MAINE'S APPROACH TO US COURT REQUIREMENT TO REGULATE PESTICIDE DISCHARGES

The US Sixth Circuit Court of Appeals ruled in *National Cotton Council, et al. v. EPA* (January 7, 2009) that the discharge of pesticides to waters of the United States must be regulated under the US Clean Water Act (CWA), vacating a long-standing USEPA policy. The court granted USEPA and those states that are delegated to administer the CWA, such as Maine, until April 2011 to implement a program to regulate such activities. The Maine Department of Environmental Protection, which is responsible for regulating discharges of pollutants to waters of the State, and the Maine Board of Pesticides Control, which is responsible for regulating pesticide use, are working together to develop a program best suited to Maine. The draft framework for Maine's program is described below. It involves best management practices and minimum critical distances from resources to identify activities that do not need to be further regulated, existing programs that already address current requirements, and a new expedited General Permit program for certain emergency activities.

1. Pesticide Permitting Mechanisms. The Maine Board of Pesticide Control (MEBPC) and the Maine Department of Environmental Protection (MEDEP) are developing a set of Minimum Critical Distances (MCDs) from surface waters of the State (WOS) and Best Management Practices (BMPs) for pesticide use to establish conditions under which contact with WOS may and may not occur. Pesticide applications that meet the Minimum Critical Distances and Standard BMPs (Tables 2 and 3.1) OR meet both Standard BMPs and Critical Distance BMPs (Tables 3.1 and 3.2), under typical conditions, are not anticipated to result in discharges to surface WOS and thus do not require MEDEP approval. Pesticides used in proximity of surface WOS to reduce a significant risk to public health and safety or risk of widespread economic harm, utilizing methods and materials protective of non-target organisms and resources to the extent practicable, such that incidental, unintended, and unavoidable contact with the water may occur (termed "demonstrated emergency use" below) may be considered under the Pesticide General Permit (GP). Various pesticide use categories and possible permitting mechanisms are described below.

Table 1.0 Pesticide Permitting Mechanisms

Pesticide Use Category	Permitting Mechanism
General Outdoor Pesticide Use Including Agricultural, Commercial, Residential Purposes	
No direct or indirect discharge to WOS. Meets Minimum Critical Distance and Standard BMPs OR meets Standard BMPs and Critical Distance BMPs	No permit needed under typical conditions
Indirect discharges from demonstrated emergency use. Does not meet either MCD and Standard BMPs OR Standard BMPs and Critical Distance BMPs	Pesticide GP
Other indirect discharges that do not meet either MCD and Standard BMPs OR Standard BMPs and Critical Distance BMPs	Individual Permit required
Direct discharges to WOS	Prohibited in most cases
Mosquitoes and Other Flying Insect Pests Control	
No direct or indirect discharge to WOS. Meets Minimum Critical Distance and Standard BMPs OR meets Standard BMPs and Critical Distance BMPs	No permit needed under typical conditions
Direct discharges of approved mosquito larvacides for control of mosquito-borne diseases in the interest of public health and safety	Mosquito GP or Individual Permit
Indirect discharges from demonstrated emergency use. Does not meet either MCD and Standard BMPs OR Standard BMPs and Critical Distance BMPs	Pesticide GP
Other indirect discharges that do not meet either MCD and Standard BMPs OR Standard BMPs and Critical Distance BMPs	Individual Permit required
Other direct discharges to WOS	Prohibited in most cases

Aquatic Weed and Algae Control Including Flowing Roadside Ditch Weed Control	
No direct or indirect discharge to WOS. Meets Minimum Critical Distance and Standard BMPs OR meets Standard BMPs and Critical Distance BMPs	No permit needed under typical conditions
Direct discharges for control of invasive aquatic plants by MEDEP or approved agents	Invasive Aquatic Plant GP or Individual Permit
Indirect discharges from demonstrated emergency use. Does not meet either MCD and Standard BMPs OR Standard BMPs and Critical Distance BMPs	Pesticide GP
Other indirect discharges that do not meet either MCD and Standard BMPs OR Standard BMPs and Critical Distance BMPs	Individual Permit required
Invasive Fish or Aquatic Animal Control	
Direct discharges for control of invasive fish by MDIFW or its agents or control of invasive aquatic animals	Invasive Fish GP, Invasive Aquatic Animal GP (if developed), or Individual Permit
Forest Canopy Pest Control	
No direct or indirect discharge to WOS. Meets non-vegetative area MCD and Standard BMPs OR meets Standard BMPs and Critical Distance BMPs	No permit needed under typical conditions
Indirect discharges from demonstrated emergency use. Does not meet either MCD and Standard BMPs OR Standard BMPs and Critical Distance BMPs	Pesticide GP
Other indirect discharges that do not meet either MCD and Standard BMPs OR Standard BMPs and Critical Distance BMPs	Individual Permit required

MEDEP Permits are not required for activities involving waters that do not meet the definition of a WOS and which will not subsequently result in a discharge to a WOS (artificial containers, retention structures, non-flowing ditches, isolated constructed ponds or wetlands contained on one person's property, etc). For specific guidance, refer to MEDEP guidelines for The Application of Aquatic Herbicides Including Pond Dyes; Aquatic Pesticide Applications for Mosquito Control; Mosquito Control, West Nile Virus, EEE; Use of Herbicides in Wetlands in Maine; Turf Management – Pesticides and Fertilizers, etc.

2. Minimum Critical Distances for Pesticide Applications Adjacent/Near Surface Waters of the State. For use with Tables 1 and 3. Any pesticide applications that meet the Minimum Critical Distances and Standard Best Management Practices (Tables 2 and 3.1), under typical conditions, are not anticipated to result in discharges to surface WOS and thus do not require MEDEP approval. Any pesticide applications made closer to surface waters than the MCDs specified below, based on the type of application, site conditions and other factors, may result in an indirect discharge of pesticides (pollutants) to a WOS unless appropriate BMPs (Standard BMPs and Critical Distance BMPs; Tables 3.1 and 3.2) are implemented. Note, the following are minimum critical distances. The MEBPC water quality rule (CMR 01-026, Chapter 29), prohibits broadcast application of pesticides within 25 feet of surface water. In addition, the MEBPC drift rule (CMR 01-026, Chapter 22) establishes operational standards and thresholds for off-target drift. These restrictions are only affected by the pending General Permit where more stringent requirements are established. Applicators and responsible parties are expected to consider site specific conditions and adjust setbacks, methods, and materials to ensure that unauthorized discharges of pesticides to waters of the State do not occur. **If the pesticide label also establishes setback requirements, the more stringent requirements apply**.

Table 2.0 Minimum Critical Distances

Type of Application	Minimum Critical Distance with a Fully Foliated Vegetative Buffer*	Minimum Critical Distance with No Fully Foliated Vegetative Buffer
Aerial Application	100’	1000’
Air-carrier Equipment**	75’	250’
Hydraulic Tree Spraying***	100’	500’
Boom Sprayer	50’	100’
Other Powered Ground Based Equipment****	25’	50’
Non-powered Equipment	25’	25’

* Fully Foliated Vegetative Buffer must be an area dominated by tree growth of at least 25’ in height on average and at least 25’ in width separating the application site from applicable surface waters. If the vegetative buffer is predominated with deciduous trees, those trees must be fully leaved out. **Only Minimum Critical Distances With No Fully Foliated Vegetative Buffers are applied to forest canopy pest control projects.**

** As defined by 22 M.R.S.A. § 1471-Z (10), does not include backpack mist blowers.

*** High pressure (>60 PSI) hydraulic sprayers intended for spraying the crowns of shade and other mature trees.

**** Including powered backpacks.

3. Best Management Practices (BMPs) for Pesticide Applications. For use with Tables 1 and 2. All pesticide applications must utilize MCDs and/or appropriate BMPs to prevent discharges to WOS and undesired adverse effects. Under typical conditions, these consist of either the appropriate MCDs and Standard BMPs (Tables 2 and 3.1) OR, if a pesticide application must occur within the MCD of a surface WOS, both the Standard BMPs and Critical Distance BMPs (Tables 3.1 and 3.2). If appropriate MCDs and BMPs are not utilized, the application is assumed to result in a discharge of pollutants to a WOS. Note, the following BMPs are often generally stated. It is the responsibility of the applicator and all responsible parties to utilize BMPs to the maximum extent possible and other measures as available, so as to prevent unauthorized discharges to WOS. **Within 25-feet of a surface WOS, broadcast applications of pesticides are prohibited and only targeted, spot treatments are allowed.**

Table 3.1 Standard BMPs. The following Standard BMPs must be followed for all pesticide applications regardless of proximity to surface waters of the State to prevent discharges to WOS under typical conditions. The applicator must ensure that actions do not impact Maine Water Quality Standards and Designated Uses of nearby WOS.

Standard BMPs for all Pesticide Applications
Perform necessary equipment maintenance and calibration
Select spray nozzles and pump pressures that produce the largest size, efficacious droplet
Reduce distance from sprayer to target as much as possible
Minimize sprayer speed to the maximum extent practicable
Avoid application in high temp, low humidity conditions
Do not spray in fog
Follow all available IPM methods
Applications must only be conducted by MEBPC licensed applicators or USEPA Worker Protection Standard Pesticide Handlers.

Standard BMPs for Aerial Applications (in addition to BMPs for all applications)
Configure application equipment to minimize wind shear of spray droplets
Turn booms on and off at the appropriate time when entering or leaving a treatment block
Only apply pesticides when wind conditions are between 2-10 mph
Standard BMPs for Airblast/Air-Assist Sprayers (in addition to BMPs for all applications)
Spray the outside rows with the sprayer facing into the block. If the trees are too large to treat from one side only, make sure the top nozzles are not spraying over the tops of the trees/vines/crops
Shut off spray delivery before exiting the target area, when turning at row ends and when passing gaps within rows
Use the lowest necessary air speed to minimize movement through the canopy
Avoid spraying when wind direction is parallel with the sprayer direction (directly down rows)
Avoid spraying when cold air will be draining down adjacent slopes
Only apply pesticides when wind conditions are between 2-10 mph

Table 3.2 Critical Distance BMPs. The following BMPs must be followed for all pesticide applications occurring within (closer than) specified Minimum Critical Distances from surface waters of the State to prevent discharges to WOS under typical conditions. The applicator must ensure that actions do not impact Maine Water Quality Standards and Designated Uses of nearby WOS.

BMPs for all Applications Within Minimum Critical Distances
Add adjuvants to reduce spray drift when the pesticide label allows, unless not recommended by the University of Maine Cooperative Extension.
Spray when winds blow away from WOS or have a monitor/spotter in full PPE to warn applicator if drift becomes an issue
Direct spray applications away from WOS
No application to impervious surfaces
No application to exposed bedrock
No application to frozen soils
Use drop spreaders instead of rotary spreaders
Use a pesticide screening tool such as USDA-NRCS, WIN-PST program and choose effective products that exhibit: the lowest leaching potential, the lowest pesticide solution runoff potential, and the lowest pesticide adsorbed runoff potential
Use low-volatility pesticides when possible
No application in proximity to slopes, drainage swales/features, or storm drains that lead to surface WOS potentially resulting in discharge
Only spot treatments allowed within 25 feet of WOS.
Use target specific pesticides when available and effective (biological, synthetic, etc)
Do not spray during periods of atmospheric inversion
Other project specific BMPs as reviewed and approved by the Department in addition or in lieu of BMPs listed herein
Additional BMPs for Agricultural Applications Within Minimum Critical Distance
No application to areas with standing water connected to a WOS
No application during moderate or heavy rain
Additional BMPs for Non-Agricultural Applications Within Minimum Critical Distance
No application when there is standing water on any part of area to be treated
No applications to saturated soils
No applications if light rain is predicted within 24-hours unless specified by label
No application if moderate or heavy rain is predicted within 24-hours regardless of label

Additional BMPs For Aerial Applications Within Minimum Critical Distance (in addition to applicable BMPs above)
Applicator has annually participated in the PAASS program
Determine wind direction and velocity at the job site using aircraft smokers or anemometer and modify accordingly
Fly headlands and field edges that are next to WOS when the wind is away from the WOS

Table 3.3 General Permit BMPs. The following GP BMPs indicated as "Required" must be followed for all pesticide applications conducted pursuant to the pending General Permit (GP) to minimize discharges to WOS under typical conditions. GP BMPs indicated as "Adopt When Possible" shall be incorporated when possible to further minimize pesticide discharges and adverse effects to WOS. The applicator must ensure that actions minimize impacts on Maine Water Quality Standards and Designated Uses of nearby WOS.

GP BMPs for all Pesticide Applications	
Perform necessary equipment maintenance and calibration	Required
Select spray nozzles and pump pressures that produce the largest size, efficacious droplet	Required
Reduce distance from sprayer to target as much as possible	Required
Minimize sprayer speed to the maximum extent practicable	Required
Avoid application in high temp, low humidity conditions	Required
Do not spray in fog	Required
Follow all available IPM methods	Required
Applications must only be conducted by MEBPC licensed applicators or USEPA Worker Protection Standard Pesticide Handlers.	Required
Add adjuvants to reduce potential for wash-off when the pesticide label allows, unless not recommended by the Maine Forest Service	Required
No application to frozen soils	Required
Use a pesticide screening tool such as USDA-NRCS, WIN-PST program and choose effective products that exhibit: the lowest leaching potential, the lowest pesticide solution runoff potential, and the lowest pesticide adsorbed runoff potential	Required
Use target specific pesticides when available and effective (biological, synthetic, etc)	Required
Use low-volatility pesticides	Adopt When Possible (indicate)
Do not spray during periods of atmospheric inversion	Adopt When Possible (indicate)
Spray when winds blow away from WOS or have a monitor/spotter in full PPE to warn applicator if drift becomes an issue	Adopt When Possible (indicate)
Direct spray applications away from WOS	Adopt When Possible (indicate)
No application to impervious surfaces	Adopt When Possible (indicate)
No application to exposed bedrock	Adopt When Possible (indicate)
No application in proximity to slopes, drainage swales/features, or storm drains that lead to surface WOS potentially resulting in discharge	Adopt When Possible (indicate)

Only spot treatments allowed within 25 feet of WOS.	Adopt When Possible (indicate)
No application when there is standing water on any part of area to be treated	Adopt When Possible (indicate)
No applications to saturated soils	Adopt When Possible (indicate)
No applications if light rain is predicted within 24-hours unless specified by label	Adopt When Possible (indicate)
No application if moderate or heavy rain is predicted within 24-hours regardless of label	Adopt When Possible (indicate)
Utilize spray equipment appropriate to the job to minimize off-target movement	Adopt When Possible (indicate)
Other project specific BMPs as reviewed and approved by the Department in addition or in lieu of BMPs listed herein	Adopt When Possible (indicate)
GP BMPs for Aerial Applications (in addition to GP BMPs for all applications)	
Applicator has annually participated in the PAASS program	Required
Determine wind direction and velocity at the job site using aircraft smokers or anemometer and modify accordingly	Required
Fly headlands and field edges that are next to WOS when the wind is away from the WOS	Required
Configure application equipment to minimize wind shear of spray droplets	Required
Turn booms on and off at the appropriate time when entering or leaving a treatment block	Required
Only apply pesticides when wind conditions are between 2-10 mph	Required
GP BMPs for Airblast/Air-Assist Sprayers (in addition to GP BMPs for all applications)	
Spray the outside rows with the sprayer facing into the block. If the trees are too large to treat from one side only, make sure the top nozzles are not spraying over the tops of the trees/vines/crops	Required
Shut off spray delivery before exiting the target area, when turning at row ends and when passing gaps within rows	Required
Use the lowest necessary air speed to minimize movement through the canopy	Required
Avoid spraying when wind direction is parallel with the sprayer direction (directly down rows)	Required
Avoid spraying when cold air will be draining down adjacent slopes	Required
Only apply pesticides when wind conditions are between 2-10 mph	Required

Table 4. Additional Requirements for Projects Covered Under General Permit.

Requirement
Pesticide Discharge Management Plan
Maintain records of pesticide use
Annual reports
Monitor and Report Adverse Incidents

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