

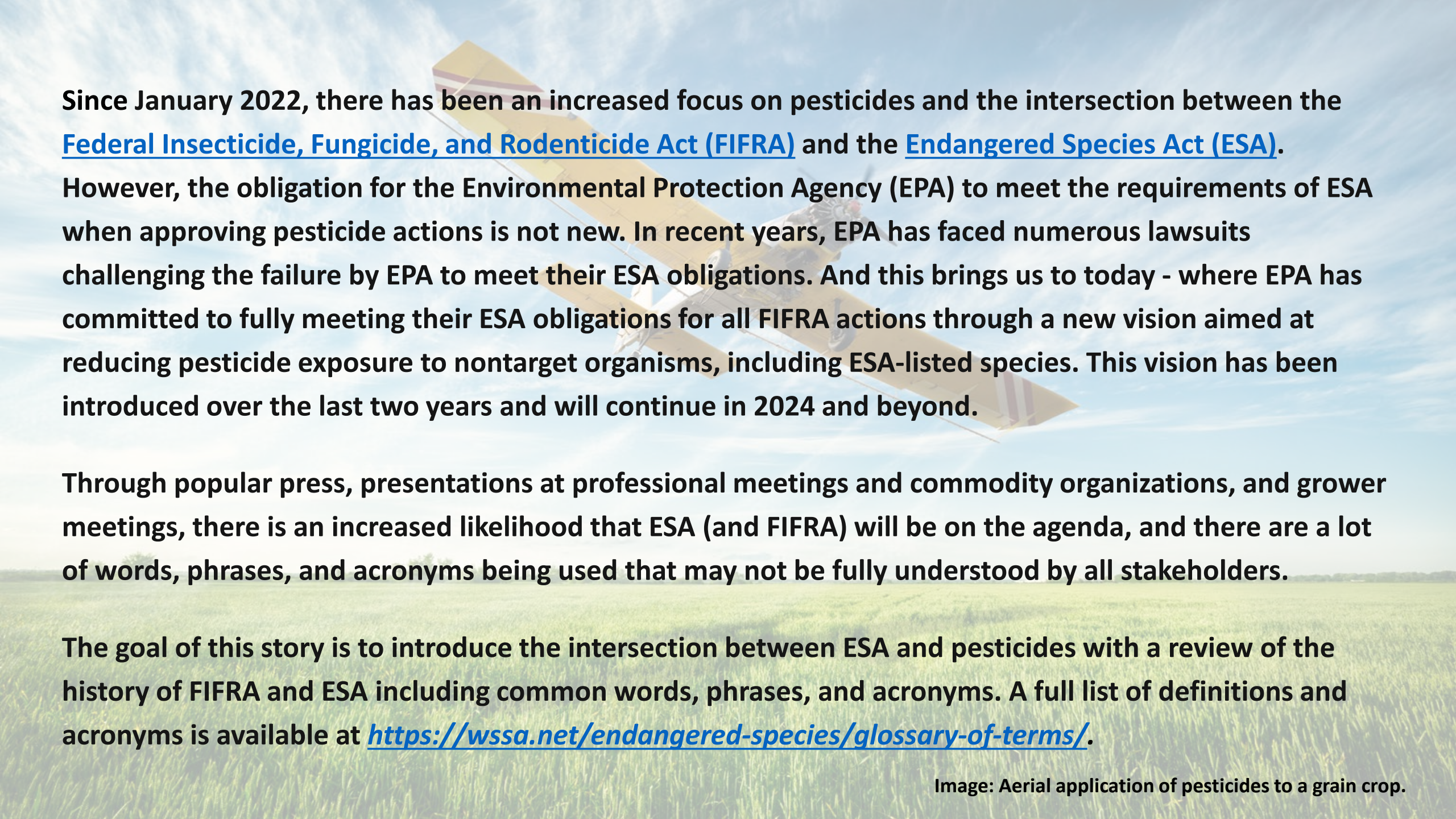
A red tractor with a white tank and a long spray boom is moving through a vast field of green crops, likely corn, under a cloudy sky. The tractor is positioned in the lower right quadrant of the frame, moving towards the left. The field is filled with rows of crops that stretch towards the horizon. The sky is filled with soft, white clouds, and the overall lighting suggests a bright, slightly overcast day.

The Endangered Species Act and Pesticides

An Introduction to FIFRA and ESA

Leah M. Duzy and Ashlea R. Frank, Compliance Services International

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The background of the entire page is a photograph showing an aerial view of a crop duster aircraft flying over a vast, green agricultural field. The sky is a clear, light blue with some wispy clouds. The crop duster is positioned in the upper center of the frame, moving from the top left towards the bottom right. The field below is a dense, vibrant green, likely a grain crop like corn or soybeans.

Since January 2022, there has been an increased focus on pesticides and the intersection between the [Federal Insecticide, Fungicide, and Rodenticide Act \(FIFRA\)](#) and the [Endangered Species Act \(ESA\)](#). However, the obligation for the Environmental Protection Agency (EPA) to meet the requirements of ESA when approving pesticide actions is not new. In recent years, EPA has faced numerous lawsuits challenging the failure by EPA to meet their ESA obligations. And this brings us to today - where EPA has committed to fully meeting their ESA obligations for all FIFRA actions through a new vision aimed at reducing pesticide exposure to nontarget organisms, including ESA-listed species. This vision has been introduced over the last two years and will continue in 2024 and beyond.

Through popular press, presentations at professional meetings and commodity organizations, and grower meetings, there is an increased likelihood that ESA (and FIFRA) will be on the agenda, and there are a lot of words, phrases, and acronyms being used that may not be fully understood by all stakeholders.

The goal of this story is to introduce the intersection between ESA and pesticides with a review of the history of FIFRA and ESA including common words, phrases, and acronyms. A full list of definitions and acronyms is available at <https://wssa.net/endangered-species/glossary-of-terms/>.

Events that Shifted FIFRA/ESA Policy

- 1947** 1st Version of FIFRA under the [United States Department of Agriculture \(USDA\)](#) required that persons register pesticides distributed in interstate commerce and established a rudimentary set of labeling provisions. Today, [FIFRA](#) is the federal statute that governs the registration, distribution, sale, and use of pesticides in the United States. With certain exceptions, a pesticide is any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, or any nitrogen stabilizer.
- 1970** [Environmental Protection Agency \(EPA\)](#) was established, and FIFRA was moved from USDA to EPA.
- 1973** The [Endangered Species Act \(ESA\)](#) was enacted as a response to the declining populations of many species of animals and plants. The Act was designed to protect and recover species at risk of extinction and to promote the conservation of ecosystems and habitats necessary for the survival of those species. The lead federal agencies for implementing the ESA are the US Fish and Wildlife Service ([FWS](#)) which is part of the US Department of the Interior and National Marine Fisheries Service (NMFS), which is part of the US National Oceanic and Atmospheric Administration ([NOAA](#)).

Who are the US Fish and Wildlife Service and National Marine Fisheries Service?

In 1871, President Ulysses S. Grant created the US Commission on Fish and Fisheries. The US Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) both trace their beginnings to the decision by President Grant to study and recommend solutions to declining fish populations and to promote fish culture.

"The **U.S. Fish and Wildlife Service**, working with others, is responsible for conserving, protecting, and enhancing fish and wildlife and their habitats for the continuing benefit of the American people through Federal programs relating to migratory birds, endangered species, interjurisdictional fish and marine mammals, and inland sport fisheries (Source: [Mission and Vision | U.S. Fish & Wildlife Service](#))."

"**NOAA Fisheries**, also known as the **National Marine Fisheries Service**, is responsible for the stewardship of the nation's ocean resources and their habitat (Source: [About Us | NOAA Fisheries](#))."

Complying with ESA

The ESA requires federal agencies (such as EPA), in consultation with FWS and NMFS, to ensure that actions - such as the registration or re-registration of pesticides - authorized, funded, or carried out by federal agencies (action agency) are not likely to jeopardize the continued existence of any species listed under the ESA or result in the destruction or adverse modification of designated critical habitat of such species. ESA also prohibits any action that causes "take" of any listed species of endangered fish or wildlife. Likewise, the import, export, interstate, and foreign commerce of listed species are all generally prohibited. *Source: [Summary of the Endangered Species Act | US EPA](#)*

To comply with the ESA, EPA (as the action agency) must conduct a national ESA biological evaluation (BE) for pesticide active ingredients, evaluating the potential effects of the pesticide on individual ESA-listed species and their designated critical habitats at the national (not local) level. If EPA determines that a pesticide "may affect" ESA-listed species, EPA must consult with the FWS and NMFS.

During the consultation process, the FWS and NMFS evaluate population-level effects on ESA-listed species and designated critical habitat in a biological opinion (BO) and provide EPA with measures, where needed, to avoid jeopardizing the continued existence of ESA-listed species. Measures and restrictions on the use of pesticides may be required to protect ESA-listed species. Depending on the active ingredient, the measures and restrictions could potentially impact all

end-users of pesticides since every county in the US has at least one ESA-listed species. These measures and restrictions must be addressed locally by the end-user.

It is important to note that the intersection between FIFRA and ESA is not new. After the ESA was enacted in 1973, EPA has been through numerous cycles of attempting to meet their obligations under ESA; however, each time their attempt has broken down at the implementation phase ([McGaughey and Culpepper, 2023](#)). For the last two decades, EPA has been embroiled in litigation related to ESA. In 2011, a lawsuit (the "megasuit") was filed against EPA alleging that it violated ESA when it registered or reevaluated 382 pesticide active ingredients; this was ultimately reduced to 35 active ingredients (including several organophosphate pesticides, rodenticides, insecticides, miticides, herbicides, and fungicides) covering over 1,000 pesticide products. Ongoing litigation, and threat of additional litigation, led EPA to announce their renewed commitment to comply with ESA and start holding stakeholder calls in January 2022.

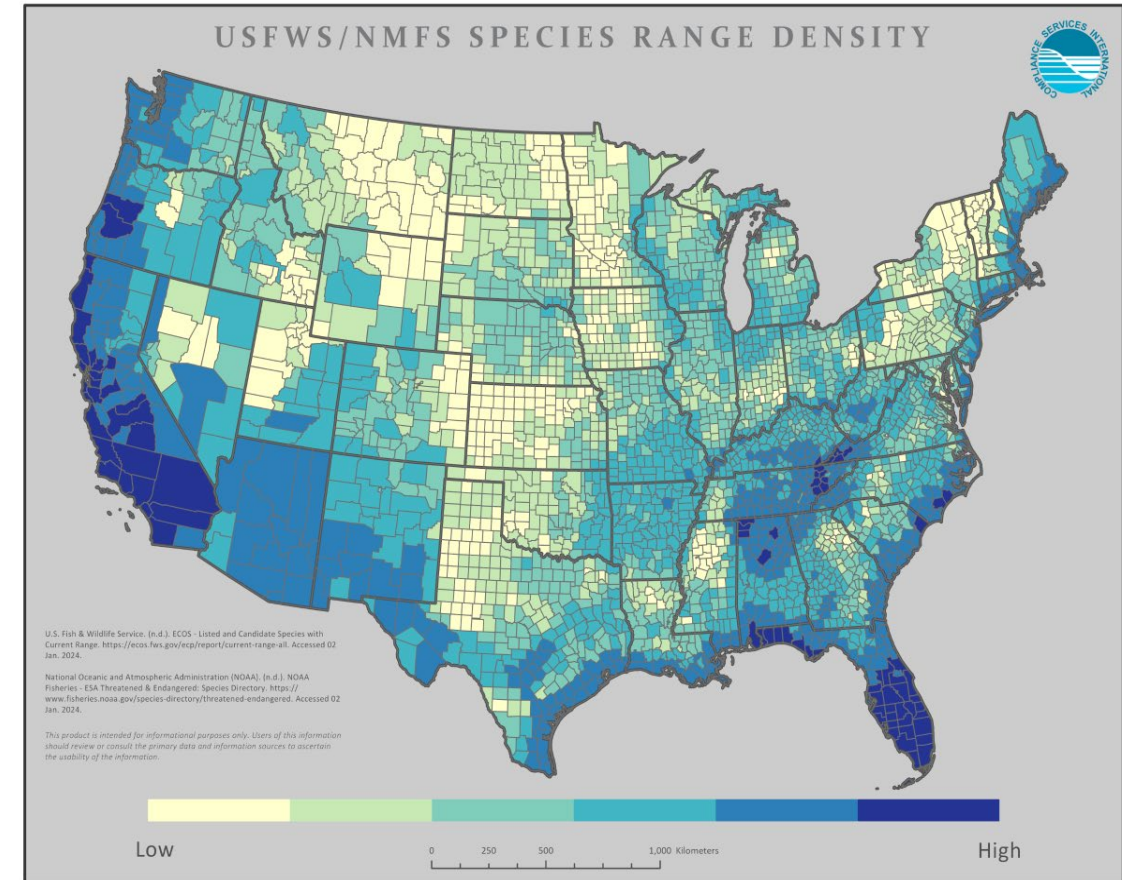


Image: There are nearly 1700 listed (endangered and threatened) species in the US, including Hawaii, Alaska, Puerto Rico, and the additional islands. Additionally, 80 more species are under consideration for listing.

Balancing Wildlife Protection and Responsible Pesticide Use: Implementing EPA's Workplan

January
2022

EPA announced their commitment to comply with ESA and started holding stakeholder calls. EPA also released their initial decision on the herbicides Enlist One and Enlist Duo.

April
2022

EPA released their workplan (*Balancing Wildlife Protection and Responsible Pesticide Use: How EPA's Pesticide Program Will Meet its Endangered Species Act Obligations*) outlining their ESA approach and introduction to early mitigation.



November
2022

EPA released their updated workplan ([ESA Workplan Update: Nontarget Species Mitigation for Registration Review and Other FIFRA Actions](#)) with 1) FIFRA Interim Ecological Mitigations (IEM, including a mitigation menu of measures) and other label language to meet FIFRA obligations and 2) mitigations for meeting ESA obligations including Endangered Species Protection Bulletins through [Bulletins Live! Two](#) and additional strategies to expedite progress on ESA Workplan initiatives, such as strategies for vulnerable species, herbicides, insecticides, and rodenticides.



November/
December
2022

EPA began implementing their workplan when they released proposed interim decisions (PIDs) for dicloran (DCNA), etofenprox, norflurazon, and the thiophanate-methyl/carbendazim (TM/MBC) that included some of FIFRA IEMs measures outlined in the Workplan Update. They also released ESA registration review documents for [methomyl](#), [carbaryl](#), and [rodenticides](#) that included early ESA mitigations for certain species. For the rodenticides, species-specific measures were released for three species representing different routes of exposure: Stephen's kangaroo rat, Attwater's prairie chicken, and California Condor.



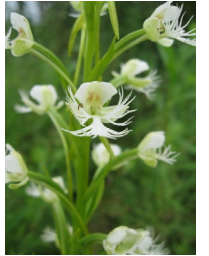
June 2023

EPA released the draft [Vulnerable Species Pilot \(VSP\)](#) project and associated [StoryMaps](#). There were 27 species in the draft VSPP, including the Rusty Patched Bumble Bee and Attwater's prairie chicken. According to EPA's website: "This effort is intended to ensure that EPA begins to adopt meaningful protections for species likely to be affected by pesticide use by incorporating mitigations into applicable registration and registration review decisions, even if consultation with the FWS and NMFS has not been completed or even begun."



July 2023

EPA released the draft Herbicide Strategy (HS), which was "[primarily designed to provide early mitigations that minimize impacts to over 900 federal endangered and threatened \(listed\) species and designated critical habitat for conventional herbicides used in agriculture, before completing effects determinations and, where necessary, consultation under the ESA.](#)"



September 2023

[ESA "Megasuit" settlement was finalized. The settlement attached court-ordered deadlines to EPA's updated workplan making the workplan now mandatory as far as the courts are concerned.](#)

November 2023

EPA continued meeting the court-mandated deadlines with the release of an [update on the draft Vulnerable Species Pilot \(VSP\)](#) project. EPA identified potential revisions to the draft VSP framework. Additional updates are expected in Fall 2024.



December 2023

As mandated in the "Megasuit" settlement, EPA released the [Draft Biological Evaluation \(BE\) relative to the potential effects of 11 rodenticides](#) on ESA-listed species and their designated critical habitats, and the proposed Draft Rodenticide Strategy.

**February
2024**

EPA and USDA signed a [memorandum of understanding \(MOU\)](#) to better align EPA's strategies for protecting endangered species from pesticides with USDA's National Resources Conservation Service (NRCS) practices.

**March
2024**

EPA with FWS hosted an invitation-only [workshop in Hawaii](#) as part of an initiative to streamline the pesticide consultation process for listed species in Hawaii.

April 2024

EPA issued an [update on its draft Herbicide Strategy](#) to describe some improvements planned by EPA to the Herbicide strategy with the goal of increasing flexibility and improving the ease of implementation while protecting listed species.

Expectations for 2024 and Beyond

The following timeline is general, and we know that deadlines can shift; however, significant shifts are unlikely since the timelines are court mandated. It also does not include all the other decisions that will be made by EPA, FWS, and NMFS. New pesticide registrations, new uses and other FIFRA actions will continue while the strategies are being drafted and finalized. It is important to note the EPA is conducting registration and registration review following the workplan update and interim ecological measures (IEM) will be included in these decisions, regardless of a final strategy.

No later than July 30, 2024

Draft Insecticide Strategy for agricultural uses

No later than August 30, 2024

The original deadline to finalize the Herbicide Strategy was May 30, 2024; however, on February 15, 2024, EPA announced that the deadline was extended to August 30, 2024.

No later than September 30, 2024

Update to the Vulnerable Species Pilot outlining how EPA can expand the approach used in the VSP to other selected vulnerable species.

No later than November 12, 2024

Final Biological Evaluations on the Rodenticides/Final Rodenticide Strategy

Looking on to 2025

Strategies for mosquito adulticides and residential uses

Role of Stakeholders

When it comes to pesticides, the list of stakeholders is long as pesticides are used across the landscape and use sites. When new decisions and strategies are released by EPA for comment, input from stakeholders through the comment period is vital to providing EPA with information on why and how products are applied at the local level, how decisions and strategies will impact end-users, and additional data on mitigation measures and other technologies that minimize the potential impact of pesticides on ESA-listed species.

References

McGaughey, B. and S. Culpepper. 2023. FIFRA and the Endangered Species Act Finding a Balance between Agricultural Efficiency, Environmental Sustainability, and Regulatory Stability. CAST. Available at: [FIFRA ESA \(cast-science.org\)](https://www.cast-science.org/fifra-esa).