



JOHN ELIAS BALDACCI
GOVERNOR

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, FOOD AND RURAL RESOURCES
BOARD OF PESTICIDES CONTROL
28 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0028

SETH H. BRADSTREET III
COMMISSIONER

HENRY JENNINGS
DIRECTOR

MEMORANDUM

DATE: January 22, 2008
TO: Board Members
FROM: Henry Jennings
SUBJECT: Aerial Application/Drift Issues

Attached is a table that attempts to list issues/problems associated with aerial spraying and drift, together with possible ideas for addressing the issues. Pertinent sections of Chapter 22 and Chapter 28 are appended to the table so that you can refer to the rules that are referenced in the third column. Our hope is that the table will help Board members in their analysis of the issues and in contemplating possible approaches to address them. I plan to develop some additional guidance prior to the meeting.

Aerial Issues & Board Options

Issues/Problems	Comments	Current Requirements	Board Options
<p>Off-target drift of particles and vapors</p> <ul style="list-style-type: none"> • People on their property • People in public/recreational areas • Pets, livestock & wildlife • Lawns, gardens & cropland 	<ul style="list-style-type: none"> • Exposure to people is driving this issue and should be a priority as the Board deliberates solutions • Vapors and/or very fine droplets have the ability to travel long distances and be detected by people at low levels • Historically, people often report experiencing adverse health effects from drift incidents that don't meet a threshold for a violation/enforcement (e.g. the 20% clause) • Aerial applicators generally don't identify sensitive areas, they rely on the land manager. The intent of this important function of identifying sensitive areas and then developing a strategy to address them is being circumvented because the land manager is fulfilling this requirement, but in many cases, this information is either not conveyed to the applicator at all, or it is not conveyed in a fashion that allows sufficient consideration and development of a strategy. When incidents occur, pilots often have not been familiar with the area and local concerns. • Wind speed and direction are recorded at the loading zone, not at the application site. There is no requirement that an anemometer or wind gauge be used • BPC compliance staff identifies a lack of land manager ownership overall as an issue • Forestry work has been much more detail oriented • Drift management plans have not been used much or have been largely ineffective in agricultural settings. Foresters traditionally have implemented a much higher standard of care. In forestry, it's the land manager that does the advance planning and legwork 	<p>Ch. 22, (2)(A)(I), (C), (D), (E)</p> <p>Ch. 22 (3) (B)(I),</p>	<ul style="list-style-type: none"> • Mandatory drift management plans for aerial spraying within a certain distance of occupied areas • Rewrite the sensitive areas requirements (this could be part of drift management plans) • Mandatory Buffer Zones (possibly with exemptions) • Revisit the 20% standard • Zero tolerance for off-target residues • Adopt a standard of harm • Zero tolerance prima facie evidence standard • Upgraded Standards of Care • Best Management Practices • Joint and several responsibility for violations • Designation of local responsibility under contract – carry detailed requirements for mapping, planning, notification • Incentives for BMP and/or Drift mgmt plan implementation – enforcement standards

Issues/Problems	Comments	Current Requirements	Board Options
<ul style="list-style-type: none"> • People using public roads 	<ul style="list-style-type: none"> • There was lengthy debate about whether public roads should be designated as sensitive areas when Chapter 22 was adopted. The Board decided against it, since members determined it's really the people using the public roads that are sensitive • Drift incidents involving people using public roads have a long history with the BPC • Incidents have involved people traveling in cars, people walking or jogging, and children waiting for buses • Current law has no clear standard of what is expected from the applicator or what constitutes a violation 	<p>Ch. 22, (2)(E) Presence of Humans</p> <p>Ch. 22 (3)(A) General Standard</p>	<ul style="list-style-type: none"> • Mandatory drift management plan that includes a plan for addressing roads and bus schedules • Make public roads sensitive areas • Best Management Practices • Mandatory buffer zones • Requirements for spotters or road signs or traffic control
<ul style="list-style-type: none"> • Water bodies, wetlands 	<ul style="list-style-type: none"> • Board staff conducted drift monitoring along the Pleasant & Narraguagus Rivers between 1998 and 2004. Low levels of drift occasionally detected, toxicological significance questionable 	<p>Ch. 22 (2)(A), (C), (D)</p> <p>Ch. 22(3)(B)</p>	<ul style="list-style-type: none"> • Mandatory drift management plan • Mandatory buffer zones • Standard of harm • Upgraded standards of care • Best Management Practices

Issues/Problems	Comments	Current Requirements	Board Options
<p>Local residents unaware of aerial spraying</p> <ul style="list-style-type: none"> • When people move in adjacent to agricultural fields, they don't anticipate that aerial spraying is a possibility • People assume the initial responsibility would be with the person contracting for or conducting the aerial spraying • Agricultural land managers change • Requests are only good for 1 year • People beyond 500' also want to know • Current rule provides for a summary of proposed spray activities, not advance notice which most people want 	<ul style="list-style-type: none"> • The element of surprise seems to add to the anxiety associated with aerial spraying adjacent to a home • Advance notice allows nearby residents to take a number of useful steps to reduce the impacts of drift, such as keeping the windows closed, keeping pets inside, moving livestock to a safe location, removing laundry from the line, and leaving the area during and directly following spray activities • Advance notice is useful, but it doesn't reduce drift 	<p>Ch. 28(1)</p>	<ul style="list-style-type: none"> • Mandatory 24-48 hours advance notice for persons occupying buildings within XXX feet of the target area • Mandatory annual letter to persons occupying buildings within XXX feet of the target area notifying them of the right to request advance notice of spraying • Re-evaluate the 500 foot provision • Make requests for notice good for several (2-5) seasons. • Define some minimal (due diligence) level of effort to identify affected neighbors • Use 2 levels of notification – short-term (today) and long-term (season)
<p>Wrong site sprayed or field borders not properly conveyed to applicator</p>	<ul style="list-style-type: none"> • In most instances, the pilot was provided inadequate or faulty information on the site(s) to be sprayed • Current requirement is too vague, making it almost unenforceable 	<p>Ch. 22 (D)(II)</p>	<ul style="list-style-type: none"> • Upgrade requirements for information provided to aerial applicators • Require geo-referenced maps

Excerpt form Chapter 22, Sections 2, 3 & 4

SECTION 2. STANDARDS OF CONDUCT FOR PESTICIDE APPLICATIONS.

All pesticide applications subject to these regulations shall be undertaken in compliance with the following standards of conduct:

A. General Requirements.

- I. Prior to and during pesticide spray activities, applicators shall determine and monitor the condition of the equipment to be used, weather conditions, the boundaries of the area to be treated, surrounding properties, including any sensitive areas in the vicinity, and other pertinent factors. These monitoring efforts must be sufficient to assure that spray activities are conducted in accordance with these regulations, pesticide label requirements and otherwise in a manner which complies with law.
- II. In any event, spray activities shall immediately cease if there is significant risk that these regulations or label requirements are not being or cannot be satisfied.

B. Equipment.

- I. Pesticide spray equipment shall be used in accordance with its manufacturer's recommendations and instructions, and shall be in sound mechanical condition, free of leaks and other defects or malfunctions which might cause pesticides to be deposited off-target.
- II. Pesticide spray equipment shall be properly calibrated. Calibration shall occur with sufficient frequency, depending on extent and type of use of equipment and pesticides employed, so that equipment remains reasonably close to calibration specifications when in use. Applicators shall maintain work sheets to show types of nozzles, pressure, boom height and speed of equipment at time of calibration and a brief description of the calibration method.
- III. Pesticide application equipment shall have properly functioning shut-off valves or other mechanisms which enable the operator to prevent direct discharge and minimize drift to non-target areas. Spray equipment designed to draw water must also have a properly functioning antisiphoning device.

C. Weather Conditions.

- I. Spray applications shall not be undertaken when weather conditions favor pesticide drift onto sensitive areas or otherwise prevent proper deposition of pesticides on target.
- II. Spray applicators shall be familiar with all weather conditions and related factors which affect settling of pesticides on to or off target. Such factors include temperature, inversion, wind speed and direction, potential for drift and volatilization, equipment functioning and pertinent label instructions.
- III. Pesticide application must cease immediately when visual observation reveals or should reveal that spray is not being deposited on target.
- IV. Without limitation of the other requirements herein, under no circumstances shall pesticide application occur when wind speed in the area is in excess of 15 m.p.h.

D. Identification of Sensitive Areas.

- I. Prior to spraying a pesticide, the applicator must become familiar with the area to be sprayed and must identify and record any sensitive area located within 500 feet of the target area. Applicators shall be prepared to demonstrate by production of a map, sketch, field notes, log or other documentation that this requirement has been met. These records of sensitive areas shall be retained by or on behalf of the applicator for a period of two years following the date of applications and shall be made available to representatives of the Board upon request. This requirement shall not apply to turf, ornamental tree and plant or structural pest control applications.
- II. Prior to spraying by aerial application, the field or other area to be sprayed shall be clearly identified by means of ground markings or other physical identification characteristics clearly visible from the air.

E. Presence of Humans, Animals.

Pesticide applications shall be undertaken in a manner which minimizes exposure to humans, livestock and domestic animals.

The applicator shall cease spray activities at once upon finding evidence showing the likely presence of unprotected persons in the target area or in such proximity as to result in unconsented exposure to pesticides.

F. Other Requirements.

These regulations are intended to be minimum standards. Weather and topographical conditions, proximity to areas of particular sensitivity and other factors may require the applicator to take special precautions, beyond those set forth in these regulations, in order to avoid adverse impacts on off-target areas and to protect public health and the environment. Moreover, these regulations are not designed or intended, nor should they be construed, to affect rights of private citizens in civil actions arising out of the negligent use or other misapplication of pesticides.

These regulations also do not affect pesticide label instructions, which may be more restrictive in certain cases. Under federal and state law, wherever particular label instructions impose standards which are more restrictive than these regulations, such label instructions must be followed. Similarly, these regulations do not affect more restrictive regulations or guidelines applicable to particular types of pesticide applications.

SECTION 3. GENERAL STANDARDS FOR OFF-TARGET PESTICIDE DISCHARGE AND RESIDUE.

A. Prohibition of Unconsented, Off-target Direct Discharge of Pesticides.

Pesticide applications shall be undertaken in a manner which does not result in off-target direct discharge of pesticides, unless prior authorization and consent is obtained from the owner or lessee of the land onto which such discharge may occur.

B. Standards for Unconsented, Off-Target Drift.

- I. General Standard. Pesticide applications shall be undertaken in a manner which minimizes pesticide drift to the maximum extent practicable, having due regard for prevailing weather conditions, toxicity and propensity to drift of the pesticide, presence of sensitive areas in the vicinity, type of application equipment and other pertinent factors.

- II. Prima Facie Evidence of Violation. Without limiting the generality of subsection I above, the presence of pesticide drift residues in excess of any of the following levels shall constitute prima facie evidence that the applicator did not take reasonable precautions to minimize pesticide drift to the maximum extent practicable:
- (i) Pesticide residues in any off-target sensitive area in the vicinity of an application site which exceed 20% of the residues found, or which with proper application technique would have occurred, within the target area. For purposes of this standard, residue levels, within both a target area and an off-target sensitive area, may be determined by evaluation of one or more ground, foliage or other samples, or by extrapolation or other appropriate techniques.
 - (ii) Pesticide residues on any off-target sensitive area in the vicinity of an application site which result in damage to crops, vegetation or other species within the sensitive area.
 - (iii) Pesticide residues on any off-target organic farm or garden in the vicinity of an application site which causes the organic products thereof to fail to meet the tolerance for organic agricultural commodities because residue testing detects prohibited substances that are greater than five percent of the Environmental Protection Agency's tolerance for the residue detected. This standard shall apply only where, prior to the time the pesticide application occurs, the owner or operator of the organic farm or garden notifies the owner or lessee of the land to be sprayed, with such notice identifying the farm or garden as organic.
 - (iv) The residue standards in this subsection II for off-target drift do not apply where the owner or lessee of the off-target area receiving pesticide drift has given authorization and consent as prescribed under subsection C of this section.
- III. Standards for Particular Pesticides. The Board may by rule provide more restrictive residue standards than those prescribed herein for particular pesticides, where pesticide toxicity, propensity to drift or other circumstances warrant.

C. Consent; How Given.

- I. Authorization and consent by the owner or lessee of land receiving a pesticide discharge or drift may be given in any manner, provided that the consent is reasonably informed and is given prior to the onset of the spray activity in question. The burden of proof shall be upon the applicator to demonstrate that requisite authorization and consent has been given. For this reason, applicators are encouraged to obtain such consent in writing and to maintain records thereof.
- II. Except with the prior written approval of the Board, no authorization or consent may be given with regard to off-target direct discharge or off-target drift of pesticides upon any bodies of water or critical areas as defined in Chapter 10, "Definitions; Sensitive area."

SECTION 4. DRIFT MANAGEMENT PLAN.

A. Purpose.

Landowners, lessees and/or spray applicators may develop a drift management plan to cover applications undertaken by or on behalf of them. The purpose of such a plan shall be to minimize the occurrence and adverse effects of pesticide drift. Where a drift management plan is in effect and complied with, management flexibility may be enhanced.

B. Contents

A drift management plan must contain measures designed to meaningfully reduce and minimize the incidence and adverse effects of off-target drift of pesticides, with a particular view to protecting sensitive areas. Such measures shall consider and include at least some of the following elements:

- I. The establishment of no-spray buffer zones between spray blocks and sensitive areas to minimize drift;
- II. Spraying only when maximum wind speed and/or direction are as prescribed by the plan, with that prescription being less than the maximum allowable wind speed established under section 3C IV;
- III. The use of coarse spray droplets created by a combination of special nozzles, pressures and particulating agents;
- IV. The use of specialized equipment designed to minimize spray drift;
- V. The use of wind shields or breaks to deflect or contain spray drift away from sensitive areas;
- VI. The use of closest possible points of spray release to the target in order to minimize drift;
- VII. The use of lowest effective rates of application of pesticides;
- VIII. The use of integrated pest management techniques, including planting of pest resistant varieties, removal of pest host plants, long-range planning to rotate crops and monitor fields, and other measures designed to minimize the use of pesticides over the planting season and/or over several planting seasons;
- IX. Posting of the area to be sprayed or other forms of effective public notification, provided that this measure must be accompanied by other measures designed to reduce drift;
- X. Other specific measures stated in the plan which are effective in minimizing the incidence and adverse effects of pesticide drift.

C. Procedure.

Any person wishing to operate under a drift management plan must prepare the plan in writing, stating with specificity the measures which will be used, and how they will be used, in reducing the incidence of drift and protection of sensitive areas. The plan shall also include a map, aerial photograph or sketch of the area(s) to be sprayed, the crops to be treated, the pesticide(s) and equipment which may be used, the target pest(s), and the monitoring techniques and thresholds which will be used in making a decision to spray a given area. The plan shall be dated and signed by the person(s) responsible for carrying out its provisions, who shall also provide an address and telephone number by which (s)he can be reached.

D. Filing; Review by Board.

The drift management plan need not be filed with the Board but must be retained by the person having responsibility for pesticide application. Notification to the Board of the existence of the plan shall be submitted on forms to be prepared by the Board. The Board may from time to time review any plan for adequacy in providing for minimum drift and protection of sensitive areas. If the Board

requests a copy of the complete plan, it shall be promptly submitted. If the Board at any time determines that a plan is not adequate, or is not sufficiently detailed to allow for an evaluation of its adequacy, it shall notify the person responsible for the plan and provide an opportunity for that person to amend the plan in order to make it adequate. The Board may notify that person of amendments or conditions which would make the plan acceptable. Any plan determined by the Board to be inadequate shall be declared invalid by the Board.

E. Period of Effectiveness.

A drift management plan shall be effective for a period of two years, after which it must be updated by the person responsible for its preparation. The Board shall be notified in writing of the updated plan.

F. Legal Effect of Plan.

Operating under a drift management plan does not allow an applicator to avoid compliance with the requirements of Section 2 and 3A of these regulations. Departure from the standards of Sections 3 and 4A requires a variance permit under Section 6.

G. Enforcement.

In the event of an incident involving alleged pesticide drift or other misapplication where a drift management plan was in effect, the Board shall examine the adequacy of the plan and may declare the same inadequate or recommend further amendments or conditions. The Board shall take into consideration the existence of and good faith compliance with a plan in determining whether further enforcement action by the Board is necessary.

Except from Chapter 28, Section 1

Section 1. Requesting Notification About Outdoor Pesticide Applications

The purpose of the following notification requirement is to enable individuals an opportunity to obtain information regarding outdoor pesticide application activities in their vicinity.

A. **Requests for Notification; How Made**

The owner, lessee or other legal occupant of a sensitive area may make a request to be notified about any outdoor pesticide application(s) which may occur within 500 feet of that sensitive area.

1. The request may be made in any fashion, so long as it is effective in informing the person receiving the request of the name, address, telephone number, and interest in receiving notification of the person making the request.
2. The request for notification should be made to the person responsible for management of the land on which the pesticide application will take place. If the person making the request for notification is uncertain as to the identity of the person to whom the request should be made, he/she may make the request for notification to the person who owns the land involved, as such ownership is ascertainable from the tax records of the municipality. That landowner shall then be responsible for assuring compliance with provisions of this section.

B. Procedure of Notification

Once a request for notification has been made as provided in Section 1(A), the person receiving the request shall cause notification to be given as follows:

1. General notification of intent to apply pesticides out-of-doors shall be given to the person making the request for notification. Such general notification may be given in any fashion, provided that it is effective in informing the person receiving the notice of the following:
 - a. the approximate date(s) when pesticide(s) may be applied;
 - b. the pesticide(s) which may be applied;
 - c. in general terms, the manner of application; and
 - d. the name, address and telephone number of a person responsible for the pesticide application from whom additional information may be obtained.
 - e. If requested, the person responsible for managing the land shall make reasonable efforts to supply a copy of the MSDS(s) and/or the pesticide label(s). However such requests for additional information will not delay nor prohibit the intended pesticide application.

Where feasible, such general notification shall be given within one week after the request for notification is received and at least one day before any pesticide application is to occur. Such notification may cover outdoor pesticide applications which are planned over a period of up to one growing season.

2. If, following receipt of the general notification as provided by Section 1(B)(1) above, the person seeking notification believes there is a need for additional or updated information regarding impending pesticide application activities, he/she may make a further request for additional information from the person identified in the general notification. This request for additional information must specify the type of information needed, including, for example, more specific information regarding the date or dates on which pesticides will be applied when known. The person responsible for the notification shall make reasonable efforts to comply with such request for additional information.
3. If any person is dissatisfied with the efforts made by any other person at complying with these notification provisions, a complaint may be filed with the Board. The Board shall then make efforts to attempt to reach a reasonable and fair resolution between the parties.