

CAN'T WE JUST ALL GET ALONG: RECONCILING PESTICIDE USE AND SPECIES PROTECTION

Jaclyn Lopez^{*}

It is widely acknowledged that pesticides impact the environment and wildlife in deleterious ways. The Environmental Protection Agency (“EPA”) registers and oversees the use of over one billion pounds of pesticides in the United States each year to control weeds, insects and other organisms. Yet for decades the EPA has been notoriously derelict in its duties to comply with the Endangered Species Act (“ESA”), specifically Section 7(a)(2), which requires the EPA, in consultation with U.S. Fish and Wildlife Service and National Marine Fisheries Service, to ensure that the pesticides it registers do not harm imperiled species. Indeed, by virtue of its Section 7 failures, the EPA is also in violation of Section 9 of the ESA for the take of listed species, which results from pesticide applications. Similarly, the EPA has not met its regulatory obligations with respect to Sections 7(a)(1) and 2(c) of the ESA.

The EPA identifies the process of initiating Section 7 consultation as a major hurdle to complying with the ESA. After decades of protracted litigation between the EPA, the Services, and environmental nonprofits, the National Academy of Sciences (“NAS”) convened a study to review technical and scientific issues regarding the assessment of the risks posed by pesticides to listed species, which the agencies had hoped would address the consultation stalemate. While the NAS report proposes some scientific recommendations that may facilitate the consultation process, it expressly acknowledges that it does not address the significant political and policy obstacles that appear to retard the EPA’s efforts to comply with the ESA.

This article argues that the EPA should suspend the registration of all new pesticides until it can comply with its mandates under the ESA. It demonstrates that the Federal Insecticide, Fungicide, and Rodenticide Act (“FIFRA”) grants the EPA the authority to suspend registration and that the ESA, supported by over twenty years of case law, mandates compliance.

^{*} Florida Director and Staff Attorney, Center for Biological Diversity. LL.M. in Environmental and Land Use Law, University of Florida Levin College of Law, 2014; J.D., University of Denver Sturm College of Law, 2008. I would like to thank Justin Augustine, Collette Adkins Giese, and Brett Hartl, attorneys at the Center for Biological Diversity, for their tireless efforts to protect hundreds of imperiled species from harmful exposure to pesticides.

I. INTRODUCTION.....	185
II. THE ENDANGERED SPECIES ACT.....	187
<i>A. Section 7 Consultation.....</i>	<i>188</i>
<i>B. Other Relevant Sections.....</i>	<i>192</i>
III. THE ESA AND FIFRA IMPASSE.....	192
<i>A. The EPA's Regulatory Authority Under FIFRA.....</i>	<i>193</i>
<i>B. ESA-FIFRA Litigation History.....</i>	<i>195</i>
<i>C. Failure to Complete Consultation—California Red- legged Frog Case Study.....</i>	<i>196</i>
IV. NATIONAL ACADEMY OF SCIENCES RECOMMENDATIONS.....	198
<i>A. NAS Findings.....</i>	<i>198</i>
<i>B. Recommendations.....</i>	<i>200</i>
V. CONCLUSION.....	202

I. INTRODUCTION

It is widely acknowledged that pesticides impact the environment and wildlife. Scientists have published volumes of studies documenting the impact of registered pesticides on this topic. The Environmental Protection Agency (“EPA”) registers and oversees the use of approximately one billion pounds of pesticides that are used each year in the United States to control weeds, insects and other organisms.¹ A U.S. Geologic Survey report regarding pesticides in United States waters found that:

At least one pesticide was detected in water from all streams studied and . . . pesticide compounds were detected throughout most of the year in water from streams with agricultural (97 percent of the time), urban (97 percent), or mixed-land-use watersheds (94 percent). In addition, organochlorine pesticides (such as DDT) and their degradates and by-products were found in fish and bed-sediment samples from most streams in agricultural, urban, and mixed-land-use watersheds—and in

¹ ROBERT J. GILLIOM ET AL., U.S. GEOLOGICAL SURVEY, THE QUALITY OF OUR NATION'S WATER: PESTICIDES IN THE NATION'S STREAMS AND GROUNDWATER, 1992–2001, at 1, 22 (rev. 2007). See also Wesley W. Stone et al., *Pesticides in U.S. Streams and Rivers: Occurrence and Trends During 1992–2011*, 48 ENVTL. SCI. & TECH. 11025 (2014).

more than half the fish from streams with predominantly undeveloped watersheds.²

Pesticides also adversely affect terrestrial species. One study found:

[C]ontinued use of rodenticides under current conditions presents a significant level of risk to birds and nontarget mammals.

....

Secondary exposure to brodifacoum has been implicated in mortality events involving the following: several species of owls, hawks, and vultures; bald and golden eagles; corvids, coyotes, bobcats, and mountain lions; raccoons, the long-tailed weasel, striped skunk, opossum, red and gray foxes; and the Federally endangered San Joaquin kit fox.³

Despite the well-known deleterious effects of pesticides on the environment and wildlife, the EPA continues to fail to comply with the Endangered Species Act (“ESA”), specifically Section 7(a)(2)’s requirements that it consult with the U.S. Fish and Wildlife Service (“FWS”) and National Marine Fisheries Service (collectively the “Services”) in its registration and oversight of pesticides. Due to its Section 7 failures, EPA is also in violation of Section 9 of the ESA for the take of listed species, which results from pesticide applications. EPA, through its pesticide program, also has not met its regulatory obligations with respect to Sections 7(a)(1) and 2(c) of the ESA.

The EPA identifies the process of initiating consultation as a major hurdle to engaging in the required consultation. Specifically, the EPA maintains that the effects determinations it conducts in anticipation of consultation are deemed insufficient by the FWS. The FWS, in turn, refuses to initiate consultation, requiring that the EPA provide additional scientific data, which the EPA refuses to produce.⁴ As a result, in 2013, the National Academy of Sciences (“NAS”) published a study to help address the lack of consensus between the FWS and the EPA on approaches to assessing the risks of pesticides to listed species.⁵ While the NAS report proposes some scientific recommendations that may facilitate the consultation process, it expressly acknowledges that it

² U.S. GEOLOGICAL SURVEY, PESTICIDES IN THE NATION’S STREAMS AND GROUND WATER, 1992–2001—A SUMMARY I (2006).

³ Letter from Everett Wilson, U.S. Fish & Wildlife Serv., to Kelly White, Env’tl. Prot. Agency (Feb. 28, 2005) (on file with author).

⁴ See *infra* pp. 196–97.

⁵ NAT’L RESEARCH COUNCIL, ASSESSING RISKS TO ENDANGERED AND THREATENED SPECIES FROM PESTICIDES (2013), available at http://www.nap.edu/catalog.php?record_id=18344

does not address the significant political and policy obstacles that appear to retard the EPA's efforts to comply with the ESA.

This article argues that the EPA should suspend the registration of all new pesticides until it complies with its mandates under the ESA. It demonstrates that the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA") grants the EPA the authority to do so and that the ESA, supported by twenty years of case law, mandates compliance. Part I describes the relevant parts of the ESA, highlighting the regulatory structure of Section 7(a)(2) which addresses how the EPA engages in interagency consultation. Part II discusses the interaction between the EPA's pesticides registration authority under FIFRA and its consultation obligations under the ESA. It also outlines the EPA's duties under FIFRA, briefly chronicles FIFRA-ESA litigation history, and looks to the California red-legged frog as a case study illustrating the EPA's failure to comply with the ESA. Part III describes the NAS report and its findings, discusses why the report will not result in the EPA coming into compliance with the ESA, and offers recommendations to remedy that non-compliance. The article concludes that the EPA should suspend pesticide registrations for pesticides that may affect listed species until EPA has completed Section 7 consultation and has implemented any reasonable and prudent measures or alternatives proposed by the Services.

II. THE ENDANGERED SPECIES ACT

The ESA is our nation's strongest environmental law providing protection for imperiled species.⁶ Congress enacted the ESA to provide a "means whereby the ecosystems upon which endangered species and threatened species depend may be conserved . . . [and] a program for the conservation of such endangered species and threatened species . . ."⁷ The ESA expressly states that it is "the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this [Act]."⁸ It defines "conservation" to mean "the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this [Act] are no longer necessary."⁹

⁶ Endangered Species Act of 1973, 16 U.S.C. §§ 1531–1544 (2012).

⁷ *Id.* § 1531(b).

⁸ *Id.* § 1531(c)(1).

⁹ *Id.* § 1532(3).

The ESA authorizes the Secretaries of the Department of Commerce and the Department of the Interior to administer and enforce the statute. The Secretaries of Commerce and Interior have delegated this responsibility to the National Marine Fisheries Service (“NMFS”) and the U.S. Fish and Wildlife Service (“FWS”), respectively.¹⁰ Other federal agencies, including the EPA, must “utilize their authorities in furtherance of the purposes of [the ESA] by carrying out programs for the conservation of endangered species and threatened species listed” under the statute.¹¹ Additionally, federal agencies are required to engage in consultation with the Services to “insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species . . . determined . . . to be critical”¹² Consultation is required for “any action [that] may affect listed species or critical habitat.”¹³

Despite this clear congressional mandate, the EPA has for years failed to meet its obligations under the ESA in its role administering FIFRA. It has not consistently initiated or completed consultation with the Service under Section 7(a)(2) absent litigation or threat of litigation. Through this failure, the EPA is also in violation of Sections 9, 7(a)(1), and 2(c) of the ESA. Only the completion of consultation and adoption of Service-recommended measures will satisfy the mandates of the ESA and ensure that our nation’s imperiled species are protected from the use of harmful pesticides in the United States.

A. Section 7 Consultation

To satisfy the substantive purposes of the ESA, all federal agencies are required to engage in consultation with the Services for any action they authorize, fund, or carry out to ensure the federal action does not “jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat” of any species.¹⁴ This requirement is known as Section 7

¹⁰ 50 C.F.R. § 402.01(b) (2014).

¹¹ 16 U.S.C. § 1536(a)(1) (2012). *See also* Fla. Key Deer v. Paulison, 522 F.3d 1133, 1145–46 (11th Cir. 2008) (stating that “section 7(a)(1) imposes a judicially reviewable obligation upon all agencies to carry out programs for the conservation of endangered and threatened species”).

¹² 16 U.S.C. § 1536(a)(2) (2012).

¹³ 50 C.F.R. § 402.14(a) (2014).

¹⁴ 16 U.S.C. § 1536(a)(2) (2012). To “jeopardize the existence of” means to “engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.” 50 C.F.R. § 402.02 (2014). “Adverse

consultation, which must occur for “any action [that] may affect listed species or critical habitat.”¹⁵ Agency “action” is defined in the Services’ implementing regulations to include “the promulgation of regulations;” “the granting of licenses, contracts, leases, easements, rights-of-way, permits, or grants-in-aid;” and “actions directly or indirectly causing modifications to the land, water, or air.”¹⁶

To satisfy this mandate, the ESA requires interagency consultation between the expert agency, the Services, and the action agency (here, the EPA). The EPA may initiate either formal consultation or optional consultation pursuant to 50 C.F.R. § 402.46. With formal consultation, the action agency must assess the effects of its actions on endangered species and if it determines that its proposed action “may affect listed species or critical habitat” it must engage in formal consultation with the Services.¹⁷ Under optional consultation, the EPA submits a written request for consultation and an effects determination to the Service.¹⁸ The Service must then either provide the EPA a draft statement modifying and adopting the effects determination or provide the EPA with a draft biological opinion.¹⁹

Under either formal consultation or optional consultation, the ESA requires that the agency conclude consultation at the earliest time possible, or within at least ninety days, in order to ensure that the action agency is not jeopardizing listed species or their critical habitats.²⁰ There are few exceptions to this ninety-day deadline. Under formal consultation, the Services and the EPA may agree to extend the deadline “provided that the Service submits to the applicant, before the close of 90 days, a written statement setting forth: (1) the reasons why a longer period is required, (2) the information that is required to complete the consultation, and (3) the estimated date on which the consultation will be completed.”²¹ This consultation “cannot be extended for more than

modification” means “a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical.” *Id.*

¹⁵ 50 C.F.R. § 402.14(a) (2014).

¹⁶ *Id.* § 402.02.

¹⁷ *Id.* § 402.14(a).

¹⁸ *Id.* § 402.46(a). An effects determination means a determination as to whether an action has “no effect” upon an ESA-listed species or designated critical habitat, “may affect but is not likely to adversely affect” an ESA-listed species or designated critical habitat, or “may affect and is likely to adversely affect” an ESA-listed species or designated critical habitat. *Id.* § 402.40(b).

¹⁹ 50 C.F.R. § 402.46(c)(1) (2014).

²⁰ 16 U.S.C. § 1536(b)(1)(A) (2012); 50 C.F.R. §§ 402.14(e), 402.46(c)(1) (2014).

²¹ 50 C.F.R. § 402.14(e) (2014).

60 days without the consent of the applicant.”²² Under optional consultation, the Services “may determine that additional available information would provide a better information base for the effects determination, in which case the [Service] Director shall notify the EPA Administrator within 45 days of the date the Service receives the effects determination.”²³ The notification must “describe such additional information in detail” and “identify a means for obtaining that information within the time period available for consultation.”²⁴ Communication exchanges between the Services and the EPA do not extend the time for conclusion of consultation.²⁵

The Services’ joint consultation handbook explains that an action agency may make a “no effect” determination, and thus avoid consultation when “the action agency determines its proposed action will not affect listed species or critical habitat.”²⁶ The Services define “may affect” as “the appropriate conclusion when a proposed action may pose *any* effects on listed species or designated critical habitat.”²⁷

An action agency must determine whether the federal action is “not likely to adversely affect” (“NLAA”) a listed species or is “likely to adversely affect” (“LAA”) a listed species.²⁸ The Services define NLAA as “when effects on listed species are expected to be discountable, insignificant, or completely beneficial.” Discountable effects are those that “a person would not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects; or (2) expect discountable effects to occur.”²⁹ The action agency is not required to make a determination as to whether the action would result in population level changes in order to move to formal consultation.

The Services conclude consultation with a biological opinion that determines whether the agency action is likely to jeopardize the species. For agency actions that will result in jeopardy, the Service with jurisdiction proposes and requires “reasonable and prudent alternatives” that will avoid jeopardy and allow the agency to proceed with the

²² *Id.*

²³ *Id.* § 402.46(b).

²⁴ *Id.*

²⁵ *Id.* § 402.46(a).

²⁶ U.S. FISH & WILDLIFE SERV. & NAT’L MARINE FISHERIES SERV., ENDANGERED SPECIES CONSULTATION HANDBOOK: PROCEDURES FOR CONDUCTING CONSULTATION AND CONFERENCE ACTIVITIES UNDER SECTION 7 OF THE ENDANGERED SPECIES ACT 3-12 (1998) [hereinafter CONSULTATION HANDBOOK].

²⁷ *Id.* at xvi (emphasis in original).

²⁸ *Id.* at xv–xvi.

²⁹ *Id.* at xvi.

action.³⁰ The Service may also “suggest modifications” to the action during the course of consultation to “avoid the likelihood of adverse effects” to the listed species, even when modifications are not necessary to avoid jeopardy.³¹ The biological opinion also provides federal agencies limited exemption from the take prohibition by providing an Incidental Take Statement (“ITS”).³² The ITS identifies the expected impacts of the authorized take, the reasonable and prudent measures necessary to minimize those impacts, and the terms and conditions that the agency must comply with to adequately implement those measures.³³

Furthermore, once a federal agency initiates consultation under the ESA on a federal agency action, the agency, as well as any applicant for a federal permit, “shall not make any irreversible or irretrievable commitment of resources with respect to the agency action which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures which would not violate subsection (a)(2) of this section.”³⁴ The purpose of Section 7(d) is to maintain the environmental status quo pending the completion of consultation. Section 7(d) prohibitions remain in effect throughout the consultation period and until the federal agency has satisfied its obligations under Section 7(a)(2) that the action will not result in jeopardy to the species or adverse modification of its critical habitat.

Moreover, a federal agency’s duty to avoid jeopardy does not terminate with the conclusion of consultation. It continues, “where discretionary Federal involvement or control over the action has been retained or is authorized by law.”³⁵ In certain circumstances the federal agency must reinstate formal consultation:

- (a) If the amount or extent of taking specified in the incidental take statement is exceeded;
- (b) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;
- (c) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or

³⁰ 16 U.S.C. § 1536(b)(3)(A) (2012).

³¹ 50 C.F.R. § 402.13 (2014).

³² 16 U.S.C. § 1536(o)(2) (2012); 50 C.F.R. § 402.14(i)(5) (2014).

³³ 16 U.S.C. § 1536(b)(4) (2012); 50 C.F.R. § 402.14(i)(1)(i)–(v) (2014).

³⁴ 16 U.S.C. § 1536(d) (2012).

³⁵ 50 C.F.R. § 402.16 (2014).

(d) If a new species is listed or critical habitat is designated that may be affected by the identified action.³⁶

Therefore, where the action agency (here, the EPA) retains discretionary involvement or control, it has an ongoing duty to ensure against jeopardy and adverse modification.

B. Other Relevant Sections

The EPA is bound to protect species through additional provisions of the ESA. The ESA also prohibits any person, including federal agencies, from taking any endangered or threatened species.³⁷ The statute defines “take” to include “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”³⁸ The Services further define “harm” as “an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.”³⁹ Therefore, an action that indirectly or directly causes a decline in the population of an endangered species or prevents the recovery of the species is considered by statute harmful to that species.

Sections and 7(a)(1) and 2(c) of the ESA require the EPA to utilize its authorities in furtherance of the purposes of the ESA.⁴⁰ Section 7(a)(1) instructs action agencies to carry out the mandates of the ESA by enacting programs to conserve endangered species. Section 2(c) states that it is the policy of Congress that all federal agencies conserve listed species and use their power to further the purposes of the ESA. Therefore, the EPA is required to integrate species protection in carrying out all other congressionally mandated obligations.

III. THE ESA AND FIFRA IMPASSE

The EPA, as an action agency, is required to consult with the Services under the ESA in its registration of pesticides, and in its actions in exercising its continuing authority over pesticide regulation.⁴¹

³⁶ *Id.*

³⁷ 16 U.S.C. § 1538(a)(1)(B) (2012); 50 C.F.R. § 17.21(c) (2014).

³⁸ 16 U.S.C. § 1532(19) (2012); 50 C.F.R. § 17.3 (2014).

³⁹ 50 C.F.R. § 17.3 (2014).

⁴⁰ 16 U.S.C. § 1536(a)(1) (2012); 16 U.S.C. § 1531(c)(1) (2012).

⁴¹ 16 U.S.C. § 1536(a)(2) (2012); *Wash. Toxics Coal. v. Envtl. Prot. Agency*, 413 F.3d 1024, 1032 (9th Cir. 2005), *cert. denied*, 546 U.S. 1090 (2006). (“We agree with the Eighth Circuit that even though EPA registers pesticides under FIFRA, it must also comply with the ESA when

The Ninth Circuit Court of Appeals in *Washington Toxics Coalition v. EPA* held:

EPA retains ongoing discretion to register pesticides, alter pesticide registrations, and cancel pesticide registrations. . . . Because EPA has continuing authority over pesticide regulation, it has a continuing obligation to follow the requirements of the ESA. We have respected such continuing obligations in well-reasoned authority that binds us here.

....

In this case, EPA has similar discretion “to inure to the benefit” of listed species. Pesticide registrations under FIFRA are ongoing and have a long-lasting effect even after adoption. EPA retains discretion to alter the registration of pesticides for reasons that include environmental concerns.⁴²

Yet the EPA has consistently failed to meet its ESA regulatory obligations, instead acting only under court order or threat of litigation. The EPA has at times claimed that it is not required to consult the Services. At other times the EPA has claimed that it is indeed required to consult the Services, but that the burden is met by attempting to initiate consultation. The reality is that the EPA has rarely sought compliance with the ESA outside of a litigation framework, and that will likely not change in the future.

A. The EPA’s Regulatory Authority Under FIFRA

Congress enacted the Federal Insecticide, Fungicide, and Rodenticide Act (“FIFRA”) to regulate the sale and use of pesticides in the United States.⁴³ Under FIFRA, the EPA registers, reviews, amends, and reregisters chemicals and chemical formulations for use as insecticides, fungicides, and pesticides in the United States.⁴⁴ Generally, a pesticide may not be sold or used in the United States unless the EPA has registered it for that particular use.⁴⁵ The EPA may register a pesticide if it determines that: (1) the labeling complies with FIFRA’s requirements; (2) the composition claims are warranted; (3) the pesticide will perform its intended function; and (4) the pesticide will not cause “unreasonable

threatened or endangered species are affected.”); *Defenders of Wildlife v. Adm’r, Env’tl. Prot. Agency*, 882 F.2d 1294, 1299 (8th Cir. 1989) (affirming the application of Section 7 to EPA’s registration of pesticides).

⁴² *Wash. Toxics Coal.*, 413 F.3d at 1033.

⁴³ *See* 7 U.S.C. §§ 136–136y (2012).

⁴⁴ *Id.*

⁴⁵ *Id.* § 136a(a).

adverse effects on the environment.”⁴⁶ The registration process culminates with the EPA’s approval of a label for the particular pesticide. It is unlawful to use a pesticide in a manner inconsistent with the label⁴⁷ or to make any claims that differ substantially from the “statement required in connection with its registration.”⁴⁸

The EPA must classify pesticides as general or restricted use pesticides. Where necessary to guard against unreasonable adverse environmental effects, the EPA must classify a pesticide as restricted use.⁴⁹ Restricted use pesticides are subject to additional regulatory restrictions.⁵⁰ The EPA must also reclassify pesticides as restricted use pesticides where necessary to prevent unreasonable adverse effects on the environment.⁵¹ Registrants must submit information about a registered pesticide’s unreasonable adverse effects on the environment to the EPA.⁵² The EPA takes such information into account when reviewing and, where necessary, modifying the pesticide registrations.

The EPA retains discretionary involvement with and control over its registrations. For example, the EPA must periodically review pesticide registrations⁵³ and it has the authority to compel registrants to submit data necessary for that review.⁵⁴ It also has the authority to cancel pesticide registrations whenever “a pesticide or its labeling or other material required to be submitted does not comply with the provisions of [FIFRA] or, when used in accordance with widespread and commonly recognized practice, generally causes unreasonable adverse effects on the environment”⁵⁵ It may also immediately suspend a pesticide registration to prevent an imminent hazard⁵⁶ or if new information indicates that the pesticide presents an “unreasonable hazard to the survival of a species declared endangered or threatened” under the ESA.⁵⁷

⁴⁶ *Id.* § 136a(c)(5).

⁴⁷ *Id.* § 136j(2)(G).

⁴⁸ *Id.* § 136j(1)(B).

⁴⁹ *Id.* § 136a(d)(1)(C).

⁵⁰ *Id.*

⁵¹ *Id.* § 136a(d)(2).

⁵² *Id.* § 136d(a)(2).

⁵³ EPA aims to review each pesticide registration every fifteen years. *Id.* § 136a(g)(1).

⁵⁴ *Id.* § 136a(g)(2).

⁵⁵ *Id.* § 136d(b).

⁵⁶ *Id.* § 136d(c).

⁵⁷ *Id.* § 136(l).

B. ESA-FIFRA Litigation History

Mary Jane Angelo in *The Killing Fields: Reducing the Casualties in the Battle between U.S. Species Protection Law and U.S. Pesticide Law* chronicles the litigation history involving the ESA and FIFRA.⁵⁸ Notable cases referenced include the Eighth Circuit Court of Appeals case *Defenders of Wildlife v. EPA*, where the court found the EPA liable under Section 9 of the ESA for its registration of strychnine and the pesticide's impacts on listed species⁵⁹ and the Ninth Circuit Court of Appeal's *Washington Toxics Coalition v. EPA*, where the court found the EPA in violation of Section 7 of the ESA for both its registration of certain pesticides and their impacts on salmon.⁶⁰ Despite these two seminal courts of appeal cases, the EPA has still not affirmatively initiated and completed consultation with the Services absent litigation or threat of litigation.

Following *Defenders* and *Washington Toxics*, the Center for Biological Diversity and Pesticide Action Network North America brought suit in 2011 against the EPA for its failure to complete consultation or reinitiate consultation for hundreds of pesticides and listed species.⁶¹ The suit was an unprecedented, comprehensive, nationwide attempt to bring the EPA into compliance with the ESA. The complaint alleged that the EPA registered and retained ongoing discretionary control and involvement over hundreds of specific pesticides, constituting agency action for which the EPA failed to initiate consultation or reinitiate consultation.⁶² The EPA moved to dismiss, arguing that the plaintiffs failed to state a specific affirmative agency action and that the duty to reinitiate consultation only applies to agency action addressed in prior consultations. The United States District Court for the Northern District of California held that the plaintiffs failed to state a claim under Section 7 because they had failed to identify a specific affirmative agency action⁶³ and that they could not state a reinitiation claim based on an agency action of reregistration

⁵⁸ Mary Jane Angelo, *The Killing Fields: Reducing the Casualties in the Battle Between U.S. Species Protection Law and U.S. Pesticide Law*, 32 HARV. ENVTL. L. REV. 95, 111–117 (2008).

⁵⁹ *Defenders of Wildlife v. Env'tl. Prot. Agency*, 882 F.2d 1294, 1301 (8th Cir. 1989).

⁶⁰ *Wash. Toxics Coal. v. Env'tl. Prot. Agency*, 413 F.3d 1024, 1032 (9th Cir. 2005), *cert. denied*, 546 U.S. 1090 (2006).

⁶¹ Complaint for Declaratory and Injunctive Relief at 2, *Ctr. for Biological Diversity v. Env'tl. Prot. Agency*, 2011 WL 181497 (N.D. Cal. Jan. 20, 2011) (No. 3:11-cv-00293-JCS).

⁶² *Id.* ¶¶ 130–138.

⁶³ *Ctr. for Biological Diversity v. Env'tl. Prot. Agency*, No. 3:11-cv-00293-JCS, 2013 WL 1729573, at *9–10 (N.D. Cal. Apr. 22, 2013).

because those actions had been completed.⁶⁴ The case is currently on appeal with the Court of Appeals for the Ninth Circuit.⁶⁵

C. Failure to Complete Consultation—California Red-legged Frog Case Study

The consultation history of the California red-legged frog provides valuable insight into how the EPA perceives its ESA obligations and consistently fails to meet its regulatory responsibilities. Though the frog was listed as a threatened species decades ago, the EPA has, to date, failed to complete consultation with regard to the species and the dozens of pesticides known to impact the frog. Despite litigation and court orders, the agency has still not completed consultation with the Services and the pesticides remain in use.

The FWS listed the California red-legged frog as threatened under the ESA in 1996, acknowledging that pesticide runoff affects the species and must be addressed.⁶⁶ However, the EPA and the FWS never conducted consultation on the EPA's registration of pesticides with regard to the red-legged frog. In 2002, the Center for Biological Diversity challenged the EPA's failure to consult with the Service in the United States District Court for the Northern District of California.⁶⁷ The court ordered the parties to agree on a reasonable deadline for initiation of the "may affect" determination.⁶⁸ On October 20, 2006, the Center and the EPA entered into a settlement agreement whereby the use of sixty-six pesticides was prohibited near the core habitat of the California red-legged frog until the EPA completed consultation with the FWS regarding those pesticides and whereby the effects determinations were due within thirty-six months.⁶⁹

The EPA conducted effects determinations on all sixty-six pesticides and found that sixty-two pesticides "may affect" and were "likely to adversely affect" the California red-legged frog. From 2007 to 2009, the

⁶⁴ Ctr. for Biological Diversity v. Env'tl. Prot. Agency, No. 3:11-cv-00293-JCS, 2014 WL 3974778 (N.D. Cal. Aug. 13, 2014), ECF No. 222.

⁶⁵ Ctr. for Biological Diversity v. Env'tl. Prot. Agency, No. 3:11-cv-00293-JCS, 2014 WL 3974778 (N.D. Cal. Aug. 13, 2014), *appeal docketed*, No. 14-16977 (9th Cir. Feb. 11, 2015).

⁶⁶ Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the California Red-Legged Frog, 61 Fed. Reg. 25,813 (May 23, 1996) (codified at 50 C.F.R. pt. 17).

⁶⁷ Ctr. for Biological Diversity v. Leavitt, No. 02-01580, 2005 U.S. Dist. LEXIS 40806 (N.D. Cal. Sept. 19, 2005).

⁶⁸ *Id.* at *15.

⁶⁹ Stipulated Injunction and Order at 2–4, Ctr. for Biological Diversity v. Johnson, 2006 BL 39760 (N.D. Cal. Oct. 20, 2006) (No. C-02-1580-JSW), *available at* http://www.epa.gov/espp/lits_tatus/stipulated-injunction.pdf.

EPA sought consultation from the FWS on these pesticides.⁷⁰ However, the FWS refused to initiate consultation with the EPA citing the EPA's failure to deliver all information necessary to begin consultation.⁷¹ Specifically, the Service claimed that in order to initiate consultation the EPA must provide the Service (1) "[a] full description of the action to be considered;" (2) "[a] complete description of the manner in which the action may affect the listed species and their critical habitats;" and (3) "[a]n estimate of existing and future pollutant loads in the action area."⁷² The EPA failed to provide that information. The Service concluded that "[it] will be unable to fully evaluate the effects of this action or formulate a biological opinion until [it] receive[s] all of this information."⁷³

The EPA, meanwhile, maintained that "[w]hile the ESA regulations contemplate that FWS may seek additional information from an action agency such as EPA to better inform a formal consultation, the regulations do not provide that the Services may reject EPA's written request to engage in formal consultation."⁷⁴ The EPA further stated "[a]s we read the ESA regulations, they do not precondition initiation of formal consultation on a FWS determination that the information supporting the request is sufficient."⁷⁵ There the agencies remained, locked in stalemate for nearly six years with the FWS claiming that the EPA did not provide enough information to initiate consultation and the EPA claiming it had satisfied its duty. The impasse was only overcome by a court ordered settlement agreement where the agencies agreed to a schedule for completing consultation.⁷⁶

⁷⁰ *Court Issues Stipulated Injunction Regarding Pesticides and the California Red-Legged Frog*, ENVTL. PROT. AGENCY, <http://www.epa.gov/espp/litstatus/redleg-frog/rlf.htm> (last visited Apr. 12, 2015); *Effects Determinations for the California Red-Legged Frog and other California Listed Species*, ENVTL. PROT. AGENCY, <http://www.epa.gov/oppfead1/endorsement/litstatus/effects/redleg-frog/> (last visited Apr. 12, 2015).

⁷¹ Letter from Marjorie A. Nelson, Branch of Consultation & HCPs Chief, U.S. Fish & Wildlife Serv., to Arthur-Jean B. Williams, Env'tl. Fate & Effects Div. Assoc. Dir., Env't. Prot. Agency (Jan. 14, 2009), *available at* http://www.biologicaldiversity.org/species/amphibians/California_red-legged_frog/pdfs/RLF_Final_Complaint_Oct_19_2011_w_Exhibits.pdf (listed as Exhibit A to Complaint).

⁷² *Id.*

⁷³ *Id.*

⁷⁴ Letter from Patricia K. Hirsch, Acting Gen. Counsel, Env'tl. Prot. Agency, to Arthur E. Gary, Acting Solicitor, U.S. Dep't of Interior (July 2, 2009), *available at* http://www.biologicaldiversity.org/species/amphibians/California_red-legged_frog/pdfs/RLF_Final_Complaint_Oct_19_2011_w_Exhibits.pdf (listed as Exhibit B to Complaint).

⁷⁵ *Id.*

⁷⁶ *Ctr. for Biological Diversity v. U.S. Fish & Wildlife Serv.*, No. 3:11-cv-5108-JSW (N.D. Cal. Nov. 4, 2013), ECF No. 273 (Court Order).

IV. NATIONAL ACADEMY OF SCIENCES RECOMMENDATIONS

With near-total noncompliance with the consultation requirements of the ESA and in light of ongoing disagreements between the EPA and the Services regarding the best available data and analytical approaches for pesticide-related ESA consultations, the National Academy of Sciences (“NAS”) convened a committee at the request of the EPA, the Services, and the United State Department of Agriculture to provide advice on improving the EPA’s pesticides consultation.

A. *NAS Findings*

The committee’s April 2013 report provided specific recommendations relating to the use of “best available data;” methods for evaluating sublethal, indirect, and cumulative effects; the state of the science regarding the assessment of mixtures and pesticide inert ingredients; the development, application, and interpretation of results from predictive models; uncertainty factors; and what constitutes authoritative geospatial and temporal information for the assessment of individual species, habitat effects, and probabilistic risk assessment methods.⁷⁷

The report concluded that the EPA’s ecological risk assessment suffers deficiencies, finding that the EPA’s “concentration-ratio-approach” has “unpredictable performance outcomes,”⁷⁸ that the EPA’s risk quotients “are not scientifically defensible for assessing the risks to list species,” and that it “does not estimate risk.”⁷⁹ However, it also empathized with the EPA, finding that compliance with the ESA was challenging for the EPA because (1) pesticides are intended to harm living organisms, (2) FIFRA requires the EPA to engage in a cost-benefit analysis but does not address listed species, (3) FIFRA creates a national pesticides registration program but species-analysis under the ESA is “geographically and temporally focused;” and, (4) under FIFRA, data is provided before registration, whereas under the ESA the Services rely on the best available data.⁸⁰

Based on the NAS report, the Services and the EPA have developed two policy documents to guide consultations on pesticide reregistrations moving forward: *Enhancing Stakeholder Input in the Pesticide Registration Review and ESA Consultation Processes and Development*

⁷⁷ NAT’L RESEARCH COUNCIL, *supra* note 5.

⁷⁸ *Id.* at 149.

⁷⁹ *Id.* at 15.

⁸⁰ *Id.* at 23–24.

of Economically and Technologically Feasible Reasonable and Prudent Alternatives,⁸¹ and *Interim Approaches for National-level Pesticide Endangered Species Act Assessments Based on Recommendations of the National Academy of Sciences April 2013 Report*.⁸²

The National Academy of Sciences report and the “*Interim Approaches*” guidance document provide a three step process for the EPA’s risk assessment and consultation:⁸³ (1) make the “no effect”/“may affect” determination; (2) the “not likely to adversely affect”/“likely to adversely affect” determination; and (3) the “jeopardy”/“no jeopardy” and “adverse modification”/“no adverse modification of critical habitat” determinations. The first step generally follows the requirements of the ESA and will in most cases identify those species at risk from pesticides that need additional review through the informal and formal consultation process. At this stage, the EPA must gather sufficient data to complete the following two related inquiries: (1) whether the pesticide use areas will overlap with areas where listed species are present, including whether a use area overlaps with any listed species’ critical habitat; and (2) whether off-site transport of the pesticide will overlap with locations where listed species are present or where critical habitat is designated. The EPA, when conducting the second inquiry, must consider both the downstream transportation of runoff and the downwind drift of spray when the best available science indicates the occurrence of either.

While the NAS report and the “*Interim Approaches*” guidance document offer some recommendations that can be immediately implemented, neither expressly addresses the policy constraints that have complicated the EPA’s interpretation of its consultation obligations. Specifically, neither address whether the EPA must provide information to the Service sufficient to initiate consultation—information that the EPA claims it need not or cannot provide.

⁸¹ ENVTL. PROT. AGENCY, ENHANCING STAKEHOLDER INPUT IN THE PESTICIDE REGISTRATION REVIEW AND ESA CONSULTATION PROCESSES AND DEVELOPMENT OF ECONOMICALLY AND TECHNOLOGICALLY FEASIBLE REASONABLE AND PRUDENT ALTERNATIVES (2013).

⁸² ENVTL. PROT. AGENCY ET AL., INTERIM APPROACHES FOR NATIONAL-LEVEL PESTICIDE ENDANGERED SPECIES ACT ASSESSMENTS BASED ON THE RECOMMENDATIONS OF THE NATIONAL ACADEMY OF SCIENCES APRIL 2013 REPORT (2013).

⁸³ NAT’L RESEARCH COUNCIL, *supra* note 5, at 29.

B. Recommendations

Scientific evidence establishes that use of registered pesticides can adversely affect listed species and their habitat. The EPA must use its authority to regulate pesticide registration and use to avoid the adverse impacts of pesticides on endangered and threatened species. The EPA must also satisfy its duty to avoid jeopardizing listed species or adversely modifying their critical habitat by initiating and completing the consultation process for its actions in registering pesticides and in exercising its continuing authority over pesticide regulation. The EPA can do this by providing information requested by the Services, which may require the EPA to request additional information from pesticide registrants or independent third parties.

The EPA currently evaluates the risk of pesticides using toxicity tests largely conducted or funded by the pesticide manufacturers.⁸⁴ Some have argued that this presents an inherent conflict of interest.⁸⁵ Boone et al., identified several concerns with the EPA's risk assessment process, including: rigid criteria for the inclusion of studies in risk assessments; inconsistent application of criteria among taxonomic groups; the expectation of a uniform response among lab strains, populations, or species; and a lack of emphasis on the importance of ecological context.⁸⁶ The EPA's current ecological risk assessment does not give the "benefit of the doubt" to listed species as required by the ESA.⁸⁷ Its risk assessment is based on a pesticide dosage level needed to kill fifty percent of organisms from a single exposure in a laboratory setting. This methodology focuses on acute toxicity to a high percentage of individuals. It does not take into account cumulative, long-term, or transgenerational effects. Furthermore, EPA relies on the ECOTOX database, which has information on the effects of particular chemicals on certain species. However, at least one court has expressed concern for the EPA's reliance on the ECOTOX database, finding that "ECOTOX is an effects-related database, not an exposure database [E]xposure is a fundamental piece of ecotoxicity and literature associated with exposure must be identified reviewed [sic] to adequately assess potential effects to listed species and their habitat to ensure that

⁸⁴ Michelle D. Boone et al., *Pesticide Regulation amid the Influence of Industry*, BIOSCIENCE ADVANCE ACCESS, Sept. 3, 2014, at 1.

⁸⁵ *Id.*

⁸⁶ *Id.* at 2–3.

⁸⁷ H.R. REP. NO. 96-697 (1979), *reprinted in* 1979 U.S.C.A.N. 2576.

risk is not underestimated.”⁸⁸ This highlights a significant information gap. The EPA does not have comprehensive records of where pesticides are being used or how species are being exposed to them in the wild, which limits the agency’s ability to assess the impacts of the pesticides.

Moreover, the current risk assessment process does not allow the EPA and the Services to consider the environmental baseline and cumulative effects it needs to consider when determining whether registration or reregistration will jeopardize any threatened or endangered species. The Services define environmental baseline as “the past and present impacts of all Federal, State, or private actions and other human activities in an action area, the anticipated impacts of all proposed Federal projects in an action area that have already undergone formal or early Section 7 consultation, and the impact of State or private actions that are contemporaneous with the consultation in process.”⁸⁹ Cumulative effects are defined as “those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation.”⁹⁰

The EPA must either request additional information from pesticide registrants to satisfy the Services’ need for additional information or establish a system, funded through registration fees and conducted by third parties, to acquire such information. By continuing to authorize pesticides registration, the EPA continues to put hundreds of species at risk, and continues to violate federal law. The ESA is clear that the action agency must initiate consultation,⁹¹ and regardless of how the Services proceed with consultation, the action is not permitted unless it can be proven that it will not jeopardize listed species. Where the science is uncertain or unknown, “Congress clearly intended that [agencies] give ‘the highest of priorities’ and the ‘benefit of the doubt’ to preserving endangered species.”⁹² Moreover, the Supreme Court has held that the ESA requires that balance be struck in favor of species facing potential extinction: “Congress has spoken in the plainest of

⁸⁸ Wash. Toxics Coal. v. U.S. Fish & Wildlife Serv., 457 F. Supp. 2d 1158, 1191 (W.D. Wash. 2006).

⁸⁹ U.S. FISH & WILDLIFE SERV., *supra* note 26, at xiv.

⁹⁰ *Id.* at xiii.

⁹¹ A federal agency “must initiate formal consultation if its proposed action ‘may affect’ listed species or critical habitat,” and “[a]ny possible effect, whether beneficial, benign, adverse, or of an undetermined character, triggers the formal consultation requirement.” Interagency Cooperation—Endangered Species Act of 1973, as Amended; Final Rule, 51 Fed. Reg. 19,926, 19,949 (June 3, 1986) (codified at 50 C.F.R. pt. 402); *see Cal. ex rel. Lockyer v. U.S. Dep’t of Agric.*, 575 F.3d 999, 1018–19 (9th Cir. 2009).

⁹² *Sierra Club v. Marsh*, 816 F.2d 1376, 1386 (9th Cir. 1987).

words, making it abundantly clear that the balance has been struck in favor of affording endangered species the highest of priorities, thereby adopting a policy which it described as ‘institutional caution.’”⁹³ The Court continues:

One would be hard pressed to find a statutory provision whose terms were any plainer than those in [Section] 7 of the Endangered Species Act. Its very words affirmatively command all federal agencies ‘to insure that actions *authorized, funded, or carried* out by them do not *jeopardize* the continued existence’ of an endangered species or ‘*result* in the destruction or modification of habitat of such species. . . .’ This language admits of no exception.⁹⁴

Courts have stressed the importance of strict agency compliance with the procedures mandated by Section 7 of the Act and its implementing regulations:

[T]he strict substantive provisions of the ESA justify *more* stringent enforcement of its procedural requirements, because the procedural requirements are designed to ensure compliance with the substantive provisions. . . . If a project is allowed to proceed without substantial compliance with those procedural requirements, there can be no assurance that a violation of the ESA’s substantive provisions will not result. The latter, of course, is impermissible.⁹⁵

Pesticides are designed to kill living organisms and do not discriminate. The EPA is the gatekeeper allowing these chemicals into the environment. Its duty to protect our nation’s most imperiled species could not be more clear or urgent.

V. CONCLUSION

FIFRA requires that the EPA find that a registered pesticide “will not generally cause unreasonable adverse effects on the environment.”⁹⁶ The EPA is also required to consult with the Service to ensure that its registration of a pesticide is “not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which

⁹³ *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 194 (1978).

⁹⁴ *Id.* at 173 (emphasis in original).

⁹⁵ *Thomas v. Peterson*, 753 F.2d 754, 764 (9th Cir. 1985) (emphasis in original); *see also Pac. Rivers Council v. Thomas*, 30 F.3d 1050 (9th Cir.1994) (enjoining mining and other activities for failure to reinstate consultation upon listing of salmon species).

⁹⁶ 7 U.S.C. § 136a(c)(5)(D) (2012).

is determined by [the Services] . . . to be critical.”⁹⁷ Consultation is unequivocally required where it is determined that a pesticide registration is likely to adversely affect a listed species. That the EPA is unwilling or unable to provide information sufficient to satisfy the Services’ consultation requirements does not obviate its requirement to ensure against jeopardy. Therefore, the EPA must generate the additional information, require that pesticide registrants provide the information, or create a system for a third party to provide the information. In the meantime, while the EPA is not able to ensure its registration and oversight of pesticides are not jeopardizing listed species, it must suspend all new pesticide registrations.

⁹⁷ 16 U.S.C. § 1536(a)(2)(D) (2012); 50 C.F.R. § 402.14(a) (2014).