

Agencies should use common approach to evaluate risks pesticides pose to endangered species

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When determining the potential effects pesticides could pose to endangered or threatened species, the U.S. Environmental Protection Agency, National Marine Fisheries Service (NMFS), and Fish and Wildlife Service (FWS) should use a common scientific approach, says a new report from the National Research Council. Specifically, the agencies should use a risk assessment approach that addresses problem formulation, exposure analysis, effects analysis, and risk characterization.

Under the Federal Insecticide, Fungicide, and Rodenticide Act, before a pesticide can be sold, distributed, or used in the United States, EPA must ensure that it does not cause unreasonable adverse effects on the environment, which includes species that are listed as endangered or threatened and their habitats. Moreover, the U.S. [Endangered Species Act](#) requires federal agencies, including EPA, to consult with FWS and NMFS when a federal action "may affect" a listed species or its habitat. If EPA determines that a pesticide is "not likely to adversely affect" a listed species—and FWS or NMFS agrees—no further consultation is required. However, if EPA determines that a pesticide is "likely to adversely affect" a listed species, a formal consultation with FWS or NMFS is required, and FWS or NMFS determines whether a proposed action is likely to jeopardize the listed species and issues a biological opinion.

Over the last decade, questions have been raised regarding the best approaches or methods for determining the risks pesticides pose to listed species and their habitats. EPA, FWS, and NMFS have developed their own approaches because their legal mandates, responsibilities, institutional cultures, and expertise differ. Although the agencies have tried to resolve their differences in assessment approaches, they have been unsuccessful at reaching a consensus. As a result, the National Research Council was asked to examine the scientific and technical issues related to determining risks posed by pesticides to listed species.

The committee that wrote the report said that a common approach among the agencies is needed. The [risk assessment](#) paradigm that traces its origins to the Research Council reports Risk Assessment in the Federal Government: Managing the Process and more recently to Science and Decisions: Advancing Risk Assessment has become scientifically credible, transparent, and consistent; is reliably anticipated by all parties involved in decisions regarding pesticide use; and clearly articulates where scientific judgment is required and the bounds within which such judgments can be made. Such a process is used broadly for human-health and ecological risk assessments throughout the federal government.

If FWS and NMFS could build on EPA's analysis of whether a pesticide is likely to adversely affect a listed species rather than conduct a completely new analysis, the assessment would likely be more effective and scientifically credible, the committee determined. Furthermore, agreement among the agencies has been impeded by a lack of communication and coordination throughout the process. Therefore, the committee emphasized the need for coordination, which it views as necessary to ensure a complete and representative assessment of risk and that each agency's technical needs are met.

The committee examined several components of the risk assessment

process where better coordination and agreement would facilitate an integrated approach to examining risks to listed species and their habitats. These included evaluating methods for identifying the best scientific data available, assessing approaches for developing modeling assumptions, identifying geospatial information that might be used in the risk assessment, reviewing approaches for characterizing effects, analyzing the scientific information available for estimating effects of mixtures and inert ingredients, and examining the use of uncertainty factors to account for gaps in data.

Provided by National Academy of Sciences

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