

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Forest Certification Work Instruction

DRAFT FINAL

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Work Instruction Title: 2.2 Use of Pesticides and Other Chemicals on State Forest Lands

Work Area Group: 2 – Forest Regeneration and Chemical Use

Purpose: To define best management practices for use of pesticide on State Forest Lands.

Work Instruction:

1. Prescriptions: Minimize pesticide use to achieve management objectives. Use alternatives to chemical pesticides when they are legal, reasonably cost effective, and available and meet management objectives. When chemical pesticides are used, select the least- toxic, narrowest spectrum products labeled for the target species. Choose chemicals from the attached list of DNRE approved products for use on State Forest lands. The list includes only chemicals meeting FSC criteria and labeled for use in Michigan. New additions to the list must be approved by the Forest Health, Inventory and Monitoring Unit Manager.) Follow the procedures outlined in Policy 592, Pesticide Use, section D.3.a for making pesticide prescriptions.
 - a. When a Forest Treatment Proposal (FTP) (R-4048) requiring a pesticide application is approved, complete a Pesticide Application Plan (PAP, R-4029). Attach the PAP to the FTP. The PAP must include personal and environmental safety precautions, potential environmental effects, and the location of any environmentally sensitive areas, including threatened or endangered species and species of special concern.
 - b. A single PAP may be prepared for a series of applications during a single growing season if they all use the same treatment (products, dosage, target, application method). This will simplify the process for routine applications like poison ivy control in campgrounds, trail and pathways maintenance. Campground, trail and pathway maintenance involving ready to use pesticides where a pesticide applicators license is not required does not require an FTP.
2. Operational use of pesticides:
 - a. Certification of Applicators: All DNRE personnel directly involved in the application of pesticides will be certified as pesticide applicators by the Michigan Department of Agriculture, Pesticide and Plant Management Division (Policy 592). There is an exception if ready to use (RTU) pesticides are being used in their original containers. Ready to use pesticides can be applied by non-certified personnel providing they are only applied using their original, closed container. No mixing, diluting, or transferring of product to another container is permitted. As a general rule, non-certified personnel are discouraged from participating in pesticide applications. If non-certified individuals are involved with pesticide use (including RTU pesticides) applicable Worker Protection Standards shall apply, including annual training and required training documentation.
 - b. Application and Evaluation: Pesticide applications are accomplished with either DNRE staff or contract applicators. Upon completion of a pesticide application, complete a Forest Treatment Completion form (FTC, R-4048-1) and an attached Pesticide Use Evaluation Report (PUER, R-4029-1). For herbicide applications, complete Section 8 of the Pesticide Use Evaluation Report during the growing season following treatment.

(Pesticide use at nurseries and tree improvement centers does not require use of FTP, FTC, PAP, or PUER forms.) Also, keep records in accordance with the 1992 worker protection standards for agricultural pesticides.

- c. Pesticides used must be labeled for the intended use and used within the label requirements.
- d. Buffer strips: Riparian and other buffers must be clearly identified. Aerial applications should parallel buffer strips. Use the following table as a guide to establish buffers along riparian areas.

Interim recommended Buffer distances in feet*			
Type Feature	Application Method		
	Aerial (ft)	Ground-Based Mechanical (ft)	Ground-Based Manual (ft)
Occupied Dwellings	200	150	100
Seasonal Dwellings	100	100	100
Human Drinking Water Sources	100	50	25
Stock Water Sources	50	25	10
Active Streams, Lakes, Ponds, & Major Waterways ¹	100	100	100
Flowing Ditches & Intermittent Streams ¹	100	100	100
Farm / Crop Lands	25	10	5
Public Roadway ²	15	10	5

¹Buffer on water features may be zero for applications of pesticides with aquatic labels. Natural River zoning requirements must be complied with.

²Buffer distances measured from edge of road surface; if right-of-way width exceeds buffer minimum, the right-of-way takes precedence.

*adapted from International Paper ISO 14000 Standard

- e. Personal safety: Personal protective equipment must be used as specified on product labels. Incidents of worker exposure to pesticides must be documented on the Pesticide Application Report.
- f. Work-related pesticide illness shall be reported to: Occupational and Environmental Medicine, Michigan State University, 117 W. Fee Hall, E. Lansing, MI 48824-1315, 1-800-446-7805
- g. Emergency procedures: Spill kits must be carried on DNRE equipment and contractor's equipment whenever pesticides are being transported or applied. Absorb spills that create noticeable pool or puddles with absorbent pads. Collect contaminated absorbent material in a labeled impermeable container and store them to prevent contact with other liquids. Spill kits should be adequate for the volume of pesticides on hand. Spill kits are available from most industrial safety supply sources. Typical contents include absorbent socks, pillows or pads, protective gloves and a leak-proof bag to dispose of contaminated materials. Contact state officials to determine procedures for reporting, handling, and disposing of contaminated soil or other materials: Michigan Pollution Emergency Alerting System (PEAS): 800-292-4706.
- h. Access Control: Restrict access to pesticide treatment areas and prevent inadvertent exposure of employees and the public using guards, locked gates, signs, or trucks blocking the road. When treating near roadside buffers or during road maintenance applications, a "rolling road-block" may be used, whereby escort vehicles signal the spray vehicle to shut off while traffic passes.
- i. Notification (Policy 592): The need for public notification is determined at the Forest Management Unit and reviewed by the FMD District Supervisor (note: training element: use PAP to describe notification plans) Need is evaluated within each of the following categories:
 - i. Public risk. The possibility of adverse exposure to a pesticide.
 - ii. Public concern. Perceived problems relating to the use and/or exposure to pesticides.
 - iii. Public relations and education. Used to inform the public of decision criteria and decision-making processes involved; and to involve the public in the decision-making process if appropriate.

- iv. If need for public notification is established, notification will consist of one or all of the following:
1. Signing. Signs should include the following information: Re-entry information, pesticide used, date of application, and phone/address of Forest Management Unit. Signs will be posted at time of application and removed at the end of the field season.
 2. News media Used primarily for broad scale aerial applications, and where applications are highly visible.
 3. Personal contacts. Where individuals, organizations or situations warrant extra efforts involved.

j. Spraying State-owned rights-of-way: Rights of way vegetation control is conducted through Special use Permits (PR 1138E) granted to the lessee (easement holder). The permit documents detail chemical products that will be used, rates, methods, specific areas of application and signing and notification requirements. The permit application is then reviewed by the appropriate Forest Management District Specialist (TMS who is a Michigan certified pesticide applicator) who coordinate unit level reviews by Unit Managers within the affected Forest Management Units. Unit Managers are responsible for coordinating local reviews by biologists from Wildlife (WLD) and Fish (FSD) Divisions. The local Wildlife Biologist is responsible for T&E species review by the Endangered Species Coordinator. Michigan Department of Agriculture is notified of the spraying schedule and conducts on-site inspections of equipment and application rates.

k. Storage, Transportation and Disposal of Pesticide (Policy 592): Only pesticides needed for the current or next fiscal year will be purchased. The storage and transportation of pesticides shall meet all state and federal guidelines, as indicated on the label. Storage of unused and surplus pesticides is discouraged. All rinsate and residue should be applied as per label instructions. If necessary, unused pesticide must be disposed of in a manner consistent with labeling.

Pesticides approved for use on State Forest Lands
(revised using FSC chemical list dated January 20, 2010)

Product or common name	Active ingredient	Use status
	2,4-D 2-ethylhexyl ester	May only be used in conformance with conditions in approved FSC pesticide derogation, expires Jan 5, 2015.
	captan	Use is allowed.
	thiram	Use is allowed.
Dicamba	dicamba	May only be used in conformance with conditions in approved FSC pesticide derogation, expires Jan 5, 2015.
Arsenal	imazapyr	Use is allowed.
Bravo	chlorothalonil	Use is allowed.
Dimlin	diflufenzuron	May only be used in conformance with conditions in approved FSC pesticide derogation, expires Jan 5, 2015.
Envoy	clethodin	Use is allowed.
Escort	metsulfuron-methyl	Use is allowed.
Garlon	triclopyr	Use is allowed.
Hyvar	bromacil	Use is allowed.
Krenite	fosamine ammonium	Use is allowed.
Merit	imidcloprid	Use is allowed.
Merit	imidcloprid	Use is allowed.
Oust	sulfometuron methyl	Use is allowed.
Plateau	imazapic	Use is allowed.
Roundup, Accord, other glyphosate formulations	glyphosate	Use is allowed.
Tordon 101	picloram + 2,4-D	Use is allowed.
Transline	clopyralid	Use is allowed.
Transline	clopyralid	Use is allowed.
Velpar	hexazinone	May only be used in conformance with conditions in approved FSC pesticide derogation, expires Jan 5, 2015.

Scope: (All State Forest Land and Affected Divisions): State Forest Land Other: _____

DNRE – FMD DNRE – Wildlife DNRE – Fish DNRE – Law DNRE – Recreation

Responsibility and Role: (Staff who will implement or supervise this instruction)

Job Title/Division	Role
Forest Health, Inventory, and Monitoring Unit Manager	Approve new additions to the list of chemicals meeting FSC criteria and labeled for use in Michigan.
Timber Management Specialist / FMD	For silvicultural practices: Review FTP's, write PAP's, approve PAP's authored by others (may not approve PAP's authored by themselves), supervise herbicide applications, perform PEUR. Coordinate reviews and issue permits for utility right-of-way herbicide maintenance.
Forest Health Specialist/ FMD	For forest insect and exotic species control: Review FTP's, write PAP's, approve PAP's authored by others (may not approve PAP's authored by themselves), supervise applications including contract applications, perform PEUR
Pesticide applicator / DNRE	Apply or administer contract application of silvicultural herbicides, write PAP's.
Other involved staff	Assist in the handling, storage, transportation, access management, or treatment evaluation of pesticide treatments.
Silviculturist/ FMD	For silvicultural practices: approve PAP's authored by others (may not approve PAP's authored by themselves).
FMD Unit Manager	Review and issue permits for maintenance of ROW

Training/Skills: (Those required to accomplish work instruction)

Item	Brief Description of Skill or Course	Exists/ New
Certified Pesticide Applicator, Michigan Dept. of Agriculture?	All DNRE staff directly involved in pesticide application must have a valid State of Michigan certified pesticide application license.	<input checked="" type="checkbox"/> E <input type="checkbox"/> N
Worker Protection Training	DNRE staff involved in the handling, storage, transportation, access management, or evaluation of pesticide treatments must be certified or have federally mandated Worker Protection Training.	<input type="checkbox"/> E <input checked="" type="checkbox"/> N
Knowledge of Work Instruction	All managers and supervisors with direct responsibility to approve pesticide use.	<input type="checkbox"/> E <input checked="" type="checkbox"/> N

References:

- FMD Pesticide Use Policy Number 592, October 26, 1999
- Personal protective equipment: <http://www.epa.gov/oppfead1/safety/workers/equip.htm>
- Worker Protection Standards, basic principles: <http://www.epa.gov/oppfead1/safety/workers/principl.htm>
- Worker Protection Standards, full document: <http://www.epa.gov/pesticides/safety/workers/PART170.htm>
- Approved FSC pesticide derogation documents, December, 2009

Monitoring:

Upon completion of a pesticide application, a Forest Treatment Completion form (R-4048-1) and an attached Pesticide Use Evaluation Report (R-4029-1) is completed by the Timber Management Specialist or Forest Health Specialist.

Records:

- Forest Treatment Proposal (R-4048) filed in the Forest Management Unit Offices
- Forest Treatment Proposal Completion Report (R-4048-1) filed in Forest Management Unit Offices
- Pesticide Application Plan (R-4029) filed with the FTP in the Forest Management Unit Offices
- Pesticide Use Evaluation Report (R-4029-1) filed with the FTP in the Forest Management Unit Offices
- [Pesticide Application Report](#)
- Worker protection training records
- Special Use Permit (PR 1138E)