USDA's Office of Pest Management Policy & The Future of Crop Protection Tools

Kimberly Nesci
USDA Office of Pest Management Policy (OPMP)
American Sugar Alliance Annual Symposium
August 2024

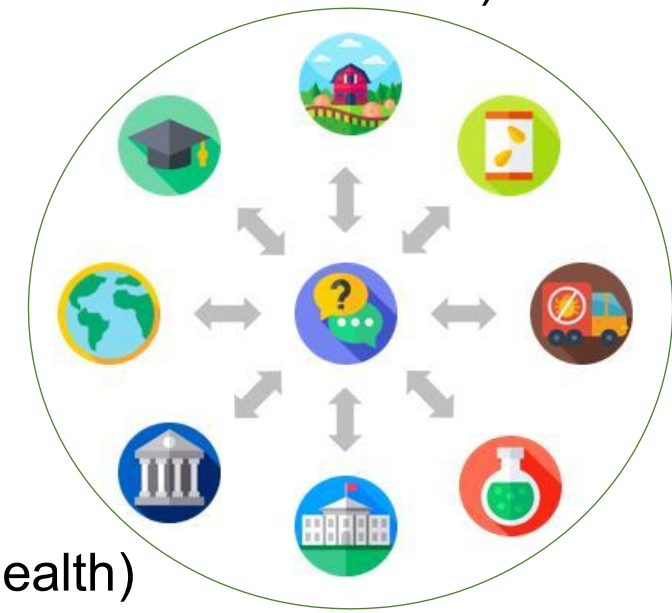
USDA Office of Pest Management Policy (OPMP)

- Est. 1998 in response to concerns about Food Quality Protection Act of 1996 (FQPA) → new risk assessments and assumptions about agronomic practices.
- USDA lead on pesticide regulation and policy issues, integrated pest management, and agricultural biotechnology coordination.
- Coordinate with EPA, FDA, and other federal & state entities on policies that affect pest management in agriculture.
- **OPMP core work is communicating grower practices to EPA to help inform pesticide policy in the U.S.**
- 8 senior staff work to gather information on pest management practices from:
  - Growers (especially specialty and minor crops)
  - Pesticide registrants, ag retailers, and applicators
  - Cooperative extension agents and other scientists

https://www.usda.gov/oce/pest/about

OPMP Staff

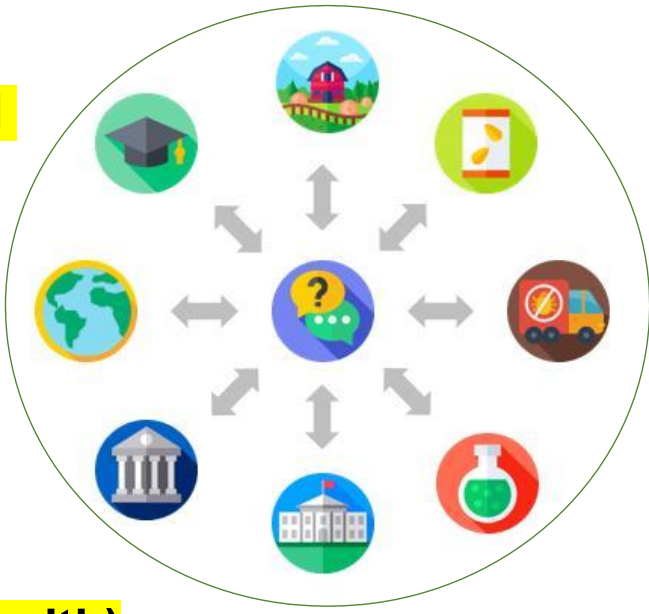
- Kimberly Nesci, Director
- Elyssa Arnold, Regulatory Risk Assessor (Ecology and Environmental Fate)
- Jennifer Rowland, Agricultural Biotechnology Advisor
- Cameron Douglass, Agronomist/Weed Scientist
- Julius Fajardo, Plant Pathologist
- Clayton Myers, Entomologist
- Michelle Ranville, Agricultural Economist
- Claire Paisley-Jones, Biologist
- Lori Quade, Administrative Officer
- Julie Van Alstine, Regulatory Risk Assessor (Human Health)



- **Contact information and bios:** https://www.usda.gov/oce/pest/office-staff

OPMP Staff

- Kimberly Nesci, Director
- Elyssa Arnold, Regulatory Risk Assessor (Ecology and Environmental Fate)
- Jennifer Rowland, Agricultural Biotechnology Advisor
- Cameron Douglass, Agronomist/Weed Scientist
- Julius Fajardo, Plant Pathologist
- Clayton Myers, Entomologist
- Michelle Ranville, Agricultural Economist
- Claire Paisley-Jones, Biologist
- Lori Quade, Administrative Officer
- Julie Van Alstine, Regulatory Risk Assessor (Human Health)



- Contact information and bios: https://www.usda.gov/oce/pest/office-staff

OPMP – the "How"

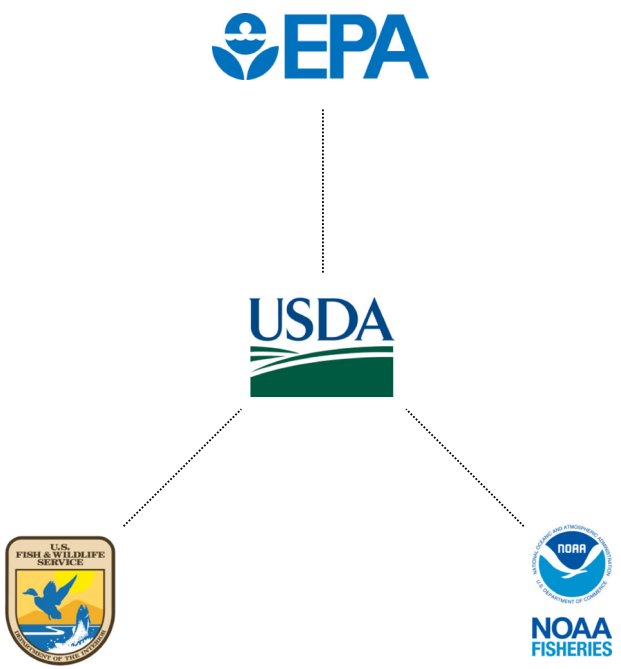
- Authorities under FIFRA Section 25(A)
- Interagency Working Groups
- Public comment process
- Perspective - leverage expertise, experience
- Office of the Chief Economist
- Bipartisan support

OPMP Priorities for 2024, 2025 and beyond

- Endangered Species Act Efforts
- Registration Review (Old Chemicals)
- New Chemicals and New Uses
- New Policies, Models, Assessment Assumptions
- Biotechnology
- Monarch decision
- Administration change

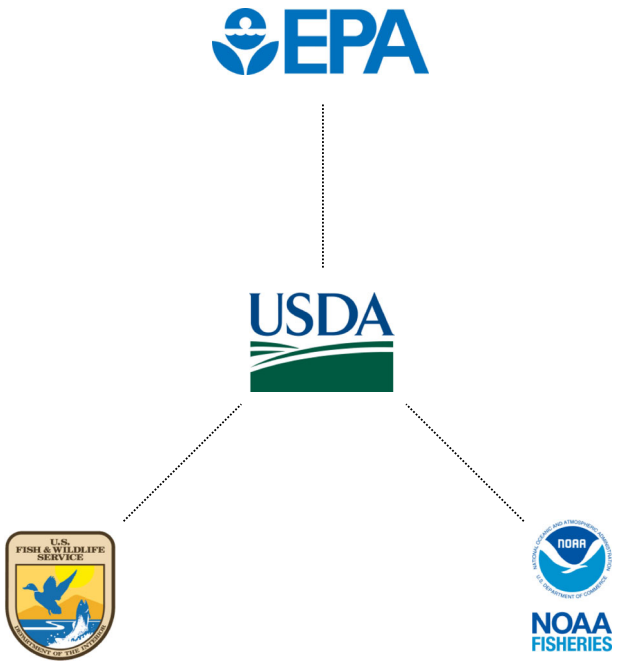
USDA's Role in Endangered Species Act (ESA) Consultations for FIFRA Actions

- Member of the FIFRA-ESA Interagency Working Group (IWG) created by 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.



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

- USG compliance with the statute
- Feasible mitigations that minimize any unnecessary burden to growers
- Protection of species



EPA's Endangered Species Act Workplan and Approach

- Implementing EPA's Workplan to Protect Endangered and Threatened Species from Pesticides: Pilot Projects | US EPA

EPA ESA Strategies

HERBICIDE STRATEGY

FINAL: AUGUST 30, 2024

RODENTICIDE STRATEGY

FINAL: NOV 12, 2024

INSECTICIDE STRATEGY

DRAFT: JULY 30, 2024

FINAL: MARCH 31, 2025

FUNGICIDE STRATEGY

?

Mitigation Measures: Drift

- Reduction in **Spray Drift** through the use of drift buffers, hooded sprayers, and hedgerows/windbreaks

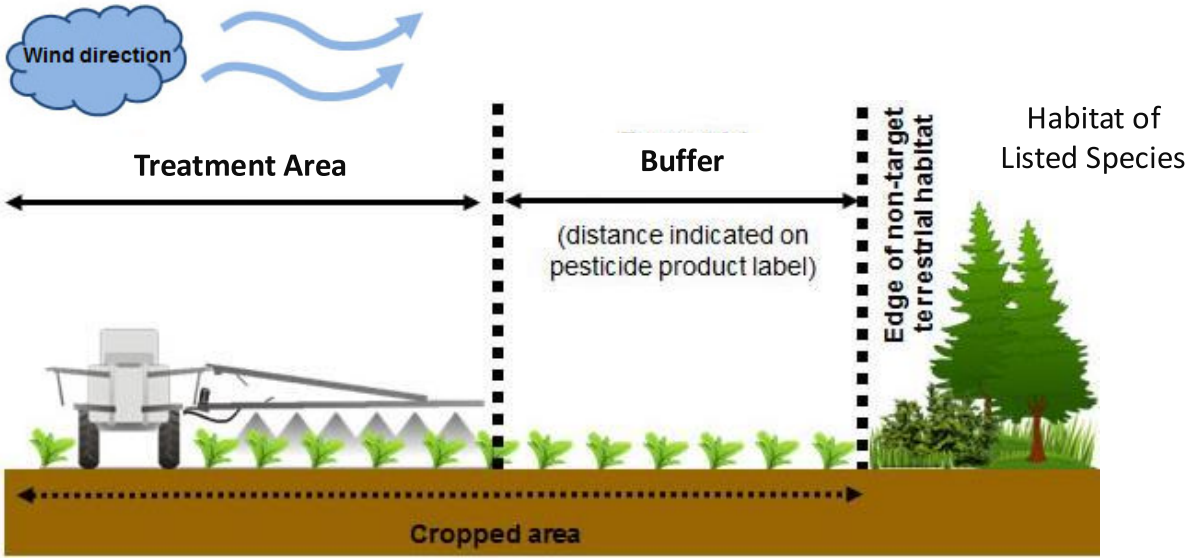


Diagram adapted with permission from the Pest Management Regulatory Agency of Health Canada (2020). Available at: https://www.canada.ca/en/health-canada/services/consumer-product-safety/pesticides-pest-management/growers-commercial-users/drift-mitigation/protecting-habitats-spray-drift.html.

Mitigation Measures: Runoff and Erosion

- Reduction in offsite movement via **Runoff** and/or **Erosion**

Field Management
- Contour farming
- Cover crop
- Grassed waterway
- In-field vegetative filter strip
- Irrigation water management
- Mulching w/natural materials
- Residue tillage management
- Terrace farming

Field Characteristics
- Application to sand, loamy sand, or sandy loam soil without a restrictive layer
- Flat or nearly flat field (<2% slope)
- Fields in western farmland

Application Parameters
- Rate reduction
- Soil incorporation

Adjacent to the Field or In-between field and Habitat
- 30-ft vegetative filter strip
- Riparian area
- Vegetated ditch

Other Mitigations
- Water retention system
- Both on-field and adjacent to the field mitigation utilized

https://www.canr.msu.edu/news/grassed_waterways_can_help_maintain_soil_quality_and_productivity

Progress!

- Enhanced conversations with the states - ongoing
- MOU between EPA and USDA re: NRCS standards – February 2024; helps to allow existing conservation to be “counted”
- Offsets conversations ongoing
- Risk assessment refinement conversation to happen between CLA & EPA
- PULA refinement conversations ongoing
- Mitigation workshop co-sponsored by EPA and USDA to hear concerns and ideas. Some now included in insecticide strategy draft (in review) and herbicide strategy final (in review).

How You Can Help

- ❖Share your expertise in what is practical:
  - Timing for effective pest control based on crop growth stage
  - Typical best management practices
  - Precision technologies and alternatives
- ❖Conservation practices already in use for drift or runoff control in different regions/cane/beet
- ❖Extension agents: education and implementation
- ❖Continued engagement to ensure a workable outcome for farmers

OPMP Observations (What Else is Needed?)

- **Timing** Concerns – moving quickly, aggressive dates
- Need for **Clarity**
  - Complex strategies; differing expectations based on different locations
  - Lack of tools and support to facilitate understanding of site-specific expectations & compliance
- Need for Consideration of **Feasibility**
  - Additional options to obtain points may not be enough in some areas
  - Resistance management considerations
- **Chemical-specific implementation** in registration and re-evaluation cases. What will that mean?
- Need for **Refinement of Models**
  - AgDrift
- EPA **Resources**

Questions?

Kimberly Nesci, Director
USDA Office of Pest Management Policy
kimberly.nesci@usda.gov

BACK POCKET

Herbicide Strategy Comments: Runoff & Erosion Mitigations (1)

- Concerns
  - Variable efficacy of some measures is not reflected in the point system.
  - Growers may not practically be able to reach the number of points required to use medium- or high-risk herbicides. In particular: growers of specialty crops, dryland growers, growers on leveled lands.
  - Potential resistance concerns from focus on reducing application rates.
  - Lack of options for growers on leased land.
  - Accounting for precision application under rate reduction option.
- Suggestions
  - Adding scaling factors for practices that vary in efficacy by region or practice (e.g., cover cropping, no vs. reduced till).
  - Limit the points needed to a practical level for relevant cropping systems and consider the role of offsets to provide additional options.
  - Consider points for reducing the annual application rate (which would account for the total number of applications) rather than just the single application rate.
  - Consider the role of offsets to provide additional options for leased land.
  - Differentiate between lower overall per-acre rates due to precision technology and the rate applied to the target pest.

Herbicide Strategy Comments: Runoff & Erosion Mitigations (2)

- Additional Menu Suggestions
  - Leveled land – change <2% to <3%
  - Biochar/granulated activated carbon filters – effluent filtration, typically as part of a larger system (e.g., vegetated ditches)
  - Crop residue retention – leaving crop residue/stubble on the field following harvest; particularly relevant for sorghum
  - Integrated Pest Management – a prevention, avoidance, monitoring, and suppression approach to pest management
  - Polyacrylamide (PAM) application – irrigation water additive that reduces sediment in runoff by up to 95%, most commonly used in western states
  - Reservoir tillage for root crops – creates water retaining pockets between rows of crops such potatoes and sugar beets to reduce runoff

Herbicide Strategy Comments: Runoff/Erosion Menu Exemptions

- Concerns
  - Tile drainage exemption currently implies that growers can only use herbicides if their drainage is controlled in a retention pond or saturation buffer, neither of which are common.
  - 1,000 ft from habitat exemption – growers will have difficultly defining the location of “habitat” based on provided definitions.
- Suggestions
  - Tile drainage – expand the exemption to include filtration of effluent (e.g., by biochar filters or blind inlets) and allow other growers with tile drainage to use appropriate measures from the menu, including points for having tile drainage scaled by Koc of the pesticide.
  - Provide spatially explicit data to define habitat areas.
  - Conservation Program exemption – see next slide.

Conservation Program Exemption

- Allows growers to follow a **site-specific runoff and/or erosion plan** implemented according to the recommendations of a recognized conservation program OR designed in conjunction with a qualified professional instead of following the mitigation menu/points system.
- USDA strongly supports this approach and is working to understand who is already enrolled in conservation programs and what is needed to increase their reach.
  - May need financial support to develop new or bolster existing programs, ensure sufficient capacity for technical support, expand education/outreach to growers.
  - Program administrators need to know if they meet EPA's standards.
  - Certification/documentation of recommendations and actions is important.

OPMP Survey Results

- 287 respondents representing 4,700 outdoor ag operations
- ~80% of respondents participated in runoff/erosion reduction programs on one or more operations (~35% of total operations)
- Government programs were the most common (64% of respondents)
  - State programs cited: CA, IL, MD, MI, MN, MO, NC, NY, PA, TN, VA, VT, WI
- Specialty crop respondents participated in runoff/erosion programs ~10% less frequently than non-specialty crop respondents and reported using Federal and State programs about half as frequently.
- Reported barriers to program participation: operations did not experience problematic runoff/erosion (34%), no programs available (39%), too expensive (27%), on a waiting list (25%)
- Open comment themes: distrust of programs (esp. government), difficulty of paperwork and meeting program requirements (too much red tape), too expensive, leased land

Program Examples

- State programs: CA Irrigated Lands Regulatory Program, FL Dept of Agriculture and Consumer Services BMP program, MI Agriculture Environmental Assurance Program
- Local programs: Upper Susquehanna Coalition (22 Soil and Water Conservation Districts)
- Commodity-based program: U.S. Cotton Trust Protocol
- Non-profit program: Audubon Cooperative Sanctuary Program for Golf Courses