



SFIREG

State FIFRA Issues Research and Evaluation Group

August 6, 2023

Jan Matuszko, Director
Environmental Fate and Effects Division, Office of Pesticide Programs
Office of Chemical Safety and Pollution Prevention
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460-0001

Submitted electronically via Regulations.gov

RE: SFIREG Comments regarding EPA's Vulnerable Listed (Endangered and Threatened) Species Pilot Project: Proposed Mitigations, Implementation Plan, and Possible Expansion, Docket Number EPA-HQ-OPP-2023-0327

Dear Ms. Matuszko;

The State FIFRA Issues Research and Evaluation Group (SFIREG) and its working committees provide a platform for the states and US Environmental Protection Agency (EPA) to resolve challenges for successful implementation of pesticide programs and policies. SFIREG serves as a permanent standing committee of the Association of American Pesticide Control Officials (AAPCO), which works to represent states in the development, implementation, and communication of sound public policies and programs related to the sale, use, transport, and disposal of pesticides. SFIREG and the Joint Working Committee (JWC) are made up of various State Lead Agency (SLA) managers and scientist from around the nation that have responsibilities leading state FIFRA cooperative agreement regulatory programs. SFIREG has been working with EPA in coregulatory processes since 1978.

On behalf of SFIREG and our JWC, we appreciate the opportunity to comment on the topics related to the *Vulnerable Listed (Endangered and Threatened) Species Pilot Project: Proposed Mitigations, Implementation Plan, and Possible Expansion, Docket Number EPA-HQ-OPP-2023-0327*. Our comment letter provides perspectives related to the concepts and proposed policies located in the Vulnerable Species White Paper (white paper). State Lead Agencies (SLAs) around the nation have engaged in and support Endangered Species Act (ESA) work as it is related to pesticides and other ESA listed species recovery issues and processes. State governments, including some SLA pesticide programs, have extensive experience working

through science and recovery strategies with various local, state, and federal partners including the US Fish and Wildlife Service (FWS).

After review of the white paper through the 45-day review period, SFIREG and SLAs have considerable objections and concerns related to the contents and impacts of this white paper. Many aspects of this white paper were a complete surprise to SFIREG and SLAs. The comment period of 45 days was inadequate, and EPA did not allow for an extension of the comment period to at least 60 days. New EPA regulatory policies of this magnitude deserve an extensive review period and opportunities for follow-up with SFIREG and SLAs to provide input for improvement. SFIREG is concerned, that for the purpose of this white paper, the more detailed risk assessment science from EPA has not been presented thoroughly to support the level of the stringent regulations being proposed. SFIREG is concerned about this general risk type of science described in the white paper, and that the broad-based science approaches and the stringent proposals don't match up with what is required under both FIFRA and ESA. The needs of both ESA and FIFRA risk assessment requirements don't seem to line up in this white paper. The proposal should be revised to provide additional detailed work related to mitigations and possible regulation and recovery strategies that would capture the reasonable and likely scenarios of risk and how to recover the species in concert with the FWS recovery plans and requirements. SFIREG would recommend and encourage EPA to find more reasonable workable and implementable approaches for this white paper. We recommend that EPA reconsider the white paper policies of pesticide prohibition and the requirement for FWS approval of pesticide applications for areas within the vulnerable species project areas. SFIREG recommends that EPA work to create a process for gathering further input from SLAs, SFIREG, land grant university scientists and educators, additional endangered species scientists from state and federal governments, pesticide user groups, and national agricultural organizations. State governments and SLAs have experience around the nation to support efforts to protect listed endangered and threatened species, but SFIREG strongly opposes the broad-based pesticide use elimination and restrictions related to the species examples contained in the white paper. The concepts of the preemptive prohibition of pesticide use throughout millions of acres associated with the species mentioned in the white paper should not be pursued by EPA or applied generically to all endangered and threatened species in the nation. These policies will have substantial negative impacts to agriculture, SLAs, and education and training partners throughout the nation.

EPA provides no scientific foundation or criteria for creating these large geographic areas and species range maps and then applying a pesticide use prohibition restriction to those areas. After review of the white paper, pilot project web map tool, and the FWS Recovery Plans for each of the 27 species; it appears EPA has not achieved a scientifically based, iterative or collaborative recovery process for pesticides that is compatible with the FWS processes where pesticide use is concerned. In addition, the avoidance mitigations in the proposed pilot have tremendous negative ramifications on agriculture, crop production, forestry, and other sectors of society that might rely on legal and safe use of pesticides. Pesticide use in more urban and suburban and interface areas with agriculture, where some of these ESA pilot species also have considerable habitat, is not included in this white paper, which is a significant omission. The concepts in the white paper are of considerable concern to SFIREG as they're a significant and unnecessary departure from the EPA risk-based and risk benefit analysis approach.

The draft recovery plans for all the 27 white paper species don't recommend preemptive elimination of pesticide use or require more of an approval or permit options. The FWS recovery plans outline a variety of impacts to species and also described in many of the plans are the recommendations to use herbicides to prevent non-native plant invasions and maintain habitat for example. SFIREG has reviewed all the FWS recovery plans and maps for these species, and the EPA white paper concepts don't completely match up with the information in the recovery plans. The species and recovery plans included in this white paper are the following:

- Group of plant species in Lake Wales Ridge area of Florida (including [Avon park harebells](#) (*Crotalaria avonensis*), [Garrett's mint](#) (*Dicerandra christmanii*), [wireweed](#) (*Polygonella basiramea*), [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*)

This new EPA ESA pesticide policy, without the scientific risk assessments completed for each species and pesticides, will be difficult to be properly implemented when the supportive mitigation tools may not match the needs and adaptability for agriculture that is needed for the species recovery. SFIREG recommends improvements for better refinement of the EPA web mapped areas to refine the avoidance and habitat areas. The EPA web mapped areas don't

completely match up with the FWS mapping products in the recovery plans. SFIREG recommends that a team of EPA, FWS, and state officials work to improve the mapping systems and identify the locations of habitat that would be the focus of mitigation and protection.

SFIREG objects to the use of the generic broad range maps related to prohibition of uses, and suggests a reevaluation of the ranges, which should be focused on current and existing critical habitat and based on the PULA for the critical habitat and a mitigation zone around that critical habitat. This would be more effective in protecting the species while reducing critical impacts on agriculture, forestry, pesticide applicators, SLAs, and partners.

Primacy of SLAs

The white paper states that pesticide application is prohibited in the species ranges, 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 section also states that the applicator must coordinate with FWS at least 3 months prior to the application. SFIREG has several issues with this statement. Is EPA intending to require landowners, farmers, and applicators to be under a regulatory permit system similar to National PDES (NPDES) permits, that is administered by FWS? SLAs have primacy for the regulation of pesticides in the state, not FWS. This white paper implies that FWS would now be a co-regulator of pesticides. SFIREG and SLAs object to this new suggested shift in pesticide regulation policy. As regulators of pesticides, SLAs already have the ability to put restrictions in place and enforce label language that prohibits drift and environmental and/or endangered species harm. SLAs have the jurisdiction for these actions at the state level.

Lack of Ability to Respond to Pest Occurrence/Comply with Crop/Food Regulations

The white paper states that the applicator must coordinate with FWS at least 3 months prior to the application. This requirement will be very difficult to implement and isn't practical. Farmers can't predict when a pest problem is going to occur. Additionally, some pest control is required for commodity processing, marketing, and export standards and laws/rules. Without the required insect or disease control, producers would be unable to take their crops and produce to market or sell their commodities for processing; and may lose significant if not all income, as well as negatively impact the general food supply. Farmers can't predict when a pest problem is going to occur. Producers and applicators need to have the flexibility to react to pest pressures and also follow pest control rules, constraints, and marketing and expert rules.

SFIREG is also concerned that local FWS offices are not prepared to "coordinate" with the requests from thousands of farmers, landowners, and applicators. It is unlikely that FWS has the resources, structure, or staffing to deal with these requests, which may result in slow or failed responses and frustration on the part of requestors. SFIREG is concerned that frustrated farmers, landowners and applicators will then disregard all preemptive and mitigation proposals and apply their necessary pesticides in order to respond to pest pressure or regulation in a timely fashion. These unreasonable EPA proposals will result in serious societal issues of rampant lack of compliance and disregard to any enforcement authority, placing the SLAs in an extremely difficult position as the lead enforcement authority in states. A delay in "approval", or what

could be viewed as a permit from FWS, could cause a producer to either lose their crop or be in violation of ESA take when they make a decision to spray based on pest pressure and economical thresholds being at risk.

The 27 species listed in the white paper all have various kinds of area boundaries and estimated avoidance zones resulting in millions of acres arbitrarily being designated for the preemptive prohibition of pesticide use. The actual habitat areas are a very small fraction of the total areas. SFIREG recommends that EPA not create this preemptive prohibition of pesticide use, and work with partners in a science-based recovery mode while developing reasonable and effective mitigation measures that match the species needs with where the habitat is located. There should be a focus on the science aspects of how the species life cycle and patterns function, the location of the habitat, and work to create a process for state and user input to utilize specific measures that will be effective yet not overly burdensome to applicators and regulators.

SFIREG notes some large inconsistencies on how these areas are designated in these 27 pilot species. For some species, like the Powesheik Skipperling, only the species critical habitat was designated as an avoidance area, and an area extending 2,600 ft from the edges of the critical habitat was designated minimization area. For the Taylor's Checkerspot, the area for prohibition of applications was the estimated area of the entire species range in Oregon and Washington, which was designated as the avoidance area, along with the 2,600 ft extension from the edge of the avoidance area. The EPA maps for many of these species, such as the Taylor's Checkerspot, do not match up with the FWS recovery maps and result in the coverage of restrictions to millions of acres of agricultural and forest lands, and also urban and suburban areas. Many of the engendered species maps are broad areas that haven't been refined and the proposed pesticide restrictions will result in an inaccurate and over application of the proposed preemptive prohibitions and restrictions. This inconsistency between species results in vastly different systems to be put in place causing for a confusing system that is not supported by clear science and risk assessments, and results in an unbalanced approach to the new white paper policies by EPA.

Refining Pilot Species Coverages and Matching State, FWS and EPA Processes

SFIREG recommends that EPA work with SLAs, SFIREG, and others at the regional and state level to establish approaches based on refined PULA areas that are more closely associated with the essential area of critical habitat and are consistent with FWS recovery plans and state fish and wildlife agency work. SFIREG also suggests that EPA work to match the white paper concepts and science with the FWS recovery plans for each species. SFIREG suggests that this be a public process and include the opportunity for SFIREG, SLAs, state and local agencies, and other impacted agricultural groups to provide input and comment. In the FWS recovery plans, the FWS barely mentions pesticides as being the main issue with the pilot species. The recovery plans also don't have developed concepts for pesticide mitigation work that would assist in species recovery. Impacts to each pilot species is related to many other factors and pesticides are mentioned generally in these plans, but so are a number of other factors such as urbanization, development, loss of habitat due to a variety of reasons including agriculture, and climate change. FWS doesn't call for or recommend ceasing pesticide usage, or only allowing pesticide

use under the approval of FWS. SFIREG is concerned about this concept, and we recommend that EPA work further to bring the science and risk assessments in the process with the various partners. Herbicides are mentioned only a few times in the FWS recovery plans, but mainly related to controlling invasive plants for the recovery of habitat. Insecticides and fungicides are generally not mentioned in any of these FWS recovery plans. None of the mitigation measures that EPA mentions in the white paper; such as terraces, buffers, cover crops, mulching and tillage are listed in these FWS recovery plans. Specific recovery goals and measures to track success are sections that are included in the plans, but controlling or eliminating pesticide use is not mentioned in any of the FWS documents as a part of those recovery strategies. Under the FWS recovery plans, it is clearly outlined that recovery will be dependent on the federal, state, and local groups working together and the plans mention state and local agencies as partners for species recovery. The EPA white paper does not include the same strategic and planning language. SFIREG has considerable concerns about EPA building further regulatory strategies from the contents of this white paper, and we strongly encourage EPA to work with SFIREG and SLAs to make substantial policy and strategy updates.

The FWS recovery plans are important to provide guidance to the federal agencies, states, and other partners on methods of minimizing threats to federally listed species as well as measurable criteria, however they are guidance and not regulatory documents. The PULAs for these species should be limited to current critical habitat and buffer area around the critical habitat, not the historical range. Many areas would be removed from the most impactful and broad PULA zones. EPA needs to prioritize working with FWS to correct the range and critical habitat of the 27 white paper species and apply some new approaches that are based on more assessments and science and then EPA could move to expand the approach to all species beyond the pilot species. Efforts are underway by FWS and other partners to establish new populations of these species.

SFIREG recommends the removal of the strict Avoidance Mitigation requirements for these 27 white paper species. Many reports from around the nation for these species show that pesticides are not a critical factor in the loss of habitat for these 27 species, and in fact the FWS plans state that herbicide uses are needed to remove invasive weeds from the habitat areas. As these populations are established, or the critical habitat areas increased through stewardship, existing PULAs could be amended or new PULAs added. SFIREG recommends the removal of the strict Avoidance Mitigation requirements. Spray drift and runoff/erosion mitigations should be established for the critical habitat areas. The white paper (page 3) states that "*In fulfilling the requirements of ESA section 7(a)(2), EPA must use the best scientific and commercial data available*". However, at multiple times during the July 27, 2023, Vulnerable Species Pilot Q&A, EPA staff referred to still needing to meet with species experts and expressed that ranges could be further defined. Based on those EPA comments, it appears that this pilot project white paper was sent for publication and comment without taking time to bring further science and refinement forward in the white paper process. SFIREG and SLA welcome the opportunity to work with EPA to add more strategies and refinements to these processes for a more workable regulatory product.

Comprehension of pick list options for runoff and erosion mitigation

The EPA has made some strides in clarifying surface water runoff mitigation related to pick list practices. The removal and/or clarification of ambiguous and difficult to enforce terms like *area immediately upslope*, *eliminate or substantially reduce concentrated flow*, *heavy rains*, *low erosional risk plants/crops*, and sediment trapping cover is commendable. Pick list options, outlined in table 4, more clearly describes practices, and includes pick list options that may be easier to implement by some growers, but certainly not all. The white paper table 4 is still very generic and will not be applicable to all situations. SFIREG recommends more flexibility for landowners, growers, and applicators to match USDA based Field Office Technical Guide (FTOG) Practices Standards, and USDA Farm Services Agency (FSA) CRP practices that would work for their specific farms, commodities, growing conditions, and for the species to be protected. Below are some more details about USDA NRCS Practice Standards and FSA CRP practices that would apply to general erosion prevention, water quality protection, and species protection.

Some concern remains for pick list phrasing like “*Avoid Using Pesticides of a Highly Toxic Hazard Class to invertebrates.*” Applicators may not be familiar with the term invertebrate or how to determine the EPA’s toxic hazard classification is which would require the EPA to provide additional explanation for how applicators should interpret and locate this information. For example, while aquatic invertebrate and pollinator toxicity warnings are often listed under the Environmental Hazards section of a label, in their absence, it is unclear where toxic hazard classification statements would be found for listed invertebrate species.

Additional clarification for the runoff/erosion mitigation pick list practice “*40% rate reduction*” is needed. For example, Table 4 has a footnote that says state “*Rate reductions are based on the max single application. Rate reductions can be achieved via banded application, spot treatment, precision agriculture or sprayers.*” In this statement, it is not clear if applicators will get credit for this pick list practice if they only use 60% of the maximum single application rate without using any banded application, spot treatment, precision agriculture or sprayers. Additionally in this example, supplemental language should also be added to address concerns regarding pest resistance management associated with lower rates of application.

Runoff/erosion pick list practices may impact landowners and land operators unequally

The use of table 4 pick list options will put an unequal burden on growers depending on the grower's geographical region, cropping system, and/or economic background. In addition, some pick list options may be unavailable to some farmers. Pick list options anticipated to be unavailable to many mid-west farmers for various reasons include contour farming, terrace farming, construction of runoff retention ponds/water and sediment control basins, and/or establishing riparian buffers. Additionally, concern exists about the time, resources, and money that would be required to establish many of these mitigation measures.

USDA Natural Resources Conservation Service (NRCS) Practice Standards, Farm Services Agency (FSA) Practices, and Mitigation Measures

SFIREG recommends that EPA make reference to the land management mitigation practices develop by USDA Natural Resources Conservation Service (NRCS) and USDA Farm Services Agency (ARS) advisable and voluntary options for mitigation and to be implemented within a recognized state, federal or local Pesticide Stewardship Program and not make them label mandated mitigations. The EPA mentions this concept briefly in the white paper, but the complete concept isn't fully acknowledged or explained by EPA in the document. EPA also references MAGPIE, which is a useful mitigation strategy originating from SETAC Europe workshops and documents. The SETAC Europe effort is contained in the science document, *Mitigating the Risks of Plant Protection Products in the Environment: MAGPIE* (May, 2017) <https://www.setac.org/resource/magpie-epub-zip.html>.

SFIREG also recommends that EPA reference the actual numbering system for the NRCS type mitigation measures that are suggested and listed in the workplan. NRCS is the federal agency that defines the practice standards in the NRCS Field Office Technical Guide (FOTG) [Field Office Technical Guide | NRCS - USDA](#). Some of the mitigation measures listed by EPA are also from the USDA Farm Services Agency (FSA) Conservation Reserve Program (CRP) Practice Library <https://www.fsa.usda.gov/programs-and-services/conservation-programs/crp-practices-library/index>. Each state has the opportunity to amend practice standards typically through their state conservation commission and state NRCS and FSA offices, and state agencies and SLAs are active throughout the Nation in these activities. Also, Conservation Districts and Land Grant Universities participate in assessing and revising Practice Standard and CRP Practices. Updates to state level practice standards and priorities for NRCS and FSA cost share programs are made to each NRCS state conservationist through the NRCS State Technical Advisory Committee (STAC) and to FSA for each state. In this EPA white paper and also in the previous ESA workplan draft appendix, EPA is utilizing land management mitigations that are really NRCS and FSA practice standards from the FOTG and CRP guides, and EPA is also abbreviating or changing the intent and language of those standards to fit the workplan. Abbreviated and altered definitions of NRCS and FSA practice standards should not be used in EPA regulatory programs. There are concerns this will jeopardize the processes of NRCS and state programs to properly define and implement conservation practice standards, and the trust and work that it takes to gain landowner interest in complex voluntary cost share funding programs.

The FOTG and FSA guides contain the technical information for the state and field offices to utilize. The FOTG and FSA sections contain the necessary information and references for state and field offices technical service providers and planners to conduct their work with landowners. For every practice standard the NRCS and FSA has, detailed sections including general resource references, manuals, natural and cultural resource information, resource concerns and planning criteria, supporting documents, and conservation effects. These practice standards are foundational aspects of the FOTG and FSA guides and are specifically applied under cost share programs to support agriculture by managing agricultural practices and pesticide use for the

conservation of soil, water, air, and related plant and animal resources and can additionally support the protection of endangered species.

There are many practice standards that are missing from this white paper and also the previously published EPA ESA appendix. In the white paper, only a few practices or mitigation options are listed. We recommend that EPA incorporate the opportunity for decision making at the farm level to include all of the NRCS Practice Standards and FSA CRP Practices besides Contour Farming, Cover Crop, Vegetative Filter Strip, Mulching, Residue and Tillage management, Terraces, Grassed Waterways, Riparian Buffers, Constructed Wetlands, and Sediment Control Basins. The small number of practices listed in the white paper will not be viable or a complete list of options for all the types of dryland and irrigated farms through the many climatic zones of the nation. The simplicity of the listed items in Table 4 related to runoff/erosion measures is not a workable option or adequate decision-making model for the millions of acres of diverse agriculture and landscapes across all states and the nation.

Among other omissions from the NRCS and FSA lists, the EPA Table 4 does not include two important options that are currently utilized throughout the nation; Pesticide Management Conservation System (595) and Irrigation Water Management (449). When working with landowners in dryland and irrigated land settings, those two of the more important practices that are often discussed and implemented by landowners. Those two in particular are extensively utilized when NRCS does cost share work with growers related to pesticides and also for irrigated agriculture. Some states also have emphasized the use of Polyacrylamide (PAM) as an approved FOTG practice, which is the PAM (450) standard. The Anionic Polyacrylamide (PAM) (450) standard is commonly utilized in irrigated agriculture and can be utilized in a compatible package with Pesticide Management Conservation System (595), Irrigation Water Management (449), and other practices that involved vegetation, filter strips, and settling basins. Also, there are a variety of FSA Cropping Practices that are utilized such as CP-8A Grass Waterway, CP-15A Contour Grass Strips, CP-21 Filter Strip, CP-22 Riparian Buffers, CP-25 Rare and Declining Habitat, CP-42 Pollinator Habitat, CP-43 Prairie Strips, and many others are all important practices to list and utilize.

Landowners, growers, and applicators need to be able to work with NRCS and conservation districts to implement these practices and gain technical support and cost share opportunities. When the resource concern is pesticide related, NRCS and conservation districts typically work with landowners to focus on Pesticide Management Conservation System (595) initially and then add other complementary FOTG practices based on the resource needs and the planning process per farm. The focus of the work is based on the specific resource needs for each farm and their unique issues. NRCS, FSA and conservation districts are responsible for working with landowners and farmers on implementing voluntary cost shareable practices from the NRCS FOTG and FSA guides, and the processes to implement these Best Management Practices (BMPs) can take a series of years to implement and maintain. The rules on designing, engineering, installing, and paying for these practices are all very complex. These efforts have consistently shown to benefit soil and water resources and documented for use to support species recovery.

We encourage the EPA to take additional time to seek input from local and regional agricultural and watershed planning groups, state conservation commissions, conservation districts, state lead agencies for pesticide regulations and their partners, agricultural research and university extension experts, and USDA Agricultural Research Service (ARS) experts. This will provide additional input to assess national and local resource management systems and result in a more adaptive approach that will protect both ES species and agriculture. EPA should actively collaborate with the agricultural sectors in each pilot species area, with the many state agencies involved in resource management, including pesticide SLAs, and state Conservation Commissions and Conservation Districts. This collaboration will allow for a scientifically supported shift from the mitigations being proposed to a more variable and adaptable system that will be more economically and socially acceptable and benefit sustainability in agriculture and the recovery of ESA listed species. Farm practices and mitigation decisions are based on numerous factors and those often-voluntary practices and strategies are affected by many variables: the farm operation, farmer preference, crops, crop rotation, soils, slope, topography, weather, rainfall, irrigation, on-farm conditions, soil health, equipment available, pest pressure, nutrient needs, crop protection and input decisions, BMPs or NRCS FOTG Practice Standards.

As provided, the white paper provides just a few mitigations which is unnecessarily restrictive and will not be appropriate for every situation. This restrictive approach does not take into account other farm mitigation and practice standard, existing operational practices on the farm that are effective, and eliminates the opportunity to have an adaptive process. Implementation of voluntary BMPs or combinations of BMPS should be a decision made by the farmer, landowner, and contributing farm consultants, with, input from CD and NRCS staff so decisions are made that fit the farm, crops, soil type, and other unique factors.

Mitigations allowed, whether NRCS practice standards or other BMPs should be technically feasible, economically feasible, and acceptable to the farmers who are stewards of our land, resources and environment, including endangered species.

We encourage EPA to consider a mitigation system framework that can allow these three criteria to be met:

- Technical Feasibility - is based on research findings, field trials and years of practical field experience that demonstrate the BMP's effectiveness, alone or in combination with other component practices, in reducing the amount of nonpoint source pollution and impacts from agricultural activities.
- Economic Feasibility - is based on economic evaluation and practical experience that demonstrate the BMP to be cost-effective in reducing the amount of pollution from agricultural nonpoint source and agricultural activities.
- Acceptable - practices are those component practices that the responsible party is willing to apply and maintain, and with installation cost share and maintenance incentives.

There are many examples of agricultural soil erosion protection, watershed protection and ESA protection programs around the nation that should be looked at as workable examples. Modeling and adaptive farm planning with diverse FOTG practice standards can be combined with BMP

and management decisions with farmer input for a holistic systems approach for water quality and species protection. Many states diverse protection programs whether it's the Great Lakes areas, west coast, Midwest, Southeast, and the Chesapeake Bay Program states have implemented these types of approaches. Here are some other concepts that BMP programs in these regions and others have followed.

- As voluntary implementation occurs, there should be a mechanism to direct BMP implementation adjustments in watersheds with landowners and with support from CDs who can assist with BMP O&M assessments, and follow-up effectiveness monitoring. A continuing process of evaluation and implementation could occur.
- A combination of component practices can be determined by the farmer and local experts to be the most effective by agricultural activities.
- Buffers and associated BMPs should be decided locally to address site-specific issues.
- BMP package decisions are based on site-specific data gathered and analyzed by the landowner, farmer, and a trained and experienced resource specialist that may be assisting.
- Because of all these unique factors and decisions, the distinctive combination of site characteristics and natural resource objectives will result in BMP and component practice(s) implementation that can be applied uniquely by each farm and within each watershed without having to meet a prescriptive approach.
- A framework should be developed that capitalizes on the foundations of the Practice Standards contained in the NRCS Field Office Technical Guide (FOTG) and FSA guides. Practices are voluntary and not everyone farms based on NRCS Practice Standards and the FOTG, so the process needs to be adaptive.
- BMPs are modified over time by NRCS, CDs, and farmers as there are making improvement in technology through research and demonstration, change in crops and cropping systems, change in soil health knowledge and conditions, change in commodity pricing and economic conditions, change in social conditions, cost share and subsidy programs, and change in resource concerns.
- This kind of system is intended to be adaptive and can change through effectiveness evaluations through local level assessments with support from state and federal agency partners.
- There are also so many other issues at play and every farm and location is different. Localized producer decisions are the key to success.
- All of the USDA NRCS FOTG Practice Standards:
<https://www.nrcs.usda.gov/resources/guides-and-instructions/field-office-technical-guides> should be options for landowners, and for Washington State those are found at: <https://efotg.sc.egov.usda.gov/#/details>, and should be cited by number and name in the guidance.
 - As an example, the Washington State FOTG and all the practices and technical notes listed below can be found here: [Field Office Technical Guide \(usda.gov\)](#)
 - An Index of important Conservation Practice Standards & Support Documents that could be utilized with ESA and Pesticide mitigation in mind are the following:
 - Agrichemical Handling Facility (309)
 - Alley Cropping (311)

- Amending Soil Properties with Gypsum Products (333)
- Anionic Polyacrylamide (PAM) Application (450)
- Aquaculture Pond (397)
- Brush Management (314)
- Conservation Cover (327)
- Conservation Crop Rotation (328)
- Constructed Wetland (656)
- Contour Buffer Strips (332)
- Contour Farming (330)
- Contour Orchard and Other Perennial Crops (331)
- Cover Crop (340)
- Critical Area Planting (342)
- Cross Wind Ridges (588)
- Cross Wind Trap Strips (589)
- Dam (402)
- Dam, Diversion (348)
- Deep Tillage (324)
- Dike or Levee (356)
- Diversion (362)
- Drainage Ditch Covering (775)
- Drainage Water Management (554)
- Early Successional Habitat Development/Management (647)
- Fence (382)
- Field Border (386)
- Filter Strip (393)
- Forest Farming (379)
- Forest Stand Improvement (666)
- Grade Stabilization Structure (410)
- Grassed Waterway (412)
- Groundwater Testing (355)
- Hedgerow Planting (422)
- Herbaceous Weed Treatment (315)
- Herbaceous Wind Barriers (603)
- High Tunnel System (325)
- Hillside Ditch (423)
- Irrigation and Drainage Tailwater Recovery (447)
- Irrigation Canal or Lateral (320)
- Irrigation Ditch Lining (428)
- Irrigation Field Ditch (388)
- Irrigation Land Leveling (464)
- Irrigation Pipeline (430)
- Irrigation Reservoir (436)
- Irrigation System, Microirrigation (441)
- Irrigation System, Surface and Subsurface (443)
- Irrigation Water Management (449)
- Lined Waterway or Outlet (468)

- Mulching (484)
- On-Farm Secondary Containment Facility (319)
- Pasture and Hay Planting (512)
- Pest Management Conservation System (595)
- Pond (378)
- Pond Sealing or Lining – Geomembrane or Geosynthetic Clay Liner (521)
- Pond Sealing or Lining, Compacted Soil Treatment (520)
- Pond Sealing or Lining, Concrete (522)
- Precision Land Forming and Smoothing (462)
- Range Planting (550)
- Residue and Tillage Management, No-Till (329)
- Residue and Tillage Management, Reduced Till (345)
- Restoration of Rare or Declining Natural Communities (643)
- Riparian Forest Buffer (391)
- Riparian Herbaceous Cover (390)
- Saturated Buffer (604)
- Sediment Basin (350)
- Shallow Water Development and Management (646)
- Silvopasture (381)
- Sprinkler System (442)
- Stormwater Runoff Control (570)
- Stream Habitat Improvement and Management (395)
- Streambank and Shoreline Protection (580)
- Stripcropping (585)
- Structure for Water Control (587)
- Structures for Wildlife (649)
- Subsurface Drain (606)
- Surface Drain, Field Ditch (607)
- Surface Drain, Main or Lateral (608)
- Surface Roughening (609)
- Terrace (600)
- Tree/Shrub Establishment (612)
- Tree/Shrub Pruning (660)
- Tree/Shrub Site Preparation (490)
- Underground Outlet (620)
- Upland Wildlife Habitat Management (645)
- Vegetated Treatment Area (635)
- Vegetative Barrier (601)
- Vertical Drain (630)
- Water and Sediment Control Basin (638)
- Water Harvesting Catchment (636)
- Waterspreading (640)
- Wetland Creation (658)
- Wetland Enhancement (659)
- Wetland Restoration (657)

- Wetland Wildlife Habitat Management (644)
 - Wildlife Habitat Planting (420)
 - Windbreak/Shelterbelt Establishment and Renovation (380)
 - Windbreak/Shelterbelt Renovation (650)
 - Woody Residue Treatment (384)
-
- Various FOTG products should document FOTG Practice Standards that are a part of the tools available at conservation districts to support farm approaches to protect streams and ESA habitat and species.
 - There are also so many other issues at play and every farm and location is different.
 - The farm planning decisions need to be localized with the producers and the technical provider that is assisting with the farm planning.
 - We recommend including flexibility of the mitigation systems based on each ESA species recovery needs, habitat protection needs, watershed, pesticides to be management and mitigated, type of farm and crops, crop rotation, BEs and BiOps, EPA OPP pesticide labeling strategies to meet RPMs and RPAs, watershed modeling, dynamics of the lands and farms involved, and the overall economic, social, and cultural factors of implementing voluntary BMP programs with landowners.
 - EPA should look at all the diverse FOTG Practice Standards and develop checklists and credit systems for BLT and pesticide labels.
 - Some of the theories from EPA OCSPP and NOAA NMFS BEs, BiOps and the new ESA Work Plan come from the SETAC Europe effort and literature contained in the science document, *Mitigating the Risks of Plant Protection Products in the Environment: MAgPIE* (May, 2017) <https://www.setac.org/resource/magpie-epub-zip.html>
 - Information and literature from other mitigation programs and NPS Plan efforts around the nation would benefit EPA also, including for this white paper. Some of the states in the Chesapeake Bay Program area are conducting a variety of watershed modeling, mitigation approaches and have developed detailed guides that should be assessed and utilized. EPA should continue to seek additional information from other states and researchers in the Chesapeake Bay area and other regions to assess how BMP guides and research is being development and implemented. There are other programs to look at from around the nation also that contain mitigation strategies and policies that would be helpful for EPA look at and utilize.
 - These documents and programs would also be helpful to review:
 - <https://lancasterconservation.org/wp-content/uploads/Riparian-Forest-Buffer-Code-391-PDF.pdf>
 - <https://agbmps.osu.edu/bmp/riparian-forest-buffers-nrcs-391>
 - https://pnwagro.forestry.oregonstate.edu/sites/default/files/Fleenor_Riparian%20Buffer%20Considerations_III.pdf
 - <https://www.aftaweb.org/about/what-is-agroforestry/riparian-buffers.html>
 - https://www.chesapeakebay.net/documents/BMP-Guide_A.12_Forest-Buffers-and-Grass-Buffers_.pdf
 - https://www.chesapeakebay.net/documents/BMP-Guide_Full.pdf
 - https://www.chesapeakebay.net/documents/3a_Forest_Buffer_final.pdf

- https://www.chesapeake.org/stac/wp-content/uploads/2019/12/FINAL_STAC-Report_Multifunctional-Buffers_12.20.2019.pdf
- <https://chesapeakeforestbuffers.net/wp-content/uploads/2017/01/West-Virginia-Final-Report.pdf>
- Factors Affecting Farmers' Adoptions of Flexible Riparian Buffers Xiaogu Li (xql5271@psu.edu), Katherine Y. Zipp (kyz1@psu.edu) and James Shortle (jss15@psu.edu) Department of Agricultural Economics, Sociology, and Education, Penn State University Selected Paper prepared for presentation at the 2018 Agricultural & Applied Economics Association Annual Meeting, Washington, D.C., August 5-August 7
<https://ideas.repec.org/p/ags/aeal8/274007.html>
- https://dnr.maryland.gov/criticalarea/Documents/CriticalArea_BufferResourcesGuide.pdf
- <https://content.ces.ncsu.edu/agricultural-riparian-buffers>
- <https://www.arlis.org/docs/vol1/71303840.pdf>
- [The Agricultural BMP Handbook for Minnesota | Minnesota Department of Agriculture \(state.mn.us\)](https://www.state.mn.us/agriculture/)
- <https://bwsr.state.mn.us/minnesota-buffer-law>
- https://stormwater.pca.state.mn.us/index.php?title=Sediment_control_practices_-_Buffer_zones
- <https://wrl.mnpals.net/islandora/object/WRLrepository%3A2749>
- <https://extension.okstate.edu/fact-sheets/riparian-buffer-systems-for-oklahoma.html>
- <https://planning.hawaii.gov/czm/initiatives/coastal-nonpoint-pollution-control-program/hawaiis-implementation-plan-for-polluted-runoff-control/>
- <https://www.deq.idaho.gov/water-quality/surface-water/nonpoint-source-management-program/>
- <https://www2.deq.idaho.gov/admin/LEIA/api/document/download/15269><https://www.oregon.gov/deq/wq/programs/Pages/Nonpoint.aspx>
- <https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=3073#:~:text=This%20division%20explains%20how%20local,plans%20and%20land%20use%20regulations.>
- <https://www.oregon.gov/odf/board/Documents/fmp-hcp/rca-temp-protect-memo.pdf>
- <https://catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/em9040.pdf>
- <https://puyallup.wsu.edu/agbuffers/>
- <https://mrsc.org/Home/Explore-Topics/Environment/Critical-Areas-and-Species/Flexibility-in-Environmental-Regulation.aspx#buffer>
- <https://your.kingcounty.gov/dnrp/library/1992/kcr847.pdf>
- <https://www.epa.gov/sites/default/files/2019-02/documents/riparian-buffer-width-2005.pdf>
- Crop Science Society of America <https://www.crops.org/news/science-news/research-shows-more-riparian-buffer-strips-can-protect-our-waterways/>

- Association of Temperate Agro Forestry <https://www.aftaweb.org/latest-newsletter/temperate-agroforester/91-2005-vol-13/july-no-3/102-flexibility-needed-for-use-of-riparian-buffers-in-water-quality-trading.html>
- <https://access.onlinelibrary.wiley.com/doi/full/10.1002/jeq2.20149>
- https://www.skagitcounty.net/envisionskagit/documents/econw_finalreport.pdf
- https://salishsearestoration.org/images/f/fe/GEI_2002_agricultural_riparian_buffers.pdf
- <https://par.nsf.gov/servlets/purl/10212633>
- <https://puyallup.wsu.edu/agbuffers/>
- <https://www.iaagwater.org/saturated-buffer-batch-and-build>
- <https://www.extension.iastate.edu/news/saturated-buffer-field-day-be-held-july-25-near-slater>
- <https://www.cals.iastate.edu/inrc/wider-not-necessarily-better-iowa-state-research-seeks-optimize-saturated-buffer-design>
- <https://www.leopold.iastate.edu/files/pubs-and-papers/2013-06-funding-impact-brief-bear-creek-riparian-buffer-project.pdf>
- <https://www.extension.iastate.edu/smallfarms/what-riparian-buffer/>
- <https://www.nrcs.usda.gov/programs-initiatives/rcpp-regional-conservation-partnership-program/regional-conservation-partnership-program-2022-projects>
- <https://landstewardshipproject.org/wp-content/uploads/Multiple-Benefits-of-Ag-Report.pdf>
- <https://crops.extension.iastate.edu/cropnews/2020/07/measuring-conservation-and-nutrient-reduction-iowa-agriculture>
- <https://iowaagriculture.gov/crep>
- <https://store.extension.iastate.edu/product/Woodchip-Bioreactors-for-Nitrate-in-Agricultural-Drainage>
- <https://store.extension.iastate.edu/product/Applying-Woodchip-Bioreactors-for-Improved-Water-Quality> <https://northcentral.sare.org/resources/woodchip-bioreactors-for-nitrate-in-agricultural-drainage/>
- Iowa State University STRIPS Program and Research: <https://www.nrem.iastate.edu/research/STRIPS/>
- Washington State VSP Program: <https://www.scc.wa.gov/vsp>
- Oregon Pesticide Stewardship Program: <https://www.oregon.gov/oda/programs/pesticides/water/pages/pesticidestewardship.aspx>
- Michigan's Agriculture Environmental Assurance Program (MAEAP) <https://www.michigan.gov/mdard/environment/maeap>

Anticipated difficulty in applicator and/or inspector determination of avoidance habitat

Species avoidance bulletin language, such as that for the Winged mapleleaf and other species listed under table 3, relies on pesticide applicator interpretation of species habitat descriptions to determine where applications are prohibited. Concern exists on several levels for this approach:

- 1) Pilot species were, in-part, chosen for this pilot based on their vulnerability to pesticide exposure. However, many of these species' habitats, as described in table 3, outline aquatic environments that are infrequently targeted through legal, typical, pesticide use. Proposed avoidance mitigation may be unlikely to improve pilot species pesticide exposure issues since avoidance mitigation is limited to prohibiting applications to aquatic habitats (creeks, streams, and large rivers).
- 2) The lack of differentiated, designated avoidance PULAs, like those provided for species with designated critical habitats/ranges, is concerning because it leaves critical habitat determinations up to applicators who may not have the specialized knowledge to properly infer listed species location. This approach is further complicated due to the inclusion of multiple habitat descriptions (short, and detailed) within table 3. Use of the detailed habitat descriptions by applicators for purpose of determining the avoidance PULA could result in mis-categorization of habitat under evaluation. For example, an applicator is likely to be able to determine where a creek, stream, or large river is present (short habitat description); but may inaccurately classify an aquatic area where there is low sediment deposition, coarse and compact sand, and fast, clean moving water with low turbidity. Inclusion of detailed habitat descriptions may result in less conservative pesticide application practices.

These above issues also may apply to inspectors struggling to enforce these new bulletins. Finalized avoidance bulletin language should not require habitat interpretation by applicators or inspectors.

Improving Bulletins Live! Two (BLT), and Challenges expected with interpreting and enforcing proposed BLT bulletins for pesticide applicators and state lead agencies.

State lead agencies anticipate several challenges in enforcing newly proposed bulletin requirements because of the level of specialized knowledge required by applicators and state lead agency staff to interpret appropriate implementation of pick list measures. While information contained within the Draft Technical Support for Runoff, Erosion, and Spray Drift Mitigation Practices to Protect Non-Target Plants and Wildlife is useful in helping better understand how the EPA envisions these practices being implemented, technical guidance falls short of defining prescriptive design elements for each pick list practice. To follow the proposed bulletins, applicators will need to know key pieces of information about the land (water management practices) and agronomic practices (e.g., contour farming, cover crops, reduced tillage) utilized. Many applicators may not have such specialized knowledge, particularly if they are not the landowner or operator of the land.

Farmland in many parts of the United States is often owned and operated by different parties and inputs, like pesticide application, can be provided by a third, commercial, entity. In these scenarios, land managers and pesticide applicators may have no control over implementing large-scale changes to the land. The EPA should consider situations in which farmland is owned and operated by different parties. By requiring the use of land management practices through a bulletin's pick list, concern exists that the EPA is making an applicator responsible for the implementation of land management practices they do not control. The EPA should make it

abundantly clear, through training and outreach, who is to be held responsible for violations of pick list land management practices.

New label language will require applicators to visit and navigate multiple websites such as online weather services (to obtain information on the likelihood of future storms resulting in runoff), and Bulletin Live! Two (BLT) website (to identify regional ESA bulletin restrictions). Information obtained from these websites would then need to be interpreted and applied to the intended application site to determine if label requirements were met. Issues with enforcement of BLT bulletins containing seasonal mitigation are also anticipated by state lead regulators. Currently, the BLT website does not allow users to view bulletins retroactively, making reference to past mitigation requirements difficult and further necessitates the need for a recordkeeping requirement. Because these processes may be new to many applicators and state lead regulators, strong training and outreach by the EPA will be required. Additional funding through cooperative agreements would be beneficial for state lead agencies to assist the EPA with education and outreach for stakeholders and will be needed to educate and train SLA inspectors.

There is general widespread agreement from SLAs provide to SFIREG that specific label language referring to BLT is the correct and proper mechanism to notify applicators of changes with products for the protection of Endangered Species. Users and the regulators will need additional training on how to utilize BLT especially as new notices emerge. There are concerns about the latest utilization of species ranges, boundaries, and spatial coverages used in BLT and the applicability of these areas to pesticide applicator use locations. Understanding BLT can be difficult; some of the spatial coverages will be tricky to understand and not all applicators and users are able to navigate effectively within an online computer application and platform. Improving the mapping tools and the functionality of BLT could be helpful. We suggest platform options be added to allow searches by active ingredient, product name, state, county, watershed number, geospatial coordinates, and any other technological search tool that could be helpful. As it currently works, BLT is an inadequate geospatial platform and should be improved. We also recommend an application that could be utilized on mobile devices. Growers, applicators, registrants, and regulators would all benefit from an improved system and applications that could be accessed on mobile devices.

Concern over lack of record-keeping requirements

The draft plan for the EPA's Vulnerable Listed Species Pilot Project takes a holistic approach towards avoiding and minimizing pesticide impacts to a subset of listed pilot species. Mitigation guidance covers foreseeable, legal uses of pesticide products currently registered and provides new requirements for application methods, timing, and rates. This complex approach is nuanced and will require pesticide applicators to carefully read and understand site specific criteria to accurately and legally carryout pesticide applications in areas near pilot species and their habitat. Bulletins will require applicators to evaluate site-specific criteria related to wind direction, presence of wind breaks/shelters or other EPA specified buffers, PULA designations (avoidance vs minimization, and use of short vs detailed habitat description), broadcast spray droplet size, application method (aerial, ground, airblast), soil saturation, irrigation rates, weather forecast,

and local conservation practices currently in place for the intended application site. As the EPA works on implementing BLT bulletins, state lead regulators, often responsible for enforcing EPA's regulations, request the EPA to include record-keeping requirements for the above site-specific criteria to make assessment of label compliance possible "after the fact."

Concerns about other forms of pesticide exposure

While it is recognized that the EPA believes their approach is likely to capture a large portion of pesticide exposure for listed pilot species and their habitat, some concern still exists for alternate exposure pathways and/or pesticide users not covered by this pilot project. Exposure pathways related to treated seed and granular dust-off and consumption may still pose risk to listed pilot species and bulletin language does not address these other sources of pesticide exposure. While the EPA has targeted non-residential outdoor use sites, this may not adequately protect listed pilot species with designated critical habitats/ranges found in metropolitan, residential settings. For example, in parts of the mid-west, Rusty patch bumble bee may be more commonly found in metropolitan, residential settings than agrarian ones. By excluding certain pesticide users, such as urban/residential applicators and residents, the EPA may be missing an important routes of pesticide exposure for some pilot species like the Rusty patch bumble bee.

As SLAs and coregulators, SFIREG is looking to be supportive, to contribute to a workable mitigation and white paper approach that can protect listed species while fitting into national ES recovery plans and agricultural production systems. We recommend that EPA strive for the best science-based mitigations, which is a requirement of the Endangered Species Act and create guidance that will support our diverse agricultural systems and farmers SLAs in the regulatory processes. We question many aspects of the previous guidance and appendix update by EPA, and also this ESA white paper. We continue to provide a variety of scientific and technical information in our comment letters that we feel are helpful, but we doubt EPA considers these contributions as valuable based on the response. This ESA white paper as written will have very significant negative social and economic impacts for agriculture, rural economies, and has potential to imperil food security and availability. We are not sure how this ESA white paper will actually assist recovery of the ESA listed species as the concepts seem to solely focus on pesticide use and do not address the complexity of ES recovery plans Real world solutions must be implemented in coordination with landowners, state and local agencies, and other locally based technical service providers that can assist in actual tangible and effective recovery work. We strongly recommend reworking this white paper, and to involved SLAs, SFIREG and other partners in that revision, while utilizing a more adaptive approach that can be effectively paired with concepts from science-based approaches that have been found to be successful. Also, utilizing agricultural groups and researchers, state and local conservation district expertise, and the agricultural partners and producers at the state and local level is recommended.

Summary

In conclusion, we suggest EPA work to involve SLAs, SFIREG and the JWC to build a comprehensive and workable ESA and pesticide program that would provide for scientific

support for mitigation practices that would work for SLAs, NRCS, conservation districts, landowners, growers, applicators, and registrants. We recommend a broader pesticide and ESA team that would involve SLAs, NRCS, FSA, USDA Agricultural Research Service (ARS), USDA Office of Pest Management Policy (OPMP), Conservation Districts, agricultural land grant institutions, pesticide safety educators, and others around the country. Ideally these groups can contribute their experiences and science expertise to the process related to agricultural pesticide uses, comprehensive practices for water quality and ESA protection, and the FOTG and FSA guide expertise to assist in developing a workable and an acceptable ESA pesticide framework. SFIREG suggests that EPA hold an extensive national workshop or a series of working meetings with SFIREG, SLAs, and partners to develop a practical approach that is acceptable to SLA, SFIREG, and agriculture. We suggest that these efforts be funded and staffed properly by EPA and other partners like USDA, similar to other recent USDA programs such as the climate smart commodity work, where states, landowners and pesticide users can be supported for this important work. AAPCO also has a new Pesticide and ESA Workgroup that has been formed to assist in facilitating these types of engagement opportunities for sound regulatory and scientific system processes.

SFIREG and SLAs are focused on providing science-based information and consistent regulations for EPA, the public, stakeholders, and industry. We thank EPA for the opportunity to comment and to express our concerns on this issue.

We look forward to working with EPA on these important science and regulatory processes. Thank you for your consideration.

Sincerely,



Gary Bahr
SFIREG Chair

Science Liaison
Office of Director
Washington State Department of Agriculture
Olympia, Washington
c-360-349-0522
gbahr@agr.wa.gov

PC: Megan Patterson, AAPCO President
AAPCO Board
Full SFIREG
Amy Brown, POM Chair
Hotze Wijnja, EQI Chair
Amy Sullivan, AAPCO Executive Secretary