# MDAR

## MA POLLINATOR PROTECTION PLAN COMMENTS & RECOMMENDATIONS

| MA Pollinator Protection Plan | SUMMARY OF COMMENT DATA: |
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| The following document is a summary of comments received from stakeholders in either written or spoken form during the comment period for the Massachusetts Pollinator Protection Plan. These comments do not represent any opinions, views or statements of MDAR and its staff. Note that some comments have been combined if they were similar in submission and paraphrased when necessary while others are direct from the stakeholder when not able to be paraphrased and/or combined. These direct comments are represented by " " and are included verbatim from the stakeholder. Please note that comments are organized under the original subheadings used in the draft document. Comments received in the form of questions have been summarized and answers provided at the end of this document. | • Pollinator Plan released on February 26, 2016 on MDAR website and via email to beekeeping groups; comment period deadline was April 30th 2016<br>  ○ Comment period was initially 30 days (March 31st 2016) and then extended to 60 days (April 30th 2016) after request from beekeeping organization<br>• 7 Listening sessions: 93 Attendees total<br>  ○ Listening sessions:<br>  ○ Westborough: March 7th, 17th 2016<br>  ○ Boston: March 16th 2016<br>  ○ Dighton: March 21st 2016<br>  ○ Topsfield: March 22nd 2016; April 28th 2016<br>  ○ Amherst: March 23rd 2016<br>  ○ Stakeholders represented: beekeepers (hobbyist and commercial), mosquito control industry, lawn care industry, pest control industry, University of Massachusetts-Extension, farmers (conventional and organic), cranberry grower, conservation organizations, legislators, fishery/wildlife staff, USDA staff, and homeowners<br>• 2,504 Comments total: (10 hard copy-via postal mail, 2,494 electronic-via email)<br>• Comments received from: Farm Bureau, Massachusetts Beekeepers Association (represented 3,188 members from 9 county bee organizations), Xerces Society, Massachusetts Audubon Society, The Green Industry Alliance, Massachusetts Association of Lawn Care Professionals, Massachusetts Association of Landscape Professionals, Massachusetts Arborists Association, Irrigation Association of New England, Golf Course Superintendents Association of New England, Environment Massachusetts, Mosquito Squad, Cape Cod Cranberry Grower's Association, Beyond Pesticides, Responsible Industry for a Sound Environment, Toxics Action Center, GreenCape, Northeast Organic Farming Association, New England Pest Management Association, beekeepers (hobbyist and commercial), homeowners, farmers, academics, town council member, country club director, and a physician |

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| | **<u>COMMENTS BELOW LISTED RELATIVE TO HEADING</u>**<br><br>**INTRODUCTION:**<br>• Provide information on native pollinators in MA (not just focus on honey bees) – biology, life history, behavior, abundance of species<br>• Provide a species list of native pollinators for MA<br>• Provide plant lists associated with native pollinators and likely native habitats<br>• Provide information on other beneficial arthropods that also benefit by being included in the plan such as spiders, monarch butterflies, beetles, etc.<br><br>**DECLINE OF MANAGED BEE POPULATIONS:**<br>• Change title of this section to "Pollinator Populations"<br>• Define the word decline and provide a summary on the history of honey bee population fluctuations/decline<br>• Define CCD and provide possible causes, research addressing issue, current status of research literature, etc.<br>• Provide information on MA specific colony level losses – "MA hives have been reported to have a much higher mortality rate for winter compared to national standard of 29% listed in the plan draft"<br>• Provide more information on honey and managed bumblebee populations related to stressors affecting populations, impacts of stressors on species, overlap of stressors, difference in response to stressors<br>• Provide information specific to Varroa mites as a stressor in honey bee populations<br>• Provide list of native pollinator species of concern/in decline and associated habitats |

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| | **THE PLAN:**<br>• Summarize purpose of plan and provide background of stakeholders involved in plan creation<br>• "The fact that these plans are done state by state means that each state needs to develop a plan that is more rigorous than this plan is currently. The existing draft is permeated with unenforceable recommendations without consequences."<br>• "This draft bee plan doesn't go far enough to explain the true direness of the situation, nor does it show enough of the best current research or strategies that MA should be putting forth with teeth behind them. This should not be a voluntary plan."<br>• "I think that offering it less as a regulatory type document and more as a plan and guide for laying out facts for understanding and outlining proactive and preventative action steps would be more comprehensive and effective for real progress."<br>• "Voluntary guidelines need an assessment of their relative importance. The plan fails to utilize existing science in developing approaches to the problem or if ignoring current science, the plan should include developing an understanding that allows development of quantitative approaches (for example limiting the amount or types of pesticides available to unlicensed applicators — as Maryland is about to do.)"<br>• "Adopt a regulatory approach to enforce pollinator protection policies, not just voluntary guidelines."<br>• "This plan should support rigorous enforcement of laws and regulations governing the application of pesticides, as well as efforts to strengthen penalties for their misuse."<br>• "If this plan is to protect pollinators, it should affirmatively require applicators to avoid spraying pesticides when bees are foraging on blooming floral resources."<br>• "To keep MA agriculture relevant and competitive, there is a need for the Agriculture Policy to be bold and cutting-edge. Regenerative agriculture is the wave of the future and we should be using opportunities like this Pollinator Protection Plan to carve out a niche for our farms in this new market place. Bees are far too important to leave out of the forefront any longer."<br>• "The Framework should be a viable, living document that can be changed as more unbiased science emerges. Better to be overcautious than throwing caution to the wind until we know more."<br>• "We need to put politics aside. This should not be about Farmers vs. Beekeepers."<br>• MDAR should coordinate with other groups to create final draft of plan including by not limited to agencies such as: MassWildlife, DEP, DFW, stakeholders that research native pollinators and stakeholders that are |

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| | advocates for them (beekeepers), Mass Audubon, local land trusts – "Farm Bureau should be removed from this process"<br>• "Pollinators cannot speak for themselves so the beekeepers are the closest we have to knowing the true need of the bees"<br>• Establish a Pollinator Advisory Committee or Stewardship Group that is not under the control of MDAR to inform legislators on pollinator issues<br>• Provide a specific section of the plan to address the needs of monarch butterflies<br><br>**THE ROLE OF MDAR:**<br>**Apiary Inspection Program**<br>• Provide information on the benefits of having a state apiary managed by MDAR<br>• Create a certification program for beekeepers which includes both an initial assessment of an applicant's knowledge of beekeeping, with periodic continuing education required<br>• "The traditional role of the Apiary Program, which still seems like the plan is missing key purpose of the apiary program which is to ensure that hives do not harbor disease Note that MGL 128 Sections 32-36B contain not only requirements for beekeepers, but for DAR. DAR direct beekeepers to these sections of law, but appears to ignore its own statutory responsibility in the plan."<br>• "There is mention of a registry for beekeepers to register to be on a hive map. This concept does not seem adequate in detail:–<br>o Would this be a voluntary?<br>o How will it be shared with pesticide applicators><br>o Would there be penalties for hives which did not register?<br>o Would this information be kept confidential, and if so how?"<br>• "The document states that hive owners should "Work with mosquito control projects to be included on no-spray lists". This language suggests that it is <u>necessary</u> for beekeepers to register with projects. As worded, this suggestion is highly inappropriate as:<br>o The Department itself registers pesticides, including mosquito adulticides, under the premised that when used as directed they will pose NO UNREASONABLE ADVERSE EFFECTS TO MAN OR THE ENVIROMENT. The Department cannot register a pesticide under this premise and then out of the other side of its mouth suggest the use is not safe for bees.<br>o How does the Department view this issue when aerial or ground sprays are made for control of EEE, especially where DAR coordinates the aerial application? Will beekeepers be allowed to exclude hives during applications for EEE? |

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| | It is reasonable to inform beekeepers who have concerns about mosquito adulticide spraying that they have the option of requesting that their property not be sprayed. However you should also inform them that the request may not be honored if the application is made for control of a mosquito-borne disease."<br>• "Unfortunately, those who most need an inspection don't likely recognize the need for such an inspection"<br>• "Bee kills should not just be reported when a pesticide is suspected, but ANYTIME there is a significant bee kill. Mismanagement of hives is probably the most likely cause of a bee die-off, and if disease or parasites are the reason, DAR needs to ensure that the beekeeper does keep infected hives which pose risks to other beekeepers and the farmers who rely on bees for pollination."<br>• "MDAR should also be doing research — independently done by scientists where no conflict of interest exists with financial interests (no farmers, commercial beekeepers, chemical pesticide firms, etc.)"<br>• "The chief apiary inspector wishing to protect honey bee health needs to focus on listening to commercial beekeepers and county beekeeper associations."<br>• Create a system of electronic mapping of apiary and pesticide application locations and make the system accessible to all stakeholders to facilitate communication<br>• Specifically state in the plan the number of seasonal apiary inspectors and what months of the year they are employed<br>• "The Plan should include 5 inspectors to be hired by MDAR"<br>• "Omit any proposed policies and regulations that impose unrealistic expectations on beekeepers, preventing them from being able to easily manage bees."<br>• "Promote and protect non-agricultural apiaries with reasonable immunity for ordinary apiary activities."<br>• Inspect all Massachusetts honey bee colonies<br>• "This program should not be expanded to a general oversight of beekeeping practices, beekeeping research and programs beyond its current design. While we do not object to inspectors offering advice and communicating with organizations such as our own, the inspection program should remain essentially limited to inspecting and education should be left to the beekeeping clubs."<br>• Communicate issues of apiary health concerns swiftly after they are identified, to the Massachusetts Beekeeping Association and County bee clubs<br>• Report bee disease monitoring and inspection data in public platform by county?<br>• "Non-beekeepers should not tell/regulate beekeepers how to care and |

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| | tend to their bees."<br>• "While no commercial beekeeping is likely to emerge in this urban environment, the state's plan should provide some strategy for the promotion of apiculture at the hobby scale. Municipal ordinances in urban communities often prohibit apiculture as a result of misinformation and safety concerns. Support in the development of bee-friendly LOCAL policies in urban areas should be part of the state's plan for pollinator population recovery. Some review of best-practices should be conducted and this information should be analyzed, discussed and disseminated as part of the MDAR plan."<br>• Update regulations to include treating nucs/packages for mites prior to entering MA<br>• "Provide regulations to allow only VSH AI Queens only coming into the State of Massachusetts. The queens are Artificially Inseminated, AI, with the drone sperms of these VSH hives. Another idea is to only allow VSH bee packages to be brought into Massachusetts."<br>• Start a fund to reimburse commercial apiaries that sustain losses and to fund state queen breeding and bee research programs<br>• Encourage treatment free beekeeping practices<br>• Explain much more about the importance of bee breeding work and developing stock of treatment-free bee genetic resources acclimated to our conditions here in the NE<br><br>**Pesticide Enforcement Program**<br>• Provide background information on how pesticides are registered and regulated at national and local level, FIFRA, etc. – tie this information on how the plan fits into the process<br>• Provide a summary of what the Pesticide Enforcement Program does and does not do<br>• "Decisive legislative action needs to be taken with penalties that are enforceable and true limits to the availability and application of neonicotinoid pesticides, for public (homeowner) and agricultural use."<br>• "Include actions to limit the use of harmful pesticide mixtures during bloom or on pollinator attractive plants during bloom."<br>• Keep up to date with the status of managed pesticide applicators — at least monthly<br>• Work with retailers to provide adequate warnings about the pollinator risks of pesticides<br>• Work with retailers to promote pollinator friendly products for pest control<br>• Institute and encourage the use of an online pesticide ranking tool (similar to that from University of California Statewide Agricultural & Natural |

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| | Resources Integrated Pest Management Program (UC IPM)) to inform growers and applicators of the potential risk posed by various chemical mixtures<br>• Provide better homeowner education of pesticides, use, risks and products<br>• Create and distribute BMP to reduce risk of neonics<br>• Provide information on fungicide and herbicides use – caution of use, links between fungicides, pathogens and parasites within bees; include language to allow applicators to avoid use during bloom<br>• Provide information on the potential unintended impacts of applying pesticides at night regarding effects on beneficial arthropods – spiders and beetles<br>• Define the word IPM<br>• Establish a pesticide monitoring program/recording of pesticide applications: time, location, quantity, product active ingredient, %, type, when, target pest, crop)<br>• Establish limitations on pesticides known to harm pollinators<br>• "Recommend that this plan recommend the same regulations as those for Microencapsulated methyl parathion be applied to neonicotinoids including clothiandin, imidacloprid, and thiamethoxam and other pesticides linked to pollinator decline such as fipronil and the synthetic pyrethroids."<br>• "First I feel that enforcement of pesticide applications is not adequately enforced even when violations of the law are made apparent. The applicators can do anything they want to do without the fear of consequences or enforcement."<br>• "Penalties and sanctions should be part of the Pollinator Protection Plan for misuse of pesticides and for using them contrary to pollinator protection guidelines."<br>• "Language encouraging communication and cooperation between beekeepers and those using pesticides is all well and good, but even if all parties are acting diligently and in good faith it is very unlikely that such communication will occur to a sufficient degree between beekeepers and those using pesticides over the full foraging range of an apiary because bees are known to forage as far as 3 miles from the hive. These provisions also do not address the needs of a beekeeper who is considering siting a new apiary."<br>• Create specific pollinator label language on plants sold in Massachusetts if pretreated with pesticides<br>• Create and provide homeowner education for pesticide use/misuse<br>• Create and provide educational outreach on IPM that is state funded<br>• Change wording of "Encouraged" to obtain proper licensure from MDAR- to "Required". Licensing and education of pesticide applicators should be |

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| | required, rather than merely recommended.<br>• Conduct a study to evaluate pesticide use and pollinators<br>• "Peer reviewed research should be the basis for regulating, limiting, or eliminating the use of any pesticide and before any product is ever used, IPM techniques should be tried first."<br>Expand information on pesticides risk mitigation<br>• "Eliminate pesticides application of feral bee colonies within or around structures if they do not pose a threat to human health or property"<br>• Put in language around "Use low pressure coarse spray application when possible to minimize drift"<br>• "Building bridges between applicators and beekeepers - Both beekeepers and pesticide applicators agreed that they should get to know what each does and then try to work together to find a solution."<br>• "Section C – Allowing MA Audubon to abuse CMR 333 by exempting the use of BTI on their properties increases the use of pesticides. Private applicators, and organized mosquito control would be able to reduce their adulticiding if MA Audubon was not abusing CMR 333, and if over 40,000 acres were allowed to be larvacided."<br>• "The mosquito No Spray list should be part of a central voluntary digital stakeholder database"<br>• Address the role of cities and towns as stakeholders, particularly regarding their role in mosquito control efforts<br><br>**<u>THE ROLE OF BEEKEEPERS:</u>**<br>• "It is unfair and impractical to put the onus of responsibility solely on the beekeepers. Certainly, there's much that beekeepers can do to improve genetics and control varroa mites and other pests that target bees, but they should not be tasked with educating or mitigating pesticide risk. We cannot and should not expect beekeepers to visit every farm within 5 miles to educate the farmer/ manager about pesticides. That's akin to asking the general public to educate companies that pollute our rivers or clear-cut public forest lands. Although well intentioned, it is an utterly toothless regulation. The health of pollinators and ecological health more generally, ought to be a shared responsibility."<br>• "It should not be the beekeepers responsibility to approach applicators and farmers regarding their spraying schedules – it is unreasonable to assume that beekeepers will know crop production schedules, chemical usage, spraying schedules, application best practices, etc."<br>• "Many of the recommendations to beekeepers are basic husbandry, and do not belong in a plan. Is part of a statewide pollinator protection plan to tell beekeepers to provide food and water to bees? Sadly, many beekeepers lack this basic knowledge, which is the biggest reason we see |

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| | such fluctuations in honeybee populations. However, the purpose of a plan should not be to address specific recommendations, but to address:<br>○ How DAR will deal with beekeepers who lack basic husbandry skills when their ineptitude creates reservoirs for pathogens and parasites which put professional beekeepers and farmers who rely on pollination at risk.<br>○ The state's overall approach to ensuring that beekeepers are educated on what they are doing so that they do not endanger the livelihood of profession beekeepers and farmers..."<br>• "The document seems to accept the trainings of the MA Beekeepers Association and County Beekeeper Associations as adequate. They very may well be, but there to our knowledge there has never been an assessment of the different trainings. We have concerns that:<br>○ They are taught largely by volunteers, with no requirements, training or assessment of instructors.<br>○ To our knowledge, there is no attempt between county associations to ensure consistency or quality of instruction.<br>○ There seems to be a dearth of field education accompanying these trainings<br>Where poor husbandry is the biggest issue facing honeybee populations, we strongly suggest an assessment of current beekeeper instruction programs, particularly those conducted by MA Bee and county beekeeping associations. UMASS rather than DAR would be the appropriate entity to do such an assessment and make recommendations. While these education programs may be very good, we do not know if they are adequate. Even if they are, they could no doubt be improved with the input of professional Extension educators from UMASS."<br>• Provide education and outreach to the general public (including public schools) regarding pollinator protection strategies<br>• "Best management practice for beekeepers should include:<br>○ Not locating your hives within a mile of a large corn field and providing considerable safe water sources for hives near any field where neonic treated plants produce guttation that might be taken up by bees. The high toxicity of this material is well documented by a 2009 study from Italy. (see: http://sverigesradio.se/diverse/appdata/isidor/files/83/7239.pdf)<br>○ Proper timing and use of mite control products"<br>• "Beyond the existing state laws and regulations, further legislative state and local burdens should be discouraged."<br>• "Registration of bee colonies should not be mandatory. However, inspectors should keep data on locations of hives inspected and results."<br>• "Beekeeping practices vary widely, and change often, and should not be controlled or defined by state government" |

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| | • MDAR should be able to expedite new mite treatments as they become available<br>• "Change language in this section - much of the language is demeaning to beekeepers"<br>• "Swarming is a sign of a healthy strong hive reproducing – not all swarms can be prevented. Beekeepers should practice methods to reduce swarming but should not be held responsible for an act of nature."<br>• "Swarms should be captured and hived when logistically possible, but this isn't always possible (i.e. 30 feet in a tree). Also, if all swarms are captured it will have a detrimental effect on the reestablishment of feral colonies."<br><br>**<u>THE ROLE OF PESTICIDE APPLICATORS:</u>**<br>• "It would be helpful if MDAR can obtain resources to enhance its website and provide additional information and resource links for applicators to improve their knowledge of practices to better protect pollinators."<br>• "The pesticide applicators license exam could also be revised to include more questions on protecting pollinators. Expansion of continuing education on this subject would also be beneficial. For example, revisions to the two day training course offered by UMass Extension for those seeking to take the applicator license could be considered to better incorporate pollinator protection. Once licensed, applicators might be required to take a pollinator protection training course at least once every three years as part of their continuing education requirement. Frequent offerings of pollinator protection workshops annually at a number of locations around the state would increase access to such information by a large number of applicators."<br>• "Use an Integrated Pest Management (IPM) approach to pest control, by utilizing economic thresholds for determining actions. If pesticides are required, seek products that have low toxicity, short residual toxicity, and properties that are repellent to bees<br>  ○ A product with "low toxicity" to bees, may often have higher toxicity to other species.<br>  ○ Few products are repellent to bees and such a choice seldom exists in the real world.<br>  ○ Similarly, there are very few options in general for crop protectant chemicals.<br>  ○ There are no economic thresholds for many insects, and none for the use of fungicides (which can have impacts on bees)"<br>• Require pesticide applicators to notify apiarists of a pending application that is within a prescribed distance of the apiary. Provide them with the means to identify and notify these apiarists. Clearly define the time frame for this notice and assess penalties for noncompliance. |

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| | • Define the scope of the plan to include all pesticide uses<br>• "Penalties for failure to communicate should be part of the plan. Also, pesticide applicators should be "required" to follow the list of bulleted responsibilities, not be only "encouraged", as stated in this paragraph."<br>• "Large pesticide applicators should be required to report what, when and where they apply pesticides."<br>• State the pesticide applicators license best practices list as set forth by FIFRA<br>• "The idea of spraying in the evening does allow the bee's to return to their hive and provides an added layer of protection to the bee population. However, this concept is not practical for businesses, like mine, who are all licensed by your department. No company can survive with a working window of 2-3 hours a day. In addition to being limited to the evening hours, local zoning laws prohibit work beyond a certain time frame. Families will certainly not be interested in a disruption of their evening after returning from work and/or school."<br>• Remove language from plan for systemic toxicity if research data shows results are still pending<br>• "Based on the circle of indicators, we know that pesticides are one of many variables that could potentially impact the pollinator population. In fact, at the worst case it would still be such a small percentage of the potential impact that further regulation would be of little to no value in accomplishing the desired results. Specific products under review, whether EPA approved or classified as "all natural", should still be allowed in use until all variables with greater weight toward a practical solution and impact are explored."<br><br>**<u>THE ROLE OF LAND MANAGERS/FARMERS:</u>**<br>• Suggestion to change heading to HABITAT OR create a new section that focuses on more specific habitat content<br>• Expand information on habitat conservation and enhancement<br>• Define and include conservation biological control (CBC) recommendations<br>• Provide list of beneficial insects to use for pest control in addition to chemicals<br>• Incorporate language for the use utility rights of way, roadsides, medians, roadways, state property, highway areas as pollinator habitat<br>• Provide information on how to conserve or create pollinator habitat on farms - the development of nesting sites, forage, and access to clean water source, etc.<br>• Provide information on how to conserve, create, and/or enhance pollinator habitat featuring native plants on state lands, parks, natural |

areas, owners of residential and municipal lands, land trusts, utility and transportation rights of way, golf courses, etc.,.

- Coordinate with other agencies to promote pollinator forage: USDA Natural Resources Conservation Service, Farm Service Agency, MA Fish and Wildlife, MA DOT, and MA DCR it to increase support for pollinator habitat plantings on public and private agricultural lands
- Work with towns/local government/communities to establish pollinator planting projects
- Evaluate financial opportunities to fund pollinator habitat creation
- Provide habitat management tools that include pesticide free guidelines, IPM guidelines, etc.
- Provide language to encourage homeowners to plant and/or enhance pollinator habitat
- Provide recommendations for land managers to enhance native bee populations and work with farmers to provide benefits to pollinators in crop production areas
- Farmland should be managed as part of an overall agroecosystem inclusive of diverse
- "Work with state agencies to determine the BMPs needed for weedy, invasive plants by either timing management applications after bloom or providing replacement forage options using non-invasive plants"
- "Re-think removing plants from invasive species list (purple loosestrife & Japanese knotweed) since they provide forage for bees and are good honey producing plants"
- Provide up to date listing of label changes for products that impact pollinators
- Provide information on neonic use in MA, potential for run-off into streams, potential harmful effects, use on public lands, use on private lands, etc.
- Work with DCR to monitor and control of populations of animals such as white tail deer, which are capable of overgrazing natural pollinator forage
- Include information on incorporating monarch butterfly habitat in pollinator plantings/management guidelines
- Establish monarch butterfly habitat management program with rearing/release of individuals to enhance populations in MA
- Provide affordable seed mixes for all pollinators not just managed pollinators so public can plant flowers
- Create and provide farmer education for pesticide use and IPM

**THE ROLE OF NURSERY/LANDSCAPING INDUSTRY:**

- Provide information on how to use IPM and BMP's for pest control
- "Plants sold to consumers with neonicotinoid treatments should be

clearly labeled as such, and indicate the dangers to pollinators."

- "Create and distribute specific resources for the small urban landscaping companies that are planting things every day in the urban environment. The absence of concrete steps in the plan that offer support to this industry is a missed opportunity at best."

**THE ROLE OF HOMEOWNERS:**

- Add a section for homeowners
- "It is very important to make residents feel more responsible for being stakeholders in the future of pollinator protection."
- Create BMP and IPM guidelines for homeowners including information on incorporating beneficial insects as pest control measures instead of relying solely on chemicals
- "Pollinator forage lands should be encouraged to decrease lawns and increase diverse forage for both managed and wild pollinators
    - Be mindful that a lawn is a good desert to all pollinators – they should leave the area as natural as possible and not use chemicals
    - Minimal lawn and abundant low maintenance forage that supports pollinators. The most well-known varietal of honey is clover.
    - There should be a focus on bringing back this incredible bee forage and encourage more people to plant it."
- "Massachusetts should restrict homeowners from using materials needing an applicator license"

**The ROLE OF BACKYARD GARDENERS:**

- Add a section for Backyard Gardeners
- Create guidelines for gardeners on what they can do to increase healthy habitat and limit toxic exposures to pollinators - Use The Wisconsin Pollinator Protection Plan as a template.

**CONTINUED EFFORTS:**

- "Federal plan has outreach to individuals, schools, businesses, etc. the MA plan should be just as inclusive – shouldn't just be educating the primary stakeholders"
- "The plan should be reviewed and updated yearly with input from all stakeholders (not just primary stakeholders), using results of prior year's materials"
- "Specify a process and timeline for how the Pollinator Protection Plan will be periodically reviewed and updated. SFIREG guidance recommends a minimum frequency for updating once every 3 years."

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| | • "The state should create a monitoring program, in collaboration with universities, extension services, and other private or non-governmental agencies, to track and monitor the health of native populations, adverse incidents, and the environmental factors that threaten their long-term survivability."<br>• "Further research on other classes of pesticides in widespread use in MA should be conducted and annual monitoring of pesticides in pollen, beeswax, and honey should be required throughout the Commonwealth to chart the health of MA honeybees."<br>• "Provide information on a marketing program through nurseries and landscape industry that sells plants which provide good forage for pollinators."<br>• "Develop a screening system to ensure that any imported managed bumble bees are pathogen and parasite free."<br>• "Create a program with utility right-of-ways (ROWs) which plants forage plants in utility ROW."<br>• "Recruit inner city teenagers, scouts, 4-H students, etc. to work on designated vast acreages of land to be uncontaminated by pesticides, for planting pollinator forage plants"<br>• "Create a more open communication between MDAR, Farm Bureau and beekeepers. Everyone should be invited to meetings and more visible advertising on the meeting should occur. If I didn't find this on Facebook, I would have never known about this."<br>• "Recommend the University be encouraged to revive its bee program and conduct research leading to the promotion pollinator growth and protection in the Commonwealth."<br>• Have public screenings of *Follow the Honey* movie<br><br>**REFERENCES:**<br>Add these additional references in the document and refer to for providing additional language in the plan:<br>• How to Reduce Bee Poisoning from Pesticides. Hooven, L., Sagili, R, and Johansen, E. A Pacific Northwest Extension Publication-PNW 591. https://catalog.extension.oregonstate.edu/sites/catalog.extension.oregonstate.edu/files/project/pdf/pnw591_1.pdf<br>• An Act Concerning Pollinator Health. Connecticut Summary of Bill SB231.<br>• Pollinator Protection Best Management Practices for Structural Pest Management. http://pollinator.org/guides.htm#guides<br>• Selecting Plants for Pollinators. A regional guide for farmers, land managers, and gardeners in the Eastern Broadleaf forest oceanic province. Pollinator Partnership and NAPPC. http://pollinator.org/PDFs/EasternBroadleaf.Oceanic.rx18.pdf |

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| | • USDA. 2015. Using 2014 Farm Bill Programs for Pollinator Conservation. Biology Technical Note. 78,2nd Ed.<br>• Pollinator Conservation Resources – Northeast Region: http://www.xerces.org/pollinators-northeast-region/<br>• Pollinator Plants – Northeast Region: http://www.xerces.org/wp-content/uploads/2014/09/NortheastPlantList_web.pdf<br>• • Establishing Pollinator Meadows from Seed: http://www.xerces.org/establishing-pollinator-meadows-from-seed/<br>• Conserving Bumble Bees: http://www.xerces.org/bumblebees/guidelines/<br>• Farming for Bees: http://www.xerces.org/guidelines-farming-for-bees/<br>• New England Pollinator Biology & Habitat: http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_010204.pdf<br>• The Federal Highway Administration's Literature Review: Pollinator Habitat Enhancement and Best Management Practices in Highway Rights-of-Way: http://www.environment.fhwa.dot.gov/ecosystems/documents/pollinators_BMPs_in_highway_ROW.pdf<br>• Using 2014 Farm Bill Programs for Pollinator Conservation: http://plants.usda.gov/pollinators/Using_2014_Farm_Bill_Programs_for_Pollinator_Conservation.pdf<br>• U.S. Department of Agriculture's Agronomy Technical Note No. 9: Preventing or Mitigating Potential Negative Impacts of Pesticides on Pollinators Using Integrated Pest Management and Other Conservation Practices.<br>• The University of California Statewide Agricultural & Natural Resources Integrated Pest Management Program (UC IPM) online pesticide rating for bees.<br>• Conservation Biological Control Resources: http://www.xerces.org/conservationbiocontrol/<br>• Farming for Pest Management: http://www.xerces.org/wp-content/uploads/2008/09/farming_for_pest_management_brochure_compressed.pdf<br>• Wisconsin Pollinator Protection Plan: https://datcp.wi.gov/Documents/PPPComplete.pdf<br><br>**APPENDIX A – PERFORMANCE METRICS:**<br>• Include more measures to provide outreach education to the public about the contents of the plan, pollinator health, etc.<br>• Add a series of measurable goals - How will MDAR measure results of the plan?<br>• "While we support measuring behavioral changes to evaluate plan |

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| | success, we do not feel using “New laws and/or regulations that were created” is a good measure of behavioral change. If the plan is working, additional laws or regulations should not be needed to further support bees. New regulatory or legislative measures may indicate the plan is not succeeding.”<br>• “The number of calls alleging pesticide-suspected bee kills would not necessarily give an accurate picture of how many bees have been exposed to pesticides. Greater outreach for the plan may result in an increase in the number of calls alleging bee incidents, even though these incidents may not be proven to be linked to pesticides. Likewise, using the “Number of bee kills that resulted in pesticides found in samples, but inconclusive of involvement with hive death” would not reveal whether progress has been made to reduce hive exposure to pesticides acutely toxic to bees. Not all pesticides are toxic to bees, nor does the mere presence of an insecticide mean it affected a bee. Measures that rely on more conclusive evidence are preferable”<br>• “There may be some value in tasking the beekeepers and pesticide applicators to work together to develop viable strategies for use of "bee friendly" homeowner pesticide application strategies”<br>• Create a Massachusetts document similar to the Oregon State Document for reducing bee exposure to pesticides<br>• Expand education to include pesticide alternatives available to a variety of stakeholders<br><br>**<u>QUESTIONS:</u>**<br>1. Funding for beekeepers to either get or increase hives via grants?<br>*A: Currently there is no funding for beekeepers to increase their hives* |

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| | 2. Tax credit for keeping bees?<br>*A: Currently there is no tax credit for keeping bees*<br><br>3. Will there be a need for a pesticide license to apply mite products?<br>A: *Unless the mite product is a restricted use product OR the beekeeper is applying the product to someone elses' hive "for hire", a pesticide license is not required.*<br><br>4. Do the farmers need a pesticide license to plant neonic treated seeds/plants?<br>A: S*eeds/plants that are treated with neonicotinoids are not considered a pesticide and therefore do not require a pesticide license to plant.*<br><br>5. Why are we protecting applicators?<br>A: *The Departments jurisdiction to oversee pesticides is found within M.G.L. 132B and 333 CMR 13.00. It enforces the rules and regulations that are in place.*<br><br>6. Why haven't more beekeepers been involved in the process?<br>A: *When developing this Pollinator Plan, the Department took the Beekeepers plan and the Pollinator Stakeholders Plan into consideration. The Pollinator Stakeholder Group had two county bee groups and MA bee keeping association as part of meetings. In addition, the pollinator plan listening sessions were held in order to receive feedback from all stakeholders before issuing a final draft.*<br><br>7. What happens if the federal government restricts neonics? What happens on the state level?<br>A: *If the federal government restricts neonicotinoids, then they will be restricted on the state level as well.*<br><br>8. Who is using pesticides; what materials & when; may affect decisions on where to locate hives? Why are pesticides used; why groups are using them?<br>A: *They are used by a variety of different stakeholders (farmers, pest control operators, golf courses, mosquito control districts etc.) to control things such as agricultural, lawn, and structural pests.*<br><br>9. How do you investigate the causes of bee declines and isolate factors if more than one is determined to be involved?<br>A: *This is a very difficult question to answer. There are many* |

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| | *different variables/factors that affect bees and isolating one would be difficult. However, the scientific community has recently shifted efforts to using broad scale studies involving the investigation of multiple stressors affecting bees.*<br><br>10. Does the Department regulate what they bring into the state such as Varroa mites and disease?<br>A: *The Department inspects hives that come into the state under the jurisdiction of M.G.L. Chapter 128 32-36B and the regulations 330 CMR 8.00:* |