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Sent via Email and Certified Mail Return Receipt Requested

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Re: Notice of Intent to Sue for Violations of the Endangered Species Act Concerning EPA's Authorized Uses of Dicamba on Genetically Engineered Cotton and Soybean

Dear Administrator Wheeler and Secretary Bernhardt:

On behalf of the National Family Farm Coalition, Center for Food Safety, Center for Biological Diversity, and Pesticide Action Network North America (collectively, "NFFC"), this letter provides notice of intent to sue the U.S. Environmental Protection Agency ("EPA") for violations of Section 7(a)(2) of the Endangered Species Act ("ESA"), 16 U.S.C. § 1536(a)(2). This notice is provided pursuant to Section 11(g) of the ESA, 16 U.S.C. § 1540(g).¹

¹ To the extent that Section 16 of the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. § 136n, provides jurisdiction for judicial review of EPA's pesticide registration decisions at issue here, pre-suit notice under the ESA is not required to establish jurisdiction. Moreover, pre-suit notice is not required for claims that the EPA's "no effect" determination are brought pursuant to the Administrative Procedure Act, 5 U.S.C. §§ 701-706.

National Family Farm Coalition (“NFFC”) is a non-profit corporation that serves as a national link for a coalition of family farm and rural groups on the challenges facing family farms and rural communities. Founded in 1986, NFFC represents farmers and ranchers from grassroots member organizations across the country. As such NFFC plays a unique role in securing a sustainable, economically just, healthy, safe, and secure food and farm system.

Center for Food Safety is a non-profit membership organization representing farmers and consumers in every state. Founded in 1997, CFS’s mission is to empower people, support farmers, and protect the environment from the harmful impacts of industrial agriculture. For CFS, safety means safe for all, including environmental safety. CFS has long had a flagship program on the adverse impacts of pesticides to human health and the environment, including endangered species.

Center for Biological Diversity (“CBD”) is a national, non-profit, conservation organization dedicated to protecting diverse native species and habitats through science, policy, education, and law. CBD members and staff actively work on the impacts of pesticides on species and their habitats throughout the United States.

Pesticide Action Network North America is a non-profit, public interest organization working with and behalf of those on the frontlines of industrial agriculture’s harms, to challenge the proliferation of pesticides, defend basic rights to health and environmental quality, and ensure the transition to a just and viable food system. For more than 30 years, Pesticide Action Network has fought to preserve ecosystems, biodiversity, sustainable agriculture, and community food security.

FACTS

On October 27, 2020, EPA authorized the use of the herbicide dicamba to be sprayed during the growing season (postemergence) over-the-top (“OTT”) of genetically engineered dicamba-resistant cotton and soybean in 34 states. *See* Memorandum Supporting Decision to Approve Registration for the Uses of Dicamba on Dicamba Tolerant Cotton and Soybean, Docket No. EPA-HQ-OPP-2020-0492-0007 (Oct. 27, 2020)² On the same date, EPA provided Notice of Pesticide Registration for three pesticide products for this use of dicamba over genetically modified dicamba-resistant cotton and soybean: Xtendimax with VaporGrip Technology, EPA Reg. No. 264-1210; Engenia Herbicide, EPA Reg. No. 7969-472; and A21472 Plus VaporGrip Technology (also referred to by alternative brand name Tavium Plus VaporGrip Technology), EPA Reg. No. 100-1623. *See* EPA Docket Nos. EPA-HQ-OPP-2020-0492-0010 (Oct. 27, 2020); EPA-HQ-OPP-2020-0492-0008 (Oct. 27, 2020); EPA-HQ-OPP-2020-0492-0009 (Oct. 27, 2020). These registrations are collectively referred to as the “EPA registration actions.”

² *See also* “Final Registration of Dicamba on Dicamba-Tolerant Cotton and Soybean,” Docket No. EPA-HQ-OPP-2016-0187-0959 (Nov. 9, 2016, as amended Oct. 12, 2017); “Registration Decision for the Continuation of Uses of Dicamba on Dicamba Tolerant Cotton and Soybean,” Docket No. EPA-HQ-OPP-2016-0187-0968 (Oct. 31, 2018).

Dicamba (3,6-dichloro-2-methoxybenzoic acid) is a broad-spectrum herbicide, a type of pesticide. It is a weed-killer, but its toxicity is not limited to weeds. It can also kill many broadleaf plants, bushes, and trees.

It also has a very well-known drawback to its use: dicamba is volatile, moving easily off a field on which it has been sprayed. It can drift if the wind blows during application; it can drift if applied during temperature inversions; it can drift after application when it volatilizes, or turns to vapor, during hot weather. It is well-known to cause widespread damage to conventional crops and wild plants and significantly injure farmers' crops and the environment.

For the same reasons Dicamba poses serious risk of harm to endangered and threatened species and the habitats they depend upon due to dicamba's long history of drift-related injury, its great volatility, and many plants' extreme sensitivity to it. The dicamba pesticides evaporate from soil and plant surfaces hours to days after application, forming vapor clouds that drift and damage plants far from the application site. Thus, these uses dramatically increased injury from spray and vapor drift, in particular because it is applied later in the season when it is warmer.

As a result of its toxicity and its tendency to drift, dicamba has historically been limited to clearing fields, either before crops were planted or before newly planted crops emerged. This change in 2016: In a vast and extremely risky new experiment, EPA registered for the first time a "new use" of these dicamba products: to be sprayed during the summer growing season, over-the-top of soybean and cotton crops that Monsanto genetically engineered with resistance to the pesticide. The EPA registration actions here are the third attempt by EPA to approve this new use, after the first two (the second a continuation of the first) were struck down by a court as unlawful.

EPA's registrations of these uses allow the pesticides' application on millions of acres in 34 states. That approval resulted in over 25 million more pounds of dicamba being sprayed annually, a 12-fold increase in use, across nearly 100 million acres, at new times of the year and in novel ways. EPA knew that protected animals such as the whooping crane feed in sprayed crop fields, that hundreds of other endangered plants and animals are threatened by volatility and drift either because they are found near those fields or some endangered species are dependent upon plants near those fields, whether those plants are protected or not by the ESA. For example, dicamba drift threatens flowering plants that provide nectar for pollinators and habitat for other species.

Across the U.S., over the past few summers since EPA first approved these registrations, there have been widespread incidences of dicamba drift damage to plants and trees on both public and private lands. Plants and trees are critical to environmental health and have complex relationships with pollinators such as lepidopterans (moths and butterflies) and coleopterans (beetles), which serve as food for our protected birds and many fish. Flowering plants exposed to dicamba showed a reduction in flower expression and delayed onset of flowering. They were also less likely to be visited by pollinators.

Despite documented damage, lack of analysis, and potential harm to hundreds of endangered plants and animals and their critical habitats, EPA made the unprecedented finding, *again*, that these

uses would have “no effect” and, therefore, did not consult with the expert wildlife agencies pursuant to Section 7(a)(2) of the Endangered Species Act, 16 U.S.C. § 1536(a)(2).

ESA VIOLATIONS

I. EPA Is Violating Section 7(a)(2).

EPA’s registration actions trigger EPA’s duty to comply with Section 7 of the Endangered Species Act (“ESA”). 16 U.S.C. § 1536(a)(2); *Ctr. for Biological Diversity v. EPA*, 847 F.3d 1075, 1091-93 (9th Cir. 2017). EPA retains discretionary authority and control over these pesticide product registrations. EPA has failed to comply with the substantive and procedural requirements of Section 7 of the ESA.

Section 7(a)(2) of the ESA mandates that “[e]ach federal agency *shall...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 [critical] habitat of such species.” 16 U.S.C. § 1536(a)(2) (emphasis added). The substantive duty to “insure” against jeopardy is a “rigorous” one. *Sierra Club v. Marsh*, 816 F.2d 1376, 1385 (9th Cir. 1987) *abrogated on other grounds*. “To ‘insure’ something...means to make certain, to secure, to guarantee (some thing, event, etc.)” *Nat’l Ass’n of Home Builders v. Defenders of Wildlife*, 551 U.S. 644, 666–67 (2007) (internal quotations omitted). To assist the agencies in complying with their substantive duty, Section 7(a)(2) imposes a separate, procedural duty to complete consultation with the expert wildlife agencies, either FWS or NMFS. In so doing, agencies must apply the “best scientific and commercial data available.” 15 U.S.C. § 1536(a)(2).

EPA is violating its Section 7(a)(2) duty to insure, in consultation with expert wildlife agencies, that its registration actions authorizing the use of the herbicide dicamba to be sprayed postemergence during the growing season over genetically engineered dicamba-resistant cotton and soybean in 34 states are not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat.

EPA did not initiate consultation with the expert wildlife agencies because it managed to arrive at a “no effect” determination for its registration actions for every endangered or threatened species and their designated critical habitat. EPA’s “no effect” determinations are unsupportable, and, as a result, EPA is violating Section 7(a)(2) in the following respects:

1. EPA Failed to Initiate Consultation When Its Actions Met the Low ESA “May Affect” Threshold for Endangered and Threatened Species and Designated Critical Habitat.

ESA Section 7(a)(2) requires EPA to determine whether its registration actions “may affect” any listed species or designated critical habitat. If so, EPA *must* consult with the expert wildlife agencies. 50 C.F.R. § 402.14(a). The “may affect” threshold is extremely low: “[A]ctions that have *any chance of affecting* listed species or critical habitat—even if it is later determined that the actions are

‘not likely’ to do so—require at least some consultation under the ESA.” *Karuk Tribe of Cal. v. U.S. Forest Serv.*, 681 F.3d 1006, 1027 (9th Cir. 2012) (en banc) (emphasis added).

EPA substituted the less protective standards under the Federal Insecticide, Fungicide, and Rodenticide Act (“FIFRA”) in place of the ESA standards, which require that EPA afford endangered species “the highest of priorities” over EPA’s primary missions. *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 174, 185 (1978). In so doing, EPA misapplied the low “may affect” threshold to initiate consultation with the expert wildlife agencies and unlawfully arrived at its “no effect” determinations.

EPA used a risk assessment methodology³ that does not evaluate whether its registration actions meet the low ESA “may affect” threshold, but, rather, whether exposing species or habitat to a pesticide exceeds EPA’s self-determined “level of concern” (LOC) and other “thresholds.” An LOC is a term EPA created for the FIFRA context and is not applicable to the ESA context because LOC measures “adverse effects” not whether the actions “may affect” species or critical habitat. EPA does not have the authority to exclude effects from ESA consultation based on its own LOC standard that is not equivalent to the low “may affect” threshold for initiation of consultation. This violates the ESA. *See Wash. Toxics Coal. v. U.S. Dept. of Interior*, 457 F. Supp. 2d 1158, 1184 (W.D. Wash. 2006) (quoting agency scientist explaining that the “risk framework of FIFRA (no unreasonable adverse effects) does not equate to the survival and recovery framework of the ESA.”).

To arrive at its “no effect” determinations for endangered and threatened species, EPA used several “endpoints” or “thresholds” that show EPA ignored effects to species that did not meet its FIFRA standard of “no unreasonable effect” but that do meet the ESA consultation standard of “any effect”:

For example, to determine acute effects to animals, EPA used the “lethality-based” endpoint of the median lethal dose or concentration (LD50 or LC50), which is the amount of a chemical that kills 50% of the exposed animals.⁴ As another example, EPA determined that aquatic species would be exposed to dicamba based on the estimated environmental concentrations (“EEC”) of dicamba that would be found in the water column, such as 47.9 µg a.e./L 1-in 10-year Daily Average EEC for soybean and 29.6 for cotton.⁵ Exposing aquatic species to dicamba is sufficient to meet the low “may affect” bar to initiate consultation.

For mammals and birds (which also serve as a proxy for reptiles and terrestrial-phase amphibians), EPA determined that these species could be exposed to dicamba based on dietary and dose-based EECs that include 250 mg of dicamba/kg-diet in short grass, up to 280 mg of dicamba/kg-body weight for small birds, and up to 230 mg of dicamba/kg-body weight of small

³ 2020 Ecological Assessment of Dicamba Use on Dicamba-Tolerant (DT) Cotton and Soybean Including Effects Determinations for Federally Listed Threatened and Endangered Species, EPA-HQ-OPP-2020-0492-0002, at 63.

⁴ *Id.* at 30.

⁵ *Id.* at 24.

mammals.⁶ Birds and mammals will also be exposed to dicamba through vapor and spray inhalation.⁷

In addition, for plants, EPA determined that “there are no discernible effects” if the effects are below a threshold of 10% visual signs of injury (“VSI”) or 5% height reduction. Even if accurate, effects that cause 10% injury or 5% reduction in height satisfy the low “may affect” level, and certainly not “no effect.”⁸

Even based on these non-protective methods, thresholds, and endpoints, EPA determined that there is risk to mammals, birds, reptiles, terrestrial-phase amphibians, terrestrial invertebrates, and terrestrial plants.⁹ Nonetheless, EPA still failed to initiate consultation, instead inexpertly consulting with itself.

EPA only conducted an effects determination assessment for the 23 species that it assumed would be physically on the treated fields, continuing to use the same RQ and LOC, but “refined” based on the species body size and food consumption, to reach “no effect” determinations for each of them.¹⁰ These are the purported expert conclusions that FWS or NMFS must make during consultation, after a proper “May Affect” conclusion, not the EPA.

For example, EPA determined “no effect” for these species because the RQ didn’t exceed the arbitrary LOC of 1.0, for example: Gunnison sage grouse RQ of 0.20; Mississippi sandhill crane RQ of 0.14; jaguar RQ of 0.39; Indiana bat RQ of 0.62; Ozark bat RQ of 0.64; Florida bonneted bat RQ of .80; Virginai big-eared bat RQ of 0.63; ocelet RQ of 0.35; jaguarundi RQ of 0.42; Mexican wolf RQ of 0.41; northern long-eared bat RQ of 0.63.¹¹ For the rusty patched bumble bee, in addition to cursorily relying on RQ and LOC, EPA made the unsupported assumption that even though both soybean and cotton are attractive to bumble bees, it would forage for food elsewhere.¹² Any effect on these or other species requires a “May Affect” determination and consultation.

Similar to its species’ analysis, for critical habitat EPA limited its analysis to only the sprayed farm field, which is not the appropriate action area, as discussed below. Moreover, EPA placed unlawful conditions on “may affect” determinations. Rather than evaluating whether the registration actions may affect critical habitat that overlaps with the dicamba uses, EPA added the additional hurdles that the species itself must use the agricultural field and have a “direct toxic effect concern” and the action area must include dicamba effects on plants that are characteristic of the critical habitat.¹³ In other words, EPA has conflated the distinct duty to avoid destruction or adverse

⁶ *Id.* at 27.

⁷ *Id.* at 28.

⁸ *Id.* at 17.

⁹ *Id.* at 64.

¹⁰ *Id.* at 76-110.

¹¹ *Id.* at 83, 86, 97, 99, 100, 101, 103, 104, 105, 106.

¹² *Id.* at 110.

¹³ *Id.* at 111.

modification of critical habitat with its duty to the species itself and unlawfully revised the designated critical habitat. Using this tactic, EPA concluded that only critical habitat for the whooping crane met its criteria. But then, EPA unlawfully concluded that whooping crane critical habitat would not be modified based on residues of dicamba that “are not reasonably expected to be at a level raising concern for direct effects to the whooping crane....”¹⁴ None of these facts support a “no effect” or “no adverse modification” determination for critical habitat.

2. EPA Failed to Insure Against Jeopardy and to Insure Against Destruction or Adverse Modification of Critical Habitat

EPA cannot abrogate its separate, substantive duty to insure that its registration actions are not likely to jeopardize the existence of listed species or adversely modify their critical habitat. See *Pyramid Lake Paiute Tribe of Indians v. U.S. Dept. of Navy*, 898 F.2d 1410, 1415 (9th Cir. 1990) (“[a] federal agency cannot abrogate its responsibility to ensure that its actions will not jeopardize a listed species”); *Stop H-3 Ass’n v. Dole*, 740 F.2d 1442, 1460 (9th Cir. 1984); see also *Nat’l Wildlife Fed. v. Coleman*, 529 F.2d 359, 369 (5th Cir. 1976) (“the federal agency involved must determine whether it has taken all necessary action to insure that its actions will not jeopardize the continued existence of” a listed species or critical habitat). For the same reasons, discussed above, that EPA unlawfully failed to satisfy its procedural duty to initiate consultation, EPA has also violated its substantive duty to insure against jeopardy of protected species or adverse modification of designated critical habitat.

3. EPA Failed to Use the Best Available Science

EPA relied upon a 2004 guidance document, *Overview of the Ecological Risk Assessment Process in the Office of Pesticide Programs, U.S. Environmental Protection Agency—Endangered and Threatened Species Effects Determinations*, to reach its no effects determinations.¹⁵ The 2004 Overview Guidance is not the best available science, was heavily criticized by the National Academy of Sciences in its 2013 Report, *Assessing Risks to Endangered and Threatened Species* (“NAS Report”),¹⁶ and was first superseded by the agency’s *Interim Approaches for National-Level Pesticide Endangered Species Act Assessments Based on the Recommendations of the National Academy of Sciences* (“Interim Approaches”),¹⁷ then supplemented by EPA’s “Revised Methods for National Level Listed Species Biological Evaluations of Conventional Pesticides,”¹⁸ that again uses the three-step process recommended by the 2013 NAS report.

¹⁴ *Id.*

¹⁵ *Id.* at 16; 2004 Overview Guidance available at <https://www.epa.gov/sites/production/files/2014-11/documents/ecorisk-overview.pdf>.

¹⁶ <https://www.nap.edu/catalog/18344/assessing-risks-to-endangered-and-threatened-species-from-pesticides>

¹⁷ <https://www.epa.gov/sites/production/files/2015-07/documents/interagency.pdf>

¹⁸ <https://www.epa.gov/endangered-species/revised-method-national-level-listed-species-biological-evaluations-conventional>

The 2004 Overview guidance purports to integrate its exposure and effects data to derive a “risk quotient” or “RQ” and then EPA would evaluate — as a policy matter — what action to take based on whether or not the RQ exceeded its “level of concern” or “LOC” or “LOCs.” The 2004 Overview Guidance states the LOC is in fact EPA’s “interpretive policy tool for interpreting risk quotients;” it is not equivalent to “no effect” as required by the ESA to avoid consultation, even if not exceeded.¹⁹

As EPA is aware, EPA and the expert consultation agencies (FWS and NMFS) had continuing disagreements over the methods and data to use in pesticide consultations. To resolve their differences, in 2011, the agencies jointly requested that the National Academy of Sciences examine the scientific and technical issues associated with making ESA effects determinations for pesticides.²⁰ In 2013, the NAS Report rejected the 2004 Overview Guidance approach of RQs and LOCs, concluding that it is “not scientifically defensible for assessing the risks to listed species posed by pesticides”²¹ The NAS also criticized EPA’s approach as making assumptions that are “not reliable” and “not appropriate for assessments for listed species”²²

Instead, the NAS concluded that any potential exposure, demonstrated by geographic overlap between the pesticide’s potential use and species’ habitat triggers the “may affect” threshold for consultation.²³ For all these reasons, there is simply no lawful excuse that EPA continued to rely upon the 2004 Overview Guidance in making the dicamba “no effect” determinations in 2020.

Based on the 2013 NAS Report recommendations, EPA, FWS, NMFS, and USDA adopted interim approaches for pesticide effects determinations based on “shared scientific approaches” and “shared assumption, data, analytical processes and models” to be applied “collaboratively” starting in 2014.²⁴ In accordance with the NAS’s report, *any* overlap of species range or critical habitat with the action area of potential use sites plus range of off-site transport “will be considered a ‘May Affect.’”²⁵ To take the first step to determine overlap, and thereby, “May Affect,” EPA was to use “[r]eadily available geospatial data sets” to establish pesticide use areas” and for species range and critical habitat, EPA would use existing spatial data provided by FWS and NMFS.²⁶ EPA’s unilateral deviation here from the “shared scientific approaches” using existing data, as well as deviation from the 2020 Revised Methods, and reversion to the 2004 Overview Guidance again violates the ESA’s best available science mandate.

¹⁹ 2004 Overview Guidance at 7.

²⁰ Interim Approaches at 1.

²¹ NAS Report at 15.

²² *Id.* at 150.

²³ *Id.* at 9, 53.

²⁴ Interim Approaches at 1.

²⁵ *Id.* at 4-5, 7.

²⁶ *Id.* at 4-5.

4. EPA Unlawfully Constricted the Registration's "Action Area."

To evaluate whether its registration actions "may affect" any listed species or critical habitat, EPA must examine all effects within the registration's "action area." 50 C.F.R §§ 402.02. The action area includes "all areas to be affected directly or indirectly by the Federal action, not merely the immediate area involved in the action." EPA limited the "action area" to just the sprayed crop fields themselves, even though the "action area" is defined as "all areas to be affected directly or indirectly by the Federal Action and not merely in the immediate area involved in the action." 50 C.F.R. § 402.02. EPA reduced and unlawfully constricted the action area based on unsupported assumptions. It then eliminated areas based on unsupported assumptions instead of finding "May Affect."

First, EPA constricted the action area by relying on "Use Data Layers" (UDL) to assess where there is overlap with listed species or critical habitat.²⁷ The UDLs are limited to areas within the 34 states where there is data that cotton or soybeans have actually been grown in the past, as compared to the *authorized use* in the registration decisions, which is not further geographically limited. Moreover, UDLs of past use arbitrarily ignores future use that may occur due to expansion of areas where soybeans or cotton are grown. UDLs are also not the best available science for determining overlap, *see supra*.

Then, in 287 counties where endangered plants grow near the fields, EPA required an in-field 57-foot omnidirectional setback and a 310-ft downwind setback. In those select counties, EPA determined the action area is limited to the edge of the UDL areas based on an unsupported assumption that dicamba will not leave the field.²⁸ In the majority of counties where cotton and soybean have been grown in the past, EPA stated that it extended the action area beyond the fields by 98 feet.

However neither the setbacks nor the 98-foot extension capture the full action area: well-supported studies that show dicamba drifts *hundreds* of feet and likely can be misplaced *miles* from the field due to volatility. From 2017 through 2019, there were at least 5,600 reported off-target incidents at various distances beyond 98 feet from treated fields, even with the prior setback restrictions.²⁹ For these registration actions, EPA stated it "cannot identify any single volatility control measure (e.g., volatility reducing agent, VRA) that is certain to prevent dicamba from transforming into its acid, that results in offsite volatilization."³⁰ But, EPA managed to discount all the studies and data to arrive at an unlawfully restricted action area.

EPA compounded the overlap analysis by limiting the species range and critical habitat locations. EPA started with a list of species and critical habitat in the 34 states labeled for use, but then *limited* its GIS layer by focusing only on listed non-monocot plants and listed species that have an

²⁷ *Supra* n. 3 at 19.

²⁸ *Id.* at 72.

²⁹ *Id.* at 19.

³⁰ *Id.* at 19.

obligate relationship to non-monocot plants.³¹ In addition, EPA only identified counties that had a greater than 1% overlap of species range or critical habitat within the already-restricted action area.

Based on the unlawful action area, EPA unlawfully concluded that *no* endangered or threatened species would be within the action area, even though EPA had previously found *overlap of 812* species, other than 23 listed species that have an obligate relationship with non-monocot plants. Nor does EPA explain how it eliminated some species from the action area that it previously found would be on the treated fields themselves, such as the Florida panther.

As for the 23 species EPA states are still within the action area, it appears that EPA unlawfully limited this list to only those that may have an *obligate* relationship with some types of plants, ignoring species that rely on plants in a non-obligate fashion (facultative) and all other endangered or threatened species that may occur within the already-constricted action area, including mammals, birds, reptiles, terrestrial-phase amphibians, terrestrial invertebrates that are at risk.³² Moreover, even with EPA's analysis limited to species with an obligate relationship to plants, the list is still under-inclusive. EPA specifically states that Karner blue butterfly has an obligate relationship with wild lupines, but claims the species range does not overlap with the action area, despite butterflies being prevalent in counties with a lot of soybean acreage in Wisconsin and lupines being common in areas adjacent to agricultural fields.³³ The FWS Environmental Conservation Online System (ECOS), where EPA purports to get the species' range info from³⁴, reports that the Karner blue butterfly overlaps with roughly one third of the state of Wisconsin – mainly in counties that grow lots of soybeans and are likely to use dicamba.³⁵

In fact, EPA appears to be mistakenly restricting the action area to only treated agricultural fields despite explicitly stating that the action area would extend 70 feet off the treated field in all directions in counties without ESA-listed plants.³⁶ For all 23 species EPA finds are within the action area, EPA states that they would all be reasonably expected to occur *on treated fields*.³⁷ Therefore, the

³¹ *Id.* at 72.

³² *Id.* at 64, 72.

³³ https://www.fws.gov/midwest/endangered/permits/hcp/kbb_wi/kbbWIrange_map.html;
https://www.nass.usda.gov/Charts_and_Maps/Crops_County/sb-pl.php Wisconsin is also a state where acres planted in soybean is generally increasing over time, which will not be captured by past UDLs. Wisconsin's soybean acreage was planted with 89% herbicide resistant varieties.
https://www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications/Crops/2020/WI-Acreage-06-20.pdf

³⁴ EPA-HQ-OPP-2020-0492-0002 pg 72.

³⁵ <https://ecos.fws.gov/ecp/species/6656>

³⁶ EPA-HQ-OPP-2020-0492-0002 pg 71.

³⁷ Page 76 “EPA identified six listed bird species as overlapping with the action area - these are reasonably expected to occur on treated soybean and cotton fields.” Page 88 “Four listed reptiles are reasonably expected to occur on treated soybean and cotton fields.” Page 95 “Eleven listed mammal species are reasonably expected to occur on treated soybean fields.” Page 106 “Of the terrestrial

action area overlap does not appear to have been conducted accurately if species that are not expected to occur on treated fields, but expected to be present within 70-feet of treated fields, like the Karner blue butterfly, were given blanket “no effect” determinations.

For critical habitat, EPA asserts that the only species with critical habitat overlapping the action area is the whooping crane. It is difficult to determine how EPA arrived at this erroneous conclusion, as many more species have critical habitat that overlap cotton and soybeans.³⁸ First, as stated above, it

invertebrates potentially at risk in the 34 states, two are reasonably expected to occur on treated soybean and cotton fields.”

³⁸ Critical habitat for the following species overlaps with dicamba use on soybeans: Piping Plover, Amber darter, Atlantic salmon (Gulf of Maine DPS), Chucky Madtom, Conasauga logperch, Diamond darter, Niangua darter, Slackwater darter, Slender chub, Spotfin Chub, Topeka shiner, Yellowfin madtom, Appalachian elktoe, Cumberland elktoe, Dakota skipper, Fluted kidneyshell, Hine's emerald dragonfly, Neosho Mucket, Poweshiek skipperling, Purple bean, Rough rabbitsfoot, Salt Creek tiger beetle, Canada lynx (Lower 48 DPS), Indiana bat, Braun's Rockcress, Kentucky gladecress, Short's bladderpod, Black Warrior Waterdog, Piping Plover, Whooping crane, Alabama sturgeon, Arkansas River shiner (Arkansas River DPS), Gulf sturgeon, Rush darter, dusky gopher frog, Reticulated flatwoods salamander, Alabama moccasinshell, Carolina heelsplitter, Choctaw bean, Coosa moccasinshell, Cumberlandian combshell, Dark pigtoe, Fat three-ridge (mussel), Finelined pocketbook, Fuzzy pigtoe, Georgia pigtoe, Gulf moccasinshell, Interrupted (=Georgia) Rocksnail, Orangenacre mucket, Oval pigtoe, Ovate clubshell, Oyster mussel, Purple bankclimber (mussel), Rabbitsfoot, Shinyrayed pocketbook, Slabside pearlymussel, Southern acornshell, Southern clubshell, Southern kidneyshell, Southern pigtoe, Southern sandshell, Tapered pigtoe, Triangular Kidneyshell, Upland combshell, and Whorled Sunflower.

Critical habitat for the following species overlaps with dicamba use on cotton: California condor, Least Bell's vireo, Mexican spotted owl, Mississippi sandhill crane, Southwestern willow flycatcher, Yellow-billed cuckoo (Western DPS)

Bonytail chub, Chinook salmon (Central Valley spring run DPS), Delta smelt, Fountain darter, Gila chub, Gulf sturgeon, Leon Springs pupfish, Loach minnow, North American green sturgeon (southern DPS), Pecos bluntnose shiner, Razorback sucker, Sharpnose shiner, Smalleye Shiner, Spikedace, Steelhead (Central Valley DPS), Steelhead (South-central California Coast DPS), Steelhead (Southern California DPS), Tidewater goby, Arroyo toad, California red-legged frog, California tiger Salamander (Central California DPS), California tiger Salamander (Santa Barbara County DPS), Chiricahua leopard frog, Chiricahua leopard frog, Desert tortoise, Frosted Flatwoods salamander, Houston toad, Loggerhead sea turtle, San Marcos salamander, Alabama pearlshell, Altamaha Spinymussel, Black abalone, Chipola slabshell, Comal Springs riffle beetle, Conservancy fairy shrimp, Diamond Tryonia, Gonzales tryonia, Koster's springsnail, Morro shoulderband (=Banded dune) snail, Narrow pigtoe, Narrow pigtoe, Noel's Amphipod, Pecos amphipod, Pecos assiminea, Roswell springsnail, Round ebonyshell, Vernal pool fairy shrimp, Vernal pool tadpole shrimp, Alabama beach mouse, Buena Vista Lake ornate Shrew, Jaguar, North Atlantic Right Whale, Perdido Key beach mouse, St. Andrew beach mouse, Butte County meadowfoam, Colusa grass, Fleishy owl's-clover, Georgia rockcress, Gierisch

appears EPA limited the critical habitat overlap only to non-monocot plants and species with an obligate relationship to certain plants and only identified counties with a 1% overlap with critical habitat. Again, any effect is “May Affect” and requires consultation.

EPA’s unlawful restriction of both the action area, and the species and critical habitats it evaluated, violate the ESA. These violations of the ESA action area standard also independently violate the ESA’s best available science mandate for the same reasons.

5. EPA did not fully test whole formulations or product mixtures

Many of the toxicity studies that went into this approval were done on just the active ingredient dicamba. This despite the fact that dicamba products are formulations of multiple ingredients and that the pesticide labels of these products allow them to be mixed with other pesticides in the field, such as glyphosate and other pesticides. Furthermore every single application of these dicamba products must now be done with a tank mix additive to reduce volatility (VRA), the presence of which may impact product toxicity. Tank mixes of the products with other pesticides can be used without triggering any further ESA assessment; those assessments must also be done for this registration. With regards to either the whole formulations of these products and the foreseeable mixture of these products with other pesticides pursuant to this registration, EPA does not have a full accounting of these harms, and in many cases assumes that toxicity to only dicamba will be equal to the complex mixtures that plants and animals will be exposed to in the real world. Therefore, EPA did not insure that all uses of this pesticide have no effect on species protected by the ESA or adversely modify or destroy their critical habitat, because the widely documented uses with other ingredients or other pesticides were largely ignored.

6. EPA did not fully address aggregate exposures with runoff and runoff through irrigation

As is stated in EPA’s risk assessment principles,³⁹ plants, animals and people are rarely exposed to pesticides through one route of exposure. With dicamba, it is likely that exposure will happen through multiple routes at once, for instance through runoff and spray drift at the same time. The EPA

mallow, Greene's tuctoria, Hairy orcutt grass, Hoover's spurge, Huachuca water-umbel, La Graciosa thistle, Pecos sunflower, San Joaquin orcutt grass, Santa Cruz tarplant, Texas wild-rice, Vandenberg monkeyflower, Zapata bladderpod, Black Warrior Waterdog, Piping Plover, Whooping crane, Alabama sturgeon, Arkansas River shiner (Arkansas River DPS), Gulf sturgeon, Rush darter, dusky gopher frog, Reticulated flatwoods salamander, Alabama moccasinshell, Carolina heelsplitter, Choctaw bean, Coosa moccasinshell, Cumberlandian combshell, Dark pigtoe, Fat three-ridge (mussel), Finelined pocketbook, Fuzzy pigtoe, Georgia pigtoe, Gulf moccasinshell, Interrupted (=Georgia) Rocksnail, Orangenacre mucket, Oval pigtoe, Ovate clubshell, Oyster mussel, Purple bankclimber (mussel), Rabbitsfoot, Shinyrayed pocketbook, Slabside pearlymussel, Southern acornshell, Southern clubshell, Southern kidneyshell, Southern pigtoe, Southern sandshell, Tapered pigtoe, Triangular Kidneyshell, Upland combshell, and Whorled Sunflower.

³⁹ <https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/general-principles-performing-aggregate-exposure-and>

attempted to analyze how exposure through volatility + spray drift at the same time would impact non-target plants and the animals that rely on them, but did not account for how exposure through spray drift + volatility and runoff would impact them. In fact, many of the experiments EPA analyzes, done under real-world conditions where rain occurred after two days or the field was irrigated (both allowed by the approved labels), identify these aggregate harms occurring hundreds of feet off of treated fields.⁴⁰ Yet the agency excluded those data from further analysis because they weren't from the single, measured exposure pathway. With EPA's own admission that exposures through runoff would still pose risks to non-target plants and the animals that rely on them,⁴¹ these aggregate exposures are likely to result in harm to ESA-listed species despite EPA's determination otherwise. This is further compounded by EPA's failure to account for irrigation runoff in its runoff mitigations.

7. Recent Biological Evaluations for Other Herbicides Stand in Stark Contrast to Dicamba

In March of 2020, EPA finalized guidance on how it will conduct biological evaluations for pesticides moving forward. The Revised Methods⁴² incorporated many of the suggestions from the NAS report⁴³, like incorporating a probabilistic risk assessment and eliminating the RQ/LOC approach that was used for dicamba. Since the Revised Methods were finalized, EPA has already conducted draft biological evaluations for four herbicides based on this new guidance. For simazine, an herbicide whose annual use is 2 million pounds⁴⁴ compared to an estimated 25 million pounds for OTT dicamba use, EPA found that the pesticide May Affect 1115 listed species and 368 critical habitats and is Likely to Adversely Affect 993 listed species and 316 critical habitats.⁴⁵ EPA also found that glyphosate use on just soybean and cotton crops, the only two crops that the approved dicamba products are allowed for use on, resulted in a May Affect determinations for 238 and 206 listed species, respectively.⁴⁶ Yet by using outdated and inferior guidance to conduct its effects determinations for these dicamba products, EPA has not complied with the ESA's best available science mandate and incorrectly concluded that the use of 25 million pounds of a harmful herbicide each year across 100 million acres May Affect only one listed species and was Likely to Adversely Affect zero.

II. EPA is Violating Section 7(d)

⁴⁰ EPA-HQ-OPP-2020-0492-0002 pgs 216, 233, 235-236, 242-243, 247

⁴¹ EPA-HQ-OPP-2020-0492-0002 pg 298.

⁴² <https://www.epa.gov/endangered-species/revised-method-national-level-listed-species-biological-evaluations-conventional>

⁴³ <https://www.nap.edu/catalog/18344/assessing-risks-to-endangered-and-threatened-species-from-pesticides>

⁴⁴

https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2017&map=SIMAZINE&hilo=L&disp=Simazine

⁴⁵ <https://www.epa.gov/endangered-species/draft-national-level-listed-species-biological-evaluation-simazine>

⁴⁶ <https://www.epa.gov/endangered-species/draft-national-level-listed-species-biological-evaluation-glyphosate>

Section 7(d) of the ESA prohibits a federal agency from “mak[ing] 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.”⁴⁷ By failing to consult with the Services, for all the reasons stated above, EPA has allowed continued use of dicamba to harm endangered species, like the rusty patched bumble bee, that are on the brink of extinction.

CONCLUSION

If EPA does not act to correct the violations described in this letter, we will pursue litigation.

Sincerely,



Stephanie M. Parent
Senior Attorney
Center for Biological Diversity

⁴⁷ 16 U.S.C. § 1536(d).