

## Section IV

# Prevention and Early Detection



### I. Early Detection and Eradication Requirements

Prevention, early detection, and eradication of newly introduced invasive weed species is the most economical means of weed management. Prevention is best accomplished by ensuring that weed seed or vegetative reproductive plant parts are not introduced into an area. Common methods of weed introduction include:

- Contaminated seed, feed grain, forage, straw, or mulch;
- Movement of uncleaned equipment or machinery from a weed contaminated area. This includes equipment or machinery used for or by construction, recreation, agriculture, forestry, oil and gas exploration and production, utility companies, mining, and tourism;
- Animals (domestic and wildlife) that may have viable weed seed present in their digestive tract or attached to their hair or wool;
- People moving noxious weed plant parts with viable seed, planting noxious weed seed for ornamentals, or scattering contaminated wild bird seed;
- Allowing noxious weeds to produce seed along waterways and roadways; or
- Using gravel, roadfill, or top soil contaminated with noxious weed seed or vegetative reproductive plant parts.

**Early detection is identifying and documenting newly introduced weed species into an area.**

**Eradication is employing appropriate management methods to totally remove infestations, including the reproductive potential of a weed species in an area.**

- A. Develop early detection methods and eradication programs for new invaders. This would include education and awareness programs where visitors and users of the area assist managers in locating and identifying new invader weed species.
  1. New invaders can be identified with input from state cooperative extension personnel, state departments of agriculture, and through the Invaders Database. (See Appendix 14.)
- B. Provide follow-up inspection to verify the potential of new invader weed species. Initiate an eradication program if new invaders are confirmed.

## Section IV

---

### II. Prevention Requirements

Following are specific recommendations for the prevention and early detection of the spread of noxious weeds. More stringent guidelines may be necessary in certain parts of a WMA. Example: within National Parks or wilderness areas. (See Section X - "Certified Weed-Free".) See Appendix 1 for samples of testing programs, contract clauses, and closure statements that apply to the prevention requirements below.

- A. Ensure that seed, feed grains, forage, straw or mulch are free of weed reproductive plant parts and meet standards set in the WMA. (See Appendix 4.)
  1. Seed.
    - a. Seed should be certified and tested for noxious weed seed at a state seed laboratory.
    - b. Develop clauses for revegetation plans of disturbed sites that include reseeding with weed-free seed.
  2. Mulches.
    - a. Develop contract clauses that do not allow any seed or reproductive plant parts present in mulch.
    - b. Certify mulch samples to meet area Certification Standards prior to any placement of the mulch in the area.
  3. Certified weed free forage.
    - a. Limit all public lands in the WMA to the use of processed or certified weed-free forage.
    - b. Develop stipulations that will not allow any transportation of weed contaminated forage or processed feeds through the WMA.
    - c. Develop or adopt certification standards or a quarantine program to ensure the production and use of weed-free forage and other agronomic crops in the WMA.
- B. Encourage proper management of livestock used in or trailed through the WMAs to slow noxious weed spread.
  1. Use only feeds meeting area certification standards. (See Appendix 4.)
  2. Livestock used for the management of weeds should be held in a weed-free feed environment a minimum of 96 hours prior to moving them into the WMA. This allows the animals to clean their digestive tracts of weed seeds.
- C. Ensure that equipment or vehicles are free of weed reproductive plant parts prior to movement into the WMA. Develop standards and follow proper guidelines to prevent the introduction of weeds by equipment or machinery. These may include vehicles used for:

## Section IV

---

Agriculture/Livestock  
Commercial and Private Construction  
Fire Suppression Measures  
Geothermal Exploration/Production  
Irrigation Ditch Companies  
Mining and Quarries  
Oil and Gas Exploration/Production  
Range and Wildlife Improvement Projects  
Recreation/Tourism/Hunting/Fishing  
Right-of-way Construction/Maintenance  
Timbering and Forestry  
Utility Construction/Maintenance  
Off Road Vehicles (ATV, motorcycles, etc.)

1. Develop cooperative weed-prevention programs with the suppliers of sand, gravel, top soil, and other construction materials to ensure that these materials are free of weed seed or reproductive plant parts before quarrying, mining and/or transport within or into the WMA.
  2. Develop stipulations in the contracts that do not allow any weed seed present in the gravel or other material.
  3. Develop clauses in timber sale contracts that set standards on revegetation, weed-free seed and mulch, operation practices, etc.
- D. Educate people in the wide variety of seed transport methods, such as:
- Do not pick and transport weeds or weed plant parts, such as flowers.
  - Check clothing and pets after walking through weed-infested areas for weed seed.
  - Clean vehicles of mud and plant parts after driving through infested areas.
- E. Work with the county and city planning staff and zoning committees to include consideration for noxious weed management when developing or approving subdivision plans, special use permits, or new leases.
- F. Develop an Integrated Weed Management program whereby all landowners within the WMA work in a cooperative program that prevents weeds from producing seed.
- G. Develop or adopt weed-awareness programs for local residents, fishing and hunting license-holders, the visiting public and staff members of the different county, state, and federal agencies. (*See Section III.*)

## Section IV

---

### III. Fire Suppression and Site Rehabilitation Plans

- H. Develop or adopt cooperative agreements with enforcement agencies to assist in compliance with weed free forage certification standards.
- A. Develop a plan to minimize disturbance from fire suppression activities.
  - 1. These activities result in disturbance of land surface by vehicles, foot traffic, pack animals, chemicals, helicopter bucket drops, bulldozers, fireline explosives, pumps, and handtools.
  - 2. Disturbance can occur in remote areas that would not otherwise be subject to the introduction of weeds and where infestations are not likely to be detected following the fire.
  - 3. When fire rehabilitation practices require reseeding firelines or burned areas, certified weed free seed should be used.
- B. Understand the direct effects of fire on weed species in the area.
- C. Develop a plan before fires occur to mitigate the impacts of noxious weeds during and after fire suppression activities.
  - 1. Review weed inventories and identify pre-existing problem areas to assist in prioritizing control efforts. If no inventory exists, scheduling weed surveys of the burned area and it's perimeter is critical to control and contain any pre-existing infestations.

#### **Best Management Practices to Control Weeds Following Fire**

- 1. Use the best integrated management approach to control noxious weeds (*See Section VI.*) Speed is critical to stop weed invasion so the plan should be implemented before the first growing season (or as soon as possible).
- 2. Approve noxious weed control that utilize the most cost-effective means of providing adequate watershed cover where competition from noxious weeds would render emergency revegetation of firelines and campsites ineffective. This includes setting standards in the fire plan that only weed-free seed and mulch are used in revegetation programs.
- 3. Timely seeding of a cover species to rapidly occupy disturbed sites will minimize impacts of noxious weeds and help hold the soil until native plants recover.
- 4. Use drilling or other effective revegetation techniques to gain a high rate of plant establishment.

## Section IV

---

- D. To prevent the invasion of weeds into burns:
1. Consider weed prevention as part of daily fire- fighting operations.
  2. Consider rehabilitation as part of the suppression effort. The planning section should address prevention of weed invasion in the rehabilitation plan.
  3. Emphasize light-hand tactics to minimize the amount of soil disturbance.
  4. Require the cleaning of equipment and pack animals used on the fireline and in camp. This includes the development of proper cleaning methods of all equipment to be used on fires to reduce the spread of weed species.
  5. Avoid staging equipment and resources in noxious weed infested areas.
  6. Delineate noxious weed infested areas and erect a barrier to prevent spread from those areas.
  7. Consider the ecological and economical costs of potential invasion by weeds in the escaped fire analysis and the possible benefits of the contain and confine options. Aggressive suppression may result in the least amount of land disturbed by fireline and camps. The cheapest option will probably result in the least disturbance.
  8. Use only seed and mulch that is certified weed- free.
  9. Restore firelines using the same material that was removed during construction.
  10. Start rehabilitation immediately after fire is out or as soon as possible.
  11. Use aircraft rather than pack animals to minimize disturbance.