Draft Fungicide Strategy

May 20, 2026

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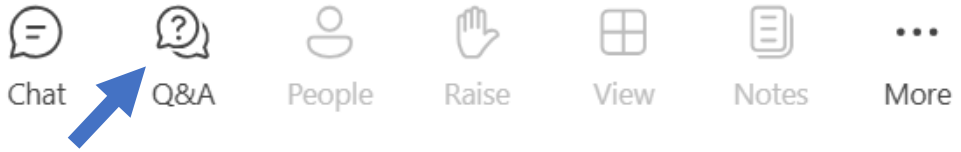
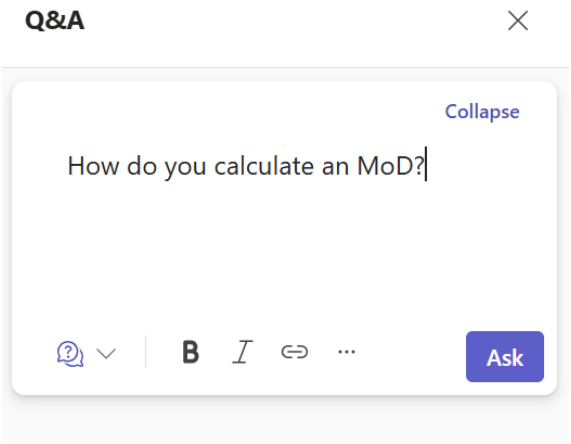
Office of Pesticide Programs
U.S. Environmental Protection Agency

Tips for Participants

- The chat feature has been disabled, and all microphones are muted.
- If you want to ask a question at any point during the webinar, click on “Q&A” in the options toolbar in the top center of the screen:



- On the righthand side, type your question into the box and click the purple “Ask” button:



- EPA will answer questions during the webinar. If your question is not addressed due to limited time, EPA will follow up after the webinar.

Tips for Participants

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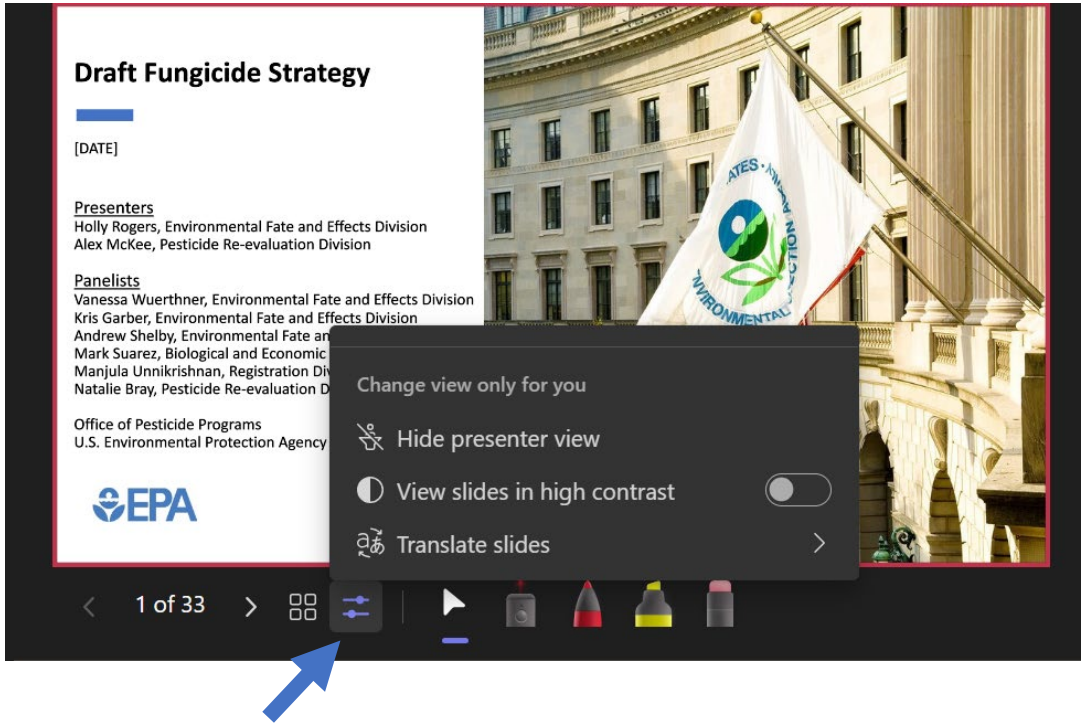

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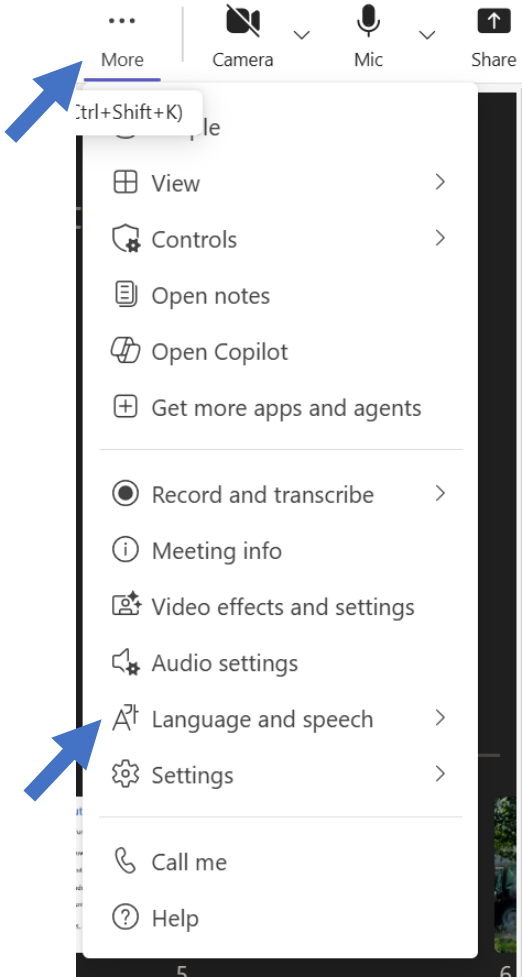


Purpose and Scope of Today's Webinar

- Purpose: To provide an overview of the Draft Fungicide Strategy released on April 30th for a 60-day public comment period.
- Documents available in Docket ID EPA-HQ-OPP-2026-2973: https://www.regulations.gov/docket/EPA-HQ-OPP-2026-2973
  - Framework
  - Appendices
- Public Comment Period Closes: June 29th at 11:59 PM EDT

Presentation Outline

- Introduction to the Draft Fungicide Strategy
  - Goals and Scope
  - Draft Fungicide Strategy versus other ESA Strategies and efforts
- Draft Fungicide Strategy three-step process:
  - Evaluate potential population-level impacts
  - Identify mitigation to address impacts
  - Define geographic extent of mitigation
- Implementation, resources, and next steps

Draft Fungicide Strategy Introduction

Draft Fungicide Strategy - Goal and Scope

- **Goal**
  - Develop a broad approach to reduce potential population-level impacts for over 1,000 U.S. Fish and Wildlife Service listed plants and animals from conventional fungicides applied for pest control in agricultural fields in the conterminous United States (CONUS)

- **Scope**
  - Considers on-field exposure and off-field spray drift and runoff/erosion exposure routes
    - Including treated seed consumption
  - Direct impacts to all listed species, with a focus on birds, mammals, reptiles, amphibians, and fish (listed vertebrates)
  - Listed species that depend on directly affected taxa for survival and reproduction, with a focus on those species that depend on vertebrates

Listed Species Protection for Conventional Pesticides

Herbicide Strategy (HS)

- For **agricultural uses** in CONUS
- Minimize spray drift and runoff/erosion exposure to reduce potential population level effects to **listed plants** and **listed animals that depend on plants**

Insecticide Strategy (IS)

- For **agricultural uses** in CONUS
- Minimize spray drift, runoff/erosion and **on-field exposure** to reduce potential population level effects to **listed invertebrates and listed species that depend on invertebrates**

Vulnerable Species Action Plan (VSAP)

- Mitigation for particularly vulnerable **listed species for which pesticides have been identified as a stressor**
- Applicable to **agricultural** and **non-agricultural uses**

Rodenticide Strategy

- Published Biological Evaluation for all **11 rodenticides** as a group with mitigation options for **listed species** and **designated critical habitats**
- Applicable to **agricultural** and **non-agricultural uses**

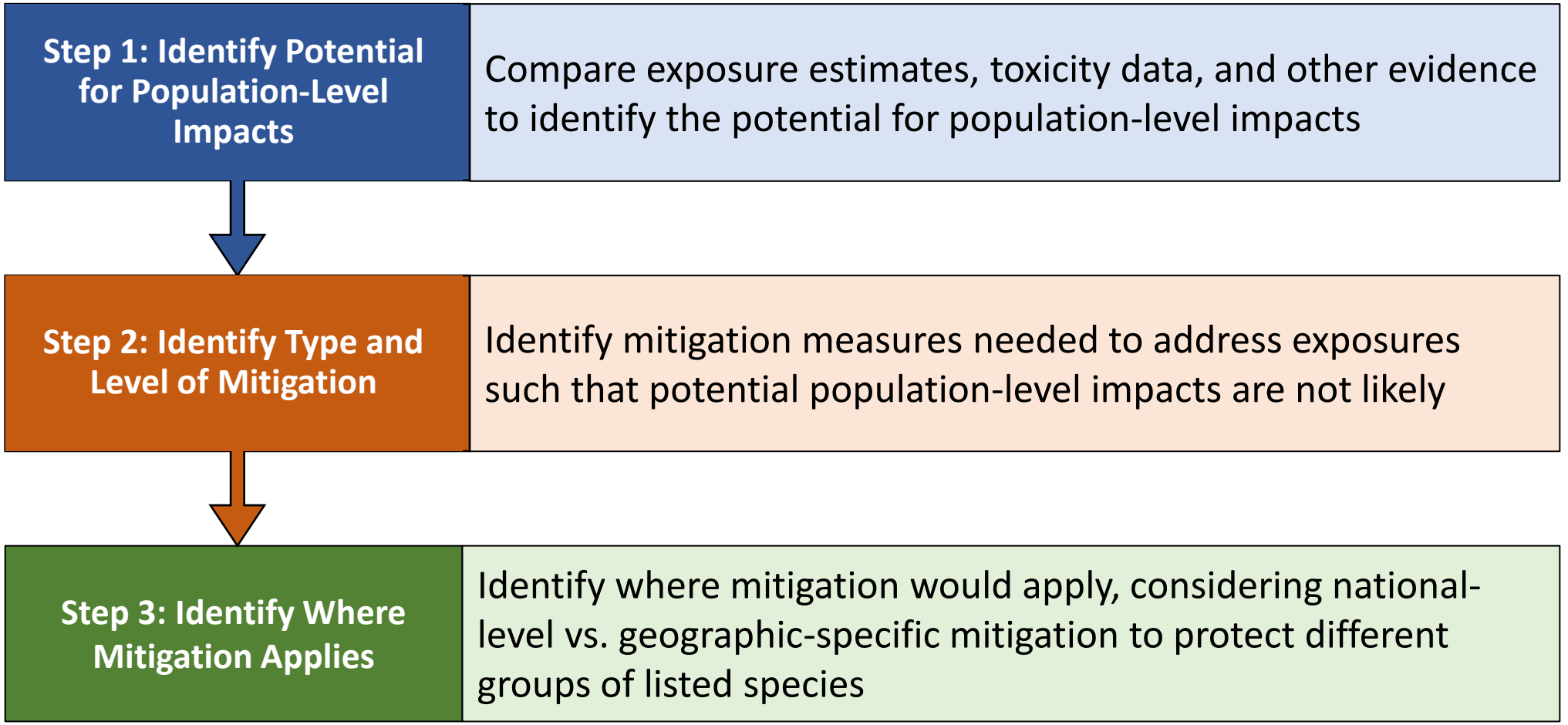
Under Development: Fungicide Strategy and Hawaii Strategy

Draft Fungicide Strategy vs IS, HS, VSAP

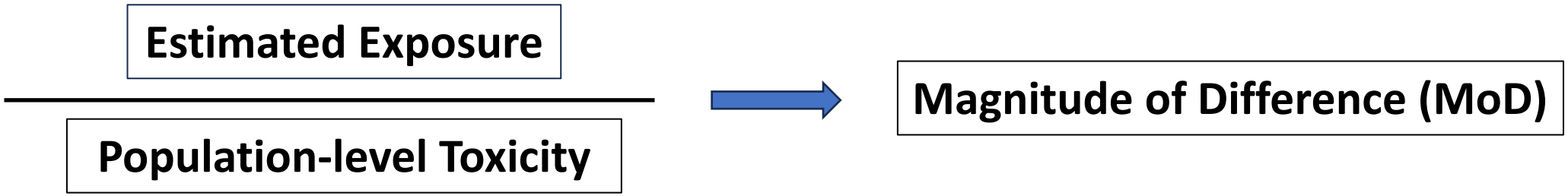
- **Similarities:**
  - Same three-step framework
  - Focuses on agricultural uses in CONUS
  - Same mitigation measures for spray drift and runoff/erosion
- **Differences:**
  - Evaluates **all** directly affected taxa
    - No consistent affected taxa or risk driver for fungicides, so the Fungicide Strategy may be more complicated than HS or IS depending on the fungicide
  - Evaluation of treated seed consumption by listed vertebrates
  - Fungicides applied less and unequally across CONUS, leading to different species that may need mitigation compared to other Strategies
  - Includes hypothetical examples of how EPA would identify the potential for population-level impacts and the geographic extent of mitigation

Draft Strategy Process

Fungicide Strategy Framework 3-Step Process



Step 1: Identify Potential for Population-Level Impacts using Magnitude of Difference



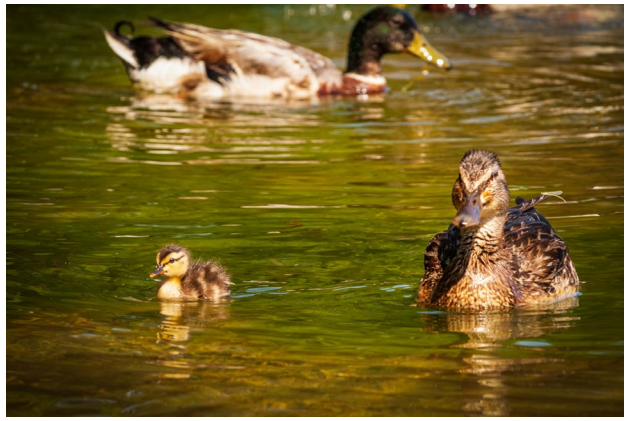
Magnitude of Difference: Estimated Exposure

Estimated Exposure

Magnitude of Difference

Magnitude of Difference: Population-Level Toxicity

Population-level Toxicity → **Magnitude of Difference**



Step 1: Identifying Potential for Population-Level Impacts

Magnitude of Difference (MoD)	Potential for Population-Level Impacts
<1	Not Likely
1 to <10	Low
10 to <100	Medium
≥100	High

Step 2: Identifying the Level of Mitigation to Prevent Population-Level Impacts

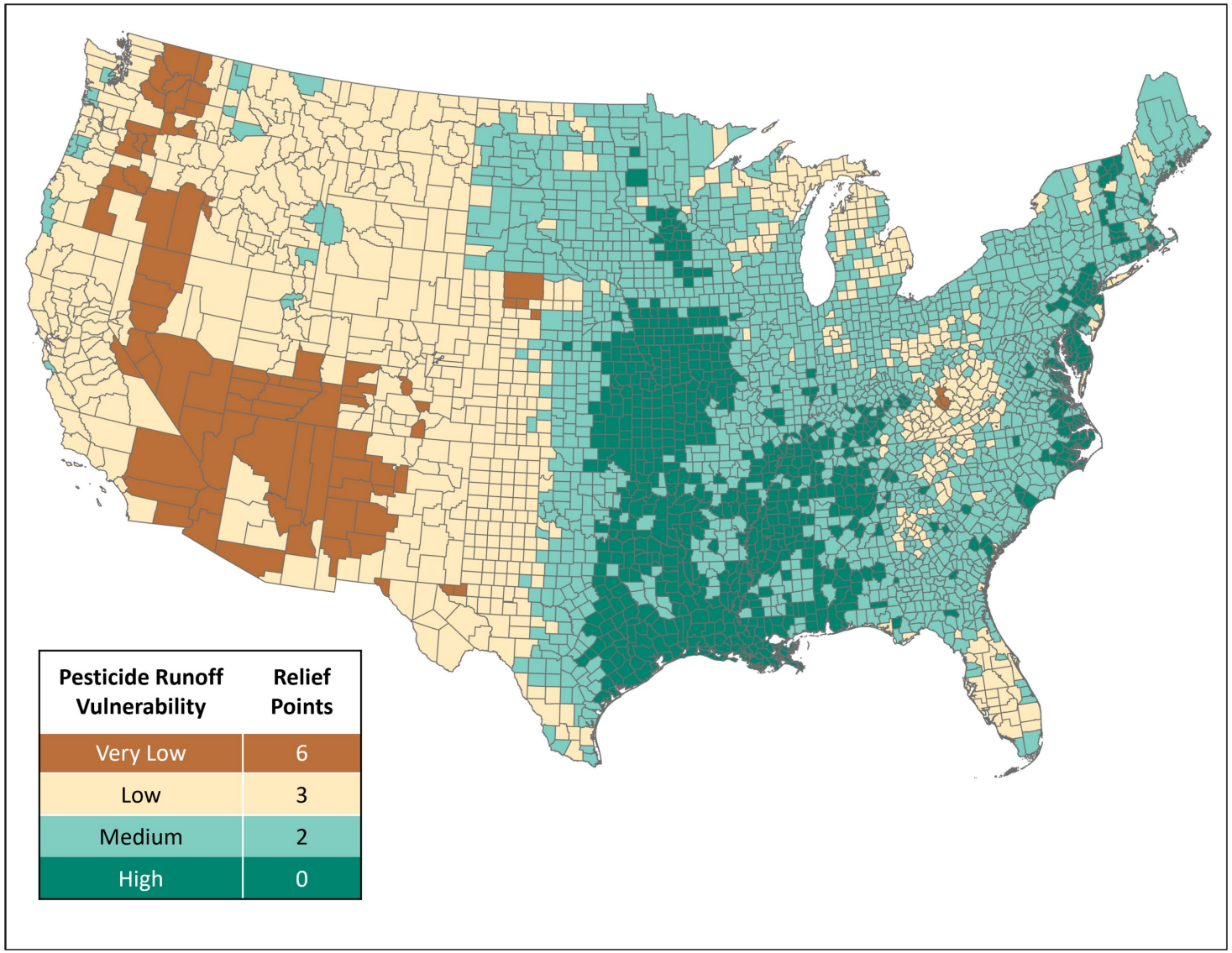
Potential for Population-Level Impacts	Magnitude of Reduction in Exposure Needed to Result in a 'Not Likely for Population-Level Impact' Conclusion	Level of Mitigation Identified
Not Likely	None	None
Low	10x	Low
Medium	100x	Medium
High	1000x	High

Runoff/Erosion Mitigation Based on Population-Level Impacts

Potential for Population-Level Impacts	Mitigation Points Identified	
	Erosion-Prone Chemicals	Runoff-Prone Chemicals
Not Likely	None	None
Low	2 points	3 points
Medium	4 points	6 points
High	6 points	9 points

Runoff/Erosion Mitigation Options

- More than 35 runoff/ erosion mitigation options on the mitigation menu
- Pesticide runoff vulnerability: county-based mitigation relief points



Spray Drift Buffers Based on Population-Level Impacts

Type of Application	Application Parameters Assumed in Drift Modeling	Maximum Distance in Feet
Aerial	Fine Droplet Size	400
	Medium Droplet Size	300
	Coarse Droplet Size	170
	Very Coarse Droplet Size	110
Ground boom	Very Fine to Fine Droplet Size, High Boom (>2 feet above ground/crop canopy)	100
	Very Fine to Fine Droplet Size, Low Boom (≤2 feet above ground/crop canopy)	50
	Fine to Medium-Coarse Droplet Size, High Boom (>2 feet above ground/crop canopy)	25
	Fine to Medium-Coarse Droplet Size, Low Boom (≤2 feet above ground/crop canopy)	25
Airblast	Sparse Canopy	85

Mitigation Measures to Reduce the Spray Drift Buffer: Update on Adjuvants

- Draft Fungicide Strategy expands spray drift adjuvants as a mitigation option from herbicides only with a single adjuvant type to include:
  - Insecticides and fungicides
  - An additional type of spray drift adjuvant (*i.e.*, guar gum)

ASABE Droplet Size Distribution	Oil Emulsion Drift Reducing Adjuvants		Guar Gum (Polysaccharide) Drift Reducing Adjuvants	
	Ground Application (minimum rate of 0.3% v:v and minimum spray volume of 15 GPA)	Aerial Application (minimum rate of 2.5% v:v)	Ground Application (minimum rate of 0.25% v:v at spray volume of 10 GPA or minimum rate of 0.5% v:v at spray volumes >10 GPA)	Aerial Application
Fine	30%	Not applicable	50%	Not applicable
Medium	30%	30%		
Coarse	15%	15%		
Very Coarse				
Extremely Coarse	Not applicable	Not applicable		
Ultra Coarse				

ASABE=American Society of Agricultural and Biological Engineers; GPA=gallons per acre; v:v= volume-to-volume

Identifying Potential Impacts from Treated Seeds

Streaked horned lark (Photo credit: Dave Leonard/USFWS)

- Draft Fungicide Strategy evaluates direct impacts to listed vertebrates (such as birds and mammals) that may be on agricultural fields and may eat contaminated items, including treated seeds
- For fungicide-treated seed, EPA would evaluate potential population-level impacts via runoff/erosion or from consumption of fungicide-treated seeds by listed birds and mammals
- EPA would identify necessary mitigation to avoid population-level impacts

Step 3: Identifying Spatial Extent of Potential Mitigation – Listed Generalists

- Mitigation may be applied to a use site located anywhere in CONUS.
- Since listed species that depend on plants and/or invertebrates occur throughout CONUS, protections for these species are expected to be conveyed on the pesticide product label.
- Generally, widespread mitigation on the pesticide product label for community-level impacts will be lower levels of mitigation than geographically specific mitigation that will be discussed next.

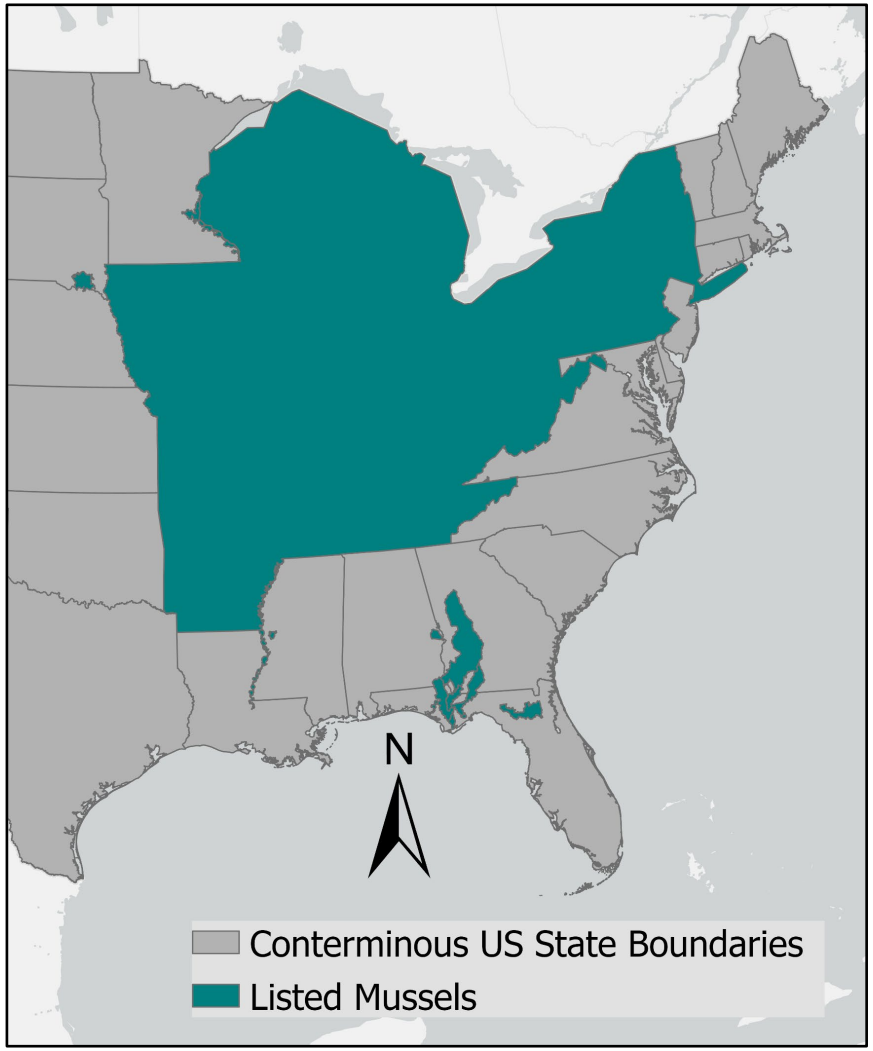
Step 3: Identifying Spatial Extent of Potential Mitigation – PULAs

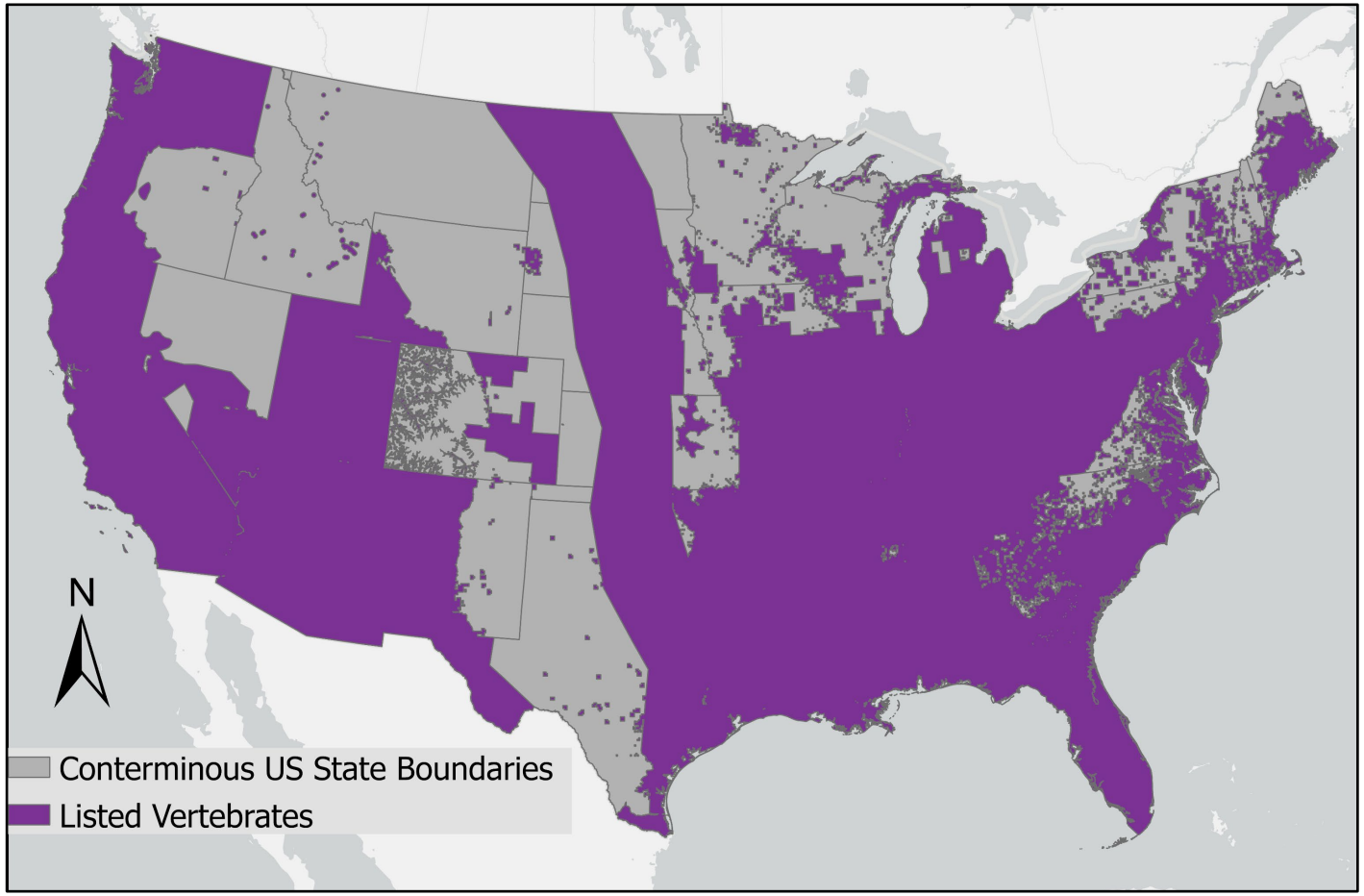
- EPA uses Bulletins Live! Two (BLT) website when mitigation is identified in geographically-specific areas called Pesticide Use Limitation Areas (PULAs)
  - Mitigation in PULAs may be identified because of:
    - Direct impacts on populations of listed plants and animals
    - Direct impacts on fish which impacts populations of listed mussels that rely on fish
- Identify species based on overlap and species-specific information
- Group species by type and level of mitigation
- EPA is currently refining the PULAs for listed species, including listed vertebrates identified in the draft Fungicide Strategy

Draft Fungicide Strategy Species Groups

Fungicide Strategy Group #	Taxon	Description
1	Birds	On-field seed eaters
2	Birds	Terrestrial: on- and off-field
3	Mammals	On-field seed eaters
4	Mammals	Terrestrial: on- and off-field
5	Amphibians	Terrestrial: on- and off-field
6	Amphibians	Aquatic: non-flowing wetlands, vernal pools
7	Amphibians	Aquatic: flowing wetlands
8	Amphibians	Aquatic: ponds
9	Amphibians	Aquatic: flowing larger waterbodies
10	Reptiles	Terrestrial: on- and off-field
11	Fish & obligate mussels	Aquatic: non-flowing wetlands
12	Fish & obligate mussels	Aquatic: flowing wetlands
13	Fish & obligate mussels	Aquatic: ponds
14	Fish & obligate mussels	Aquatic: flowing larger waterbodies, cave/pools
15	Mussels that are generalists to fish	Aquatic: non-flowing wetlands
16	Mussels that are generalists to fish	Aquatic: flowing wetlands
17	Mussels that are generalists to fish	Aquatic: ponds
18	Mussels that are generalists to fish	Aquatic: flowing larger waterbodies

Step 3: Identifying Spatial Extent of Potential Mitigation in PULAs





- Maps show species' ranges and critical habitat
- Areas where PULAs would apply for these species likely represent **smaller** areas based on spatial refinements

Implementation of the Fungicide Strategy

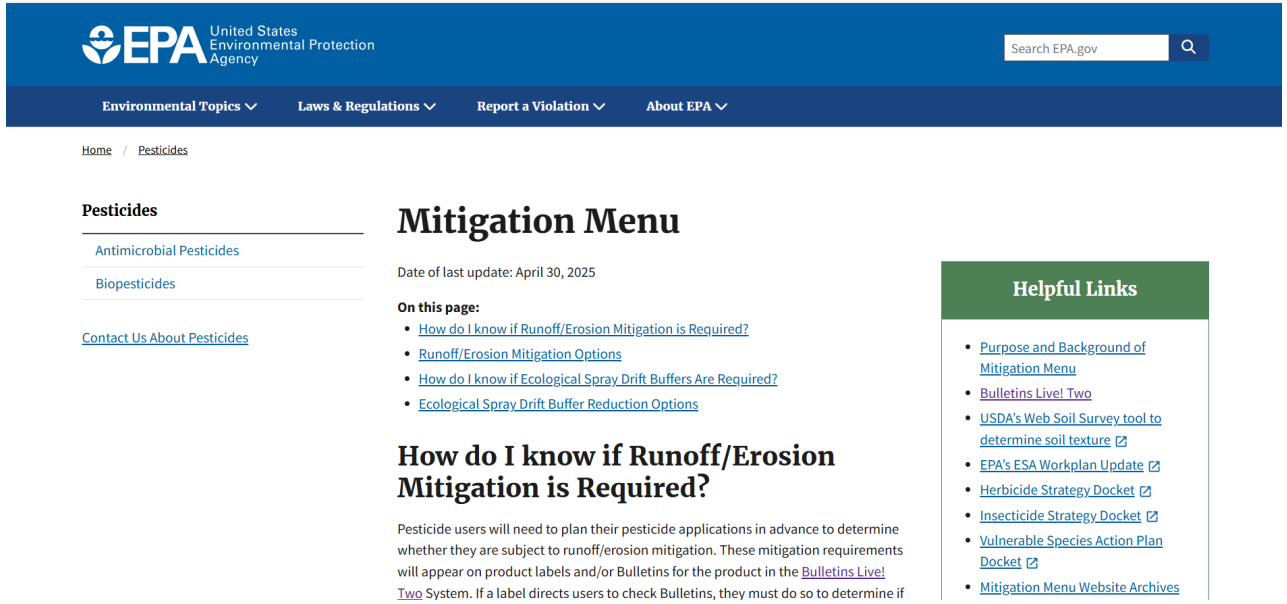
- Focus on using the strategies to inform new active registrations and registration review; however, other actions where the strategies apply will also be considered
- Opportunities for public input on EPA actions and proposed decisions including mitigation that may come from a final strategy
- Label language may also include directions to access BLT and the mitigation menu website

EPA's Mitigation Menu

- Offers flexibility to select mitigation measures:
  - 35+ runoff/erosion mitigation options
  - 20+ spray drift buffer reduction mitigation options

- EPA mitigation menu website:
  www.epa.gov/pesticides/mitigation-menu

- EPA's Pesticide App for Label Mitigations (PALM):
  https://www.epa.gov/pesticides/pesticide-app-label-mitigations



PALM EXAMPLE SCREENSHOTS

Runoff/Erosion Mitigation Calculator

12 of 12 **Resulting Mitigation Points**

Current points	Minimum number of points that must be achieved	Do I have enough runoff/erosion points to apply this product?
8	6	Yes

The results of this runoff/erosion portion of the application are presented in the "Points Summary" below. This summary includes the number of points required by the label, any mitigation relief points, and the final number of points achieved.

When appropriate, this summary will also indicate if the user inputs have resulted in their field meeting the erosion/mitigation runoff mitigation requirements.

When you are using more than one pesticide, you are required to comply with the most restrictive requirements across product labels used in the application and any applicable bulletins. Restrictions may include achieving a minimum number of runoff/erosion mitigation points (for which you would use this calculator), but could also be other restrictions (e.g., use prohibition, timing restriction, application method prohibition, sandy soil application restriction, subset of menu measures).

This summary below will meet the requirements for achieving the point for Mitigation Tracking. Printing or saving this summary serves as documentation of using this tracking application.

Date created: February 5, 2026, application version 0.1.1.

EPA

Points Summary

- For field ID: Filed A
- Product information: Example 1
- Crop/use site: Corn
- Required number of points calculated from your selected pesticide label: **6**
- Mitigation relief points based on your field location: **2**
- Remaining number of points needed to be achieved through mitigation measures: **4**
- Points achieved based on field and application parameters: **8**
- Extra point achieved for using mitigation measures from multiple categories: **0**
- Field meets the runoff/erosion mitigation requirements: **Yes!**

Your Selected Mitigation Measures

- Select County
  - Indiana, Clinton County (2 points)
- Mitigation Tracking - this tool will provide an opportunity to use the final summary as mitigation tracking and achieve this point.
  - Yes (1 point)
- Field with Slope ≤3% (naturally low slope or flat fields; flat or laser-leveled fields)
  - Yes (2 points)
- Irrigation Water Management (use of soil moisture sensors/evapotranspiration meters with center pivots & sprinklers; above ground drip tape, drip emitters; micro-sprinklers; use of below tarp irrigation, below ground drip tape; dry farming, non-irrigated lands)
  - Dry farming, non-irrigated lands, No irrigation (3 points)

If I Need More Points On My Field, What Mitigations Could I Do To Achieve Additional Points?

View remaining mitigations

Print | Start over | Previous | Continue to calculate spray drift (optional)

Last updated on September 9, 2025

Ecological Spray Drift Buffer Reduction Calculator

7 of 7 **Summary**

Adjusted ground spray drift buffer (ft)
10

Date created: January 26, 2026, application version 0.1.4.

EPA

Results Summary

- For field ID: Field A
- Product information: Example 2
- Crop/use site: Potato
- Ecological spray drift buffer needed (specified on label): **50 feet**
- Adjusted ground spray drift buffer (calculated based on drift reduction measures): **10 feet**

Product Specific Application Information

- Ecological Spray Drift Buffer Distance: 50
- Minimum Spray Droplet Size Indicated on Product Label: fine
- Spray Droplet Size for Planned Application: medium
- Required Boom Height Stated on the Label: low

Ecological Spray Drift Buffer Reduction Options

- Droplet Size Reduction (automatically calculated based on product entry information) (75%)

Print | Start over | Previous

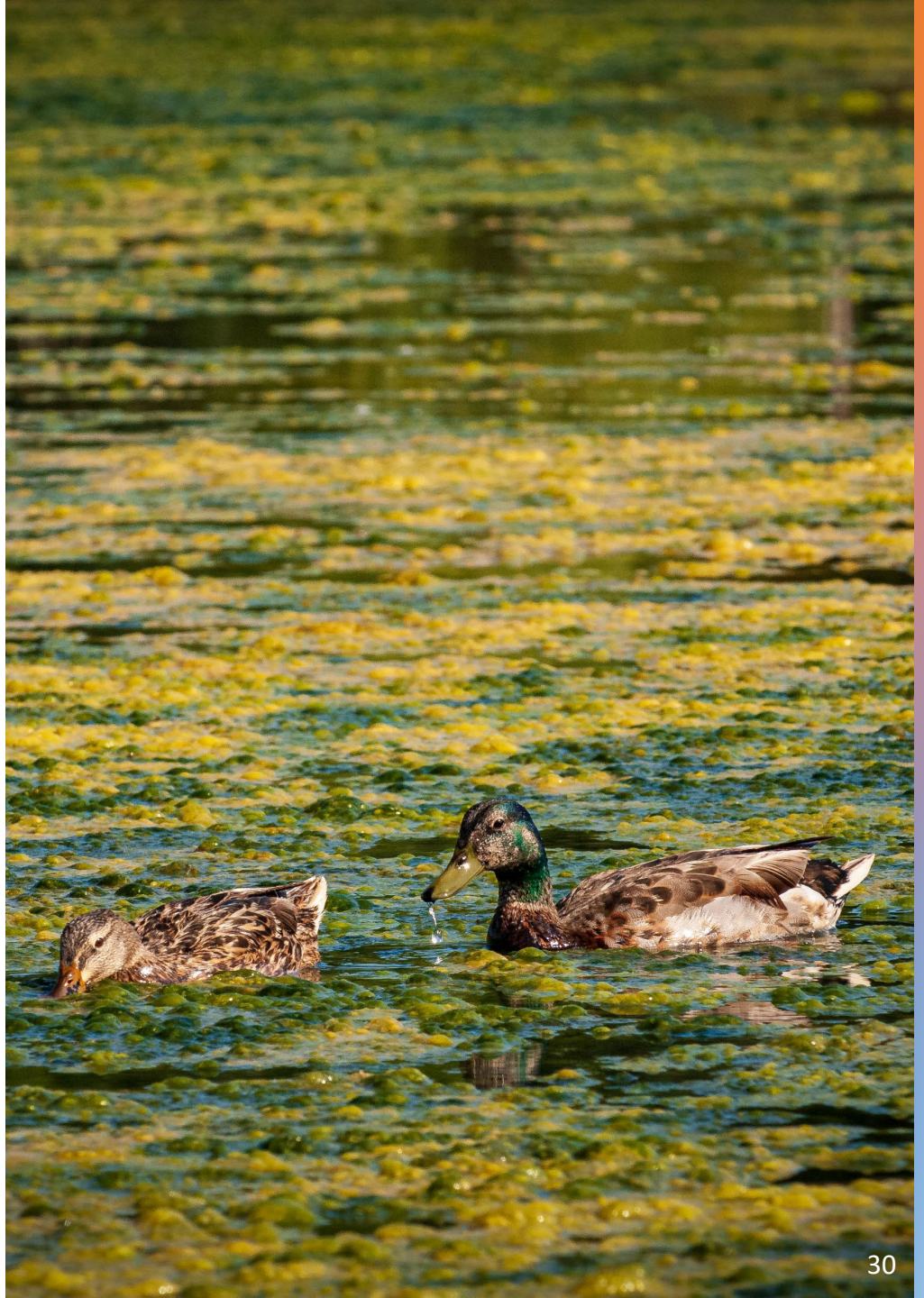
Link to webinar with PALM demo:
https://www.youtube.com/watch?v=2Wg_EAuJOyQ

Bulletins Live! Two

- When directed by a product label, pesticide applicators are required to visit the BLT website and follow any mitigation specified for the intended application area and product
- Allows for location-specific protections
- Bulletin – The PDF generated from information entered on the BLT website provides the limitation information for your application site and month
- Advanced Resources for Bulletins Live! Two:
  - https://www.epa.gov/endangered-species/advanced-resources-bulletins-live-two
- Bulletins Live! Two:
  - https://www.epa.gov/endangered-species/bulletins-live-two-view-bulletins

Stakeholder Resources

- EPA's Mitigation Menu: http://www.epa.gov/pesticides/mitigation-menu
- The Mitigation Menu with introduction to PALM webinar: https://www.youtube.com/watch?v=2Wg_EAuJOyQ
- The Pesticide and Endangered Species Educational Resources Toolbox: https://www.epa.gov/endangered-species/pesticides-and-endangered-species-educational-resources-toolbox
- The Draft Insecticide Strategy webinar: https://www.youtube.com/watch?v=Xzr_el5-Or8
- The Draft Herbicide Strategy webinar: https://www.youtube.com/watch?v=vmm_oTmxdLU
- Vulnerable Species Pilot Project webinar: https://www.youtube.com/watch?v=H8FmuN7AEY4
- Bulletins Live! Two: https://www.epa.gov/endangered-species/bulletins-live-two-view-bulletins
- Bulletins Live! Two webinar: https://www.epa.gov/endangered-species/materials-november-2023-bulletins-live-two-webinar
- Bulletins Live! Two Guide: https://www.epa.gov/system/files/documents/2024-10/blt-flyer_2024.09.24.pdf
- Core Map Process for Refined PULAs: https://www.epa.gov/endangered-species/process-epa-uses-develop-core-maps-pesticide-use-limitation-areas
- ESA Workplan Update webinar: https://www.youtube.com/watch?v=ENMUQdPdvyY



Requests for Stakeholder Input

- Elements of the Fungicide Strategy related to exposure, potential impact, and mitigations
- Spray drift adjuvant update
- Considerations regarding seed treatments
- On-field species information

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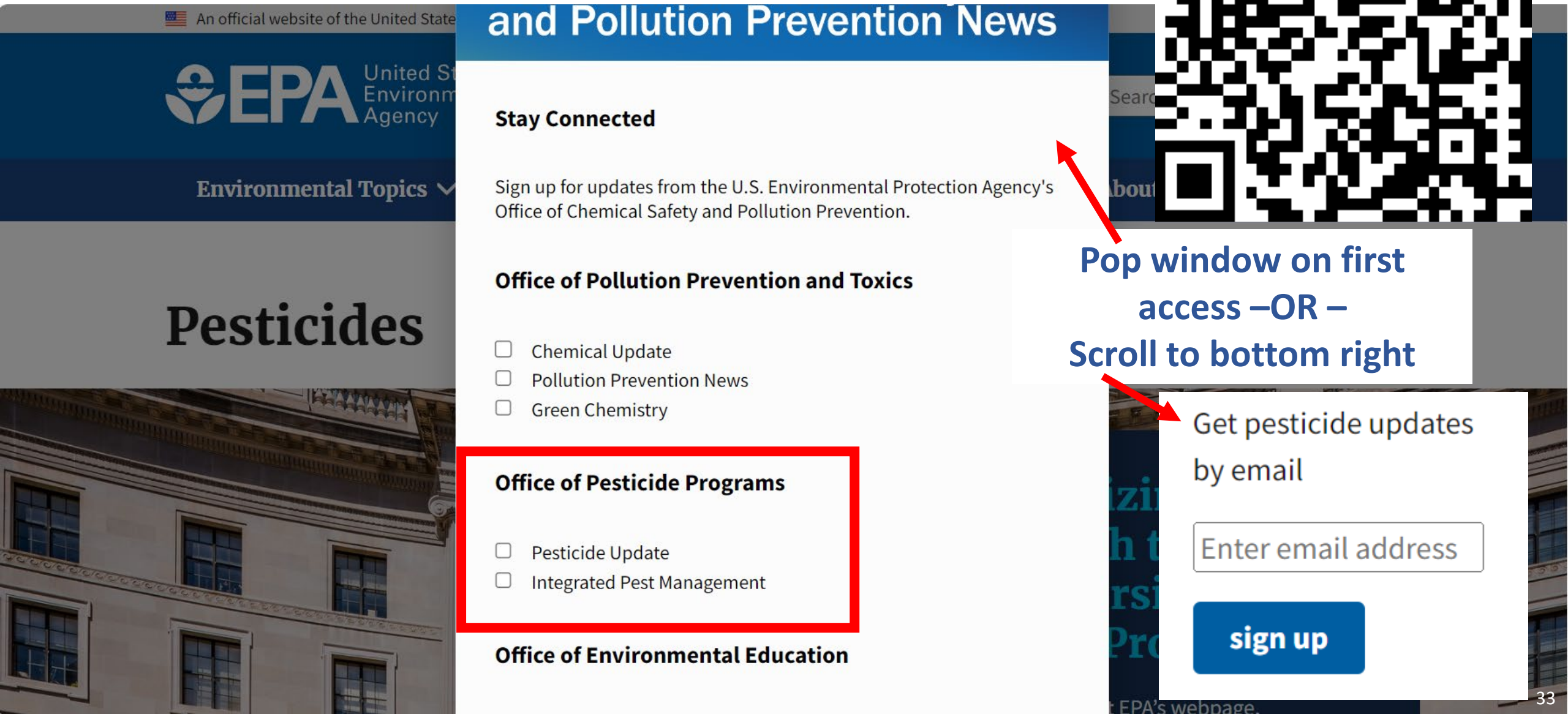
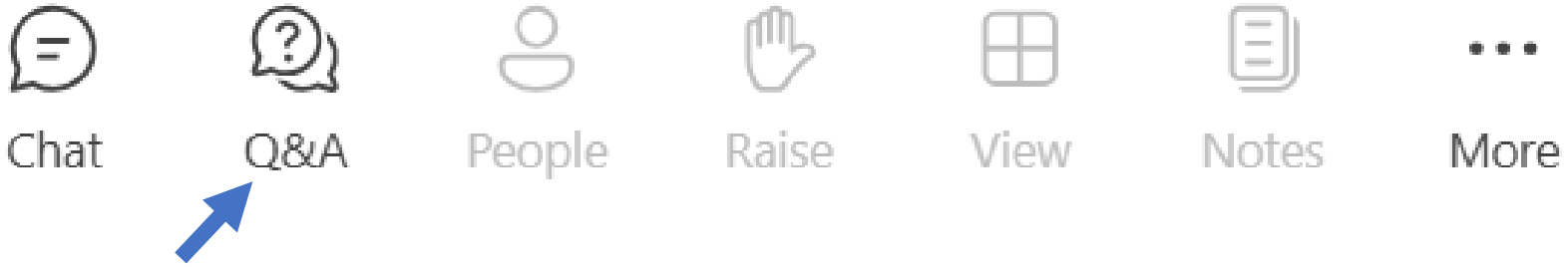
Next Steps

- Public Comment Period Closes: June 29
  - Strategy is are available in Docket ID EPA-HQ-OPP-2026-2973: https://www.regulations.gov/docket/EPA-HQ-OPP-2026-2973
- Address and incorporate public comments on the draft Strategy
- Final Strategy: November 2026

Sign Up for OPP Updates



Questions?



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