

# Chapter 36

## PLANT COMMUNITIES/VEGETATION

**MDT ENVIRONMENTAL MANUAL**

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## Chapter 36

# PLANT COMMUNITIES/VEGETATION

### 36.1 OVERVIEW

Plants/vegetation are important because they:

- hold soil in place and prevent erosion;
- remove carbon dioxide from the atmosphere and release oxygen;
- provide diverse materials that are used by people and animals as food, for structures and for other products; and
- contribute to aesthetic views and recreation.

Plant communities are assemblages of populations that grow together in the same ecological setting. They are important because they support diverse species and provide niches for particular specialized plants and animals.

Plants comprise both desirable and undesirable species that must be considered as a part of the evaluation of project impacts under the *National Environmental Policy Act* (NEPA) (42 USC 4321, et seq.) and the *Montana Environmental Policy Act* (MEPA) (MCA 75-1-101, et seq.). Species that are native to a particular ecosystem are desirable. Undesirable plant species include noxious weeds/weeds and invasive species.

Noxious weeds/weeds are defined generally as exotic plant species established, or that may be introduced, that may render land unfit for agriculture, forestry, livestock, wildlife or other beneficial uses or that may harm native plant communities. Invasive species include plant species that readily move beyond their native habitat and invade new habitats. They are defined as alien species whose introduction causes, or is likely to cause, economic or environmental harm or harm to human health. A number of Federal and State directives require consideration of the effects of actions on the spread of noxious weeds and invasive species.

For the desirable plants, special consideration must be given to the effects of actions on species that are at-risk or potentially at-risk due to rarity, restricted distribution, habitat loss and/or other factors. Under the Montana Natural Heritage Program, these plants are included under the term "Species of Concern." This term also encompasses species that have a special designation by organizations or land management agencies in Montana, including Bureau of Land Management (BLM) Special Status species; US Forest Service (USFS) Sensitive species; and US Fish and Wildlife Service (USFWS) Threatened, Endangered and Candidate species.

This Chapter provides guidance and procedures for addressing project impacts on plant communities and vegetation, including Species of Concern and noxious weeds/invasive species.

## 36.2 LAWS, REGULATIONS AND GUIDANCE

### 36.2.1 Executive Order 13112 “Invasive Species”

This Executive Order defines invasive species as an alien species whose introduction causes, or is likely to cause, economic or environmental harm or harm to human health. Key provisions of the Executive Order include those requiring each Federal agency whose actions may affect the status of invasive species to take steps to:

- prevent the introduction and spread of invasive species,
- detect and respond rapidly to control populations of invasive species in a cost-effective and environmentally sound manner,
- monitor invasive species populations accurately and reliably, and
- provide for restoration of native species and habitat conditions in ecosystems that have been invaded.

### 36.2.2 23 USC 139 “Efficient Environmental Reviews for Project Decision-Making”

For projects involving preparation of an environmental impact statement and for environmental assessments being prepared in accordance with the FHWA “SAFETEA-LU Environmental Review Process Final Guidance,” this part of the *United States Code* (USC) requires that, at appropriate times during the study process, the lead agency or agencies for the project collaborate with agencies serving as participating agencies to determine the methodologies to be used and the level of detail required for assessing impacts, including plant community/vegetation impacts. See [Chapters 11 “Preparing Environmental Documentation,” 13 “Environmental Assessment/FONSI”](#) and [14 “Environmental Impact Statement/ROD”](#) for further guidance on this requirement.

### 36.2.3 Federal Highway Administration Guidance on Invasive Species

This August 10, 1999 guidance provides direction for implementing Executive Order 13112. It includes sections on “Background” and “Guidelines” for implementation. The implementation guidelines address the following topics:

- use of Federal funds,
- FHWA NEPA analysis,
- State DOT activities and funded facilities,
- innovative design,
- coordinated research,
- training,
- interagency cooperation, and
- interagency committees.

The guidance is available on the FHWA “Planning, Environment and Realty” website.

#### **36.2.4 23 USC 329 “Eligibility for Control of Noxious Weeds and Aquatic Noxious Weeds and Establishment of Native Species”**

This part of the USC makes activities for the control of noxious weeds and the establishment of native species eligible for Federal-aid highway funding. This part supports activities for noxious weed control and establishment of native species concurrent with, in advance of, or following the construction of a project funded under Title 23 USC.

#### **36.2.5 FHWA “Guidance on 23 USC 329 on the Control of Noxious Weeds and Aquatic Noxious Weeds and Establishment of Native Species”**

This May 16, 2006 guidance provides direction for implementing 23 USC 329. It includes sections on Purpose, Definitions and Applicability and clarifies that activities in advance of a construction project must be related to a transportation project funded under Title 23 and must be carried out in accordance with all applicable requirements of Federal law and associated regulations and State transportation planning processes.

#### **36.2.6 MCA 7-22-2101 through 2154 “County Weed Control”**

These Parts of the *Montana Code Annotated* (MCA) establish the administrative and procedural framework for county control of noxious weeds in Montana. MCA 7-22-2102 authorizes the organization of weed management districts. MCA 7-22-2103 authorizes the creation of district weed boards and empowers those boards to employ a coordinator to manage the district noxious weed management program and supervise other district employees. MCA 7-22-2101(8) provides the following definition of noxious weeds:

*“Noxious weeds” or “weeds” means any exotic plant species established or that may be introduced in the state that may render land unfit for agriculture, forestry, livestock, wildlife or other beneficial uses or that may harm native plant communities and that is designated:*

- *as a statewide noxious weed by rule of the department [Montana Department of Agriculture]; or*
- *as a district noxious weed by a board, following public notice of intent and a public hearing.*

*A weed designated by rule of the department as a statewide noxious weed must be considered noxious in every district of the State.*

Pursuant to MCA 7-22-2152, “Revegetation of rights-of-way and areas that have potential for noxious weed infestation,” the Botanist develops revegetation plans for all disturbances within MDT right-of-way. The plans must be submitted to the county weed board for review and approval. The plans are incorporated into the construction contract to satisfy the intent of the statute which is to “reestablish a cover of beneficial plants” on all ground disturbed by construction.

**36.2.7 MCA 60-2-208 “Seeding Along Highways”**

This Montana statute establishes requirements that MDT must follow in seeding borrow pits, slopes and shoulders after a Federal-aid or State highway is constructed. One of the requirements is that MDT must seek joint recommendations and specifications as to time and method of seeding, fertilizing practices and grass species from the Montana extension service, the experiment station and the Natural Resources Conservation Service.

**36.2.8 MDT Standard Specification 107.11.5 “Noxious Weed Management”**

This specification requires contractors to follow the requirements of the *County Noxious Weed Management Act*, MCA 7-22-2101 through 2154, and all county and contract noxious weed control requirements. In addition, the specification requires the contractor to determine the specific noxious weed control requirements not specified in the contract of each county where the project is located before submitting a bid.

**36.2.9 MCA 80-5-101 through 80-5-305 Montana Agricultural Seed Act**

This statute requires MDT to abide by all laws and rules that apply to the use and application of agricultural seed on MDT properties. Adherence to labeling and purity standards ensures that the use of seed on MDT properties does not jeopardize or threaten the health and productivity of lands adjacent to MDT properties.

The Botanist monitors the use of seed purchased for MDT contracts by coordinating testing with MDT Materials Bureau staff and commercial seed suppliers. The Botanist works with the Montana State Seed lab to ensure that testing is conducted on all seed lots to be used on MDT properties and that the results of the testing are used to formulate specific seed mixtures.

**36.2.10 MCA 80-7-901 through 924 Montana Weed Seed Free Forage Act**

This statute requires that all natural mulches and erosion control products that are used or installed on MDT properties be certified noxious weed seed free. The Botanist works with district construction crews to ensure compliance with this statute, as well as the Montana Department of Agriculture to monitor material supplier quality control.

**36.2.11 “Montana Natural Heritage Program” Website**

This website provides information on Montana’s species and habitats, emphasizing those of conservation concern. The website includes links to information that can be useful in evaluating plant communities/vegetation aspects for proposed projects (e.g., distribution of Montana’s plant and animal species; Montana Species of Concern, which are plants and animals potentially at risk; natural communities in Montana, Montana Noxious Weed Program).

**36.2.12 “Montana Weed Control Association” Website**

This website includes links to a broad range of useful information regarding noxious weeds in Montana, including threats and impacts of noxious weeds, identifying weeds, preventing weed spread, integrated weed management practices and weed legislation library/archives. It also includes links to contact information for county weed districts and State and Federal agency personnel involved with weed control.

**36.2.13 “Invaders Database System” Website**

This website provides access to a comprehensive database of exotic plant names and weed distribution records for Montana and four other States in the northwestern US. The spatial and temporal spread of weeds can be displayed using historic distribution records in the database. Noxious weed listings are provided for all US States and six southern tier Canadian provinces.

### 36.3 PROCEDURES

#### 36.3.1 Information Gathering

The Preliminary Field Review (PFR) is the initial step in evaluating plant community and vegetation issues for a proposed project. The Design Team (DT) notifies and invites appropriate MDT personnel, including the District Biologist (DB) within the MDT Environmental Services Bureau (ESB), to the field review. The ESB Project Development Engineer (PDE) reviews the list of ESB attendees and includes others as necessary to ensure appropriate ESB personnel are in attendance. The DB participates in the PFR to make a preliminary evaluation of available information on the project scope and the potential for the project to impact important plant communities or plant Species of Concern, or to involve noxious weeds/invasive species. Plant Species of Concern include those designated through the Montana Natural Heritage Program, those designated as threatened or endangered by the USFWS, those designated as sensitive by the USFS and those designated as sensitive/special status by the BLM. Following the field review, the DT prepares a PFR Report summarizing the issues discussed during the PFR, including wildlife issues. The DT distributes the final PFR Report for review and comment. Within ESB, the PDE serves as the document champion to collect and coordinate comments from the other Sections. The PDE compiles the comments into a PFR review memorandum for signature by the Environmental Services Bureau Chief (ESBC).

The DB notifies the Environmental Resources Section Reclamation Specialist (Botanist) of general biological conditions within the project area and requests input on issues brought up during the PFR.

For projects subject to the requirements of 23 USC 139 "Efficient Environmental Reviews for Project Decision-making," the DB and Botanist, in cooperation with FHWA, collaborates with participating agencies in determining the appropriate methodologies to be used and the level of detail required in the analysis of plant community/vegetation effects of project alternatives.

Based on the project scope and field observations during the PFR, the DB or consultant performs a field and literature review to gather information on vegetative communities, threatened and endangered plant species, rare and/or sensitive plant species and noxious weeds/invasive species at the project site and/or along the project corridor. The DB confers with the Botanist to evaluate the project effects on plant species. Examples of the type of support the Botanist may provide include designating the presence and quantity of noxious weeds and conducting field surveys for plant Species of Concern, reviewing Natural Heritage records and coordinating with the Natural Heritage botanist regarding threatened and/or endangered plant species and plant Species of Concern. The DB or consultant (through the DB) may also request information from biologists with the Department of Fish, Wildlife and Parks (FWP), Department of Natural Resources and Conservation (DNRC), USFS, BLM, USFWS, from county weed coordinators and any other pertinent agencies that have a management or regulatory interest in vegetative communities, threatened or endangered plant species, rare and/or sensitive plant species and/or noxious weeds/invasive species the project may affect. The objective of the information gathering is to address the following topics:

- general vegetation, which includes baseline conditions;
- noxious weeds/invasive species, which addresses:
  - + species present and distribution, and

- + general description and degree of infestation; and
- sensitive plant species of special concern, including:
  - + species description and distribution,
  - + habitat requirements, and
  - + potential to occur in project area.

The DB or consultant documents the information obtained regarding each of the above topics in the Biological Resource Report (BRR) for the project.

### **36.3.2 Analysis and Findings**

Throughout the design process, the DB confers with the Botanist on an ongoing basis to evaluate project impacts to important plant communities and sensitive plant Species of Concern and measures for avoiding and/or minimizing those impacts. The DB consults with the Botanist in evaluating impacts and mitigation for important plant communities and sensitive plant species and measures for addressing involvement with noxious weeds/invasive species. For consultant design projects, the Botanist provides the seeding Special Provisions and provides landscaping review and coordination.

The DB or consultant documents the results of the evaluations in the BRR in accordance with the following:

1. General Vegetation. This Section should address the following:
  - baseline conditions;
  - potential impacts (e.g., discussion of the effects of removal or disturbance of plant communities/vegetation during clearing and grubbing);
  - avoidance and minimization (e.g., discussion of changes in project alignment, cross section or construction limits to avoid or reduce vegetation disturbance and/or removal); and
  - feasible conservation measures (e.g., description of requirements to be imposed for restricting vegetation disturbance and removal to the minimum amount practical and reseeding or replanting disturbed areas with desirable species at the earliest practical date following disturbance), based on the results of consultation and coordination with the Botanist.
2. Noxious Weeds/Invasive Species. This Section should address the following:
  - species present and distribution;
  - general description and degree of infestation; and
  - feasible conservation measures, based on the results of consultation and coordination with the Botanist (e.g., requirements to be imposed for reseeding or replanting disturbed areas with desirable species at the earliest practical date

following disturbance to reduce noxious weed/invasive species infestations, requiring contractors to inspect and clean construction equipment prior to leaving or entering the project area to avoid the transfer of noxious weed/invasive species seeds into other sites).

3. Sensitive Species of Special Concern. This Section should address the following:

- species description and distribution;
- habitat requirements;
- potential to occur in project area;
- potential impacts (e.g., discussion of the effects of removal or disturbance of plant species of special concern during clearing and grubbing);
- avoidance and minimization (e.g., discussion of changes in project alignment, cross section or construction limits to avoid or reduce disturbance and/or removal of sensitive plant species); and
- recommended conservation measures (e.g., description of requirements to be imposed for having a qualified botanist inventory the number and location of plant Species of Concern, having the contractor manage construction activities to avoid or limit impacts to the plants, placing erosion control devices to delineate construction limits and control erosion-induced siltation from migrating outside the construction limits, reseeding or replanting disturbed areas with desirable species at the earliest practical date following disturbance).

See [Chapter 38 “Threatened and Endangered Species”](#) for guidance and procedures regarding documentation and further processing for impacts to listed threatened or endangered plant species or candidate plant species.

Upon completion of the BRR prepared by the DB, the DB provides it for review by the Environmental Resources Section Supervisor (ERSS). The DB may also coordinate it with the DT, the Botanist and outside regulatory and resource agencies for review and comment.

Upon completion of the BRR prepared by a consultant, the Botanist reviews the pertinent sections that relate to vegetation and plant communities.

The DB confers with the Botanist prior to coordination with the PDE. The PDE incorporates the information and recommendations from the BRR regarding plant communities/vegetation in the project area, project effects on those resources, measures to avoid and minimize adverse effects and conservation measures in the environmental documentation for the project. See [Chapters 11 “Preparing Environmental Documentation,” 12 “Categorical Exclusion,” 13 “Environmental Assessment/FONSI”](#) and [14 “Environmental Impact Statement/ROD.”](#)

The Botanist reviews the Scope of Work (SOW) Report for the project and coordinates with the DB to verify the nature and extent of any unavoidable adverse plant community/vegetation impacts. The DB also may coordinate the SOW Report with the Botanist for review and comment regarding plant community/vegetation issues (e.g., inclusion of reclamation provisions,

adherence to State weed laws, minimization of disturbance). Within ESB, the PDE serves as the document champion to collect and coordinate comments from the other Sections. The PDE compiles the comments into a SOW Report review memorandum for signature by the ESBC.

### 36.3.3 **Mitigation and Commitments**

The Botanist conducts the following:

1. **Design**. The Botanist coordinates with the DT to incorporate measures in the project plans for avoiding and minimizing adverse plant community/vegetation impacts. For the Botanist, this may include addressing:
  - reclamation design specifications,
  - adherence to State weed laws,
  - development of new material/technology specifications,
  - minimization of disturbance,
  - special material needs and handling,
  - utility company reclamation requirements, and
  - for project involving water crossings, special stream bank mitigation.
2. **Plan-in-Hand Review**. The Botanist participates in the Plan-in-Hand Review for the project to address plant community/vegetation issues and associated impact avoidance and minimization measures.
3. **Special Provisions**. The Botanist prepares any special provisions necessary to implement avoidance, minimization and/or conservation measures for the project's plant community/vegetation impacts. The Botanist coordinates with the DT and MDT Contract Plans Bureau to ensure the special provisions associated with the plant community/vegetation impacts are accurately reflected in the final engineering plan documents.
4. **Final Plan Review**. The Botanist coordinates with the DT to review the final project plans to ensure that measures for avoidance and minimization of plant community/vegetation impacts have been incorporated. The Botanist ensures that conservation measures and special provisions associated with the plant community/vegetation impacts are accurately reflected in the plans. The Botanist coordinates as necessary with the DT and the MDT Contract Plans Bureau to implement any needed changes.
5. **Construction**. The Botanist coordinates with Construction personnel and the District Environmental Engineering Specialist to ensure the special provisions and design elements concerning plant communities/vegetation and associated reclamation and conservation measures are implemented during project construction.

The Botanist performs the following construction-stage functions:

- working with District construction crews (and the Montana Department of Agriculture regarding quality control for suppliers) to ensure that all natural mulches and erosion control products used on MDT projects comply with the requirements of the *Montana Weed Seed Free Forage Act*;

- monitoring the use of seed purchased for MDT contracts by coordinating testing with the MDT Materials Bureau staff and commercial seed suppliers to ensure compliance with the requirements of the *Montana Agricultural Seed Act*;
  - working with the Montana State Seed lab to ensure that testing is conducted on all seed lots to be used on MDT properties and that the results of the testing are used to formulate specific seed mixtures;
  - conducting on-site field review to ensure adherence to reclamation/planting specifications;
  - assisting Construction staff with goals and objectives of design specifications;
  - monitoring compliance with plant survival (contract) guarantee specifications;
  - conducting field review of wetland mitigation site completion, if applicable; and
  - coordinating with seeding contractors to accomplish objectives.
6. Post-Construction. The Botanist performs the following post-construction functions:
- Statewide monitoring of reclamation success on grading projects,
  - identification of sites needing remedial treatment,
  - development of plans to repair erosion damage and augment seeding success, and
  - coordination with Maintenance staff on completion of follow-up work.