

State FIFRA Issues, Research, and Evaluation Group
Final Guidance for State Lead Agencies for the Development and
Implementation of Managed Pollinator Protection Plans
June 2015

Introduction

Pollinator health is a high priority national issue due to significant colony losses experienced by U.S. beekeepers over the past decade. In his memo, “*Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators*” in June of 2014, the President called attention to the issue of pollinator health and directed federal efforts to reverse pollinator losses and help restore populations to healthy levels. In particular, the memo directed the U.S. Environmental Protection Agency (EPA) to engage state agencies in developing state pollinator protection plans as a means of mitigating the risk of pesticides to bees and other managed pollinators.

The primary purpose of a state Managed Pollinator Protection Plan (MP³) is to reduce pesticide exposure to bees through timely communication and coordination among key stakeholders, including beekeepers, growers, pesticide applicators, and landowners. Pesticide exposure can be minimized if pesticide applicators and beekeepers communicate prior to pesticide applications to coordinate activities and allow crop protection products to be used without unreasonable adverse effects to managed pollinators. It is the intent that such open communication will lead to practices that both mitigate potential pesticide exposure to bees and allow for the management of pests. This could involve collaboration on the selection of the pesticide product, a change to the application timing, or an opportunity for beekeepers to move or cover their hives prior to a pesticide application, thereby reducing the chance that managed bees are found in the treatment area.

In addition to mitigating risk of pesticides to pollinators, MP³s can also establish clear expectations among stakeholders when a pesticide application needs to be made near managed pollinators. This open communication will not only help build relationships and increase mutual understanding, but also ensure peaceful co-existence and allow all parties to operate successfully.

The Purpose of the Guidance Document

This guidance is provided by the State FIFRA Issues Research and Evaluation Group (SFIREG) with input from EPA as a resource for state lead pesticide regulatory agencies (State Lead Agencies or SLAs) as they develop and implement state managed pollinator protection plans. The purpose of this guidance document is to advise states on the critical elements of a successful state MP³. A number of pesticide SLAs have developed MP³s in recent years to encourage communication and cooperation among stakeholders. These proactive approaches have demonstrated success in preventing adverse impacts to bees, while allowing crop producers to use the tools needed for crop protection. The experience of these SLAs is incorporated into this guidance.

Although state plans do not apply in Indian country, states are encouraged to include tribes in the communication process to ensure the broadest input as possible and to share expertise. In addition, while this guidance was developed from the state's perspective, tribes who want to develop tribal plans may want to use this guidance document as a resource.

Scope of Managed Pollinator Protection Plans

For purposes of this guidance, the scope of MP³s is limited to managed pollinators not under contracted pollination services at the site of application. This is because EPA is considering label restrictions to protect managed bees under contracted services from the potential acute hazards from acutely toxic pesticides. MP³s are intended to reduce pesticide exposure to managed bees that are adjacent to, or nearby a pesticide treatment site where bees can receive exposure via drift, or by flying to and foraging in the treatment site.

The term “managed pollinators” includes any species of pollinators that are managed by humans, be it for pollination services; the production of honey, beeswax, and other products; or for some other purpose. Managed pollinators are primarily honey bees (*Apis mellifera*), but could include other species of bees, such as alfalfa leafcutting bees (*Megachile rotundata*), orchard bees (*Osmia spp.*), mason bees (*Osmia spp.*) and some species of bumble bees (*Bombus spp.*).

States are encouraged to define the scope of their MP³ based on local issues and concerns. For example, some states may expand the scope of their plan to include native bees. In addition, some states may focus their state plan on agricultural pesticide issues, while others may focus on or include structural and non-agricultural pesticide uses. States are urged to evaluate their major pesticide/pollinator issues and clearly define the scope of their plan, including such issues as A) the species of managed pollinators addressed in the plan, B) whether the plan includes hobbyist or commercial beekeepers, C) whether the plan addresses agricultural or non-agricultural pesticide uses, or both, D) whether the plan includes managed pollinators under contract for managed pollination services, and E) whether the plan addresses urban beekeeping issues.

It should be noted that many of the strategies to mitigate risk of pesticides to managed pollinators are expected to reduce risk to native bees and other pollinators as well.

Need for State Flexibility

State approaches may vary greatly depending on each state's agriculture, urban floral aesthetics, the local beekeeping industry, state pesticide and apiary laws, and other factors. Therefore, it is essential to allow sufficient flexibility for state approaches to address pollinator health and meet the goals of a state MP³. Some states may adopt a regulatory approach, such as state-specific regulations on beekeeper notification or restrictions and where or when pesticide applications can be made in proximity to managed pollinators, while others may develop plans built on voluntary best management practices (BMPs). State plans can address the critical elements found in this guidance through either regulatory or voluntary approaches.

In addition, states are free to expand an MP³ to include other elements beyond the core elements described in this guidance if they see a need to address other issues. For example, some states

may choose to expand their MP³ to include non-pesticide issues, such as access of bees to quality forage, how to deal with unknown or unidentified hives, and other issues affecting overall pollinator health. This may require collaborative work between pesticide SLAs with their state department of agriculture, federal stakeholder agencies, land grant universities, and others entities.

Critical Elements of a Successful State Managed Pollinator Protection Plan

1. Stakeholder participation process

The state plans that have been developed to date are a result of direct discussions among beekeepers, crop producers, pesticide applicators, and other stakeholders. Stakeholder participation is essential to gain buy-in, build relationships and trust, and identify key issues affecting pollinator health at the state level. Existing state pollinator plans originated from stakeholder meetings initiated and facilitated by the SLA, providing opportunities for stakeholders to offer input and recommendations.

Therefore, states should provide opportunities for input from a balanced (*i.e.*, representative) cross-section of stakeholders when plans are being developed or updated. This is best done by face-to-face public meetings involving broad stakeholder involvement. The process should also provide opportunities for the public to comment on a draft MP³ prior to it being finalized.

2. A method for growers/applicators to know if there are managed pollinators near treatment sites

In order to adequately coordinate and communicate with beekeepers, growers and pesticide applicators need accurate and timely information on the location of nearby colonies that could affect application decisions. Therefore, a critical element of an MP³ is the ability for a pesticide applicator to contact beekeepers with colonies near a treatment area to alert them of a pending treatment.

States are advised to define the distance from the pesticide treatment site inside which the applicator should identify the location of managed colonies (*i.e.* a “pollinator awareness zone”). This has typically been defined as an area within a 1-2 mile radius of the treatment site in agricultural areas; in urban settings abutting areas to application sites may be sufficient.

MP³s should define the mechanism or means by which a pesticide user will be able to identify the location of managed bee colonies within the pollinator awareness zone. Methods for accomplishing this include mandatory or voluntary hive/apiary registration systems that identify location of colonies geographically or other strategies to visually identify hive/apiary locations (*e.g.*, bee flags). In some cases, the geographic location information is very specific (*e.g.*, GPS coordinates), while in others the location is within a township, section, range, in which case the grower/applicator must directly contact the beekeeper to determine the exact location.

Some states with state apiary registration requirements provide information on the locations of registered colonies (<https://apps.nd.gov/ndda/mapping/>). Other states utilize self-registry sites

such as the “DriftWatch” specialty crop site self-registry system (<http://www.fieldwatch.com/>), and such sites may be adapted to provide apiary location information. Florida’s “Apiary-Citrus Industry Link Mapping Service” is another example.

(<http://www.freshfromflorida.com/Divisions-Offices/Plant-Industry/Agriculture-Industry/Apiary-Inspection/Florida-Apiary-Citrus-Industry-Link-Mapping-Service>).

3. A method for growers/applicators to identify and contact beekeepers prior to application.

Once growers and applicators identify managed hives in the pollinator awareness zone, there needs to be a means for growers and applicators to contact those beekeepers to notify them of a pending pesticide application. Beekeepers, in turn, need a reasonable time period to take action to protect their colonies if necessary. This is often done by moving colonies temporarily to a protected location or by temporarily netting hives. Growers or applicators should notify beekeepers in advance of treatment so that parties can discuss and decide upon steps to protect the managed bees in the defined area, while still allowing management of the pest(s).

Plans should identify a minimum time prior to an anticipated pesticide application in which all beekeepers of managed colonies in the defined action zone should be contacted. The minimum time frame used by several states is 48 hours prior to the anticipated application.

Plans should clearly describe how pesticide applicators and/or landowners will be able to obtain contact information for owners of managed colonies near a pesticide treatment area. In the plans that have been developed to date, states have utilized a variety of strategies to provide applicators with beekeeper contact information. These include web-based apiary registration databases or self-registry websites in which an applicator can quickly and easily obtain beekeeper contact information for a given colony. Other states have utilized requirements for beekeepers to prominently display beekeeper contact information via signage at the colony location. Regardless of the approach, there needs to be a means for pesticide applicators to obtain timely contact information for beekeepers when there is a need to do so.

4. Inclusion of best management practices to minimize risk of pesticides to bees

The intended goal of the MP³ is to be the framework for communication needed to encourage growers and pesticide applicators to mitigate risk of pesticides to bees while adequately managing pests. State MP³s that have been developed to date include other best management practices (BMPs) to minimize risk of pesticides to bees. These sorts of BMPs can be effective in mitigating risk of pesticides to managed bees and should be included in state plans. Examples of BMPs include controlling flowering weeds in a crop, making applications when bees are less active (such as after dusk or before dawn), using application methods that are more targeted (such as drip irrigation), using products less toxic to bees when possible, minimizing or reducing pesticide drift, utilizing Integrated Pest Management (IPM), and other approaches. States are encouraged to develop BMPs with the assistance of university researchers and extension specialists, as well as input from crop producers, beekeepers, and other stakeholders.

Key BMPs to mitigate risk of pesticides to bees will include using registered pesticides consistent with product labeling. State plans should stress the need for label compliance, not only with persons making pesticide applications near managed pollinators, but also with beekeepers who use pesticides in hives.

5. A clear defined plan for public outreach

State MP³s will only be successful if there is robust adoption of the plan. One way to accomplish this is through outreach to publicize the MP³ and its recommendations/requirements not only to key stakeholders, but to the general public as well. This typically involves meetings with organized stakeholder groups, such as trade associations, commodity groups, and beekeeping organizations. Public outreach should also include posting plans on an SLA's website for easy access by the public. States should consider options for providing outreach to the public on their MP³.

6. A process to periodically review and modify each plan

Plans are meant to be dynamic documents that are periodically reviewed and updated. States must determine whether or how to adjust the MP³ based on stakeholder feedback so that the plan ultimately leads to better relationships among the stakeholders and less pesticide exposure to bees. Therefore, each MP³ should clearly describe a process and timeline for how it will be periodically reviewed and modified by the state. It is suggested that plans be reviewed at least once every three years. As with the initial plan development, it is critical that the review include a public stakeholder process to evaluate the effectiveness of the MP³ and to make modifications as needed.

7. A mechanism to measure effectiveness of an MP³

As stated above, the objective of an MP³ is reduced exposure to bees through enhanced communication and collaboration among stakeholders. An MP³ should include measures over time that can be used to determine whether the objective is being met. Measures can be quantitative or qualitative. Measures will likely differ among states based on the scope and nature of a state's plan, state pesticide and apiary laws, available resources, and other factors.

At the time of this writing, SFIREG continues to work with EPA and other stakeholders to discuss appropriate measures for the effectiveness of state MP³s. Examples of measures could include such things as changes in behavior (e.g. improvements in levels of communication and cooperation among stakeholders), changes in pesticide exposure to bees, changes in overall pollinator health, or other metrics. It is unlikely that any single measure will be available to definitively measure the effectiveness of an MP³. Instead, states may need to develop a number of metrics to assess whether their plan is meeting its intended goals over time.

Optional/Recommended Elements of State Managed Pollinator Protection Plans

States are encouraged to expand their MP³ to include other elements beyond the critical elements described above if they see a need to do so. State MP³s that have been developed to date have included additional elements, and states are encouraged to address them, either in public

stakeholder discussions or in their MP³. Additional elements to consider for an MP³ include the following:

1. Communication with crop advisors and agricultural extension service

Many landowners utilize crop advisors and agricultural extension specialists for input on cropping and pest management decisions. These individuals are often aware of local pest pressures and crop protection needs not only at the field level, but also at a landscape level. Crop advisors and agricultural extension are important partners in integrating crop protection and pollinator protection beyond just the individual field. States are encouraged to engage in regular communication to explore and develop strategies on how the expertise and input of crop advisors and agricultural extension services can be utilized in pollinator protection efforts. Extension services can also serve a role in engaging stakeholders, disseminating technical information, facilitating discussions, and educating the public on plans.

2. Crop-specific or site-specific plans

Because different crops have different crop protection needs and different pollinator risk mitigation strategies, it may be beneficial for states to develop separate or modified MP³s for specific cropping systems. In addition, strategies to ensure communication and cooperation, as well as to reduce pesticide exposure, may vary significantly between agricultural and non-agricultural settings. Therefore, states are encouraged to develop crop-specific plans if they see a need or benefit to do so. States may also see a benefit of developing separate plans for agricultural and non-agricultural settings.

3. Recommendations for more formalized agreements between beekeepers, crop producers, and property owners, especially in situations with a financial agreement.

In some situations, beekeepers place hives on private property without contractual agreement or landowner compensation. However, there are other cases, even when managed bees are not present for pollination services, in which there is a financial agreement between the beekeeper and landowner (*e.g.*, the beekeeper compensates the landowner for use of their property).

States are encouraged to include language in their MP³ supporting the use of written contracts or other written agreement between beekeepers and growers when there is a financial relationship. These agreements should include elements such as contact information; expectations, roles, responsibilities, and notification requirements when pesticide applications need to be made; expected crop protection needs and practices; specifications regarding hive location; specifications regarding time frames for placement and removal of colonies, and specifics related to financial arrangements and compensation. Verbal agreements are made in many cases, but exchange of contact information is still critical, and should be documented.

Resources

USDA: USDA Technical Note No. 9, February 2014: “Preventing or Mitigating Potential Negative Impacts of Pesticides on Pollinators Using Integrated Pest Management and Other Conservation Practices”

Some MP³'s are available for review from the following sites (with links):

North Dakota: <http://www.nd.gov/ndda/files/resource/NorthDakotaPollinatorPlan2014.pdf>

California: <http://www.cdpr.ca.gov/docs/legbills/calcode/030203.htm>, and

<http://www.leginfo.ca.gov/cgi-bin/displaycode?section=fac&group=29001-30000&file=29100-29103>

Mississippi: <http://www.mdac.state.ms.us/departments/bpi/index.html>

Florida: <http://www.freshfromflorida.com/Consumer-Resources/Florida-Bee-Protection>

Colorado: <http://www.cepep.colostate.edu/Pollinator%20Protection/index.html>