



PAUL R. LEPAGE
GOVERNOR

STATE OF MAINE
MAINE DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY
BOARD OF PESTICIDES CONTROL
28 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0028

WALTER E. WHITCOMB
COMMISSIONER
HENRY S. JENNINGS
DIRECTOR

BOARD OF PESTICIDES CONTROL

January 11, 2017

**Kennebec/Penobscot Room
Augusta Civic Center
76 Community Drive, Augusta, Maine**

AGENDA

BOARD MEETING 3:00-4:00 PM

PUBLIC FORUM 4:00-5:00 PM

BOARD MEETING 4:00-5:00 PM IF NEEDED

1. Introductions of Board and Staff

Department Update on the Status of the Board Director Position

Presentation By: Ann Gibbs
Director, Animal and Plant Health

2. Minutes of the December 16, 2016 Board Meeting

Presentation By: Megan Patterson
Manager of Pesticide Programs

Action Needed: Amend and/or Approve

3. Request from Maine Migrant Health Program and Eastern Maine Development Corporation to Help Support a Worker Safety Training Program for Summer 2017

Since 1995 the Board has supported a Migrant and Seasonal Farmworker Safety Education program. During 2016, 704 individuals received Worker Protection Standard training, 704 individuals received take-home exposure training, and 698 received heat stress training. This represents a 228% increase over the number of farm workers trained in 2015. Funding to support this effort is being requested in the amount of \$3,860, a 5% increase over the amount requested last year. The funding has been accounted for in the Board's FY'17 budget.

Presentation By: Chris Huh, Program Manager, Farmworkers Jobs Program,
Eastern Maine Development Corporation

Elizabeth Charles McGough, Director of Outreach, Maine Migrant Health Program

Action Needed: Discussion and Determination if the Board Wishes to Fund this Request

4. Discussion of a ‘Statute of Limitations’ on the Pursuit of Complaints by the Board

At the December 16, 2016 Meeting the Board ratified a consent agreement with Jasper Wyman & Son, of Milbridge, Maine. Darin Hammond, the Senior Manager of Farm Operations, attended the meeting as a representative for the company. On December 22, 2016 Hammond sent a letter to the Board expressing his concerns regarding the Board’s investigation of complaints associated with pesticide applications made more than a year before the complaint was filed.

Presentation By: Darin Hammond
Manager of Farm Operations, Jasper Wyman & Son

Action Needed: Discussion of a ‘Statute of Limitations’ for Investigation of Complaints

5. Discussion of Board Approved Products for Control of Browntail Moth within 250 feet of Marine Waters

On January 25, 2008, the Board adopted Section 5 of Chapter 29 which regulates the use of insecticides used to control browntail moth within 250 feet of marine waters. Section 5 limits insecticide active ingredients to those approved by the Board. Since that time, a number of newer chemistries have been registered for use and far more data is available on the efficacy of many products. On November 4, 2016 and December 16, 2016 the Board discussed the browntail moth populations and the available products. Subsequently, the staff was directed to update the list of approved products for browntail moth control. The Board will now consider the list.

Presentation By: Lebelle Hicks
Pesticide Toxicologist

Action Needed: Amend or Approve the List of Products for Browntail Moth Control

6. Discussion of Interpretation of the Definition of ‘Biological’ within Chapter 29

On January 25, 2008, the Board adopted Section 5 of Chapter 29 which regulates insecticides used to control browntail moth within 250 feet of marine waters. On November 4, 2016 and December 16, 2016 the Board discussed browntail moths and the definition of ‘biological’ pesticides. When the rule was originally written, strains of *Bacillus thuringiensis* (*Bt*) were the only ‘biological pesticide’ active ingredients available and labeled for use on browntail moth. Since that time, a number of questions have arisen relative to other products which may qualify as ‘biological’. Subsequently, the staff was directed to prepare an interpretation of ‘biological’ to clarify which products fall under that exemption.

Presentation By: Megan Patterson
Manager of Pesticide Programs

Action Needed: Accept/Reject the Proposed Interpretation of ‘Biological’

7. Review of BPC Budget

At the December 16, 2016 Meeting, the Board suggested that a review of the Board's annual operating budget may be timely. The staff will present information pertaining to the current budget and an overview of the budget process.

Presentation By: Megan Patterson
Manager of Pesticide Programs

Action Needed: Review of BPC Budget

8. Other Old or New Business

- a. Legislative Report on Water/Sediment Sampling
- b. Update on Homeowner Education Activities
- c. Updated Memo Detailing Sampling Results from Gulf of Maine Coastal Pesticide Study
- d. Letter from Jody Spear
- e. Letter from Paul Schlein

9. Schedule of Future Meetings

February 17, 2017; March 31, 2017; and May 12, 2017 are tentative Board meeting dates. The Board will decide whether to change and/or add dates.

Adjustments and/or Additional Dates?

10. Adjourn

NOTES

- The Board Meeting Agenda and most supporting documents are posted one week before the meeting on the Board website at www.thinkfirstspraylast.org.
- Any person wishing to receive notices and agendas for meetings of the Board, Medical Advisory Committee, or Environmental Risk Advisory Committee must submit a request in writing to the Board's office. Any person with technical expertise who would like to volunteer for service on either committee is invited to submit their resume for future consideration.
- On November 16, 2007, the Board adopted the following policy for submission and distribution of comments and information when conducting routine business (product registration, variances, enforcement actions, etc.):
 - *For regular, non-rulemaking business*, the Board will accept pesticide-related letters, reports, and articles. Reports and articles must be from peer-reviewed journals. E-mail, hard copy, or fax should be sent to the Board's office or pesticides@maine.gov. In order for the Board to receive this information in time for distribution and consideration at its next meeting, all communications must be received by 8:00 AM, three days prior to the Board meeting date (e.g., if the meeting is on a Friday, the deadline would be Tuesday at 8:00 AM). Any information received after the deadline will be held over for the next meeting.

- During rulemaking, when proposing new or amending old regulations, the Board is subject to the requirements of the APA (Administrative Procedures Act), and comments must be taken according to the rules established by the Legislature.



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BOARD OF PESTICIDES CONTROL

December 16, 2016

**Room 118
Marquardt Building
32 Blossom Lane, Augusta, Maine**

DRAFT MINUTES

9:00 AM

Present: Bohlen, Flewelling, Granger, Jemison, Morrill, Stevenson

1. Introductions of Board and Staff

- The Board, Staff, and AAG Mark Randlett introduced themselves
- Staff Present: Chamberlain, Connors, Couture, Hicks, Patterson, Pietroski, Tomlinson

Department Update on the Status of the Board Director Position

Presentation By: Ann Gibbs
Director, Animal and Plant Health

- Gibbs announced that Henry Jennings recently accepted a position as Director of the Maine Harness Racing Commission, but he is continuing to work with the BPC to help with the transition. The department is actively seeking to fill his position, but the state is currently in a Governor-ordered hiring freeze, so the process is going much more slowly than desired and a different set of requirements must be fulfilled before filling the position. Gibbs explained that approval from the Governor is required, and was requested several weeks ago, but an answer has not yet been received. Once the department receives approval the position will be filled with someone in an acting capacity and the position will be advertised. An interview committee needs to be set up and Board members should contact Gibbs if they would like to serve on it.
- Gibbs expressed that there was some confusion about the statute, specifically where it states that the Commissioner shall appoint a Director with approval of the Board. Gibbs clarified this does not mean the Commissioner can just appoint anyone. This is a union position and has to go through the entire hiring process. The Commissioner does have approval on any position, but that is after the hiring process.
- Jemison asked about the size of the hiring committee. Gibbs replied it is usually four people.

- Morrill asked if there had been any discussion with the Governor about the position and if there was an estimate for when it may be approved for hiring. Gibbs stated there had been discussion, but she did not have an estimated approval date.
- Morrill stated it would be helpful to have a Board member on the hiring committee, and recommended Granger. Granger stated he would be happy to assist if it is the wish of the Board.
- There was a discussion about finding a replacement Board member to fill Eckert’s position. Gibbs told the Board to please let her know if they have suggestions. Anyone from the medical community can be considered. Gibbs stated Ron Dyer received suggestions for potential candidates. Gibbs added that if Board members know an individual who is really interested, ask that individual to put together a brief resume to send to the Commissioner and Governor.

2. Minutes of the November 4, 2016 Board Meeting

Presentation By: Megan Patterson
 Manager of Pesticide Programs

Action Needed: Amend and/or Approve

- **Flewelling/Stevenson: Moved and seconded to approve**
- **In Favor: Unanimous**

3. Presentation on Gulf of Maine Coastal Pesticide Study Update for 2015

In February 2014, the Environmental Risk Advisory Committee (ERAC) was convened to “examine whether current pesticide residues have the potential to affect the lobster industry in Maine directly or via impact on other marine organisms.” Concurrent with the formation of the ERAC, the Board initiated sampling of stormwater and sediment. Results from the 2014 sampling season were reviewed by the Board. Monitoring for the 2015 sampling season was completed in October 2015. The Board will now review the data presented.

Presentation By: Mary Tomlinson
 Pesticide Registrar and Water Quality Specialist

Action Needed: Determine Next Steps

- Tomlinson discussed the results of the 2015 stormwater and sediment sampling season. In 2014 only sediment was sampled; in 2015 both stormwater and sediment were sampled. The sediment sampling was focused around Casco Bay, both islands and coastal regions on the mainland. Habitats where juvenile lobsters were likely to be found were the top priority. Stormwater sampling was conducted over one storm event at 20 sites ranging from Kittery to Whiting.
- Tomlinson explained that sediment samples were analyzed for 21 pyrethroids, piperonyl butoxide (PBO), and methoprene. The samples were sent to both Montana Analytical Lab and Southwest Research institute. For sediment, the Southwest Research results were obtained from dry weight and the Montana Analytical Lab results were derived from wet weight, so the quantitative results cannot be compared between the two labs.
- Tomlinson summarized the info in Table 1 and 2 for the Board. Bifenthrin was detected in sediment from seven sites and esfenvalerate from one site. Twenty pesticides, including 2,4-D, and bifenthrin, as well as fipronil degradates, were detected in the stormwater. In some cases,

the bifenthrin detected in the stormwater were above the chronic limit for the aquatic life benchmark.

- Tomlinson thanked the groups, including Friends of Casco Bay and DEP, which assisted BPC staff collecting stormwater samples.
- Jemison asked for explanation of the data in the ‘Reporting Limits’ and ‘Concentration Range’ columns in Table 2. Bohlen also questioned the two columns, which appeared to have the same data. Tomlinson agreed with Jemison and Bohlen and said she would check on it and get back to them.
- Flewelling asked if the Board were the first to see these sampling results. Tomlinson replied that she had presented a draft of the tables in Portland last fall, but this is the first time she has shared the sampling results in a completed report.
- Morrill asked if the full report will be presented to the legislature in January and if the Board will have the full report by the next Board meeting. Hicks replied that it would be more of a status report. Hicks also discussed how using acute data points for chronic results is not feasible. Bohlen added that a measurement of one storm event is not representative of what is happening, and to use this data in terms of a risk assessment we would need to look at what is dissolved in the sediment. He also explained that bioavailability is also an issue, because if pesticides are in the sediment and water, we do not know how much, if any, is bioavailable to the lobster larvae. Bohlen asked Hicks for a copy of the pyrethroid risk assessment, which she stated she would provide to him.
- Granger indicated the ‘budgetary constraints’ mentioned in the second paragraph of the sampling update memo, and stated that the Board has heard this from staff on several occasions. He asked if staff could provide the Board with figures detailing how much money would be required to conduct the study with adequate sampling. Granger added that the Board should consider the tasks being undertaken, if the budget is a constraint, and then determine priorities. Patterson replied that funding for sampling comes from the federal grant. Patterson added that the federal contribution may be decreasing. Tomlinson stated that approximately \$45-50k was spent on sediment and water sampling in 2015.
- Bohlen noted that analyzing one of these samples costs several hundred dollars, and when designing these studies tough choices need to be made about where to sample, the kind of results desired, and whether money is being allocated wisely. Sending the samples to two different labs added more costs, but needed to be done initially to ensure accurate and consistent results. Bohlen suggested stopping the double-testing now that we know the labs are giving accurate results. Patterson commented that there were large shipping costs associated with each sample because both labs were out of state and the packages containing water samples in glass jars were fairly heavy.
- Granger stated the goal is to examine whether current pesticide residues have the potential to affect lobster. We need an answer to this and need to take a hard look at allocating the money to get an answer.
- Stevenson asked staff about the budget forecast and when the Board will see it. Morrill remarked that it would be helpful. Granger stated that the Board supports many positions and maybe they should take a look at the Board’s priorities if there is insufficient funding. Granger suggested the Board be more involved in the budget than previously to make sure their priorities are covered. Morrill added that annual preparation of a budget was discussed last year and he would like to start by looking at that.

4. Discussion of the Current Environmental Risk Assessment Committee (ERAC) Membership Update

The ERAC has experienced recent vacancies, the environmental toxicologist and the environmental chemist, and the Maine Department of Marine Resources has hired a new lobster

biologist. To compensate for these changes, the addition of two new members is proposed. The Board will now discuss these proposed membership changes.

Presentation By: Lebelle Hicks
Pesticide Toxicologist

Action Needed: Accept/Reject the Proposed Additions to the ERAC

- Bohlen discussed the difference between sediment index with vacuum sampling versus sampling in the near shore environment, which may be more relevant to exposure to toxins.
- Hicks proposed appointing Kathleen Reardon and Lawrence Mayer to fill the vacancies on the ERAC. Reardon is the lobster biologist for the Maine Department of Natural Resources, and Lawrence Mayer is the geophysical chemist from the University of Maine's Darling Center.
- Morrill added it would be great to have an individual from DMR on the committee and thanked Hicks for all her work on this.
 - **Jemison/Bohlen: Moved and seconded to accept Hicks' proposal to appoint Kathleen Reardon and Lawrence Mayer to the ERAC**
 - **In Favor: Unanimous**

5. Discussion of Board Approved Products for Control of Browntail Moth within 250 feet of Marine Waters

On January 25, 2008, the Board adopted Section 5 of Chapter 29 which regulates the use of insecticides used to control browntail moth within 250 feet of marine waters. Section 5 limits insecticide active ingredients to those approved by the Board. Since that time, a number of newer chemistries have been registered for use and far more data is available on the efficacy of many products. On November 4, 2016 the Board discussed browntail moth, the available products and the definition of "biological" pesticides. Subsequently, the staff was instructed to update the list of approved products for browntail moth control and propose an interpretation of biological. The Board will now consider the list and the definition of biological pesticide.

Presentation By: Megan Patterson
Manager of Pesticide Programs

Action Needed: Amend or Approve the List of Products for Browntail Moth Control

- Morrill stated this was a continuation of the discussion begun at last month's Board meeting surrounding products approved for use on browntail moth in the 50'-250' zone and how to define 'biological'.
- Hicks remarked if we tried to decide this issue with an ERAC review we would need to run an ERAC concurrent with the lobster review or somehow expand the scope of the current lobster ERAC. Hicks suggested, due to the time constraints, using EPA's most recent risk assessment review together with label use rates to guide us, rather than going through another full review.
- Jemison asked about the population increase in browntail moth, and if most humans respond the same way to the hairs or if there are degrees of response. Hicks stated the hairs cause a rash similar to a contact dermatitis and a small amount of individuals have a respiratory response. Donahue added that people become more sensitive to the hairs over time; Bowdoinham is inundated at this time and many people are having reactions. She has been contacted by people who are cutting all their trees and selling their homes.

- Jemison asked how and when browntail moth is treated. Donahue stated that browntail moth emerge as tiny caterpillars in spring and do most of their feeding then, so most treatments are being done in May. She added that August is another possible treatment time, but it has not been tried in Maine much. Donahue further explained that traditionally the hard part was figuring out which trees the caterpillars inhabited in August, but that has been easier lately because they are so numerous they are stripping entire trees.
- Flewelling asked about the geographic area currently affected. Donahue stated she mapped about 63,000 acres with browntail moth last year. That was only what could be seen from the air, and normally this kind of damage would not be visible from the air. The area included pretty much all of Sagadahoc County and spread out from there.
- Jemison asked about problems with treating from the ground. Flewelling asked if the browntail moth could be accessed from the ground. Donahue replied it is difficult to reach from a truck and that aerial application would be the best way to reach it, but there are other issues with that. Hicks added that we will not be able to eradicate it, but are hoping to cut down on the amount of hairs people come in contact with and protect peoples' yards.
- Hicks suggested removing the word 'biological' because something should not be given our approval just because it is biological. Randlett stated we could define 'biological' via policy for the short term, but we would need to go through rulemaking to remove it. Donahue interjected that she had concerns about removing 'biological' because if we discover *Bt* is a good resource we would not be able to then use it, and we often see browntail very close to the water. Bohlen commented that *Bt* is unique because it is so specific and the other products are wider spectrum and suggested rewording the policy so that only *Bt* can be used from 0'-50'. He also suggested defining 'biologicals' as *Bt*-based products with demonstrated efficacy. Hicks suggested changing the definition of 'biological' to products specific to and efficacious on Lepidoptera species. Hicks also added that *Bt* does not affect lobsters because it requires a gut pH around 8 and a lobster's gut pH is 4.5 pH, so if we had an effective *Bt* product it could be used without risk of harm to lobsters. Morrill suggested drafting something stating that when this section was written it was intended to refer to *Bt*.
- Randlett restated that the Board can use policy to redefine 'biological', but to remove it requires rulemaking. He added that eventually we would want to add the definition to rule.
- Morrill stated there are currently products other than *Bt* which could be said to fit the Board's definition of 'biological' and our concerns with those products are that they may have side effects we are not okay with. The Board should give themselves the power to add other products to the list, as appropriate, until the policy can be put into rule.
- In regards to the list for the products allowed within the 50'-250' zone, Morrill stated that if Hicks can use the most recent EPA toxicology data set and the label use rates to come up with a list, he would be comfortable with that and would like to see it at the January meeting to review and approve. Morrill added it would need to be amended from time to time to keep up with current chemistries. Bohlen stated that we do not have much time, and we need to protect the marine environment and need to find a path to get us info to do this in two months' time. Morrill remarked that this issue needs to be finalized by the February meeting to be in time for applicators and if we can come up with a list to offer them this season we can then go back and discuss and polish the list for the next year.
- Hicks asked Patrice McCarron, (Director of the Maine Lobstermen's Association) how she thought the lobstermen would respond to the suggestion of using the use rates to help create a list. Patrice stated she thought people would understand and she would be willing to carry this message for the Board. McCarron added that she is happy with how proactive the board is trying to be in dealing with this outbreak.

6. Consideration of Consent Agreement with Jasper Wyman & Son, Milbridge, Maine

The Board's Enforcement Protocol authorizes staff to work with the Attorney General and negotiate consent agreements in advance on matters not involving substantial threats to the environment or public health. This procedure was designed for cases where there is no dispute of material facts or law, and the violator admits to the violation and acknowledges a willingness to pay a fine to resolve the matter. This case involves the unauthorized application of pesticides.

Presentation By: Raymond Connors
Manager of Compliance

Action Needed: Approve/Disapprove the Consent Agreement Negotiated by Staff

- Connors stated this case originated with a call from Jeff Bridges, who subleased property on which to grow blueberries from Jasper Wyman & Son from February 2012 to December 2018. Bridges stated Wyman & Son hired an individual to mow and make applications of Sinbar and Callisto on the property that was sub-leased to Bridges.
- Connors sent a consent agreement to Wyman & Son, which they agreed to with a 'no admit' clause.
- Darin Hammond, senior farm manager from Wyman & Son stated that, in response to multiple calls from the landowner to maintain her property, Wyman hired Terry Bell to mow and make the applications. Hammond added that the land has not been maintained for blueberry production since the lease was signed and Wyman & Son is currently in litigation with Bridges. Bridges did not live up to his contractual obligation.
- Morrill asked Hammond if the owner gave them permission to make a pesticide application. Hammond answered that she had asked them multiple times to do so. Hammond added they are currently in litigation with Bridges and just want to get the consent agreement issue behind them and asked that it not be taken into consideration for any possible future consent agreements. Randlett stated the Board cannot make that kind of promise.
- Stevenson asked why a consent agreement was issued if the lease was in dispute and Wyman & Son had the owner's permission to spray. Connors stated because there was a binding sublease signed by both Wymans and Bridges and the spraying that took place at that time was unauthorized because Bridges was the tenant and he had management rights to the land. Randlett agreed that Bridges was the legal occupant of the property at the time of the spraying and that was why it was a violation.
- Hammond asked the Board to agree to the consent agreement so Wyman & Son can put it behind them.

- **Flewelling/Granger: Moved and seconded to approve consent agreement**
- **In Favor: Unanimous**

7. Other Old or New Business

- a. Legislative Report re LD 1678
- b. Update on Homeowner Education Activities
 - Patterson summarized the efforts taken by staff since the last Board meeting to further homeowner outreach. She stated that staff will be making presentations at all active master gardener programs. Patterson presented at a master gardener class last week and has multiple other presentations scheduled.

- On April 20, 2017, Patterson will attend and speak at a televised meeting with the Rockport Conservation Commission.
- Patterson has been in communication with MELNA and discussed presentations at the upcoming Portland Flower Show. Bangor's flower show has not yet been advertised, but staff will sign up for it as soon as possible. Both of these events are multiple days and will take substantial staff hours to cover.
- Patterson has worked to get GovDelivery up and running and used it to send out the Board packet for this meeting. The homeowner component of GovDelivery will be available soon.
- Staff has been working to arrange 4-5 meeting spaces to give presentations in February that will focus on browntail moth, and also cover ticks and mosquitoes.
- The YardScaping site is in the process of being updated. There were multiple broken links. Since the master gardener folks rely on this site for information, keeping it current is important.
- Bohlen offered Patterson the assistance of his staff to assist in homeowner outreach efforts.

8. Schedule of Future Meetings

January 11, 2017; February 17, 2017; March 31, 2017; and May 12, 2017 are tentative Board meeting dates. The Board will decide whether to change and/or add dates.

Adjustments and/or Additional Dates?

9. Adjourn

- **Bohlen/Granger: Moved and seconded to adjourn**
- **In Favor: Unanimous**

Lisa M. Tapert, MPH
Executive Director

Cheryl K. Seymour, M.D.
Medical Director



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9 Green Street P.O. Box 405 Augusta, Maine 04332-0405

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December 21, 2016

Megan Patterson
Maine Board of Pesticides Control
28 State House Station
Augusta, ME 04333-0028

Dear Ms. Patterson,

The Maine Migrant Health Program (MMHP) and Eastern Maine Development Corporation (EMDC) would like to provide an update to and a request for support from the Maine Board of Pesticides Control of a continued collaborative effort to deliver EPA Worker Protection Standard (WPS) education to Maine's farmworkers during the 2017 harvest season.

In 2016, through support of the Maine Board of Pesticides Control, MMHP and EMDC collaborated to hire a staff person to deliver WPS trainings across the state during the months of June – August, especially among broccoli and blueberry workers and at a variety of diversified farms. During 2016, this individual offered WPS education to a total of 704 farmworkers across the state. This represents a 228% increase over the number of farmworkers trained in 2015. This success is attributed to increased outreach to new growers, growers' new requirement to train staff annually instead of every 5 years, a bilingual staff person (English/Spanish) and flexibility to train farmworkers per the timing and location preferable to the grower.

The table below breaks down, by education topic, important outcomes in 2016 completed by this staff person.

FWs trained in Worker Protection Standard	704
FWs trained in Take Home Exposure	704
Heat Stress Trainings	698

For 2017, the Association of Farmworker Opportunity Programs (AFOP) has committed \$3,123 to EMDC and MMHP in support of WPS training. EMDC and MMHP plan to use these funds to

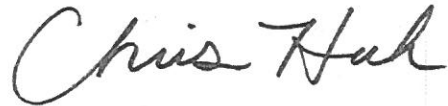
recruit one summer Pesticide Safety Training staff member who will provide direct services to farmworkers across the state. We request from the Maine Board of Pesticides Control a contribution of \$3,860 (a 5% increase over 2016) which we would leverage with the funds from AFOP. EMDC and MMHP plan to use these funds to recruit one summer staff member who will provide WPS Trainings and direct services to farmworkers across the state. Funds would cover both the hourly wage and the travel required to reach farmworkers, growers and partners. We request that the funding be made directly to MMHP.

We thank the Board for its past support and for considering this current proposal. To contact the Maine Migrant Health Program, you are welcome to email Elizabeth (echarles@mainemigrant.org) or call at 207-441-1633. For more information regarding Eastern Maine Development Corporation or the AFOP Health and Safety program, please feel free to contact Chris by email (chuh@emdc.org) or phone (207-610-1521). We look forward to meeting with the Board to discuss this opportunity.

Best Regards,



Elizabeth Charles McGough
Director of Outreach
Maine Migrant Health Program



Christopher Huh, MPA
Program Manager
Farmworker Jobs Program
Eastern Maine Development Corporation



RECOMMENDED BY FUTURE GENERATIONS.

4

December 22, 2016

Mr. Henry Jennings
Director:
Maine Board of Pesticide Control

Darin Hammond
Senior Manager of Farm Operations
Jasper Wyman and Son

RE: Recent Consent Agreement

At the BPC meeting on December 16, 2016 I addressed the Board about the consent agreement for Jasper Wyman and Son concerning Cole G Bridges LLC. We would like to point out a few facts that we feel should be addressed by the Board. The complaint was received on February 4, 2016. This complaint was lodged **20 months** after the alleged violation. Ray Connors testified at the meeting that Cole G Bridges LLC had prepared the land, and showed the inspector the pesticide records to prove that he had done field work in 2013. Mr. Connors also testified that Mr. Bridges was relying on this land for income. It is ironic that after the land was prepared in May of 2014, the alleged violation date, that the land was not harvested in 2015. Complaints such as these that are so old, tie the hands of the Inspector when the evidence of an application is degraded over time. Although this is a specific instance, I feel that accepting complaints that are this old opens up a can of worms for commercial applicators. If someone has an axe to grind, or doesn't want to pay their bill etc. all they have to do is file a complaint. The Staff needs some guidance on this issue. How old a complaint will the Staff accept? We know they will accept a 20-month-old complaint will they accept a five-year-old complaint, ten, twenty, thirty?

We feel that the Board should consider instituting a **Statute of Limitations** on complaints of 12 months, or at least start the conversation of how to address this problem. We feel that this would be reasonable to protect both applicators, and the public.

Sincerely,

Darin Hammond
Senior Manager of Farm Operations
Jasper Wyman and Son



Jasper Wyman & Son

P.O. Box 100, Milbridge, ME 04658 Finance: 207.546.3800 Sales & Traffic: 207.546.2311
www.wymans.com



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AUGUSTA, MAINE 04333

PAUL R. LEPAGE
GOVERNOR

WALTER E. WHITCOMB
COMMISSIONER

12/29/16

TO: Board Members
FROM: Lebelle Hicks PhD DABT
RE: Active Ingredients for Approval for Use in the 50 to 250 Foot Area from the Mean High Tide Mark, in Accordance with Chapter 29 Section 5 for Control of Browntail Moths

Background

In 2006, the Board's Environmental Risk Advisory Committee reviewed insecticides for aquatic toxicity to marine invertebrates. The relative aquatic risks for marine and freshwater invertebrates were evaluated for insecticides currently registered for:

- foliar applications to hardwood,
- use on landscape ornamental trees, and
- demonstrated efficacy for Browntail moth caterpillar control

Since 2006, new chemistries with known browntail moth efficacy have become available including, neonicotinoids and spinosad. Other active ingredients with potential efficacy are also available such as azadirachtin, several Bt strains, chlorantraniliprole, cyantraniliprole, indoxacarb, methoxyfenozide and tebufenozide. These latter compounds may be evaluated for relative risks when specific efficacy on browntail moth is available.

December 2016 Review

The methodology for the relative risk determination is similar to that used by the ERAC in 2006. The most sensitive marine invertebrate toxicity endpoint (acute LC50) was chosen and an Estimated Environmental Concentration (EEC) based on use rates from the product label were determined. EECs for a worst case scenario, of a spill of 100 gallons of use mix into a 1 acre body of water with depths of ½ foot (shallow), 6 feet (deep) and 23 feet deep (this is the average depth of inner Casco bay according to Gustafsson 1998) were determined.

The ratios (modified risk quotients (modRQ), based on the worst case scenario) of the EEC to the LC50 were calculated and the resulting relative risks were analyzed. Active ingredients and their relative risk quotients are presented in Tables 1 and 2, with a risk quotient of 500 used to segregate the active ingredients.

HENRY JENNINGS, DIRECTOR
90 BLOSSOM LANE, DEERING BUILDING



PHONE: (207) 287-2731
WWW.THINKFIRSTSPRAYLAST.ORG

Table 1. Invertebrate Modified Risk Quotients less than 500 for Aquatic Invertebrates, for Acute Worst Case Scenarios of 100 gallons of use mix spilled into a ½ foot deep, 1 Acre body of Water

Compound	Invertebrate Modified Risk Quotients		Status in 2006 Review
	Marine	Freshwater	
Acetamiprid	11	36	Not registered for this use
Bifenthrin	4	28	Not registered for this use
Clothianidin	6	14	Not registered for this use
Deltamethrin	54	2	Not evaluated
Diflubenzuron	125	31	Approved by the Board
Dinotefuran	1	0	Not registered for this use
Fluvalinate	278	16	Approved by the Board
Imidacloprid	5	3	Not registered for this use
Permethrin	306	833	Approved by the Board
Spinosad	1	0	Not registered for this use

Table 2. Invertebrate Modified Risk Quotients Greater than 500 for Aquatic Invertebrates, for Acute Worst Case Scenarios of 100 gallons of use mix spilled into a ½ foot deep, 1 Acre body of Water

Compound	Invertebrate Modified Risk Quotients		Status in 2006 Review
	Marine	Freshwater	
Acephate	no data	454	Not evaluated
<i>Carbaryl</i>	<i>1,326</i>	<i>4,447</i>	<i>Not approved by Board in 2006</i>
Cyfluthrin	967	93	Approved by the Board, new Marine toxicity data in 2010; 2016
Cyhalothrin	1,220	62,500	Not evaluated
Malathion	8,591	192,857	Not evaluated

MAINE BOARD OF PESTICIDES CONTROL**POLICY CONCERNING DEFINITION OF BIOLOGICAL PESTICIDE****Adopted X X, 2017**

The Board listened to a concern raised by Maine Forest Service entomologists regarding the term “biological pesticide” as used in Section 5 of Chapter 29, which regulates pesticide applications for control of browntail moth adjacent to marine waters. The staff pointed out that when this rule was originally written, it contemplated that “biological pesticide” would primarily include strains of *Bacillus thuringiensis* and similar microbial pesticides. With the recent increase in browntail moth populations, questions have arisen about other active ingredients which are derived from organisms. Staff indicated that the term “biological pesticide” is now commonly perceived to include any single cellular biological organism or biologically derived product used to control, repel or mitigate a pest. For the purpose of clarifying the term “biological pesticide” as used specifically in Chapter 29, Section 5, the staff drafted two options that define the term, and those options were presented to the Board at the January 11, 2017 meeting for consideration.

- 1. Biological pesticide.** “Biological pesticide” includes any pesticide product with active ingredients limited to organisms and/or any biochemical derivatives from organisms.
- 2. Biological pesticide.** "Biological pesticide" includes any microbial pesticide that contains the microorganism and byproducts normally associated with the organism.



STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY
BOARD OF PESTICIDES CONTROL
28 STATE HOUSE STATION
AUGUSTA, MAINE 04333

PAUL R. LEPAGE
GOVERNOR

WALTER E. WHITCOMB
COMMISSIONER

MEMORANDUM

8b

Date: January 11, 2017
To: Board Members
From: Staff
Subject: Review and Discussion of Board Homeowner Education Efforts

At the August 19, 2016 meeting, the Board requested a presentation of an updated outreach plan at the following meeting and progress updates at all subsequent meetings. The Board has continued to discuss various ideas and approaches for improving education of homeowners on the use of Integrated Pest Management and the proper use of pesticides. Staff has provided oral updates to the Board at every subsequent Board meeting. An update in the form of a memo was requested by the Board at the December 16, 2016 meeting. The following list details the outreach projects staff are currently or will be implementing:

Social Media

- The BPC GovDelivery account is set up
 - BPC staff will be posting topics on BPC Gov Delivery page under the following topics:
 - *BPC Board Meeting—currently active*
 - *Pesticide Continuing Education Credit Calendar—currently active*
 - *Commercial*
 - *Agricultural*
 - *Yard, Garden and Home—will begin using for advertising browntail moth meetings*
 - *Tips*
 - *Seminars*
 - Interested individuals can utilize the Gov Delivery tool to sign up for email communication on topics of interest
 - Gov Delivery will be used to post content on BPC's Facebook page
 - GovDelivery collects metrics on notices sent

Presentations

- Organizing 5-6 public meetings on browntail moth, and in some locations, mosquitoes and ticks
 - Requested presence of Maine CDC Healthcorps members to answer health related questions
 - Board staff will be on site to answer questions on pesticide use
 - Maine Forest Service is training potential presenters including Cooperative Extension agents, assistant horticulturists, and Board staff
 - Board is organizing the meeting spaces and working to advertise the meetings
- Garden Centers
 - Board staff have identified three topic areas for spring presentations:
 - Browntail moth management
 - Sustainable lawn practices
 - Sustainable landscaping
 - Sustainable tick/mosquito management
 - Independent Garden Center (IGC) owners have identified topic areas of interest to their customers:
 - Soil Composition
 - Landscape Design
 - Pest ID
 - Right Plant, Right Location

- IGC of Maine meeting
 - Shared letter with IGC at their December meeting and it was subsequently distributed to MELNA
 - BPC staff will attend the January meeting of the IGC
 - Requesting commitments for presentations and input on topics/projects
 - Digital survey
- Invited Speakers—Extension, MFS,
 - Currently focused on February browntail moth meetings
- One Master Gardener Pesticide talks presented and five planned
- Invited Adult Ed talk in Lincoln--Garden Pest Management /Beneficial Insect Protection
- Invited presentation at Rockport televised presentation

Flower Shows

- Bangor Daily News Garden Show, Bangor—March 24-26
- The Maine Flower Show, Portland—March 30-April 2
- Booths at both shows
 - Multipanel display with focusing on the topics below and linking everything back to website—HealthyMaineLawns/YardScaping/GotPests
- Presentations at both shows
- Public surveys at both meetings
- March Board meeting will be held at the The Maine Flower Show

Articles/Publications

- Working with Maine CDC on public health bulletin on browntail moth
- Compling Maine Forest Service browntail moth bulletins into a single document/pamphlet
- Plan to distribute both at the flower shows

Website content

- Review of Board websites is underway—repairing broken links and updating content
- Create new content
 - Browntail moth information update

Retailer pesticide signage

- New sign drafted



STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY
BOARD OF PESTICIDES CONTROL
28 STATE HOUSE STATION
AUGUSTA, MAINE 04333

PAUL R. LEPAGE
GOVERNOR

8c

TO: Board of Pesticides Control Members
From: Mary Tomlinson, Pesticides Registrar/Water Quality Specialist
RE: Gulf of Maine Coastal Pesticide Study Update for 2015
Date: January 3, 2017 (Revised memo of Dec. 16, 2016)

In February 2014, the Environmental Risk Advisory Committee (ERAC) was convened to “examine whether current pesticide residues have the potential to affect the lobster industry in Maine directly or via impact on other marine organisms.” Maine’s Joint Standing Committee on Agriculture, Conservation and Forestry, in a letter to the BPC, supported the formation and purpose of the ERAC and requested reports in January 2015 and January 2017. Stormwater and sediment sampling were scheduled for 2014 and 2015. Due to laboratory contract issues and lack of significant rain storms, only sediment sampling occurred in 2014. Results from the 2014 sampling season were reported in the 2015 ERAC Report to the Legislature. Monitoring for the 2015 sampling season was completed in October 2015.

Based on the 2014 sediment sampling results, characteristics of juvenile lobster behavior and habitat, and resource constraints, the Environmental Risk Advisory Committee narrowed the focus to the Casco Bay region. Sediments were collected in 2015 from 13 intertidal sites in Casco Bay. One site on the Saco River, below Biddeford, was sampled to follow up a cypermethrin detection at that location in 2014. Sediment sample sites included previously identified and potential juvenile lobster habitats where fine-grained sediments intersected with cobble at low tide. Two sites with the highest bifenthrin detections in 2014 were sampled for temporal variability.

Sediment samples were analyzed for 21 pyrethroids, piperonyl butoxide (PBO), and methoprene. Montana Analytical Laboratory analyzed for 14 pyrethroids and piperonyl butoxide (PBO). Southwest Research Institute (SwRI) analyzed for 19 pyrethroids, piperonyl butoxide (PBO), and methoprene. Samples were also sent to the University of Maine Analytical Laboratory for analysis of total organic carbon and particle size. Results of the 2015 sediment sampling were received late 2015.

Montana Analytical Laboratory reported detections of bifenthrin in sediment at seven sites and esfenvalerate at one site; Southwest Research Institute reported bifenthrin detections at four sites (Table 1). Sediment samples were collected at two urban sites from April through October. Bifenthrin was detected in every sample at both of these sites. Montana results are reported in wet weight and SwRI results are reported in dry weight. Results cannot be compared among samples or sites until all results are converted to dry weight and normalized for organic carbon. Results can only be interpreted as detections at a single point in time. There were no detections in sediments collected from sites previously identified as juvenile lobster habitat or adjacent to lobster habitat. EPA aquatic life benchmarks are not applicable to sediments.

Stormwater sampling was conducted at 19 sites from Kittery to Whiting over one storm event in August 2015 and at one site in Ellsworth in September. The sample from Ellsworth was overlooked by the Southwest Research Institute (SwRI) and was not analyzed; therefore, only 19 sites were analyzed for pyrethroids, methoprene, and fipronil degradates. The Montana universal method does not include pyrethroids, methoprene, or the fipronil degradates and the detection limit for fipronil is parts per billion compared to parts per trillion used by SwRI. Please refer to the attached analyte lists.

HENRY JENNINGS, DIRECTOR
90 BLOSSOM LANE, DEERING BUILDING



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Twenty-two pesticides and fipronil degradates were detected in stormwater (Table 2). Fipronil, imidacloprid, and bifenthrin were the most frequently detected pesticides. Detection frequencies of fipronil degradates were similar to that of the parent compound. Results for fipronil and its degradates were detected in the parts per trillion range, but are displayed in Tables 2 and 3 as parts per billion (ppb) for comparison purposes.

One urban site (Portland) was selected for a four-hour time series. Bifenthrin, 2,4-D, fipronil, fipronil desulfinyl, fipronil sulfone, imidacloprid, and MCPP were detected every hour; fipronil sulfide the first three hours; and imazapyr, triclopyr, and cis/trans-permethrin the first two hours.

The number of pesticides detected in each community in descending order are: Portland (14); South Portland and Rockland (9); Biddeford (8); Kittery and Belfast (7); Boothbay Harbor (6); Ogunquit, Freeport, Bath, Camden (5); Yarmouth and Brunswick (4); Blue Hill (2); Ellsworth (1); Cherryfield and Columbia Falls (2); and Jonesboro, Machias, and Whiting (1).

Bifenthrin and cis/trans-permethrin totaled were the only pesticides detected that exceeded EPA aquatic life benchmarks (ALB) (Table 3). Cis-permethrin and trans-permethrin concentrations were totaled for each sample to obtain the total permethrin concentration for comparison with the ALB. Bifenthrin exceeded one ALB at seven sites and three samples at the Portland time-series site. Permethrin exceeded two ALBs in two samples at the Portland site.

Table. 1 Pesticide residue concentrations in sediment, collected in 13 intertidal sites in Casco Bay and one Saco River site, April through October 2015.

Site	Montana Lab Results (wet wt)		SwRI Lab Results (dry wt)	
	Bifenthrin (RL= 0.045 ppb)	Esfenvalerate / Fenvalerate (RL= 0.13 ppb)	Bifenthrin (ppb)	Esfenvalerate / Fenvalerate (ppb)
Biddeford (Saco R)	0.11	ND	ND (RL=0.222)	ND (RL=0.444)
Kettle Cove*	0.064	ND	ND (RL=0.228)	ND (RL=0.456)
S. Portland (4/15)	0.31	ND	1.19	ND (RL=0.435)
S. Portland (6/12)	0.35	ND	2.15	ND (RL=0.520)
S. Portland (8/7)	0.36	ND	2.19	ND (RL=0.499)
S. Portland (10/7)	0.35	ND	2.06	ND (RL=0.501)
Falmouth-Foreside	0.19	ND	ND (RL=0.197)	ND (RL=0.395)
Falmouth-Foreside (duplicate)	0.17	ND	ND (RL=0.197)	ND (RL=0.394)
Yarmouth (4/15)	0.19	ND	3.23	ND (RL=0.528)
Yarmouth (6/12)	0.26	ND	2.8	ND (RL=0.594)
Yarmouth (8/7)	0.21	ND	2.81	ND (RL=0.632)
Yarmouth (10/7)	0.17	ND	2.39	ND (RL=0.587)
Winslow Park	0.063	ND	0.272	ND (RL=0.485)
Little Flying Point	ND	ND	ND (RL=0.221)	ND (RL=0.442)
Little Flying Point (replicate)	0.058	ND	0.423	ND (RL=0.450)
Lookout Point (Harpwell Center)*	ND	0.21	ND (RL=0.211)	ND (RL=0.422)
Lowell's Cove*	ND	ND	ND (RL=0.212)	ND (RL= 0.424)
Basin Point*	ND	ND	ND (RL=0.209)	ND (RL=0.418)
Cousins Island	ND	ND	ND (RL=0.196)	ND (RL=0.392)
Cheabeague Island*	ND	ND	ND (RL=0.202)	ND (RL=0.381)
Long Island*	ND	ND	ND (RL=0.197)	ND (RL=0.393)
Peaks Island	ND	ND	ND (RL= 0.190)	ND (RI=0.405)

*Juvenile lobster habitat

Results are not normalized for organic carbon and are not comparable among sites or between laboratories. MT lab reported results in wet weight versus dry weight report from SwRI; therefore, results are not comparable.

EPA aquatic life benchmarks are not applicable to sediments.

Table 2. Range of pesticide residue concentrations and number of sites with detections, from Kittery to Whiting, ME, August to September 2015. All results reported by Montana Analytical Laboratory (MT) unless specified as Southwest Research Institute (SwRI) results.

Pesticide	Number of Sites with Detections	Concentration Range (ppb)	Reporting Limits (ppb)
2,4-D	5	Q-4.6	0.09
Atrazine	ND	See hydroxy atrazine	0.022
Hydroxy atrazine	1	Q	0.04
Bentazon	1	0.037	0.022
Bifenthrin† (SwRI)	7	0.0012(J) - 0.016	0.0024-0.0031
Carbaryl	1	Q	0.14
Diuron	1	Q	0.053
Fipronil (SwRI)	12	0.00061-0.00543 •	0.0005
Fipronil desulfinyl (SwRI)	11	0.00024(J)-0.00139•	0.0005
Fipronil sulfide (SwRI)	8	0.00026(J)-0.00046(J)•	0.00021-0.00059
Fipronil sulfone (SwRI)	12	0.00040 (J)-0.00279•	0.0005
Hexazinone	6	Q-0.22	0.015
Imazapyr	2	Q-0.052	0.035
Imidacloprid	11	Q-0.73	0.018
MCPA	2	Q-0.072	0.046
MCCP	4	Q-1.1	0.044
Metolachlor ESA	2	Q-0.15	0.05
cis-permethrin*† (SwRI)	1	0.014-0.020	0.010-0.019
trans-permethrin*† (SwRI)	1	0.017-0.023	0.015-0.029
(Permethrin*)	See cis/trans	(0.031-0.043)	(0.025-0.048)
Prometon	2	Q-0.047	0.01
Propiconazole	1	Q	0.1
Terbacil	2	Q-0.052	0.048
Triclopyr	1	Q	0.22

J = estimated value, ND = nondetect, Q = present at less than reporting limit

*Permethrin was not analyzed. Cis/trans-permethrin residue concentrations in each sample were totaled and entered for permethrin.

†SwRI: Reporting limits (RLs) apply only to samples with undetected analytes; RLs not provided by lab for samples with reported concentrations

EPA Aquatic life benchmarks are not applicable to sediments.

Table 3. Range of pesticide residue concentrations detected in 24 stormwater samples collected at 20 sites from Kittery to Whiting, ME, August to September 2015. EPA aquatic life benchmarks provided for comparison. All results reported by Montana Analytical Laboratory (MT) unless specified as Southwest Research Institute (SwRI).

Range of Pesticide Concentrations		EPA Aquatic Life Benchmarks Freshwater (ppb)					
		Fish		Invertebrates		Non-vascular Plants	Vascular Plants
Pesticide	Concentration Range (ppb)	Acute	Chronic	Acute	Chronic	Acute	Acute
2,4-D	Q-4.6			12500			
Atrazine	ND	2650		360	60	0.001	
Hydroxy atrazine	Q	<i>Refer to atrazine benchmarks</i>					
Bentazon	0.037	>5000		>5000		4500	5350
Bifenthrin (SwRI)	0.0012(J) - 0.016	0.075	0.04	0.8	0.0013		
Carbaryl	Q	110	6	0.85	0.5	660	1500
Diuron	Q	200	26.4	80	200	2.4	15
Fipronil (SwRI)	0.00061-0.00543 •	41.5	6.6	0.11	0.011	140	>100
Fipronil desulfinyl (SwRI)	0.00024(J)-0.00139•	10	0.59	100	10.3	140	>100
Fipronil sulfide (SwRI)	0.00026(J)-0.00046(J)•	<i>No EPA benchmarks</i>					
Fipronil sulfone (SwRI)	0.00040 (J)-0.00279•	12.5	0.67	0.36	0.037	140	>100
Hexazinone	Q-0.22	137000	17000	75800	20000	7	37.4
Imazapyr	Q-0.052	> 50000	43100	> 50000	97100	12200	24
Imidicloprid	Q-0.73	41500	1200	34.5	1.05	>10000	
MCPA	Q-0.072				300	170	
MCCP	Q-1.1			>45500	50800		
Metolachlor ESA	Q-0.15	24000		>54000		>99450	43000
cis-permethrin* (SwRI)	0.014-0.020	<i>Refer to permethrin</i>					
trans-permethrin* (SwRI)	0.017-0.023	<i>Refer to permethrin</i>					
(Permethrin*)	(0.031-0.043)	0.395	0.0515	0.0106	0.0014	68	
Prometon	Q-0.047	6000	19700	12850	3450	98	
Propiconazole	Q	425	95	650	260	21	4828
Terbacil	Q-0.052	23100	1200	32500	640	11	140
Triclopyr	Q	58500		66450		32500	

J = estimated value, ND = nondetect, Q = present at less than reporting limit

*Permethrin was not analyzed. Cis/trans-permethrin residue concentrations in each sample were totaled and entered for permethrin.

2015 Montana Analytical Laboratory Stormwater Analyte List

2,4-D	Fipronil sulfone	Oxamyl
Acetochlor	Flucarbazone	Parathion methyl oxon
Acetochlor ESA	Flucarbazone sulfonamide	Phorate sulfone
Acetochlor OA	Flumetsulam	Phorate sulfoxide
Alachlor	Fluroxypyr	Picloram
Alachlor ESA	Glutaric acid	Picoxystrobin
Alachlor OA	Hydroxy-atrazine (HA)	Prometon
AMBA	Halsulfuron methyl	Propiconazole
Aminocyclopyrachlor	Hexazinone	Prosulfuron
Aminopyralid	Imazamethabenz methyl acid metabolite	Pyrasulfotole
Atrazine	Imazamethabenz methyl ester	Pyroxsulam
Azoxystrobin	Imazamox	Saflufenacil
Bentazon	Imazapic	Simazine
Bromacil	Imazapyr	Sulfentrazone
Bromoxynil	Imazethapyr	Sulfometuron methyl
Carbaryl	Imidacloprid	Sulfosulfuron
Chlorpyrifos	Indaziflam	Tebuconazole
Chlorsulfuron	Isoxaben	Tebuthiuron
Clodinafop acid	Isoxaflutole	Tembotrione
Clopyralid	Malathion	Terbacil
Clothianidin	Malathion oxon	Terbufos sulfone
Deethyl-atrazine	MCPA	Tetraconazole
Deethyl deisopropyl atrazine	MCPP	Thiamethoxam
Deisopropyl-atrazine	Metalaxyl	Thiencarbazone methyl
Dicamba	Methomyl	Thifensulfurone
Difenoconazole	methoxyfenozide	Tralkoxydim
Dimethenamid	Metolachlor	Tralkoxydim acid
Dimethenamid OA	Metolachlor ESA	Triallate
Dimethoate	Metolachlor OA	Triasulfuron
Disulfoton sulfone	Metsulfuron methyl	Triclopyr
Diuron	Nicosulfuron	Trifloxystrobin
FDAT (indazaflam met)	Pinoxaden metabolite (NOA 407854)	
Fipronil	Pinoxaden metabolite (NOA 447204)	
Fipronil desulfanyl (FDS)	Norflurazon	
Fipronil sulfide	Norflurazon desmethyl	

2015 Southwest Research Institute Stormwater Analyte List

Allethrin - Total
Bifenthrin
lambda-cyhalothrin
Cyfluthrin - Total
Cypermethrin - Total
Deltamethrin - Total
Fenvalerate/esfenvalerate
Etofenprox
Fenpropathrin
tau-Flauvalinate - Total
Imiprothrin - Total
Methoprene
cis-Permethrin
trans-Permethrin
PBO
Prallethrin
Pyrethrum
Resmethrin - Total
Phenothrin/Sumithrin
Tefluthrin
Tetramethrin
Fipronil
Fipronil desulfinyl
Fipronil sulfide
Fipronilsulfone

Chamberlain, Anne

From: jody spear
Sent: Saturday, December 10, 2016 10:59 AM
To: Chamberlain, Anne
Subject: Fwd: Scientists propose ten policies to protect vital pollinators

For Friday's packet

8d

<https://www.sciencedaily.com/releases/2016/11/161124150203.htm#.WEwlnAH37RI.email>

Scientists propose ten policies to protect vital pollinators

Date: November 24, 2016

Source: University of East Anglia

Summary: Pesticide regulation, diversified farming systems and long-term monitoring are all ways governments can help to secure the future of pollinators such as bees, flies and wasps, according to scientists.

FULL STORY

Pesticide regulation, diversified farming systems and long-term monitoring are all ways governments can help to secure the future of pollinators such as bees, flies and wasps, according to scientists.

In an article published in the journal *Science*, a team of researchers has suggested ten clear ways in which governments can protect and secure pollination services -- vital to the production of fruits, vegetables and oils.

A recent global assessment by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) confirmed that large-scale declines in wild pollinators are happening in north Europe and North America.

The ten policies report, led by Dr Lynn Dicks at the University of East Anglia who also took part in the assessment, expands on its findings to provide clear suggestions on how to tackle the problem.

Dr Dicks said: "The IPBES report has made it very clear that pollinators are important to people all over the world, economically and culturally. Governments understand this, and many have already taken substantial steps to safeguard these beautiful and important animals. But there is much more to be done. We urge governments to look at our policy proposals, and consider whether they can make these changes to support and protect pollinators, as part of a sustainable, healthy future for humanity.

"Agriculture plays a huge part. While it is partly responsible for pollinator decline, it can also be part of the solution. Practices that support pollinators, such as managing landscapes to provide food and shelter for them, should be promoted and supported. We also need to focus publicly funded research on improving yields in farming systems like organic farming, which are known to support pollinators."

"Pressure to raise pesticide regulatory standards internationally should be a priority. The World Health Organisation and the Food and Agriculture Organization of the United Nations have worked for many years to develop a global code of conduct on pesticide management, but there are still many countries that don't follow it. This means pesticides are in widespread use that are unacceptably toxic to bees, birds, even humans."

The report stresses the need to develop more in-depth knowledge about the status of pollinators worldwide. Dr Dicks said: "We need long-term monitoring of pollinators, especially in Africa, South America and Asia, where there is little information about their status, but the processes driving declines are known to be occurring."

The ten suggested policies in full are:

1. Raise pesticide regulatory standards
2. Promote integrated pest management (IPM)
3. Include indirect and sublethal effects in GM crop risk assessments
4. Regulate movement of managed pollinators
5. Develop incentives, such as insurance schemes, to help farmers benefit from ecosystem services instead of agrochemicals
6. Recognize pollination as an agricultural input in extension services
7. Support diversified farming systems
8. Conserve and restore "green infrastructure" (a network of habitats that pollinators can move between) in agricultural and urban landscapes
9. Develop long-term monitoring of pollinators and pollination
10. Fund participatory research on improving yields in organic, diversified, and ecologically intensified farming

Prof Simon Potts, co-author and research professor in Agri-Environment at the University of Reading, said: "The definitive UN report is a sign that the world is waking up to the importance of protecting these vital pollinators. We hope that by going a step further and implementing these top policy opportunities, we can encourage decision-makers to take action before it's too late.

"Three quarters of the world's food crops benefit from animal pollination, so we must safeguard pollinators to safeguard the supply of nutritious foods."

Story Source:

Materials provided by **University of East Anglia**. *Note: Content may be edited for style and length.*

Journal Reference:

1. L. V. Dicks, B. Viana, R. Bommarco, B. Brosi, M. d. C. Arizmendi, S. A. Cunningham, L. Galetto, R. Hill, A. V. Lopes, C. Pires, H. Taki, S. G. Potts. **Ten policies for pollinators**. *Science*, 2016; 354 (6315): 975 DOI: 10.1126/science.aai9226

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University of East Anglia. "Scientists propose ten policies to protect vital pollinators." ScienceDaily. ScienceDaily, 24 November 2016. <www.sciencedaily.com/releases/2016/11/161124150203.htm>.

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Intergovernmental Platform on Biodiversity and Ecosystem Services, [ScienceDaily](#) , 2013

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Bee flower choices altered by exposure to pesticides

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Study puts a price on the help nature provides to agriculture

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Catharine Paddock PhD, Medical News Today , 2007

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POLICY FORUM

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Ten policies for pollinators

What governments can do to safeguard pollination services

By Lynn V. Dicks,¹ Blandina Viana,² Riccardo Bommarco,³ Berry Brosi,⁴ María del Coro Arizmendi,⁵ Saul A. Cunningham,⁶ Leonardo Galetto,⁷ Rosemary Hill,⁸ Ariadna V. Lopes,⁹ Carmen Pires,¹⁰ Hisatomo Taki,¹¹ Simon G. Potts¹²

Earlier this year, the first global thematic assessment from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) evaluated the state of knowledge about pollinators and pollination (1, 2). It confirmed evidence of large-scale wild pollinator declines in northwest Europe and North America and identified data shortfalls and an urgent need for monitoring elsewhere in the world. With high-level political commitments to support pollinators in the United States (3), the United Kingdom (4), and France (5); encouragement from the Convention on Biological Diversity's (CBD's) scientific advice

body (6); and the issue on the agenda for next month's Conference of the Parties to the CBD, we see a chance for global-scale policy change. We extend beyond the IPBES report, which we helped to write, and suggest 10 policies that governments should seriously consider to protect pollinators and secure pollination services. Our suggestions are not the only available responses but are those we consider most likely to succeed, because of synergy with international policy objectives and strategies or formulation of international policy creating opportunities for change. We make these suggestions as independent scientists and not on behalf of IPBES.

RISK REDUCTION

Pesticides are the most heavily regulated of the interacting drivers of pollinator declines (7). Risk assessment and use regulation can reduce pesticide hazards at national scales (2), yet such regulation is uneven globally. Many countries do not have national pesticide regulation and control systems or adhere to the International Code of Conduct on Pesticide Management (ICCPM), recently updated by the United Nations (8, 9). International pressure to raise pesticide regulatory standards across the world should be a priority. This includes consideration of sublethal and indirect effects in risk assessment and evaluating risks to a range of pollinator species, not just the honey bee, *Apis mellifera*.

Another priority is to capitalize on the profile of integrated pest management (IPM) in international policies, such as the ICCPM (9)

A bumblebee (*Bombus terrestris*) collecting pollen from a blueberry flower. Unregulated trade in bumblebees puts them outside their native range.

and the European Union's (EU's) Sustainable Use of Pesticides Directive (10). IPM combines pest monitoring with a range of pest control methods, such as crop rotation, field margin management, and biological control; pesticides are used as a last resort, only when other strategies are insufficient (11). IPM can decrease pesticide use and reduces risks to nontarget organisms, so it should be linked to pollinator health and pollination.

Genetically modified (GM) crops pose potential risks to pollinators through poorly understood sublethal and indirect effects (1). For example, GM herbicide-tolerant crops lead to increased herbicide use, reducing the availability of flowers in the landscape, but consequences for pollinators are unknown. GM crop risk assessments in most countries do not capture these effects. They evaluate only direct effects of acute exposure to proteins expressed in the GM plants, usually in terms of the dose that kills 50% of adults (LD_{50}), and only for honey bees, not other pollinators. International guidance to improve GM organism risk assessment is being developed under the CBD's Cartagena Protocol on Biosafety (12); this presents an opportunity to encourage inclusion of indirect and sublethal effects on a range of pollinator species.

There are substantial risks from movement of managed pollinators around the world (1). Managed pollinators, including newly domesticated species, offer opportunities to grow businesses and improve pollination services. Commercial bumble bee trade has grown dramatically, leading to invasions of *Bombus terrestris* beyond its native range and increasing the risk of disease transfer to native wild bee populations, potentially including other bee species (13). The issue of invasive species has been highlighted in the UN Sustainable Development Goals and the CBD's Strategic Plan for Biodiversity, which parties to the CBD are implementing in national strategies and action plans. This creates momentum and opportunity for regulators to consider limiting and better managing pollinator movement within and between countries.

SUSTAINABLE FARMING

Agriculture is a major driver of pollinator declines, through land-use change; intensive practices, such as tillage and agrochemical use; and declines in traditional farming practices. Agriculture also provides opportunities to support wild pollinators (1). We propose two complementary policy objectives: (i) promote ecological intensification of agriculture (14) and (ii)

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support diversified farming systems (15).

Ecological intensification involves managing ecological functions, such as pollination and natural pest regulation, as part of highly productive agriculture. It can be as profitable and productive as conventional approaches at a farm level, even with up to 8% of land out of production to provide habitats that support beneficial organisms (16).

A major barrier to uptake of ecological intensification is uncertainty about ecological and agronomic outcomes. To tackle uncertainty, a promising option is to adjust crop insurance schemes to provide incentives, such as lower premiums or smaller loss thresholds, for farmers who take action to promote pollinators. Insurance is a key element in “climate-smart agriculture” (17) but has yet to be tested or adopted for more general agricultural sustainability.

Another barrier, lack of knowledge among farmers and agronomists, can be addressed

Ten pollinator policies

1. Raise pesticide regulatory standards.
2. Promote integrated pest management (IPM).
3. Include indirect and sublethal effects in GM crop risk assessments.
4. Regulate movement of managed pollinators.
5. Develop incentives, such as insurance schemes, to help farmers benefit from ecosystem services instead of agrochemicals.
6. Recognize pollination as an agricultural input in extension services.
7. Support diversified farming systems.
8. Conserve and restore “green infrastructure” (a network of habitats that pollinators can move between) in agricultural and urban landscapes.
9. Develop long-term monitoring of pollinators and pollination.
10. Fund participatory research on improving yields in organic, diversified, and ecologically intensified farming.

by extension services. For example, national Farm Advisory Systems are obligatory for member states under the EU’s Common Agricultural Policy. The extent to which these provide information relevant to ecological management could be improved.

Diversified farming systems (including some organic farms, home gardens, agroforestry, mixed cropping, and livestock systems) incorporate many pollinator-friendly practices, such as flowering hedgerows, habitat patchiness, and intercropping (1). Support for these systems can be achieved through financial incentives, such as European agri-environment schemes (18), or market-based instruments, such as certification schemes with a price premium—both used to support organic farming. In at least 60 coun-

tries, these practices and farming systems depend on indigenous and local knowledge (2). To secure people’s ability to pursue pollinator-friendly practices, their tenures and rights to determine their agriculture policies (food sovereignty) must be recognized and strengthened (19).

BIODIVERSITY AND ECOSYSTEM SERVICES

Policy interest in pollinators stems largely from their role in food production (2). Historically, the most widely adopted policy approaches for biodiversity conservation have been to identify and protect threatened species and to create protected areas. These remain critical but are not sufficient to maintain the substantial global value of pollination services in agriculture, for two reasons. First, the spatial separations between protected areas, as well as between protected areas and croplands, are usually large relative to daily movements of most pollinators. Second, although pollinator diversity is important, the bulk of crop pollination is from relatively few common, widespread species rather than rare or threatened species (20). For crop pollination, the policy goal should be to secure a minimum level of appropriate habitat, with flower and nesting resources, distributed throughout productive landscapes at scales that individual pollinators can move between. This fits the definition of “green infrastructure” identified by the EU in 2013 (21). It involves a diverse range of land managers, with overview and coordination at regional scales. As examples, small patches of habitat on public lands might be conserved through regulation, whereas protection or restoration of habitat on private land might be achieved through incentive payments (18) or by encouraging voluntary action (22). To conserve wider pollinator diversity and functions not relevant to agriculture, this approach must be integrated within strategically planned habitat and species protection policies (20, 23).

INCREASING KNOWLEDGE

There are substantial knowledge gaps about the status of pollinators worldwide and the effectiveness of measures to protect them (1). Evidence is largely limited to local-scale, short-term effects and is biased toward Europe and North America. There is a need for long-term, widespread monitoring of pollinators and pollination services. Recent research funded by the U.K. government as part of the National Pollinator Strategy for England (4) compared ways to achieve this monitoring, with varying levels of professional and volunteer involvement (24).

Finally, we suggest funding research on how to improve agricultural yields in farming systems known to support pollinators.

This underpins several policies in our list. It also resonates with a global focus on improving food production and food security, especially on small farms (<2 ha), which represent more than 80% of farms and farmers, and 8 to 16% of farmed land (2, 25). To ensure that findings are considered credible, salient, and legitimate by agricultural communities, the research should prioritize knowledge co-production and exchange between scientists, farmers, stakeholders, and policy-makers. Such approaches can be supported through national and international research funding or institutional infrastructure. ■

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Ten policies for pollinators

Lynn V. Dicks, Blandina Viana, Riccardo Bommarco, Berry Brosi, María del Coro Arizmendi, Saul A. Cunningham, Leonardo Galetto, Rosemary Hill, Ariadna V. Lopes, Carmen Pires, Hisatomo Taki and Simon G. Potts (November 24, 2016)

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Editor's Summary

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From: Paul Schlein
Sent: Friday, December 09, 2016 12:58 PM
To: Pesticides
Cc: Struble, Dave; Donahue, Charlene; Grodan@maine.edu; Jennings, Henry; Chamberlain, Anne
Subject: Board Meeting Agenda Submission

Dear Board of Pesticides Control,

Please add this to the agenda for next Friday's Board meeting.

It has come to my attention that the Maine Forest Service is looking to fund a \$50,000 grant for research at the University of Maine on alternatives for the control of browntail moth. Details would need to come from the MFS and UMaine, but, as I see you are actively discussing the browntail moth issue at this very moment, with items on next week's agenda, this seems like the perfect time to bring this to your attention. Funding this urgently needed research would seem to also be a perfect fit in the Board's mission to reduce reliance on pesticides.

I think the word "urgent" may not be strong enough, as I have just read in this week's *Forecaster* (<http://www.theforecaster.net/brunswick-residents-prepare-to-take-on-browntail-moths/>) that the current estimate of 64,000 infested acres is a conservative one, and that next season's coverage is expected to expand to a far greater range.

Thank you for your timely consideration of this issue.

Sincerely,
Paul

P.S. I am copying the MFS and UMaine with this message, in the event they would like to send any additional information by next Tuesday, 12/13, 8:00 AM, to be included with the Board packet (<http://www.maine.gov/dacf/php/pesticides/meetings.shtml#policy>).

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Paul Schlein
Arrowsic, Maine



the FORECASTER

5 Fundy Road, Falmouth, ME 04105 207-781-3661

[Home](#) / [Mid-Coast](#) / [Brunswick](#) / Brunswick residents prepare to take on browntail moths

Brunswick residents prepare to take on browntail moths

By [Callie Ferguson](#) on December 7, 2016 [@calliecferguson](#)

BRUNSWICK — A group of about a dozen residents have launched a grassroots education campaign on ways to stymie an anticipated infestation of browntail moths.

It follows a recent survey that projected the spring population of moths might balloon to three times the size of last summer's outbreak.

While the group is focused on community outreach, member Kathy McLeod said the mission "could evolve into pressure being put on the state" – although state officials have indicated they're unlikely to supply any direct funding to municipalities.

The Browntail Action Group formed and has met at least three times since an October event at Curtis Memorial library, where a panel of experts shared methods to proactively decrease the number of spawning caterpillars next year.

The library event drew close to 200 people, signaling wide public interest after an outbreak left some residents with painful rashes and damaged trees.

State forest entomologist Charlene Donahue sat on the panel, and, in a phone call Monday, she said the last infestation on that scale was likely 100 years ago.

The most recent statewide outbreak of moths took place in 2003, and defoliated 10,000 acres of trees.

This past summer's infestation, however, spread across 25,000 acres – and next summer, she said, could be almost three times as large.

Citing a recent aerial survey, Donahue said at least 64,000 acres of trees are implicated, identifiable by their brown leaves. But that's a conservative estimate, she added, given that not all infected leaves turn brown; she plans to conduct another survey this month.

After the library panel, Action Group founder Esther Mechler stood up and collected the names of those who might be interested in forming a group to combat the issue at a local level. This week, they will post 2,000 fliers around town with information about what residents can do now to reduce caterpillar populations in the spring.

“Now is the time to prune out any nests you can reach,” the flier reads. “By removing and destroying just 10 of these nests, you could prevent as many as 4,000 new caterpillars from hatching out this spring.”

Residents can destroy nests by dunking them in soapy water or burning them, according to the group.

Mechler said the next Action Group meeting will take place Dec. 20 at Town Hall.

Town Council Chairwoman Sarah Brayman said this sort of grassroots effort is an important supplement to actions taken by the town because the group has “the ability to reach out into the community and talk to people.”

“I think potentially this could be a huge issue for the town,” Brayman said. “(The council doesn’t) have the resources, time and money to get out into the community in the manner that might be needed for this.”

Neighbor-to-neighbor outreach especially matters with this issue, she said, because the failure to coordinate prevention efforts could undermine the success of those who do undertake them. Because the caterpillar’s toxic hairs travel in the wind, a stiff breeze is all it takes for airborne hairs from a neighbor’s infected tree to undo the work on trees that were treated next door.

“You really need a public or community effort,” Brayman emphasized.

Town Manager John Eldridge said he plans to meet with colleagues in Sagadahoc County later this month to discuss coordinated efforts to combat the issue, such as joint-purchasing chemicals to spray trees. According to information provided by the action group, there are a variety of chemical and bacterial pesticides that arborists use to inject or spray trees to kill moths.

Brayman believes that state action is warranted, given the scale of the problem.

“I think it’s a public health issue and potentially an environmental disaster and I believe the state could be involved,” Brayman said Monday.

However, state entomologist Dave Struble said Wednesday morning that he doubts the Maine Forest Service would provide direct funds to assist municipalities.

“I see state money to help oversee the operation,” he said, meaning that state aid would come in the form of oversight, not funding. “You’ve watched the elections over the last few years and you tell me. There’s not a lot of resources.”

As far as what the Forest Service can do, “the state’s involvement was always in (developing prevention methods), and our technical assistance to the town was helping them run their projects,” Struble said, referring to the work Donahue is already doing.

Struble recommended that the towns approach the Bureau of Health or the Maine Center for Disease Control for direct aid.

Donahue said the issue “is high on our response list” in that regard, and she is communicating with agencies across the state to prepare for next spring.

Later this month, she will meet with arborists and pesticide applicators to discuss best practices. She is also in touch with the state pesticide board of control to make sure that state legislation is up to date with contemporary practices and chemical agents.

However, McLeod worried that pesticide applicators are overwhelmed; the local service she uses isn’t taking on new customers after last summer’s outbreak.

“We may be constrained by who’s available to do the work with the equipment,” Struble said, echoing McLeod. “That’s not a cheering piece of news, but that’s reality.”

Even if the manpower is available, Struble said pesticides, while an effective way to combat browntail moths, can be a contentious issue because of the environmental impact. He said biological, bacteria-based spray exists, but there is “no silver bullet” that has yet to balance environmental impact with efficacy.

**Callie Ferguson can be reached at 781-3661 ext. 100,
or cferguson@theforecaster.net. Follow Callie on
Twitter: [@calliecferguson](https://twitter.com/calliecferguson).**



Browntail moth nests like the one shown here can be clipped from trees in early winter to prevent the caterpillars from spawning in the early spring.



Reporter on the Brunswick/Harpswell beat. Proud Bowdoin grad that you can find reporting on municipal, school, and community news, or inside the many coffee and sandwich shops around the Midcoast. Callie can be reached at 207-781-3661 ext. 100.