



# Endangered Species Act Compliance:

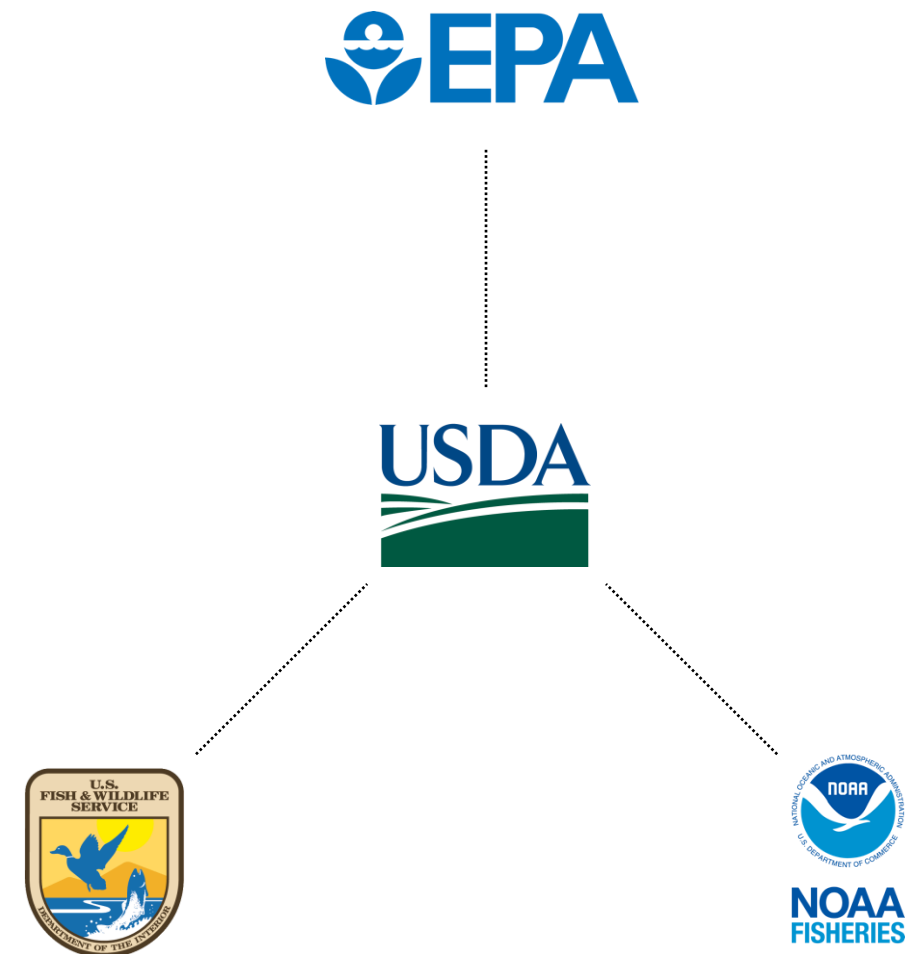
Grower Challenges and Ways Forward

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USDA Office of Pest Management Policy  
AAPCO Spring Conference  
March 4, 2025



# USDA's Role in Endangered Species Act (ESA) Consultations for FIFRA Actions

- ❖ **Member of the FIFRA-ESA Interagency Working Group (IWG) created under the 2018 Farm Bill.**
- ❖ **USDA provides the grower perspective to help EPA and the Services understand:**
  1. **how pesticides are typically used (e.g., rates, timing, locations, application methods, target pests), and**
  2. **the implications of proposed mitigations (e.g., feasibility, alternatives, potential unintended consequences).**
- ❖ **Mitigations must be practical for growers so they can be effectively implemented for the protection of listed species.**



## Individual Consultations for Insecticides



**NOAA  
FISHERIES**



**United States  
Department of  
Agriculture**

Malathion  
Diazinon  
Chlorpyrifos  
Methomyl  
Carbaryl

Malathion  
Methomyl  
Carbaryl

Survey: Malathion  
Vegetable Usage

## EPA ESA Strategies

### Herbicide Strategy

- Finalized Aug 20, 2024

### Vulnerable Species Action Plan

- Finalized Sept 26, 2024

### Rodenticide strategy

- Finalized Nov 22, 2024

### Insecticide Strategy

- Final due by Mar 31, 2025

### Fungicide Strategy

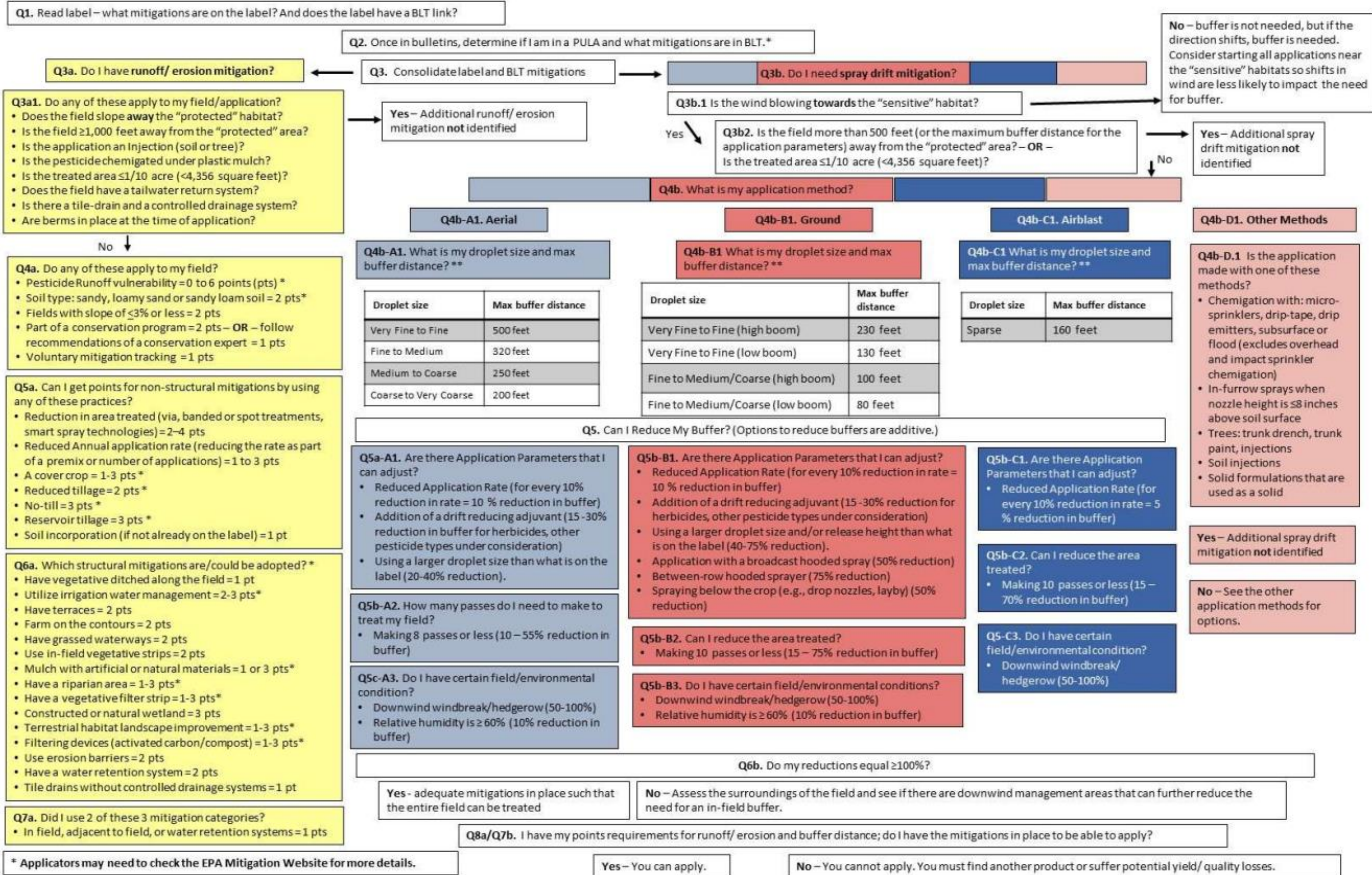
- Draft April 2026; Final Nov 2026

## Implementation

- The Insecticide Strategy will be implemented through individual registration and registration review cases with an opportunity for public comment on each case.
- Lots of new resources to learn for growers and applicators:
  - Bulletins Live! Two
  - Mitigation Menu Website
  - Mitigation Calculator
- Growers will need technical and financial assistance.
- State Lead Agencies are figuring out how to enforce the new requirements.
- Substantial training, education, and outreach will be needed.
- Complexity is a major concern.



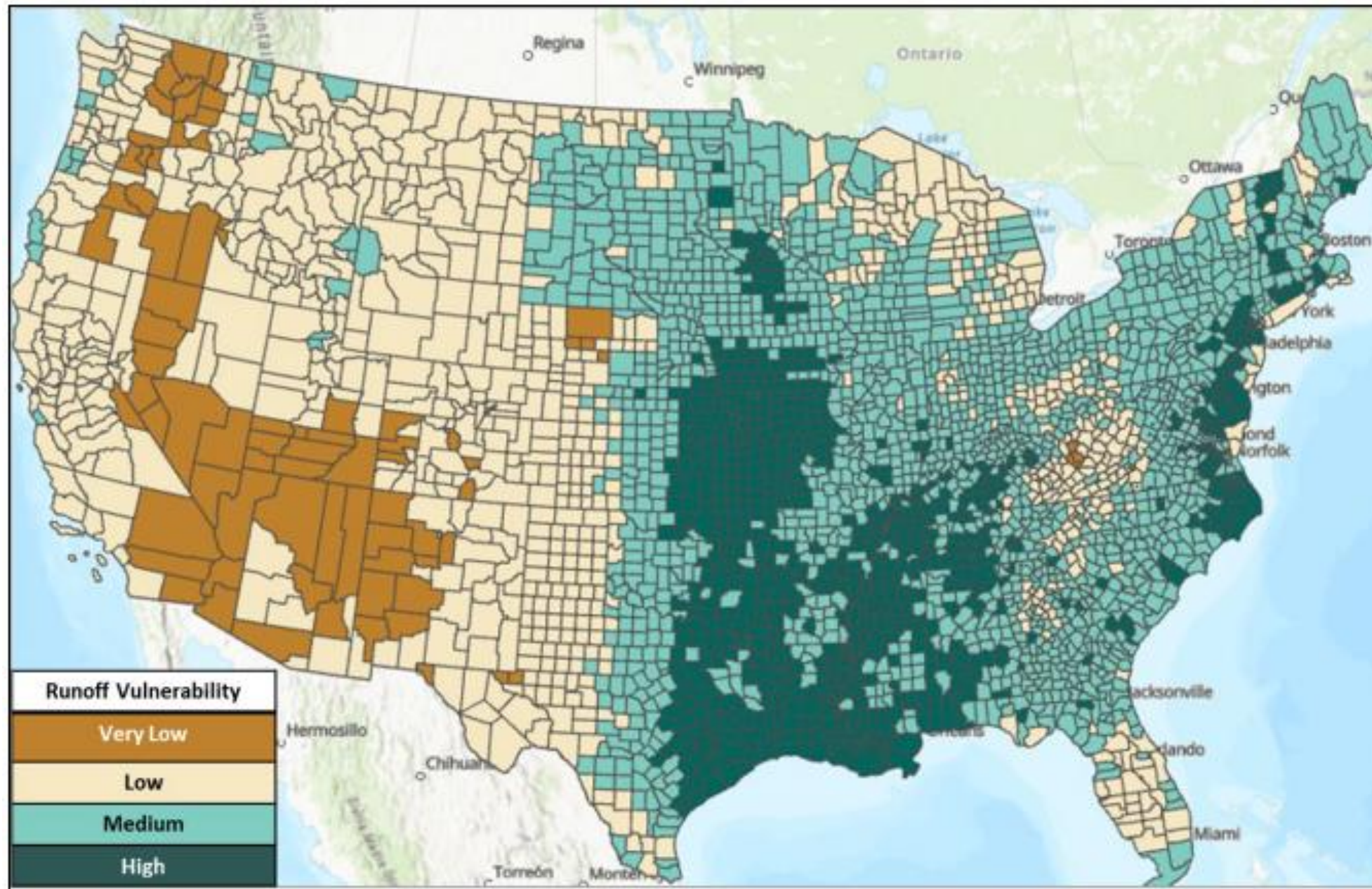
## 7.3 Appendix C. Flow Chart of Managerial Decisions





## Runoff Vulnerability Points

6 points →  
3 points →  
2 points →  
0 points →





## Mitigation Measures: Runoff and Erosion Menu

### Application Parameters

- Rate reduction (from annual max)
- Soil incorporation
- Proportion of field treated (banded/precision)

### Field Management

- Conservation tillage
- Contour farming
- Cover crop/double crop/relay crop
- In-field vegetative filter strip
- Irrigation water management
- Mulching
- Terrace farming
- Erosion barriers

### Field Characteristics

- Sandy soils
- Flat or low slope field ( $\leq 3\%$  slope)

### Adjacent to the Field

- Vegetative filter strip
- Grassed waterway
- Riparian area
- Vegetated ditch
- Constructed wetlands
- Habitat improvement
- Activated carbon or compost filters

### Other Mitigations

- Water retention system
- Tile drains
- Conservation program participation
- Consulting with an expert
- Mitigation tracking



## ESA Runoff/Erosion Mitigation Menu, Calculation of Points

*The Goal: get growers to 9 or more*



runoff-mitigation-calculator-tool • Saved

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B27 no

A	B	C	D
	on selections above	number of points	
Using mitigation measures from multiple categories (practices from at least two of the following categories: in-field, field-adjacent, or systems that capture runoff and discharge)	yes	1	
Resulting Mitigation Points for the Field will be Provided in Green Cells			
Does field/management unit need runoff/erosion mitigation?	No Additional Runoff/Erosion Mitigation Needed - Field/Management Unit Meets Runoff/Erosion		
Total mitigation points for field/management unit	20		
Application Parameters			
Category	Enter or Select Value	Number of points	
Is the planned application a: soil injection; tree injection; chemigation applied subsurface or under impermeable plastic mulch; spot treatment (<1,000 square feet being treated); treatment of the farm/field less than 1/10th of an acre?	make selection	0	
Annual application rate reduction (enter % below the maximum labeled annual application rate)	0%	0	
Reduction in the proportion of field treated (enter % field area treated using banded application, partial field treatment, ground precision sprayer, smart sprayer, or other specialized method)	0%	0	
Soil incorporation (watering-in or mechanical incorporation before a runoff producing event; a runoff producing event is considered as follows: - A 50% or greater chance of rainfall of 1 inch or more is expected to occur within 48 hours of the application as predicted by the NOAA/National Weather Service. AND, - The precipitation potential is 50% or greater at any point during the 48-hr period.)	make selection	0	
Resulting Mitigation Points for the Field and Application Parameters will be Provided in Blue Cells			
Does field/management unit need runoff/erosion mitigation?	No Additional Runoff/Erosion Mitigation Needed - Field/Management Unit Meets Runoff/Erosion Mitigation Requirements		
Total mitigation points for product or chemical and field/management unit mitigation points	20		

Read Me Runoff Field ID-1

# PNW (Palouse) Wheat Production

## Common Practices and Allowances:

- 3-6 ‘relief points’ from the vulnerability map (entire region)
- 1 point for tracking: anyone using the calculator gets this
- 3 points for non-irrigated land
- 2 points for contour farming
- 2-3 points, ‘reduced tillage’ or ‘no-till’

9-15 total points (9 is the maximum needed)

## Other possibilities:

- 1 point for vegetative filter strips or field border (headlands)
- 2 points for participation in a qualifying conservation program
- 2 points for predominantly sandy soils (sandy loam/loamy sand, no hard pan)
- 2 points for “terrace” farming
- 1 points for vegetative ditches
- 2 points for riparian forest/herbaceous buffer
- 3 points for constructed or natural wetlands
- 1-3 points for “filtering devices” such as runoff socks, more for compost or activated charcoal/biochar amendment
- 1 point, using measures from multiple menu categories
- 1 point, vegetative filter strips or field border (headlands)
- 1 point, using measures from multiple menu categories



# Eastern Tree Fruit Production

## Common Practices and Allowances:

- 2 ‘relief points’ from the vulnerability map (most areas)
- 1 point for tracking: anyone using the calculator gets this
- 3 points, ‘perennial crop’ conservation tillage/no-till
- 2 points, contour farming (or 2 points for flat ground <3% slope)
- 2 points, vegetative strips in-field (drive aisles)
- 3 points, cover crop or continuous ground cover (drive aisles)
- 1 point, vegetative filter strips or field border (headlands)
- 1 point, using measures from multiple menu categories

15 total points (9 is the maximum needed)

## Other possibilities:

- 2 points for participation in a qualifying conservation program
- 2 points for predominantly sandy soils (sandy loam/loamy sand, no hard pan)
- 3 points for non-irrigated land or 2 points for drip-tape only
- 2 points for “terrace” farming
- 1 points for vegetative ditches
- 2 points for riparian forest/herbaceous buffer
- 3 points for constructed or natural wetlands
- 1-3 points for “filtering devices” such as runoff socks, more for compost or activated charcoal/biochar amendment
- 1 point for sub-surface tile drainage without controlled outlet

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Using mitigation measures from multiple categories (practices from at least two of the following categories: in-field, field-adjacent, or systems that capture runoff and discharge)	yes	1	
Resulting Mitigation Points for the Field will be Provided in Green Cells			
Does field/management unit need runoff/erosion mitigation?	No Additional Runoff/Erosion Mitigation Needed - Field/Management Unit Meets Runoff/Erosion		
Total mitigation points for field/management unit	20		
Application Parameters			
Category	Enter or Select Value	Number of points	
Is the planned application a: soil injection; tree injection; chemigation applied subsurface or under impermeable plastic mulch; spot treatment (<1,000 square feet being treated); treatment of the farm/field less than 1/10th of an acre?	make selection	0	
Annual application rate reduction (enter % below the maximum labeled annual application rate)	0%	0	
Reduction in the proportion of field treated (enter % field area treated using banded application, partial field treatment, ground precision sprayer, smart sprayer, or other specialized method)	0%	0	
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Does field/management unit need runoff/erosion mitigation?	No Additional Runoff/Erosion Mitigation Needed - Field/Management Unit Meets Runoff/Erosion Mitigation Requirements		
Total mitigation points for product or chemical and field/management unit mitigation points	20		

Read Me Runoff Field ID-1

# Southern Row Crop Production

## Common Practices and Allowances:

- 1 point for tracking: anyone using the calculator gets this
- 3 points for non-irrigated land
- 2-3 points, ‘reduced tillage’ or ‘no-till’  
*(rice is already covered by “perimeter berm” requiring no further points)*

- 2 points, contour farming (or 2 points for flat ground <3% slope)
- 1 points for vegetative ditches and/or 1 point vegetative filter strips/field border (headlands)

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**9-11 total points (9 is the maximum needed)**

## Other possibilities:

- 2 points for participation in a qualifying conservation program
- 2-3 points for cover cropping
- 2 points for predominantly sandy soils (sandy loam/loamy sand, no hard pan)
- 2 points for “terrace” farming
- 2 points for riparian forest/herbaceous buffer
- 3 points for constructed or natural wetlands
- 1-3 points for “filtering devices” such as runoff socks, more for compost or activated charcoal/biochar amendment
- 1 point for sub-surface tile drainage without controlled outlet

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Using mitigation measures from multiple categories (practices from at least two of the following categories: in-field, field-adjacent, or systems that capture runoff and discharge)	yes	1	
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Total mitigation points for field/management unit	20		
Application Parameters			
Category	Enter or Select Value	Number of points	
Is the planned application a: soil injection; tree injection; chemigation applied subsurface or under impermeable plastic mulch; spot treatment (<1,000 square feet being treated); treatment of the farm/field less than 1/10th of an acre?	make selection	0	
Annual application rate reduction (enter % below the maximum labeled annual application rate)	0%	0	
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Does field/management unit need runoff/erosion mitigation?	No Additional Runoff/Erosion Mitigation Needed - Field/Management Unit Meets Runoff/Erosion Mitigation Requirements		
Total mitigation points for product or chemical and field/management unit mitigation points	20		



# Iowa Corn/Soybean Production

## Common Practices and Allowances:

- 1 point for tracking: anyone using the calculator gets this
- 3 points for non-irrigated land (*1-2 points for various irrigation management practices*)
- 2 points flat ground <3% slope
- 1 point, vegetative filter strips or field border (headlands)
  - 1 points for vegetative ditches or 2 for grassed waterway?
  - 1 point for sub-surface tile drainage without controlled outlet?
- 1 point using practices from multiple categories

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**5, 6, 7-10 total points (9 is the maximum needed)**

## Other possibilities:

- 2 points for participation in a qualifying conservation program
- 2 points for countour farming on slopes
- 2 points for predominantly sandy soils (sandy loam/loamy sand, no hard pan)
- 2 points for “terrace” farming
- 3 points for “reservoir tillage”
- 2-3 points, ‘reduced tillage’ or ‘no-till’
- 2-3 points for cover cropping
- 2 points for riparian forest/herbaceous buffer
- 3 points for constructed or natural wetlands
- 1-3 points for “filtering devices” such as runoff socks, more for compost or activated charcoal/biochar amendment
- 1 point for sub-surface tile drainage without controlled outlet

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## Drift Becomes the Driver for Most Scenarios

- Default wind-directional drift buffers determined by risk likelihood
- Maximum worst-case buffers:
  - Ground, 230' (fine droplet high boom); Reduced to 80' (medium droplet low boom)
  - Airblast, 160'
  - Aerial, 320'
- Buffer reduction pathways—some are very commonly applied
  - Drift-reducing adjuvants (15-30%)
  - Droplet sizes and boom heights (20-75%)
  - Hooded sprayers (50-75%)
  - Wind-breaks, riparian vegetation (50-100%)
  - Relative Humidity  $\geq 60\%$  (10%)
  - Rate reduction (from single application maximum—linear)
  - Reduced passes (oddly shaped fields, e.g., point rows on contours)



## Drift Becomes the Driver for Most Scenarios

- **BUFFERS TO WHAT?** *The most key question of all for drift.*
- **Managed vs. Un-managed lands.**
- **What is habitat vs. what is riparian vegetation??**





## On-field Mitigation

- EPA identified **9 butterflies** and **beetles** that may occur on agricultural fields.
  - *Assessment still ongoing, possibly fewer in the Final IS.*
- Mitigation plan is unclear and will be determined on a case-by-case basis.
- Timing / bloom restrictions are possible, discussions on-going.



Fenders blue butterfly



Karner blue butterfly



Bertram's scrub-hairstreak  
butterfly



Mitchell's Satyr



Dakota Skipper



# Grower Challenges

**Feasibility, Affordability, Certainty**

## Impacts and Complications for IPM

- **Conflicting Goals Between Conservation and Compliance**
- **Vegetative Filter Strips: Can harbor pest populations like *Lygus***
- **No-Till/Cover Crops: Can lead to high soil pest pressure and necessitate more pre-plant or seed treatments**
- **Reduced application rates can exacerbate resistance concerns**
- **Droplet size is a complicated problem for some pests—adequate underside leaf coverage and efficacy vs. adequate drift reduction**
- **Crop rotations: compliance varies depending on the chemical toolbox**
- **Complications of leased land: contractual limits and/or disincentives to some land improvements**



## Regulatory Certainty?

- Still a very fluid process
- Strategies applied going forward: EPA comment periods are key



## Early Implementation Learning Opportunity

- **Glufosinate-P (Liberty® ULTRA, L-glufosinate):**
  - Label directs users to BL!T; Point requirements for runoff; small PULAs in Tennessee, restricting use from Sept to May. Otherwise, mitigations are fairly low impact.
  - SLAs and Growers—identify questions and pain points, start to work out kinks and get better clarity.
  - Label and BL!T interpretation, documentation requirements, etc.
- **A change to practice the process with a relatively simple case**



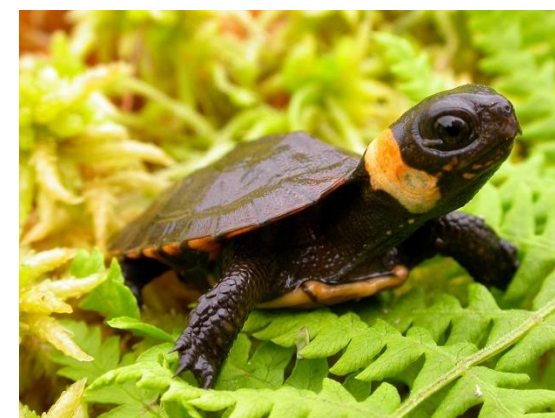
## Monarch Listing (December 2024)

- Proposed listing published out for comment through March 12, 2025
- Proposes protections and flexibilities under Section 4(d)
- Listing isn't pesticide driven, but pesticides are discussed among multiple factors, particularly breeding habitat (milkweeds, insecticide use.)
- Listing highlights data needs. This is an opportunity.
- Helpful comments could focus on how existing ag practices, BMPs, habitat establishment, and strategies/label mitigations are protective of monarch exposure



## Future Engagement and Learning Opportunities

- No one will master these issues overnight
- SLAs have as steep a learning curve as consultants and growers
- USDA Co-op with Regional IPM Centers: developing regional ESA workshops for 2025-2026
  - Southern, Western, North Central, Northeastern
- *Ultimately, all parties want and NEED this process to work*





## Questions? Reach Out!



- Learn more about pesticide registration:  
<https://www.epa.gov/pesticide-registration/about-pesticide-registration>
- Learn more about pesticide reevaluation:  
<https://www.epa.gov/pesticide-reevaluation/registration-review-process>
- Learn more about providing public comments:  
<https://www.regulations.gov/help>
- **Contact us:** [sm.opmp.pesticides@usda.gov](mailto:sm.opmp.pesticides@usda.gov)
  - [Clayton.Myers@usda.gov](mailto:Clayton.Myers@usda.gov)
  - [Elyssa.Arnold@usda.gov](mailto:Elyssa.Arnold@usda.gov)