

EPA – Endangered Species Workplan Development and Implementation

How it will affect you

EPA and the Endangered Species Act (ESA)

Federal Endangered Species Act - 16 U.S.C. §1531 et seq. (enacted in 1973)

- As a Federal Agency - EPA must:
 - Ensure that actions it authorizes, funds, or carries out –
 - do not jeopardize the continued existence of any listed species
 - result in the destruction or adverse modification of designated critical habitat of such species.
- ESA prohibits any action that causes a "taking" of any listed species of endangered fish or wildlife.
- EPA must consult with the U.S. Fish and Wildlife Service (FWS) and/or the NOAA Fisheries Service (NMFS) on actions that could affect listed species

- Registration of a pesticide is an “agency action”
- Subject to the provisions of ESA
- Therefore – registration cannot result in “jeopardy” or “adverse habitat modification” - JAM

- Process was time consuming – 4 to 15 years to complete
- Impacts on pesticide users limited to specific areas for specific species
- EPA has completed <5% of consultations needed
- Over 20 lawsuits for failure to complete process
- EPA was ordered by courts to implement ESA provisions
- Courts could order restrictions on pesticide use
- Resulted in uncertainty for pesticide users and crop producers

- New strategy adopted in 2022:
 - Meet ESA obligations when registering new conventional pesticides
 - Incorporate mitigation measures before consultations have been completed or even begun
 - Evaluate types of pesticides as a group (e.g. herbicides, insecticides, rodenticides) relative to JAM considerations
 - Apply protections over broader areas and crop types as a preventive measure
 - Apply mitigation measures to types of pesticides, not just specific active ingredients

EPA is committed to this approach and making rapid progress

Selected Milestones

- **April 2022** – Balancing Wildlife Protection and Responsible Pesticide Use – How EPA’s Pesticide Program will meet its ESA Obligations (Workplan)
 - **November 2022** – ESA Workplan Update
 - **June 2023** – Draft Technical Document for support of Interim Ecological Measures
 - **June 2023** – Vulnerable Species Pilot Project
 - **July 2023** – Herbicide Strategy
- Still to come:
Insecticide Strategy -Rodenticide Strategy

Comment Opportunities

- Public comment periods of 45-60 days
- Only one comment period extensions so far
- These proposal are detailed and extensively documented
- EPA is meeting with industry and SLA groups outside of public comment period to get input
- Still open to suggestions and ideas

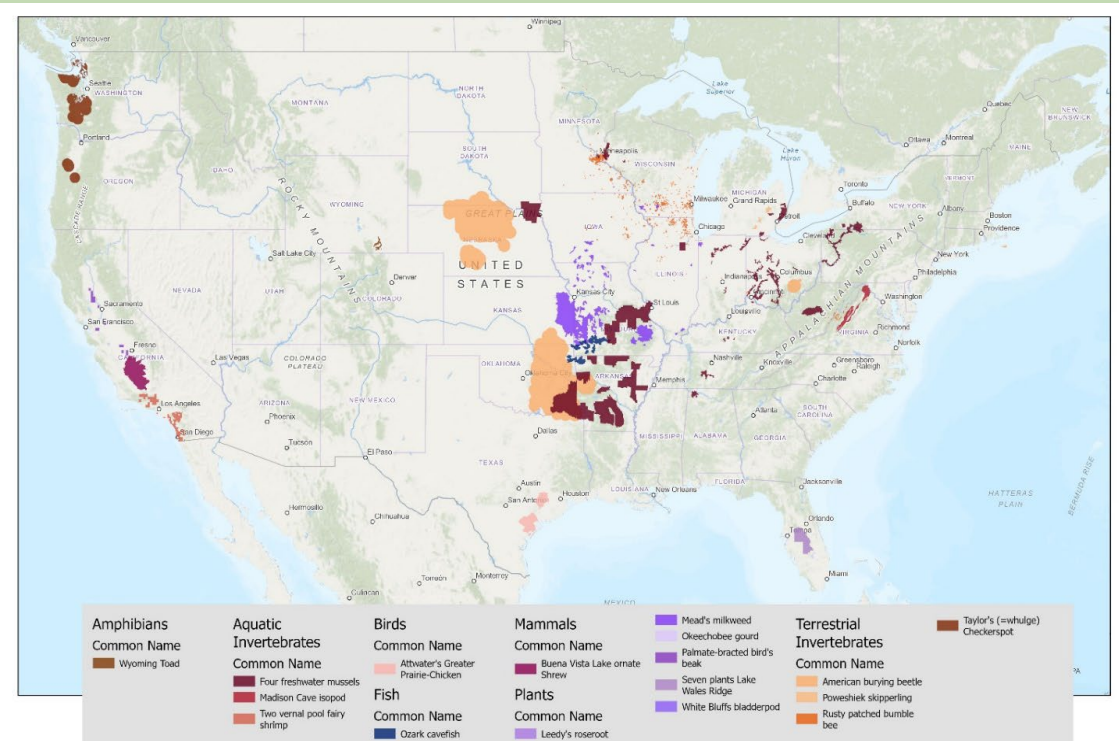
<https://www.epa.gov/endangered-species/epas-workplan-and-progress-toward-better-protections-endangered-species>

June 2023 – Vulnerable Species Pilot Project

- Proposes pesticide mitigation measures designed to reduce the pilot species' exposures to conventional pesticides from non-residential outdoor uses of those pesticides which includes
 - agricultural
 - non-agricultural use sites
 - rights of way,
 - nursery/ornamentals,
 - forestry,
 - industrial,
 - pasture/rangeland,
 - golf courses,
 - athletic fields,
 - aquatic applications,
 - mosquito adulticide and larvicide applications.

June 2023 – Vulnerable Species Pilot Project

- Applies to 27 listed species that EPA has determined are particularly vulnerable to potential pesticide effects
- May be expanded at a later date



Pilot Species

EPA identified the pilot species listed below using documentation from the Services (e.g., 5-year reviews, biological opinions) and spatial data for ranges. These data are on the FWS webpages accessible by clicking the species links. For the species that EPA identified for this pilot, FWS concluded that they have high or medium vulnerability to all relevant stressors and indicated that pesticides may be a potential stressor for the species. FWS also indicated that these pilot species have smaller ranges relative to other listed species, and many of their ranges or critical habitats overlap with those of other listed species. Therefore, protections for these species would benefit other listed species.

The initial set of priority species includes:

- Group of plant species in Lake Wales Ridge area of Florida (including [Avon park harebells](#) (*Crotalaria avonensis*), [Garrett's mint](#) (*Dicerandra christmanii*), [wireweed](#) (*Polygonella basiramia*), [scrub blazingstar](#) (*Liatris ohlingerae*), [short-leaved rosemary](#) (*Conradina brevifolia*), [scrub mint](#) (*Dicerandra frutescens*), [Florida ziziphus](#) (*Ziziphus celata*), and several other species that occur in this area)
- [Leedy's roseroot](#) (*Rhodiola integrifolia* ssp. *leedyi*)
- [Mead's milkweed](#) (*Asclepias meadii*)
- [Okeechobee gourd](#) (*Cucurbita okeechobeensis* ssp. *okeechobeensis*)
- [Palmate-bracted bird's beak](#) (*Cordylanthus palmatus*)
- [White bluffs bladderpod](#) (*Physaria douglasii* ssp. *tuplashensis*)
- [Madison cave isopod](#) (*Antrolana lira*)
- [Ouachita rock pocketbook](#) (*Arkansia wheeleri*)
- [Rayed bean](#) (*Villosa fabalis*; freshwater mussel)
- [Scaleshell mussel](#) (*Leptodea leptodon*)
- [Winged mapleleaf](#) (*Quadrula fragosa*)
- [Riverside fairy shrimp](#) (*Streptocephalus woottoni*) and [San diego fairy shrimp](#) (*Branchinecta sandiegonensis*)
- [American burying beetle](#) (*Nicrophorus americanus*)
- [Poweshiek skipperling](#) (*Oarisma poweshiek*)
- [Rusty patched bumble bee](#) (*Bombus affinis*)
- [Taylor's checkerspot](#) (*Euphydryas editha taylori*)
- [Ozark cavefish](#) (*Amblyopsis rosae*)
- [Attwater's prairie chicken](#) (*Tympanuchus cupido attwateri*)
- [Buena vista lake ornate shrew](#) (*Sorex ornatus relictus*)
- [Wyoming toad](#) (*Bufo hemiophrys baxteri*)

Pesticide Use Limitation Areas (PULAs) will be established on a geographic basis.

Pesticide mitigation measures are required in a PULA.

Mitigations focused on avoidance and minimization

- **Avoidance**

- No application in geographic area identified as critical habitat.
- Exception allowed if approved by FWS at least three months prior to application

- **Minimization**

- intended to reduce the likelihood of future jeopardy/adverse modification determinations and to minimize potential take
 - Application using one or more mitigation measures identified by EPA
 - Mitigation applies in a protective zone around avoidance area

**Restrictions on applications are identified in Bulletins Live Two (BLT)
Label language will require that applicators consult BLT before application
and comply with directions on that site.**

Example of Avoidance and Minimization Areas

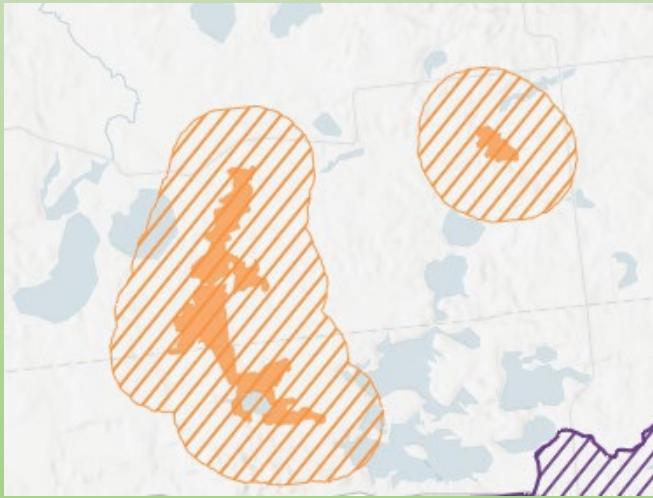


Table 2. Descriptions of Pesticide Use Limitation Areas (PULAs) for Pilot Species.

Species (Common Name)	State(s) Where PULAs are Located	Avoidance PULA Extent	Minimization PULA Extent	Minimization Mitigations	Max PULA Extent (Acres)
Mitigation Area: Delineated location, geographically explicit					
Leedy's roseroot	MN, NY	Part of range (excluding area in South Dakota)	2600 ft extension area around avoidance PULA	Drift, Run-off, Species specific ¹	Less than 50,000
Okeechobee gourd	FL	Range	2600 ft extension area around avoidance PULA	Drift, Run-off, Species specific ¹	Less than 200,000
Poweshiek skipperling	MI, WI, MN	Designated critical habitat	2600 ft extension area around the avoidance PULA	Drift, Run-off	Less than 50,000
Rusty patched bumble bee	IL, IN, IA, ME, MA, MN, OH, VI, WV, WI	Range	2600 ft extension area around the avoidance PULA	Drift, Run-off, Species specific ¹	Greater than 1,000,000
Taylor's checkerspot	OR, WI	Range, which includes designated critical habitat	2600 ft extension area around the avoidance PULA	Drift, Run-off	Greater than 1,000,000
White Bluffs bladderpod	WA	Range, which includes designated critical habitat	2600 ft extension area around the avoidance PULA	Drift, Species specific ¹	Less than 10,000
Mitigation Area: Known habitat, not delineated (see Table 3 for habitat description)					
American burying beetle	AR, KS, MA, NE, OH, OK, RI, SD, TX	Range	Same as avoidance PULA	Drift, Species specific ¹	Greater than 1,000,000
Attwater's prairie chicken	TX	PULA from Malathion BiOp	Same as avoidance PULA	Drift, Run-off	Greater than 1,000,000
Buena Vista Lake ornate shrew	CA	Range, which is inclusive of designated critical habitat	Same as avoidance PULA	Drift, Run-off	Greater than 1,000,000

**To explore the Vermont Agency of Agriculture, Food and Markets, please visit: www.agriculture.vermont.gov

Label Language for Avoidance Areas:

*Pesticide applications are prohibited within this area unless the applicator coordinates with the local FWS Ecological Services field offices to determine appropriate measures to ensure the proposed application is likely to have no more than minor effects on the species. **The applicator must coordinate with FWS at least 3 months prior to the application.** FWS points of contact are available through the Information, Planning, and Consultation (IPaC) website (<https://ecos.fws.gov/ipac/>). If a permit has been granted by FWS13, no additional coordination with FWS is needed if a pesticide application is made in accordance with an existing FWS permit.*

Label Language for Minimization Areas

- 1. Do not apply when soil in the area to be treated is saturated (if there is standing water on the field or if water can be squeezed from soil).*
- 2. Do not irrigate to the point of runoff. Follow label directions if pesticide needs to be watered into the soil for efficacy.*
- 3. Do not apply if NOAA/National Weather Service predicts 50% chance or greater of 1 or more inches of rainfall to occur within 48 hours following application.*
- 4. Four of the measures in **Table 4** are required to reduce potential transport of pesticides off treated fields from runoff water and soil erosion into the pilot species' habitats. Formal participation in a State or Federal soil and runoff conservation plan satisfies this requirement.*
- 5. The following exemptions to #1-4 apply: a. If the field has subsurface drainage installed, the mitigation measures are not applicable. The subsurface tile drains must release the effluent (water) into water-controlled drainage structures or saturation buffer zones.*
*b. **If the lands are managed with a site-specific runoff and/or erosion plan implemented according to the recommendations of a recognized conservation program,** then no additional runoff/erosion mitigations are needed. Recognized conservation programs include but are not limited to those run by federal and state agencies, a state university extension programs, National Alliance of Independent Crop Consultants, or certified agricultural conservation specialists.*

Minimization measures to be included in PULAs

- rights of way,
- nursery/ornamentals,
- forestry,
- industrial,
- pasture/rangeland,
- golf courses,
- athletic fields,
- aquatic applications,
- mosquito adulticide and larvicide applications.

Table 4. Draft options for runoff/erosion measures for selected pesticide use site¹.

Runoff/Erosion Mitigation Practice	Use Site				
	1: Field Crops ²	2: Orchards	3: Specialty Crops ³	4: Non-Ag ⁴	5: Rice ⁵
Applications					
Avoid Using Pesticide of a Highly Toxic Hazard Class to invertebrates	✓	✓	✓	✓	✓
40% rate reduction ⁶	✓	✓	✓	✓	✓
In Field					
Contour Farming	✓	✓	✓	--	--
Cover Crop	✓	✓	✓	✓	--
In-field Vegetative Filter Strip ⁷	✓	✓	✓	✓	--
Mulching	✓	✓	✓	✓	--
Residue and Tillage management	✓	--	✓	--	--
Terrace Farming	✓	✓	✓	--	--
Grassed Waterways	✓	✓	✓	✓	--
Field Characteristics					
Field with <2% slope	✓	✓	✓	--	✓
Adjacent to the Field or In-between field and Protection Area					
Vegetative Filter Strips ⁷	✓	✓	✓	✓	--
Riparian Area (>10m width from average high-water mark to use site)	✓	✓	✓	✓	--
Controlled Drainage					
Constructed wetlands or Water and Sediment Control Basins	✓	✓	✓	✓	✓

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Labels will also reference Bulletins Live Two (BLT)

<https://www.epa.gov/endangered-species/bulletins-live-two-view-bulletins>

Example Label Language:

*When using this product, you must follow the measures, including any timing restrictions, contained in the Endangered Species Protection Bulletin for the area where you are applying the product. Before using this product, you must obtain a Bulletin at any time **within six months of the day of application**. To obtain Bulletins, consult <http://www.epa.gov/espp>. For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov.*

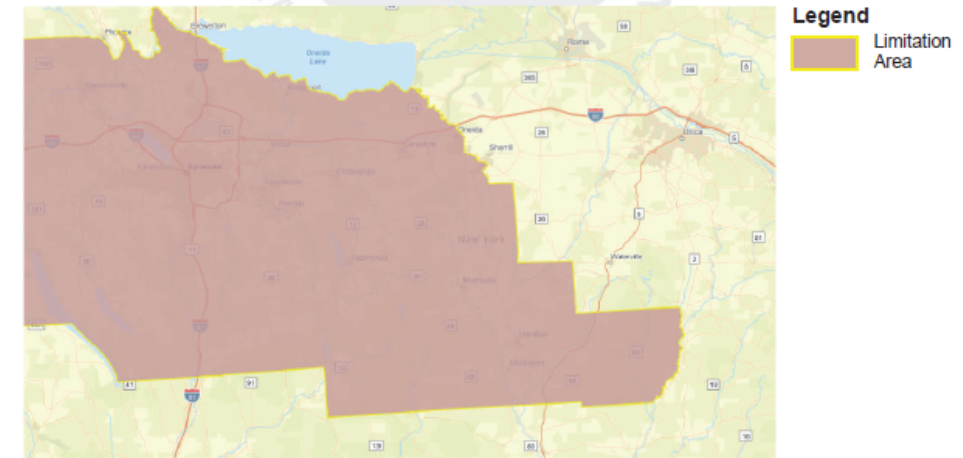
Endangered Species Protection Bulletin



Application Month: October 2023

Product: All products with limitations in selected area

- 1 Areas where pesticide use must be limited are identified on the map. A legend is located beside the map to help pinpoint these locations.



- 2 Look below at the Pesticide Use Limitation Summary Table. This table lists the user selected Active Ingredient(s) (ALs) or Product(s) with pesticide use limitations on the printed map. Locate the Active Ingredient (AI) or Product you intend to apply in this table and identify the code in the last column. This code indicates the specific limitation associated with that AI or Product. A limitation description for each code can be found below in the Codes and Limitations Table. If multiple Pesticide Use Limitation Areas (PULAs) are visible on the map, these tables provide information for the highlighted PULA.

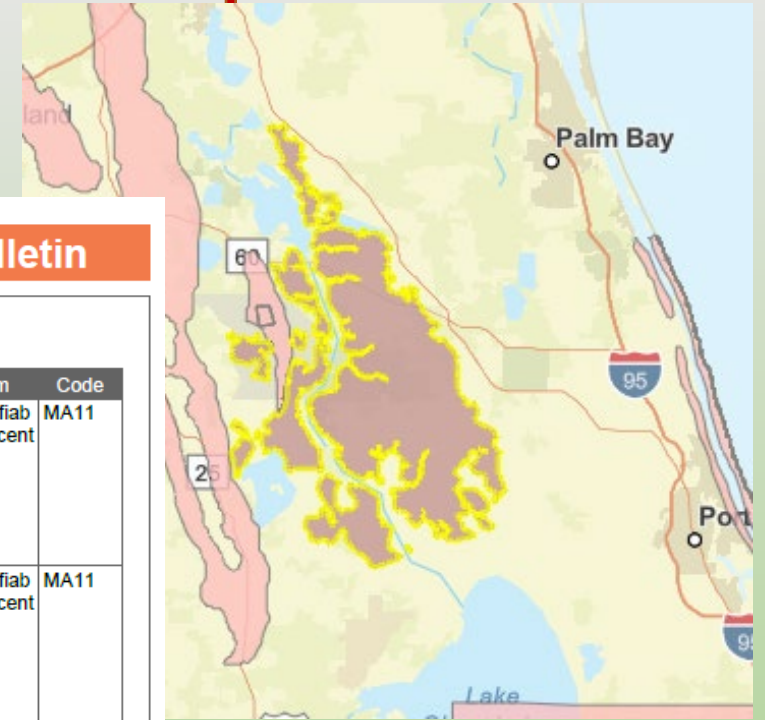
If you are applying a pesticide that contains more than one Active Ingredient, or multiple Products, then multiple codes may apply. Follow the limitations for all codes when using this pesticide.

Pesticide Use Limitation Areas (PULAs):

PULAS are being published without notice to SLAs!

Example – Malathion for Mosquito Control in Florida

Florida Department of Agriculture and Consumer Services (FDACS) became aware of this new PULA after it was implemented through a Pesticide Interim Decision (PID) in August 2023



Endangered Species Protection Bulletin

Pesticide Use Limitation Summary Table

Product	AI	Use	Method	Form	Code
FYAFANON MALATHION INSECTICIDE (5905-196) Inactive: FYAFANON THE PREMIUM GRADE MALATHION	Malathion (NO INERT USE)	All Agricultural Uses	Aerial spray	Emulsifiable Concentrate	MA11
FYAFANON MALATHION INSECTICIDE (5905-196) Inactive: FYAFANON THE PREMIUM GRADE MALATHION	Malathion (NO INERT USE)	All Agricultural Uses	Ground spray	Emulsifiable Concentrate	MA11

Codes and Limitations Table

Code	Limitation
MA11	Follow one of these measures: 1. Apply malathion only before dawn or after dusk OR 2. Apply malathion only when wind is blowing away from Florida scrub and sandhill habitats OR 3. Use a 50-foot ground buffer from Florida scrub and sandhill habitats, and an aerial buffer from Florida scrub and sandhill habitats according to application rate: (1) 50 feet for <0.5 lbs ai/A; (2) 75 feet for 0.5 - <1 lb ai/A; (3) 150 feet for 1-2.5 lbs ai/A; (4) 200 feet for >2.5 lbs ai/A. Buffer sizes may be reduced by 25 feet for application rates (1) and (2) if a full swath displacement upwind is used during aerial application. Buffer sizes may be reduced by 50 feet for application rates (3) and (4) if a full swath displacement upwind is used during aerial application. Habitat: Scrub and sandhill habitats are generally open habitats with sandy soil seen in patches between the trees, shrubs, and other plants that live in the habitat. Scrub may or may not have trees. If there are trees, they tend to be widely spaced in the case of pine trees, or clustered together in clumps in the case of the shrub-like oak trees found in these habitats. Between the trees (if present) you will see a variety of shrubs, flowering plants, grasses, and lichens.

Implementation – Vulnerable Species Pilot Project

- Will be implemented over the next 18 months
- BLT reference language to be added to pesticide product labeling as part of normal registration and registration review actions
- Registrants can add through non-notification
- EPA will develop Bulletins for the initial set of 27 pilot species

Vulnerable Species Pilot

- Mitigation measures (applied broadly across different types of pesticides) for species with limited ranges & where pesticides have already been identified as a stressor for the species. ~27 species identified

Rodenticide Strategy

- Address effects to mammals & birds that consume rodenticide bait (1° consumers), & to birds, mammals & reptiles that consume 1° consumers

Rodenticide Biological Evaluation
Brodifacoum, Bromadiolone, Warfarin & Zinc Phosphide

Herbicide Strategy

- Focus on ESA-listed plants & those species that rely on plants
- Address spray drift & runoff transport from treated fields to minimize exposure

Insecticide Strategy

Fungicide Strategy

- Strategy to address vulnerable species that may be affected by fungicides

Organophosphate Biological Evaluation

- BE's: Acephate, Bensulide, Dimethoate, Ethoprop, Naled, Phorate, Phosmet & S,S,S-tributyl phosphorotrithioate
- Nationwide Scale Effects Determination: Dichlorvos (DDVP)
- Other AI's may be added if practicable

Compensatory Mitigation

Public Outreach (Draft White paper & Story Maps) conducted by 6/30/2023	45-day Comment Period for white paper	After outreach, determine if mitigations should be revised or more added by 12/30/2023	Determine how to expand the approach to other vulnerable species by 9/30/2024
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Mitigation measures developed for 3 representative species (1 mammal 1° consumer; 1 bird 1° consumer & a 2° consumer), 1 designated habitat & plan to consider expanding mitigations to apply to ~90 other ESA-listed species.	Mitigation measures for the representative species incorporated into Rodenticide PID's. Issued in 11/2022	Draft Rodenticide BE in 11/2023. Will consider the mitigations identified in Rodenticide PID's	Final Rodenticide BE no later than 11/12/2024
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Draft BE By 11/12/2023	60-day comment period (With option to extend BE's up to 60 days for good cause)	Final BE By 11/12/2024 (or adjusted accordingly due to possible comment extension)
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Draft Strategy 7/24/2023	60-day comment period	Final Strategy + Response to Comments Document By 5/30/2024	
After 3/30/24 - Strategy mitigation measures incorporated into PID's issued under EPA registration review program.		Group PID's, instead of chemical-specific, will be issued as appropriate.	60-day comment period for PID's

Draft Strategy By 7/30/2024	60-day comment period	Final Strategy + Response to Comments Document By 1/17/25 – 3/31/25	
After 3/31/25, Strategy mitigation measures incorporated into PID's issued under EPA registration review program.		Group PID's, instead of chemical-specific, will be issued as appropriate.	60-day comment period for PID's

Attempt to agree on Completion date no later than 8/31/2024

Track 1 - all 8 AI's	Draft BE By 3/31/2027	60-day comment period	Final BE By 9/30/2027
Track 2 Group 1 - 4 of 8 AI's Group 2 – 4 of 8 AI's	Draft BE Group 1 By 3/31/2026 Group 2 By 3/31/2027		Final BE Group 1 By 9/30/2026 Group 2 By 9/30/2027

Intervenors to organize & fund workshop to explore how offsets may be used to address effects of pesticide registrations. Anticipated to occur within 12 months of agreement date; but no more than 24 months of effective agreement date

Rodenticides in Vermont Wildlife

Rodenticides in Fishers 2020-2021 Results	
Number of Compounds Detected	Number of Fishers
ND	0
1	2
2	6
3	12
4	5
5	4
6	1

Rodenticides in Bobcats 2022 Results	
Number of Compounds Detected	Number of Bobcats
ND	10
1	5
2	8
3	12
4	6

Rodenticides in Vermont Wildlife

Compounds Detected

Consumer use:

- chlorophacinone
- diphacinone

Farm/Pest Control Use:

- brodifacoum
- bromadiolone
- difenacoum
- difethialone
- warfarin

Recommendations for Rodenticide Stewardship

- Use IPM Strategies** – baits should not always be the first step in rodent control
- Don't overapply** - apply labeled amount for target pest
- Maintain bait stations**- applicators are responsible for maintaining bait stations
 - *If a bait station is damaged and baits can be accessed, it is the responsibility of the applicator to remove the damaged station and replace it*
- Document inspections of bait stations** – good stewardship requires routine inspection
- Carcass removal** – Remove dead or dying rodents from the bait station and/or the surrounding areas.
 - *Carcasses are attractive to pets and wildlife and can result in poisoning of non-target animals*
- Replace Spoiled Bait** - spoiled bait is not effective in controlling rodents but remains a potential source of exposure to non-target wildlife and pets

Always read and follow the label including directions for use, PPE requirements, precautionary statements, and disposal statements.

Consumer Education Efforts



**To explore the Vermont Agency of Agriculture, Food and Markets, please visit: www.agriculture.vermont.gov

ALERT: RODENT BAIT **REQUIREMENTS FOR USE OF MICE OR RAT BAIT**

BAITS USED TO CONTROL MICE, RATS, AND MEADOW VOLES ARE PESTICIDES AND MUST BE USED PROPERLY.

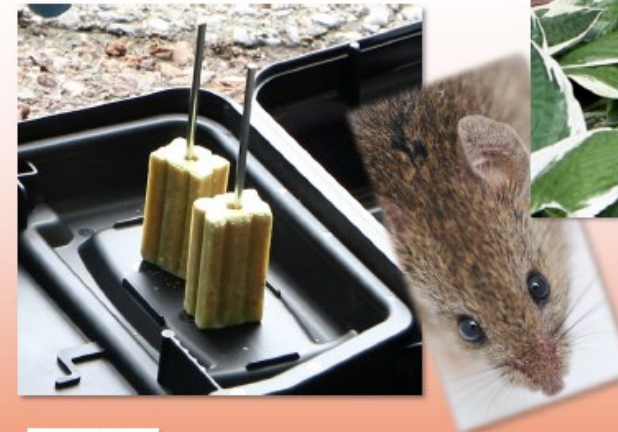
IMPROPER USE CAN RESULT IN POISONING OF CHILDREN, PETS, DOMESTIC ANIMALS, OR WILDLIFE.

IT IS ILLEGAL TO USE THESE BAITS OUTDOORS WITHOUT A BAIT STATION!

ALWAYS READ AND FOLLOW LABEL DIRECTIONS FOR USE

INDOORS

PLACE BAIT WHERE CHILDREN, PETS, DOMESTIC ANIMALS, AND WILDLIFE CANNOT REACH THE BAIT.



OUTDOORS

BAITS MUST BE PUT INTO A TAMPER RESISTANT BAIT STATION



THE VERMONT AGENCY OF AGRICULTURE, FOOD AND MARKETS
INVESTIGATES REPORTS OF PESTICIDE MISUSE.
INCIDENTS CAN BE REPORTED TO 802-461-7160



Questions

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