VEGETATION

Two issues were identified that pertain to the effects of travel management on vegetation.

POTENTIAL FOR THE INCREASED SPREAD OF NOXIOUS WEEDS.

1. EXISTING CONDITION

a. Natural Characteristics

There are currently 2690 acres infested with noxious weeds on 936 sites on the Rocky Mountain Ranger District (RMRD). These are the known infested acres that have been recorded in the Districts Geographic Information System (GIS) library using Global Positioning System (GPS) technology. These sites are mapped using the State of Montana noxious weed mapping protocols. There are seven known species with the following infestation levels:

Table III-81. Noxious Weed Infestations on Rocky Mountain Ranger District

Common Name	Scientific Name	Acres Infested	Number of Sites
Spotted Knapweed	*Centaurea maculosa*	2562	553
Russian Kapweed	*Centaurea repens L.*	0.10	1
Houndstounge	*Cynoglossum officinale L.*	7	72
Leafy Spurge	*Euphorbia esula L.*	49	47
Dalmation Toadflax	*Linaria dalmatica L.*	0.30	3
Canada Thistle	*Cirsium arvense Scop.*	67	225
Oxeye Daisy	*Chrysanthemum leucanthemum L.*	4	35

There are a few isolated infestations that the District personnel know about that are not included in the above listed table of acres infested and number of sites. They are of the species listed above, but are in very small number and acres. There are likely other infestations on the District that are not known, but it is not feasible to speculate on their locations, size, or species.

The majority of the infestations are along the major road and stream corridors leading to the various trailheads on the District and along U.S. Highway 2 on the north end of the District. New infestations and new species that are found are generally associated with the main access routes onto the District and along the trail system. Isolated infestations of noxious weeds not associated with the trails, access roads and the associated streams or along U.S. Highway 2 have been found, but they are the exception.

Most of the larger infestations are in the flood scoured riparian bottom that has the disturbance and lack of native vegetation that makes for a perfect environment for noxious weed species to proliferate. Highway and road corridors that have received disturbance and are a prime receptor for noxious weed seeds also have large acres of weed infestations. Upland sites with native vegetation compete better against noxious weeds, but also have infestation sites. The currently mapped infestation sites range in elevation from approximately 4,400’ to 5,600’. There are no known infestations above tree line in the alpine zone.

b. Past Events and Conditions

The RMRD has had an active education, prevention, and control program to reduce the impacts of invasive noxious weeds for over 25 years. The District has worked with a variety of partners in the Rocky Mountain Division over many years to better educate the public that visit the District on the impacts of noxious weeds. The District has worked to educate the National Forest users on what they can do to help reduce their spreading existing weeds and reducing the risk of them bringing new weeds onto the District. These educational efforts have included speaking to special interest groups, posting signs and educational materials, sponsoring media advertisements, participating in public weed pulling events, and visiting with members of the public at campgrounds and trailheads.

In October of 1997, the Regional Forester signed a special order requiring certified weed free feeds on all NFS lands within the State of Montana. The RMRD has worked diligently since that time to enforce this special order. The District worked to inform the public of this new special order for the first year, and since that time, has been in an enforcement mode. This special order greatly reduces the risk of noxious weed seeds or vegetative material being transported onto the National Forest and then spread to the roads, trailheads, and trail systems on the District and potentially into very remote back-country sites. Numerous violation notices have been written for violating this weed seed free special order.

The RMRD has used mechanical, chemical, and biological methods to control the spread of noxious weeds. Mechanical hand-pulling of weeds has been used for many years to reduce the spread and density of weeds where the use of chemicals is not appropriate. These areas include campgrounds, administrative sites, where the distance to ground water is not sufficient to use chemicals, and in areas where sensitive plant species are known to exist. Mechanical hand-pulling can be effective in reducing the spread and density of some varieties of noxious weeds by controlling their seed production, but it is seldom effective in controlling or eliminating the population. Mechanical hand-pulling during the Weed Whacker Rodeo in the Sun River Canyon area has resulted in a reduction of noxious weed densities in some areas of the canyon. The pounds of weeds pulled and the number of people participating in the event has been recorded and the number of pounds pulled has declined over the past few years.

Chemical weed control has been the most wide spread tool for noxious weed control on the District. Chemical weed control is done in accordance with the 1986 Final Environmental Impact Statement for the control of noxious weeds on the Lewis and Clark National Forest, the 1994 Final Supplemental Environmental Impact Statement for the control of noxious weeds on the Lewis & Clark National Forest, and the label constraints for the regulated herbicide being applied. The only herbicides currently being used on the RMRD for noxious weed control are 2-4D, Tordon, and Chlopyralid.

Not all weed infestations have a control strategy applied every year. Various factors limit the number of acres that are treated each year. These factors include funding available at the District level, weather, fire activity, and new infestations that are reported.

Treatment priority for noxious weed infestations has been new, small, back-country infestations highest, trailheads second, stream and road corridors third, and large upland infestations last.

The Rocky Mountain Ranger District has used biological control agents as well as mechanical and herbicide control methods. Biological control agents have been released for spotted knapweed, leafy spurge and Canada thistle. Additional biological releases are

needed for spotted knapweed along some stream corridors and Canada thistle in the North Fork of the Sun River drainage.

c. Human Influence

Human influence has been and will continue to have the greatest influence on the introduction, spread, control and prevention of noxious weeds on the Rocky Mountain Ranger District. It is safe to say that the initial introduction of all of the current noxious weed species on the Rocky Mountain Ranger District have been by people. Once established, the noxious weed can then proliferate and spread using its most effective means. Some weed species rely on their ability to produce seeds at an enormous rate. Spotted knapweed is an example of this type plant since it is a short lived perennial that produces thousands of seeds each year.

Other noxious weed plants rely on their ability to disperse their seeds widely to establish new populations. Hounds tongue is an example of this type of plant. Its seed has hooks on it that attach themselves to clothing, animal fur, or horse's mains and tails to be able to move long distances and establish new infestations.

Other noxious weed plants like leafy spurge don't produce large numbers of seeds nor do they transport them long distances, but once they are established, they are very deep rooting, can re-sprout from nodes along their root system, and are all but impossible to eradicate.

All of the weed species that currently occupy sites on the Rocky Mountain Ranger District utilize these types of mechanisms to spread naturally, but they also are aided by people and other environmental facts to move and establish new infestations. These other environmental factors include being transported by wind, streams, birds, and other wildlife.

People have been and will be the cause for the introduction of new weed species and they have and will have a major impact on the spread of weeds. Once established, the activities of people have and will have a major influence on the spread of the infested weeds. If education and prevention efforts by the District are effective, then the introduction of new weeds and the spread of existing weeds will be reduced. It is not possible to guarantee that people visiting and using the Rocky Mountain Ranger District will not bring new weeds onto the District or aid in the spread of existing weeds. Some visitors do not care about their potential impacts on the spread of weeds and others are simply uninformed. It is impossible to change all visitor attitudes towards weeds or contact all users of the District prior to their arrival onto the National Forest.

All types of users to the District have the potential to introduce new weeds or spread existing weeds through their use of the National Forest. **Vehicles have been and will continue to be the biggest contributor to the spread of noxious weeds because they have the highest use levels. The total number of vehicles is not known, but almost every user that visits the Rocky Mountain Ranger District comes to the District in a vehicle.** Weeds seeds come on the mud stuck to the under carriage, pulled off and lodged in the framework, and drug out from the passenger and cargo compartments when other objects are removed. Different types of recreational use have other potentials for the spread of noxious weeds.

People that are back packing can spread weeds by transporting weeds in the lugs of their boots, caught in the fabric of their clothes or in the equipment. Visitors using livestock can spread weeds by having weed seeds caught in the hair of their animals, transported in the stomach content of the animal if it was not on clean feeds prior to coming to the district, or in the manure in the stock trailer. Motorized users can transport weed seeds in mud stuck to the motorized equipment or lodged in the tires or framework of the equipment.

Where that weed is deposited depends on how far and where that person travels. Most often it is along a system trail, but some people travel off of the system trails and the weeds can be deposited in hard to find places off the system trails in isolated locations.

d. Future Trends

It is difficult to speculate on how the future trends specific to noxious weeds. Future trends relevant to noxious weeds include the amount of use by recreators that would occur on the Rocky Mountain Ranger District, the types of use, funding for noxious weed management, and how the various users of the District would become aware and concerned about the spread of noxious weeds.

The Rocky Mountain Ranger District would continue to have an active weed management program that fluctuates depending on available funding, but it is definite that noxious weeds would continue to be present on the District long into the future. The weed management program would continue to emphasize prevention, education and control. New noxious weed species and isolated infestations would continue to be the highest priority for control efforts. The number of infestations, the density of those infestations, and the species that occupy those sites would continue to be recorded and that information will be updated periodically into the Forest GIS system.

e. Desired Condition

It is not realistic to say that the desired condition relative to noxious weeds on the Rocky Mountain Ranger District is to eradicate all noxious weeds from the District. The weed species that exist on the District now would exist under any level of management. It is realistic that the desired condition specific to noxious weeds on the Rocky Mountain Ranger District is for the existing infestations to stay at their current size and density or less, to find and map any new weed species that infest the District, and to control or eradicate the new, isolated infestations of the latest introduced species. This desired future condition is a large task considering the amount of area on the District, the amount of users that come to the District, the variety of places that these visitors come from, and the isolated nature of the District. The Forest-Wide Standard for the Lewis and Clark National Forest for noxious weeds and other pests states:

(1) Develop a public information and education program to emphasize practices that prevent resource degradation and spread of noxious weeds.
(2) Emphasize preventing noxious weeds by reseeding, with desirable plant species, mineral soil exposed by Forest Service activities.
(3) Evaluate alternatives, as outlined in FSM 2155.3, to determine effective environmentally acceptable practices to control noxious weeds and other pests.
(4) Identify areas where noxious weeds and/or pest control is needed. Special attention should be paid to: streams, bogs, and associated riparian habitat; upland game bird nesting habitat; and any other sensitive non-target animal or habitat which may be adversely affected by spraying.
(5) Annually review spray projects, in environmentally sensitive areas, for opportunities to replace spraying with other Integrated Pest Management methods. Cooperate and support basic research for biological control of noxious weeds and other pests.
(6) Cooperate closely with other Federal and State agencies, private individuals, contractors, and permittees to control noxious weed and pest infestations.

2. ENVIRONMENTAL CONSEQUENCES

a. Effects Common to All Alternatives

1. Direct and Indirect Effects

The amount of use is of much greater significance in determining the risk of spreading or introducing noxious weeds than the type of use. There does not appear to be a correlation between the type of recreation use and its ability to spread weeds over other types of recreation use on the Rocky Mountain Ranger District.

If the assumption was that motorized recreation was more likely to spread weeds than non-motorized recreations forms, then it would be logical to expect a higher rate of new infestations and the spread of existing infestations in the Badger/Two Medicine area where there is the highest amount of motorized recreation. That is not the case. The area with the most frequently found new weed infestation is in the North and South Forks of the Sun River, where only non-motorized recreation is allowed.

From that, one might say that non-motorized recreation areas would have a higher threat of new noxious weed infestations. This is not entirely true either. We have non-motorized areas on the District that have experienced few to no, new infestations of noxious weeds such as the Dearborn drainage, along the Chinese Wall, or the upper N. Fk Sun River area.

It appears that the areas on the District with the highest threat of new noxious weed infestations are areas adjacent to, or leading from, the road/trailhead areas with the highest weed infestation levels and the busiest non-motorized areas within an easy days ride on stock or hiking by foot. Another way of stating that is the area is of greatest risk if it is a high use area, like the North and South Forks of the Sun River, or if it is near a high infestation area like Elk Creek or the North and South Forks of the Teton River.

Based on these observations, there does not appear that any alternative would have a significant difference on the spread of noxious weeds based on the type of use allowed under that alternative. What does have the potential to impact the spread of noxious weeds on the District is the amount of use that an area receives and there is no way of knowing how any of the alternatives would affect use levels.

2. Cumulative Effects

Eight of the factors identified for cumulative effects for the Rocky Mountain Ranger District Travel Plan have the potential to affect the spread of noxious weeds. These factors include; 1) Fina/Longwell Oil and Gas Drilling Proposal, 2) Chevron/Devon Energy Drilling Proposal, 3) Woodlake Campground/Picnic Area Rehabilitation, 4) Undetermined trails and roads, 5) Prescribed burning/wildfire, 6) Timber harvest, 7) Northwest Energy pipeline, and 8) new National OHV policy. Any ground disturbing activity, even those not identified as a cumulative effect for this planning purpose, have the potential to increase the spread of noxious weeds on the Rocky Mountain Ranger District.

When projects are identified and covered in an analysis, allowed under permit, or by what ever appropriate mechanism pre-planned, then the potential impacts to noxious weeds can be pre-planned. Mitigation measures can be added to an environmental analysis and Best Management Practices (BMPs) outlined in FSM 2080, Supplement No. R1 2000-2001-1, can be added as a condition of a permit. In addition to mitigation measures and BMPs, monitoring an area impacted by a specific project can identify new noxious weed infestations and the appropriate treatment method. In the case of wildfire, monitoring efforts can be focused on areas with current infestations, where suppression activities have taken place, or where people or equipment have concentrated.