

EPA's Final Herbicide Strategy for ESA: What Could Change

The following description has been endorsed by the Weed Science Society of America

1: What is the Endangered Species Act (ESA)?

The Endangered Species Act is a long-standing federal law, passed in 1973, requiring government agencies to ensure any actions they take do not jeopardize a species that has been [federally listed as endangered or threatened](#). When an agency has a proposed a project or an action that might affect a listed species or its habitat, they consult with the agencies responsible for the ESA, the [U.S. Fish and Wildlife Service](#) (terrestrial ESA species) or the [National Marine Fisheries Service](#) (aquatic ESA species). This is known as “**a consultation**” with “**the Services**”. The Services may then recommend changes to the project or action to protect listed species or habitats. A pesticide registration or reregistration under the Federal Insecticide Fungicide and Rodenticide Act (FIFRA) are actions that must also comply with the [Endangered Species Act](#).

Meeting this ESA responsibility is a formidable task, considering the tens of thousands of pesticide products and registration amendments for which EPA is required to review the potential effects for over 1,700 U.S. listed species. Due to previous lawsuits by environmental groups, the EPA has developed new strategies to protect endangered species and their habitats from pesticides. These include the [Vulnerable Species Action Plan](#), the [final Herbicide Strategy](#), the draft Insecticide and Rodenticide Strategies, and in the future the draft Fungicide Strategy. The EPA has also developed a draft “Hawaii Strategy” aimed at protecting ESA species from pesticide use in Hawaii since approximately 40 percent of all ESA listed species occur in Hawaii. The final protections will be described on pesticide labels and in bulletins located in the website [Bulletins Live! Two](#).

2: What is the Final Herbicide Strategy?

On August 20, 2024 the EPA released a “[Herbicide Strategy to Reduce Exposure of Federally Listed Endangered and Threatened Species and Designated Critical Habitats from the Use of Conventional Agricultural Herbicides](#).” This 79-page document reflects the EPA’s three-step process to identify runoff/erosion and spray drift mitigation to protect listed species and their habitats as part of EPA’s conventional herbicide registration and re-evaluation processes.

The Herbicide Strategy covers only conventional herbicides for agricultural uses in the lower 48 states. The mitigations identified in the strategy address potential impacts to listed plants (terrestrial, wetland, and aquatic), which are the types of species likely to be most impacted by herbicides. By identifying mitigations to protect plants, listed animal species that depend on plants would also be protected. This includes animals that depend on plants for food and shelter (habitat). By identifying and defining mitigations for these listed plant and animal species, EPA will consider and apply the Herbicide Strategy as appropriate in FIFRA herbicide registration and re-registration actions, which should result in reductions of population-level impacts to over 900 listed ESA species in the lower 48 states.

The Herbicide Strategy is not self-implementing and will require individual label changes. The strategy considers field and regional conditions and is intended to allow growers to select

mitigation options that work best for their situation. Herbicide labels will start to change within one to three years, but it may take several years for the process to be completed for all herbicides.

3: How will the Herbicide Strategy affect pesticide use?

In cases where a herbicide has the potential to impact listed species or their habitat, the EPA could require spray drift mitigations, and/or runoff/erosion mitigations on the product label with more restrictive mitigation in specific geographic areas called Pesticide Use Limitation Areas (PULAs). PULAs identify the critical areas where listed species are most likely to occur. The applicator will be required to visit [EPA's Bulletins Live! Two](#) to determine whether the field(s) are within listed species PULAs and have more restrictive mitigations in that area. The applicator can do this on the day of the herbicide application, but can also plan ahead and check up to 6 months prior to the application.

4: What about fungicides, insecticides, and rodenticides?

The EPA is developing strategies to protect threatened and endangered species and their critical habitat for all types of conventional pesticides. Similar to herbicides, EPA's strategies for fungicides, insecticides, and rodenticides will identify the need for, the level of, and the geographic placement of mitigations to protect endangered species.

5: How can I reduce spray drift?

Spray drift mitigations were developed to reduce the likelihood of impacts to listed species and designated critical habitat. EPA's mitigation approach includes minimum droplet size, maximum windspeed, and maximum release height requirements, as well as requirements for downwind spray drift buffers when needed. The maximum downwind buffer distances for different application methods are: aerial 0 to 320 feet, ground boom 0 to 230 feet, and airblast, in orchards for plant growth regulators (e.g., fruit and blossom thinning uses are included in the herbicide strategy), 0 to 160 feet. Chemigation applications for overhead and impact sprinklers do not have spray drift buffers but other mitigation measures may be identified. Applicators can use various mitigation strategies to reduce the size of the required downwind buffers. Some examples include using coarser droplet size, drift reducing adjuvant, hooded sprayers, treating a reduced proportion of the field, a drift reducing adjuvant, presence of downwind windbreaks, reducing the single application rate, or weather conditions that include relative humidity greater than 60% at time of application.

Each of these mitigations reduce the buffer as a percentage of the maximum and are additive such that two mitigations of 75% and 25% reduction would add to 100% reduction in the buffer requirement. Some managed areas can be included in the buffer area, for example: agricultural fields, roads, grassy areas next to field, or field borders. Some application methods are not prone to spray drift and will not require a buffer. Examples include: in-furrow sprays, tree trunk drench, tree injection, soil injection, or small area applications (< 1/10 acre or < 1,000 sq ft).

6: How can I reduce runoff/erosion?

[EPA's Mitigation Menu was developed](#) to reduce pesticide off-site movement via runoff or due to soil erosion. The product label and/or bulletins will outline mitigation requirements of 0 to 9

mitigation points that will depend on factors such as the herbicide used, crop, application parameters, and site-specific geographic conditions. EPA's Mitigation Menu Website includes descriptions of each mitigation and mitigation relief measure, cross references to NRCS conservation practice standards, and will include a runoff point calculator.

EPA's mitigation measures for erosion/runoff risk reduction include field characteristics like slope $\leq 3\%$ or predominantly sandy soil, in-field runoff mitigation measures (conservation tillage, contour farming, cover crops, in-field vegetative strips, management of irrigation water, or terrace farming), measures adjacent to the treated field (grassed waterway, vegetated filter strips, riparian area), and systems that capture runoff and discharge (water retention systems such as ponds or sediment basins), and application parameters (partial field treatment, reduced annual application rate, soil incorporation). If certain mitigation measures are in place, then no further runoff/erosion mitigations are needed: such as systems with permanent basins, tailwater return systems, or subsurface tile-drains with controlled drainage structures. Similarly, some application methods such as tree injection, soil injection, or small area applications (less than 1/10 acre or $< 1,000$ sq ft) are not prone to runoff/erosion and will not require further mitigation.

Each of these mitigations have a point value of 1 to 4 mitigation points. Other ways to receive mitigation points include working with a technical expert in runoff/erosion control, such as a USDA NRCS technical service provider or independent crop consultant in runoff/erosion control, participating in a conservation program to reduce runoff, or tracking mitigation measures used on their field. Mitigation points are additive for example if a grower uses three practices worth: 1 point, plus 2 points, plus 3 points, the three combined runoff/erosion control practices add up to 6 mitigation points. Thus, in this example if a herbicide for their crop or site requires 6 points this grower would have enough runoff/erosion mitigation points to use that herbicide.

7: Mitigation Relief Points for Runoff Vulnerability:

The EPA has determined that for counties with medium, low, and very low runoff potential, less runoff/erosion mitigation is needed to reduce risks to listed species. Therefore, the EPA assigned "Relief Points" based on runoff vulnerability that count toward the required mitigation points.

Counties with **medium runoff** vulnerability will receive 2 relief points, counties with **low runoff** vulnerability will receive 3 relief points, and counties with **very low runoff** vulnerability will receive 6 relief points. These points reduce the amount of additional mitigation that may be needed, such that a field in a county identified with 6 relief points due to very low runoff potential would not need to Implement any other runoff/erosion mitigations for a product that requires 6 mitigation points. Relief points will reduce mitigation needs for approximately 80% of cultivated agricultural acres and 95% of specialty and minor crop production acres.

8: Pesticide use in critical areas: Pesticide Use Limitation Areas (PULA)

The [EPA's Bulletins Live! Two](#) is a website designed to provide information for specific geographic areas (PULAs) where listed species or their critical habitat are found. If EPA requires additional mitigations in these areas, those pesticide-specific requirements will be outlined for each PULA The applicator will be required to check [EPA's Bulletins Live! Two](#) within

6 months of the application to determine whether the application site is in a PULA. If it is, the pesticide label and/or bulletins on the [EPA's Bulletins Live! Two](#) website would identify the amount or type of additional mitigation needed. The EPA is developing an approach to refine the PULAs (maps) where the listed species and their critical habitat are found. This refinement process is intended to ensure that additional mitigation steps are required where they are most needed to protect listed species and their habitat.