



Division of Trails and Waterways Pesticides and Pest Control Guidelines

CONTACT: Division of Trails & Waterways, Angela Anderson, 651-259-5613

DATE: June 9, 2006

SUPERSEDES: Operational Order #59, Trails & Waterways Guidelines, 1991

1. Introduction

The Division of Trails and Waterways (TAW) manages long narrow linear corridors for trails and canoeing and boating rivers and small acreage for boat accesses. These lands are subject to impacts from adjacent land and have a high edge per acre ratio.

Controlling pests effectively will always present a challenge because of the potential for re-introduction from adjacent land. Linear rights of way and water access sites occur in a variety of natural and cultural environments, therefore a full spectrum of pest related problems are encountered.

The Division of Trails and Waterways Pesticide and Pest Control Guidelines are a required supplement to Department of Natural Resources (DNR) Operational Order #59, Pesticides and Pest Control, October 5, 2004. The following guidelines will address what is unique to the TAW's needs.

Minnesota Statute 18B.063 directs that "The state shall use integrated pest management techniques in its management of public lands including roadside rights-of-way, parks, and forests; and shall use planting regimes that minimize the need for pesticides and added nutrients."

The Minnesota Department of Agriculture defines Integrated Pest Management (IPM) as "an approach which first assesses the pest situation, evaluates the merits of pest management options and then implements a system of complimentary management actions within a defined area." IPM uses a combination of biological, mechanical and chemical control methods that maximize the effectiveness of control minimize impact to non-target species and are cost effective.

2. Goal

Trails and Waterways applies Integrated Pest Management (IPM) methods to prevent or control the establishment of invasive non-native plants and animals and other pests for the health and safety of the recreating public, and to preserve the ecological function of diverse natural environments of Minnesota.

3. Division Staff Responsibilities

- A. Discipline Pesticide Coordinator (DC): The Division's Natural Communities Management Coordinator is the Discipline Pesticide Coordinator. This person will accumulate and archive the Pesticide Application Summary annually and will coordinate updating of Division guidelines. The Discipline Pesticide Coordinator is informed of the need for control, the appropriate pesticide use and timing. The Discipline Pesticide Coordinator will provide the Area Supervisor with an annually updated overview of the Natural Heritage Sites.
- B. Discipline Manager or Supervisor (DM): The Area Supervisor or designee is the Discipline Manager. The Area Supervisor will ensure that all personnel that he or she supervises use pesticides consistent with Operational Order #59 and Division guidelines. The Discipline Manager is responsible for detailed Natural Heritage Database Review before pesticides are applied.
- C. Application Supervisor (AS): TAW Technician or designee is the on-site person to oversee the application of pesticides by other DNR personnel or outside contractors. After determining control needs and pesticide needs a Pesticide Use Approval form is submitted. This form will be reviewed and approved by the DM (Area Supervisor), and the DC (Discipline Coordinator).
The Application Supervisor is responsible for ensuring that the pesticide is applied according to the Material Safety Data Sheet (MSDS), the pesticide product label, Division guidelines, and contract specification and ensures that the Pesticide Application Report is completed. This person is also responsible for ceasing operations when conditions warrant
- D. Facility Manager (FM): This person is responsible for pesticide storage areas within an area or region. This person ensures that storage and inventory requirements of pesticides are in compliance with Operational Order # 59. This person also maintains a permanent file of pesticides at field locations and reports to the Safety Administrator in Facilities Operations Support (FOS)

4. Pest Control Methods and Treatments

Integrated Pest Management (IPM) considers and implements a combination of biological, mechanical, and chemical control methods, that will maximize effectiveness of control, minimize effects on non-target species and monitor the effectiveness of control practices over time. Cost effectiveness of treatments is also an important consideration. Non-pesticide and pesticide controls may be used in concert, as part of IPM for a particular pest problem. Control treatments and times are chosen when the target species is at its most vulnerable stage for most effectiveness. Biological control may be a less effective method for the small TAW sites. Mechanical control methods such as prescribed burning, brushing and mowing at the right time may be as effective

as chemical control considering the effects chemical treatments have on natural resources and human health. The narrow corridors and small riparian sites TAW administers will require careful evaluation of treatment alternatives.

Process	Staff Responsibility
Identify pest problem and need for control	AS and DC
Research best management practices	AS
Select IPM option	AS
Select pesticide, if required	AS
Review Natural Heritage database (rare elements)	DC
Prepare Pesticide Use Approval form	AS
Assure Pesticide Application Report by applicator	AS or Applicator
Post treatment sites	AS or Applicator
Evaluate and monitor treatment effectiveness	AS
Submit annual Application Summary	AS
Maintain and update training records	AS and DM

5. Pesticide Use

All TAW staff, or private contractors operating on TAW land will follow:

- Operational Order # 59,
- TAW Guidelines,
- Material Safety Data Sheet
- Product label instructions,
- Minnesota Pesticide Control Law (MN Statutes-Chapter 18),

The safety of the applicator, the public and the protection of natural resources will be the highest priorities for staff involved in a pesticide application project. A Pesticide Use Approval form is prepared for each pesticide and associated target species. Ongoing projects can be covered in one form for a number of sites. Special, or one-time applications require a separate form. A Pesticide Application Report is prepared at the time of application following product label instructions for required weather parameters during application.

Buffer strips must separate treatment sites from surface water (minimum of 100'), private land and non-treatment areas when there is a potential to transfer herbicides thru root systems.

6. Natural Heritage Element Review

The Discipline Pesticide Coordinator (DC) will provide annually an overview of the Natural Heritage Sites by Area, to alert to those facilities where Heritage Sites may be close. The Area Supervisor (DM) or designee will do further detailed searches at the time of annual work planning or prior to application, to assure that pesticide treatment does not occur near listed species or communities. (See Appendix A: Ecological Services Heritage Review Guidelines and Heritage Data by TAW Area).

7. Posting Pesticide Treatment sites

Sites treated with a pesticide must be posted as prescribed by the product label, including Restricted Entry Intervals (REI) if required, and in a manner that intercepts entrants to the treatment site. Additional posting may be done in high use areas or in other special situations. (See Appendix A: Pesticide Treatment Site sign, NRM 8.6.12, from the DNR Sign Manual).

8. Post-Pesticide Treatment Evaluation

Evaluation of non-pesticide control methods, combination control methods or pesticide only control methods will be a qualitative assessment. The person responsible for evaluating pest control treatments is identified on the Pesticide Use Approval form. The post treatment qualitative assessment will determine:

- Effectiveness of the treatment.
- Impacts to non-target species.
- Economy of use.
- Results of previous control measures.

Success of treatment should be measurable and should be entered on the Pesticide Use Approval form. Information and lessons learned should be shared with others in their effort to control pest species.

9. Structural or Facility Pests

Structural or facility pest control must be consistent with IPM practices and does need a Pesticide Use Approval and a Pesticide Application Report consistent with procedures for non-structural applications. This applies to contracted pesticide applications as well as applications by TAW staff. The Facility Manager (FM) will initiate pest control at the facility or structure.

Pesticide use involving spot spraying of wasps, ants, flies and other insects, or trapping of mice for public safety does not require completion of a Pesticide Use Approval or Pesticide Application Report. These pesticides can be used as needed. The total amounts used of these products must be included in the annual Pesticide Application Summary.

10. Applicator Education

A. Education Requirements:

The Division of TAW is phasing out restricted-use pesticides by 2007. However all staff involved in pesticide application, storage or handling will be required to participate in annual education. The Minnesota Pesticide Information and Education Organization (MnPIE) offers a workshop every two years (even years) as part of the re-certification for the restricted use pesticide license. A record of participation needs to be kept current. This workshop is a good opportunity to keep informed about new products, experiments and safety issues. The MnPIE Board has representatives from the pesticide industry and state government.

Education materials will contain, but not be limited to information on the following core areas:

- Protecting the environment.
- Integrated Pest Management (IPM)
- Employee Right To Know Act (ERTKA).
- Product labels, including Specimen Labels, and Material Safety Data Sheets (MSDS).
- Pesticide types and modes of action.
- Pesticide use and safety, Personal Protective Equipment (PPE), mixing, transporting & handling.
- Application weather conditions and measurements.
- Pesticide storage and disposal.
- Application techniques.
- Equipment maintenance.
- Record keeping.

B. Other Education Opportunities:

Pesticide education must at a minimum be included in TAW's annual training program. Another opportunity could be arranged by region with the pesticide company that holds the state contract. The contract requires the company to offer an educational component on the use of pesticides. A third possibility is offered by MnPIE thru the University of Minnesota every year; check for workshops offered in your area at www.extension.umn.edu/pesticides
Education categories for TAW are A (general ground) and J (right-of-way)

TAW employees that are presently certified and licensed by MDA as Non-Commercial Government Pesticide Applicators and choose to maintain their license must renew their license annually with a fee and take the MnPIE re-certification training (same as mentioned in A.) every other year.

For **restricted-use pesticides** (review product label and current list of federally registered restricted use pesticides), DNR employees are required by law to maintain a Non-Commercial Government Pesticide Applicator license from the Department of Agriculture (MDA) and undergo the required re-certification.

11. Pesticide Application Record keeping

Pesticide record keeping includes use proposals and approvals, pesticide application reports, annual application summary, and storage inventories. Records are to be maintained permanently.

A. Pesticide Use Approval for Trails and Waterways

A Pesticide Use Approval form is prepared for each pesticide and associated target species. Ongoing pesticide treatment projects can be addressed on one form

for a number of sites (see upper right corner of form). Special or one-time applications require a separate form with site description. This form is used to propose projects involving:

- Pesticide use only
- Pesticide use combined with non-pesticides methods
- Non-pesticide methods such as biological control and mechanical control

The Application Supervisor (AS) will prepare the Pesticide Use Approval form. The Area Supervisor (DM) will review and approve the project and coordinate the Natural Heritage database review with the Regional Ecological Services Representative as needed. Final approval lies with the Discipline Coordinator (DC). The approved form will be sent back to the Application Supervisor. The document will also aid in monitoring of effectiveness of treatment from year to year. (See Appendix A: Pesticide Use Approval for Trails and Waterways)

B. Pesticide Application Report for Trails and Waterways

This simplified form was modified from DNR Form # NA-00081 and tailored to TAW needs and is completed for each pesticide application. The Application Supervisor or the Pesticide Applicator records the date, location, time, weather, product information, and quantities used for each pesticide application. These reports are kept in the area where the pesticide treatments were made. This form documents each pesticide application and will be used to prepare the annual Pesticide Application Summary, (See Appendix A: Pesticide Application Report for Trails and Waterways).

C. Pesticide Application Summary for Trails and Waterways

This form summarizes the Pesticide Application Reports for the calendar year. Each Area Office must submit this report to the Discipline Coordinator by February 1st each year. This form summarizes the target species treated, the product and amount used per target species, and number of units treated. This form is kept and archived by the Discipline Pesticide Coordinator (DC), (See Appendix A: Pesticide Application Summary for Trails and Waterways).

D. Pesticide Inventory

The Facility Manager is in charge of the storage building or area where the products are stored must conduct an annual on-site inventory of pesticides. The Facility Manager completes the Pesticide Inventory for all pesticides stored on-site and submits the form to Regional Management Resources, retains a copy at the storage site. Short-term storage sites can be used to store pesticides for less than one year, (See Appendix A: Pesticide Inventory).

11. Administering DNR Application Contracts and Agreements

Pesticide applications on Trails & Waterways administered lands or public waters by non-DNR persons or entities may be permitted through a contract with a commercial applicator. The contracted treatment will have prior approval through the Pesticide

Use Approval form. The purchased service contract with the applicator will include: the pesticide to be used, application method, cost, rate of application, and delivery of an application report, in addition to other contractual language required (effective date, completion date, etc.) Operational Order #59 states that the vendor must submit the application report within 30 days of the date the pesticide was applied or prior to expiration of contract whichever comes first.

Trails & Waterways may also enter into agreements to apply pesticides on other DNR administered lands, and to apply pesticides on other agency lands.

12. Utility Easements, Leases and Licenses

In some cases utility lines follow state trail corridors for many miles. If a TAW acquired property has an existing or binding land agreement, which specifically allows the utility company to use pesticides, TAW may not be able to control utility pesticide activities. In these cases Area Supervisors (DM) need to contact the utility company and request that the treated area is posted or provide TAW with the information necessary to post the site and document the application

13. Pre-Tread Way Soil Sterilant Application

Soil sterilant Monobar-Chlorate is often applied during the construction of a trail to avoid woody plant suckers growing thru the asphalt. Problem plants are willows and balsam poplar in particular. This treatment will be addressed in the construction phase of a project. Monobar-Chlorate is not a restricted use product. Application must follow Material Safety Data Sheet (MSDS) and Product Label instructions.

14. Appendix A: Forms, Guidelines and Sign

Pesticide Use Approval For Trails and Waterways
Pesticide Application Report for Trails and Waterways
Pesticide Application Summary for Trails and Waterways
Pesticide Inventory
Ecological Services Heritage Review Guidelines
Heritage data by Area
Sign for Posting Treatment Sites