerships in the effort to combat noxious weeds.

Future Intentions

- Design of a web page for noxious weed management in the Wilderness.
- Television and/or Radio segments dealing with weed prevention.
- Newspaper articles and layouts dealing with weed prevention.
- Development of multi-media program(s) for presentation to interested parties.

Conclusion

The most effective method for managing noxious weeds is to prevent their invasion. While all elements of Integrated Weed Management contain aspects of Prevention, this plan specifically addresses Prevention's relationship to Education.

Two primary audiences to target have been identified: agency personnel and Wilderness user groups. Lists of potential strategies have been created. The Forest Service is now seeking partners to assist in developing and implementing this Prevention Plan. A comprehensive, coordinated, and multi-disciplinary prevention program must be instituted. The impacts of noxious weed infestation have been well documented. An excellent opportunity is at hand for groups and individuals to work toward Wilderness resource protection.

Appendix A

USDA Forest Service, Region 1 Best Management Practices For Weed Prevention and Management 5/18/99 2nd Review Draft

Note: This draft document has been edited into Directive form by Region 1. This draft is included in the Prevention Plan because of its more user-friendly format.

Current Direction

Direction for the development of weed prevention and management practices is provided in National Policy FSM 2080 Noxious Weed Management , Executive Order on Invasive Species (Feb. 3, 1999) and Stemming the Invasive Tide, Forest Service Strategy for Noxious and Nonnative Invasive Plant Management.

National Policy outlines that preventing the introduction and establishment of noxious weed infestations is a high priority for the agency. It also directs the Forest Service to determine the factors which favor the establishment and spread of noxious weeds and design management practices to reduce the risk of spread.

Forest Service National Strategy identifies, among other elements, the development of prevention and mitigation BMP's for all ground-disturbing activities as one of the agencies long-term emphasis items.

The Executive Order on Invasive Species, signed by the President on February 3, 1999 states that all federal agencies will use relevant programs and authorities to prevent the introduction of invasive species, and not authorize or carry out actions that are likely to cause the introduction or spread of invasive species unless the agency has determined and made public documentation that shows that the benefits of such actions clearly outweigh the potential harm and all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

The following practices have been developed to meet the intent of direction set forth in policy and executive order. Many of the specific practices such as the use of certified noxious weed-free hay and straw are already required by policy. The appropriate directive is stated at end of the practice description. Many practices have already been integrated into projects and programs and are currently being implemented.

The *objectives* of the Best Management Practices are to: 1) Reduce the risk of spreading noxious weeds; 2) Prevent the establishment of new invaders; 3) Integrate weed management practices into resource programs; and, 4) build awareness within the agency. These practices would apply to those noxious weeds identified by federal, state and county noxious weed lists.

The Best Management Practices are formatted by resource areas. The intent of this format is provide easy reference of the practices for each resource areas without the necessity to review multiple sections. As a result of the formatting, many practices repeat throughout the document.

<i>Required Practices</i>	Required means this practice must be integrated and implemented where appropriate to mitigate the effects of the proposed project or program, unless an equally effective measure can be developed at the forest level.
<i>Recommended Practice</i>	Recommended means this practice is not a requirement but represents an effective measure to reduce the risk of spreading weeds and may be integrated where appropriate.

1) Incorporate weed prevention into road layout, design, and alternative evaluation.

Roads

<i>New Construction Only</i>	
<p>1) Incorporate weed prevention into road layout, design, and alternative evaluation.</p>	<p>1.1) Environmental analysis for road construction and reconstruction will include weed risk assessment¹. <i>(Required, Policy 2081.03)</i></p>
<i>New and Reconstruction</i>	
<p>2) Remove seed source that could be picked up by passing vehicles and limit seed transport.</p>	<p>2.1) Before construction equipment moves into project area, evaluate and prioritize noxious weeds along existing Forest Service access roads leading to project area and treat as necessary. New road construction must be revegetated as described in Weed Prevention measure #4.1, 4.2, 4.3. <i>(Required)</i></p> <p>2.2) Remove all mud, dirt, and plant parts from all offroad equipment before moving into project area. Cleaning must occur off National Forest lands. (This does not apply to service vehicles that will stay on the roadway, traveling frequently in and out of the project area.) Reference Clause CT 6.26 attached. <i>(Required)</i></p> <p>2.3) All equipment must be cleaned, prior to leaving the project site, if operating in areas infested with new invaders (as designated by the Forest Weed Specialist). Reference CT 6.261 attached <i>(Required)</i></p>
<p>3) Retain shade to suppress weeds.</p>	<p>3.1) Minimize the removal of trees and other roadside vegetation during construction, reconstruction, and maintenance, particularly on southerly aspects. <i>(Recommended)</i></p>
<p>4) Re-establish vegetation on bare ground due to construction and reconstruction activity to minimize weed spread.</p>	<p>4.1) Revegetate all disturbed soil (except the travel way on surfaced roads) in a manner that optimizes plant establishment for that specific site, - unless ongoing</p>

	<p>disturbance at the site will prevent weed establishment.</p> <p>Use native material where appropriate. Use a seed mix that includes fast, early season species to provide quick, dense revegetation. To avoid weed contaminated seed, each lot must be tested by a certified seed laboratory against the all State noxious weed list and documentation of the seed inspection test provided. <i>Refer to CT6.601# (Required)</i></p> <p>4.2) Use local seeding guidelines for detailed procedures and appropriate mixes. Revegetation may include planting, seeding, fertilization and weed free mulching as necessary. <i>(Required)</i></p> <p>4.3) Monitor and evaluate success of revegetation in relation to project plan. Repeat as necessary. <i>(Required)</i></p> <p>4.4) Road maintenance programs should include scheduled fertilization to maintain vigor of competitive vegetation (three year period suggested.) <i>(Recommended)</i></p>
<p>5) Minimize the movement of existing and new weed species caused by moving infested gravel and fill material.</p>	<p>5.1) All gravel and borrow sources must be inspected and approved before use and transport. The source will not be used if the weeds present at the pit are not found at the site of intended use. If weeds are present, they must be treated before transport and use. <i>(Recommended)</i></p> <p>5.2) The borrow pit may not be used if new invaders (as defined by the Forest Weed Specialist) are found on site. <i>(Required)</i></p>
<p>6) Minimize sources of weed seed in areas not yet revegetated.</p>	<p>6.1) Keep road construction sites closed to vehicles not involved with construction until construction and</p>

	<p>revegetation is complete. <i>(Recommended)</i></p> <p>6.2) If straw is used for road stabilization and erosion control, it must be certified weed-free or weed-seed-free. <i>(Required; Policy 2080.03)</i></p>
<p><i>Maintenance</i></p>	
<p>8) Minimize roadside sources of weed seed that could be transported to other areas.</p>	<p>8.1) Road maintenance look for priority weed species and report back to District Weed Specialist. <i>(Requirement)</i> Weed infestations should be inventoried and scheduled for treatment. <i>(Recommended)</i></p> <p>8.2) Do not blade roads or pull ditches where new invaders are found. <i>(Required)</i></p> <p>8.3) Maintain desirable roadside vegetation. If desirable vegetation is removed during blading or other ground disturbing activities, area must be revegetated according to #4.1, 4.2, 4.3. <i>(Required)</i></p> <p>8.4) Remove all mud, dirt, and plant parts from all offroad equipment before moving into project area. Cleaning must occur off National Forest lands. (This does not apply to service vehicles that will stay on the roadway, traveling frequently in and out of the project area.) Reference Clause CT 6.26 attached. <i>(Required; Policy 2080.03)</i></p> <p>8.5) All equipment must be cleaned, prior to leaving the project site, if operating in areas infested with new invaders (as designated by the Forest Weed Specialist). Reference CT 6.261 attached. <i>(Required)</i></p> <p>8.6) If straw is used for road stabilization and erosion control, it must be certified weed-free or weed-seed-free. <i>(Required; Policy 2080.03)</i></p>
<p>9) Ensure that weed prevention and related resource protection are considered in travel</p>	<p>9.1) Consider weed risk and spread factors in travel plan (road closure) decisions. <i>(Recommended)</i></p>

management.	
10) Ensure road blading and roadside herbicide application are coordinated chronologically to minimize herbicide use and increase effectiveness.	10.1) Coordinate road maintenance activities with herbicide applications to maximize efficacy. <i>(Required)</i>
<i>Obliteration</i>	
11) Reduce weed establishment in road obliteration / reclamation projects.	<p>11.1) Treat weeds in road obliteration and reclamation projects before roads are made undriveable. Monitor and retreat as necessary. <i>(Recommended)</i></p> <p>11.2) Revegetate according to #4.1, 4.2, 4.3. <i>(Required)</i></p> <p>11.3) Remove all mud, dirt, and plant parts from all offroad equipment before moving into project area. Cleaning must occur off National Forest lands. (This does not apply to service vehicles that will stay on the roadway, traveling frequently in and out of the project area.) Reference Clause CT 6.26 attached. <i>(Required; Policy 2080.03)</i></p> <p>11.4) All equipment must be cleaned, prior to leaving the project site, if operating in areas infested with new invaders (as designated by the Forest Weed Specialist). Reference CT 6.261 attached. <i>(Required)</i></p>

Recreation, Wilderness, Roadless Areas

<p>12) Minimize transport and establishment of weeds on NFS lands.</p>	<p>12.1) Environmental analysis for recreation and trail projects will include weed risk assessment. <i>(Required; Policy 2081.03)</i></p> <p>12.2) Post and enforce statewide weed-free feed Orders. <i>(Required; Policy 2081.03)</i></p> <p>12.3) Encourage backcountry pack and saddle stock users to feed only weed-free feed for several days prior to traveling off roads in the Forest. Before entering NFS land, animals should be brushed to remove any weed seed. <i>(Recommended)</i></p> <p>12.4) Stock should be tied and/or held in the backcountry in such a way as to minimize soil disturbance and avoid loss of native / desirable vegetation. <i>(Recommended)</i></p> <p>12.5) Maintain trailheads, boat launches, outfitter and public camps, airstrips, roads leading to trailheads and other areas of concentrated public use in a weed-free condition. <i>(Required)</i></p> <p>12.6) Only seed when necessary at backcountry sites to minimize introduction of non-native species and weeds. Reseed according to #4.1, 4.2, 4.3 <i>(Required)</i></p> <p>12.7) Motorized and/or mechanized (e.g. mountain bikes) trail users should inspect and clean their vehicles prior to using NFS lands. <i>(Recommended)</i></p>
<p>13) Increase weed awareness and prevention efforts among forest users.</p>	<p>13.1) Use education programs to increase weed awareness and prevent weed spread by recreationists. <i>(Required)</i></p> <p>13.2) Post weed awareness messages at strategic locations such as trailheads, roads, boat launches and forest portals.</p>

<p>14) Reduce weed establishment and spread from activities covered by Recreation Special Use Permits.</p>	<p><i>(Required)</i></p> <p>14.1) Include Clause R1-D4 in all new and reissued recreation special use permits, authorizations, or other grants involving ground-disturbing activities. Include this provision in existing ground-disturbing authorizations which are being amended for other reasons. <i>(Required)</i></p> <p>Consider including Clause R1-D4 by amending existing ground-disturbing authorizations as necessary. <i>(Recommended)</i></p> <p>14.2) Revegetate bare soil resulting from special use activity according to #4.1, 4.2, 4.3. <i>(Required)</i></p>
<p>15) Prevent weed establishment resulting from land and float trail use, construction, reconstruction and maintenance activities.</p>	<p>15.1) All trail crews should inspect, remove, and properly dispose of weed seed and plant parts found on their clothing and equipment. <i>(Recommended)</i></p> <p>15.2) All equipment must be cleaned, prior to leaving the project site, if operating in areas infested with new invaders (as determined by the Forest Weed Specialist). <i>(Required)</i></p> <p>15.3) All disturbed soil should be evaluated and appropriate revegetation measures implemented to assure prompt, preferably native, revegetation. <i>(Required)</i></p> <p>15.4) All gravel and borrow sources must be inspected and approved before use and transport. The source will not be used if the weeds present at the pit are not found at the site of intended use. If weeds are present, they must be treated before transport and use. <i>(Recommended)</i></p>

Cultural Resources

<p>16) Reduce weed establishment and spread at archeological excavations.</p>	<p>16.1) Revegetate bare soil resulting from cultural resource excavation activity according to #4.1, 4.2, 4.3. <i>(Required)</i></p> <p>16.2) Passports In Time programs and other Cultural Resource workers should be given weed briefings and should inspect, remove, and properly dispose of weed seed and plant parts found on their clothing and equipment. <i>(Required)</i></p>
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Wildlife, Fisheries and Botany

<p>17) Incorporate weed prevention into wildlife, fisheries and botany project design.</p>	<p>17.1) Environmental analysis for wildlife, fish and botany projects with ground disturbing actions will include weed risk assessment. <i>(Required; Policy 2081.03)</i></p> <p>17.2) Revegetate bare soil resulting from wildlife and fish project activity according to #4.1, 4.2, 4.3. <i>(Required)</i></p> <p>17.3) Remove all mud, dirt, and plant parts from all offroad equipment before moving into project area. Cleaning must occur off National Forest lands. (This does not apply to service vehicles that will stay on the roadway, traveling frequently in and out of the project area.) <i>(Required)</i></p> <p>17.4) All equipment must be cleaned, prior to leaving the project site, if operating in areas infested with new invaders (as designated by the Forest Weed Specialist). <i>(Required)</i></p>
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Range

<i>Grazing Allotment Management</i>	
<p>18) Ensure weed prevention and control are considered in management of all grazing allotments.</p>	<p>18.1) Environmental analysis for rangeland projects will include weed risk assessment. <i>(Required; Policy 2081.03)</i></p> <p>18.2) When other plans do not already address noxious weeds, include practices and control measures in Annual Operating Plans. <i>(Required)</i></p>
<p>19) Minimize ground disturbance and bare soil.</p>	<p>19.1) Where applicable, revegetate bare soil from grazing activities according to #4.1, 4.2, 4.3. <i>(Required)</i></p> <p>19.2) Check areas of concentrated livestock use for weed establishment <i>(Requires)</i>. Treat new infestations.</p>

<p>20) Minimize transport of weed seed into and within allotments.</p>	<p><i>(Recommended)</i></p> <p>20.1) Avoid driving vehicles through off-road weed infestations. <i>(Recommended)</i></p> <p>20.2) Remove all mud, dirt, and plant parts from all offroad equipment before moving into project area. Cleaning must occur off National Forest lands. (This does not apply to service vehicles that will stay on the roadway, traveling frequently in and out of the project area.) <i>(Required)</i></p> <p>20.3) All equipment must be cleaned, prior to leaving the project site, if operating in areas infested with new invaders (as designated by the Forest Weed Specialist). <i>(Required)</i></p> <p>20.4) If hay or straw is used on the permitted area, it must be certified weed-free or weed-seed-free. <i>(Required; Policy 2080.03)</i></p> <p>20.5) Exclude livestock from sites with new invaders or treat new invaders in these areas before entry by livestock. <i>(Recommended)</i></p> <p>20.6) Feed certified weed-free feed to livestock for several days prior to moving them onto the allotment to reduce the introduction of new invaders and spread of existing weed species. Consider using transitional pastures when moving animals from weed infested areas to the N.F. (Transitional pastures are designated fenced areas that can be logistically and economically maintained.) <i>(Recommended)</i></p>
<p>21) Maintain healthy desirable vegetation that is resistant to noxious weed establishment</p>	<p>21.1) Manage forage utilization to maintain the vigor of desirable plant species as described in the</p>

	AMP. <i>(Required)</i> 21.2) Minimize and/or exclude grazing on restoration areas until vegetation is well established. <i>(Required)</i>
22) Promote weed awareness and prevention efforts among range permittees	22.1) Discuss weed awareness and prevention practices at annual permittee meetings. <i>(Required)</i>

Timber

<i>Pre Harvest</i>	
23) Ensure that weed prevention is considered in all timber projects.	<p>23.1) Environmental analysis for timber harvest projects will include weed risk assessment. <i>(Required; Policy 2080.03)</i></p> <p>23.2) Remove all mud, dirt, and plant parts from all offroad equipment before moving into project area. Cleaning must occur off National Forest lands. (This does not apply to service vehicles that will stay on the roadway, traveling frequently in and out of the project area.) Reference CT6.26 <i>(Required)</i></p> <p>23.3) Treat weeds on roads used by timber sale purchasers. Reference CT6.27. <i>(Recommended)</i></p> <p>23.4) All equipment must be cleaned, prior to leaving the project site, if operating in areas infested with new invaders (as designated by the Forest Weed Specialist). Reference CT6.261 <i>(Required)</i></p> <p>23.5) Where practical, treat weeds on landings, skid trails and helibases that are weed infested before logging activities. <i>(Recommended)</i></p>
<i>Harvest</i>	
24) Minimize the creation of sites suitable for weed establishment.	24.1) Minimize soil disturbance to no more than needed to meet project objectives. <i>(Recommended)</i>

	24.2) Revegetate bare soil as described in #4.1, 4.2, 4.3. <i>(Required)</i>
<i>Post Harvest</i>	
25) Monitor for weeds after sale activity and treat weeds as needed.	25.1) Consider trust, stewardship or other funds to treat soil disturbance or weeds as needed after timber harvest and regeneration activities. <i>(Recommended)</i> 25.2) Monitor and treat weed infestations at landings and on skid trails after harvest. <i>(Recommended)</i>

Minerals

26) Minimize weed establishment in mining and oil and gas operations and reclamation.	26.1) Environmental analysis for minerals and oil and gas projects will include weed risk assessment. <i>(Required; Policy 2081.03)</i> 26.2) Operation and/or reclamation plans will include weed prevention measures. <i>(Required)</i> 26.3) Retain bonds until reclamation requirements are completed. <i>(Required)</i> 26.4) Revegetate bare soil as described in #4.1, 4.2, 4.3. <i>(Required)</i>
27) Remove seed source and limit seed transport into new or existing mining and oil and gas operations.	27.1) Remove all mud, dirt, and plant parts from all offroad equipment before moving into project area. Cleaning must occur off National Forest lands. (This does not apply to service vehicles that will stay on the roadway, traveling frequently in and out of the project area.) <i>(Required)</i> 27.2) Where applicable, treat weeds on project access routes. Reference CT6.27. <i>(Recommended)</i>
28) Minimize weed spread caused by moving infested gravel and fill material.	28.1) All gravel and borrow sources must be inspected and approved before use and transport. The source will not be used if the weeds present at the pit are not found at

	<p>the site of intended use. If weeds are present, they must be treated before transport and use. <i>(Recommended)</i></p> <p>28.2) The borrow pit may not be used if new invaders (as defined by the Forest Weed Specialist) are found on site. <i>(Required)</i></p> <p>28.3) Remove all mud, dirt, and plant parts from heavy equipment used in gravel pit operations before entering NFS lands. Cleaning must occur off NFS lands. <i>(Required)</i></p> <p>28.4) New Pits: On NFS lands, do not establish new gravel and fill material sources in areas where new invaders are present. Where widespread weeds occur at new pit sites strip at least the top 8" and stockpile contaminated material. Treat weeds at new pits where widespread weeds are present. <i>(Required)</i></p> <p>28.5) Maintain stockpiled material in a weed free condition. <i>(Recommended)</i></p> <p>28.6) Check the area where pit material is used ensure that no weed seeds are transported to the use site. <i>(Recommended)</i></p>
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Soil and Water

<p>29) Integrate weed prevention and management in all soil and watershed and stream restoration projects.</p>	<p>29.1) Environmental analysis for soil, watershed and stream restoration projects with ground disturbing actions will include weed risk assessment. <i>(Required; Policy 2081.03)</i></p> <p>29.2) Treat weeds in road obliteration and reclamation projects before roads are made undriveable. Check and retreat as necessary. <i>(Recommended)</i></p> <p>29.3) Revegetate bare soil as described in</p>
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	<p>#4.1, 4.2, 4.3. <i>(Required)</i> 29.4) Remove all mud, dirt, and plant parts from all offroad equipment before moving into project area. Cleaning must occur off National Forest lands. (This does not apply to service vehicles that will stay on the roadway, traveling frequently in and out of the project area.) <i>(Required)</i> 29.5) All equipment must be cleaned, prior to leaving the project site, if operating in areas infested with new invaders (as designated by the Forest Weed Specialist). <i>(Required)</i> 29.6) If straw is used for road stabilization and erosion control, it must be certified weed-free or weed-seed-free <i>(Required; Policy 2081.03).</i></p>
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Land and Special Uses

<p>30) Incorporate weed prevention in all special use permits, road use permits and easements.</p>	<p>30.1) Environmental analysis for lands projects with ground disturbing actions will include weed risk assessment. <i>(Required; Policy 2081.03)</i> 30.2) As a condition of the authorization, revegetate bare soil as described in #4.1, 4.2, 4.3. <i>(Required)</i> 30.3) Include approved special use provision R1-D4 (or subsequent approved direction) in all new and reissued special-use permits, authorizations, or other grants involving ground disturbing activities <i>(Required)</i>. Include this provision in existing ground disturbing authorizations which are being amended for other reasons <i>(Required)</i>. Consider including this provision by amending existing ground disturbing authorizations as determined necessary. <i>(Recommended)</i> 30.4) As necessary, include noxious weed</p>
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	<p>prevention and control measures, as specified above, in new or reissued road permits or easements granted pursuant to FLPMA (P.L. 94-579 10/21/76), FRTA (P.L. 88-657 10/13/64) or subsequent authority(ies). This includes FLPMA Private and Forest Road Permits and Easements; FRTA Private and Forest Road Easements; Cost Share Easements; and Road Use (commercial haul) Permits (7730). <i>(Required)</i></p> <p>Consider including this provision by amending existing ground disturbing authorizations when determined to be necessary by the authorized officer. (While the approved terms and conditions of certain permits or easements may not provide for modification, the necessary weed prevention and control provisions may be included in written plans, specifications, stipulations and/or operation and maintenance plans attached to and made a part of the authorization.) <i>(Recommended)</i></p> <p>30.5) All equipment must be cleaned, prior to leaving the project site, if operating in areas infested with new invaders (as designated by the Forest Weed Specialist). <i>(Required)</i></p>
<p>31) Minimize weed spread caused by moving infested gravel and fill material.</p>	<p>31.1) All gravel and borrow sources must be inspected and approved before use and transport. The source will not be used if the weeds present at the pit are not found at the site of intended use. If weeds are present, they must be treated before transport and use. <i>(Recommended)</i></p> <p>31.2) New Pits: On NFS lands, do not establish new</p>

	<p>gravel and fill material sources in areas where new invaders are present. Where widespread weeds occur at new pit sites strip at least the top 8" and stockpile contaminated material. Treat weeds at new pits where widespread weeds are present. <i>(Required)</i></p> <p>31.3) Remove all mud, dirt, and plant parts from heavy equipment used in gravel pit operations before entering NFS lands. Cleaning must occur off NFS lands. <i>(Required)</i></p>
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Fire

<i>Pre-Fire, Pre-incident training</i>	
<p>32) Increase weed awareness among all fire personnel.</p>	<p>32.1) Emphasize weed awareness and weed prevention in all fire training (especially resource advisors, fire management teams, guard school and district orientation). <i>(Required)</i></p> <p>32.2) Include weed risk factors and weed prevention considerations in the Resource Advisor duties on all Incident Management Teams and Fire Rehabilitation Teams. <i>(Required)</i></p>
<i>Wildfires General</i>	
<p>33) Mitigate and reduce weed spread during fire activities</p>	<p>33.1) Initiate establishment of a network of helibases, camps and staging areas that will maintained in a noxious weed-free condition. <i>(Required)</i></p> <p>33.2) Minimize weed spread in camps by incorporating weed prevention and containment practices such as mowing, flagging or fencing weed patches, designating weed free travel routes and washing equipment. <i>(Required)</i></p> <p>33.3) Check and treat weeds that establish at cleaning sites after fire incidents. <i>(Recommended)</i></p>

	<p>33.4) All fire going vehicles should be regularly inspected to assure that undercarriages and grill works are kept weed seed free. All vehicles sent off Forest for fire assistance should be cleaned before they return home. <i>(Required)</i></p> <p>33.5) Emphasize M.I.S.T. tactics to reduce soil and vegetation disturbance. <i>(Recommended)</i></p>
<i>Smoke Jumpers</i>	
<p>34) Minimize weed spread during smoke jumper operations.</p>	<p>34.1) Avoid or minimize travel through weed infested areas. <i>(Recommended)</i></p> <p>34.2) Inspect, remove, and properly dispose of weed seed and plant parts found on clothing and equipment. <i>(Required)</i></p> <p>34.3) Coordinate with Weed Specialist(s) to locate and/or treat practice jump areas. <i>(Required)</i></p>
<i>Air Operations</i>	
<p>35) Mitigate and reduce weed spread in Air Operations.</p>	<p>35.1) Give helicopter managers training in weed prevention and mitigation measures. <i>(Required)</i></p> <p>35.2) Initiate establishment of a network of helibases that will maintained in a noxious weed-free condition. <i>(Required)</i></p> <p>35.3) Minimize weed spread at helibases by incorporating weed prevention and containment practices such as mowing, flagging or fencing weed patches, designating weed free travel routes and washing equipment. <i>(Required)</i></p> <p>35.4) Provide weed prevention briefings for helibase staff. <i>(Required)</i></p> <p>35.5) Inspect and if necessary clean contract fuel and support vehicles before and after each incident when</p>

	<p>travelling off road or through weed infestations. <i>(Required)</i></p> <p>35.6) Inspect and remove weed seed and plant parts from all cargo nets <i>(Required)</i>.</p>
<i>Logistics</i>	
36) Mitigate and reduce weed spread from Operations activities.	<p>36.1) Look for weed free camps, staging, drop points and parking areas. <i>(Required)</i></p> <p>36.2) Route traffic through camps to avoid weed infested areas. <i>(Recommended)</i></p> <p>36.3) Fire vehicles should be regularly inspected and cleaned as necessary to assure that undercarriages and grill works are kept weed seed free. <i>(Required)</i></p>
<i>Plans</i>	
37) Address weed issues with Planning Section.	<p>37.1) Resource Advisors should provide briefings to identify operational practices to reduce weed spread. <i>(Required)</i></p> <p>37.2) Provide Plans Section with weed control contact familiar with weeds in the fire area. <i>(Recommended)</i></p> <p>37.3) Provide Field Observer with weed identification aids and try to avoid weed infestations in fire line location. <i>(Recommended)</i></p>
<i>Prescribed Fire</i>	
38) Integrate weed prevention and management in all prescribed burning. Mitigate and reduce weed spread during prescribed fire activities.	<p>38.1) Environmental analysis for prescribed fire projects will include weed risk assessment. <i>(Required; Policy 2081.03)</i></p> <p>38.2) Treat high risk areas (as defined in Regional Risk Assessment Factors and Rating protocol) with weed infestations (e.g. roads, disturbed ground) before burning and check and retreat after burning if necessary. <i>(Recommended)</i></p> <p>38.3) When possible, utilize helibases that are maintained</p>

	<p>in a weed-free condition. <i>(Required)</i></p> <p>38.4) All crews should inspect, remove, and properly dispose of weed seed and plant parts found on their clothing and equipment. <i>(Required)</i></p> <p>38.5) Avoid ignition and burning in high risk areas (as defined in Regional Risk Assessment Factors and Rating protocol) that cannot be treated before or after prescribed fire. <i>(Recommended)</i></p> <p>38.6) Emphasize M.I.S.T. tactics to reduce soil and vegetation disturbance. <i>(Recommended)</i></p> <p>38.7) Add weed awareness and prevention education to Fire Effects and Prescribed Fire training. <i>(Required)</i></p>
<i>Rehabilitation</i>	
<p>39) Encourage desirable vegetation during rehabilitation activities.</p>	<p>39.1) Revegetate only erosion susceptible and high risk areas (as defined in Regional Risk Assessment Factors and Rating protocol) as described in #4.1, 4.2, 4.3. <i>(Required)</i></p> <p>39.2) Check and treat weeds at cleaning sites and all disturbed staging areas. <i>(Recommended)</i></p> <p>39.3) If straw is used for rehabilitation and erosion control, it must be certified weed-free or weed-seed-free. <i>(Required; Policy 2081.03)</i></p> <p>39.4) Treat weeds within the burned area as part of rehabilitation plan to reduce weed spread into burned areas. <i>(Recommended)</i></p> <p>39.5) Check for weed spread resulting from fire and fire suppression activities. <i>(Recommended)</i></p> <p>39.6) Apply for restoration funding for treatment of weed infestations within the fire area. <i>(Recommended)</i></p>

Administration/General

<p>40) Ensure all Forest Service administrative sites are weed free.</p>	<p>40.1) Apply weed treatment and prevention on all Forest Service administrative sites including Ranger Stations, trailheads, campgrounds, pastures, interpretive and historic sites. <i>(Required)</i></p>
<p>41) Ensure all Forest Service employees are aware of and knowledgeable about noxious weeds.</p>	<p>41.1) Encourage weed awareness and education in employee development and training plans and orientation for both field and administrative work. <i>(Recommended)</i></p> <p>41.2) Consider a reward program for weed awareness, reporting and locating new invaders. <i>(Recommended)</i></p> <p>41.3) Each Line Officer will be trained in noxious weed management principles and practices. <i>(Required)</i></p>
<p>42) Ensure all forest workers are reducing the chance of spreading noxious weeds.</p>	<p>42.1) All forest workers should inspect, remove, and properly dispose of weed seed and plant parts found on their clothing and equipment including FS vehicles. <i>(Required)</i></p>
<p>43) Ensure continuity in weed management programs</p>	<p>43.1) Each unit will have access to Weed Specialist at the Ranger District or Supervisors Office. <i>(Required)</i></p> <p>43.2) Ensure at least one permanent staff member, per District, is trained and proficient in weed management. <i>(Recommended)</i></p>

Appendix B

**USDA Forest Service, Region 4
Best Management Practices for
Weed Prevention and Management**

FOREST SERVICE MANUAL
OGDEN, UT

TITLE 2000 - NATIONAL FOREST RESOURCE MANAGEMENT

R4 Supplement No. 2000-00-1

Effective XXXXXX, 2000

POSTING NOTICE. Supplements are numbered consecutively by Title and calendar year. Post by document name. Remove entire document and replace with this supplement. Retain this transmittal as the first page of this document. This is the first supplement to this Title.

<u>Document Name</u>	<u>Superseded</u>	<u>New</u>
	<u>(Number of Pages)</u>	
2080	3	11

Digest:

2081.2 – Adds Best Management Practices for Noxious Weed prevention and management.

JACK BLACKWELL
Regional Forester

SERIES 2000 - NATIONAL FOREST RESOURCE MANAGEMENT
R-4 SUPPLEMENT 2000-00-01
EFFECTIVE XXXXXXXX, 2000

ZERO CODE - NOXIOUS WEED MANAGEMENT

2081.2 - Prevention and Control Measures.

1. Carry out the noxious weed program with an integrated pest management approach considering the following priorities:
 - a. Priority I - Potential New Invaders. Emphasis on education, awareness and prevention of noxious weed species that do not yet occur on National Forest System lands. Since a public awareness program is Priority I, Forest should prepare a Public Involvement Plan.
 - (1) Conduct a continuing education and awareness program to train Forest Service personnel and public land users to recognize Priority I weeds. This should include: noxious weed herbarium specimens, photographs of noxious weed species, distribution of published reports, and so forth.
 - (2) On an annual basis, share information on the weed treatment programs and established priorities with county weed control associations and other interested groups.
 - (3) When a Priority I weed has invaded the forest, place it in Priority II and take appropriate action as described below.
 - b. Priority II - Eradication of New Invaders. Highest treatment priority is eradication of new invading noxious weed species. Treatment must emphasize preventing conditions that allow them to become established. Eradication is the goal for these weeds. Components of this treatment priority include:
 - (1) Give highest priority in funding to control efforts on new invaders.
 - (2) Take isolation and eradication measures as soon as new invaders are identified. Take immediate measures to prevent the species from going to seed.
 - (3) Coordinate new infestation surveys with adjacent landowners.
 - (4) Identify and treat the cause of new weed infestations to reduce re-entry possibilities.

c. Priority III - Established Infestations.

- (1) Emphasize containing and preventing further spread.
- (2) Give special treatment considerations to breakouts from established stands and along routes of spread, or adjacent to private lands.
- (3) Control methods should consider the practicality/cost effectiveness of the method compared to the likelihood of success.
- (4) Emphasize biological control where successful agents are available.
- (5) Direct emphasis toward species agreed to in local weed management areas, Memorandums of Understanding, and/or cooperative agreements with weed management partners.

2. Stop the spread of existing noxious weed infestations and prevent invasion of new sites or new noxious weeds by applying the following recommended prevention and control mitigation measures (best management practices for noxious weeds).

a. Incorporate noxious weed prevention into all project layout, design, and alternative evaluation.

- (1). Environmental analyses will consider noxious weed risk in evaluating project location and design and development of alternatives and mitigating measures, including any or all of the following, as determined to be appropriate by the Forest Officer in charge:
 - (a) The presence of existing noxious weed infestations within the project site by species and magnitude,
 - (b) The vulnerability of the habitat type to noxious noxious weed invasion,
 - (c) The risk for invasion or spread of noxious weeds that could be caused by the project,
 - (d) The evaluation of alternatives for noxious weed-free and/or low-risk sites for project implementation,
 - (e) The evaluation of alternative implementation methods

which would reduce risk of invasion or spread of noxious weeds,

(f) Provide mitigation measures designed to minimize risk of invasion or spread of noxious weeds,

(g) The evaluation of direct, indirect, and cumulative effects to noxious weed species and populations. Soil disturbance activities will include noxious weed prevention measures.

b. Project implementation for all ground-disturbing operations within noxious weed infested areas will include provisions for monitoring and inspecting for at least one and preferably two growing seasons following operations. Ground-disturbing operations include, but are not limited to: range seedings, timber harvest, reforestation, wildlife browse plantings, road construction, and fire-burned areas and staging areas.

(1) Ground disturbing operations within noxious weed infested areas must comply with mitigation measures recommended by the Ranger District Weed Specialist and approved by the Responsible Forest Officer.

(2) Select noxious weed-free project construction staging areas.

(3) Retain shade in areas that will have ground disturbance to suppress noxious weeds.

(a) Except when removal is required for public safety, minimize the removal of trees and other roadside vegetation during construction, reconstruction, and maintenance, particularly on southerly aspects.

(4) Re-establish vegetation on bare ground (caused by ground-disturbing activities) to minimize noxious weed spread.

(a) For all ground-disturbing activities in noxious weed areas, seed all disturbed soil in a manner that optimizes plant establishment for that specific site, - unless ongoing disturbance at the site will prevent noxious weed establishment or spread. Monitor and re-seed as needed until site is successfully revegetated according to project standards.

Exceptions to this mitigation measure will require monitoring and treatment of invading noxious weeds.

Exceptions include:

- Grading and blading of travel ways, borrow ditches, rights-of-way, and drainage ways on system roads which are routinely maintained.

- Areas where management objectives would be adversely affected by seeding grass species; i.e.: reforestation plantations.

(b) Where practical, weed seed free topsoil should be stockpiled and replaced on disturbed areas such as road embankments, cuts, fills, and shoulders; gravel pits; skid trails; landings; staging areas; etc.

(c) Replanting should be done immediately after the disturbance activity to take advantage of the seedbed and to establish desirable species before the arrival of invading noxious weeds. Use a seed mix that includes fast, early season species to provide quick, dense revegetation. Seed will be certified weed-seed free before purchase to ensure minimum noxious weed content.

(d) Use local seeding guidelines for detailed procedures and appropriate mixes. If the risk for invasion by noxious weeds is high, use aggressive, early season species. If the risk is low, use a more diverse mixture of native species that may take longer to establish. Include natives, pioneer species and/or nurse crops. Select for low nutrient demanding species to reduce the need for fertilization. Monitor all seeded sites. Spot re-seed as needed.

(5) Consider the following restoration practices for disturbed areas:

(a) Applying weed-seed free mulch with seeding,

(b) Surface scarification in the form of extreme surface roughening,

(c) Seeding at double the standard rate at initial ground disturbance, and full rate again at the end of the project.

(d) Limiting the use of fertilizer where it would favor noxious weed growth.

(6) Use only weed-seed free straw and mulch on road stabilization and erosion control projects.

(7) Minimize the movement of existing and new noxious weed species caused by moving infested gravel and fill material.

(a) Do not establish new material sources on sites where noxious weeds are present, unless the site has first been treated for eradication and the top 8" of contaminated material is stripped and stockpiled.

(b) All active gravel and borrow sources must be inspected and determined to be noxious weed free, and if noxious weed-infested, stripping and stockpiling of contaminated material must be implemented before material use and transport.

(c) Monitor the area where pit material from treated noxious weed-infested pit sites is used to ensure that any noxious weeds transported to that site are detected early and treated for eradication.

c. Minimize roadside sources of noxious weed seed that could be transported to other areas, and maximize effectiveness of weed control.

(1) Ranger District noxious weed prevention and control programs should include a monitoring plan for annual inspection of system roads and rights-of-way for invasion of noxious weeds. If noxious weeds become established, inventory and schedule for treatment.

(2) Blading or pulling of noxious weed-infested roadsides or ditches must be scheduled and coordinated with the Ranger District Weed Specialist to ensure that appropriate mitigation measures are applied. Roadsides and ditches which are infested with noxious weeds will not be bladed or pulled on a routine maintenance schedule unless it is required for public safety or protection of the roadway.

(3) When necessary to blade noxious weed infested roadsides or ditches, schedule for spring or early summer prior to the seed-set stage or later in the fall after seeds have fallen. Minimize surface disturbance and isolate bladed material to the infested site.

d. Reduce noxious weed establishment in obliteration/reclamation projects.

- (1) Treat noxious weeds in obliteration and reclamation projects before roads are made undriveable. Monitor and retreat as necessary.

e. Minimize transport and establishment of noxious weeds on NFS lands.

- (1) Treat noxious weeds at trailheads, boat launches, outfitter and public campsites, airstrips, and roads leading to trailheads.

- (2) Forest Service recommendations for remediation by any OHV or equipment user who is convicted of incorrect use which results in detrimental loss of vegetation and/or soil disturbance defined by detrimental displacement or clearly identifiable ruts with berms will include revegetation of disturbed areas.

- (3) Infestations of noxious weeds will be closed to camping until noxious weeds have been eradicated.

- (4) Campgrounds, trail heads, and similar areas that are open to public vehicle use are considered as high-risk areas and should be inspected annually for invasion of noxious weeds. Established infestations must be included in strategies for eradication.

- (5) Remove seed sources that could be picked up by passing vehicles to limit seed transport.

f. Increase noxious weed awareness and prevention efforts among forest users.

- (1) Use education programs to increase noxious weed awareness and prevent noxious weed spread by recreationists.

- (2) Post and enforce the statewide noxious weed-free feed Order.

- (3) Post pictures and descriptions of noxious weeds at NFS trailheads and at roadsides in noxious weed areas to inform recreationists of noxious weed presence and dangers of spreading.

- (4) Post prevention practices at NFS trailheads and at roadsides in noxious weed areas. Recommended prevention practices include:

- (a) Pack and saddle stock should be fed only weed-seed free feed for several days prior to traveling off roads in the Forest and should be brushed to remove any noxious weed seed.

(b) Stock should be tied and held in the back country in such a way as to minimize soil disturbance and avoid loss of native / desirable vegetation.

(c) Motorized trail users should inspect and clean their vehicles prior to using NFS lands.

(5) Post notices in publicly accessible noxious weed treatment areas where and when there is a likelihood of contact with herbicide-treated-vegetation.

g. Reduce noxious weed establishment and spread at archeological excavations.

(1) Archeological excavation areas are considered as high-risk areas and should be inspected for invasion of noxious weeds. If noxious weeds become established, they must be inventoried and scheduled for treatment.

h. Ensure noxious weed prevention and control are considered in management of wildlife and fisheries.

(1) Ranger District noxious weed prevention and control programs should include a monitoring plan for inventory and annual inspection of areas where wildlife concentrate in the winter and spring which results in overuse and/or soil scarification. If noxious weeds become established, they must be inventoried and scheduled for treatment.

(2) Ranger District noxious weed prevention and control programs should include a monitoring plan for early detection of noxious weed spread or establishment in riparian areas, particularly from existing infestations and previously eradicated sites. New infestations must be treated for eradication before they become well-established.

i. Ensure noxious weed prevention and control are considered in management of all grazing allotments.

(1) Annual Operating Plans for every grazing allotment should include noxious weed prevention monitoring and reporting direction and provisions for annual inspection of areas where livestock concentrate which results in overuse and/or soil scarification. If noxious weeds become established, they must be inventoried and scheduled for treatment

(2) For each grazing allotment containing noxious weed

infestations, include direction in the Annual Operating Plan (AOP) for prevention and control of noxious weeds. Items to be addressed in the AOP may include: season of use, exclusion, minimizing ground disturbance, noxious weed seed transportation, maintaining healthy vegetation, control methods, revegetation, monitoring, reporting and education.

(3) Minimize ground disturbance and bare soil caused by livestock operations.

(a) Include ways to minimize ground disturbance in Allotment Management Plans (AMPs) and/or Annual Operating Plans (AOPs) (e.g. salt licks, watering sites, yarding/loafing areas, corrals and other heavy use areas).

(4) Minimize transport of noxious weed seed into and within allotments.

(a) Avoid driving, walking, riding, and/or herding through noxious weed infestations.

(b) Where and when practical, schedule entry of livestock in units with noxious weed infestations to be for pre seed-set or after seed has fallen. Fence or exclude noxious weed sites, until noxious weeds are eradicated, if scheduling is impractical or unmanageable.

(c) Entry units grazed by livestock transported onto the Forest from noxious weed-infested areas should be inspected annually for new noxious weeds. If noxious weeds become established, they must be inventoried and scheduled for treatment.

(5) Maintain healthy desirable vegetation that is resistant to noxious weed establishment

(a) Manage forage utilization to maintain the vigor of desirable plant species as described in the Allotment Management Plan.

(b) Minimize and/or exclude grazing on restoration areas until vegetation is well established.

(6) Promote noxious weed awareness and prevention efforts among range permittees

(a) Use education programs and/or Annual Operating Plan direction to increase noxious weed awareness and prevent noxious weed spread by permittees' livestock and/or management activities.

(b) Encourage permittees who are certified herbicide applicators to participate in allotment noxious weed control programs.

j. Minimize the creation of sites suitable for noxious weed establishment during timber harvest.

- (1) Avoid driving, walking, skidding, landing, and/or hauling through noxious weed infestations.
- (2) Minimize soil disturbance by considering winter skidding; broadcast burning over pile burning; smaller slash piles and burning under conditions that minimize heat transfer to the soil; minimizing fire line construction; seeding skid trails, landings and other disturbed sites.
- (3) Monitor for noxious weeds after sale activity and treat noxious weeds as needed.
- (4) Timber sale and logging areas are considered as high-risk areas and should be inspected for invasion of noxious weeds. If noxious weeds become established, they must be inventoried and scheduled for treatment.

k. Minimize noxious weed establishment in mining operations and reclamation.

- (1) Retain sufficient bonding until an appropriate percent of the potential vegetation ground cover, as determined by the Responsible Forest Officer, for the site is reestablished.
- (2) Mining and mineral exploration areas are considered as high-risk areas and should be inspected for invasion of noxious weeds. If noxious weeds become established, they must be inventoried and scheduled for treatment.

l. Integrate noxious weed prevention and management in all soil and watershed and stream restoration projects.

- (1) Ranger District noxious weed prevention and control programs should include a monitoring plan for early detection of noxious

weed spread or establishment in riparian areas, particularly from existing infestations and previously eradicated sites. New infestations must be treated for eradication before they become well-established.

m. Reduce noxious weed establishment and spread in special use permits and easements.

(1) Holders of special use permits and easements shall be responsible for the prevention and control of noxious weeds on the area authorized when prescribed by the Forest Service.

(2) Require noxious weed prevention and control requirements in Operating and Maintenance Plans when authorized activities present a high risk for invasion by noxious weeds or the location of the activity is vulnerable to invasion by noxious weeds.

n. Mitigate and reduce noxious weed spread during wildfire and prescribed fire operations.

(1) Increase noxious weed awareness among fire personnel.

(a) Include noxious weed risk factors and noxious weed prevention considerations in the Resource Coordinator duties on all Incident Overhead Teams and Fire Rehabilitation Teams.

(2) Where practical and timely, establish fire camps, vehicle and crew staging areas, helibases, helispots, cargo and net loading areas, and airstrips in noxious weed-free areas.

(3) Assign a local Weed Specialist Resource Advisor to the IC Team when the wildfire or control operations occurs in or near a noxious weed area.

(4) When noxious weed infested areas are used for fire operations, mitigation measures, as determined by the Weed Specialist Resource Advisor, must be fully implemented. Flag off high-risk noxious weed infestations in areas of fire operations.

(5) All vehicles sent off Forest for fire assistance in noxious weed infested areas should be cleaned before returning to home units.

(6) Emphasize Minimal Impact Suppression Tactics (MIST) to reduce soil and vegetation disturbance. Minimize fire and dozer

line.

(7) Avoid or minimize all types of travel through noxious weed-infested areas.

(8) Avoid ignition and burning in noxious weed areas unless it is part of a noxious weed control strategy.

(9) Avoid ignition and burning in areas with a high risk for invasion of noxious weeds.

(10) Unplanned burning of noxious weed areas will require post treatment of noxious weed infestations.

(11) Utilize noxious weed-free helibases and helispots for aerial ignition projects.

(12) Minimize fireline and soil disturbance.

(a) Encourage desirable vegetation during fire rehabilitation activities.

(b) Seed the entire burn, all cat lines, and severely disturbed areas when there is a high risk of noxious weed spread or invasion and such action is recommended by the local Weed Specialist Resource Advisor and approved by the Responsible Forest Officer. Hand seed catlines and severely disturbed areas.

(c) Prioritize treatment of noxious weeds on fire access roads as part of rehabilitation plan to reduce noxious weed spread into burned areas.

(13) Apply for restoration funding for noxious weed infestations as determined by Burned Area Rehabilitation teams.

o. Ensure all Forest Service administrative sites are noxious weed free.

(1) Apply noxious weed treatment and prevention on all Forest Service administrative sites including Ranger Stations, trailheads, campgrounds, pastures, interpretive and historic sites.

(2) Ensure all Forest Service employees are aware of and knowledgeable about noxious weeds.

(a) Encourage noxious weed awareness, education, and

identification in employee development and training plans.

p. Ensure continuity in noxious weed management programs.

(1) Each unit will have a Weed Specialist who is trained and proficient in noxious weed management.

3. Treat poisonous plants only where there is a need identified through a site-specific EA, and only where a substantial livestock loss or an imminent threat to human exists.

4. Hay products may be accepted from any State Department of Agriculture, County Agriculture Officer, or their authorized agents, on National Forest System lands that have non-certified hay, feed, and straw closure orders in effect. Pelletized feed do not fall under the hay products closure orders.

5. Use of Sale Improvement Funds to Control Noxious Weeds. Where logging activity on planned or existing timber sales may contribute to the encroachment of noxious weeds, Sale Area Improvement and K-V collection modified to include provision for collection of funds to control or prevent the encroachment of noxious weeds within sale areas as provided for in FSM 2477. Enter planned expenditure of K-V funds for noxious weed control on Development and Budget System Plan.

2083 - INFORMATION COLLECTION AND REPORTING. Inventory noxious weeds and plot their location on a legible map(s). Update the inventory annually and coordinate with local/county weed boards. Inventory information can be supplemental to post-treatment evaluation described in FSM 2155.1. Make the inventory and summarize by weed species and acreage infested. Do not duplicate the acreage count where more than one weed species occurs on the same site.