

Glyphosate, Atrazine, and Simazine Final Biological Evaluations Frequently Asked Questions

What is the significance of the “likely to adversely affect” findings for threatened and endangered species conservation?

EPA’s likely to adversely affect (LAA) findings are, on their own, not designed to determine how much a pesticide affects the conservation of a species listed under the Endangered Species Act (ESA). LAA findings focus on whether there are discernible effects to even one individual of a listed species or their designated critical habitat. Thus, EPA must make an LAA finding if it finds any likely adverse effects—regardless of whether the effects may have broader implications for the species’ conservation or recovery. For example, the likelihood of harm to even one bird of a species that exceeds 40,000 individuals is enough to trigger LAA. This is true even if the species’ status is improving or near recovery.

Pesticide effects on species recovery are considered during formal consultation, which begins after EPA submits its final biological evaluation to the U.S. Fish and Wildlife Service or the National Marine Fisheries Service. During formal consultation, the Service assesses whether the effects described in EPA’s biological evaluation are significant enough to “jeopardize” a species’ continued existence or “adversely modify” critical habitat. Only at that point does the consultation process consider pesticide impacts on species survival and recovery. Until that occurs, neither EPA nor the Services have determined the extent to which a pesticide might impact a species’ conservation status.

Could there be additional mitigation measures that EPA may need to adopt to protect threatened and endangered species from these herbicides?

Yes, EPA may adopt additional mitigation measures beyond those in the final biological evaluations. The mitigation measures in the final biological evaluations—which include buffers to sensitive habitats, use deletions, and restrictions regarding where applications can occur—are based on the current labels. EPA is considering additional mitigation measures, which may inform the consultation process and biological opinions. If the Services identify additional mitigation measures as part of formal consultation, they will include them in the biological opinions. Some of those measures may be tailored to the conservation needs of individual species, based on future discussions among EPA, the Services, and pesticide registrants.

What scientific methods did EPA use in the final biological evaluation?

The overall scientific methods used in the final biological evaluations follow the Revised Method for National Level Listed Species Biological Evaluations of Conventional Pesticides that EPA finalized in 2020. As described in the Revised Method, listed species risk assessments for pesticides consist of three steps. Steps 1 and 2 are represented by a biological evaluation, which considers whether any individual of a listed species is reasonably expected to be exposed to a pesticide and, if so, whether that exposure is likely to adversely affect the individual. EPA also applies this process to any designated critical habitat. The Revised Method does not apply to Step 3, also known as formal consultation, which evaluates

whether the adverse effects identified in steps 1 and 2 rise to the level of “jeopardizing” a species or “adversely modifying” critical habitat.

Analytical step	Step 1	Step 2	Step 3
Unit of analysis	Effects on individuals of a species.	Effects on individuals of a species.	Effects on the survival or recovery of the <i>entire</i> species.
Question being evaluated	Will the pesticide have any effect (positive or negative) on a listed species or critical habitat?	Is the pesticide “likely to adversely affect” (LAA) the listed species or critical habitat? The “take” of even one individual animal is enough to trigger LAA.	Is the pesticide likely to “jeopardize” a species or “adversely modify” critical habitat?
Output	A “may affect” or “no effect” determination. Proceed to step 2 if “may affect.”	A biological evaluation. Proceed to step 3 if LAA.	A biological opinion. Adopt mitigation measures to avoid any jeopardy or adverse modification.
Lead agency conducting analysis	EPA.	EPA.	U.S. Fish and Wildlife Service or National Marine Fisheries Service.

Did EPA consider real world pesticide usage data in the final biological evaluations?

Yes. Under EPA’s scientific methods for conducting biological evaluations, the agency considers real world data on pesticide applications, including how much, when, and where pesticides are applied. EPA evaluates these usage data to determine whether a species is likely to be adversely affected by a pesticide (step 2 in EPA’s biological evaluation development). Before incorporating usage data, EPA evaluates the quality and relevance of the data to determine their applicability, utility, and soundness. EPA considers the most recent 5 years of usage data to represent current labeled uses.

What types of species maps did EPA use in the final biological evaluations?

EPA used species maps that the U.S. Fish and Wildlife Service and the National Marine Fisheries Service made available as of November 2020. For some species, the U.S. Fish and Wildlife Service has uploaded to its website new maps in 2021. For the final biological evaluations, however, it was infeasible for EPA to rerun its spatial analysis and effects determination to incorporate the new maps, while still meeting its deadline for issuing the evaluation. Later in the consultation process for glyphosate, atrazine, and simazine, EPA may consider opportunities to incorporate updated spatial and other data as part of the ESA’s mandate to use the best available scientific and commercial data in section 7 consultations.

What is EPA doing to improve the pesticide consultation process?

Under the Biden-Harris administration, EPA is working actively with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, U.S. Department of Agriculture, and stakeholders to improve the process and outcomes of pesticide consultations. One of EPA's primary focuses is adopting targeted mitigation measures for listed species, so that pesticide effects are avoided, minimized, and/or offset. Further, EPA seeks to adopt the measures much earlier in the pesticide risk evaluation and ESA consultation processes, so that the likelihood of a "jeopardy" or "adverse modification" during formal consultation is lowered or eliminated. EPA is currently considering near-term and long-term options to adopt mitigation for listed species to augment the broader mitigation it adopts under FIFRA. In the next few months, EPA plans to provide the public with more information about its upcoming initiatives.