

# Working Towards Implementable Pesticide Labels that are Protective of Endangered Species

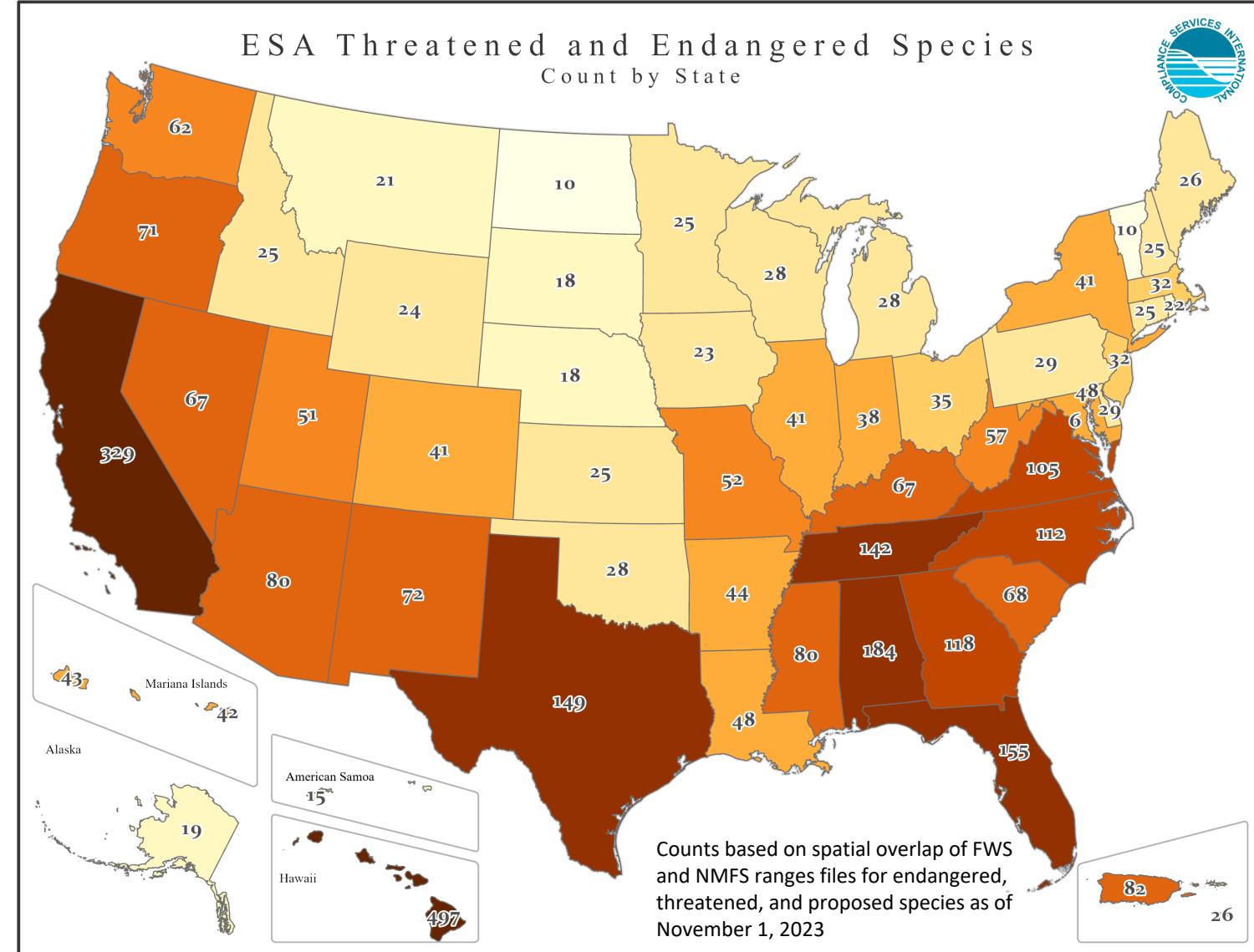
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Technical Consultant, FIFRA Endangered Species Task Force  
AAPCO Annual Meeting, March 3-6, 2024



# Which state has the greatest number of listed species?

Hawaii (497),  
California (329),  
Alabama (184),  
Florida (155), and  
Texas (149)

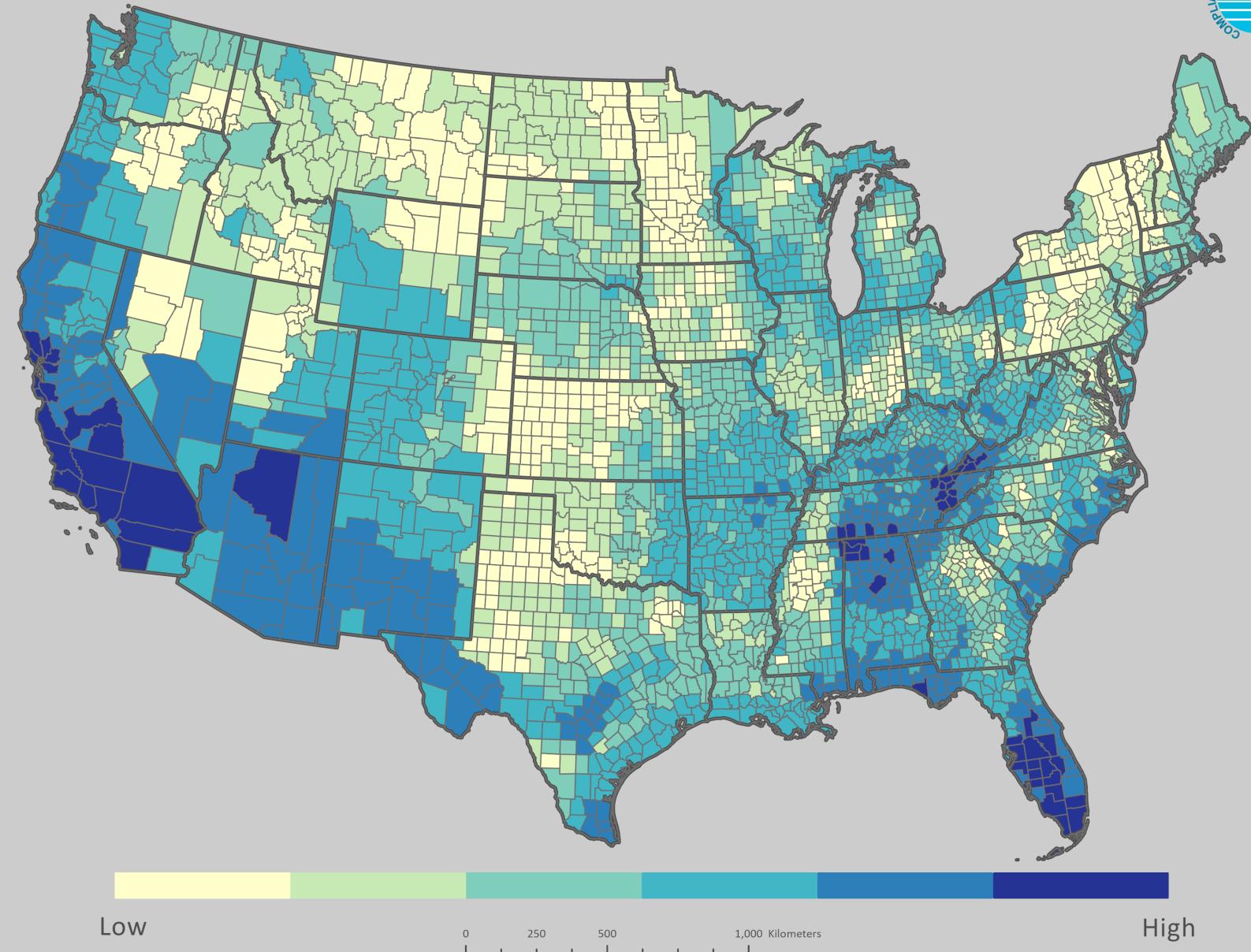


Every county in the US  
has at least one ESA-  
listed species.

54 in Los Angeles Co., CA  
50 in Monroe Co., FL

Species needs are unique  
and depend on the local  
environment. These need  
to be addressed locally  
by pesticide end users.

## USFWS/NMFS SPECIES RANGE DENSITY



# FIFRA Endangered Species Task Force Members



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# FESTF Introduction and Overview

## FESTF Origin and Mission

- Established in 1994 to fulfill “species location” data requirements
- Quickly learned “location data” was only meaningful if kept current and used in conjunction with other environmental data (use, location, species attributes)
- Mission became aggregating and maintaining those data. Has recently been expanded to support current agency assessment, species protection goals, and implementation by end-users

## Support to agencies and stakeholders through:

- EPA data submissions addressing evolving FIFRA/ESA species assessment
- Working with FWS to provide first consultation nationwide species maps and fully updated Status of Species documentation
- Equip users with a positive understanding of FIFRA/ESA and how they can help species and the agencies through outreach, technical assistance, and education



# Events that Shifted FIFRA/ESA Policy

1947

1<sup>st</sup> version of  
FIFRA under  
USDA

1970

Environmental  
Protection  
Agency  
established;  
FIFRA was  
moved from  
USDA to EPA

1973

Endangered  
Species Act  
enacted

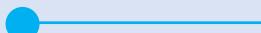
1978

Tennessee  
Valley Authority  
v. Hill decision,  
establishing ESA  
primacy



# Events that Shifted FIFRA/ESA Policy

1947



1<sup>st</sup> version of FIFRA under USDA

1970



Environmental Protection Agency established; FIFRA was moved from USDA to EPA

1973



Endangered Species Act enacted

1978



Tennessee Valley Authority v. Hill decision, establishing ESA primacy

1982



Consultation changed from active ingredient basis to “cluster” (crop groups)

1986



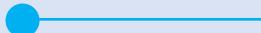
CEQ Report, EPA Implementation of ESA

1991



OPP Section 1010 Report to Congress

1992



Framework for Ecological Risk Assessment

1993



Implementation of “New Paradigm”

1998



Guidelines for Ecological Risk Assessment; USFWS, NMFS publish ESA consultation handbook

2002



Endangered Species Protection Program (ESPP) Implementation, and EPA Process for Assessing Potential Risks to Listed Species

2004



Final Joint Counterpart Endangered Species Act Section 7 Consultation Regulations

2005



Endangered Species Protection Program (ESPP) Field Implementation with mandatory bulletins

2006



Court invalidates key sections of the Joint Counterpart Regulation



# Events that Shifted FIFRA/ESA Policy

2007

2009

2011

2013

2015

2019

2022

EPA Registration Review Program initiated; Lawsuit against NMFS for Pacific salmonid consultations

EPA pilot project under Registration Review and ESA for clomazone and fomesafen

Interagency FIFRA-Registration and ESA Review and ESA for clomazone and fomesafen

“Megasuit” was filed against EPA.

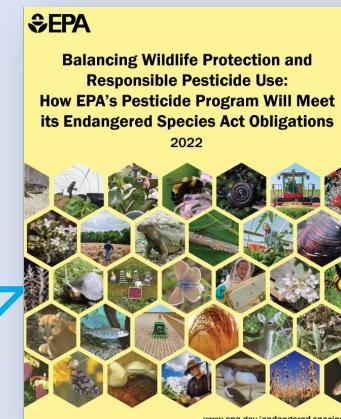
“Enhancing Stakeholder Input” workshops initiated; Final NAS Panel Report Published; EPA Interim Approaches initiated

Interim Method

Revised Interim Method

EPA announced commitment to complying with ESA and started holding stakeholder calls; Enlist One/Duo Initial Decision was released; EPA released workplan outlining ESA approach and early mitigation

Moving on to the Present



# EPA's Commitment to Complying with the ESA as Outlined in the Workplan and Workplan Update

## Implementation of Workplan

Nov/Dec 2022

June 2023

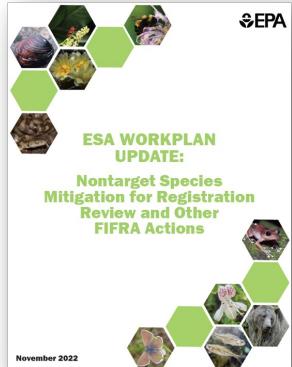
July 2023

September 2023

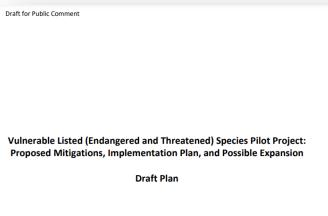
Nov/Dec 2023

February 2024

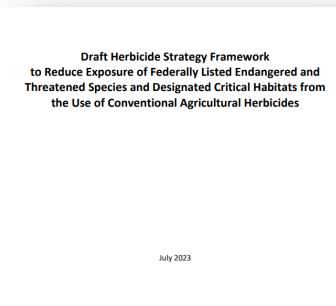
EPA released updated workplan with FIFRA Interim Ecological Mitigations (IEM, incl. pick-lists) and strategies; EPA released PIDs and Federal Pilot



EPA released Vulnerable Species Pilot (VSP) and StoryMaps



EPA released Herbicide Strategy



ESA "Mega" settlement finalized – details BEs, strategies, projects for EPA to fulfill ESA obligations

EPA released update to VSP; EPA released Draft Rodenticide BE and Mitigation Strategy

EPA and USDA signed MOU to better align EPA's ESA strategies with USDA NRCS practices; Stakeholder workshop on offsets

Varying timelines; EPA is working towards consistency. Herbicide Strategy builds on IEMs and VSP and EPA expects mitigations from the Strategy would supersede IEM where uses are covered.

# Interim Mitigation Measures Proposed by EPA

FIFRA Interim Ecological  
Mitigation to nontarget  
species

## Spray Drift

Table 8-1. General label spray drift mitigations identified for metolachlor. Mitigations Related to Single Maximum Application Rate, Application Method and Droplet Size. <sup>1</sup>									
Single Maximum Application Rate (lb ai/A) <sup>2</sup>	Identified Downwind Spray Drift Buffer Distances (ft)								
	Aerial Application			Ground Application					
2.67	25 <sup>3</sup>	20 <sup>3</sup>	20 <sup>3</sup>	Very Fine, Fine, Medium, Coarse, Very Coarse	Very Fine, Fine, Medium, Coarse, Very Coarse, High, Low, Broad	Fine, Medium, Coarse, Very Coarse, High, Low, Broad	None <sup>4</sup>	None <sup>4</sup>	None <sup>4</sup>
1.9 - 2.0	10 <sup>3</sup>	None <sup>4</sup>	None <sup>4</sup>	None <sup>4</sup>	None <sup>4</sup>	None <sup>4</sup>	None <sup>4</sup>	None <sup>4</sup>	None <sup>4</sup>
1.0 - 1.2	None <sup>4</sup>	None <sup>4</sup>	None <sup>4</sup>	None <sup>4</sup>	None <sup>4</sup>	None <sup>4</sup>	None <sup>4</sup>	None <sup>4</sup>	None <sup>4</sup>
<small>Measures the pesticide applicator can elect to reduce spray drift distances<sup>5</sup></small>									
<small><sup>1</sup>Very fine to fine droplets are not included for aerial applications because this droplet size is not typically used when applying herbicides. <sup>2</sup>Label rates reflect the range of uses for metolachlor. <sup>3</sup>EPA did not identify a spray drift buffer as a mitigation measure because the magnitude of difference is &lt;10 at 10 ft off the treated field. <sup>4</sup>See Section 6.1 for discussion of these mitigation measures.</small>									

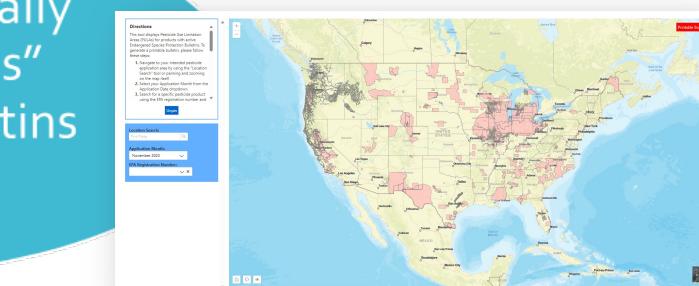
## Runoff/erosion menu

Mitigation Menu Item <sup>6</sup>	Measures that qualify <sup>7</sup>	Efficacy Points
<b>In-field Management Mitigation Measures<sup>8</sup></b>		
Contour farming	Contour farming, contour tillage	2
	Contour buffer strips, contour strip cropping, prairie strip, alley cropping	3
Cover crop/continuous cropping	Cover crop, double cropping, relay cropping	1
Grassed waterway	Grassed waterway	1
In-field vegetative filter strip (not occurring on a contour field)	Inter-row vegetated strips, strip cropping, alley cropping, strip	3
Irrigation water management	Not applicable	1
Mulch amendment with natural materials	Not applicable	3
Residue tillage management	No-till, reduced till	2
Terrace farming	Terrace farming, terracing, field terracing	2

RRMs and RPAs  
in ESA Biological  
opinions  
following formal  
consultation with  
the Services.

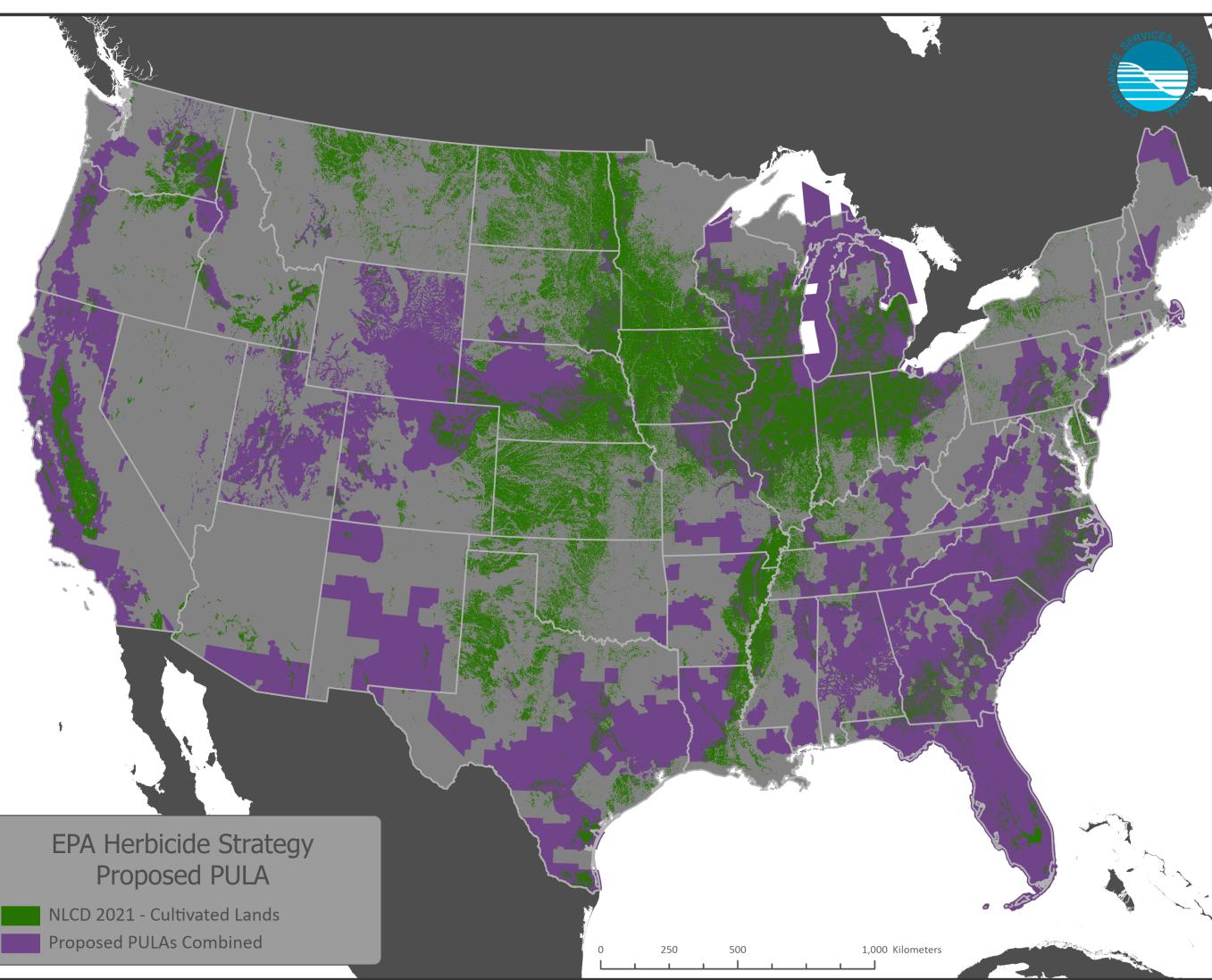
## Interim Mitigation Measures

## ESA Geographically specific “species” mitigation (Bulletins Live!Two)



## Programmatic Approaches to ESA mitigation

- These strategies are intended to identify an efficient approach to determine the need for, the level of, and the geographic extent of early mitigations for pesticides to reduce the potential for population-level impacts for listed species.

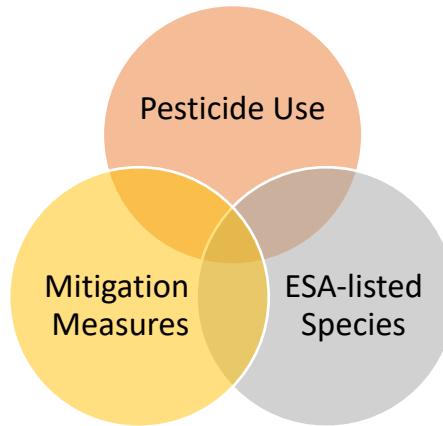


Under the draft herbicide strategy, herbicide use in all crops may be subject to additional mitigations implemented during registration or registration review, either through general label directions or PULAs.

Crops	% US Total
Alfalfa and Grasses	32.44%
Citrus	88.16%
Corn	43.60%
Cotton	31.51%
Grapes	60.52%
Other Crops (i.e. fallow, grass/legumes for seed)	31.57%
Other Grains (i.e. barley, canola, sorghum)	18.56%
Other Orchards	68.39%
Other Row Crops (hops, peanuts, sunflower, tobacco, sugar beets)	34.92%
Rice	51.10%
Soybeans	43.19%
Vegetables and Ground Fruit	30.04%
Wheat	18.29%

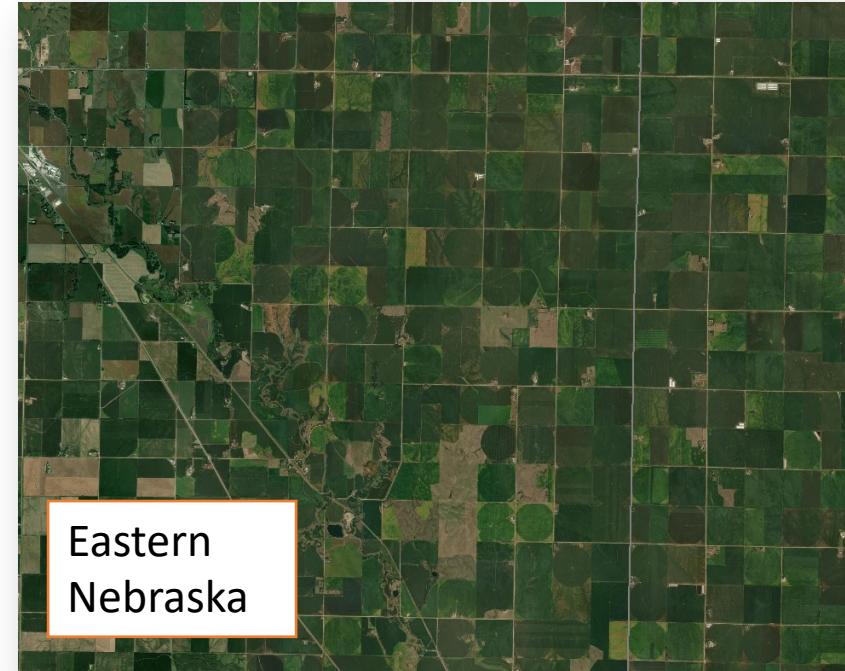
Crops are based on EPA's definition using spatial data from USDA Cropland Data Layer 2018-2022.

# The Intersection: Challenges



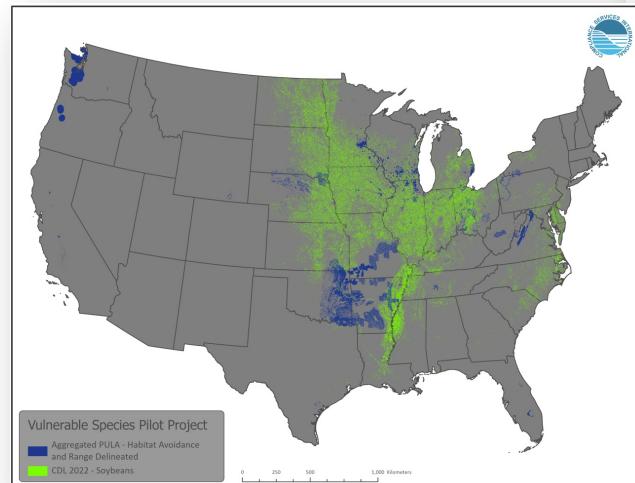
- General descriptions of habitat
- Diverse landscape and field shapes
- Regional/crop specific production practices
- Edge-of-field/terrestrial pest pressure

<https://www.cast-science.org/publication/developing-and-adopting-economically-effective-pesticide-mitigation-strategies-critical-to-the-survival-of-agriculture-and-endangered-species/>



# FESTF is engaging stakeholders to encourage input

- FESTF has dedicated efforts to informing potentially impacted stakeholders about pesticide decisions, strategies, pilots, and other activities/decisions with the goal of encouraging their local input and feedback to EPA to better inform the national process and outcomes.
  - Develop and share “Comment Builders”
  - Host informational webinars
  - Technical assistance



## Comment Builder for the EPA ESA Biological Evaluation of 11 Rodenticides' Effects on Endangered Species

We have developed this document to encourage your continuing comments on the EPA Draft Biological Evaluation of 11 Rodenticides Biological Evaluation (Draft BE) and Draft Rodenticide Strategy by responding to the currently open docket on the Draft BE. *While these products may not be in your toolkit, the endangered species mitigations used here draw on the basis established in the Draft BE (<https://www.regulations.gov/docket/EPA-HQ-OPP-2023-0567/document>). If you did not have time to address the Proposed Interim Decision (PIDS) while the comment period was open, or if there is more to say with respect to the specific labeled uses, this is an opportunity to continue that dialog.*

The Agency has not yet finalized their evaluation of the eleven rodenticide risks to federally listed species and extended their comment period until February 13, 2024.

[Link to the Comments submitted for the Draft BE and the Comment Portal](https://www.regulations.gov/docket/EPA-HQ-OPP-2023-0567/document)

<https://www.regulations.gov/docket/EPA-HQ-OPP-2023-0567/document>

[Link to the Draft Biological Evaluation, Effects Determinations, and Mitigation Strategy for Federally Listed and Proposed Endangered, and Threatened Species and Designated and Proposed Critical Habitats Document](https://www.regulations.gov/document/EPA-HQ-OPP-2023-0567-0004)

<https://www.regulations.gov/document/EPA-HQ-OPP-2023-0567-0004>

[Link to Excel file with Species Specific Information](https://www.regulations.gov/document/EPA-HQ-OPP-2023-0567-0002)

<https://www.regulations.gov/document/EPA-HQ-OPP-2023-0567-0002>

# Main Themes of Public Comments

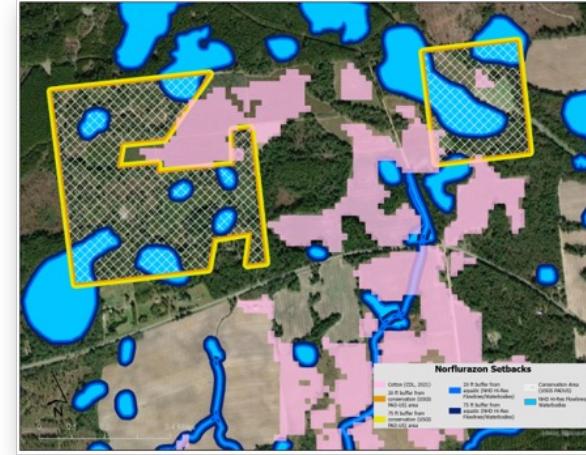
- Complexity of documents, outcomes, and labels and need for consistency
- Need for flexibility of mitigation measures – different regions and crops have different needs; agriculture is not “one size fits all”
- Better alignment of EPA’s pesticide mitigation measures with existing practices (such as USDA’s NRCS Conservation Practice Standards), credit for existing mitigations and conservation plans, link between species and measures, and more opportunities to contribute
- Encouraging EPA to use best available data
- Clarity on implementation (when will measures appear on labels? Who is responsible for ensuring conservation measures are implemented? Who is responsible for deciding what is ESA-species habitat?) and enforcement (what type of records are required?)



# FESTF is exploring how collaborations can facilitate implementation

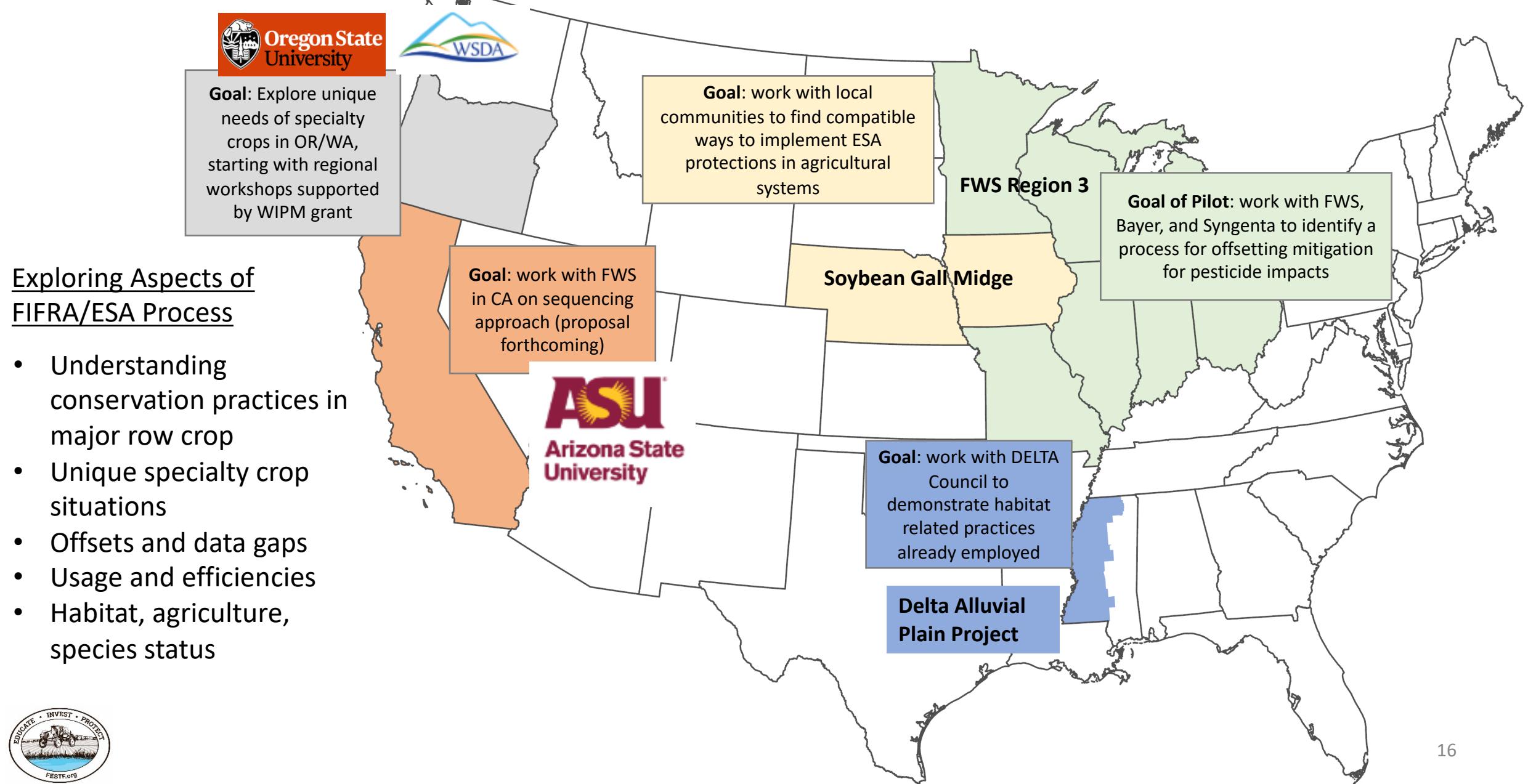
MALATHION 57 EC EPA REG. NO. 34704-188				
Crop	Pest	Application Rate Pounds Per Acre	Directions	Pre-Harvest Interval (PHI) (Days)
Apricots	Orange tortrix Soft scale	2.0	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.5 lb A.U. (2.0 qt Malathion 57 EC) and the maximum number of applications /yr is 2 and the minimum re-treatment interval is 7 days.	8
Asparagus	Asparagus aphid Asparagus beetle Thrip	1.5 to 2.0	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.25 lb A.U. (2.0 qt Malathion 57 EC), the maximum number of applications /yr is 2 and the minimum re-treatment interval is 7 days.	1
Barley	English grain aphid Greenbagg Young grasshoppers Armyworms	1.5 to 2.0	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.25 lb A.U. (2.0 qt Malathion 57 EC), the maximum number of applications /yr is 2 and the minimum re-treatment interval is 7 days.	7
Beets, Garden (including tops) (Do not apply to Sugar beets)	Aphids	1.5 to 2.0	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.25 lb A.U. (2.0 qt Malathion 57 EC), the maximum number of applications /yr is 2 and the minimum re-treatment interval is 7 days.	7
Blackberries Boysenberries Dwarf Bramble Gooseberries Raspberries	Rose scale aphids Japanese beetle Young grasshoppers Mites Thrips	3.0 1.5	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.25 lb A.U. (2.0 qt Malathion 57 EC), the maximum number of applications /yr is 3 and the minimum re-treatment interval is 7 days. The standard dilute spray for this crop is 200 gal/acre.	1
Blueberries	Japanese beetle Berry fruitworm Cabbage worm Plum curculia Sharp-nosed leafhopper	1.5 1.6 2.0	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.25 lb A.U. (2.0 qt Malathion 57 EC), the maximum number of applications /yr is 3 and the minimum re-treatment interval is 7 days. The standard dilute spray for this crop is 200 gal/acre.	1
Broccoli Brussels sprouts Cauliflower	Aphids Cabbage looper Cabbage worm Imported cabbageworm	1.0 to 2.0	The Restricted Entry Interval (REI) is 48 hours. The maximum single application rate is 1.25 lb A.U. (2.0 qt Malathion 57 EC), the maximum number of applications /yr is 2 and the minimum re-treatment interval is 3 days.	2

From label to  
management and  
implementation

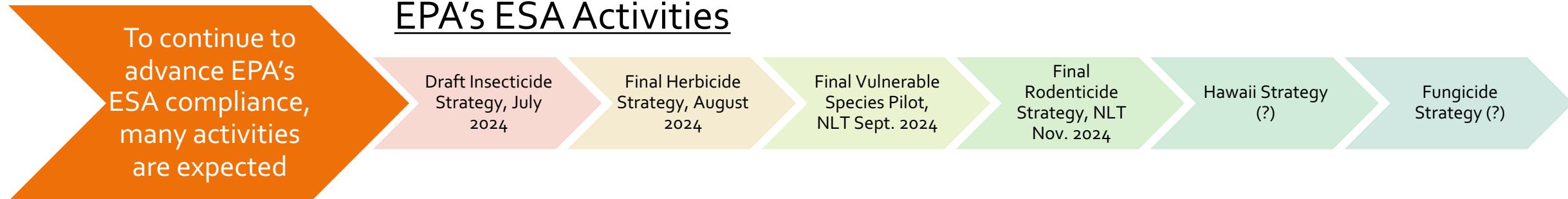
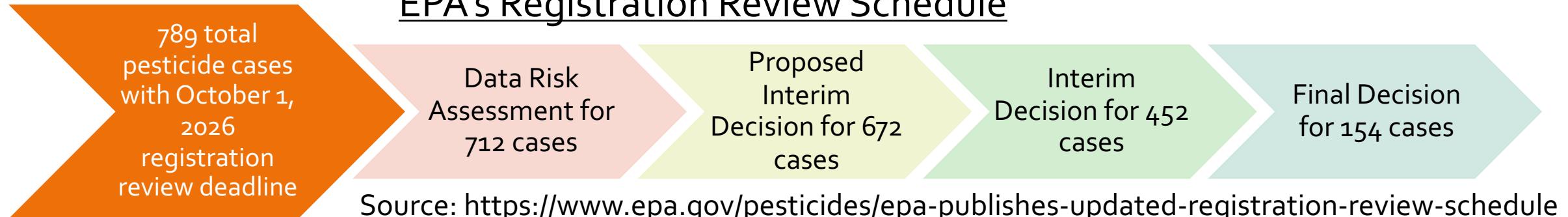


- FESTF is investing in efforts to help bring the wealth and diversity of knowledge at local/regional levels to the national level by building new partnerships and collaborations
- Supporting and leading regional efforts examining various aspects of the FIFRA/ESA process in ways that are unique to each region but can also be transferred to others, gathering information on what works and what doesn't. How can we work with AAPCO/SFIREG in these efforts?

# FESTF's ongoing and emerging regional efforts



# Future: What does the next 18 months look like?



# Main Takeaways

- There is a lot of activity in FIFRA/ESA right now. But the road to implementation of EPA's strategies is twisty and likely long.  
Some actions to consider:
  - help to get the word out that pesticide labels may be changing because EPA is working toward better protection for ESA-listed species.
  - encourage applicators to find information about ESA-listed species that may be in proximity to where pesticides are used and how to access and navigate BLT.
  - keep an eye on dockets and documents coming out of EPA and send comments to EPA with your feedback on feasibility, implementation and enforcement challenges. Seek other opportunities to provide input.
  - reach out to FESTF if you are interested in collaborating on regional projects! Future efforts are not limited to current focus.



Western Prairie Fringed Orchid  
Photo Credit: Kimberly Emerson/USFWS



Alabama canebrake pitcher-plant

# Thank you!

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