ORAL ARGUMENT NOT YET SCHEDULED

Case Nos. 15-1054 (LEAD), 15-1176, 15-1389, 15-1462, and 16-1351

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

CENTER FOR BIOLOGICAL DIVERSITY, CENTER FOR FOOD SAFETY, and DEFENDERS OF WILDLIFE,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,

Respondent,

and

BAYER CROPSCIENCE LP, SYNGENTA CROP PROTECTION LLC, and DOW AGROSCIENCES, LLC,

Intervenor-Respondents.

Petitions for Review of Final Administrative Actions of the U.S. Environmental Protection Agency

---

PETITIONERS' REPLY BRIEF

JONATHAN EVANS
Center for Biological Diversity
1212 Broadway, Suite 800
Oakland, CA 94612
tel: (510) 844-7100 x318
jevans@biologicaldiversity.org

STEPHANIE M. PARENT
Center for Biological Diversity
P.O. Box 11374
Portland, OR 97221
Phone: (971) 717-6404
sparent@biologicaldiversity.org

Attorneys for Petitioners

TABLE OF CONTENTS

TABLE OF CONTENTS i

TABLE OF AUTHORITIES iii

GLOSSARY viii

INTRODUCTION 1

ARGUMENT 2

I. The Court Should Enter the Proposed Order and Effectuate the Settlement Agreement. 2

II. If the Court Does Not Enter the Proposed Order, It Must Reject Remand Without Vacatur Because EPA Will Not Comply With that Remedy. 4

A. EPA Has Repeatedly Stated It Will Continue ESA Violations Without a Court-Ordered Deadline. 5

B. EPA's History of Non-Compliance with the ESA Demonstrates a Court Ordered Deadline Is Needed Here. 8

C. This Court's Decision Remanding EPA's Registration of Cyantraniliprole Without Vacatur Does Not Control Here. 11

III. If the Court Declines to Set Deadlines for ESA Compliance, It Should Vacate the Four Pesticides. 15

A. EPA's Flagrant and Repeated Violations of the ESA Are Serious..... 17

B. Consideration of Disruptive Effects Favors Vacatur. 23

1. Pesticides Do Not Enhance Environmental Protection. 24

2. Other Consequences of Vacatur Are Not Highly Disruptive. 25

3. Entering the Proposed Order Would Enhance Environmental Protection and Minimize Disruption. 28

IV. Petitioners Have Demonstrated Standing. 30

A. Petitioners Have Associational Standing Because EPA's Injuries to Members Are Redressable. 30

1. EPA's Failure to Consult Is a Procedural Injury Creating Risk to Species and Imperiling Petitioners' Members. 31

2. Even with the Continued Use of Other Pesticides, Members' Injuries Are Redressable Because Consultation Would Reduce Harm to Species. 34

3. Members' Injuries Are Redressable Regardless of Third-Party Actors Because EPA Controls the Harm. 38

B. Petitioners' Have Organizational Standing Because Resources Were Diverted to Correct EPA's Illegal Activity. 39

CONCLUSION 43

CERTIFICATE OF COMPLIANCE 45

CERTIFICATE OF SERVICE 45

TABLE OF AUTHORITIES

Cases

Allina Health Servs. v. Sibelius
746 F.3d 1102 (D.C. Cir. 2014) 12

Am. Great Lakes Ports Ass'n v. Schultz
962 F.3d 510 (D.C. Cir. 2020) 16, 23

Am. Trucking Ass'ns v. Fed. Motor Carrier Safety Admin.
724 F.3d 243 (D.C. Cir. 2013) 30

Ass'n of Home Builders v. Defs. of Wildlife
551 U.S. 644 (2007) 18

Cannon v. District of Columbia
717 F.3d 200 (D.C. Cir. 2013) 19

Checkosky v. SEC (in Re Checkosky),
23 F.3d 452 (D.C. Cir, 1994) 16

Comcast Corp. v. FCC
579 F.3d 1 (D.C. Cir. 2009) 23

Council of Parent Attys. & Advocs., Inc. v. DeVos
365 F. Supp. 3d 28 (D.D.C. 2019) 5

Ctr. for Biological Diversity v. EPA
847 F.3d 1075 (9th Cir. 2017) 8

Ctr. for Biological Diversity v. EPA
861 F.3d 174 (D.C. Cir. 2017) .. 7, 8, 10, 12, 13, 14, 18, 20, 28, 31, 32, 33, 34, 37

Ctr. for Biological Diversity v. Ross
480 F.Supp.3d 236 (D.D.C. 2020) 17

Defs. of Wildlife v. Adm'r, EPA
882 F.2d 1294 (8th Cir. 1989) 8

Ellis v. Housenger
252 F. Supp. 3d 800 (N.D. Cal. 2017) 8, 32

Env't Def. Fund, Inc. v. EPA
898 F.2d 183 (D.C. Cir. 1990) 12

Equal Rights Ctr. v. Post Props.
633 F.3d 1136 (D.C. Cir. 2011) 40, 43

Farmworker Ass'n of Fla. v. EPA
No. 21-1079, 2021 U.S. App. LEXIS 16882 (D.C. Cir. 2021) 6, 8, 9, 16, 22

Fed. Power Comm'n v. Idaho Power Co.
344 U.S. 17 (1952) 14

Fla. Audubon Soc'y v. Bentsen
94 F.3d 658 (D.C. Cir. 1996) 31

Food & Water Watch v. USDA
1 F. 4th 1112 (D.C. Cir. 2021) 39

Havens Realty Corp. v. Coleman
455 U.S. 363 (1982) 39, 40, 42, 43

Hope v. Pelzer
536 U.S. 730 (2002) 19

In re Core Commc'ns, Inc.
531 F.3d 849 (D.C. Cir. 2008) 11

In re Nat. Resources Def. Council, Inc.
956 F.3d 1134 (9th Cir. 2020) 10

In re Pesticide Action Network N. Am.
798 F.3d 809 (9th Cir. 2015) 11

Larson v. Valente
456 U.S. 228 (1982) 37

League of United Latin Am. Citizens v. Regan
996 F.3d 673 (9th Cir. 2021) 25

League of United Latin Am. Citizens v. Wheeler
922 F.3d 443 (9th Cir. 2019) 11

Limnia, Inc. v. Dept. of Energy
857 F.3d 379 (D.C. Cir. 2017) 5, 6

Lujan v. Defs. of Wildlife
504 U.S. 555 (1992) 31

Lutheran Church-Mo. Synod v. FCC
141 F.3d 344 (D.C. Cir. 1998) 9

Mass. v. EPA
549 U.S. 497 (2007) 37

Nat. Resources Def. Council v. EPA
489 F.3d 1250 (D.C. Cir. 2007) 5, 30

Nat. Resources Def. Council v. EPA
676 F. Supp. 2d 307 (S.D.N.Y. 2009) 27

Nat'l Lime Ass'n v. EPA
233 F.3d 625 (D.C. Cir. 2000) 12

Nat'l Family Farm Coal.
966 F.3d at 906 (9th Cir. 2020) 19, 21, 22, 32

Nat'l Parks Conservation Ass'n v. Manson
414 F.3d 1 (D.C. Cir. 2005) 31

North Carolina v. EPA
550 F.3d 1176 (D.C. Cir. 2008) 28

Orangeburg v. FERC
862 F.3d 1071 (D.C. Cir. 2017) 36

PETA v. USDA
797 F. 3d 1087 (D.C. Cir. 2015) 40, 41, 42

Pollinator Stewardship Council v. EPA
806 F.3d 520 (9th Cir. 2015) 19

Reeve Aleutian Airways, Inc. v. Rice
789 F. Supp. 417 (D.D.C. 1992) 27

Renal Physicians Ass'n v. U.S. Dep't of Health & Human Servs.
489 F.3d 1267 (D.C. Cir. 2007) 38, 39

SEC v. Chenery Corp.
332 U.S. 194, 67 S. Ct. 1575 (1947) 14

Shafer & Freeman Lakes Envtl. Conservation Corp. v. FERC
451 U.S. App. D.C. 345, 992 F.3d 1071 (2021) 21

Sierra Club v. Johnson
444 F. Supp. 2d 46 (D.D.C. 2006) 17

Sierra Club v. Morton
405 U.S. 727 (1972) 33

Standing Rock Sioux Tribe v. United States Army Corps of Eng'rs
282 F. Supp. 3d 91 (D.D.C. 2017) 27

Standing Rock Sioux Tribe v. United States Army Corps of Eng'rs
985 F.3d 1032 (D.C. Cir. 2021) 16, 18, 23, 26

Tenn. Vall. Auth. v. Hill
437 U.S. 153 (1978) 21, 25

U.S. Sugar Corp. v. EPA
844 F.3d 269 (D.C. Cir. 2016) 5

United States v. Oakland Cannabis Buyers' Co-op.
532 U.S. 483 (2001) 26

United Steel, Paper & Forestry, Rubber, Mfg., Energy, Allied Indus. & Serv. Workers Int'l Union v. MSHA
925 F. 3d 1279 (D.C. Cir. 2019) 16

V.I. Tel. Corp. v. FCC
444 F. 3d 666 (D.C. Cir. 2006) 16

Wash. Toxics Coal. v. EPA
413 F.3d 1024 (9th Cir. 2005) 8, 20

Wash. Toxics Coal. v. EPA
No. C01-132C, 2002 U.S. Dist. LEXIS 27654 (W.D. Wash. July 2, 2002) 8

Statutes

16 U.S.C. § 1536(a) 4, 7, 14, 15, 18, 38

7 U.S.C. § 136n(b) 15

Rules and Regulations

40 C.F.R. 156.10(i)(2)(ii) 39

50 C.F.R. § 402.13 ..... 4, 14

50 C.F.R. § 402.14 ..... 4, 14

Fed. R. Evid. 201(b)(2) 19, 20

Other Authorities

86 Fed. Reg. 54298 (Sept. 30, 2021) 20

Center for Biological Diversity v EPA, Nos. 15-1054, 15-1176, 15-1389, 15-1462, 16-1351 (D.C. Cir.) 6

Ctr. for Biological Diversity v. EPA, No. 07-cv-02794 (N.D. Cal.) 8

Ctr. for Biological Diversity v. EPA, No. 20-73146 (9th Cir.) 6, 7, 9, 10

Ctr. for Biological Diversity v. EPA, No. 21-1079 (D.C. Cir.) 6

Ctr. for Biological Diversity v. Whitman, No. 02-cv-1580 (N.D. Cal.) 8

Ctr. for Food Safety v. Wheeler, Nos. 19-72109 & 19-72280 (9th Cir.) 9

Ellis v. Bradbury, No. 13-cv-01266 (N.D. Cal.) 8

Nat. Resources Def. Council v. Regan, No. 17-cv-02034-TSC (D.D.C.) .. 6, 8, 9, 10

Pertinent statutes and regulations have been submitted with Petitioners' Opening Brief and EPA's Response Brief.

GLOSSARY

EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
Four Pesticides	Flupyradifurone, Bicyclopyrone, Benzovindiflupyr, and Halauxifen-Methyl
FIFRA	Federal, Insecticide, Fungicide, and Rodenticide Act
Intervenors	Intervenors for Respondent Bayer CropScience LP, Syngenta Crop Protection LLC, and Dow AgroSciences LLC
Parties	Center for Biological Diversity, Center for Food Safety, Defenders of Wildlife, Environmental Protection Agency, Bayer CropScience LP, Syngenta Crop Protection LLC, and Dow AgroSciences LLC
Petitioners	Center for Biological Diversity, Center for Food Safety, and Defenders of Wildlife
Proposed Order	[Proposed] Order, Doc. 1880656 (filed January 19, 2021).
Settlement Agreement	Settlement Agreement related to the consolidated cases *Ctr. for Biological Diversity v. EPA*, No. 15-1054, Doc. 1542423 (Mar. 13, 2015); No. 15-1176, Doc. 1558360 (June 18, 2015); No. 15-1389, Doc. 1580497 (Oct. 27, 2015); No. 15-1462, Doc. 1590365 (Dec. 18, 2015); No. 16-1351, Doc. 1640538 (Oct. 7, 2016) (executed January 19, 2021). Doc. 1897864, CBD_000002-000140.
Wildlife Agencies	National Marine Fisheries Service and U.S. Fish and Wildlife Service

INTRODUCTION

The parties to this case have put forward a clear and mutually agreeable pathway to resolve a problem that has plagued Respondent Environmental Protection Agency ("EPA") for decades—EPA's failure to comply with the Endangered Species Act ("ESA") when registering pesticides. By entering court-ordered deadlines by which EPA must comply with its ESA obligations for flupyradifurone (Case No. 15-1054), bicyclopyrone (Case No. 15-1176), benzonvindiflupyr (Case No. 15-1389), and haluxifen-methyl (Case No. 16-1351) (collectively the "Four Pesticides",) the Court can effectuate the parties' carefully negotiated Settlement Agreement, which will provide environmental benefits until EPA complies with the law, while minimizing any potential economic and agricultural disruption, and resolve the substance of these consolidated cases. Indeed, the parties' negotiation and efforts to comply with the Settlement Agreement have already reaped benefits by removing the uses that posed the greatest risk to ESA-protected species and resolving EPA's ESA obligations related to cuprous-iodide (Case No. 15-1462).

Unfortunately, court-ordered deadlines have proven to be the only method of ensuring that EPA complies with the ESA because the agency repeatedly, and flagrantly, violates the law and fails to comply with remand without vacatur.

Indeed, EPA has repeatedly told this Court and others that it has no int to comply with the ESA for the Four Pesticides without a court order.

Should the Court decline to enter court-ordered deadlines for compliance with the ESA it must vacate the registrations of the Four Pesticides. EPA's flagrant violations of the law are serious because they undermine the purpose and mandates of the ESA and result in grave environmental harm. Claims that registering more pesticides somehow results in environmental benefits finds no support in use data. Allegations of economic and agricultural disruption based on vacatur a mere *one to two percent* of use of recognized alternatives are overblown.

Petitioners have demonstrated they meet the jurisdictional standing requirements. This Court should provide court-ordered deadlines for compliance with the ESA or vacate the registrations for the Four Pesticides.

ARGUMENT

I. The Court Should Enter the Proposed Order and Effectuate the Settlement Agreement.

All parties agree that this Court should enter an order setting deadlines for EPA's compliance with the ESA regarding the remaining pesticide registrations at issue in these consolidated cases and effectuate the Settlement Agreement. Brief of Intervenor-Respondents ("Intervenors' Br.") at 15-16; EPA's Response Brief ("EPA Brief") at 12-13. The parties' responses to the Court's March 8, 2021 Show Cause Order provide ample support for the entry of the Proposed Order pending

before the Court to resolve these consolidated cases. Docs. 1897864, 1897868, 1897888.

The Proposed Order and Settlement Agreement have already resulted in environmental benefits and improved public policy through EPA's implementation of the ESA for one of the five pesticides in this case, cuprous iodide. The Proposed Order established a deadline of August 13, 2021 for the completion of the required effects determinations as part of the ESA consultation process. Doc. 1880656. On April 26, 2021, in furtherance of the Settlement Agreement and Proposed Order, EPA finalized a label amendment, which cancelled certain uses, such as antimicrobial treatments of socks, undershirts, towels, and sheets.[1] Those uses had the greatest potential to harm wildlife through leaching cuprous iodide into waterways after machine washing. JA__, [CI Doc. 127 at 9-15]; Pet'rs' Br. at 19. This reduced the potential harm to the environment and wildlife of cuprous iodide, which EPA recognized as "very highly toxic to aquatic organisms" that posed "acute risks". JA__, [CI Doc. 127 at 11, 14]; Pet'rs' Br. at 19-20. As a result, EPA completed the final ESA effects determination for cuprous iodide on July 28, 2021, finding that after removing the most hazardous uses it was able to meet its ESA

[1] *Compare* Label Amendment and Cupron Cuprous Iodide Masterbatch label, dated April 26, 2021, Doc. 1897864 at CBD_000142-144, 000147, *with* Cupron Cuprous Iodide Masterbatch label, accepted October 6, 2015, JA__, [CI Doc 124 at 3]; Cuprous Iodide, Draft Ecological Risk Assessment for Federally Listed Species, 85 Fed. Reg. 49,368 (Aug. 13, 2020).

obligations by avoiding harm to ESA-protected species and finding no effect. JA__, EPA, Final No-Effects Determination for Cuprous Iodide (July 28, 2021).

Petitioners agree that EPA's actions in furtherance of the Proposed Order and Settlement Agreement resolve the claim in case number 15-1462 that EPA failed to engage in the ESA's consultation obligations to determine whether the cuprous iodide registration "may affect" any ESA-listed species or critical habitat. 16 U.S.C. § 1536(a); 50 C.F.R. §§ 402.14, 402.13. That leaves active ingredient registrations for the Four Pesticides remaining at issue in these consolidated cases. Having a pending court-ordered deadline for EPA's compliance with the ESA is crucial because the agency has repeatedly told the courts it uses those deadlines as a schedule for complying with the ESA. *See* infra at § II.A., B. This Court should enter the Proposed Order, as modified to remove Paragraph A in acknowledgment of EPA's completion of the no effects determination for cuprous iodide. Proposed Order, Doc. 1880656.

II. If the Court Does Not Enter the Proposed Order, It Must Reject Remand Without Vacatur Because EPA Will Not Comply With that Remedy.

There is no doubt that EPA will use an open-ended remand as an opportunity to indefinitely defer its compliance with the ESA. A remand without a deadline or vacatur "is, in effect, an indefinite stay on the effectiveness of the court's [order] and agencies naturally treat it as such." *NRDC v. EPA*, 489 F.3d 1250, 1264 (D.C.

Cir. 2007) (Randolph, J., concurring); *see also U.S. Sugar Corp. v. EPA*, 844 F.3d 269, 270 (D.C. Cir. 2016) (an open-ended remand without vacatur can "invite prejudicial agency delay"). The Court should thus impose a deadline to avoid "remedy[ing] [EPA's] delay with more delay." *See Council of Parent Attys. & Advocs., Inc. v. DeVos*, 365 F. Supp. 3d 28, 56 (D.D.C. 2019) (citation omitted).

"In general, a voluntary remand request… may be granted only when the agency intends to take further action with respect to the *original agency decision on review*." *Limnia, Inc. v. Dept. of Energy*, 857 F.3d 379, 386 (D.C. Cir. 2017). EPA argues here that it "intends to complete effects determinations for each of the challenged registrations by the dates that the parties previously negotiated, agreed to, and submitted to the Court." EPA Br. at 14, 28; Proposed Order, Doc. 1880656 (proposing schedule of 2025 and 2027 for ESA compliance). However, EPA's statements in other cases contradict that intent.

A. EPA Has Repeatedly Stated It Will Continue ESA Violations Without a Court-Ordered Deadline.

EPA has provided sworn testimony to multiple courts, including this one, demonstrating that it does *not* intend to meet the deadlines the parties have agreed to in the Proposed Order unless the Court orders it to comply with the ESA. Notably, EPA represented at least three times since it filed the Proposed Order and executed the Settlement Agreement that this litigation "might result in further

obligations" to comply with the ESA for four pesticides.[2] "Might" is hardly a commitment and falls far short of the ESA Congressional mandate.

Even after EPA filed its Brief and supporting declarations, it again affirmed that it has no schedule to comply with the ESA for the Four Pesticides remaining in this case without a court order. *Ctr. for Biological Diversity v. EPA*, 9th Cir. Case No. 20-73146, Dkt. 39-2, EPA-APP 015, Matuszko Decl. ¶ 22 (filed Sept. 10, 2021) ("there is pending litigation which *might* result in further obligations; *see also CBD v EPA*, Nos. 15-1054, 15-1176, 15-1389, 15-1462, and 16-1351 (D.C. Cir.) (flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen- methyl)" (emphasis added)). Once again, EPA has "admitted that it will not provide the timely reconsideration that is the central rationale" for seeking voluntary remand. *Farmworker Ass'n of Fla. v. EPA*, No. 21-1079, 2021 U.S. App. LEXIS 16882, at *2 (D.C. Cir. 2021) (denying EPA's request for open-ended remand without vacatur where it admitted that it did not intend to complete the required effects determination until 2024 at the earliest); *Limnia*, 857 F.3d at 386 (reversing request

[2] *See Ctr. for Biological Diversity v. EPA*, 9th Cir. Case No. 20-73146, Dkt. 39-2, Decl. of Jan Matuszko ("Matuszko Decl.") at EPA-APP 015, ¶ 22 (filed Sept. 10, 2021) (referencing this case as "pending litigation which might result in further obligations"); *NRDC v. Regan*, Case No. 17-cv-02034-TSC, Dkt. 58-3, Matuszko Decl. at 8, ¶ 28 (filed June 11, 2021) (referencing this case as "ongoing litigation which might result in further obligations with similar steps for draft and final BEs"); *Ctr. for Biological Diversity v. EPA*, D.C. Cir Case No. 21-1079, Doc. 1895080, A12, Matuszko Decl. ¶ 20 (filed Apr. 19, 2021) (referencing this case as "pending litigation which might result in further obligations").

for voluntary remand when agency did not intend to take action because "[o]therwise, a remand may instead function… as a dismissal of a party's claims").

EPA has further admitted it has no intent to comply with the ESA for new pesticide registrations, such as the ones at issue here. *Ctr. for Biological Diversity v. EPA*, 9th Cir. Case No. 20-73146, Dkt. 39-2, EPA-APP 014, Matuszko Decl. ¶ 19 (explaining EPA does not comply with the ESA for new pesticide registrations because it is "currently focusing most of its resources for assessing potential impacts to listed species on currently registered pesticides"). EPA further explains it has developed an approach for new pesticides "comparing their toxicity with that of registered alternative pesticides" Doc. 1912095, A-010, Matuszko Decl. ¶ 8(c). However, this "comparative hazard information" for new pesticides, which "contributes to information sharing, promotes communication with the public, and improves relationships", is not a substitute for compliance with the ESA's requirements. Doc. 1912095, A-010 to A-011, Matuszko Decl. ¶ 8(c). As this Court has explained, because the ESA mandates that EPA "'shall' engage in consultation before taking 'any action' that could 'jeopardize the continued existence of [ESA-protected species],'" it "may not duck its consultation requirement, whether based on limited resources, agency priorities or otherwise" when registering pesticides. *Ctr. for Biological Diversity v. EPA*, 861 F.3d 174, 188 n. 10 (D.C. Cir. 2017) (quoting 16 U.S.C. § 1536(a)(2)).

B. EPA's History of Non-Compliance with the ESA Demonstrates a Court Ordered Deadline Is Needed Here.

While it is well-settled that the ESA requires EPA to consult with the U.S. Fish and Wildlife Service and National Marine Fisheries Service ("Wildlife Agencies") before authorizing uses of a pesticide that pose risks to endangered species, courts have repeatedly had to rule against EPA's attempts to skirt ESA compliance. *Defenders of Wildlife v. Adm'r, EPA*, 882 F.2d 1294, 1301 (8th Cir. 1989); *Washington Toxics Coalition v. Envtl. Protec. Agency*, 413 F.3d 1024, 1032 (9th Cir. 2005); *Ctr. for Biological Diversity*, 861 F.3d at 188; *Ctr. for Biological Diversity v. EPA*, 847 F.3d 1075, 1093 (9th Cir. 2017); *Ellis v. Housenger*, 252 F. Supp. 3d 800, 820 (N.D. Cal. 2017); *Farmworker Ass'n of Fla. v. EPA*, 2021 U.S. App. LEXIS 16882.[3]

Instead of complying with the ESA *prior* to registering pesticides to limit harm to species threatened with extinction, EPA regularly admits it is violating the law,

---

[3] *See also Wash. Toxics Coal. v. EPA*, No. C01-132C, 2002 U.S. Dist. LEXIS 27654, at *50-51 (W.D. Wash. July 2, 2002); *Ctr. for Biological Diversity v. Whitman*, No. 02-cv-1580, Stipulated Inj. & Order, Dkt. 242 (N.D. Cal. Oct. 20, 2006); *Ctr. for Biological Diversity v. EPA*, No. 07-cv-02794, Order Approving Stipulated Inj. & Settlement, Dkt. 121 (N.D. Cal. Jan. 12, 2010); *Ellis v. Bradbury*, No. 13-cv-01266, Order Approving Stipulated Notice of Dismissal, Dkt. 371 (N.D. Cal. May 29, 2019); *Ctr. for Biological Diversity v. EPA*, No. 11-cv-00293, Proposed Stipulated Partial Settlement Agreement and Order Entering Stipulated Partial Settlement Agreement, Dkts. 364, 366 (N.D. Cal. Oct. 2019); *Natural Resources Defense Council v. Wheeler*, Case No. 1:17-CV-02034-TSC, Order granting Motion to Approve Stipulated Partial Settlement, Dkt. 55 (D.D.C. Jan. 28, 2021).

approves pesticides anyway, as it has done here, and waits to see if it is sued to address its serial violations of the law. *See, e.g.* Pet'rs' Br. at 30; EPA Br. at 7. If EPA is sued for its admitted violation, it further seeks to shirk its obligations for timely judicial oversight and allows continued harm to ESA-protected species by asking the courts to remand without vacatur or any enforceable deadline.[4] Once again EPA seeks this Court's blessing to continue harming ESA-protected species through an indefinite remand to comply with the ESA. EPA Br. at 27 ("remand the registrations to EPA without vacatur *and* without deadlines") (emphasis added). The Court should reject EPA's request to, once again, avoid Congressional mandates and judicial review. *See Lutheran Church-Mo. Synod v. FCC*, 141 F.3d 344, 349 (D.C. Cir. 1998) (refusing to remand because the agency just wanted to avoid judicial review).

EPA's actions in other cases where this Court has remanded pesticide registrations without vacatur demonstrates that it has no actual intent to comply with remand without vacatur. In *Ctr. for Biological Diversity*, this Court remanded without vacatur EPA's illegal registration of cyantraniliprole ordering EPA to

---

[4] *See, e.g.*, *Ctr. for Food Safety v. Wheeler*, Nos. 19-72109 & 19-72280, Motion for Voluntary Remand Without Vacatur, Dkt. 51 (9th Cir. Oct. 26, 2020); *id*. Order, Dkt. 67 (9th Cir. Jan. 12, 2021) (denying motion for remand without vacatur of pesticide); *Farmworker Ass'n of Fla. v. EPA,* 2021 U.S. App. LEXIS 16882 (denying motion for remand without vacatur and vacating aldicarb); *Nat. Resources Def. Council v. Regan*, No. 17-CV-02034, Cross-Motion for Voluntary Remand, Dkts. 59, 59-1 (D.D.C June 11, 2021) (neonicotinoid pesticides); *Ctr for Biological Diversity v. EPA*, 20-73146, Respondent's Motion for Remand without Vacatur and Response, Dkt 39-1 (9th Cir. Sept. 10, 2021) (inpyrfluxam pesticide).

comply with the ESA. 861 F.3d at 189. Tellingly, EPA and Intervenors ask this Court to follow the cyantraniliprole decision and order remand without vacatur or any deadline for compliance. EPA Br. at 14-15; Intervenors' Br. at 17-18. However, four years after the D.C. Circuit remanded the decision to EPA and seven years after first registering cyantraniliprole, EPA has yet to comply with the ESA. Addendum Of Declarations to Petitioners' Reply Brief, REPLYDEC_0190-0194, Declaration of Dr. Nathan Donley ("Donley Decl.") ¶ 43, Ex. 1. EPA admitted to courts several times this year it has no schedule to comply with this Court's four-year-old order remanding without vacatur its registration of cyantraniliprole.[5] EPA's repeated declarations make clear that it prioritizes compliance with the ESA where a court has ordered compliance.

EPA's Office of Pesticide Programs has a woeful track record in addressing other obligations related to pesticide registrations that harm human health and the environment. *See In re Nat. Resources Def. Council, Inc.*, 956 F.3d 1134, 1137-1140 (9th Cir. 2020) (noting EPA's history of delay on remand in pesticide cases); *League*

---

[5] *See Ctr. for Biological Diversity v. EPA*, 9th Cir. Case No. 20-73146, Dkt. 39-2, EPA-APP 014-015, Matuszko Decl. ¶¶ 20-24 (filed Sept. 10, 2021) (omitting reference to cyantraniliprole or compliance with remand order); *NRDC v. Regan*, Case No. 17-cv-02034-TSC, Matuszko Decl. at 8-9, ¶ 23-28 (filed June 11, 2021) (same); *Ctr. for Biological Diversity v. EPA*, D.C. Cir Case No. 21-1079, Doc. 1895080, A12-13, Matuszko Decl. ¶ 20 (filed Apr. 19, 2021) (same and stating that "EPA would be unlikely to be able to begin preparation" of ESA compliance with other pesticides until other court ordered compliance dates).

of United Latin Am. Citizens v. Wheeler, 922 F.3d 443, 445 (9th Cir. 2019) (*en banc*) (granting a writ to compel the EPA to take action regarding an organophosphate pesticide that had been linked to neurodevelopmental problems in children); *In re Pesticide Action Network N. Am.*, 798 F.3d 809, 814-815 (9th Cir. 2015) (granting writ in response to EPA's nearly nine-year delay regarding the same organophosphate pesticide).

EPA claims that "nothing in the record suggests that, on remand, EPA will unreasonably delay its compliance with the ESA section 7 dates set forth in the Proposed Order even if this Court does not grant that relief." EPA Br. at 28. However, EPA's sworn declarations, failure to act on remand without vacatur in other situations and cases, and pattern of evading compliance with the ESA demonstrate that EPA will continue its *modus operandi* of shirking its statutory obligations without a court-ordered deadline. This Court should reject EPA's attempt to further delay compliance with the ESA because remand without vacatur "invites agency indifference." *See In re Core Commc'ns, Inc.*, 531 F.3d 849, 861-62 (D.C. Cir. 2008) (citation omitted)). A court deadline for compliance is necessary or vacatur is required.

C. This Court's Decision Remanding EPA's Registration of Cyantraniliprole Without Vacatur Does Not Control Here.

The facts surrounding the equitable determination to remand without vacatur EPA's unlawful registration of the pesticide cyantraniliprole are inapposite here.

Importantly, petitioners in the cyantraniliprole case did not request vacatur and the Court did not benefit from, or wrestle with, adversarial briefing on the issue of vacatur by both sides.[6] Courts have declined to grant vacatur where the appellant didn't seek such a remedy. *See, e.g.*, *Nat'l Lime Ass'n v. EPA*, 233 F.3d 625, 635 (D.C. Cir. 2000) (court decided against vacatur at request of party challenging agency action); *Env't Def. Fund, Inc. v. EPA*, 898 F.2d 183, 190 (D.C. Cir. 1990) (declining vacatur where no party asked for it). Without that issue squarely before the court the panel was not purporting to contravene the well-settled case law that vacatur is the presumptive remedy. *E.g.*, *Allina Health Servs. v. Sibelius*, 746 F.3d 1102, 1110 (D.C. Cir. 2014).

The risks are higher here because the Four Pesticides have higher toxicity than cyantraniliprole. *See* Pet'rs' Br. at 30-31; Pet'rs' Response to Show Cause at 13-14, Doc. 1897864 at 21-22 of 33. EPA classified cyantraniliprole as a "reduced risk" pesticide because it was considered "generally less toxic" to mammals, birds, fish, and honey bees than the leading alternatives. *Ctr. for Biological Diversity*, 861 F.3d at 188-89 (citation omitted). Here, the Four Pesticides are not all listed as "reduced risk." Pet'rs' Br. at 43-44. For flupyradifurone, EPA did not conduct a

---

[6] See *Ctr. for Biological Diversity v. EPA*, Case No. 14-1036, Doc. 1631304, Petitioners'/Appellants' Final Opening Brief at 48-49 (declining to seek vacatur); Doc. 1631306, Petitioners'/Appellants' Final Reply Brief at 29 n. 8 (same, and mentioning vacatur in a footnote); Pet'rs. Br. at 43.

"reduced risk" analysis for all u[illegible]. Pet'rs' Br. at 44-45; EPA Br. at 22. There is no demonstrated environmental benefit by leaving the Four Pesticides on the market because there is no proof they provide a "reduced risk" for the wide spectrum of uses and they have similar toxicity to other pesticides. Pet'rs' Br. at 44-46. Speculation that they will substitute for other pesticides is contradicted by evidence of combined pesticide use and increasing pesticide use. Infra at § III.B.1. Because leaving these equally dangerous pesticides on the market would not provide "enhanced protection of the environmental values covered" by the pesticide registrations remand without vacatur is not appropriate. *Ctr. for Biological Diversity*, 861 F.3d at 189.

EPA and Intervenors attempt to create a new rule, expanding on the cyantraniliprole decision, that alleges that EPA's analysis of ecological risks, despite the admitted failure to comply with the ESA, justifies remand without vacatur to allow ongoing harms to ESA species if the Court determines new pesticides will substitute for other pesticides. EPA Br. at 15; Intervenors' Br. at 17-32. This requires the court to conduct the complex pesticide by pesticide, crop by crop, and taxa by taxa analysis of the comparative environmental benefits of pesticides and the risk and benefits of alternatives. The analysis of the seriousness of harm to individual taxa of ESA-protected species is precisely the type of analysis required by the expert Wildlife Agencies that are charged with the ESA

section 7 consultation that EPA circumvented. 16 U.S.C. § 1536(a); 50 C.F.R. §§ 402.14, 402.13.

The rule proposed by EPA and Intervenors would "propel the court into the domain which Congress has set aside exclusively for the administrative agency", which is "to affirm the administrative action by substituting what it considers to be a more adequate or proper basis." *SEC v. Chenery Corp.*, 332 U.S. 194, 196, 67 S. Ct. 1575, 1577 (1947). This is precisely the type of administrative function criticized by the Supreme Court in *Fed. Power Comm'n v. Idaho Power Co.,* which was cited to in the cyantraniliprole decision. *Ctr. for Biological Diversity*, 861 F.3d at 189 n. 12, *citing Fed. Power Comm'n v. Idaho Power Co.,* 344 U.S. 17, 20 (1952).

As noted in Petitioners' Opening Brief, in *Idaho Power* the court of appeals modified the license of the Federal Power Commission by striking conditions it found unlawful, and then affirmed the license as it had modified it without conditions. 344 U.S. at 19-20; Pet'rs' Br. at 51. The Supreme Court reversed that decision because, the court of appeals "usurped an administrative function" when it "undertook to modify the license." 344 U.S. at 20. There is no usurpation of administrative function if this Court simply sends to EPA for "reconsideration" its opinion to register the Four Pesticides without compliance with the ESA after the "error of law is laid bare." *Id.* The Parties have submitted a Proposed Order asking

that "these consolidated cases [] be held in abeyance" while EPA complies with the ESA by a date ordered by the Court regarding its pesticide registration order. Doc. 1880656 at 1. The parties simply ask that this Court order EPA to exercise its own administrative function to comply with the ESA by a date certain because of the agency's demonstrated difficulty in achieving compliance before registering the pesticides or without a court order.

III. If the Court Declines to Set Deadlines for ESA Compliance, It Should Vacate the Four Pesticides.

Should the Court decline to enter an Order requiring EPA to meet the deadlines to address its admitted ESA violations, vacating EPA's registration decisions and remanding the registrations to EPA is the only other course that will incentivize EPA to comply with the law and ensure that its pesticide registrations do not jeopardize species already on the edge of extinction or adversely modify their critical habitat. 16 U.S.C. 1536(a)(2). *See* Pet'rs' Br. at 36-49; Pet'rs' Response to Show Cause at 15-22, Doc. 1897864 at 23-30 of 33. EPA's legal violations are serious and vacatur will not be disruptive.

Vacatur is the statutory and presumptive remedy for EPA's unlawful registrations under FIFRA. 7 U.S.C. § 136n(b) (jurisdiction "to affirm or set aside"

invalid orders)[7]; Pet'rs' Br. at 36-38; Pet'rs' Response to Show Cause at 15-17, Doc. 1897864 at 23-25 of 33. This Court has again confirmed that vacatur is the presumptive remedy subsequent to the decision remanding without vacatur EPA's illegal registration of cyantraniliprole. For example, this Court recently affirmed that vacatur is the presumptive and appropriate remedy for "unlawful agency action." *Standing Rock Sioux Tribe v. United States Army Corps of Eng'rs*, 985 F.3d 1032, 1050-1051 (D.C. Cir. 2021) (affirming vacatur of pipeline easement); *United Steel, Paper & Forestry, Rubber, Mfg., Energy, Allied Indus. & Serv. Workers Int'l Union v. MSHA*, 925 F. 3d 1279, 1287 (D.C. Cir. 2019) (vacating amendment to mining safety standards); *Farmworker Ass'n of Fla. v. EPA*, 2021 U.S. App. LEXIS 16882, at *2 (vacating EPA's registration of pesticide aldicarb for ESA violations). Courts have the discretion to decide whether the normal remedy of vacatur is unwarranted, but that is typically reserved for cases where the agency's error is not serious or where vacatur would be typically disruptive unlike the circumstances here. *See Am. Great Lakes Ports Ass'n v. Schultz*, 962 F.3d 510, 519 (D.C. Cir. 2020) (noting that "remand without vacatur remains an exceptional remedy").

[7] *V.I. Tel. Corp. v. FCC*, 444 F. 3d 666, 671 (D.C. Cir. 2006) ("sets aside" means "vacating"); *Checkosky v. SEC (in Re Checkosky)*, 23 F.3d 452, 491 (D.C. Cir, 1994) ("Setting aside means vacating; no other meaning is apparent").

It is EPA's burden to demonstrate that this is a rare case where remand without vacatur is appropriate. *Ctr. for Biological Diversity v. Ross*, 480 F.Supp.3d 236, 245 (D.D.C. 2020) (citation omitted) (agency "bear[s] the burden to prove that vacatur is unnecessary"). EPA's burden to demonstrate that the exceptional remedy of remand without vacatur is "especially heavy" here where it has "failed to demonstrate any diligence whatever in discharging it statutory duty" without court-ordered compliance. *Sierra Club v. Johnson*, 444 F. Supp. 2d 46, 53 (D.D.C. 2006) (noting agency "has in fact ignored that duty for several years"). EPA cannot meet its heavy burden to demonstrate that the exceptional remedy of an unbounded remand without vacatur is appropriate based on the serial violations of the law here.

A. EPA's Flagrant and Repeated Violations of the ESA Are Serious.

EPA and Intervenors do not dispute that EPA's violations of the ESA seriously contravenes the purpose and substance of the ESA. *See* Pet'rs' Br. at 40-41; Pet'rs' Response to Show Cause at 17-19, Doc. 1897864 at 25-27 of 33. Nor can EPA dispute that it's pattern of flagrantly, intentionally, and repeatedly violating the ESA is a serious dereliction of an edict of Congress. Supra at § II.A, B. EPA's intentional pattern of violating the law in just these consolidated cases demonstrates the seriousness of the agency's flagrant violation of the ESA.

EPA's violations of the ESA contravene both the procedural and substantive obligations that apply to every federal agency. *See Nat'l Ass'n of Home Builders v. Defs. of Wildlife*, 551 U.S. 644, 667 (2007); *Defs. of Wildlife v. Jackson*, 791 F. Supp. 2d 96, 112–13 (D.D.C. 2011). "When an agency bypasses a fundamental procedural step, the vacatur inquiry asks not whether the ultimate action could be justified, but whether the agency could, with further explanation, justify its decision to skip that procedural step." *Standing Rock*, 985 F.3d at 1052. EPA does not and cannot provide any justification for skipping the critical procedural consultation requirements of the ESA. *Ctr. for Biological Diversity*, 861 F.3d at 188 n.10 (EPA "may not duck its consultation requirement, whether based on limited resources, agency priorities or otherwise"). Because there is not a "significant possibility that the [EPA] may find an adequate explanation for its actions on remand" the seriousness of EPA's harm here is increased. *Standing Rock*, 985 F.3d at 1051 (citations omitted). EPA's serious violation of the ESA's procedural requirements also subverts the substantive mandate of the ESA to prevent jeopardizing the continued existence of ESA-protected species or adversely modifying their critical habitat. 16 U.S.C. 1536(a)(2).

When EPA complies with the ESA's section 7 consultation procedure substantive benefits to threatened and endangered species results. When EPA complied with the ESA for cuprous iodide it resulted in an amendment to the pesticide label, which removed uses that were the greatest risk to ESA-protected species to reach a no

effect finding. Supra at § I. Similarly, when EPA complied with the ESA in registering the Enlist Duo pesticide it resulted in la[illegible] changes to reduce the risks to ESA-protected species. *Nat'l Family Farm Coal.*, 966 F.3d at 906, 925 (9th Cir. 2020) ("EPA imposed location-based label restrictions to avoid harm" specifically to listed species to reach a "no effect" determination). Claims by intervenors that the error is not serious because "EPA can reissue the challenged registrations" overlooks the substantive outcome of consultation under the ESA and that EPA could change the rule if it chooses to reissue the registration. *Pollinator Stewardship Council v. EPA*, 806 F.3d 520, 532-533 (9th Cir. 2015) (vacating because "a different result may be reached," by EPA instituting pollinator protections for pesticides).

EPA's failure to comply with the ESA has grave real-world effects. Recent consultations on EPA's pesticide registrations found widespread jeopardy for the continued existence of *78* ESA-protected species and adverse modification of *23* critical habitats.[8] In September the U.S. Fish and Wildlife Service announced the

[8] EPA, Opening of 60-day public comment period on Draft Biological Opinion on Malathion (April 2021), https://www.regulations.gov/document/EPA-HQ-OPP-2021-0231-0001; Pursuant to Fed. R. Evid. 201(b)(2), courts may take judicial notice of government reports and information posted on a government agency website. *Hope v. Pelzer*, 536 U.S. 730, 737 n.7 (2002) (citing with approval judicial notice taken by Court of Appeals of report issued by Department of Justice); *Cannon v. District of Columbia,* 717 F.3d 200, 205 n. 2 (D.C. Cir. 2013) (Court took judicial notice of District of Columbia's Retirement Board website page summarizing pension fund operations).

extinction of 23 species. 86 Fed. Reg. 54298 (Sept. 30, 2021). The human-caused sixth mass extinction event is only accelerating and "may be the most serious environmental threat to the persistence of civilization, because it is irreversible."[9] While there are heavily used alternatives for the Four Pesticides for seasonal crop use (Infra at 26; REPLYDEC_0182-0190, Donley Decl. ¶¶ 37-42), there are no alternatives for the permanent extinction of wildlife species.

To justify this serious violation of the law EPA and Intervenors argue that because EPA conducted a FIFRA ecological risk assessment that EPA did not issue the registrations "in total disregard of the pesticide's potential deleterious effects" to species. EPA Br. at 15, *citing CBD v. EPA*, 861 F.3d at 188; Intervenors' Br. at 17. EPA's FIFRA assessment cannot substitute for the ESA.

First, the ESA has a heightened standard to avoid jeopardy to protected species, whereas FIFRA applies a no "unreasonable adverse effect" standard based on a cost-benefit analysis. *See Wash. Toxics Coal. v. EPA*, 413 F.3d 1024, 1032 (9th Cir. 2005) (EPA "cannot escape its obligation to comply with the ESA merely because it is bound to comply with [FIFRA's] consistent, complementary

[9] Gerardo Ceballos, Vertebrates on the brink as indicators of biological annihilation and the sixth mass extinction, Proceedings of the National Academy of Sciences (June 2020), https://www.pnas.org/content/117/24/13596; Fed. R. Evid. 201(b)(2) (judicial notice of facts "accurately and readily determined from sources whose accuracy cannot reasonably be questioned").

objectives"). Relying on a cost-benefit analysis to allow harm to wildlife threatened with extinction contravenes the ESA's objective is to "afford[] endangered species the highest of priorities." *Tenn. Vall. Auth. v. Hill*, 437 U.S. 153, 194 (1978).

Second, the National Academy of Sciences ("NAS") concluded that EPA's FIFRA assessment is "not scientifically defensible for assessing the risks to [ESA] listed species posed by pesticides . . . ." REPLYDEC_0162-0170, Donley Decl., ¶ 12-23. To address this deficiency, EPA developed a series of approaches to address the deficiencies regarding FIFRA's assessment related to ESA-protected species. Doc. 1912095, A-5 to A-10, Matuszko Decl. ¶¶ 7-8.b. Under the ESA the EPA is "required to 'use the best scientific and commercial data available'" during consultation and cannot "disregard superior data." *Shafer & Freeman Lakes Envtl. Conservation Corp. v. FERC*, 451 U.S. App. D.C. 345, 363-64, 992 F.3d 1071, 1089-90 (2021). Yet, EPA pushed forward to register the Four Pesticides, intentionally and admittedly without assessing effects on ESA species under the any of the methods it has identified for ESA compliance.

In *Nat'l Family Farm Coal. v. EPA*, the Ninth Circuit emphasized that the FIFRA assessment alone is not enough because, there, EPA conducted a separate "refined, species-specific assessment" to reach ESA "no effect" determinations, which EPA admits it has not done here. 966 F.3d at 923-24. Further, the Court

emphasized the importance of EPA's "commitment" to "implement NAS's new methodology", which it also did not do here. *Id.* at 926.

As this Court recently ruled in another pesticide registration where EPA flagrantly violated the ESA, vacatur is "warranted in light of the seriousness of the admitted error and the error's direct impact on the merits of the EPA's registration decision given the agency's finding as to the acute toxicity" of a pesticide. *Farmworker Ass'n of Fla. v. EPA*, 2021 U.S. App. LEXIS 16882 at *2. EPA approved the Four Pesticides and products containing them even though EPA found the products toxic. Flupyradifurone is "highly toxic to honeybees on an acute oral exposure basis," and is "very highly toxic" to freshwater insects and estuarine/marine crustaceans. JA ___, [FL Doc. 96 at 6, 7]. EPA approved benzovindiflupyr products containing azoxystrobin, which is classified as highly toxic to freshwater fish and invertebrates and very highly toxic to estuarine/marine invertebrates on an acute exposure basis. JA ___, [BE Doc. 66, Registration Decision at 3]; Azoxystrobin Summary Document (2009) at 11.[10] Compared to seven existing alternatives, EPA found that bicyclopyrone is the second most toxic to mammals, third most toxic to vascular aquatic plants, and fourth most toxic to

[10] https://www.regulations.gov/document/EPA-HQ-OPP-2009-0835-0002. *See* supra n. 8 (judicial notice allowed).

terrestrial plants. JA ___, [BCP Doc. 77 at 6-7]. These serious violations counsel towards vacatur.

B. Consideration of Disruptive Effects Favors Vacatur.

Vacatur of the Four Pesticides would not be highly disruptive. Consideration of the potential disruptive consequences of vacatur—the "second Allied Signal factor"——"is weighty only insofar as the agency may be able to rehabilitate its rationale for the regulation." *Comcast Corp. v. FCC*, 579 F.3d 1, 9 (D.C. Cir. 2009). Those disruptive consequences are not weighty here because EPA can provide no valid justification for skipping the procedures required by ESA section 7, designed to allow EPA to meet its substantive ESA duties. *Standing Rock*, 985 F.3d at 1052 ("vacatur inquiry asks…whether the agency could…justify its decision to skip that procedural step"); supra at 18-19.

"[A] quintessential disruptive consequence arises when an agency cannot easily unravel a past transaction in order to impose a new outcome." *Am. Great Lakes Ports Ass'n*, 962 F.3d at 519. As EPA itself demonstrated through the label amendment and no effects determination for cuprous iodide, EPA can easily unravel the past pesticide registrations to change the label and reduce harm to ESA-protected species.

1. Pesticides Do Not Enhance Environmental Protection.

EPA and intervenors argue that vacatur would be environmentally disruptive, but as noted in Petitioners' Opening Brief, the facts in these cases contradict the claim that the Four Pesticides enhance environmental benefits. Pet'rs Br. at 43-47. Moreover, allegations of any environmental benefits are undercut by the use of the Four Pesticides in combination with older pesticides and increasing pesticide use.

Unsupported claims that the Four Pesticides will somehow replace older pesticides is contradicted by the label on the pesticides themselves and the combinations of newer and older pesticide active ingredients so in the same product. Labels for the Four Pesticides include language stating that they should be rotated with other, older pesticides within or among growing seasons and that they should be combined in "tank mixtures" with other pesticides. REPLYDEC_0170-0172, Donley Decl. ¶¶ 24-28. Pesticide products also combine the Four Pesticides with older active ingredients, such as 2,4-D, undermining claims that these newer products could somehow substitute for old ones when they are literally marketed and sold together in the same product. REPLYDEC_0172, Donley Decl. ¶¶ 27. The specific claim that the decline of the older pesticide chlorpyrifos is attributed to new pesticide approvals should be viewed skeptically because other factors have influenced the decline of such a dangerous pesticide. *E.g.*, *League of United Latin*

Am. Citizens v. Regan, 996 F.3d 673 (9th Cir. 2021) (describing history and vacatur of EPA's chlorpyrifos registration); REPLYDEC_0173-0174; Donley Decl. ¶ 29 (30-year decline in chlorpyrifos, including state phase outs).

The registration of new pesticides by EPA has not substituted or decreased pesticide use, but increased the overall use and potential harm. For example, fungicide and herbicide use for the two most commonly grown crops—corn and soybeans—has increased significantly over the past fourteen years. REPLYDEC_0175-0181; Donley Decl. ¶¶ 31-34. This increase is correlated with EPA's approval of numerous new active ingredients for corn and soybeans over the same time period. *Id.* Remand without vacatur will not have the effect of decreasing the use of older, more toxic pesticides because those pesticides, in many cases, are already being used alongside the new ingredients and pesticide usage has increased alongside new approvals. Remand without vacatur would only allow the environmental harm to ESA-protected species to continue.

2. Other Consequences of Vacatur Are Not Highly Disruptive.

Claims concerning economic and agricultural disruptive consequences are overblown here. First, economic and agricultural costs receive less weight against risks to ESA-protected species because the "plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, *whatever the cost*." *Tenn. Valley Auth.*, 437 U.S. at 184 (emphasis added). Courts cannot

reject the balance that Congress struck in a statute. *United States v. Oakland Cannabis Buyers' Co-op.*, 532 U.S. 483, 497-98 (2001). This Circuit recently found that "though economic disruption is properly considered, it is not commonly a basis, standing alone, for declining to vacate agency action." *Standing Rock*, 985 F.3d at 1051.

Second, the facts severely undercut exaggerated claims of disruption to the economy and agriculture. EPA Br. at 21-27; Intervenors' Br. at 33-57. Intervenors claim that there is "wide usage of the challenged products on a broad range of crops." Intervenors' Br. at 35. EPA claims that vacatur of the Four Pesticides would "threaten food security." EPA Br. at 16. The facts contradict these claims.

Despite being approved in 2015 and 2016, the Four Pesticides represent a miniscule fraction compared to competitors, which EPA and Intervenors analyzed as alternatives for those products. REPLYDEC_0182-0190, Donley Decl. ¶¶ 37-42. In 2018, flupyradifurone represented only *one percent* of the total volume of its eight insecticidal alternatives and benzovindiflupyr represented only *two percent* of the total volume of its six fungicidal alternatives. REPLYDEC_0183-0189, Donley Decl. ¶¶ 38, 40, figs. 6, 8. In 2018, bicyclopyrone represented less than *one percent* of the total volume of its three herbicidal alternatives and halauxifen-methyl represented less than *one percent* of the total volume of its four herbicidal alternatives. REPLYDEC_0184-0190, Donley Decl. ¶¶ 39, 41, figs. 7, 9. Claims

that the vacatur of pesticides, which make up two percent or less of use, will somehow lead to economic disruption or threaten the food supply are patently false and strain the credibility of the overall allegations by EPA and Intervenors.

Any disruption to a "property interest" (Intervenors' Br. at 3 n.1) is rendered null and void by EPA's illegal issuance of the registration. *Reeve Aleutian Airways, Inc. v. Rice*, 789 F. Supp. 417, 422 (D.D.C. 1992) (contract in violation of the Administrative Procedure Act is null and void). Any economic effects would also be short term because EPA can complete the ESA analysis in a short period of time when it chooses to prioritize compliance with law. *See* EPA Br. at 19 (less than one year between ecological risk assessment and ESA final no effects determination). Any lost profits or inconvenience to the pesticide manufacturers is merely "the nature of doing business," especially in an area "fraught with . . . litigation." *Standing Rock Sioux Tribe v. United States Army Corps of Eng'rs,* 282 F. Supp. 3d 91, 104 (D.D.C. 2017). Simply put, any economic disruption that might occur because manufacturers have "already begun reaping the rewards of the outcome of a flawed regulatory process" should "not prevent the EPA's registration[s] from being vacated" while the error is corrected. *NRDC v. EPA*, 676 F. Supp. 2d 307, 317 (S.D.N.Y. 2009). Disruptive consequences do not favor remand without vacatur.

3. Entering the Proposed Order Would Enhance Environmental Protection and Minimize Disruption.

Court-ordered deadlines, as contemplated in the Proposed Order, would effectuate the enhanced environmental protection proposed in the Settlement Agreement and minimize disruption should this Court remand without vacatur. In considering remand without vacatur "enhanced protection of [] environmental values" should be considered. *Ctr. for Biological Diversity*, 861 F.3d at 188 *citing North Carolina v. EPA*, 550 F.3d 1176, 1178 (D.C. Cir. 2008). Without court-ordered deadlines for ESA compliance the environmental benefits of the Settlement Agreement will not be achieved because the settlement is then "null and void." Doc. 1897864, Settlement Agreement at CBD_000004.

The Settlement Agreement benefits the environment and informed public policy through the creation of a website dedicated to reducing the risks to endangered species from the Four Pesticides modeled after EPA's existing website on pesticide application practices to minimize harm to ESA species.[11] Doc. 1897864, Settlement Agreement at CBD_000005-7, CBD_000047-140 (interactive website focused on dozens of narrow endemic endangered species, label restrictions designed to minimize ecological harm, and geographic areas of concern). *Id.* This information helps educate the public about ways to avoid

[11] EPA, Bulletins Live! Two, https://www.epa.gov/endangered-species/bulletins-live-two-view-bulletins. *See* supra n. 8 (judicial notice allowed).

harming ESA-protected species and reduces the potential ESA liability for pesticide users.

The settlement also enhances environmental protection by establishing a meet and confer process to analyze interim measures to prevent harm to ESA-protected species until consultation is completed. Doc. 1897864, Settlement Agreement at CBD_000008-9. By staging these conferrals after the release of draft Biological Evaluations in 2024 and 2026, the Parties will have more information about the appropriateness and scope of potential interim measures to protect imperiled species. *Id.*

Entering the Proposed Order and effectuating the Settlement Agreement would minimize the purported disruption of the Four Pesticides' benefits to growers. EPA Br. at 21-26; Intervenors' Br. at 36-57. Court-ordered deadlines for EPA compliance would allow Petitioners, EPA, and Intervenors the opportunity to coordinate on interim measures to reduce the harm to ESA-protected species in a way that minimizes disruption. Doc. 1897864, Settlement Agreement at CBD_000008-9. It also allows additional time for EPA to negotiate with Intervenors on label restrictions that can reduce harm to ESA-protected species to streamline compliance with its consultation requirements as it did with cuprous iodide. Supra at § I.

Without a court-ordered deadline and effectuation of the settlement there is no assurance that EPA will comply with the ESA given its statements about the lack of compliance without a court order. Supra at § II.A. "When the case is simply remanded, and the agency drags its feet, the winning party's only recourse is to bring a mandamus petition and clear all the hurdles such actions entail." *NRDC v. EPA*, 489 F.3d 1250, 1264 (2007) (Randolph, J., concurring). This improperly places the burden on petitioners who prevailed in the case, instead of the losing party that is flaunting the law. *Id.* This Court should not allow an unbounded remand without vacatur.

IV. Petitioners Have Demonstrated Standing.

A. Petitioners Have Associational Standing Because EPA's Injuries to Members Are Redressable.

Petitioners have standing because at least one of its members would have standing to sue in their own right, "the interests it seeks to protect are germane to the organization's purpose," and "neither the claim asserted, nor the relief requested requires the participation of individual members in the lawsuit." *Am. Trucking Ass'ns v. Fed. Motor Carrier Safety Admin.*, 724 F.3d 243, 247 (D.C. Cir. 2013). Intervenors incorrectly allege that Petitioners' members cannot establish redressability for their injuries. Intervenors' Br. at 10.[12] Petitioners have

[12] Notably, EPA does not challenge Petitioners' standing.

established associational standing because there is a substantial probability that if EPA abides by its statutory mandate to consult on its authorizations of the Four Pesticides, injuries to the member's aesthetic, recreational, and conservation interests will be redressed. *See Lujan v. Defs. of Wildlife*, 504 U.S. 555, 560-61 (1992) (petitioners must show that one of its members has an "injury-in-fact" that is imminent, "concrete and particularized," and is likely to be redressed by a favorable decision).

1. EPA's Failure to Consult Is a Procedural Injury Creating Risk to Species and Imperiling Petitioners' Members.

Intervenors acknowledge that in the case of a procedural injury, such as EPA's failure to engage in consultation, the redressability requirement is relaxed. Intervenors' Br. at 10 n.10. That is, Petitioners need not show that if EPA conducted a consultation that it *would* change its decision regarding the registrations of the Four Pesticides but that it *could* change its decision. *Ctr. for Biological Diversity v. EPA*, 861 F.3d at 182 (failure to comply with the ESA constitutes an "archetypal procedural injury").[13] Even with this relaxed

[13] *See also Fla. Audubon Soc'y v. Bentsen*, 94 F.3d 658, 664 (D.C. Cir. 1996) (to establish redressability, plaintiffs did not need to show that a court order to prepare an environmental impact statement (EIS) pursuant to NEPA would change the Secretary's original decision, only that after preparing an EIS, the Secretary could change his decision); *see also Nat'l Parks Conservation Ass'n v. Manson*, 414 F.3d 1, 5 (D.C. Cir. 2005) (for procedural injuries, "the case law relieves the plaintiff of the need to demonstrate that (1) the agency action would have been different but

redressability standard, Intervenors incorrectly argue Petitioners have not established standing because their members' injuries are not redressable. Intervenor's Br. at 9-12.

This Court and others have repeatedly found standing where EPA failed to comply with the ESA in approving pesticides that harmed members' interests in wildlife. *Ctr. for Biological Diversity v. EPA*, 861 F.3d at 183 (standing where there was a "substantial probability" EPA's failure to consult under the ESA created a "demonstrable risk" species that would be redressed if EPA complied with ESA); *Nat'l Family Farm Coal. v. EPA*, 966 F.3d at 911-12 (standing where member lived in state where pesticide was approved for use and enjoyed viewing harmed species in that state); *Ellis*, 252 F. Supp. at 817–19 (standing based on plaintiffs' evidence that "the types of crops and plants for which [the pesticides] have been approved for use, e.g., corn and lawns, are located in or in the near the vicinity of the locales" in which their members viewed listed species).

In fact, this Court has already found that EPA's failure to consult in connection with the registration of new pesticides that harm wildlife creates a "demonstrable risk" to Petitioners' members who have "concrete aesthetic and recreational interests" in the valley elderberry longhorn beetle and Mitchell's satyr

---

for the procedural violation, and (2) that court-ordered compliance with the procedure would alter the final result.").

butterfly. *Ctr for Biological Diversity*, 861 F. 3d at 182-85; *see also Sierra Club v. Morton*, 405 U.S. 727, 734 (1972) (harm to aesthetic and recreational interests constitutes an "injury in fact"). There is also a "demonstrable risk" to Petitioners' members' interests because there is a "'geographical nexus' . . . between areas of potential [pesticide] use and the respective habitats of" ESA-protected species. *Ctr for Biological Diversity*, 861 F. 3d at 183-84 ("geographical nexus" or overlap found between areas where pesticide was going to be applied and habitats for the valley elderberry longhorn beetle and the Mitchell satyr butterfly).

In their declarations, members identify where they go to observe these affected species and that these areas overlap with agricultural operations that use pesticides. For example, declarant Jeff Miller, states that he regularly visits California Central Valley rivers and riparian areas "about three-to-four times a year" to observe the valley elderberry longhorn beetle in its habitat, which is "nearby many agricultural operations that are likely to use pesticides," such as the Four pesticides.[14] REPLYDEC_0127-0128, Declaration of Jeffrey ("Miller Decl.") ¶ 35, 37; *See also* REPLYDEC_0045, Declaration of John Buse ("Buse Decl.") ¶ 17 (declarant notes that flupyradifurone and benzovindiflupyr are likely to be

[14] Due to the passage of time and Intervenors' arguments Petitioners provide supplemental standing declarations with this brief in addition to those filed earlier. Doc.1775923, Addendum of Standing Declarations In Support of Petitioners' Opening Brief, DEC0001- DEC0268.

applied to blueberry crops in Van Buren County, Michigan "where the butterfly is native"). EPA identified flupyradifurone as "highly toxic to honeybees on an acute oral exposure basis" and EPA's "toxicity studies indicate potential effects of flupyradifurone to non-target terrestrial arthopods, such as insects and spiders, at or below application rates," demonstrating risks to members' interests in ESA-protected species. Pet'rs' Br. at 12.

This Court previously concluded that pesticides that are "highly toxic" to terrestrial invertebrates, like the Mitchell's satyr butterfly and valley elderberry longhorn beetle, supported a finding that EPA's failure to consult created "demonstrable risk" to these species. *Ctr for Biological Diversity*, 861 F. 3d at 182-85. This case is no different for those same members' interests in ESA-protected wildlife. This Court should have no difficulty finding standing here because it has found standing in the same context. *Id.*

2. Even with the Continued Use of Other Pesticides, Members' Injuries Are Redressable Because Consultation Would Reduce Harm to Species.

Intervenors incorrectly characterize Petitioners' action as a challenge against the general use of pesticides. Intervenors' Br at 10. Petitioners are challenging the registration of the Four Pesticides, which specifically harm species its members have concrete aesthetic, recreational, and professional interests in. Petitioners provided "twelve declarations from members with strong personal and professional

interests in dozens of species from over 15 states." Pet'rs' Opening Br at 27; Doc. 1775923, DEC_0001-0268; REPLYDEC_0001-0158.

For example, Dr. James Williams, a former biologist at the U.S. Fish and Wildlife Service and author of the foremost book on southeastern mussels, has studied numerous aquatic species in the southeastern United States, which are vulnerable to flupyradifurone, benzovindiflupyr, and bicyclopyrone. REPLYDEC_0139-0142, Declaration of Dr. James D. Williams ("Williams Decl.") ¶ 2,5,9. Williams continues to research and observe these species in his professional capacity as a research associate at the Florida Museum of Natural History. *Id.* Williams professional interests are harmed by "reduc[ing] the likelihood that [he] will be able to observe and study them in the future." REPLYDEC_0142-0143,Williams Decl. ¶ 9; s*ee also* REPLYDEC_0051, 0056-57, Declaration of Christina R. Celano ("Celano Decl.") ¶ 3, 13 (wildlife photographer whose professional interests are harmed when the Four Pesticides are applied in and around the Atlantic salt marsh snake's habitat, which is a semi-aquatic species that particularly vulnerable to these challenged pesticides); REPLYDEC_0147-0148, 0149, 0153-0155, Declaration of Andy Wood ("Wood Decl.") ¶¶ 2-3, 7, 15-17, (conservation, ecologist, and educator leading trips to observe wildlife that is harmed by the Four Pesticides).

CBD member Ileene Anderson frequently visits imperiled vernal pools where she seeks out ESA-protected plants, such as "the Orcutt grass and the spreading navarretia." REPLYDEC_0017, Declaration of Ileene Anderson ("Anderson Decl.") ¶ 34. Anderson's aesthetic, conservation, recreational, scientific, educational, and wildlife preservation interests are harmed by the effects of herbicides likes bicylopyrone and halauxifen-methyl, because "inadvertent drift or runoff . . . from adjacent urban/suburban properties and agricultural areas into the vernal pools, negatively impacts rare plants." REPLYDEC_0016, 0018, Anderson Decl. ¶ 32, 36.

Each declarants' ability to identify the ways in which the species they are particularly interested in have been specifically harmed by the Four Pesticides shows that Petitioners have put forth an action that distinctly challenges that impacts of these pesticides.[15]

The fact that growers will continue to use other pesticides on the market that affect species does not render the harm caused by the active ingredients in the Four Pesticides negligible. *See Orangeburg v. FERC*, 862 F.3d 1071, 1080 (D.C. Cir. 2017) (when a nonparty "is a key player in the causal story [it] does not erase [the

[15] Noting harm from Four Pesticides and their end-use products. *E.g.* REPLYDEC_0042-0043, Buse Decl. ¶ 9 (flupyradifurone ("Sivanto 200 SL"), bicyclopyrone ("Acuron"), and benzovindiflupyr ("Approvia Ace")); *see also* REPLYDEC_0018, Anderson Decl. ¶ 36 (listing injuries related to active ingredients and products); REPLYDEC_0137-0138, Miller Decl. ¶ 61 (same).

defendant's] role" because "defendant's conduct is one among multiple causes"). In fact, the Supreme Court has repeatedly affirmed that petitioners need not show that "a favorable decision will relieve [their] every injury." *Larson v. Valente,* 456 U.S. 228, 244, n.15 (1982).

Showing that the injury would be "reduced to some extent if petitioners received the relief they seek" is sufficient to satisfy the redressability requirement. *See Mass. v. EPA*, 549 U.S. 497, 526 (2007) (injury of rising sea level due to climate change redressable if EPA was required to regulate automobile emissions even where other countries increased emissions). Reducing harm to the species identified in the member declarations through ESA consultation, like the valley elderberry longhorn beetle and Mitchell's satyr butterfly, is sufficient to establish redressability.

Even where a "Reduced Risk" pesticide, such as CTP, would be "generally less toxic towards mammals, birds and fish than the leading alternatives," this Court nonetheless found standing. *Ctr. for Biological Diversity* , 861 F. 3d 174 at 189, n.11 ("the fact that CTP is a 'Reduced Risk' pesticide that offers net environmental benefits does not conflict with our standing analysis . . . it is highly toxic to [ESA-protected species], in both of which [CBD] members have an interest.").

3. Members' Injuries Are Redressable Regardless of Third-Party Actors Because EPA Controls the Harm.

Petitioners' injuries are redressable regardless of third-party actors, such as the registrants or growers, because vacatur or the consultation process would likely alter third party conduct of the Four Pesticides. To establish redressability where a third-party is causing the plaintiff's substantive injury, the Court has "required that the facts alleged be sufficient to demonstrate a substantial likelihood that the third party directly injuring the plaintiff would cease doing so as a result of the relief the plaintiff sought." *Renal Physicians Ass'n v. U.S. Dep't of Health & Human Servs.*, 489 F.3d 1267, 1275 (D.C. Cir. 2007). Third party use of the Four Pesticides directly injuring Petitioners' members would cease if this Court vacated the registrations. Injuries to Petitioners' members from the Four Pesticides produced by the registrants would also be reduced because the consultation process requires EPA to avoid jeopardy to ESA-protected species or adverse modification of their habitat. 16 U.S.C. 1536(a)(2). As part of the ESA consultation process set out in the Settlement Agreement the registrant for cuprous iodide removed uses that had the greatest potential to harm wildlife. EPA's Br. at 19; supra at § I. When EPA complies with the ESA, registrations can be altered to reduce impacts and avoid on protected species.

In *Renal Physicians* the Court found that even if the regulation were vacated, the harm could not be "simply undone" because third party hospitals would likely

continue to use the method provided by the agency in the regulation to assure compliance with the underlying federal law. *Renal Physicians Ass'n*, 489 F.3d at 1277. Nor is this a situation where a third-party actor could use pesticides approved by another source, like a farmer that could "secure sufficient credit elsewhere." *Food & Water Watch v. USDA*. 1 F. 4th 1112, 1117 (D.C. Cir. 2021). Here, growers that use pesticides are not acting independently from EPA control and regulation. The use and conditions of pesticides are approved and regulated by EPA via pesticide labels, meaning that EPA controls the harm that occurs when pesticides are ultimately used by growers. *See E.g.* 40 CFR 156.10(i)(2)(ii) (pesticide use inconsistent with label illegal).

Petitioners' members' injuries would be redressed if this Court vacated the registration of the Four Pesticides and EPA consulted on its approvals of the Four Pesticides.

B. Petitioners' Have Organizational Standing Because Resources Were Diverted to Correct EPA's Illegal Activity.

Petitioners also have organizational standing here. EPA's failure to consult on approvals of the Four Pesticides caused Petitioners to suffer a "consequent drain on [their] resources" which resulted in a "concrete and demonstrable" injury, beyond a mere "setback to [their] abstract social interests." *Havens Realty Corp. v. Coleman*, 455 U.S. 363, 379 (1982). To determine whether an organization has suffered a "concrete and demonstrable" injury, the organization must show that the

agency's action "injured [its'] interest and "used its resources to counteract that harm." *Equal Rights Ctr. v. Post Props.*, 633 F.3d 1136, 1140 (D.C. Cir. 2011).

The D.C. Circuit's decision in *PETA v. USDA*, puts forth the standards for organizational standing. 797 F. 3d 1087, 1093 (D.C. Cir. 2015). PETA established organizational standing where USDA's failure to apply certain animal welfare regulations to birds "perceptibly impaired" PETA's ability to prevent animal cruelty through the normal channel of submitting complaints. *Id.* at 1087. USDA further deprived PETA of key information, such as "bird-related [Animal Welfare Act] information including, in particular, investigatory information, and a means by which to seek redress for bird abuse", that it relies on to educate the public. *Id.* at 1095. This constituted a "concrete and demonstrable" injury to PETA's interests in preventing animal cruelty, and therefore requiring PETA to divert its resources to resolve this injury. *Id.* at 1094; *see also Havens*, 455 U.S. at 379.

Similarly, by not consulting on it its authorizations of the Four Pesticides, EPA "deprived [Petitioners] of key information that they rely on to educate the public" and their members. *PETA*, 797 F. 3d at 1093. To obtain information about species impacts that EPA was required to do, Petitioners diverted resources to independently gather information about species impacted by these pesticide registrations. *Id.*

For example, Center for Biological Diversity ("CBD") staff member Jeff Miller stated that due to EPA's failure to consult, much of his "time and CBD's resources have been diverted towards authoring a series of reports detailing the effects of pesticides on ESA listed species." REPLYDEC_0010-0114, Miller Decl. ¶ 4. Additionally, without EPA's consultation analysis, which the CBD would normally use to inform members about species impacts, it had to independently analyze the "harmful effects of pesticides on endangered species." *Id.* Like the case in *PETA,* Miller noted if EPA met its consultation obligation, CBD would have been able to protect species through its usual processes, such as preparing and submitting ESA listing petitions. REPLYDEC_0015. *See also PETA*, 797 F. 3d at 1094 ("USDA's refusal to apply the AWA to birds … precluded PETA from preventing cruelty to and inhumane treatment of these animals through its normal process of submitting USDA complaints"). CBD has also had to divert other scientific staff to research and analyze "studies provided by EPA and the pesticide industry, including Ecological Risk Assessments and Biological Evaluations, in order to analyze how pesticides affect endangered species, which should have been analyzed by" EPA and the Wildlife Agencies. REPLYDEC_0025, Declaration of Lori Ann Burd ("Burd Decl.") ¶ 15.

Petitioners are being deprived of investigatory and scientific information related to ESA-protected species derived through the ESA's consultation process

like the kind of information that PETA was being deprived of. *PETA*, 797 F. 3d at 1095 (USDA deprived PETA of investigatory information related to birds). To counteract this harm, Petitioners have been forced to conduct their own investigation to determine the impacts of the Four Pesticides on ESA-protected species, the kind of investigation EPA is required to conduct through the consultation process. This "perceptibly impaired" CBD's ability to protect ESA-listed species because it has been deprived of the information to do so, which is information that EPA is legally required to provide. *Havens*, 455 U.S. at 379.

Petitioners have also had to expend resources to counter these informational injuries resulting in a concrete injury. *PETA*, 797 F.3d at 1095. Mr. Miller diverted roughly 25% of his time toward "addressing the impacts of pesticides on endangered species and providing information to the public about these impacts, due to the EPA's failure to consult." REPLYDEC_0115, Miller Decl. ¶ 12. This time was diverted from a range of conservation work such as preparing endangered species listing petitions and public education. *Id.* Similarly, over roughly "7 years, [staff member Brett Hartl] allocated roughly 10% of my total work focus, or approximately 1400 hours, to the issue of EPA's failure to comply with the ESA's consultation requirements." REPLYDEC_0087-0088, Declaration of Brett Hartl ("Hartl Decl.") ¶ 9. This reduced organizational and staff time to, among other things, take enforcement action for ESA-Protected species and "educate the public

and decision makers." Id. This drain on the organization's resources and activities constitutes an injury to the organization itself. *Havens*, 455 U.S. at 379; *see also Equal Rights Ctr. v. Post Props.*, Inc., 633 F.3d 1136, 1138 (D.C. Cir. 2011) ("if the defendant's allegedly wrongful action prompts an organization to increase[] the resources [it] must devote to programs independent of its suit against the defendant, the organization has shown an injury in fact") (cleaned up). Petitioners have organizational standing.

CONCLUSION

This Court should enter the Proposed Order effectuating the Settlement Agreement and providing deadlines for EPA to comply with the ESA or vacate the registrations for the Four Pesticides to ensure EPA will not indefinitely continue illegal registrations upon remand without vacatur.

Respectfully submitted,

/s/ *Jonathan Evans*
Jonathan Evans
Stephanie Parent
Center for Biological Diversity
1212 Broadway, Suite 800
Oakland, CA 94612
tel: (510) 844-7118
cell: (213) 598-1466
jevans@biologicaldiversity.org
Attorneys for Petitioners

Of Counsel:
GEORGE KIMBRELL
Center for Food Safety
2009 NE Alberta St.

JASON RYLANDER
Defenders of Wildlife
1130 17th Street, NW

Suite 207
Portland, OR 97211
Tel: (971) 271-7372
GKimbrell@CenterforFoodSafety.org

Attorney for Petitioner Center for Food Safety

Washington, DC 20036
Tel: (202) 682-9400
jrylander@defenders.org

Attorney for Petitioner Defenders of Wildlife

CERTIFICATE OF COMPLIANCE

I certify the foregoing response complies with the format and length limits specified by Circuit Rules of the United States Court of Appeals for the District of Columbia Circuit, corresponding Federal Rules of Appellate Procedure Rule 32(g), and the enlarged word-count limitation in the Court's August 26, 2021, Per Curiam Order (Doc. 1911681) because it contains 9,986 words according to the word count using Microsoft Word excluding the parts exempted by Federal Rule of Appellate Procedure 32(f).

I certify that the foregoing complies with the type face and type style requirements of Federal Rule of Appellate Procedure 32(a) and corresponding Circuit Rules because it is drafted in 14 point Times New Roman font.

CERTIFICATE OF SERVICE

I certify that I electronically filed the foregoing and contemporaneously associated filings with the Clerk of the Court for the United States Court of Appeals for the District of Columbia Circuit by using the appellate CM/ECF system on November 1, 2021. I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the appellate CM/ECF system.

/s/ Jonathan Evans
Counsel for Petitioners

ORAL ARGUMENT NOT YET SCHEDULED

Case Nos. 15-1054 (LEAD), 15-1176, 15-1389, 15-1462, and 16-1351

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

CENTER FOR BIOLOGICAL DIVERSITY, CENTER FOR FOOD SAFETY, and DEFENDERS OF WILDLIFE,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,

Respondent,

and

BAYER CROPSCIENCE LP, SYNGENTA CROP PROTECTION LLC, and DOW AGROSCIENCES, LLC,

Intervenor-Respondents.

Petitions for Review of Final Administrative Actions of the U.S. Environmental Protection Agency

---

ADDENDUM OF DECLARATIONS TO PETITIONERS' REPLY BRIEF

JONATHAN EVANS
Center for Biological Diversity
1212 Broadway, Suite 800
Oakland, CA 94612
tel: (510) 844-7100 x318
jevans@biologicaldiversity.org

STEPHANIE M. PARENT
Center for Biological Diversity
P.O. Box 11374
Portland, OR 97221
Phone: (971) 717-6404
sparent@biologicaldiversity.org

Attorneys for Petitioners

TABLE OF CONTENTS

	Page no.
Declaration of Ileene Anderson	REPLYDEC_0001-REPLYDEC_0019
Declaration of Lori Ann Burd	REPLYDEC_0020-REPLYDEC_0040
Declaration of John Buse	REPLYDEC_0041-REPLYDEC_0050
Declaration of Christina Celano	REPLYDEC_0051-REPLYDEC_0061
Declaration of Martha Crouch	REPLYDEC_0062-REPLYDEC_0075
Declaration of Jaydee R. Hanson	REPLYDEC_0076-REPLYDEC_0083
Declaration of Brett Hartl	REPLYDEC_0084-REPLYDEC_0101
Declaration of Chris Irwin	REPLYDEC_0102-REPLYDEC_0109
Declaration of Jeffrey Miller	REPLYDEC_0110-REPLYDEC_0138
Declaration of James D. Williams	REPLYDEC_0139-REPLYDEC_0146
Declaration of Andy Wood	REPLYDEC_0147-REPLY DEC_0158
Declaration of Nathan Donley, Ph.D.	REPLYDEC_0159-REPLY DEC_0194

DECLARATION OF ILEENE ANDERSON, M.S.

I, Ileene Anderson, state and declare as follows:

1. The facts set forth in this declaration are based upon my personal knowledge. If called as a witness, I could and would testify to these facts. As to those matters which reflect an opinion, they reflect my personal opinion and judgment on the matter.

2. I am an adult citizen of the United States and reside in Los Angeles, California.

3. I am submitting this declaration on behalf of myself and the Center for Biological Diversity, a non-profit organization of good standing.

4. I am currently the Public Lands Deserts Director and a Senior Scientist with the Center for Biological Diversity (Center), where I have been employed since November 2005 and have been a member of the organization since 1999. In that capacity, my responsibilities include assessing various environmental impacts to public and private land resources primarily in southern California and other parts of the southwestern United States. I use my biological education and experience to evaluate effects on wildlife and wildlife habitat as well as to recommend necessary protections for wildlife.

5. I have a Masters of Science in Biology from the California State University at Northridge. I have studied and surveyed for native plants and animals in California for over 30 years.

6. I was born and raised in the southern and central San Joaquin Valley of California and regularly return there to visit family and friends, as well as for work purposes to evaluate the status of rare plants and animals and their habitats. When I was growing up, my family regularly went on vacations that included camping in some of the nearby wild places. On those trips and trips to see my relatives in Fresno, one of my educational pastimes was identifying the different crops that were growing along our travel routes because the San Joaquin Valley had been primarily converted to agriculture. In my childhood of the 1960's and 1970's, many of the crops were annual crops, mostly vegetables or cotton, with alfalfa as a cover crop. There were some fruit orchards as well. These days when I drive to see my relatives, I still pay attention to the crops grown in the San Joaquin valley and have noticed an increase in perennial crops including nuts and grapes.

7. I have also noticed a marked decrease in the number of insects. When I was a kid growing up in the southern San Joaquin Valley during the spring, summer and fall, we would need to clean the windshield of our car frequently because of the number of insects that got hit by the car, making the windshield harder to see through. Now when I drive along those same roads at the same time of year, often times, I do not need to clean my windshield at all. Insects play a

vital role they play in supporting other species including birds, mammals, and reptiles. I am harmed when the pesticides being used on crops reduce the population of all insects including critical pollinators. I worry about the reduction in native pollinators too, because those species, which live in the area provide benefits to non-commercial crops as well as wildlife. I am harmed when herbicides may affect the capacity of native plants to grow and complete their lifecycles by producing flowers, fruits and seeds.

8. I live in Los Angeles and regularly visit places to observe native plants and wildlife in central and southern California. While I personally enjoy travelling to places to see rare plants and animals in central and southern California, I also do so to view rare species and evaluate habitat for rare plants and animals.

9. Because of the high number of endemic plant and animal species that are found in California and nowhere else in the world, I enjoy targeting places where I might be able to see rare and endangered plants and animals, because it brings me great joy to be able to view these species, too many of which are teetering on the brink of extinction. I intend to continue visiting these areas regularly in the future.

10. The Center is committed to protecting endangered species and wild places. We recognize that rare species need habitat protection in order to recover

and thrive at levels that assure non-extinction. I rely upon the Center to represent my interests in protecting threatened and endangered species.

11. I am harmed by the impact of pesticides on numerous rare and threatened and endangered species that I have worked on both in the field and in securing conservation of their habitat for years.

12. I am very concerned about a suite of rare species that have virtually been extirpated from the San Joaquin Valley of California primarily due to habitat conversion to agriculture and only persist along the peripheries of their historic ranges. Along with their habitat conversion, they now are documented to suffer from pesticides. The mammal species include the federally and California state listed endangered giant kangaroo rat (*Dipodomys ingens*), and the federally endangered and California state listed threatened San Joaquin kit fox (*Vulpes macrotis mutica*). The giant kangaroo rat is affected by pesticides primarily in and around their remaining habitat that is adjacent to agricultural fields. I am harmed when flupyradifurone, bicyclopyrone, and benzovindiflupyr are applied in and around the San Joaquin Valley without regard to impacts on the giant kangaroo rat. As granivores, these kangaroo rats eat seeds of plants that may be exposed to pesticides. The health of these imperiled small mammals is harmed by toxic food, and a reduction in plants that produce their much needed food, in addition to the

fact that they have already lost over 90% of their habitat to conversion to agriculture.

13. The highly imperiled San Joaquin kit fox is one of my favorite animals because it is a smart and adorable mammal. I have visited habitat for the San Joaquin kit fox on many occasions and at many locations. In January and February of 2020, I visited several areas of habitat - near the Kern River, the outskirts of the town of Taft and along Poso Creek in Kern County. While I did not see any San Joaquin kit fox on those trips I saw its habitat and I searched for burrows that a San Joaquin kit fox would use, because they are very distinctive. I intend to visit San Joaquin kit fox habitat in next month, when I'm in the area and I will try to see this critically endangered species.

14. The preferred prey of the San Joaquin kit fox are kangaroo rats and other small rodents. If its prey are affected by pesticides directly, the kit foxes will also be affected by consuming rodents that have been exposed to pesticides. Also, when rodent populations are reduced due to effects of pesticides, the ability for the San Joaquin kit fox to find adequate prey will be reduced, that could result in starvation at worst or substandard health at best. I am harmed when kit foxes are adversely affected by flupyradifurone, bicyclopyrone, and benzovindiflupyr by consuming prey that has been exposed to these pesticides or finding inadequate

prey due to pesticide use. Pesticides are often known to bioaccumulate in the San Joaquin kit foxes (and other predators) and causes illness, reduction of fitness and often mortality.

15. I have visited habitat for the giant kangaroo rat on many occasions and several locations. For example, in May 2018, I visited its habitat in the Carrizo Plain area in San Luis Obispo County. While in the area, I located giant kangaroo rat territories, called precincts, which are obvious on the landscape because giant kangaroo rats clip the vegetation around their burrows. However, I did not see any giant kangaroo rats. I intend to visit giant kangaroo rat habitat in the future to view their precincts and try to view their nocturnal activities.

16. I am concerned about the federally and state listed endangered Buena Vista Lake ornate shrew (*Sorex ornatus relictus*) another animal endemic to the San Joaquin Valley. The Buena Vista Lake ornate shrew's habitat has also been significantly reduced from habitat conversion to agriculture and alteration of hydrological processes. The few acres of remaining habitat for the Buena Vista Lake ornate shrew is primarily surrounded by industrial agriculture, where pesticides used in agricultural practices could cause injury, harm and/or mortality to this already highly imperiled species. I am harmed when flupyradifurone, bicyclopyrone, and benzovindiflupyr are applied in and around the shrew's habitat

without regard to the impacts on the shrew's food sources. The shrew is a voracious feeder, requiring consumption of its own body weight in insects and invertebrates each day in order to survive. Pesticides reduce the Buena Vista Lake ornate shrew's food sources which are necessary to sustain and recover the shrew. In addition, the Buena Vista Lake ornate shrew's habitat is moist soils commonly found near a reliable water source. Agricultural runoff areas are often times the best source of reliable water in the agriculturally industrialized San Joaquin Valley where the Buena Vista Lake ornate shrew lives. Because agricultural runoff is frequently laden with pesticides, the direct exposure of the Buena Vista Lake ornate shrew to these pesticides and the effects of the direct exposure on the shrew particularly are harmful because pesticides have known negative impacts on animals.

17. I have visited habitat for the Buena Vista Lake ornate shrew on several occasions, including its habitat in a tributary to Buena Vista Lake in Kern County. While I enjoyed visiting Buena Vista Lake shrew's habitat, I was unable to see this rare animal. I intend to visit Buena Vista Lake shrew's habitat in the future to try to view their activities.

18. I am concerned about the federally listed endangered and state listed fully-protected and endangered blunt-nosed leopard lizard (*Gambelia sila*)

another animal endemic to the San Joaquin Valley and adjacent areas. The blunt-nosed leopard lizard's habitat has been significantly reduced from habitat conversion to agriculture. The remaining habitat for the blunt-nosed leopard lizard is surrounded by or directly adjacent to industrial agriculture, where pesticides used in agricultural practices could cause injury, harm and/or mortality to this already highly imperiled species. I am harmed when flupyradifurone, bicyclopyrone, and benzovindiflupyr are applied in and around the blunt-nosed leopard lizard's habitat without regard to the impacts on its food sources and reliance on other species that are also affected by these pesticides. The blunt-nosed leopard lizard is insectivorous and pesticides, which are often aerially applied and have been applied to areas set aside for blunt-nosed leopard lizard conservation, reduce the primary food source (insects) or the plants necessary to support the insects for the lizard. In addition, the blunt-nosed leopard lizard relies on burrows dug by burrowing rodents as shelter. Pesticides that harm burrowing rodents would reduce the number of shelter sites for the blunt-nosed leopard lizard.

19. I have visited habitat for the blunt-nosed leopard lizard on numerous occasions. For example in May of 2018, I visited its habitat on the Carrizo Plain area in San Luis Obispo County. However, I did not see any blunt-nosed leopard lizards although I did see a number of suitable burrows in

appropriate habitat. I intend to visit blunt-nosed leopard lizard's habitat in the upcoming spring to try to find these lizards as they are foraging or basking.

20. I am concerned about the federally listed threatened Kern primrose sphinx moth (*Euproserpinus euterpe*) another animal found only in the Walker Basin, in Kern County, the Carrizo Plain, in eastern San Luis Obispo County and the Cuyama Valley in Santa Barbara and Ventura Counties, all in Central California. The Kern primrose sphinx moth's habitat is disjunct but in some locations its habitat is directly adjacent to agriculture, where pesticides used in agricultural practices could cause injury, harm and/or mortality to this already highly imperiled species. The Kern primrose sphinx moth can remain in extended diapause in its larval form for several years waiting for environmental cues (adequate precipitation) to ensure that its host plant, suncups (*Camissonia campestris*), germinate and are present to complete the sphinx moth's lifecycle. Whether in its larval stage or as a moth, the Kern primrose sphinx moth is vulnerable to pesticides which are often aerially applied. It is also affected indirectly if herbicides eliminate its host plant, adversely modifying the essential habitat it needs to survive. I am harmed when flupyradifurone, bicyclopyrone, and benzovindiflupyr will be applied in and around the Kern primose sphinx moth's

habitat without regard to impacts on its lifecycle and the suncups it relies on for survival.

21. I have visited habitat for the Kern primrose sphinx moth several times. For example, in May of 2018, I visited its habitat on the Carrizo Plain area in San Luis Obispo County and also in the Cuyama Valley. I looked for suncups along sandy washes which is the habitat for the Kern primrose sphinx moth and when I found the suncups, I looked carefully for larval or moth stages of the Kern primrose sphinx moth. However, I did not find any Kern primrose sphinx moths. I intend to visit Kern primrose sphinx moth's habitat in the future to try to find these the moths or larval stages.

22. I am concerned about the federally listed threatened coastal California gnatcatcher (*Polioptila californica*), a non-migratory bird species that is only found along the coast of southern California and northern Baja, Mexico. The California gnatcatcher's habitat has been significantly reduced from habitat conversion to urban, suburban and agricultural development. The small amount of remaining California gnatcatcher habitat often lies directly adjacent to agriculture or urban/suburban development, where pesticides are used that could cause injury, harm and/or mortality to this already highly imperiled species. I am harmed when flupyradifurone, bicyclopyrone, and benzovindiflupyr are applied in and around

the gnatcatcher's habitat without regard to impacts on its food source. The California gnatcatcher, as its name suggests, is insectivorous and pesticides, which are often aerially applied, reduce the primary food source (insects) for the gnatcatcher. Herbicides can reduce the plants that the California gnatcatcher's insect prey require for habitat, further reducing available insects for the gnatcatcher's consumption.

23. I have visited habitat for the California gnatcatcher numerous times, including implementing quantitative surveys on gnatcatcher habitat characteristics in Orange County, California for four years in the late 1990's after a fire in Crystal Cove State Park.

24. My most recent trip to view coastal California gnatcatchers was in the fall of 2019 when I visited the Palos Verdes Peninsula. While there, I decided to wander down to the beach to see if I could spot a coastal California gnatcatcher—the Peninsula holds significant high-quality gnatcatcher habitat and has undergone significant efforts at habitat restoration that included herbicide use to eliminate non-native plants. After walking only a short way down the trail towards the beach I heard the gnatcatcher's distinctive mewing call and I was overjoyed to see a California gnatcatcher flitting around in a California sagebrush. Later in the day, when I returned to my car, another California gnatcatcher was

"mewing" in some dense coastal sage scrub adjacent to the parking lot. I could see it best with my binoculars.

25. I intend to visit California gnatcatcher habitat in the future to try to see and hear these sweet singing little songbirds and assess the quality of their habitat, primarily in San Bernardino and Riverside Counties, where California gnatcatcher habitat is being impacted by conversion to development and agriculture. Gnatcatcher habitat adjacent to urban and suburban development and agriculture is negatively impacted, because of the potential use of pesticides in such areas. Increasing use of pesticides adjacent to California gnatcatcher habitat reduces the amount of insects that the gnatcatcher relies on as a food source, for itself and when raising its young. Depressed populations of insects from the nearby use of pesticides would decrease the populations of gnatcatchers which are already suffering from significant habitat losses.

26. I am concerned about the federally listed endangered and state listed threatened Stephen's kangaroo rat (*Dipodomys stephensi*), a highly localized endemic species that is only found in the western part of Riverside County and the northern part of San Diego County, California. The Stephen's kangaroo rat's habitat has been significantly reduced from conversion to urban, suburban and agricultural development. The little remaining Stephen's kangaroo rat habitat

often lies directly adjacent to agriculture or urban/suburban development, where pesticides are used that could cause injury, harm and/or mortality to this already highly imperiled species.

27. The Stephen's kangaroo rat is very likely affected by pesticides that are in and around their remaining habitat adjacent to agricultural fields, urban/suburban areas and earthen dams where pesticides are used based on documented impacts from pesticides on other burrowing species rodents. Stephen's kangaroo rats are primarily granivorous and are harmed if they eat grains that have been sprayed with flupyradifurone, bicyclopyrone, or benzovindiflupyr. Herbicides also reduce the plants that the Stephen's kangaroo rat relies on to produce the seeds and grains it caches and eats. I have visited habitat for the Stephen's kangaroo rat numerous times, visiting many of the reserves established for them. For example in 2018, I visited its habitat in Riverside County at the San Jacinto Wildlife Area. I looked for Stephen's kangaroo rats in the grassland habitat that they prefer. However, I did not see any Stephen's kangaroo rats, although burrows were present that could have been dug by the burrowing Stephen's kangaroo rat. I intend to visit Stephen's kangaroo rat habitat in the future to try to view the nocturnal activities of this very rare species of kangaroo rat.

28. I am concerned about the federally listed threatened Santa Ana sucker (*Catostomus santaanae*), a native California fish endemic to only four southern California rivers – the upper portion of the Tujunga Wash, the San Gabriel River and the upper reaches of the Santa Clara River in Los Angeles County, and a less-than-five-mile stretch of the Santa Ana River between Riverside Drive and Mission Inn Drive, in Riverside and San Bernardino Counties. The Santa Ana sucker's habitat has been significantly reduced from alteration of hydrological regimes. The Santa Ana sucker habitat in the Santa Ana River is primarily tertiarily treated wastewater, where the Santa Ana sucker is exposed to contaminants including new generation pesticides. I am harmed when the Santa Ana sucker is also exposed to flupyradifurone, bicyclopyrone, and benzovindiflupyr reducing my opportunities to enjoy and appreciate it.

29. I have visited habitat for the Santa Ana sucker numerous times. I have participated in the Santa Ana Sucker Conservation Team since 2005. I have participated in characterizing Santa Ana Sucker habitat along the Santa Ana River spearheaded by the U.S. Fish and Wildlife Service for over ten years. I have assisted the U.S. Geological Survey to assess the population of the Santa Ana sucker in the Santa Ana River for three years. In September 2021, I helped monitor the Santa Ana sucker population along the Santa Ana River just

downstream of Sunnyslope Creek convergence with the River. I looked for Santa Ana Sucker in the river and helped take measurements of Santa Ana suckers that were captured during the inventory. I will be visiting Santa Ana Sucker habitat in this week to characterize the habitat in the Santa Ana River with members of the Santa Ana Sucker Conservation Team . I also plan to continue participation in the Santa Ana Sucker Conservation Team into the future.

30. Rare plants are also affected by pesticides including herbicides. Numerous rare plant species that are found in very localized populations at sites known as vernal pools can be harmed by pesticides, pesticide runoff and directly by herbicides. Vernal pools are ephemeral water features that are typically located in topographically flat areas with less permeable, often clay soils. During winter rains, low points on the landscape fill with water and form shallow pools, which through slow infiltration due to clay soils and evaporation, gradually shrink in size until they disappear by summer. While water is present, the vernal pools host very unique plants and animals that require the formation and persistence of these pools.

31. Critically imperiled endemic plants that rely on vernal pools include the but not limited to the federally and California endangered Orcutt grass (*Orcuttia californica var. californica*), the federally threatened and California endangered thread-leaved brodiaea (*Brodiaea filifolia*), the federally threatened

and California endangered San Diego thorn-mint (*Acanthomintha ilicifolia*), the federally threatened spreading navarretia (*Navarretia fossalis*), the federally and California endangered San Diego button-celery (*Eryngium aristulatum* var.*parishii*) and the federally and California endangered San Diego mesa mint (*Pogogyne abramsii*) as well as unlisted but very rare plants.

32. Many of these species and much of their vernal pool habitat have been lost due to conversion to urban/suburban development and agriculture because of the relatively flat nature of the landscape. Now these species cling to existence in small set aside areas in the midst of urban/suburban development and agricultural areas, where pesticides and herbicides are in use, further threatening these unique and critically endangered plants. Inadvertent drift or runoff of herbicides, such as bicyclopyrone and halauxifen-methyl, from adjacent urban/suburban properties and agricultural areas into the vernal pools, negatively impacts rare plants.

33. Vernal pool plants are not the only vernal pool species at risk from pesticides. Unique shrimp-like invertebrates known as fairy shrimp including but not limited to the federally endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*) and the federally endangered Riverside fairy shrimp (*Streptocephalus woottoni*) are also at risk from the local use of pesticides in and

adjacent to the vernal pools in the small set aside areas in the midst of urban/suburban development and agriculture. Run off of flupyradifurone, bicyclopyrone, and benzovindiflupyr from the urban/suburban and agricultural areas will end up in the vernal pool habitat and negatively affect the reproductive cycle of the fairy shrimp.

34. I have visited vernal pool habitats in southern California numerous times. For many years from approximately 1991-2004 I was involved in vernal pool surveys as a consulting biologist throughout southern and central California. I am very familiar with some of the areas that are important for vernal pool species because I have been there many times over the course of many years. I visited a vernal pool complex in Riverside County known as the "Stowe pool" in April of 2017 where I was able to see the Orcutt grass and the spreading navarretia. I intend to return to this area and other vernal pool complexes in the future to continue looking for rare and imperiled vernal pool species, including threatened and endangered plants and invertebrates.

35. My scientific, educational, and wildlife preservation interests have been, are being, and will continue to be adversely and irreparably injured by EPA's failure to consider the impacts of its pesticide registrations on endangered and threatened species. These are actual, concrete injuries, and procedural injuries

traceable to EPA's failure to consult with the U.S. Fish and Wildlife Service on impacts to these species under the Endangered Species Act in registering about 400 pesticides.

36. The legal violations alleged in this case cause direct injury to my aesthetic, conservation, recreational, scientific, educational, and wildlife preservation interests and will continue to be adversely affected and irreparably injured if EPA continues to fail to consult with the U.S. Fish and Wildlife Service on impacts to these species under the Endangered Species Act. These are actual, concrete injuries and procedural injuries caused by EPA's failure to consult with the U.S. Fish and Wildlife Service on impacts to ESA listed species of its registration of flupyradifurone, bicyclopyrone, halauxifen methyl, and benzovindiflupyr and their end-use products such as "Sivanto 200 SL" (flupyradifurone), "Acuron" (bicyclopyrone), "Approvia Ace" (benzovindiflupyr), and "Quelex" (halauxifen methyl)

37. My interest in maintaining viable populations of these very rare plants and animals has been sustained over a period of decades. I have provided comments on numerous development and land management plans both under the National Environmental Policy Act and the California Environmental Quality Act that involve all of these species.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct.

Executed this October 25, 2021.

Ileene Anderson

DECLARATION OF LORI ANN BURD

I, Lori Ann Burd, declare as follows:

1. I am over 18 years of age, have personal knowledge of the matters asserted in this declaration and if called upon to testify would state the same.

2. I am the director of the Environmental Health Program at the Center for Biological Diversity ("CBD").

3. CBD's mission is to ensure the preservation, protection, and restoration of biodiversity, native species, ecosystems, public lands and water, and public health through science, policy, and law. Based on the understanding that the health and vigor of human societies, plants and wildlife, and the natural environment are deeply intertwined, CBD works to protect and to secure a future for animals and plants hovering on the brink of extinction, for the ecosystems they need to survive, and for the people that interact with, depend on, and cherish these ecosystems. One of the primary mechanisms for wildlife conservation at CBD is citizen participation in species listing and protection under the Endangered Species Act. Through citizen petitions and citizen lawsuits CBD has helped secure protection for 621 species and 507 million acres of designated critical habitat under the Endangered Species Act ("ESA"). The Environmental Health Program is focused on protecting biodiversity and human health from toxic substances. I am also a member of CBD.

4. In my role at CBD, I am involved in strategic decision making and setting policy priorities for the work that CBD does to reduce the threats to the environment and public health from toxic substances, including pesticides.

5. CBD's Environmental Health program works to help reduce the threats posed by pesticides and other pollutants through scientific, legal, and policy mechanisms. I strive to represent the interests of our members and work to reduce the threat that pesticides pose for them, their families, and the environment that they reply upon. I am relieved that CBD works on my and our behalf to enforce standards that help reduce the threat of pollution and pesticides and help better inform the public of the dangers of pesticides.

6. CBD cannot, of course, work on every pesticide issue in the country. Thus, we set priorities for our pesticides work. One factor we consider in setting priorities for our pesticides work is determining the gravity and magnitude of the threats to the environment and wildlife, including species listed under the ESA. Our ability to effectively determine priorities is based on the analyses of experts, including the expert wildlife agencies of the U.S. Fish and Wildlife Service and National Marine Fisheries Service ("Services").

7. 16 U.S.C. § 1536 ("Section 7 Consultation") as provides that that the Services are required and able to determine whether pesticides adversely affect ESA listed species, jeopardize the continued existence of ESA listed species, or

adversely modify the critical habitat of ESA listed species.

8. CBD views Section 7 Consultation as also providing CBD and the public with information about what reasonable and prudent measures can be taken to avoid actions that can jeopardize the continued existence or adversely modify critical habitat for ESA listed species.

9. The information provided through Section 7 Consultation would be helpful to me, as the Director of CBD's Environmental Health Program, in determining whether our pesticides work is directed in the most efficient manner and to be effective in reducing the harms of pesticides to wildlife and the environment. This determination is a factor in my priority setting of CBD's pesticides work. The failure of the Environmental Protection Agency ("EPA") and U.S. Fish and Wildlife Service to effectively cooperate in completing the Section 7 Consultation for the following active ingredients and their associated end-use products: flupyradifurone ("Sivanto 200 SL"), bicyclopyrone ("Acuron"), and benzovindiflupyr ("Approvia Ace") is denying me and CBD this helpful information.

10. Combating the environmental harms posed by pesticides is an issue that is very important to me personally and CBD because I understand the environmental impacts of those pesticides. I am deeply troubled by the effects that they have on the environment and to human and animal health. I am aware of

studies linking pesticides to a range of environmental impacts to wildlife and human health, such as the tendency of pesticides to cause reproductive harm, cancer, neurological problems, and chronic effects.

11. I am further aware that pesticides can negatively affect the health of wildlife and plant life that I and CBD's other members appreciate viewing in the outdoors, my and CBD's other members experiences in nature and the outdoors, and can lead to broader ecosystem effects by adversely affecting water quality. For example, I am aware that the EPA determined that the pesticide malathion is likely to adversely affect 97% of ESA listed species and 98% of critical habitat.

12. CBD has a long history of work analyzing the harms of pesticides on ESA listed species, educating the public about those harms, and advocating for more effective means to reduce those harms. CBD has expended a great deal of resources for over a decade seeking to rectify the EPA's failure to engage in Section 7 Consultation through a series of reports, comments to public agencies, advocacy, and litigation.

13. The Section 7 Consultation process is a crucial mechanism to inform the public about the harm of federal agency actions on ESA listed species and the environment. When that process is not followed the public, including CBD, must seek other avenues to obtain that information. Because the EPA and Services are not conducting Section 7 Consultation CBD has used the Freedom of Information

Act ("FOIA") to obtain information from the EPA, Services, United States Department of Agriculture, and other federal agencies about the harm to endangered species from pesticides and the failure to comply with the Section 7 Consultation process during pesticide registrations and re-registrations. CBD has submitted at least twelve FOIA requests specifically related to and because of the government's failure to complete Section 7 Consultations regarding pesticides. For example, CBD has received hundreds of records that we have to review to try to piece together harm to species that should have been in biological opinions related to pesticides that were supposed to be completed by the end of 2017. CBD has also sought information about what government agencies are doing pursuant to a Memorandum of Agreement that further delays pesticide ESA Section 7 Consultation. The illegal failure to complete ESA Section 7 process results in a tremendous amount of time spent in the FOIA process that CBD, and the government itself, would not have been required to do if the government complied with the ESA. We would not have had to divert organizational time and resources to this information gathering effort if the government had completed the Section 7 process.

14. CBD has also had to divert a significant amount of staff resources to attempt to counteract the government's failure to engage in Section 7 Consultation for pesticides. For example, CBD has submitted over 275 comments from staff

regarding EPA's failure to comply with the ESA during open comment periods. The research for these comments was substantial and, among other things, required reviewing agency documents provided on regulations.gov, toxicity and exposure criteria for pesticides, and information regarding environmental effects, especially as it relates to ESA listed species. It also required drafting independent comment letters focusing on the harm to endangered species, the tools available to conduct a viable Section 7 Consultation, and emphasizing the need to comply with the ESA. CBD would not have expended such resources had EPA and the Services been complying with Section 7 Consultation.

15. In one example of lost organizational opportunities because of this diversion of resources, scientific staff employed by CBD have had to divert resources from researching and preparing publications and conducting public education because of the need to research, prepare, and draft comments to government agencies regarding the failure to comply with the ESA when registering pesticides. Time for scientific staff have been diverted from other scientific research in order to analyze studies provided by EPA and the pesticide industry, including Ecological Risk Assessments and Biological Evaluations, in order to analyze how pesticides affect endangered species, which should have been analyzed by the Services.

16. CBD has also dedicated time to outreach to our membership in emails, newsletters, and email action alerts informing them about the impacts to endangered species from the government's failure to comply with ESA Section 7. CBD has also developed and sent out email action alerts to our members encouraging them to contact government officials directly regarding how they are harmed by the impacts of EPA's failure to comply with Section 7 Consultation.

17. CBD has dedicated organizational resources to author a series of reports detailing the effects of pesticides on ESA listed species. In 2004, CBD released the report *Silent Spring Revisited: Pesticide Use and Endangered Species*, which analyzed the effects on endangered species of EPA's registration of pesticides.[1] The report analyzed EPA's continued failure to enforce the ESA's Section 7 Consultation requirements and how that illegal action affected ESA listed species. As noted in the report,

> Although the EPA by law is required to consult with the U.S. Fish and Wildlife Service on pesticide registration, it has failed to complete a single consultation in the last ten years despite repeated formal requests from the wildlife agency and the unambiguous requirements of the Endangered Species Act.

18. *Silent Spring Revisited* noted how pesticides often exceeded the

---

[1] https://www.biologicaldiversity.org/publications/papers/Silent_Spring_revisited.pdf

aquatic life criteria set by the EPA to determine the risk to aquatic life from water contamination and specifically noted exceeded criteria values in the Willamette River of Oregon, the beautiful river that runs through Portland, where I have seen salmon and sea lions splashing and where I swim on hot days every summer. *Silent Spring Revisited* also detailed how pesticides were harmful to ESA listed species such as the California tiger salamander, California red-legged frog, blunt-nosed leopard lizard, coho salmon, chinook salmon, chum salmon, steelhead trout, delta smelt, barton springs salamander, and Illinois cave amphipod. I care deeply about the survival of all these imperiled species.

19. In 2006, CBD issued the report *Poisoning Our Imperiled Wildlife, San Francisco Bay Area Endangered Species at Risk from Pesticides*.[2] CBD was forced to divert its resources and expend resources beyond those that are normally expended to produce and analyze the outcome of EPA's illegal activity and educate the public about the impacts of EPA's failure to engage in consultation, which would have studied and mitigated the effects of pesticides on endangered species. The report repeatedly emphasized the systemic failure at EPA to engage in consultation and how that impacted ESA listed species. For example,

By failing to consult with the USFWS and NMFS, which have the statutory

---

[2]https://www.biologicaldiversity.org/publications/papers/bayareapesticidesreport.pdf

> authority and responsibility to cooperate with other agencies in assessing impacts of agency actions and authority on threatened and endangered species, the EPA neglects to comply with federal law or even develop the information base for making the wise and cautious decisions about our most endangered wildlife.

20. *Poisoning Our Imperiled Wildlife* examined the risk that toxic pesticides pose to endangered species in the nine Bay Area counties: Marin, Sonoma, Napa, Solano, Contra Costa, Alameda, Santa Clara, San Mateo and San Francisco. *Poisoning Our Imperiled Wildlife* also sought to analyze and highlight the dangers posed by EPA's violations of the ESA in registering pesticides. The report detailed how the use of pesticides in the Bay Area particularly harms the California red-legged frog, California tiger salamander, delta smelt and Pacific salmonid species. It further noted that pesticides have an endocrine disrupting effect and a wide range of long-term effects on mammals including damage to eyesight, abnormal brain waves, immunosuppression and delayed neurotoxicity; pesticides have a very high immediate toxicity for bees, amphibians and aquatic insects; levels of concern for pesticides are exceeded for acute hazard to endangered fish, aquatic invertebrates and insects; and chronic hazard levels of concern for pesticides are exceeded by most uses for endangered fish and invertebrates and are potentially exceeded for certain uses for threatened birds, mammals, amphibians and reptiles.

21. CBD had to divert substantial organizational resources to produce

these reports, which would not have been required had EPA conducted the consultation analysis.

22. Beyond publishing reports CBD spends a significant amount of staff time informing, and responding to, the media regarding the failure of the EPA and Services to comply with Section 7 Consultation. Independent of the time needed to review material and become adequately informed about information that should have been provided through the consultation process, CBD has had to dedicate time from scientific staff to reviewing responding to inquiries from reporters related to the government's failure to comply with Section 7 Consultation related to pesticides. This is time that scientists and other program staff would have dedicated to other research and environmental health related matters. CBD also has dedicated at least ten percent of the staff time of a media specialist in order to inform the public and respond to requests regarding the government's failure to comply with Section 7 Consultation related to pesticides. For example, since 2002 CBD has issued over forty press releases related to EPA's Section 7 failures and pesticides. The time spent on media education and outreach has required a significant amount of staff resources that could have been dedicated to other issues if EPA had complied with the ESA.

23. CBD has also had to dedicate organizational resources or scientific, legal, administrative, and conservation staff to analyzing scientific research,

agency data, proposed governmental and industry action, and submitting comments to public agencies in order to help reduce the threats of pesticide use on the environment or urge EPA to engage in Section 7 Consultation regarding pesticide approvals. Scientific and legal staff were diverted to be deeply involved in the EPA's preparation of a Biological Evaluation related to malathion, chlorpyrifos, and diazinon. In 2016, Center staff traveled to and attended a two-day stakeholder workshop in EPA's offices in Washington DC regarding the draft Biological Evaluation for malathion, chlorpyrifos, and diazinon and submitted comments in June 2016 on the draft Biological Evaluation for those pesticides. When the EPA and FWS failed to produce Biological Opinions by the December 31, 2016 deadline they had agreed to and had assured us in previous months they were on track to do, Center staff had to divert more time in to developing an understanding as to why this failure occurred, including filing FOIA requests, reading legal filings and speaking with members of the media.

24. CBD has had to explore other avenues of relief in order to carry out its mission to minimize the threats to the ESA listed species and their habitat from pesticides. One example is our work on state regulatory efforts that may result in protection for endangered species. CBD has submitted comments to the California Office of Environmental Health and Hazard Assessment supporting its decision to list malathion, parathion, glyphosate, and tetrachlorvinphos as carcinogens, which

may also reduce the overall exposure of those pesticides to the environment and ESA listed species. CBD has also submitted comments to the California Department of Pesticide Regulation urging greater restrictions on rodenticides because of the adverse effects on non-target wildlife and, in particular, ESA listed species such as the San Joaquin kit fox (*Vulpes macrotis mutica*) and northern spotted owl (*Strix occidentalis caurina*). In Oregon, CBD worked on the successful ordinance banning the use of neonicotinoids by the city of Portland and has urged the state of Oregon to pass legislation to ban or restrict the use of neonicotinoid pesticides because of the effects of those systemic insecticides on imperiled pollinators such as the ESA listed Fender's blue butterfly.

25. CBD's environmental health program also monitors the latest data on the use of pesticides from the United States Geological Survey. By monitoring and reporting on pesticide use trends, we can attempt to evaluate the threats posed to ESA listed species, although this analysis would of course be much better done by the EPA and Services.

26. Because of the dangers posed by pesticides to the environment and wildlife CBD has worked to inform the public and public agencies of the magnitude and risks of pesticide use. For example, CBD produced a report *No Refuge: How America's national wildlife refuges are needlessly sprayed with nearly half a million pounds of pesticides each year* that documents that found an

estimated 490,000 pounds of pesticides were dumped on commodity crops like corn, soybeans and sorghum grown in national wildlife refuges in 2016.[3] The analysis was conducted by analyzing an extensive volume of records obtained by the Center under the Freedom of Information Act. The report focused on national wildlife refuges, which are federal public lands dedicated to protecting wildlife and ESA listed species. Members of the public did previously commonly know that pesticides are used in private agricultural operations on these lands. Work such as this has required a diversion of tremendous amount of resources for CBD and will continue to require more resources into the future to work to try to analyze the scope of harm to ESA listed species. In 2020, CBD put out an updated version of this report, which included compiling additional data on pesticide usage on wildlife refuges.[4] This work would not likely have been necessary had EPA engaged in Section 7 Consultation to provide an analysis of the scope of use and dangers of pesticide use on ESA listed species and subsequently followed reasonable and prudent measures to mitigate those harms by amending pesticide labels to ensure

---

[3] https://www.biologicaldiversity.org/campaigns/pesticides_reduction/pdfs/No-Refuge.pdf

[4] https://www.biologicaldiversity.org/campaigns/pesticides_reduction/pdfs/No-Refuge-Report-2020.pdf

pesticide use does not harm listed species.

27. Through my work at CBD, I am also involved in a range of activities to protect wildlife, especially pollinators, that are particularly threatened by pesticides. CBD's native pollinators campaign ties together issues in the context of pollinator conservation to provide relevant information and action opportunities to supporters who are rightfully concerned about the health of native pollinators. One of the biggest threats to pollinators is the use of pesticides, which would likely be reduced in key habitat if the EPA were to engage in Section 7 Consultation because reductions in harm to ESA listed species would provide benefits to other native pollinators that face the same or similar threats due to pesticides. In 2017, I was a co-author on the report *Pollinators in Peril: a systematic status review of North American and Hawaiian native bees*, which was the first-of-its-kind systematic review of the status of all 4,337 North American and Hawaiian native bees. One of the key findings of that report is that agricultural intensification, which includes habitat destruction and pesticide use, is a key driver in native bee declines. If EPA had engaged in Section 7 Consultation pesticide registrations it would have likely analyzed the effects on ESA listed pollinators that would have reduced the threats posed by pesticides for other native bee species. Native and imperiled bee species such as the yellow carpet solitary bee (*Andrena blennospematis*) and sunflower leafcutting bee (*Megachile fortis*) face key threats

from pesticide exposure. In 2018, CBD sent a petition to the U.S. Fish and Wildlife Service to list the Mojave poppy bee under the Endangered Species Act. The petition specifically noted that insecticides that are toxic to bees are used on grazing areas and pose a threat to the Mojave poppy bee. In 2021, CBD petitioned the U.S. Fish and Wildlife Service to list the American bumblebee (*Bombus pensylvanicus*), and noting that the bumblebee is particularly vulnerable to insecticides.

28. In January of 2019, we petitioned the Services to prohibit nearly all uses of pesticides in areas designated as critical habitat for endangered species because of EPA's failure to engage in Section 7 Consultation related to pesticides. The petition calls for the federal agencies to use their authority under the Endangered Species Act, independent of ESA Section 7, to put in place measures to protect endangered wildlife from harmful pesticides. The petition was submitted as a result of decades of intransigence by the EPA, which has refused to comply with the legal mandates of the Endangered Species Act to protect the nation's most imperiled species from highly toxic pesticides that are known to harm wildlife. This petition required over 230 hours of staff time dedicated to research, analysis, drafting, laboriously developing critical habitat maps for 400 hundred species, and media outreach which would not have been required had EPA engaged in Section 7 Consultation. The total cost of producing this report, including salary and benefits,

was over $8,300.

29. I live in Tucson, Arizona, and Portland, Oregon. Oregon and Arizona are two of the states where the EPA registered pesticides such as flupyradifurone, bicyclopyrone, and benzovindiflupyr for use on agricultural crops including but not limited to: alfalfa, corn, soybeans, citrus, cereal grains, and tree nuts.

30. A significant portion of my personal and professional life is dedicated to protecting wildlife and pollinators from the impacts of pesticides. I have been working on pollinator issues for over ten years. I helped rediscover the rare western bumble bee (*Bombus occidentalis*) on Mt. Hood in Oregon. This species has been experiencing an alarming decline, both range-wide and locally. I have also done surveys for a yellow butterfly called the Intermountain Sulphur (*Colias occidentalis pseudochristina*), which faces serious threats due to pesticide applications that has eliminated several populations in the Blue Mountains of eastern Washington. In addition, I am one of the authors of a petition to list the monarch butterfly under the ESA and am particularly aware of the inadequacy of existing regulatory mechanisms that have failed to protect the monarch from threats, such as pesticides, and put the species at risk of extinction. I am also generally aware of efforts to protect a broad range of pollinators, especially bumblebees, solitary bees, honeybees, bats, and butterflies.

31. I am harmed by the effects of pesticides on species and their

habitats—many that I enjoy viewing in the wild, would like to see in the wild, and that I have worked to protect. I regularly enjoy looking for species in their natural habitats wherever I am during my travels, and especially around where I live in Arizona and Oregon. I frequently tailor travel plans to try to see butterflies, native bees, and other species. I have definite plans to continue to look for and enjoy these species in the states where I live and in my travels. In February of 2019 I went to Mexico to view overwintering monarch butterflies. I was fortunate to see thousands, if not millions, of monarchs. The experience of being surrounded by all these butterflies was one of the highlights of my life. Pesticide use is a leading cause of monarch declines. I am now harmed more than ever by the impacts of pesticides on monarch butterflies, and the grave danger that if we don't reign in pesticide use in key habitats, we could lose this incredible migratory phenomenon.

32. In Oregon, I am specifically harmed by the effects of pesticides on the Fender's blue butterfly (*Icaricia icarioides fender*), Kincaid's lupine (*Lupinus oreganus*), and Oregon silverspot butterfly (*Speyeria zerene hippolyta*). The Fender's blue butterfly has a very limited range in the Willamette Valley. I frequently spend time in natural areas in the Willamette Valley, visiting vineyards, wildlife refuges and rivers. Whenever I am in the Willamette Valley, I hope to see a Fender's blue butterfly, and am extremely careful never to trample a lupine, its host plant, in the Valley. One of my dear friends and colleagues dressed up as a

Fender's blue butterfly for a Halloween endangered species costume contest and I was able to immediately identify the species she was dressed as. I am harmed when pesticide use in the Willamette Valley harms the Fenders blue butterfly and Kincaid's lupine. I am also harmed by pesticides impacting the Oregon silverspot butterfly. This butterfly has an extremely limited distribution. I have visited two sites where it lives, Cascade Head and the Cummins Creek Wilderness, hoping to see it, but have never successfully seen one. I am harmed when pesticide spraying harms this greatly imperiled butterfly. I plan to continue to visit habitat for these threatened and endangered species when I travel in Oregon.

33. In Arizona, I am harmed by the effects of pesticides on the Chiricahua leopard frog (*Rana chiricahuensis*). Flupyradifurone, bicyclopyrone, and benzovindiflupyr are likely to adversely affect this species and my personal, aesthetic, and professional ability to observe and enjoy these species is harmed when pesticides negatively affect those species.

34. CBD has a long history of protecting the Chiricahua leopard frog. In 1998, CBD submitted a citizen petition to list it as a federally endangered species and to designate critical habitat for it. CBD had to file lawsuits before the U.S. Fish and Wildlife Service listed the frog as threatened in 2002. In 2007, CBD became part of the stakeholders' group that developed the federal plan to recover the frog.

35. I regularly hike and recreate in southeast Arizona and have looked for,

and possibly caught sign of the Chiricahua leopard frog at isolated ponds and watering holes in the San Pedro and Cienega creek river basins. If flupyradifurone, bicyclopyrone, and benzovindiflupyr are sprayed on fields in these areas and reaches the rivers through direct spraying, run off or drift, the Chiricahua leopard frog could be harmed, killed or even locally extirpated. This would dramatically harm my professional, recreational, and aesthetic interests. I intend to continue to look for and hope to see the frog in these and other places in southern Arizona while living there2021.

36. I am harmed when flupyradifurone, bicyclopyrone, and benzovindiflupyr is routinely applied on lettuce, cotton, alfalfa, apples, cabbage, citrus, and wheat in Arizona in and around habitat for the Chiricahua leopard frog and have negative impacts on them and their habitat. I am harmed when flupyradifurone, bicyclopyrone, and benzovindiflupyr is routinely applied on hops, wheat, blueberries, pears, and apples in Oregon and around habitat for the Fender's blue butterfly, Kincaid's lupin, and Oregon silverspot butterfly and have negative impacts on them and their habitat. I am harmed when these species are harmed by the use of flupyradifurone, bicyclopyrone, benzovindiflupyr, and other agricultural chemicals. If these species are further impacted and their populations reduced or extirpated, my enjoyment Oregon and Arizona's unique natural environment would be diminished.

37. My front and back garden in Portland is heavily planted with native and pollinator attractive plants in order to attract native birds and insects and I also have a garden plot intended to attract pollinators down the street. Similarly, my garden in Tucson is specifically planted to attract wildlife, particularly birds, bees, and butterflies, and is very successful in doing so. When I see that my neighbors have used pesticides I am harmed when it impacts the wildlife that I am working to attract in my own gardens.

38. My parents live in suburban Chicago, immediately adjacent to the range of the Rusty patched bumble bee (*Bombus affinis*). I have looked for this endangered bumble bee in both northern Illinois and southern Wisconsin many times intend to continue to look for it while visiting my parents. I looked for this species in both May and July of 2021 while visiting my family, specifically going to nature reserves and sites planted to attract pollinators. The Rusty patched bumble bee is endangered due to pesticide use and habitat loss, and has experienced a massive decline in recent decades. It has a very large range and is a habitat generalist, so I look for it in any place that has flowers, including immediately adjacent to farm fields. Given that there is a lot of agriculture in the range of this species, I am harmed when flupyradifurone, bicyclopyrone, and benzovindiflupyr is used harms the Rusty patched bumble bee there.

39. I have professional, aesthetic, recreational, and spiritual interests in

the preservation of the Fender's blue butterfly, Kincaid's lupin, Oregon silverspot, Chiricahua leopard frog, Rusty patched bumble bee and their habitats. I regularly look for these species and I very much hope to see them. My interests in them are being harmed by the Environmental Protection Agency's failure to ensure that these species will not be put in jeopardy through consultation with the U.S. Fish and Wildlife Service on impacts of its registration of new uses of the flupyradifurone, bicyclopyrone, and benzovindiflupyr on ESA listed species and the implementation of reasonable and prudent measures to prevent jeopardy. The EPA's failure makes it more likely these species will further decline or become extinct. If that should happen, I will be deprived of my enjoyment of these species in the wild. Section 7 Consultation with the U.S. Fish and Wildlife Service could result in protective measures aimed at reducing impacts of this pesticide on this species, which is important to ensure that my interests in the species are preserved and remain free from injury.

I declare under penalty of perjury that the foregoing is true and correct. Executed on October 25, 2021, in Tucson, Arizona.

Lori Ann Burd

Lori Ann Burd

DECLARATION OF JOHN BUSE

I, John Buse, declare as follows:

1. I have personal knowledge of the facts and statements contained herein and, if called as a witness, could and would competently testify thereto.

2. I submit this declaration in support of Petitioners' standing.

3. I am a current resident of Indianapolis, Indiana. Between February 2005 and September 2011, I resided in Chicago, Illinois.

4. I am the General Counsel for the Center for Biological Diversity (the "Center"). I am also a member of the Center and have been a member continuously since 2005.

5. I am a 1985 graduate of the University of Chicago, with a degree in the History, Philosophy and Social Studies of Science and Medicine. I also have a master's degree in Biological Chemistry from the University of Illinois–Chicago Medical Center. I am a 1992 graduate of the University of California–Davis School of Law, where I focused on environmental law and related topics.

6. Thanks to my educational background and personal experience, I have a deep professional and personal interest in evolutionary biology and the diversity of life.

7. As a member of the Center, I count on the Center to represent my interest in protecting biodiversity and conserving threatened and endangered

species and their habitats through legal advocacy, public education, and other means.

8. Through my professional work and personal observation, I have become very concerned about the effects of conventional agriculture on threatened and endangered species. I have become aware of the enormous quantities of pesticides used to support conventional agricultural operations in Midwestern states, and have followed with interest the reports that agricultural chemicals disrupt endocrine activity in amphibians. I am harmed by the effects of commonly used pesticides because they pose a significant threat to the wellbeing and recovery of many other threatened and endangered species, as well as, to water quality and human health. When those wildlife species or the environment is harmed by pesticides I am also harmed because it negatively affects my ability to observe, enjoy, or study them in the wild.

9. The United States Environmental Protection Agency's decision to register the following active ingredients and their associated end-use products flupyradifurone ("Sivanto 200 SL"), bicyclopyrone ("Acuron"), and benzovindiflupyr ("Approvia Ace") without consulting with the United States Fish and Wildlife Service or National Marine Fisheries Service on potential impacts to endangered and threatened species and their critical habitats harms a range of birds, bees, butterflies, beetles and other animals posed by. EPA's failure to

comply with the Endangered Species Act's requirements to protect wildlife and their habitat harms me as well because it limits my aesthetic, recreational, and professional interests of observing imperiled wildlife and their habitat. I understand that flupyradifurone, bicyclopyrone, and benzovindiflupyr are approved for use on a broad range of crops, including but not limited to: alfalfa, corn, wheat, barley, soybeans, cotton, tree nuts, and many fruits and vegetables.

Mitchell's Satyr Butterfly

10. I am a periodic visitor to Michigan's Lake Michigan shore. In particular, during these trips, I visit, stay near, and recreate near Van Buren State Park in Van Buren County, Michigan. I hike, boat, swim, and observe wildlife during my visits to this area.

11. When I visit an area, I am interested to find what rare wildlife, fish, and plants are endemic to the area. I enjoy looking for these species in their natural habitats. In reviewing the U.S. Fish and Wildlife Service's website, I found that the Mitchell's satyr butterfly (*Neonympha mitchellii mitchellii*), a federally-listed endangered species, is native to Van Buren County, Michigan.

12. I appreciate the Mitchell's satyr butterfly and its continued existence in the wild for its role as a native pollinator, for its beauty, and for its status as an indicator species for the health of the fens, bogs, and other wetlands. I also believe

that all species, including the Mitchell's satyr butterfly, have inherent value, and have an interest in maintaining the diversity of life.

13. I have hiked and recreated near this species' habitat on numerous occasions while attempting to observe wildlife. I believe I have observed Mitchell's satyr butterflies on at least one occasion during my visits to Michigan, and I intend to return to Van Buren County, Michigan in early summer 2022 and beyond to look for Mitchell's satyr butterflies.

14. I am harmed when flupyradifurone, bicyclopyrone, and/or benzovindiflupyr is applied in and around Mitchell's satyr butterfly habitat without regard to the species' conservation and recovery. Killing of non-target insects by pesticides is well-documented, and when Mitchell's satyr butterflies are inadvertently killed and harmed by agricultural chemicals it harms my aesthetic, professional, and recreational interests.

15. I am particularly harmed by the effects of insecticides, such as flupyradifurone, because they can be toxic to terrestrial insects such as the Mitchell's satyr butterfly or the habitat that is relies upon. Additionally, from reviewing the U.S. Fish and Wildlife Service's website, I learned that contamination of the Mitchell's satyr butterfly's habitat by agricultural pesticides is one of the primary threats to this endangered species.

16. On my visits to Michigan, I have frequently observed commercial blueberry cultivation. From visiting the U.S. Department of Agriculture website, I learned that Michigan is one of the top states in the country (ranked by acres in cultivation) for commercial blueberry production. And information available on the Michigan State University website shows that Van Buren County, Michigan is one of the top counties in Michigan for blueberry production.

17. Because flupyradifurone, bicyclopyrone, and/or benzovindiflupyr is likely to harm the Mitchell's satyr butterfly, and is likely to be used extensively on blueberry crops in Van Buren County and other blueberry growing counties in Michigan where the butterfly is native, I am harmed when these pesticides impact the already-imperiled Mitchell's satyr butterfly. I will be less able to observe, enjoy, and study them in the wild.

18. In addition, the Mitchell's satyr butterfly is native to Lagrange and La Porte counties in northern Indiana. Use of these pesticides in Indiana may impact recovery of Mitchell's satyr butterflies in Indiana and harm the viability of the species as whole, which would diminish my chances of seeing the butterfly during my next trip to Michigan.

19. I hope to see a Mitchell's satyr butterfly in the wild, but even if I fail to observe the species again, I am happy knowing that the species persists in the wild. I would be happier if the species can recover, and I look forward to the

recovery of the Mitchell's satyr butterfly throughout its native range. If the remaining populations of Mitchell's satyr butterflies in Michigan were extirpated or reduced, my appreciation of the area's unique natural environment would be diminished.

Hine's Emerald Dragonfly

20. As a Center staff attorney, I worked on a lawsuit involving the Hine's emerald dragonfly (*Somatochlora hineana*). The lawsuit resulted in a settlement in which the U.S. Fish and Wildlife Service revised its critical habitat designation for the dragonfly. This experience reinforced my personal interest in the Hine's emerald dragonfly, one of the few federally-listed species found in Chicago's urban environment.

21. I appreciate the Hine's emerald dragonfly for its resilience in persisting in an urban environment, for its beauty, and for its status as an indicator species for the health of the fens, bogs, and other wetlands that remain in Chicago and surrounding areas. I also believe that all species, including the Hine's emerald dragonfly, have inherent value, and have an interest in maintaining the diversity of life.

22. On several occasions I have attempted to observe Hine's emerald dragonflies in their known habitat in and around Chicago, but I have not experienced a confirmed Hine's emerald observation. I intend to continue

returning to Chicago, including in early summer 2022 and beyond, to look for Hine's emerald dragonflies in their known habitat.

23. Even if I fail to observe a Hine's emerald dragonfly, I take comfort in the continued existence of the dragonfly in the wild. I look forward to the recovery of the Hine's emerald dragonfly throughout its native range. I am harmed when flupyradifurone, bicyclopyrone, and/or benzovindiflupyr is applied on corn and soybean crops in and around Illinois and elsewhere without regard to Hine's emerald dragonfly conservation and recovery. Killing of non-target insects by pesticides is well-documented, and when Hine's emerald dragonflies are inadvertently killed and harmed by agricultural chemicals it harms my aesthetic, professional, and recreational interests as well. In addition, Hine's emerald dragonflies spend most of their lifecycle in water (eggs and larvae are aquatic). Pesticide runoff is harming the quality of the aquatic ecosystems that Hine's emerald dragonflies depend on and is disrupting biochemical signals essential for the perpetuation of the species, which harms my interests. If the remaining populations of Hine's emerald dragonflies in and around Chicago and other locations in the Midwest were extirpated or reduced, my appreciation of the area's unique natural environment would be markedly diminished.

Indiana Bat

24. I enjoy looking for rare native wildlife, fish, and plants in their natural habitats in and around where I live.

25. I regularly observe bats at or near my home in Indianapolis on summer and fall evenings and enjoy looking for the Indiana bat (*Myotis sodalis*). I have specifically observed Indiana bats at a known colony south of Indianapolis International Airport as part of a bat count. I watched and counted the bats as they emerged from their tree colony at twilight.

26. I appreciate the Indiana bat and its continued existence in the wild for its quiet but persistent presence, for its stealthy hunting of insects, and for the valuable habitat it maintains in close proximity to urban centers. I also believe that all species, including the Indiana bat, have inherent value, and have an interest in maintaining the diversity of life.

27. I have hiked and recreated near this species' habitat on numerous occasions while attempting to observe wildlife. I will continue to seek out and observe bats, including Indiana bats, as long as I live here.

28. I hope to again see Indiana bats in the wild, but even if I fail to observe the species again, I am happy knowing that the species persists in the wild. I would be happier if the species can recover, and I look forward to the recovery of the Indiana bat throughout its native range. I am harmed when flupyradifurone,

bicyclopyrone, and/or benzovindiflupyris applied on corn and soybean crops in Indiana, and elsewhere in and around Indiana bat habitat, without regard to the species' conservation and recovery. Killing of non-target species by pesticides is well-documented. Indiana bats are insectivores and may eat up to half their body weight in insects each night. Indiana bats are harmed by the use of flupyradifurone, bicyclopyrone, and benzovindiflupyr directly or indirectly because it will harm insects or habitat the bat needs to survive. Negative impacts to populations of Indiana bats in Indiana reduces my aesthetic, professional, and recreational appreciation of the area's unique natural environment would be diminished.

29. In summary, I have professional, aesthetic, and recreational interests in the preservation of the Hine's emerald dragonfly, Mitchell's satyr butterfly, Indiana bat and their habitats. These interests are being harmed by the Environmental Protection Agency's failure to consult with the U.S. Fish and Wildlife Service on impacts of its registration of flupyradifurone, bicyclopyrone, and benzovindiflupyron these species. Specifically, I believe that the Environmental Protection Agency's failure to follow the law makes the species more likely to suffer further population declines. And if these species decline or become extinct, this loss would deprive me of the benefits I currently enjoy from their existence. Consultation with the U.S. Fish and Wildlife Service could result in protective measures aimed at reducing impacts of this pesticide on these species,

which is important to ensure that my interests in the species are preserved and remain free from injury.

I declare under penalty of perjury that the foregoing is true and correct.
DATED: October 20, 2021, in Indianapolis, Indiana.

John Buse

DECLARATION OF CHRISTINA R. CELANO

I, Christina R. Celano, declare as follows:

1. I have personal knowledge of all facts stated in this declaration, and if called to testify, I could and would testify competently thereto.

2. I am over the age of 18 and I currently reside in Florida where I have lived for nineteen years. I moved to Florida in large part because of its abundance of wildlife.

3. I work as a professional wildlife photographer in Florida. I stand or sit in my kayak for hours at a time in the rivers, bays, and mangroves to take images of birds or any living thing that catches my eye.

4. I have been a member of the Center for Biological Diversity since 2009. The Center is a non-profit organization committed to the preservation, protection, and restoration of native species and the ecosystems upon which they depend. As a member of the Center, I participate in action alerts and read the newsletters to be more informed. I rely upon the Center to represent my interests in protecting endangered species and their habitat.

5. I am concerned about pesticide impacts on endangered and threatened species. Pesticides harm ALL species. That is what they were designed to do . . . KILL. Whatever we put into the environment ends up in our bodies. If it affects any species in a negative manner, it will eventually affect humans. I am concerned

about the pesticides used on the major agricultural crops in Florida, including oranges and citrus, sugarcane, hay, and different kinds of fruits and vegetables. Because of the breadth of agriculture in Florida and the number of pesticides used, including flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen-methyl, I believe that the individual and cumulative effects on rare wildlife species are widespread.

6. I am particularly concerned about the impact of pesticides on the imperiled species that I regularly photograph and seek to photograph. These include:

Mammals

Florida panther (*Puma concolor coryi*)
Florida bonneted bat (*Eumops floridanus*)
Florida salt marsh vole (*Microtus pennsylvanicus dukecampbelli*)
West Indian manatee (*Trichechus manatus*)

Birds

Audubon's crested caracara (*Polyborus plancus audubonii*)
Cape Sable seaside sparrow (*Ammodramus maritimus mirabilis*)
Everglade snail kite (*Rostrhamus sociabilis plumbeus*)
Florida grasshopper sparrow (*Ammodramus savannarum floridanus*)
Florida scrub jay (*Aphelocoma coerulescens*)
Piping plover (*Charadrius melodus*)
Roseate tern (*Sterna dougallii dougallii*)
Wood stork (*Mycteria americana*)

Reptiles

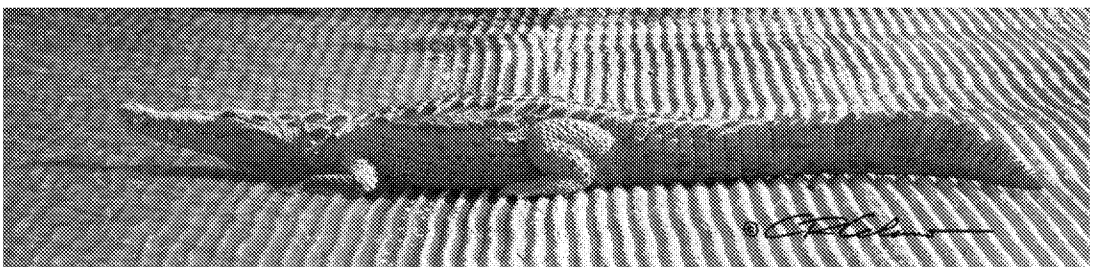
Atlantic salt marsh snake (*Nerodia clarkii taeniata*)
American crocodile (*Crocodylus acutus*)

Bluetail mole skink (*Eumeces egregius lividus*)
Eastern indigo snake (*Drymarchon corais couperi*)
Sand skink (*Neoseps reynoldsi*)

7. I have yet to see a Florida panther, a very elusive animal with an incredibly low population. To me, the seriously imperiled panther is akin to a remarkable mythical creature because it is one of the last big cats to survive in the wild in the United States. If I had the opportunity to photograph a panther I would be overcome with joy, but I am concerned I will not get the opportunity to see and photograph one because the significant threats that wild panther face on a daily basis. I have traveled and continue to travel to parts of Florida where the panther has been seen but its habitat is fractured or destroyed by overdevelopment and agriculture. It harms me and my interests in observing a panther to know that the last remaining panthers are now experiencing even greater threats because of the threats of pesticides.

8. I travel to the Everglades often, which is habitat for a range of endangered species, such as,

a. The American crocodile



b. The wood stork

c. The West Indian manatee

d. As well as the Northern Harrier with the endangered Florida Salt Marsh vole clutched in its talons.

9. The animals of the Everglades and Florida Bay provide me with an education, an income, and more joy than anything else I have experienced in my 60 plus years of life.

10. I have snorkeled with, kayaked among, and photographed the West Indian manatee. The experience is always amazing, and I look forward to future encounters with this imperiled mammal.

11. My photography focuses on a number of species, including birds and pollinators. I have had the pleasure of observing several imperiled bird species, including Audubon's Crested Caracara, Cape Sable Seaside sparrow, Everglades Snail kite, Florida Grasshopper sparrow, Florida Scrub jay, Piping plover, Roseate

tern, and Wood stork, as well as many pollinators, including honeybees, native bees, and dragon flies.

12. Below is one my photographs of a honeybee gathering pollen on a Buccaneer palm tree blossom. It fills me with joy to see and photograph these species, and it injures me to know that my continuing ability to do so may be negatively impacted by the spraying of pesticides like flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen-methyl.

13. I have also observed several endangered reptile species, including, the American crocodile, bluetail mole skink, eastern indigo snake, and sand skink. I have seen and photographed the Atlantic salt marsh snake on many occasions,

sitting motionless on the bottom among mangrove roots, waiting for prey. Snakes are misunderstood and under appreciated by most of the human race. A great shame, as they are elegant in movement, fascinating to observe, beautiful in their simplicity of design, and beneficial to the ecosystem—eating many insects, rodents, and even other reptiles.

14. I spend 330 plus days per year outside to prepare for or take photographs for my living, and I travel to the habitat of the species listed in this declaration on a daily basis. On these visits, currently and into the future, I will continue to seek out opportunities to observe and photograph all of the species listed in this declaration. Further harm to these species as a result of flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen-methyl use will harm my recreational, aesthetic, and professional interests in these species.

15. I strongly believe that the use of pesticides in and around habitat for these species is harmful and reduces the likelihood that I will be able to observe them in the future. Every species, including humans, are part of a complex ecosystem. If we lose one species, others that depend on it for their survival will also disappear. Within the unique ecosystem of the peninsula we call Florida, indigenous species are in decline due to ignorance and unintentional or intentional poisoning from humans who do not understand how important they are to our continued existence on this planet.

16. The use of pesticides in essential wildlife habitats, or in agricultural areas that affect these essential habitats, endangers all life forms and most certainly the recovery of threatened and endangered species. I find that fact to be abhorrent, and it most certainly injures my interest in seeing and enjoying these species.

17. I am also concerned about the effects of pesticides on my health. Because of concerns related to the dangers of pesticides on human and environmental health, for the last 30 plus years I have only purchased organically produced foods and personal care products.

18. I would also be more comfortable, and less concerned about negative impacts to my health from exposure, when photographing in and around citrus fields if pesticides were not used. For example, I get special joy from photographing the Audubon's crested caracara, a species that is listed as threatened under the federal Endangered Species Act. Because the species is often found in and around citrus fields, I often find myself in close proximity to these fields when I am photographing caracaras. Sometimes I will sit down, or often lay down on the ground to get the best photograph of these magnificent birds, but I am concerned about potential exposure to pesticides, such as flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen-methyl, being sprayed on the crops and that may drift onto the nearby fields and roadways where I am sitting. These concerns, and especially the potential risks to my own health from exposure to flupyradifurone,

bicyclopyrone, benzovindiflupyr, and halauxifen-methyl, harm me and reduce my enjoyment in photographing these species that I love. Here is an example of a photo that I took at the at Kissimmee Prairie Preserve of an Audubon's crested caracara.

19. Because I work as a wildlife and nature photographer, I have a strong professional and economic interest in the preservation of imperiled wildlife and habitat, including the species listed in this declaration. I have been a professional photographer for over 15 years, and I depend upon intact and healthy ecosystems to provide subjects to photograph. If the species listed in this declaration or those species that depend on them suffer further declines or become extinct, I could lose my livelihood.

20. The loss of species in the ecosystem of Florida would also negatively affect the area as a tourist destination due to the fact that many people travel here

to see wildlife. A reduction in tourism would impact my ability to sell my images to these visitors.

21. I have an aesthetic interest in protecting all of the species listed in my declaration. I find nature and all species to be stunningly beautiful. I am captivated by and joyful in viewing behaviors I am able to witness and ever hopeful in my efforts to view more secretive species and their behaviors.

22. I have a moral and spiritual interest in protecting these species. I find it unconscionable when animals—individuals or whole species—perish due to the ignorance and/or greed of a few human beings. I believe that all animals have a right to live and that they should be treated with the respect they have earned for survival despite humanity's detrimental interference. I also believe that the biodiversity of Earth is of the utmost importance to all its inhabitants.

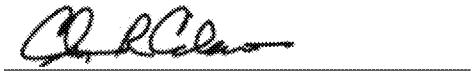
23. As someone who is deeply concerned about the fate of imperiled wildlife, I am upset that the Environmental Protection Agency has refused to consult with the U.S. Fish and Wildlife Service about the impacts of pesticide registrations, including flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen-methyl, on the rare species included in this declaration. It is another example, among many, of the U.S. government's failure to properly communicate between branches! Without consultation, the Environmental Protection Agency cannot understand the full impacts to species of its action. And as a result, the

Environmental Protection Agency has not taken all available steps to ensure that use of pesticides, including flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen-methyl, does not harm or kill these species.

24. In sum, I have professional, economic, aesthetic, spiritual, and moral interests in the preservation of the species listed in this declaration, their habitats, and other species that I photograph and enjoy. These interests are being harmed by the Environmental Protection Agency's failure to consult with the U.S. Fish and Wildlife Service on impacts of pesticide registration on these species. Specifically, I believe that the Environmental Protection Agency's failure to follow the law makes these species more likely to suffer further population declines. If these species decline or become extinct, the loss would deprive me of the benefits I currently enjoy from the existence of these rare animals. Consultation with the U.S. Fish and Wildlife Service could result in protective measures aimed at reducing impacts of pesticides on these species and would ensure that my interests in these species and the species themselves are preserved.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on September 20, 2021 in Chiefland, Florida.



Christina R Celano

DECLARATION OF MARTHA L. CROUCH

I, Martha L. Crouch, declare that if called as a witness in this action, I would competently testify of my own personal knowledge as follows:

1. I am a member of the Center for Food Safety (CFS). I joined CFS because I am concerned about the environmental, health, and public safety impacts of food and agriculture. I support CFS's efforts in advocating for more stringent government oversight of food production, and its work on reducing the amount of chemical inputs used in U.S. agriculture. I have also consulted for CFS from approximately 2009 through 2020.

2. I am a resident of Bloomington, Indiana, located in Monroe County. When I was a child, my father was a florist and maintained his own greenhouse in southwestern Michigan. I became interested in plants from playing and working in his greenhouse. In high school, I worked at Fernwood Botanical Garden and Nature Center in Berrien County, Michigan, where I developed a lifelong interest in anything having to do with nature.

3. I earned a Bachelor of Science degree in Botany from Oregon State University, and a PhD in developmental biology from Yale University. I am a retired professor of biology at Indiana University, where for twenty years, I conducted research on plant molecular biology and taught courses such as introduction to biology, biology for elementary teachers, plant physiology, plant

molecular biology, and biology of food. I was also a consultant on issues of agriculture and technology, focusing specifically on pesticide-related issues. I primarily consulted for CFS regarding these issues.

4. Besides my professional work, I am an amateur naturalist and maintain a wildlife refuge in my yard. I grow native plants that attract birds and insects such as migratory warblers and pipevine swallowtail butterflies (*Battus philenor*). I grow plants that produce flowers and berries at different times of the year to provide good breeding and migration habitat for several species of animals. I know that many neotropical migrant warblers are experiencing a decline in population, and I take immense pleasure from providing a habitat and sanctuary for these species as they are migrating.

5. My interest in viewing and enjoying wildlife in their natural habitat is impaired by the harm to birds, bees, butterflies, beetles, and other animals posed by U.S. Environmental Protection Agency (EPA)'s decision to register the pesticides flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen-methyl without consulting the U.S. Fish and Wildlife Service or National Marine Fisheries Service ("the Services") about the potential impacts to endangered and threatened species and their critical habitats. I understand that pesticides, such as flupyradifurone and the other pesticides involved in this case, could be approved for use on a variety of crops, including multiple types of citrus fruits, vegetables, berries, tree nuts, pome

fruits, corn, wheat, oilseeds, and soybeans. I am aware that pesticides, such as flupyradifurone, bicyclopyrone, and halauxifen-methyl, are systemic in plants, and any insects or other animal that eat, sip nectar, or interact with sprayed crops, may be harmed, including non-target and non-pest insects. I am aware that many pesticides break down slowly in the environment and accumulate in soil, potentially putting species throughout the affected ecosystem at risk.

6. Blueberries are an important niche crop in Indiana. There are a lot of blueberries grown in northern Indiana near the Michigan border. The biggest blueberry region is just south of South Bend, in northern Indiana. I attended a blueberry festival near South Bend many years when I was growing up. I frequently drive through northern Indiana and stop at various nature preserves along the way. There is also a blueberry farm in Daviess County, Indiana, which is in southern Indiana. I occasionally go there to pick fresh blueberries.

7. I am enthralled by the outdoors, nature, and its many environments. I go on outings organized by groups such as the Indiana Forest Alliance and the Sassafras Audubon Society, and I personally have conducted workshops on how to identify wild mushrooms and wildflowers. I read news and blogs about various insect and bird species, and I belong to multiple insect and bird listservs (electronic mailing lists) that allow members to report birds or insects they have seen or observed. I also go on outings with friends who share an interest in nature,

including nighttime hikes to photograph amphibians and other wildlife species. I am, and have always been, the type of person who likes to observe, photograph, study, and enjoy as many different species as possible in the environment. I learn the names and identifying features of different plant, mushroom, bird, insect, and other animal species, and I go on outings specifically to find and observe species I have never seen before.

8. My personal and aesthetic interests are, and will continue to be, adversely affected by EPA's decision to register flupyradifurone and other pesticides without consulting the Services because the use of these pesticides harms the threatened and endangered species I have seen and plan to see soon, limiting my ability to observe these species in their natural habitats. I know that the EPA is required to consult with the Services prior to registering a pesticide if the pesticide may harm threatened and endangered species. I am also aware that EPA found that flupyradifurone and other pesticides may harm, directly or indirectly, federally protected threatened and endangered species, but failed to consult with the Services. I know these pesticides can cause death, injury, and other devastating impacts on target and non-target wildlife, including diminished food supplies and habitats, and impaired growth, disease immunity, and reproduction.

9. Similarly, my recreational interests are, and will continue to be, adversely affected by EPA's failure to consult with the Services about the potential impacts to endangered and threatened species and their critical habitats before registering the pesticides at issue in this case. Endangered and threatened species are already under tremendous stress to survive, and adding any additional stress, even if sub-lethal, can put these species on the brink of extinction over the edge, preventing me from ever seeing these species in their natural habitat.

10. In addition to experiencing the natural environment in my yard every day, I visit other natural areas several times a year. Luckily, it is very easy for me to visit a lot of different kinds of habitats and environments. From my home in Indiana, I can reach multiple state and national forests and parks in an hour or less, such as the Hoosier National Forest, which spans nine counties in south-central Indiana. I also visit farther areas, such as the Jasper-Pulaski Fish and Wildlife Area in northwest Indiana. These areas are often surrounded by agricultural lands growing crops that could be sprayed with the pesticides at issue in this case. For example, the Jasper-Pulaski Fish and Wildlife Area is in Jasper County, which contains over two hundred thousand acres of crops that could be sprayed with flupyradifurone or other pesticides, such as corn or soybeans. The edges of these parks and forests are very important for viewing wildlife. Whether it is because wildlife prefers to congregate along the edge, or simply because it is easier to see

animals there, many wildlife species eat or interact with blueberries and other crops sprayed with flupyradifurone or other pesticides in the agricultural lands running alongside their natural habitats.

11. Additionally, when I take vacations outside of Indiana, my vacations often revolve around nature and natural history experiences. I visit my sister in Lansing, Michigan, a city in Ingham County, located in central Michigan. When I visit my sister, I sometimes go to various parks near Lake Michigan and return to the Fernwood Botanical Garden and Nature Preserve in Berrien County, Michigan, where I worked in high school, to watch birds and find specific species of pollinators and insects. I know that the area surrounding Berrien County is a large fruit growing region. My grandfather owned a raspberry farm in Berrien County, which I worked on as a child. Our family also picked blueberries, apples, peaches, and other fruit at U-pick farms in Berrien County every year. There are thousands of acres of blueberries, apples, and other fruits grown in Berrien, County. A few years ago, I took a trip with a friend to the Great Lakes region along the shores of Michigan, from Berrien County to the Upper Peninsula, where we enjoyed hiking and looking for wildlife, and bought blueberries and other locally grown fruits at roadside stands.

12. I am aware that Berrien County, Michigan has critical natural habitat for the federally endangered Mitchell's satyr butterfly (*Neonympha mitchellii mitchellii*). I am also aware that the federally endangered Karner blue butterfly (*Lycaeides melissa samuelis*) is found nearby in Lake County, Indiana, located in northeastern Indiana near the border of Michigan and Lake Michigan. I am also aware that Berrien County and the surrounding area contains thousands of acres of crops that could be sprayed with flupyradifurone and other pesticides involved with this case, such as apples, blueberries, squash, cucumbers, corn, and soybeans. I have never seen the Mitchell's satyr butterfly or the Karner blue butterfly, but I would like to. I know that the Mitchell's satyr butterfly and Karner blue butterfly fly near the border of Indiana and Michigan in late June and early July and plan to visit then. Because exposure to crops sprayed with flupyradifurone or other pesticides may harm the Mitchell's satyr butterfly and Karner blue butterfly populations, EPA's decision to register these pesticides without consultation may cause these endangered species to go extinct, preventing me from ever seeing them in their natural habitat.

13. In addition to my interest and appreciation for butterflies, I have an interest in whooping cranes (*Grus americana*) and consider myself a "Craniac," as people who follow the whooping crane population often refer to ourselves. I first became interested in whooping cranes over fifty years ago, when my mother gave

me the book, *North with the Spring* by Edwin Way Teale, in which Teale described the feeling he experienced seeing a lone whooping crane in a zoo in New Orleans in 1947 as the same feeling those who saw the last passenger pigeon must have felt. I have been fascinated by whooping cranes ever since.

14. I am aware that there are only four populations of whooping cranes, including two migratory populations and two non-migratory populations. I read news and blogs about both migratory whooping crane populations, and I have seen and plan to continue to see both migratory populations in their natural habitats.

15. The only self-sustaining, wild migratory population is the population that spends the summer in northwestern Canada and migrates through the Great Plains to winter in Texas. This western population can only be seen in Texas, at the Aransas National Wildlife Refuge, from November through April.

16. The second migratory population of whooping cranes is an experimental, human-raised population that spends the summer in Wisconsin or Michigan. I am aware that crane conservationists established this experimental population to protect the species from extinction in the event something catastrophic happened to the population overwintering in Texas. The experimental eastern population now migrates south to Florida in the winter, with the help of a dedicated whooping crane recovery team.

17. The western population does not migrate through Indiana, but I have friends who live in Rockport, Texas, near the Aransas National Wildlife Refuge where the western population spends the winter. I purposefully time my visits to see my friends during the winter so I can observe, watch, and enjoy the migratory whooping crane population that spends the winter in Texas. During my last visit to Texas, I saw two pairs of whooping cranes in the fields outside of the Aransas National Wildlife Refuge. I have also attended the Whooping Crane Festival in Port Asanas, Texas, and neighboring islands. I plan to visit my friends in Texas again in the winter, when the western population returns to the Aransas National Wildlife Refuge and nearby coastal areas in Texas, so I can continue to follow, observe, and enjoy the only surviving wild, migratory population of whooping cranes in the country.

18. In addition to my interest in the western population, I have an interest in the experimental eastern population, as well. This population migrates through Wisconsin, Illinois, Indiana, Kentucky, Tennessee, Alabama, and Georgia, to spend the winter in Florida. Because the migration pattern of this eastern population includes Indiana, some whooping cranes fly directly over my house. On two occasions, I have seen whooping cranes go over my house in mixed flocks with sandhill cranes (*Antigone canadensis,* formerly *Grus canadensis*). I have visited wildlife refuges near my home in Indiana where the eastern whooping crane

population spends quite a bit of time before continuing their migration to Florida, such as the Goose Pond Fish and Wildlife Area in Greene County. EPA's failure to consult the Services impairs my ability to observe whooping cranes near my home because Greene County has over a hundred thousand acres of that could be sprayed with the pesticides at issue in this case, including corn, soybeans, and wheat, potentially causing death, injury, or other devasting impacts to the eastern population that stops in the area during their fall migration.

19. My interest in both migratory whooping crane populations is adversely affected by EPA's decision to register flupyradifurone and other pesticides without consulting the Services. The western population of whooping cranes could be exposed to the pesticides at issue in this case during their fall migration through Arkansas, Kansas, Nebraska, South Dakota, and North Dakota. I am aware that these states contain tens of millions of acres of crops that could be sprayed with flupyradifurone and other pesticides, such as corn, wheat, and soybeans, potentially harming the cranes that stop in these states for food and shelter on route to Texas. I am also aware that Texas alone contains tens of million acres of crops that could be sprayed with flupyradifurone and other pesticides, such as cotton, citrus fruits, corn, wheat, and soybeans, potentially causing death, injury, or other devasting impacts to the entire western population of whooping cranes that spends almost half the year, from November to April, in Texas. The eastern

population of whooping cranes could be exposed to the pesticides at issue in this case during their fall migration through Illinois, Indiana, Kentucky, Tennessee, Alabama, and Georgia. I am aware that these states contain tens of millions of acres of crops that could be potentially sprayed with flupyradifurone and other pesticides, such as vegetables, berries, corn, wheat, and soybeans, potentially harming the eastern population stopping in this area during their fall migration to Florida. I am also aware that Florida contains millions of acres of citrus trees, vegetables, berries, and other crops that could be sprayed with the pesticides at issue in this case, potentially causing death or injury to the eastern whooping crane population that spends every winter in Florida.

20. In addition to whooping cranes, I am interested in observing other migratory birds such as sandhill cranes. Around Thanksgiving, I usually visit the Jasper-Pulaski Fish and Wildlife Area located in Jasper County, Indiana. This area is a well-known stop for large flocks of sandhill cranes during their fall migration south. From time to time, whooping cranes and other migratory birds are mixed in with the sandhill cranes. The best time to view sandhill cranes is late November or early December, when crane numbers peak. In early December 2020, during peak fall migration, more than 30,000 sandhill cranes were reported in this area. I was able to see the flocks of migrating sandhill cranes at Jasper-Pulaski in 2018, and I plan to go again this year. My ability to observe sandhill cranes is impaired by

EPA's failure to consult with the Services because Jasper County has over two hundred thousand acres of crops that could be sprayed with flupyradifurone and other pesticides, including corn, soybeans, and wheat, potentially harming the sandhill cranes that stop in this area during their fall migration.

21. I have always been interested in the different roles that species play in their natural habitats and ecosystems. For instance, I am fascinated by the role that carrion beetles play in decomposing organic matter in the environment, and I have gone to great lengths to make sure my yard in Indiana is a suitable habitat for this important species. On one trip to the Charles C. Deam Wilderness Area, located near my home in Bloomington, Indiana, I was thrilled to come across a dead rattlesnake that was covered with American carrion beetles (*Necrophila americana*). When I began to see these same American carrion beetles in my yard, I was not only excited to observe this species again but also to learn that I was doing a good job of maintaining natural conditions for them to thrive in my own yard.

22. I was very excited, then, when I first heard about the Cincinnati Zoo's breeding and release program for the threatened American burying beetle (*Nicrophorus americanus*), the largest carrion beetle in the United States. From 2013 to 2018, hundreds of American burying beetles were released at the Fernald Preserve in southwestern Ohio, with the goal of establishing a beetle population

that can survive in its former habitat, which once included Ohio, Kentucky, and Indiana. The Fernald Preserve is about 120 miles from my home. Since learning about the reintroduction plan, I have kept an eye out for American burying beetles during my evening hikes because I know Indiana is part of its original range, but I have yet to see any beetles. Because the beetles were released in parts of southwestern Ohio containing crops that could have been sprayed with flupyradifurone and other pesticides, such as Butler County, EPA's failure to consult impairs my ability to see this species return to its natural habitat in Indiana. American burying beetles are nocturnal, traveling over a mile each night, potentially traversing agricultural land sprayed with flupyradifurone and other pesticides, where they could be exposed to flupyradifurone and other pesticides in the soil, water, or food supply. If these beetles are exposed to the pesticides at issue in this case, they will never survive outside the areas in Ohio where they were reintroduced, and I will never be able to observe them in their original habitat in Indiana, including the various parks and forests I visit.

23. In sum, I am injured by EPA's decision to register flupyradifurone and other pesticides without consulting the Services about the potential impacts to listed species and their critical habitats, particularly because EPA determined that the pesticides at issue in this case may have devastating impacts on threatened and endangered species, including many of the species I have seen and plan to see

described above. EPA's decision harms my personal, aesthetic, and recreational interests in being able to view threatened and endangered species in their native habitats because the use of flupyradifurone and other pesticides jeopardizes the species that I care about and intend to see.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on October 8, 2021, in Bloomington, Indiana.

Martha L. Crouch

Martha L. Crouch

DECLARATION OF JAYDEE R. HANSON

I, JAYDEE HANSON, declare that if called as a witness in this action I would competently testify of my own personal knowledge as follows:

1. I am the Policy Director of the Center for Food Safety (CFS). I submit this declaration in support of the opening brief of Petitioners Center for Biological Diversity, Center for Food Safety, and Defenders of Wildlife for their Petition for Writ of Mandamus of U.S. Environmental Protection Agency's (EPA) decision to register the pesticide cyantraniliprole ("CTP") without consulting the U.S. Fish and Wildlife Service or National Marine Fisheries Service ("the Services") about the potential impacts to endangered and threatened species and their critical habitats.

2. CFS is a tax-exempt, nonprofit membership organization with offices in San Francisco, California; Portland, Oregon; Hawaii; and Washington, D.C. CFS represents more than a million farmer and consumer members in every state throughout the country. CFS and its members are, and continue to be, adversely affected by EPA's decision to register flupyradifurone, bicyclopyrone, and other pesticides without consulting the Services.

3. CFS was founded in 1997. Since its inception, CFS's mission has been to empower people, support farmers, and protect the environment from the harmful impacts of industrial agriculture. Accordingly, CFS's program activities are focused in several areas, including the environmental, public health, and

economic impacts of the development and commercialization of agriculture and food processing technologies. A cornerstone of this mission is to advocate for thorough, science-based safety testing of new agricultural products and technologies. This includes major programs on both pesticides, as well as genetically engineered crops.

4. CFS combines multiple tools and strategies in pursuing its mission, including public and policymaker education, outreach, and campaigning. For example, CFS disseminates a wide array of informational materials to government agencies, lawmakers, nonprofits, and the general public regarding the effects of industrial food production, agricultural products, and pesticides, on human health and the environment. These educational and informational materials include, but are not limited to, news articles, policy reports, white papers, legal briefs, press releases, newsletters, product guides, action alerts, and fact sheets. CFS often has provided expert testimony to policymakers on the potentially harmful agrichemical impacts associated with industrial monoculture cropping systems, including the increased use of pesticides and chemical fertilizers. CFS has spent hundreds, if not thousands, of hours on policy, scientific, and legal staff time, over many years of work, to address EPA's failure to consult with the Services before registering dangerous pesticides. Over the last few years, CFS has issued several press

releases and blog posts regarding EPA's failure to consult with the Services before authorizing pesticide registrations.

5. Staff members also regularly monitor the Federal Register and submit comments to EPA and other regulatory agencies via the public notice-and-comment process. CFS staff has submitted dozens of comments to EPA regarding its obligation to consult with the Service before approving pesticide registrations. For example, CFS submitted comments to EPA regarding its duty to consult with the Services in the following pesticide registration proceedings:

a. Xtendimax (Docket No. EPA-HQ-OPP-2016-0187)

b. Enlist Duo (Docket Nos. EPA-HQ-OPP-2014-0195 and EPA-HQ-OPP-2016-0594)

c. Prothioconazole (Docket No. EPA-HQ-OPP-2015-0722)

d. Fluensulfone (Docket No. EPA-HQ-OPP-2015-0478)

e. Fluopyram (Docket No. EPA-HQ-OPP-2015-0707)

f. Cyprodinil, Mefenoxam, and Flutriafol (Docket Nos. EPA-HQ-OPP-2015-0180; EPA-HQ-OPP-2015-0014; and EPA-HQ-OPP-2015-0179)

g. Cyantraniliprole (Docket No. EPA-HQ-OPP-2011-0668)

h. Flonicamid (Docket No. EPA-HQ-OPP-2016-0452)

i. Chlorfenapyp (Docket No. EPA-HQ-OPP-2016-0452)

j. Bicyclopyrone and Bromoxynil Octanoate (Docket No. EPA-HQ-OPP-2015-0589)

k. Flupyradifurone (Docket No. EPA-HQ-OPP-2013-0226)

6. CFS also regularly sends out action alerts to its members, encouraging them to participate in the notice-and-comment process or to submit letters to government officials related to the oversight of industrial agriculture, pesticide use, genetically engineered crops, and other issues affecting CFS's mission to build a sustainable food system. Over the last five years, CFS has issued several alerts regarding EPA's failure to consult with the Services before approving pesticide registrations.

7. CFS also engages with pesticide issues at the state level due, in part, to EPA's failure to consult with the Services before approving pesticide registrations. For example, CFS has worked on drafting model bills and supporting state legislation that would restrict pesticide spraying in Hawaii, California, and other states.

8. If EPA had consulted with the Services and complied with its consultation requirements before approving pesticides for use, CFS would not have had to expend organizational resources focusing on EPA's failure to comply with the Endangered Species Act in the form of education and outreach generated by press releases and email action alerts, administrative comments to EPA on pesticide registrations and compliance with the Endangered Species Act, and state level action to counteract EPA's failure to consult with the Services about the potential impacts to threatened and endangered species and their critical habitats.

9. When necessary, and as here, CFS also engages in public interest litigation to address the impacts of industrial food production and pesticides on its members, the environment, and the public interest.

10. As a party to this proceeding, CFS and its members are injured by the approved use of flupyradifurone, bicyclopyrone, and other pesticides. CFS and its members are harmed by EPA's decision to register flupyradifurone, bicyclopyrone, and other pesticides without consulting the Services because the use of these pesticides has devastating impacts on farmers, the environment, including threatened and endangered species and their habitats, and public health.

11. CFS and its members are adversely affected, and will continue to be adversely affected, by EPA's decision to register flupyradifurone, bicyclopyrone, and other pesticides for use on a wide range of crops for which they are approved. Many members of CFS have substantial interests in maintaining a healthy environment and habitat for many species of animals for professional, economic, recreational, aesthetic, and personal reasons. The use of flupyradifurone, bicyclopyrone, and other pesticides will harm non-target organisms, including endangered and threatened species, injuring CFS members' professional, economic, recreational, aesthetic, and personal interests.

12. Many CFS members are farmers and residents of rural areas where excessive amounts of pesticides are applied to crops, including crops for which flupyradifurone, bicyclopyrone, and other pesticides could be approved for use. These members are especially susceptible to the environmental and health risks associated with EPA's approval of flupyradifurone, bicyclopyrone, and the other pesticides at issue in this case. Moreover, the use of flupyradifurone, and other pesticides on crops compromises our members' enjoyment of their local environment and injures our members' professional, economic, recreational, aesthetic, and personal interests in maintaining biodiversity and protecting sensitive species.

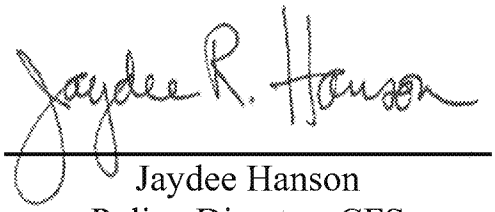
13. CFS members' interests are also injured by EPA's decision to register flupyradifurone, bicyclopyrone, and other pesticides without consulting the Services about the potential harm to endangered and threatened species and their critical habitats, as required under the Endangered Species Act. Many CFS members have significant professional, economic, recreational, aesthetic, and personal interests in observing threatened and endangered species, such as the endangered whooping crane, and preserving their habitats. CFS members' interest in biodiversity and protection of these sensitive species are injured by EPA's decision to register flupyradifurone, bicyclopyrone, and other pesticides without consulting with the Services, as required under the Endangered Species Act.

14. CFS's organizational interests are being, and will continue to be, adversely affected by EPA's decision to register flupyradifurone, bicyclopyrone, and other pesticides without consulting the Services. EPA's registration of these pesticides injures CFS's organizational interests in addressing the environmental and human health impacts of increased pesticide use in industrial agriculture. CFS has also spent considerable staff time, over many years, commenting and engaging with our members on EPA's failure to consult with the Services before approving pesticide registrations. CFS's procedural interests are also harmed by EPA's registration of flupyradifurone, bicyclopyrone, and other pesticides without consulting with the Services.

15. In sum, EPA's decision to register flupyradifurone, bicyclopyrone, and other pesticides without consulting the Services about the potential impacts to threatened and endangered species injures CFS's organizational interests in protecting agriculture and the environment, as well as the professional, economic, aesthetic, recreational, and personal interests of hundreds of thousands of CFS members in observing endangered and threatened species in their natural habitats. To counteract EPA's decision, CFS has had to divert a substantial amount of staff time and resources that it would not have had to otherwise expend. CFS and its members will be redressed if and when this Court vacates the registrations.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on October 18, 2021, in Washington, DC.



Jaydee Hanson
Policy Director, CFS

DECLARATION OF BRETT HARTL

I, Brett Hartl, declare as follows:

1. I am over 18 years of age, have personal knowledge of the matters asserted in this declaration and if called upon to testify would state the same.

2. I have an undergraduate degree in conservation biology from Prescott College, Arizona, and a law degree from Lewis and Clark Law School.

3. I have worked at the Center for Biological Diversity ("CBD") since 2013. From 2013 to 2016, I was CBD's Endangered Species Policy Director, and in 2017 was promoted to CBD's Government Affairs Director. I am also a member of CBD.

4. I am generally familiar with this litigation. I submit this declaration to address the government's responsibilities under the Endangered Species Act and how EPA's failure to comply with the ESA with respect to flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen methyl affects CBD and me, as a member. I am closely familiar with CBD cases relating to EPA's obligation under the ESA to address pesticides.

5. I have worked on the issue of endangered species consultations for pesticides since 2011, when I was a Legislative Fellow in the U.S. House of Representatives Committee on Natural Resources, which has oversight responsibilities on the Endangered Species Act. I was one of the primary staffers

for the Minority for an oversight hearing on May 3, 2011, that examined the issue of endangered species consultations for pesticides. This hearing helped precipitate the request from the federal agencies to the National Academy of Sciences to study this issue and prepare recommendations for the agencies to implement. I closely followed the progress of the National Academy for the Minority staff in 2011 and provided comments on this to the Environmental Protection Agency ("EPA") in 2012 while I was the senior policy fellow at the Society for Conservation Biology. In 2013, the National Academy issued its report. National Research Council of the National Academies of Sciences, *Assessing Risks to Endangered and Threatened Species from Pesticides* (2013).[1]

6. I have been deeply involved in this issue at CBD for many years., I have participated in every stakeholder meeting on this issue since 2014. In my former role as Endangered Species Policy Director, I submitted over one hundred comment letters to the EPA regarding new pesticide registrations, the reregistration of pesticides, pesticide ecological risk assessments, and interim reregistration decisions. Had the EPA complied with the Endangered Species Act ("ESA")'s consultation requirements the substantial time spent on those efforts would have been unnecessary.

[1] https://www.nap.edu/catalog/18344/assessing-risks-to-endangered-and-threatened-species-from-pesticides.

7. I was also a coauthor of a peer-reviewed paper entitled *Risk management decisions for pesticides and threatened and endangered species: The role of uncertainty analysis* in HUMAN AND ECOLOGICAL RISK ASSESSMENT: AN INTERNATIONAL JOURNAL.[2]

8. I have had to allocate a great deal of resources at CBD, including my staff time and time of other staff, in monitoring, tracking, testifying, submitting comments, and communicating with government agency staff on the importance of EPA's compliance with the ESA when it registers pesticides. This work has included EPA's failure to comply with the ESA in relation to flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen methyl. I devote a significant amount of time to monitoring, tracking, submitting comments and Freedom of Information Act (FOIA) requests, reviewing agency documents and FOIA responses, seeking enforcement of agency commitments to comply with the ESA related to pesticides, and informing the public of the environmental harm to ESA listed species as a result of the government's failure to comply with the law. For example, CBD was involved in producing and releasing the report *Poisoned: 10 American Species Imperiled by Pesticides* (October 2019), which analyzed the harms resulting from pesticide use on ESA listed species such as the Streaked

---

[2]https://www.researchgate.net/publication/282352096_Risk_Management_Decisions_for_Pesticides_and_Threatened_and_Endangered_Species_The_Role_of_Uncertainty_Analysis.

Horned Lark, California Red-legged Frog and Indiana Bat.[3] I have also been involved in the information CBD provided to the public and our members about the government's failure to comply with the ESA relating to pesticides and the influence of industry officials on the government's failure to adhere with the law regarding the impacts of pesticides on ESA listed species.[4]

9. I estimate that over the past 7 years, I have allocated roughly 10% of my total work focus, or approximately 1400 hours, to the issue of EPA's failure to comply with the ESA's consultation requirements and promoting solutions to making these consultations a success. This allocation of my time and resources would not have been necessary if EPA was complying with the ESA because the main reason that CBD submitted comments on EPA pesticide decisions was to address the long-standing failure to comply with the ESA. Having to dedicate this amount of my time, and other staff time at CBD, has resulted in costs to CBD. It has reduced my capacity and CBD's capacity to reduce other threats to threatened and endangered species, develop policies to strengthen protections for currently listed species, bring enforcement actions against violators of the ESA, and educate the public and decision makers about threatened and endangered species issues. As

[3] https://biologicaldiversity.org/w/news/press-releases/new-report-highlights-10-protected-species-endangered-pesticides-2019-10-30
[4] https://biologicaldiversity.org/w/news/press-releases/court-rejects-trump-administration-efforts-avoid-curbing-risks-dangerous-pesticide-malathion-2019-10-15/

a nonprofit organization with finite capacity the tremendous amount of resources that the organization has had to divert to address EPA's failure to comply with the ESA has been a drain on our organization.

10. Since 2017, CBD has been compelled to submit at least a dozen Freedom of Information Act requests to obtain basic information regarding the progress — or lack thereof — in conducting ESA consultations on pesticides. Our experience since January 2017 has been that the only means of obtaining accurate information regarding pesticide consultations has been through FOIA requests, which takes significant staff time to develop, and even more time to review the resulting records produced. EPA has repeatedly provided information in confusing and difficult formats in responding to our FOIA requests, for example, including meaningless file titles such as "ED_001334_00000924_0_7792a2d5-eaae-476d-b5f0-ae1d8617702a.pdf" for nearly all FOIA records, which slows down our review of our FOIA requests. This has drastically increased the time required to review FOIA records. I would estimate that over the past four and a half years, review of FOIA records relating to EPA and the wildlife agencies efforts to consult on pesticides has required that 3-4 staffers at the Center have spent at least 3-5% of their total work time on review of records.

11. Under the ESA, a federal action agency such as the EPA must complete a Biological Evaluation for the purpose of identifying any endangered

species or threatened species which are likely to be affected by a proposed agency action. The Biological Evaluation informs and assists the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service to complete the Section 7 consultation process that assesses — through the completion of a Biological Opinion — whether the proposed action will jeopardize any listed species or their critical habitat. Because most pesticides are authorized for use across the entire United States for fifteen years, and could impact virtually any listed species, such consultations are more complex and challenging than those that are more geographically discrete and limited in time.

12. To aid in completing nationwide Biological Evaluations and Biological Opinions for pesticides, in 2013 the EPA and the Services released the *Interim Approaches for National-Level Pesticide Endangered Species Act Assessments Based on the Recommendations of the National Academy of Sciences April 2013 Report* ("*Interim Approaches*") discussed above.[5] In March 2020, the EPA released its *Revised Method for National Level Listed Species Biological Evaluations of Conventional Pesticides* ("*Revised Methods*").[6]

13. The goal of both the *Interim Approaches* and the *Revised Methods* was to allow EPA and the Services to work together to develop new methodologies

[5] https://www.epa.gov/sites/production/files/2015-07/documents/interagency.pdf.
[6] https://www3.epa.gov/pesticides/nas/revised/revised-method-march2020.pdf.

to complete the pesticide consultations in an effective and efficient manner such that a defensible approach would ultimately be utilized by the EPA across the board for all pesticide-related agency actions. Through both the *Interim Approaches* and *Revised Methods*, the EPA and the Services have, among other things: (1) refined geospatial data of pesticide use patterns, (2) refined species distribution and range maps, (3) developed new models to estimate aquatic exposure to pesticides, and (4) implemented new analyses of impacts to endangered species. Accordingly, the EPA does not have to start from scratch for each Biological Evaluation, making future assessments potentially far more efficient. In essence, the goal of the *Interim Approaches* was to allow EPA to produce sufficient "initiation packages" for formal consultations and then for the Services to complete consultations in a timely manner.

14. In 2014, the Center agreed to a legal settlement with EPA to complete Biological Evaluations on five pesticides, which would allow the EPA to "pilot" the new *Interim Approaches*, and in turn allow the U.S. Fish and Wildlife Service to complete the consultation process through Biological Opinions on those same pesticides. The EPA and Fish and Wildlife Service provided CBD with non-binding benchmark dates for the completion of the draft and final Biological Evaluations. EPA stated it would complete Biological Evaluations for three organophosphate pesticides (chlorpyrifos, diazinon and malathion) by March of

2016 and two carbamate pesticides (carbaryl and methomyl) by March of 2017. In turn, the settlement provided that FWS would complete Biological Opinions for the three organophosphate pesticides by December 2017 and the two carbamate pesticides by December 2018. *See Center for Biological Diversity v. U.S. Fish & Wildlife Service*, Case No. 11-cv-5108, Stipulation Amending Original Stipulated Settlement and Order, Dkt. 87, (N.D. Cal. July 28, 2014). The EPA released its final Biological Evaluations for the three organophosphate pesticides approximately 10 months late, in January 2017. The draft Biological Evaluation for the two carbamate pesticides was not released until March 2020 and the final Biological Opinion was released in March 2021 — 27 months late.

15. In 2016, CBD agreed to a legal settlement with the EPA and the Fish and Wildlife Services to complete nationwide consultations regarding glyphosate (the key ingredient in Roundup) and the triazine class of pesticides, which includes atrazine, simazine and propazine. *Center for Biological Diversity v. U.S. Department of Interior et al*, Case No. 15-cv-00658-JCS, Dkt. 74, Stipulated Settlement and Order (February 19, 2016). EPA expected to complete Biological Evaluations for glyphosate and the triazine class of herbicides by June 30, 2020, with the Fish and Wildlife Service expecting to complete ESA consultations by December 30, 2022. EPA released a draft Biological Evaluation for glyphosate in

November 2020,[7] but it has not yet released a final Biological Evaluation. Similarly, the EPA released a draft Biological Evaluation for the triazine class pesticides in November 2020. The EPA will therefore be a year late in completing these Biological Evaluations.[8]

16. Despite the *Interim Approaches* and *Revised Methods*, the EPA has not normalized compliance with the ESA in its pesticide approval process. Other than the Biological Evaluations listed above, the EPA has not indicated it will complete Biological Evaluations for any other pesticide unless compelled to do so via litigation. For example, in *Center for Biological Diversity v. EPA*, the D.C. Circuit held that the EPA had failed to consult under the ESA on the new active ingredient cyantraniliprole, and remanded without vacatur the decision to EPA to complete consultations. *Ctr. for Biological Diversity v. EPA,* 861 F.3d 174 (D.C. Cir. 2017). Over the past four years, CBD has submitted three Freedom of Information Act requests to EPA requesting records regarding EPA's efforts to date to comply with the remand and initiate consultations. As of today's date, CBD has not received records demonstrating EPA's substantive action to initiate consultation or meaningfully remedy the ongoing legal violations in that case.

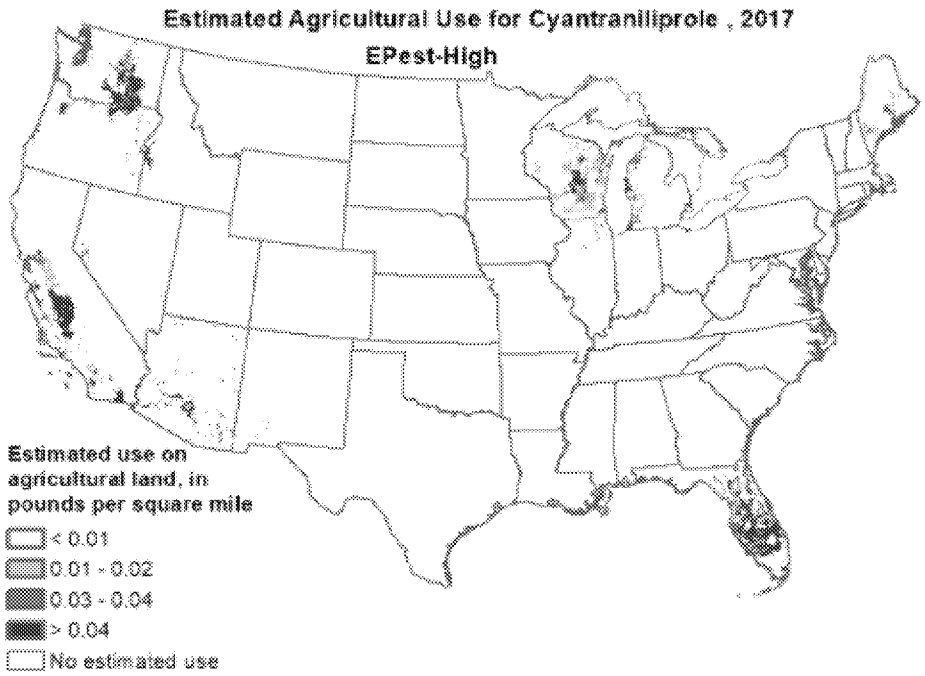
---

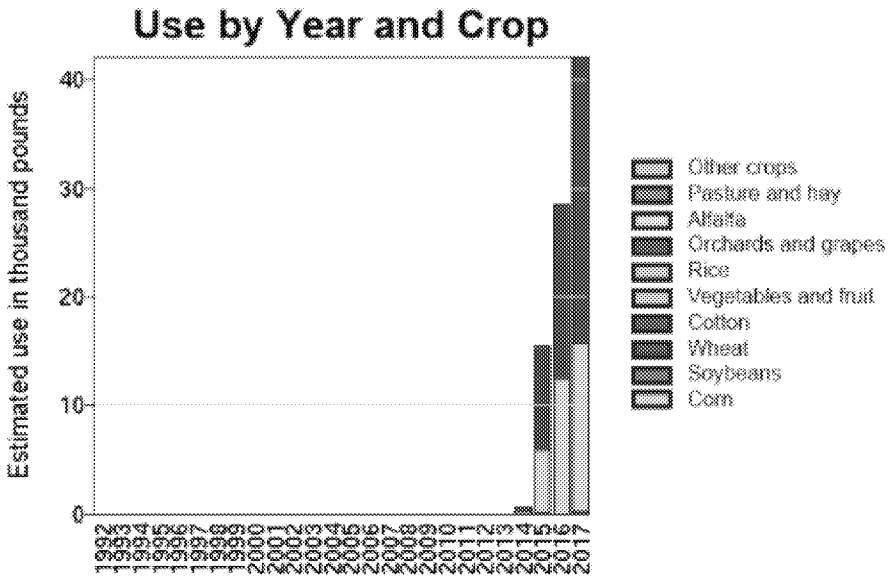
[7] https://www.epa.gov/pesticides/epa-releases-draft-biological-evaluation-glyphosate

[8] https://www.epa.gov/endangered-species/draft-national-level-listed-species-biological-evaluation-atrazine

17. Significant harm to endangered species occurs soon after the registration of a new Active Ingredient by the EPA. For example, soon after EPA's approval of cyantraniliprole in 2014, the pesticide began to be used in agriculture, significantly increasing in use every year for which there is information. The U.S. Geological Survey's National Water-Quality Assessment (NAWQA) Project tracks the use of pesticides based on publicly available data (current through 2017), and this can be accessed by any member of the public. The NAWQA data illustrates the increased use of cyantraniliprole:[9]

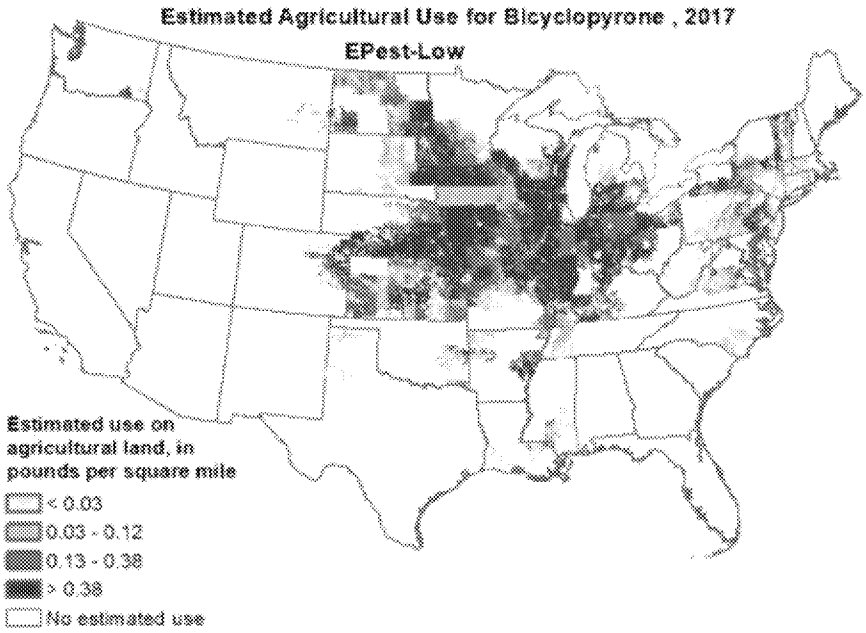
[9] https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2017&map=CYANTRANILIPROLE&hilo=L&disp=Cyantraniliprole

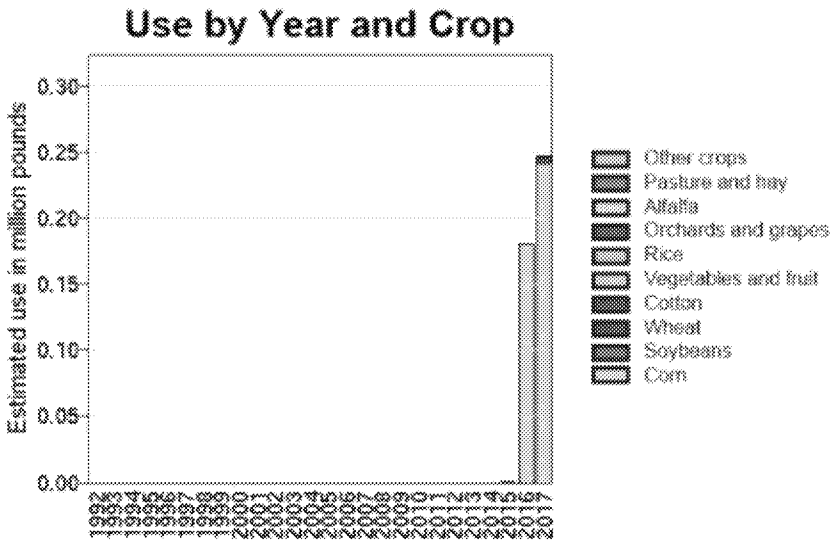




CBD has brought litigation regarding other new Active Ingredients since 2014. In each instance where NAWQA data are available, there is a significant increase in use of that new Active Ingredient after EPA approval. EPA approved in 2015 a new active ingredient called Bicyclopyrone, an herbicide originally proposed as an

alternative to atrazine, but which EPA ironically later approved for use with atrazine. The NAWQA data illustrate the rapidly increased in use following EPA approval:[10]





[10] https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2017&map=BICYCLOPYRONE&hilo=L&disp=Bicyclopyrone

18. CBD has brought litigation against other new pesticide active ingredients such as sulfoxaflor. Like the use of benzovindiflupyr, flupyfradifurone, and halauxifen-methyl in this case pesticide use follows the same pattern as above, with each increasing in use significantly in the years following EPA approval. Because of this, CBD is forced to bring further litigation challenging newly-registered pesticides for which EPA failed to comply with the Section 7 consultations requirements and ensuring against jeopardy.

19. Based on my experiences and CBD's numerous past attempts to ensure EPA's compliance, only a Court order vacating the registrations until compliance with the Endangered Species Act is achieved is the only guarantee that EPA will comply with the law. Absent that, our experience shows that EPA-authorized pesticides are likely to cause harm shortly after products come on the market for newly-approved pesticides, and that consultations may take many years to complete because there is little incentive for EPA to proceed expeditiously when a pesticide is already authorized for use.

20. More than 1 billion pounds of pesticides are used each year in the United States. These pesticides break down in the environment, forming compounds that are commonly detected in both surface and groundwater. The persistence and prevalence of pesticides in our nation's waterways harms wildlife and poses a significant threat to ESA listed species. A 2021 study found that

pesticides and their long-lived breakdown products were found in 90% of the 442 U.S. streams sampled by federal scientists.[11] Another 2021 study by the U.S. Geological Service found that pesticides were highly prevalent in waterways. On average, 17 pesticides were detected at least once at each of the 74 river and stream sites sampled in the U.S.[12]

21. EPA's failure to complete ESA consultations on new Active Ingredients such as flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen-methyl harms me personally and harms CBD's ability to fulfill its mission. One of my personal passions when not working is to view wildlife at home, around the country and around the world. I have seen over 3400 species of birds and 420 species of mammals, and regularly travel to observe wildlife, which I photograph and take videos of to post online. I receive advertising revenue from YouTube which I in turn donate to wildlife-focused charities.

22. Among the birds that I have observed include the endangered whooping crane (*Grus americana*), endangered Yuma Ridgway's rail (*Rallus*

---

[11] Barbara J. Mahler, et. al. *Inclusion of Pesticide Transformation Products Is Key to Estimating Pesticide Exposures and Effects in Small U.S. Streams*, Environmental Science & Technology 2021 55 (8), 4740-4752, https://hh-ra.org/wp-content/uploads/2021/04/acs.est_.0c06625.pdf

[12] Sarah M. Stackpoole, et. at. *Pesticides in US Rivers: Regional differences in use, occurrence, and environmental toxicity, 2013 to 2017*, Science of The Total Environment, Volume 787, 2021, 147147, https://www.sciencedirect.com/science/article/pii/S0048969721022178

obsoletus yumanensis), and threatened streaked horned lark *(Eremophila alpestris strigata*), all of which are likely to be harmed by flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen methyl.

23. I have observed the Yuma Ridgway's rails near the Salton Sea and along the Colorado River in the past. Most recently, I spent time in around the Salton Sea in January 2021 looking for Ridgway's rails and heard one individual near the Sonny Bono Salton Sea National Wildlife Refuge. Wildlife are almost always in close proximity to agriculture around this refuge, and agricultural return flows provide much of the freshwater in the Salton Sea. These birds are likely harmed, injured, or killed by pesticide spraying from nearby agriculture activities, especially when pesticides are authorized for use without any specific conservation measures to protect them. I am harmed by the approval of flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen methyl — and its use on crops such as fruits and vegetables near the Salton Sea — because fewer Ridgway's rails and other species of wildlife diminishes my recreational, aesthetic and professional interest in viewing and photographing wildlife. I am harmed when the EPA's failure to consult puts the population of Yuma Ridgway's rail at greater risk of becoming extirpated locally — meaning they disappear from the region — making them harder to observe in the future, and pushing the species closer to extinction.

24. I have also travelled numerous times to view whooping cranes on their wintering grounds on the Texas coast and in Nebraska. Most recently, I returned again to Nebraska in March of 2021 to view sandhill cranes and whooping cranes along the Platte River, and observed several individual whooping cranes on that trip. I plan to return to Texas in April 2022 for bird watching and to see the whooping crane again at Aransas National Wildlife Refuge. Whooping cranes remain one of the rarest birds in North America and the entire migratory population that I have observed only numbers 500 or so individuals. At its lowest point, only 18 whooping cranes were left on the planet. Seeing these iconic birds, one of the great conservation success stories of the last century, is always an incredible experience for me, and one of my life goals is to view all of the 15 species of cranes around the world.

25. I am injured when EPA approves a pesticide like flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen methyl that is approved for use on crops like corn, wheat, or soybeans without any measures to protect whooping cranes from exposure. These crops are grown along the migratory route of the whooping crane. Given that flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen methyl can harm birds like cranes that could eat treated seeds, cranes could be injured or killed from exposure to this pesticide. Fewer whooping cranes makes it less likely that I will be able to observe them in the future, and could

reverse the heroic conservation gains from the previous century. My recreational, aesthetic, and professional interest in viewing and photographing cranes is harmed by the harm caused by pesticides, including the additional harm caused by flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen methyl. A decline in population or extinction of the whooping crane would severely harm my interests in observing them in their natural habitat and would be utterly devastating to me.

26. I have observed the streaked horned lark on numerous occasions. I lived in Portland from 2007-2010 and would regular go birdwatching in the Willamette Valley, including at Baskett Slough National Wildlife Refuge, and along the Columbia River near the Portland Airport. I return to the Portland region almost every year, and returned most recently the summer of 2021 to look for wildlife, including the streaked horned lark, which I observed in the Willamette Valley. I intend to return to the Portland area again in the summer of 2022.

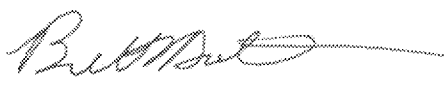
27. Larks prefer areas of bare ground and very short grasses, and I have often seen them in agricultural areas. The diet of horned larks heavily consists of seeds from short grasses, which is affected by the spraying of large acreage of agricultural areas. I am injured by EPA's approval of flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen methyl. Given that fruits, such as apples, and a wide range of vegetables are grown in the Willamette Valley,

flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen methyl could injure or kill streaked horned larks throughout their habitats in this area, making it harder to observe them, and diminishing my recreational, aesthetic and personal interests in this species. I have not yet been able to photograph or take video of this species, so the loss of streaked horned larks would harm my interests in observing this bird in its natural habitats.

28. As an organization whose mission is to protect endangered species from extinction, the Environmental Protection Agency's non-compliance with the Act ESA harms the organization, myself and thousands of our members that derive satisfaction and benefit from viewing wildlife in healthy, thriving environments. CBD's mission of preserving species from extinction is frustrated by EPA's failure to consult and comply with the ESA with respect to new Active Ingredients like flupyradifurone, bicyclopyrone, benzovindiflupyr, and halauxifen methyl, which will harm endangered species for years or decades if EPA's unlawful registration is allowed to stand.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed this September 29, 2021, in Prescott, Arizona.



Brett Hartl

DECLARATION OF CHRISTOPHER SCOTT IRWIN

I, CHRISTOPHER SCOTT IRWIN, do hereby declare as follows:

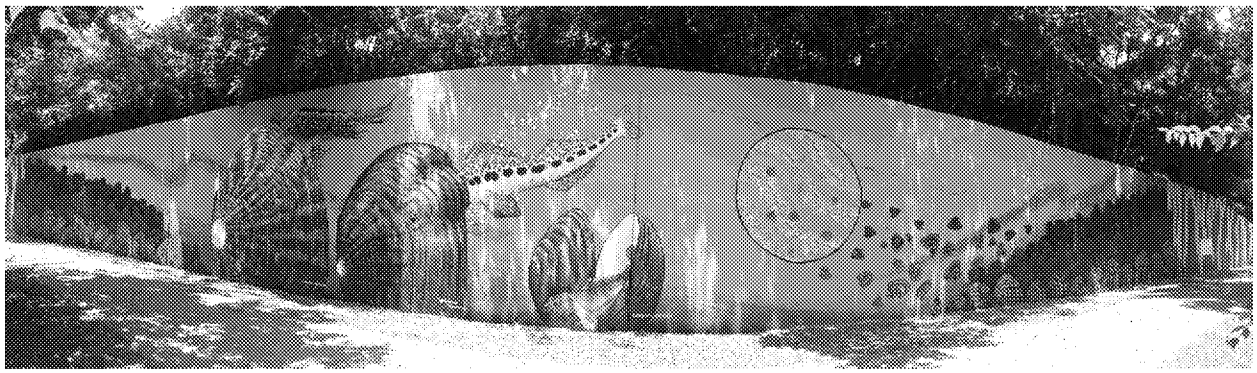
1. I am over the age of eighteen, have personal knowledge of the following, and could competently testify thereto if called as a witness.

2. I currently live in Knoxville, Tennessee and am the past President of United Mountain Defense - where I worked as a staff attorney on watershed issues.

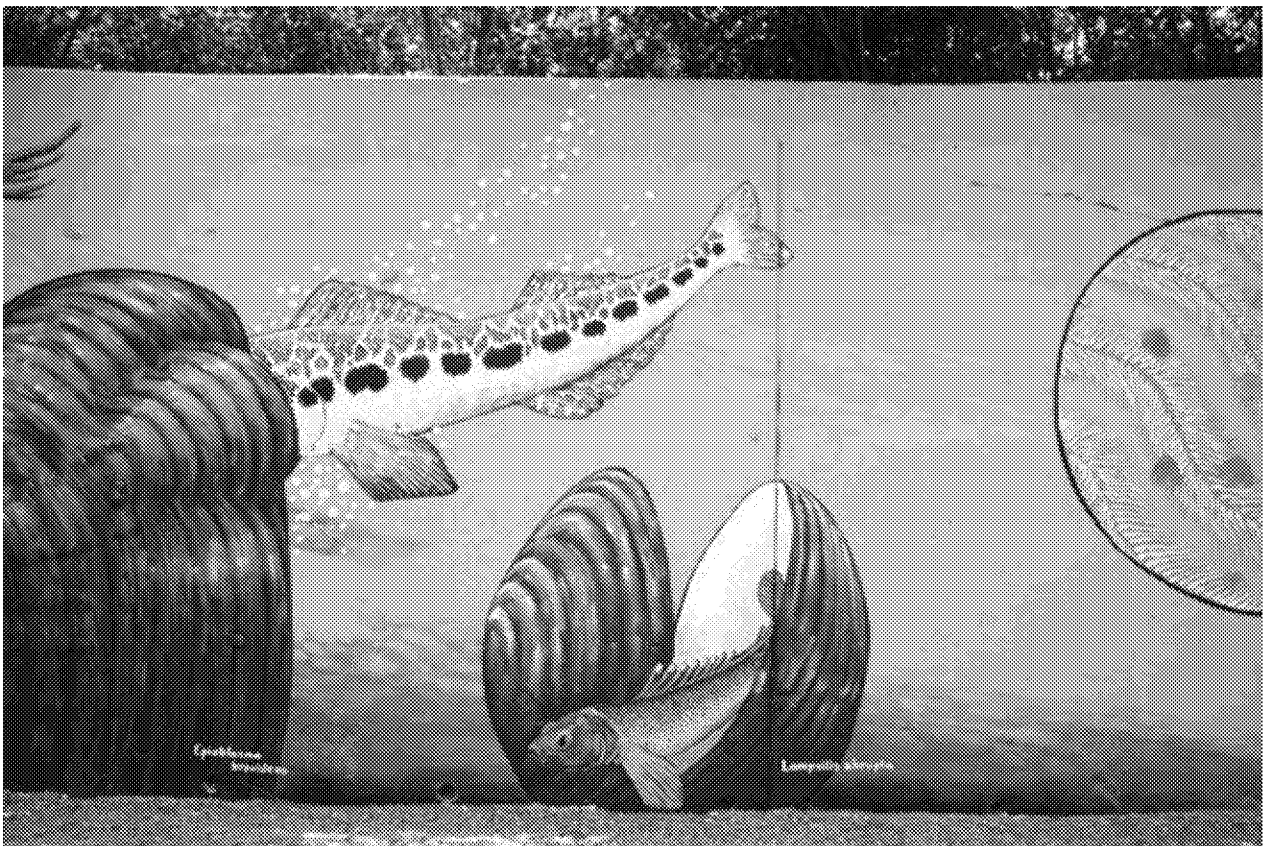
3. I have training in watershed work. I have also worked as a Peace Corp volunteer where I did natural resources management in Africa. Much of the erosion control work I did in the Peace Corp revolved around water and how it interacted with soil. I also worked for the Watersheds Stewards Project in northern California doing watershed restoration and Chinook salmon restoration work, including underwater video. My work on salmon restoration further informed me on the dangers of pesticides for aquatic life. Additionally, I have experience as a white water guide on the Nolichucky and French Broad Rivers. Healthy watersheds are about stream health. All of these experiences have helped me understand and relate as to my interest in the importance of aquatic ecosystems and in mussel populations in particular.

4. I am a member of the Center for Biological Diversity, and I follow its work closely. As a member of the Center I assisted in the Endangered Species Mural Project. As part of that project I coordinated with Gerald Dinkins, Curator

of Malacology (the study of mussels) at the McClung Museum of Natural History and Culture at the University of Tennessee, who helped with an endangered species mural focused on the freshwater mussel life cycle in Knoxville Tennessee. I am particularly proud of my work on this mural, which has been well documented.[1]



[1] Mike Blackerby, Knoxville News Sentinel, "A mural with mussel: New greenway artwork highlights area's biodiversity", July 11, 2016, http://archive.knoxnews.com/news/local/a-mural-with-mussel-new-greenway-artwork-highlights-areas-biodiversity-374bb65a-c91f-2aa4-e053-01000-386216471.html/



5. I live next to the Tennessee River on Riverside Drive. Our river is a toxic, muddy industrial drainage ditch. I am harmed when pesticide runoff impacts the health of the river from both run off and manufacturers of pesticides. Even on the hottest day in July, people are afraid to swim in it because we all know how toxic and nasty it is. The polluted status of the Tennessee River, including contamination from pesticides, harms me because it affects my ability to enjoy the river and the ecosystem that is provides.

6. I am harmed when the use of pesticides in agriculture, such as flupyradifurone, bicyclopyrone, benzonvindiflupyr, and halauxifen-methyl, in Tennessee harms wildlife and the environment. I know that agriculture has played

a major role on the environment in Tennessee. The importance of agriculture is even represented on the state seal of Tennessee. I am concerned that crops that are heavily grown in Tennessee, such as soybeans, corn, cotton, and hay for livestock forage, will rely on pesticides that will harm threatened and endangered species.

7. Even though the Tennessee River is highly polluted, the Tennessee Basin as a whole in one of the most biologically diverse river systems for aquatic organisms in the United States. It harbors a high number of imperiled species with many fish and mussel species considered to be at-risk.

8. I have a long-standing interest in mussels. In addition to collecting and looking for them, I have been to the mussel population exhibit at the University of Tennessee, and years ago I interviewed one of their scientists at the mussel lab. I have also worked on a project regarding mussel populations in the Clinch River watershed.

9. I have an intense interest in the impacts of pesticides on mussel populations as they are interesting species as well as indicator species for stream health. I grew up as a child collecting and studying mussel populations on the Tennessee River and surrounding tributaries. I would bring home dead shells to my family several times a week. My Grandfather lived on the banks of the Tennessee River. Growing up I spent countless hours collecting dead mussel shells and observing them in streams flowing into the River. I lost many a shoe deep in

the muck wading out to find my shells.

10. I have successfully observed mussels in the wild countless times. I live right next to the Tennessee River, so I visit these areas weekly, sometimes daily. My family has been in East Tennessee for at least six generations and we have fished, swum, and waded all over. One of the very first things I look for when on the water are the shells of mussels. I like getting on river banks during low water and during that time I'm always looking to see if I can find mussel shells. The Clinch River, where I was involved in a project involving mussels, has more species of endangered freshwater mussels than any other river in North America. I also enjoy visiting the Holsten and French Broad rivers in Tennessee. My experience and relationship with mussels and their ecosystems has deep personal, aesthetic, and spiritual meaning to me. It is connected to both my personal relationship with the environment as well as my family history. Because of these relationships I have a deep aesthetic, personal, and spiritual interest in the health of mussels, their populations, and the ecosystems they rely upon.

11. Additionally, I have looked for point source discharges of pollution into waterways and done conductivity testing with a YSI meter to test for water quality and water pollution all over east Tennessee. When I conduct water quality monitoring mussel populations are one of the things I look for. I did this as both a volunteer and past staff attorney for United Mountain Defense (UMD).

12. I intend to keep visiting waterways in Tennessee for years to come, for both professional and personal reasons. I am the past President and a staff attorney for the UMD. The UMD's mission is to protect Tennessee waters, so I anticipate with certainty that I will continue to visit these areas for months, if not years to come. Additionally, I live next to the Tennessee River, and my Aunt lives on the Tennessee River and owns marshland where I look for mussels.

13. Mussel populations are very important to me. I think they are neat. The history of mussels and the history of this region fascinate me. I have seen the specialized hook traps that used to be used to drag the sediment to capture them a hundred years ago. I have watched videos on the mussels describing how they used to make buttons out of them and I enjoy visiting the mussel exhibit at the University of Tennessee Museum. I have visited with Gerald Dinkens at the University of Tennessee many times and have viewed most, if not all, of the mussel species in the state as a result of those visits. I hope to see many of those mussels in the wild in their natural habitat as well.

14. I encounter mussels on at least a monthly basis and I look for them everywhere. I always get a little nervous when I do not see them in a stream. It makes me happy when I see them recovering in a stream or creek. Every time I find only dead small ones, I know the stream is sick and it makes me feel ill inside.

15. I am very concerned about threatened and endangered species living

in Tennessee watersheds, especially mussels, and enjoying looking for them. For example, I like to look for the pink mucket (*Lampsilis abrupta*), and Cumberlandian combshell (*Epioblasma brevidens*), which are two of the species depicted on the mussel endangered species mural in Knoxville that I helped create.

16. I believe all life has equal validity and when I see yet another example of humans taking priority over all other life, like with the contamination of rivers with pesticides, I am saddened. I believe all species, including mussels, have the right to exist.

17. As an indicator species, mussels tell me how well we are doing at being stewards of the earth and what kind of planet we are handing off to the next generation. The loss of mussels is one of the indicators as to how contaminated the river is. If it were cleaner, if it had healthier mussel populations, it would be a sign that the river is not as filthy as it looks.

18. In sum, I have environmental, recreational, and aesthetic interests in viewing federally protected wildlife, especially mussels that are negatively affected by the Environmental Protection Agency's failure to follow the Endangered Species Act and protect imperiled wildlife. My ability to freely visit waterways is harmed by the failure of our federal government to protect aquatic wildlife from pesticide pollution, such as flupyradifurone, bicyclopyrone, benzonvindiflupyr, and halauxifen-methyl. I am less able to see wildlife that is rarer because of

pesticide use and I would be likely to visit waterways in Tennessee more often if they were less polluted with pesticides and I was more likely to see endangered species, such as mussels there.

I declare under penalty of perjury that the foregoing is true and correct.

Dated this September 20, 2021

Chris Irwin

DECLARATION OF JEFFREY MILLER

I, Jeffrey K. Miller, declare as follows:

1. I declare under penalty of perjury that the following is true and correct. The facts set forth in this declaration are based on my personal knowledge and if called as a witness, I could and would competently testify thereto under oath. As to those matters which reflect a matter of opinion, they reflect my personal opinion and judgment upon the matter.

2. I am a resident of Morro Bay, California.

3. I have been a member of the Center for Biological Diversity ("CBD") since 1995 and have been employed on the staff of CBD since 2001. I am currently employed full-time by CBD. My duties include, among other things, research, assembling endangered species listing petitions, community organizing, assisting with various conservation campaigns, educational presentations, writing press releases, contacting media, and work on campaigns to protect and restore endangered and threatened species and their habitats, primarily in California.

4. As an employee of CBD, I have personally been involved in CBD's Pesticides Reduction Campaign. Because of EPA's failure to consult, much of my time and CBD's resources have been diverted towards authoring a series of reports detailing the effects of pesticides on Endangered Species Act ("ESA") listed species. In the absence of the ESA consultation analysis CBD has had to analyze

on its own the harmful effects of pesticides on endangered species, including, but not limited to, determining what species were most harmed by pesticides, which pesticides posed the greatest harm to ESA listed species, what steps could be taken to educate the public and decision-makers about the threats posed by pesticides to ESA listed species, and what steps could be taken to counteract the environmental harms posed to ESA listed species from EPA's failure to consult.

5. In 2004, CBD released the first of two reports I helped publish on pesticide use and endangered species. *Silent Spring Revisited: Pesticide Use and Endangered Species* analyzed the effects on endangered species of EPA's registration of pesticides.[1] The report analyzed EPA's continued failure to enforce the ESA's Section 7 Consultation requirements and how that illegal action affected ESA listed species. As noted in the report:

> Although the EPA by law is required to consult with the U.S. Fish and Wildlife Service on pesticide registration, it has failed to complete a single consultation in the last ten years despite repeated formal requests from the wildlife agency and the unambiguous requirements of the Endangered Species Act.

6. *Silent Spring Revisited* analyzed the effects pesticides have on ESA listed species so that the public was more aware of these issues, something the EPA was supposed to do. For example, the report discusses kit fox poisoning by rodenticides approved by the EPA and the effects rat poisons could have on the

---

[1] https://www.biologicaldiversity.org/publications/papers/Silent_Spring_revisited.pdf.

species. The report also analyzed the effects of pesticides on the southwestern willow flycatcher (*Empidonax traillii extimus*), noting that pesticides pose a threat to the species' food base. The report also discusses the biological effects of pesticides on imperiled species, including endocrine disruption, sexual deformities and other reproductive anomalies. The report acts as a replacement to the public for the Biological Opinion they were denied when EPA failed to consult under the ESA.

7. *Silent Spring Revisited* analyzed a range of pesticides that were harmful to wildlife and the environment. The report detailed how pesticides negatively affected aquatic life criteria and their contribution to negative biological effects on wildlife and ecosystems. It also analyzed how pesticides are harmful to ESA listed species, such as the California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana aurora draytonii*), blunt-nosed leopard lizard(*Gambelia silus*), coho salmon (*Oncorhynchus kisutch*), chinook salmon (*O. tshawytscha*), sockeye salmon (*O. nerka*), chum salmon (*O. keta*), steelhead trout (*O. mykiss*), delta smelt (*Hypomesus transpacificus*), Barton Springs salamander (*Eurycea sosorum*), and Illinois cave amphipod (*Gammarus acherondytes*).

8. In 2006, I worked on the CBD-issued report *Poisoning Our Imperiled Wildlife: San Francisco Bay Area Endangered Species at Risk from Pesticides*.[2] CBD was forced to divert its resources and expend resources beyond those that are normally expended to analyze the outcome of EPA's illegal activity and educate the public about the impacts of EPA's failure to engage in consultation, which would have studied and mitigated the effects of pesticides on endangered species. The report repeatedly emphasized the systemic failure at EPA to engage in consultation and how that impacted ESA listed species. For example:

> By failing to consult with the USFWS and NMFS, which have the statutory authority and responsibility to cooperate with other agencies in assessing impacts of agency actions and authority on threatened and endangered species, the EPA neglects to comply with federal law or even develop the information base for making the wise and cautious decisions about our most endangered wildlife.

9. *Poisoning Our Imperiled Wildlife* examined the risk that toxic pesticides pose to endangered species in the nine Bay Area counties: Marin, Sonoma, Napa, Solano, Contra Costa, Alameda, Santa Clara, San Mateo and San Francisco. *Poisoning Our Imperiled Wildlife* analyzed and highlighted the dangers posed by EPA's violations of the ESA in registering pesticides. The report detailed how the use of pesticides in the Bay Area is of harm to the California red-legged frog, California tiger salamander, Delta smelt, valley elderberry longhorn beetle

---

[2] https://www.biologicaldiversity.org/publications/papers/bayareapesticidesreport.pdf

(*Desmocerus californicus dimorphus),* and Pacific salmonid species. It further studied the Bay Area's use of pesticides by county and areas where that use was occurring. The report compared that usage data to critical habitat of ESA listed species. After analyzing the exposure to and effects on species the report made a list of recommendations to the public. For example, the report encouraged the public to use bio-pesticides to control insect pests and to hand weed and mulch their gardens.

10. *Poisoning Our Imperiled Wildlife* also specifically analyzed the threats to ecological systems from pesticides, including the endocrine disrupting effects, damage to eyesight, abnormal brain waves, immunosuppression and delayed neurotoxicity, and very high immediate toxicity for bees, amphibians and aquatic insects.

11. In addition to helping to write and publish the two pesticide reports, I have been forced to spend my time doing extensive advocacy, outreach and public education around the harmful effects of pesticides on imperiled wildlife. CBD, the public, and myself have all been denied the important scientific and informational reports that come along when agencies consult under the ESA. Thus, CBD diverted resources, so I could write and distribute nearly 20 press releases on CBD pesticide actions, resulting in nearly 150 newspaper articles, and TV and radio

interviews on CBS, KQED and others. I also helped organize public comments to the EPA on pesticides and pesticide registrations through CBD action alerts.

12. From 2003-2008, approximately 25% of my time was dedicated to addressing the impacts of pesticides on endangered species and providing information to the public about these impacts, due to the EPA's failure to consult. The significant portion of my time would have been dedicated to other environmental and species conservation efforts such as the following: preparing more federal and state Endangered Species Act listing petitions; developing and implementing the "Get the Lead Out" campaign to reduce use of toxic lead ammo; developing and implementing a campaign to make wind farms safer for golden eagles; advocating against urban sprawl development projects in endangered species habitats through a range of media, outreach, research, and administrative advocacy tools; efforts to reduce the negative environmental effects of cattle grazing practices on public lands; work to increase fish passage and habitat protections for California salmon and steelhead streams; review, analysis, and comments on the development of Habitat Conservation Plans to ensure maximum protections for imperiled species; campaigns and events focused on endangered species in the San Francisco Bay Area; and developing and implementing state campaigns to protect freshwater turtles from overharvest. Specific tasks for most or all of these campaigns would have been preparing educational materials for the

public and our web site, doing public outreach, coordinating with other conservation groups, working with scientists, preparing press releases and fact sheets, talking with reporters, attending public hearings, submitting comments, and preparing action alerts to engage the public with decision makers on issues involving imperiled species.

13. I am also the founder and Director of the Alameda Creek Alliance, a community watershed group dedicated to protecting and restoring the natural ecosystems of the Alameda Creek watershed. To restore the Alameda Creek watershed's native wildlife, plants, habitats, and ecosystems, the Alameda Creek Alliance focuses its efforts on restoring steelhead trout and salmon, indicator species of watershed health.

14. I have worked on conservation campaigns for a wide array of imperiled wildlife species in California, including native fish, birds, raptors, amphibians, reptiles, carnivores, ungulates, rodents, insects and plants. I have written or co-written many federal Endangered Species Act listing petitions, including petitions for the mountain yellow-legged frog (*Rana muscosa*), green sturgeon (*Acipenser medirostris*), Pacific lamprey (*Entosphenus tridentatus*), Delta smelt (*Hypomesus transpacificus*), longfin smelt *(Spirinchus thaleichthys*), Clear Lake hitch (*Lavinia exilicauda chi*), foothill yellow-legged frog (*Rana boylii*), Siskiyou Mountains salamander (*Plethodon stormi*), and Santa Ana speckled dace

(*Rhinichthys osculus*). I have also written, or co-written state California Endangered Species Act listing petitions for the western burrowing owl (*Athene cunicularia hypugaea*), Delta smelt, longfin smelt, mountain yellow-legged frog, Clear Lake hitch, foothill yellow-legged frog, and Cascades frog (*Rana cascadae*). Many of these species face threats from pesticides.

15. Personally, I am an avid amateur naturalist and birdwatcher and frequently visit habitat for rare and endangered birds and other wildlife throughout California. To look for and observe such wildlife, I often visit habitat throughout the Central Valley, San Francisco Bay Area and Bay-Delta, the central California coast, and Southern California. I also enjoy searching for and observing other species while birdwatching. In 2018 I took up wildlife and bird photography, in order to be able to better share the beauty and importance of California's native and imperiled bird and wildlife species with others.

16. I go birdwatching almost every day somewhere in California. In the last decade, I have seen 543 different species of birds in California alone. I lead annual birdwatching trips for the public at the Point Reyes Birding and Nature Festival in Marin County, and at the California Bird Festival at Morro Bay in San Luis Obispo County. I also participate annually in several Christmas Bird Counts, volunteer-based citizen science survey efforts coordinated by the Audubon Society to promote bird conservation and assess long-term trends in winter bird

populations. I have been the co-compiler for the Eastern Alameda County Christmas Bird Count since 2009; and also regularly participate in the Point Reyes Peninsula, Western Sonoma County, Morro Bay, and Carrizo Plain Christmas Bird Counts.

17. Through my professional work and personal hobbies, I have learned how much pesticides harm endangered and threatened species. With many endangered species already suffering from habitat loss, the effects of climate change, low population numbers, and other threats, harm from the inappropriate use of toxic pesticides in and near habitat for imperiled species could push these species closer to extinction or impede their recovery. I am harmed by the threat that pesticides pose for the recovery and continued existence of threatened and endangered species.

18. I know that wildlife species I enjoy and look for live where pesticides are often used. Their habitats often overlap with where pesticide use is going to occur. I understand that these pesticides are likely to degrade their habitat and put their existence at risk. These pesticides will also runoff into waterways and drift into nearby areas negatively affecting species which I have professional, recreational, aesthetic, and spiritual interests in.

Salmon and Steelhead Trout

19. I have been involved in the restoration of salmon and steelhead trout (*Onchorhynchus mykiss*) throughout California since 1996. I worked for and continue to volunteer with the Salmon Protection and Watershed Network in Marin County, which protects and restores coho salmon (*Oncorhynchus kisutch*) and steelhead trout and their habitat in Lagunitas Creek and Olema Creek. I am a member of the Russian Riverkeeper, which works to protect chinook salmon (*Oncorhynchus tshawytscha*), coho salmon and steelhead trout in the Russian River in Sonoma County. I am the founder and Director of the Alameda Creek Alliance, and for the past 24 years have worked to protect steelhead trout and restore their habitat in Alameda Creek in Alameda County. I am on the Board of Directors of Beyond Searsville Dam, an organization working to protect steelhead trout in San Francisquito Creek in San Mateo and Santa Clara counties. Since 2000 I have worked for CBD on numerous campaigns throughout California to protect coho salmon, chinook salmon, steelhead trout, green sturgeon, and native Bay-Delta fishes and their habitats. In 2007 and 2009 I received the Fishsniffer's "Leaping Steelhead" conservation awards for grassroots efforts to restore Alameda Creek and efforts to protect the San Francisco Bay-Delta and California's fisheries. In 2011 the East Bay Express voted me "Best Environmentalist" for my work with

CBD and Alameda Creek Alliance, as part of their annual Best of the East Bay awards.

20. I have visited Central Valley rivers and waterways to look for and view spring run chinook salmon and steelhead trout, including areas that are designated as critical habitat for these salmonids, such as lower Sacramento River, Feather River, Yuba River, Deer Creek, Yolo Bypass, and the San Francisco Bay-Delta. In 2009 I visited Butte Creek, an important spawning area for Central Valley spring run chinook salmon. I have rafted down the Tuolumne River several times, an important spawning river for Central Valley steelhead. I plan to continue to visit these places to look for and view spring run chinook salmon and steelhead trout. I have plans to visit the Sacramento River and SF Bay-Delta in spring of 2022.

21. I have visited numerous California coastal rivers and creeks to look for and view coastal chinook salmon and steelhead trout, including areas that are designated as critical habitat for these salmonids. These include Redwood Creek, Mattole River, Eel River, Albion River, and Russian River which harbor the California coastal chinook salmon population. I have visited Usal Creek, Albion River, Navarro River, Gualala River, Russian River, and Lagunitas Creek where the central California coast coho salmon population occurs. I have visited Redwood Creek, Mattole River, Eel River, and Gualala River where the Northern California coast steelhead trout population occurs. I have visited many streams that contain the central California coast steelhead trout population, including the Russian River, Lagunitas Creek, Olema Creek, Pine Gulch Creek, Pilarcitos Creek, Pescadero Creek, San Gregorio Creek, San Francisquito Creek, and Alameda Creek. I have also visited streams that contain the south-central California coast steelhead trout population, including the Carmel River, Big Sur River, Salinas River, Arroyo Seco, San Carpoforo Creek, Santa Rosa Creek, Morro Creek, Chorro Creek, SLO Creek, and Arroyo Grande Creek. I plan to visit these places again this year and for years to come to view coastal chinook salmon and steelhead trout. I have plans to visit the Russian River, Eel River and Lagunitas Creek in 2022. I live nearby all of the San Luis Obispo County creeks and have visited them regularly through 2021.

22. I have lived along the Albion River, Russian River, Pine Gulch Creek, and Lagunitas Creek and currently live near Morro Creek and Chorro Creek. I have kayaked on the Albion River, Navarro River, Russian River, Gualala River, and Lagunitas Creek, and I regularly raft down the Eel River. I will continue to visit these places in hopes to see salmon and steelhead trout. I have plans to raft down the Eel River in the spring of 2022; and to visit my former home along the Russian River in 2022.

23. In my capacity at CBD and personally I have worked on numerous campaigns to protect these salmonids and streams, which are their critical habitat, from impacts from logging, urban development, water withdrawals, pesticides, dams, and livestock grazing. These efforts included working with other conservation, fishing, and tribal groups, and scientists, writing press releases, submitting comments on projects and permits, and preparing web materials and action alerts.

24. For the last 20 years with the Alameda Creek Alliance I have helped capture and tag adult steelhead in lower Alameda Creek, to transfer them to suitable spawning habitat and track their migration movements. This is a coordinated with a multi-agency effort to provide fish passage for steelhead by constructing fish ladders in Alameda Creek to connect wild steelhead with former spawning and rearing habitat areas. The Alliance is helping restore wild steelhead

spawning population in the largest local tributary to San Francisco Bay. I plan on continuing to work in Alameda Creek to restore habitat and ensure fish passage for migratory fish.

25. I am harmed when pesticides are applied in and around chinook salmon and steelhead trout habitats without regard to the species' recovery. Chinook salmon and steelhead trout habitats are in and nearby many agricultural operations that are likely to apply pesticides. I am aware of the problem of pesticide runoff in watersheds in California's Central Valley, Bay Area, coastal watersheds, and other locations. I am harmed by the use of these and similar pesticides, which harm and kill Chinook salmon and steelhead trout directly and inadvertently.

North American Green Sturgeon – Southern Population

26. In my capacity at CBD, I wrote a formal listing petition for protection of green sturgeon under the federal Endangered Species Act in 2001. Because of the petition, the National Marine Fisheries Service listed the southern green sturgeon population as a federally threatened species in 2006. I assisted in CBD campaigns and a lawsuit which led to designation of critical habitat for southern green sturgeon in 2009; ESA "take" regulations in 2010; and a formal recovery plan for southern green sturgeon, finalized in 2018. CBD intervened and successfully fought off legal efforts by developers and water agencies to strip

critical habitat protections for southern green sturgeon. I was involved in writing comments, working with scientific experts on the species, organizing other conservation groups, and writing 11 press releases, web site materials and action alerts for these protective efforts.

27. I frequently visit river habitat for the southern population of green sturgeon in the Sacramento River and visit northern green sturgeon spawning habitat in the Rogue River and Klamath River in late spring and early summer to attempt to see green sturgeon in the wild. I regularly raft along the Rogue and Klamath Rivers in areas where green sturgeon are known to occur. Specific locations I have visited to attempt to see southern green sturgeon spawning include Balls Ferry, Red Bluff Diversion Dam, Todd Island, Woodson Bridge State Recreation Area, and Hamilton Bend on the Sacramento River, and along the lower Feather and Yuba Rivers. Unfortunately, I have yet to encounter the rare green sturgeon in the wild and have only seen green sturgeon at the Monterey Bay Aquarium. I plan to continue to return to these rivers annually.

28. I am harmed when pesticides are applied in and around green sturgeon's habitat without regard to the species' recovery. These pesticides are likely to adversely affect the species' recovery and frustrate all the work CBD and myself have done to help preserve the species. The North American green sturgeon's habitat is in and nearby many agricultural operations, such as those in

the Sacramento Valley or Rogue River Valley, that are likely to apply pesticides. The use of these and similar pesticides will harm and kill North American green sturgeon directly and inadvertently, and harm me as a result.

Delta Smelt

29. In my capacity at CBD I helped prepare petitions to increase federal and state Endangered Species Act protections for Delta smelt. In 2006 we submitted a petition to uplist Delta smelt from threatened to endangered under the federal Endangered Species Act. In 2007 we submitted a petition to uplist Delta smelt from threatened to endangered under the California state Endangered Species Act. In 2009 our petition was granted, and Delta smelt was protected as endangered under the California state Endangered Species Act. I was involved in working with other conservation groups, and writing 13 press releases, web site materials and action alerts for these protective efforts. My recent visits to the Delta included Bethel Island, Brannan Island State Recreation Area, Isleton, lower Mokelumne River, Woodbridge Ecological Reserve, and Suisun Slough in 2016; and Cosumnes River Preserve and Rio Vista in 2018. I plan to make future trips to the Delta to view and look for Delta smelt, including in spring of 2022.

30. I am harmed when pesticides are applied in and around the Delta smelt's habitat without regard to the species' recovery. These pesticides are likely to adversely affect the species recovery and frustrate all the work CBD and myself

have done to help preserve the species. The Delta smelt's habitat is in and nearby many agricultural operations in the San Francisco Bay Delta and downstream of the Central Valley watershed that are likely to apply pesticides. I am harmed by the pesticides, which kill and harm the Delta smelt directly and inadvertently and in turn harm me as a result.

Valley Elderberry Longhorn Beetle

31. The valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is listed as a threatened species under the federal Endangered Species Act.

32. The valley elderberry longhorn beetle is an attractive red and black beetle that lives in riparian zones throughout California's Central Valley, from Redding to Fresno. The valley elderberry longhorn beetle's entire life cycle is associated with elderberry trees. Females lay eggs in the bark of the tree, and the larvae hatch and burrow into the stems. For the first one-to-two years of their lives, the larvae eat the elderberry tree's interior wood as their sole source of food. Adults emerge in the spring through distinctive exit holes and feed on the foliage until they mate.

33. Elderberry trees can be found in riparian forests along rivers and streams in the Sacramento Valley and San Francisco Bay-Delta. Over ninety percent of such riparian forests have been cleared in the last century for

agricultural and urban development. Pesticide use on otherwise undisturbed areas has also degraded the quality of riparian habitat.

34. I have seen the related and more common California elderberry longhorn beetle on several occasions. While birdwatching in the Central Valley in 2009, I found longhorn beetle drill holes in elderberry trees that were likely made by valley elderberry longhorn beetles, based on their location, specifically along the American River Parkway adjacent to the lower American River. I subsequently began looking for longhorn beetle drill holes in elderberry trees while birdwatching within other suitable habitat for the valley elderberry longhorn beetle in the Central Valley, along the Cosumnes River, Putah Creek, the Llano Seco Unit of the North Central Valley Wildlife Management Area, and the Colusa National Wildlife Refuge.

35. I have also visited the Sacramento River in April 2016; Cosumnes River Preserve in February 2018; Yolo Bypass in April 2018; and the American River in February 2019 in search of the valley elderberry longhorn and plan on to continue to search for the beetle in future planned trips, including in spring of 2022. I regularly visit Central Valley rivers and riparian areas with valley elderberry longhorn beetle habitat, about three-to-four times a year, and plan to continue doing so in the future for birdwatching and salmon restoration activities. Additionally, I regularly attend an annual birdwatching festival in the Central

Valley that involves spending time in the valley elderberry longhorn beetle's habitat.

36. In 2014, I submitted regulatory comments for CBD and helped put out two press releases to publicize the threatened removal of Endangered Species Act protections for the valley elderberry longhorn beetle. CBD's advocacy and publicity with the Xerces Society for Invertebrate Conservation prevented the premature delisting of this beetle species, which is still an imperiled species. Successful recovery of the valley elderberry longhorn beetle will inspire and promote similar efforts for other imperiled native species.

37. I am harmed when pesticides are applied in and around the valley elderberry longhorn beetle's habitat in California's Central Valley without regard to the beetle's recovery. The beetle's habitat is in and nearby many agricultural operations that are likely to use pesticides to control other insects. The use of pesticides harm or kill valley elderberry longhorn beetles directly or inadvertently, as the killing of non-target insects by insecticides is a common phenomenon, and that harms me as a result.

38. I plan to look for the valley elderberry longhorn beetles in the wild, but even if I do not observe the beetle, I am happy knowing that it exists in the wild. I enjoy knowing that the beetle is recovering as a listed species, and I look forward to its full recovery. If the remaining populations of the valley elderberry

longhorn beetle were extirpated because of pesticides, the ecological value of the Central Valley's riparian habitat and my appreciation of these areas would be diminished.

San Joaquin Kit Fox

39. The San Joaquin kit fox (*Vulpes macrotis mutica*) is listed as an endangered species under the federal Endangered Species Act.

40. The San Joaquin kit fox is the smallest fox in North America, and is an adorable creature with distinctive large ears and long legs.

41. The kit fox once ranged throughout the San Joaquin Valley, but now resides only at the edges, from southern Kern County in the south to Alameda, Contra Costa, and San Joaquin counties in the north.

42. I was lucky enough to see my first San Joaquin kit fox out in the open during daylight hours on a memorable occasion near Tracy, California in 2011. A San Joaquin kit fox was running across an open field next to a road I was driving on. In my 58 plus years in California, I have seen hundreds of foxes (including native gray foxes, introduced red foxes and endemic island foxes), but I could immediately tell this was a San Joaquin kit fox. I noticed its oversized ears, small size, long bushy tail and distinctive way of moving, and knew I was in the kit fox's restricted habitat area. Seeing this kit fox was an amazing experience given how

rare the species is. It was exciting to see one of California's signature endemic species in the wild.

43. Since then, I recently got to see San Joaquin kit foxes at Carrizo Plain: once in June 2018, twice in December 2018, and once in November 2019. I had a close encounter with a San Joaquin kit fox at Carrizo in June 2018, and got close-up photos included below.

44. I have visited Carrizo Plain in February 2016; June 2018; twice in December 2018; March, April, May, and November of 2019; February, April, October, and December of 2020; and in January, March and April of 2021. I have trips planned to return to Carrizo Plain in 2022. I have also looked for kit foxes in suitable habitat recently in Kern County (Lost Hills and Kern National Wildlife Refuge) in March and December 2018; and at Camp Roberts in July 2016 and May 2018.

45. I often visit San Joaquin kit fox habitat while birdwatching in the Central Valley, San Joaquin Valley, Carrizo Plain, Camp Roberts and Fort Hunter Liggett. I plan to continue regularly visiting such habitat in the future. I also

regularly visit kit fox habitat in eastern Alameda County in Altamont Pass and Corral Hollow, up to ten times each year and will continue to do so.

46. I am harmed when flupyradifurone, bicyclopyrone, and benzovindiflupyr are applied to alfalfa, citrus, corn, cotton, and tree nuts in the San Joaquin and Central Valley and around the San Joaquin kit fox's habitat without regard to its recovery because it harms the kit fox inhibiting my ability to observe it. The kit fox's habitat is in and nearby many agricultural operations that are likely to apply these pesticides to control insects.

47. I plan to look for San Joaquin kit fox in the wild again, but even if I do not observe the kit fox, I am happy knowing that these animals exist in the wild. I look forward to the kit fox's full recovery under the protections of the Endangered Species Act. If the small number of remaining kit foxes were reduced or extirpated because of the use of pesticides, the ecological value of the Central Valley's natural environment and my appreciation of these areas would be diminished.

Western Yellow-Billed Cuckoo

48. I was lucky enough to see the elusive yellow-billed cuckoo (*Coccyzus americanus*) in October 2016 in Florida and in May 2018 in Texas. These sightings made me want that much more to see the western, or California, subspecies of yellow-billed cuckoo. I have been birdwatching in suitable western yellow-billed

cuckoo habitat searching for this bird at the Kern River Preserve in July 2017 and July 2018, and along the Sacramento River in February 2019. I plan to return to the Kern River Preserve and Sacramento River in spring of 2022 to look again for the cuckoo.

49. I am harmed when pesticides are sprayed in and adjacent to habitat for the yellow billed cuckoo in California's Central Valley and the agricultural areas near the Kern River Preserve without regard to its recovery because it harms the cuckoo inhibiting my ability to observe it.

Least Bell's Vireo

50. I first became interested in the least Bell's vireo (*Vireo bellii*) and southwestern willow flycatcher (*Empidonax trailii extimus*) in 1998, when I was part of CBD's campaign to force the U.S. Forest Service to amend its management plans for Southern California's four national forests to better protect riparian habitat for Bell's vireo and willow flycatcher. From 2010 to 2014 I was involved in CBD's successful campaign to reverse an Army Corps of Engineers policy that would require stripping levees of vegetation that provides important habitat for imperiled California species, including the least Bell's vireo and southwestern willow flycatcher.

51. I saw my first least Bell's vireo in 2010. I have searched for least Bell's vireo in San Diego and the Tijuana River Valley area (September 2016,

September 2017, and April 2018); in the Salton Sea area (February 2016, September 2016, September 2017, and April 2018); in the Kern River drainage (July 2017 and July 2018); in Big Morongo canyon in April 2019; and throughout southern Arizona in April and May 2019. I have now seen least Bell's vireo on 26 different occasions. I plan to return to the Tijuana River Valley, Salton Sea, and Kern River drainage in 2022 to look for this bird.

52. I am harmed when pesticides are sprayed in and adjacent to habitat for the Least Bell's vireo in agricultural areas near and upstream of the Tijuana River Valley, Salton Sea, and Kern River without regard to its recovery because it harms the cuckoo inhibiting my ability to observe it.

Southwestern Willow Flycatcher

53. I saw my first southwestern willow flycatcher in 2009. I have since seen this species on at least 35 occasions while birdwatching in Mono County, the Kern River drainage, the central California coast, Salton Sea area, and Imperial Valley area. I looked for southwestern willow flycatcher in Inyo County and Mono County in 2017, and in Kern River Preserve in July 2019. I plan to look for this bird in 2022 along the eastern slope of the southern Sierras.

54. I am harmed when flupyradifurone, bicyclopyrone, and benzovindiflupyr are applied to lettuce in Kern County, alfalfa, almonds, walnuts, pecans, apples, pears leafy greens, and corn in Inyo and Mono Counties, in and

around western yellow-billed cuckoo, least Bell's vireo, and southwestern willow flycatcher habitat without regard to the species' recovery because the harm to these species inhibits my ability to enjoy them. These pesticides adversely affect these species' recovery. These species live in and nearby many agricultural operations that are likely to apply pesticides. They eat insects that will be killed by these pesticides, lessening their ability to find food and increase their chances of getting poisoned themselves. The use of pesticides will kill and harm these species directly and inadvertently. If the small number of these remaining species were reduced or extirpated because of the use of pesticides, the ecological value of the natural environment and my appreciation of these areas would be diminished.

California Tiger Salamander

55. I have a conservation and personal interest in the California tiger salamander (*Ambystoma californiense*). I have been involved in CBD's campaigns to secure protections under the state and federal Endangered Species Acts for California tiger salamander populations, and worked on press releases, reports, and securing public and expert comments to protect the species and educate the public about the decline of California tiger salamanders and the loss of their vernal pool habitats. I have also worked on many CBD and Alameda Creek Alliance efforts to stop or reduce urban development in tiger salamander habitat in the East Bay and in Sonoma County.

56. In 2009 I went out with a tiger salamander researcher at night to participate in surveys for the California tiger salamander at Jepson Prairie Preserve in Solano County. I have also seen tiger salamander larvae on several occasions in ponds in Sunol and Ohlone Regional Parks in Alameda County. I plan to return to look for California tiger salamander when I visit eastern Alameda County for the Eastern Alameda County Christmas Bird Count and as part of my work with the Alameda Creek Alliance.

57. I am harmed when flupyradifurone, bicyclopyrone, and benzovindiflupyr are applied on alfalfa and walnuts in and around California tiger salamander habitat without regard to the species' recovery. These pesticides are likely to adversely affect tiger salamander recovery since these salamanders live in and nearby many agricultural operations that are likely to apply pesticides.

58. In summary, I have professional, recreational, aesthetic, and spiritual interests in the conservation and preservation of many imperiled native species in California in this declaration, such as the valley elderberry longhorn beetle, San Joaquin kit fox, Delta smelt, North American green sturgeon, chinook salmon, coho salmon, steelhead trout, western yellow-billed cuckoo, least Bell's vireo, southwestern willow flycatcher, California tiger salamander, and their habitats. I derive benefits from visiting, observing, and restoring intact natural riparian ecosystems which are habitat for some of these species, and my enjoyment of these

habitat areas for recreational, professional, and spiritual purposes is dependent upon healthy ecosystems and wildlife populations.

59. As a lifetime conservationist, I have aesthetic, spiritual and moral interests in these species. It is important to me that these and other species survive and thrive in their natural habitat, whether or not I am able to encounter them. It is my belief that no wildlife species should be allowed to be driven extinct by the actions of humans and that no species should be allowed to go extinct if it can be prevented. My spiritual fulfillment comes from interacting with nature and protecting wild places, wildlife, and intact native ecosystems. The loss of these species will injure my aesthetic and spiritual enjoyment of native habitats in my home state. I believe that biodiversity has inherent value and it would be a moral and spiritual failure of our society to not protect our most vulnerable wildlife.

60. As a conservationist, I have a professional interest in protecting and recovering these species. The protection and recovery of these and other species are essential to my work to promote funding, take regulatory action, advocate, and organize citizen involvement in efforts to protect endangered species.

61. These interests are being harmed by the Environmental Protection Agency's failure to consult with the U.S. Fish and Wildlife Service on the impacts of the following pesticides and their associated end-use products: flupyradifurone ("Sivanto 200 SL"), bicyclopyrone ("Acuron"), and benzovindiflupyr ("Approvia

Ace") which could poison, harm, kill, and further imperil these species and other endangered and threatened species. I know that the EPA approved flupyradifurone, and bicyclopyrone, benzovindiflupyr on a range of crops including but not limited to: alfalfa, corn, tree nuts, and many fruits and vegetables grown in California. EPA's failure to consult before registering these pesticides is contrary to federal law and contrary to the conservation and stewardship values of CBD and our society.

62. The Environmental Protection Agency's failure to follow the law makes these species more vulnerable to habitat destruction, injury, death, and population declines. If these species decline or become extinct, the loss would deprive me of all the benefits I currently enjoy from their existence and recovery. Consultation could have resulted in more protective measures to ensure the conservation and recovery of these species, ensuring that my interests would be free from injury.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on October 20, 2021, at Morro Bay, California.

By: _____

DECLARATION OF JAMES D. WILLIAMS

I, James D. Williams, declare as follows:

1. I am over the age of 21 and currently reside in Gainesville, Florida, where I have lived for over 31 years.

2. I have a PhD in Biology from the University of Alabama. I am retired from the U.S. Department of the Interior, U.S. Geological Survey, Biological Resources Division, and the Florida Fish and Wildlife Conservation Commission where my much of my work involved the biological research of aquatic species in the southeastern United States, especially as it related to the population and conservation status of those species. Previously, when I was a biologist for the U.S. Fish and Wildlife Service, I worked in the Endangered Species Office in Washington, DC, from 1974–1987 and was responsible for researching, evaluating, and proposing freshwater fishes for endangered and threatened status. I also served as the chief of the Biodiversity Branch, U.S. Fish and Wildlife Service and U.S. Geological Survey, in Gainesville, Florida. For approximately nine years I taught an annual workshop on freshwater mussels of the Apalachicola basin, Alabama, Florida, and Georgia. I have also received the Freshwater Mollusk Conservation Society Lifetime Achievement Award in recognition for singular accomplishments and long-term contributions that have advanced the conservation and science of

freshwater mollusks at a national and international level. I am currently a research associate in the Florida Museum of Natural History.

3. I have authored over 175 publications, reports, presentations, or books with a primary focus on mussels and fishes of the southeastern United States. For example, I was recently an author on articles of the conservation status of freshwater mussels in the United States and Canada. I was also primary author of the book "Freshwater Mussels of Florida" and "Freshwater Mussels of Alabama and the Mobile Basin in Georgia, Mississippi and Tennessee."

4. I have been a member of the Center for Biological Diversity since 2009. The Center is a nonprofit organization committed to the preservation, protection, and restoration of native species and the ecosystems upon which they depend. As a member of the Center, I participate in activities pertaining to endangered species issues. I helped organize the review of southeastern fishes and mussels included in a petition to the U.S. Fish and Wildlife Service to list those fishes and mussels under the Endangered Species Act. I also reviewed all the mussel taxa included in the petition, as well as some of the fishes. I rely upon the Center in part to represent my interests in protecting endangered species and their habitat, especially the aquatic species found in the United States.

5. I am particularly interested in the conservation of these aquatic species in the southeastern United States including the following:

Fishes

Percina antesella, Amber Darter
Cyprinella caerulea, Blue Shiner
Etheostoma wapiti, Boulder Darter
Etheostoma scotti, Cherokee Darter
Percina aurolineata, Goldline Darter
Acipenser oxyrinchus desotoi, Gulf Sturgeon

Mussels

Medionidus acutissimus, Alabama Moccasinshell
Elliptio chipolaensis, Chipola Slabshell
Medionidus parvulus, Coosa Moccasinshell
Amblema neislerii, Fat Threeridge
Hamiota altilis, Finelined Pocketbook
Medionidus penicillatus, Gulf Moccasinshell
Pleurobema taitianum, Heavy Pigtoe
Medionidus simpsonianus, Ochlockonee Moccasinshell
Pleurobema pyriforme, Oval Pigtoe
Elliptoideus sloatianus, Purple Bankclimber
Fusconaia rotulata, Round Ebonyshell
Hamiota subangulata, Shinyrayed Pocketbook
Pleurobema decisum, Southern Clubshell
Epioblasma penita, Southern Combshell
Ptychobranchus jonesi, Southern kidneyshell
Pleurobema georgianum, Southern Pigtoe
Ptychobranchus greenii, Triangular Kidneyshell
Epioblasma metastriata, Upland Combshell

6. I have worked in the southeastern United States, where these species occur, for the past 50 plus years. During this time I have sampled, studied, and published papers on most of the species listed in this declaration. I have observed these species and continue to participate in research projects involving most of them. I described or named 2 (*Etheostoma wapiti* and *Percina antesella*) of the 8 fishes listed in this declaration. As a research biologist I have participated in professional

meetings evaluating conservation status of southeastern freshwater mussels and fishes, including all taxa listed in this declaration. I am also interested in studying and researching the highly endangered *Scaphirhyncus suttkusi*, Alabama Sturgeon.

7. I also have an aesthetic interest in these species and take joy in knowing that we have incredible aquatic biological diversity in the southeastern United States. The fact that many of these species are declining and we have lost forever numerous species does detract from my enjoyment of our aquatic biodiversity. Harm to these species, their populations, and their ecosystems also harms my own aesthetic interest in observing and enjoying them.

8. I believe very strongly that we have a moral obligation to pass on to future generations the incredible diversity that we have. Our aquatic biological diversity has inherent value and we have the responsibility to protect these species. Humankind does not have the right to eliminate or drive to extinction any living species.

9. The use of pesticides, such as flupyradifurone, benzonvindiflupyr, bicyclopyrone, and halauxifen-methyl, in and around watersheds inhabited by these species is harmful and reduces the likelihood that I will be able to observe and study them in the future. The broad application of chemicals on agricultural lands and the subsequent runoff into aquatic systems inhabited by these species exposes them to various levels of these chemicals. I think the impacts of pesticides

are generally underestimated due to the pervasiveness and accumulative nature of some of the chemicals used. The fact that the Environmental Protection Agency has not thoroughly analyzed the chemicals and surfactants used in the application process for pesticides, how those pesticides affect ESA listed species, or consulted with the U.S. Fish and Wildlife Service and National Marine Fisheries Service is also of great concern.

10. I will return to the habitats of these species in the coming years as I complete various research projects on the biology, evolution, and conservation of these taxa. In 2014 I completed a book on the freshwater mussels of Florida, which involved visiting the habitats of 8 of the mussel species included this declaration (*Medionidus acutissimus*, Alabama Moccasinshell; *Elliptio chipolaensis*, Chipola Slabshell; *Amblema neislerii*, Fat Threeridge; *Medionidus penicillatus*, Gulf Moccasinshell; *Medionidus simpsonianus*, Ochlockonee Moccasinshell; *Pleurobema pyriforme*, Oval Pigtoe; *Elliptoideus sloatianus*, Purple Bankclimber; and *Hamiota subangulata*, Shinyrayed Pocketbook; *Fusconaia rotulata*, Round Ebonyshell; and *Ptychobranchus jonesi*, Southern kidneyshell). The remaining species (*Medionidus parvulus*, Coosa Moccasinshell; *Hamiota altilis*, Finelined Pocketbook; *Pleurobema taitianum*, Heavy Pigtoe; *Pleurobema marshalli*, Flat Pigtoe; *Pleurobema decisum*, Southern Clubshell; *Epioblasma penita*, Southern Combshell; *Pleurobema georgianum*, Southern Pigtoe; *Ptychobranchus greenii*,

Triangular Kidneyshell; and *Epioblasma metastriata*, Upland Combshell) will be included as part of a study of the impacts of impoundments on freshwater mussels in the southeastern United States. In addition to these mussels, 2 fishes in this declaration (*Cyprinella caerulea*, Blue Shiner and *Acipenser oxyrinchus desotoi*, Gulf Sturgeon) will also be included in this study. Rivers inhabited by these species will be visited to evaluate existing habitat and impacts of dams. Streams inhabited by the remaining fishes in this declaration (*Percina antesella*, Amber Darter; *Etheostoma wapiti*, Boulder Darter; *Etheostoma scotti*, Cherokee Darter; and *Percina aurolineata*, Goldline Darter) will be visited during the next year as part of a long-term conservation evaluation of endangered and threatened fish habitat.

11. Because my research work has included these species, any further decline of any of these taxa would affect my current and future research. Harm to these species, their populations, and their ecosystems would harm my professional interests focused on research surrounding these species.

12. My interests in these species have been, and will continue to be, harmed by the Environmental Protection Agency's failure to consult with the U.S. Fish and Wildlife Service on the impacts of the pesticides such as flupyradifurone, benzonvindiflupyr, bicyclopyrone, and halauxifen-methyl. As a federal agency, EPA is required to consult with the U.S. Fish and Wildlife Service on any federal

actions that might affect federally listed species and their critical habitat. Their failure to do so is a violation of the Endangered Species Act.

13. Without consultation with the U.S. Fish and Wildlife Service, the Environmental Protection Agency cannot understand the full environmental impacts of the pesticides that it authorizes. As a result, the Environmental Protection Agency has not taken all available steps to ensure that pesticides do not harm or kill endangered and threatened species.

14. In sum, my interest in these species ranges from purely aesthetic to research and conservation. I also believe that we have a moral obligation to protect these species from further decline and extinction. My interests are being harmed by the Environmental Protection Agency's failure to consult with the U.S. Fish and Wildlife Service on impacts of pesticide registrations on these species, including flupyradifurone, benzonvindiflupyr, bicyclopyrone, and halauxifen-methyl. Specifically, I believe that the Environmental Protection Agency's failure to follow the law makes these species more likely to suffer further population declines. If these species decline or become extinct, this loss would deprive me of the benefits I currently receive from the existence of these rare animals. Consultation with the U.S. Fish and Wildlife Service could result in protective measures aimed at reducing impacts of pesticides on these species, which is important to ensure that my interests in these species are preserved and remain free from injury.

I declare under penalty of perjury that the foregoing is true and correct. Executed on September 17, 2021 in Gainesville, Florida.

James D. Williams PhD

DECLARATION OF ANDY WOOD

I, Andy Wood, declare as follows:

1. I am over eighteen and currently reside in Hampstead, NC, where I have lived for over 13 years.

2. I have a Bachelor's of Science degree in Wildlife management from Texas A&M University (1981). From 1987-2000, I served as the Curator of education for the North Carolina Aquarium at Fort Fisher and subsequently worked for 11 years as the Education Director for Audubon North Carolina. I am now director of the Coastal Plain Conservation Group, a North Carolina non-profit organization established to provide ecosystem research and habitat management, with special attention to protecting threatened and endangered species in southeastern North Carolina's longleaf pine, pocosin, and bottomland swamp forests.[1] Coastal Plain Conservation Group also purchased and manages a 10.5 acre tract of longleaf pine habitat, previously threatened with being converted entirely into horse pasture, to benefit hundreds of plant and wildlife species that comprise the community of life sharing the biodiverse longleaf pine habitat, including the red-cockaded woodpecker (*Picoides borealis*), and Carolina gopher frog (*Lithobates capito capito*).

---

[1] Coastal Plain Conservation Group, https://coastalplainconservationgroup.org/

3. I am also Conservation Consultant with Habitats Gardens, LLC, an environmental conservation consulting company that provides services to business and industry involved in developing and maintaining our built environments and the infrastructures that support them. In addition to my professional career I have provided nature commentaries for public radio station WHQR for more than 25 years, which were compiled into the book "Backyard Carolina: Two Decades of Public Radio Commentary" published in 2006.[2]

4. Part of my research has involved research into pollution and the impacts on wildlife. For example, I led an exhaustive study of derelict fishing gear with emphasis on impacts of ghost crab pots on diamondback terrapins, a small saltmarsh turtle. One of my first assignments in the environmental field in 1970, helped document pollution from a chemical plant discharging raw waste into a Connecticut stream.

5. Since 1992, I have also led research and protection efforts to prevent the extinction of imperiled species of invertebrates and in particular, freshwater snails once found in streams and beaver ponds in southeastern North Carolina. Specifically I have studied and worked to protect the last living members of two freshwater species of snails: the magnificent ramshorn (*Planorbella magnifica*) and a related species called the Greenfield ramshorn (*Helisoma eucosmium*).

---

[2] https://www.whqr.org/people/andy-wood

6. I have been a member of the Center for Biological Diversity since 2010. The Center is a non-profit organization committed to the preservation, protection, and restoration of native species and the ecosystems upon which they depend. As a member of the Center, I respond to action alerts and keep up with North Carolina activities. I rely in part upon the Center to represent my interests in protecting endangered species and their habitat, especially North Carolina species. I appreciate the Center's work to get wildlife protected under the federal Endangered Species Act because it provides crucial tools for the protection and recovery of endangered species.

7. I am harmed by the negative impacts of pesticides, such as flupyradifurone, bicyclopyrone, benzovindiflupyr, and haluxifen-methyl, on endangered and threatened aquatic species, including the Cape Fear shiner (*Notropis mekistocholas*), and magnificent and Greenfield ramshorn snails. In addition the impacts of pesticides to aquatic species, I am also harmed by land-based pesticide impacts to endangered plants and wildlife such as the red-cockaded woodpecker, rough-leaved loosestrife (*Lysimachia asperulaefolia*), wood stork (*Mycteria americana*), rare skipper (*Problema bulenta*), southern hognose snake (*Heterodon simus*), and Carolina gopher frog (*Lithobates capito capito*). Pesticides pose an insidious and often poorly understood threat to people, wildlife, and the habitats we share. Many pesticides are used without full understanding of their

long-term impacts. Pesticides have been proven to have endocrine disrupting impacts on wildlife and people, especially when different pesticides are used in the same area or mix in a waterbody such as a retention pond, river or lake.

8. I have a deep personal and professional appreciation for all wildlife, but especially for aquatic wildlife. My work studying and protecting some of the last known populations of the magnificent and Greenfield ramshorn snail has been recognized by the United States Fish and Wildlife Service for its importance in saving the species from extinction. [3] These rare snails are on the brink of extinction – pushed out of its natural habitat by the loss of its freshwater habitat from intrusion of salt water and loss of beaver ponds. During the storm brought by Hurricane Fran that hit North Carolina's coast in 1996, I rescued as many of the magnificent ramshorn as possible from the refuge I had built in my backyard—the last place on earth the rare snail was known to exist at the time. I have created a snail sanctuary, now consisting of several 300 gallon tank ecosystems, and learned how to maintain a population of ramshorns snails in captivity. While the snails have been successfully breeding in captivity, the wild population, if one still exists, has continued a slow and steady decline. A magnificent ramshorn has not been

[3] One Man's Mission to Save a Magnificent Mollusk, Sarah McRae, U.S. Fish and Wildlife Service, https://www.fws.gov/endangered/news/episodes/bu-Spring-Summer2014/story1/index.html

observed in the wild since 2004 and it is now believed that the snail may now only exist in captivity.

9. I live in the lower Cape Fear River basin located in the coastal plain of southeast North Carolina. I conduct research in and around the lower Cape Fear River focusing on birds, diamondback terrapins, and two critically rare freshwater endemic snails: the magnificent ramshorn and Greenfield ramshorn.

10. My work involves diligent sampling of aquatic and terrestrial habitats to confirm population presence/absence of expected or predicted species. My interest with wildlife includes the study of how species use habitats during all or part of their full life cycle, including salamanders and frogs that require aquatic habitat as nursery for eggs and larvae, and terrestrial habitat for juvenile and adult life stages. I also study the interactions of predators and their prey, including fishes and the invertebrates they eat, and birds and the fishes they eat. My work also includes study of anadromous American eels (*Anguilla rostrata*) and an eel-eating snake called the rainbow snake (*Farancia erytrogramma*) a reptile in decline due to habitat loss and decline of eels; the snake's primary prey.

11. Because I live and research in the Cape Fear River basin, I have explored many areas of the Cape Fear River, including much of the intact bottomland swamps extending from the piedmont to the coast, and intend to continue visiting those areas in the future for my personal enjoyment and

professional work. I sometimes travel to the Cape Fear shiner's habitats, and I consider their habitats crucial to the integrity of the Cape Fear River and its associated plants and wildlife they support. In addition to being important to the Cape Fear Shiner, riverine swamps provide essential habitat for the wood stork that uses Cape Fear River swamps during all or part of their full life cycle. As predators of aquatic animals negatively impacted by pesticide biomagnification, storks are especially vulnerable to consequences of pesticide biomagnification.

12. I would love to see the Cape Fear Shiner, and I have tried to observe the species. I searched for the species in its natal habitats during the early 1990s, while I was developing the storyline for an Aquarium exhibit. I knew the species was known from the areas I explored but its scarcity prevented me from finding any specimens. I intend to continue looking for the Cape Fear shiner and wood stork on my future travels in the Cape Fear River basin.

13. In addition, I regularly visit North Carolina State Parks that have property in and around the range of the Cape Fear shiner, wood stork, and ramshorn snails. My visits to those parks are enriched by my knowledge that the species dwells there and I will continue to return to them in the future.

14. I am aware that agricultural activities have contributed to the decline of many native wildlife species. Agricultural activities have led to the conversion of natural habitat and resulted in elevated nutrient and pesticide levels in streams

and ground water from runoff or infiltration of manure, fertilizer, or pesticides. I know that corn, soy, wheat, cotton, peanut, sweet potatoes, and hay are major crops in North Carolina and that the pesticides used on those crops, such as flupyradifurone, bicyclopyrone, benzovindiflupyr, and haluxifen-methyl, can harm wildlife, including threatened and endangered species. I am harmed by the amount of pesticides used in North Carolina and the negative effects it has on wildlife and the recovery of threatened and endangered species.

15. In the future, I will continue to seek out opportunities to observe native wildlife in North Carolina, including species such as the Cape Fear shiner ramshorn snails, wood stork, red-cockaded woodpecker, rough-leaved loosestrife, rare skipper, and southern hognose snake. My work as a conservation educator requires me to explore and observe habitats and the plants and wildlife they support in many areas in North Carolina, to help me write articles for popular and scientific journals, along with educational programs for other media including television and radio. I also lead outdoor explorations for organized groups, to introduce people to the habitats and ecosystem services they provide to the benefit of people, plants and wildlife. In short, my livelihood depends on having access to intact and healthy habitats that support wild species in their natural environments and I plan to continue visiting those natural areas in North Carolina for personal and professional benefit.

16. I am interested in threatened and endangered species from many perspectives, especially as an ecologist and educator. Much of my work as a professional ecologist and educator has to do with the lower reaches of the Cape Fear River. It is my belief that the future of endangered species, such as the Cape Fear Shiner, portends the future of species inhabiting the lower reaches river systems in North Carolina. This especially applies to Wood Stork, American Alligator (*Alligator mississippiensis*), and Bald Eagle (*Haliaeetus leucocephalus*), a species protected by the Bald and Golden Eagle Protection Act, and an apex riverine predatory species. As an educator, I lead numerous guided treks on the Cape Fear River and its tributaries Northeast Cape Fear River and Black River. Participants in these trips are enthralled by the sighting of Bald Eagle, Wood Stork, and American Alligator.

17. As an ecologist I am interested in the smaller and less glamorous species, including obscure snails and fishes. The lower trophic level species are the first indicators of health and stability of ecosystems. The Cape Fear Shiner and ramshorn snails are in a sense, "canaries in the coal mine." They are also keystone species that, combined with other related species, provide ecosystem services from nutrient cycling in aquatic habitats, to being in turn, food for larger species that people pursue and capture for food or recreation. As an indicator of environmental health, we need to assure their long-term perpetuity if only to be sure the same

environment that sustains endangered species is also healthy enough to sustain people. As an example, the plight of imperiled ramshorn snails and Cape Fear shiner tells us there is something wrong with riverine swamps that support them and us. In the case of the Cape Fear shiner, evidence suggests a direct correlation between chemical contaminants, including pesticides and fertilizers, and decline of shiner health. Other Cape Fear River keystone species include American Alligator, an apex aquatic predator of fishes, amphibians, other reptiles (turtles especially), and mammals.

18. I believe people have a responsibility to minimize our negative impacts on the environment and when our activities are shown to be detrimental to the environment we inhabit, it is an ethical responsibility for people to correct the problems we create. I feel I am as beholden to the magnificent ramshorn as the Cousteau Society is to the blue whale.

19. My spiritual connection to the environment is very personal. I have spent a lifetime exploring the natural world around me as a source of wonderment and knowledge. When species or habitats are lost, I feel the loss as a librarian might feel the loss of a book, or a reader might feel the loss of a chapter. Regardless of considerations pertaining to a Creator, as a species itself, thinking, sentient humans are smart enough to know we must protect the integrity of our planet's natural systems if we hope to survive into the future.

20. I find joy in knowing that endangered species, such as the Cape Fear Shiner, ramshorn snails, red-cockaded woodpecker, rough-leaved loosestrife, rare skipper, and southern hognose, snake still exist even when I don't have the opportunity to observe one. But if I see one in the wild, I know I will be moved, in both a scientific and spiritual manner. As a conservation educator working to introduce people to nature outdoors, my programs are highlighted and made more meaningful when my program participants observe Bald Eagle, Wood Stork, American Alligator, and endangered species.

21. I believe humans are the single greatest change agent in respect to habitats and the ecosystem services they provide to our benefit. I believe the future of humanity is tied to the future of biodiversity because we are at the top of all major multi-trophic ecosystem food chains. We depend on wild plants and animals for our continued survival; few, if any, wild species are inextricably dependent on humans for their survival. Protecting the health and well being of ecosystems and the plants and animals that inhabit them is only a moral obligation if we have a moral obligation to protect humanity. Endangered species are an essential part of this biodiversity, and its loss would be both a moral and ethical loss.

22. For these reasons, I would be deeply saddened and harmed if the Cape Fear shiner, ramshorn snails, red-cockaded woodpecker, rough-leaved loosestrife, rare skipper, bald eagle, wood stork, American alligator, Carolina gopher frog, and

southern hognose snake were to suffer further declines or even become extinct because of pesticide impacts or other threats.

23. As someone who is deeply concerned about the fate of imperiled wildlife, I am upset that the Environmental Protection Agency has refused to consult with the U.S. Fish and Wildlife Service about the impacts of pesticide registrations on endangered species. I believe that the EPA has a regulatory responsibility to investigate impacts of pesticides to the fullest of their abilities, including consulting with other agencies and organizations to learn what is known about pesticide impacts. Without consultation, the Environmental Protection Agency cannot understand the full environmental impacts of its actions or inactions. As a result of their inaction, the Environmental Protection Agency has not taken all available steps to ensure that use of pesticides does not, or will not, harm or kill species of ecological value and human benefit.

24. In sum, I have professional, aesthetic, spiritual, and scientific interests in the preservation of the Cape Fear Shiner, ramshorn snails, red-cockaded woodpecker, rough-leaved loosestrife, rare skipper, bald eagle, wood stork, American alligator, Carolina gopher frog, and southern hognose snake, and their habitats. These interests are being harmed by the Environmental Protection Agency's failure to consult with the U.S. Fish and Wildlife Service regarding impacts of pesticide registration on these species. Specifically, I believe that the

Environmental Protection Agency's failure to follow the law makes the species more likely to suffer further population declines. And if the species declines or becomes extinct, this loss would deprive me of the benefits I currently enjoy from the mere existence of these very rare animals. Consultation with the U.S. Fish and Wildlife Service could result in protective measures aimed at reducing impacts of pesticides on this species, which is important to ensure that my interests in the species are preserved and remain free from injury, as well as ensuring the interests of human health are considered and held to account.

I declare under penalty of perjury that the foregoing is true and correct. Executed on September 21, 2021, in Hampstead, NC.

ANDY WOOD

Andy Wood

DECLARATION OF DR. NATHAN DONLEY, Ph.D

I, NATHAN DONLEY, declare that if called as a witness in this action I would competently testify of my own personal knowledge as follows:

1. I have a Bachelor of Science degree in Molecular Biology from The Evergreen State College and a Ph.D in Cell and Developmental Biology from Oregon Health and Science University.

2. From 2013 to 2015, I worked as a post-doctoral fellow in the Oregon Center for Research on Occupational and Environmental Toxicology. In that position, I studied how exogenous toxins interact with a cell's genetics and how this can lead to chronic disease.

3. I have worked at the Center for Biological Diversity (Center) since 2015. From 2015 to 2016, I was a staff scientist in the Center's Environmental Health Program, in 2016 was promoted to Senior Scientist, and in 2021 was promoted to the Environmental Health Program's Science Director.

4. I have authored 13 peer-reviewed publications, most recently a comprehensive literature review on how pesticides affect soil life[1] and a comparison of pesticide regulatory actions between the U.S and other countries

---

[1] Gunstone, T., Cornelisse, T., Klein, K., Dubey, A., & Donley, N. (2021). Pesticides and soil invertebrates: A hazard assessment. Frontiers in Environmental Science, 9. doi:10.3389/fenvs.2021.643847. Available here: https://www.frontiersin.org/articles/10.3389/fenvs.2021.643847/full.

around the world.[2] I have also authored five technical reports documenting pesticide regulatory failures at the EPA.

5. One of my ongoing responsibilities at the Center is studying the effects of pesticide use on human health and the environment. I have written over 100 technical comments to the U.S. Environmental Protection Agency (EPA) regarding new pesticide approvals, pesticide re-registrations, and ecological and human health risk assessments of pesticides subject to EPA's registration process, as well as other pesticide-related decisions and documents.

6. I drafted the Center's 2019 technical comments to the EPA on new uses of flupyradifurone on rapeseed sub crop group 20A, canola seed treatment, stalk and stem vegetable subgroup 22A, except prickly pear, pads and prickly pear, Texas pads; sesame, seed; sunflower subgroup 20B; coffee, green bean; tropical and subtropical, palm fruit, edible peel, subgroup 23C; sorghum, sweet; pineapple; grass, forage, fodder and hay, group 17; tropical and subtropical, inedible peel, cactus, subgroup 24D.

7. I drafted the Center's 2019 technical comments to the EPA on new uses of benzovindiflupyr on sugar beets.

---

[2] Donley, N. (2019). The USA lags behind other agricultural nations in banning harmful pesticides. Environmental Health, 18(1). doi:10.1186/s12940-019-0488-0. Available here: https://ehjournal.biomedcentral.com/articles/10.1186/s12940-019-0488-0.

8. I drafted the Center's 2015 and 2021 technical comments to the EPA on new uses of bicyclopyrone on wheat and barley and Banana, Broccoli, Garlic (bulb), Hops (dried cones), Horseradish, Onion (bulb & green), Papaya, Plantains, Strawberry, Sweet potato (roots), Timothy (forage & hay), and Watermelon.

9. In addition, I am familiar with these four active ingredients and all of the agency's materials regarding their approval.

10. Over the past nine years the EPA has been in the process of attempting to address the deficiencies in its approach to endangered species assessments.

11. I attended and participated in a stakeholder meeting at the EPA in Washington, D.C. in June of 2016 as part of EPA's ongoing effort to update how it analyzes risk to endangered species. In that meeting we discussed, among other things, a 2013 National Academies of Sciences report entitled: Assessing Risks to Endangered and Threatened Species from Pesticides ("NAS Report").[3] The NAS Report was commissioned by the EPA, the Fish and Wildlife Service ("FWS"), National Marine Fisheries Service ("NMFS"), and the U.S. Department of

---

[3] National Academy of Sciences 2013. Assessing Risks to Endangered and Threatened Species from Pesticides, Committee on Ecological Risk Assessment under FIFRA and ESA Board on Environmental Studies and Toxicology Division on Earth and Life Studies National Research Council (April 30, 2013). (Hereafter "NAS Report") Available at: https://www.nap.edu/catalog/18344/assessing-risks-to-endangered-and-threatened-species-from-pesticides.

Agriculture ("USDA") to give scientific and technical insight into how these federal agencies can work together to assess the risks and effects to endangered and threatened species from the continued use and approval of pesticide products.

12. EPA relies on the analysis it conducted under the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA") to argue that the Court should not vacate halauxifen-methyl, flupyradifurone, bicyclopyrone, and benzovindiflupyr.[4] Although EPA mentions the NAS Report briefly as part of its efforts to comply with the Endangered Species Act ("ESA"),[5] EPA fails to mention that the NAS report is highly critical of EPA's FIFRA analysis and concluded that it is "*not scientifically defensible* for assessing the risks to listed species posed by pesticides . . . ."[6]

13. The NAS 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 assessment of mixtures and pesticide inert ingredients; the development, application, and interpretation of results from predictive models; uncertainty factors; and what constitutes

---

[4] EPA Br. at 14-15.

[5] EPA Br. at 6.

[6] NAS Report at 15.

authoritative geospatial and temporal information for the assessment of individual species, habitat effects and probabilistic risk assessment methods.

14. The NAS report made several, specific and significant conclusions about EPA's FIFRA Ecological Risk Assessment ("ERA") process and its use of risk quotients ("RQs") and levels of concern ("LOCs") including that it makes assumptions that are "not reliable," has "unpredictable performance outcomes," and is "not appropriate for assessments for listed species."[7]

- The EPA "concentration-ratio approach" for its ecological risk assessments "is ad hoc (although commonly used) and has unpredictable performance outcomes."[8]
- "RQs are not scientifically defensible for assessing the risks to listed species posed by pesticides or indeed for any application in which the desire is to base a decision on the probabilities of various possible outcomes."[9]
- "The RQ approach does not estimate risk…but rather relies on there being a large margin between a point estimate that is derived to maximize a pesticide's environmental concentration and a point estimate that is derived to minimize the concentration at which a specified adverse effect is not expected."[10]

15. In addition, EPA's FIFRA ERA process generally uses LC_{50}, LD_{50}, ED_{50} or EC_{50} – which are concentrations of pesticide required to negatively impact

---

[7] *Id.* at 148-150.

[8] *Id.* at 149.

[9] *Id.* at 15.

[10] *Id.* at 14.

50 percent of the test population – as the acute toxicity threshold. Under this approach, the endpoint that is often used is mortality. Using mortality as an endpoint makes the acute effects threshold the amount of pesticide required to kill 50 percent of the test population.[11] As a result, LOC exceedances – which is the measure EPA uses to identify concerning risk in its FIFRA risk analysis – can result in the *death* of exposed individuals. That can spell disaster for a species that has just a few hundred individuals left on the entire planet and makes the thresholds of limited value to species health and protection.

16. For comparison, in EPA's "Revised Methods for National Level Listed Species Biological Evaluations of Conventional Pesticides,"[12] which is the guidance document EPA currently uses to analyze risk to endangered species in accordance with federal law, the agency identifies that a listed species will likely be adversely affected if just one individual will die from pesticide exposure.[13]

---

[11] JA ___, [FL Doc. 96, Ecological Risk Assessment at 15-16]. "The acute measures of effect used in this screening-level assessment include the median lethal dose (LD50), median lethal concentration (LC50), and the median effect concentration (EC50). These are measures of acute toxicity which result in 50% of the respective effect in tested organisms."

[12] https://www3.epa.gov/pesticides/nas/revised/revised-method-march2020.pdf.

[13] *Id.,* Revised Methods at 15. "The mortality threshold is calculated as the concentration/dose that represents death to 1 out of the population (i.e., the concentration likely to result in the death of at least one individual in the

Therefore, for a species that has a population of 10,000 individuals, EPA will make a "likely to adversely affect" determination if there is a 1/10,000 chance (0.0001%) of death based on the resulting pesticide exposure.[14] In EPA's FIFRA ERA process, an acute Risk Quotient of 1 (which many of the four pesticide at issue here have exceeded for some taxa) means that there is a one in two chance (50%) that an animal will die from the resulting pesticide exposure.[15] The differences in protectiveness between these two methods could not be more stark.

17. As the NAS report explains, pesticides "can cause sublethal changes that can affect reproduction, shorten lifespans, or make the organisms unable to compete."[16] The NAS concluded that "the only reasonable way to determine whether [a sublethal] effect is adverse and how adverse it might be is to assess the

---

population; note that the larger the population size, the lower the numerical threshold for mortality)."

[14] *Id.*

[15] https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/technical-overview-ecological-risk-assessment-risk. In explaining the FIFRA Ecological Risk Assessment process, EPA states "Calculation of risk quotients are based upon ecological effects data, pesticide use data, fate and transport data, and estimates of exposure to the pesticide. In this method, the estimated environmental concentration (EEC) is compared to an effect level, such as an LC50 (the concentration of a pesticide where 50% of the organisms die.)." EPA goes on to further explain that an acute Risk Quotient (RQ) is established by dividing the EEC by the LD50 for various taxa. A RQ of 1 would mean that the estimated environmental concentration would equal the dose needed to kill 50% of exposed organisms.

[16] NAS Report at 92.

degree to which it affects the organism's survival and reproductive success."[17] This is extremely important because "[i]f an adverse effect is large enough, it might lead to extinction of the species."[18]

18. Further, the NAS report explains that pesticides "can indirectly affect a given species via effects on other species in the community"[19] such as reducing or eliminating the prey that is food for a species, in this case, the insects that some ESA-protected birds, fish, bats, and amphibians rely upon or ESA-protected plants that rely upon insects for pollination. EPA's FIFRA ERA process does not take into account indirect effects. Nor does it take into account cumulative effects, whether due to exposure to numerous pesticides over time or through multiple pathways, or due to the variety of stressors that endangered and threatened species are already experiencing that has caused them to be on the brink of extinction.[20]

19. One example of the potential consequences of ignoring indirect effects in EPA's FIFRA ERA process occurred recently with the insecticide thiamethoxam. EPA's 2017 FIFRA ERA for the insecticide found that:

---

[17] *Id.*

[18] *Id.*

[19] *Id.* at 98.

[20] *Id.* at 100-101.

> "LOCs were not exceeded for fish (surrogates for aquatic-phase amphibians) or aquatic plants. When compared to EECs, the toxicity values are orders of magnitude higher than the EECs. Therefore, potential risk to fish, aquatic-phase amphibians, and aquatic plants are considered low."[21]

Given this conclusion from the FIFRA ERA process, EPA would consider the risk to fish from thiamethoxam very low (RQs were ≤0.002).[22] Yet in August 2021, the agency released a draft Biological Evaluation for thiamethoxam as part of a court settlement to consult on the uses of thiamethoxam and two other similar insecticides.[23] In this Biological Evaluation, EPA found that 177 out of a total of 194 listed fish species were likely to be adversely affected by thiamethoxam.[24] That means the agency found that 91% of all listed fish species were likely to be harmed by a pesticide that the FIFRA ERA process said would result in negligible risk. The reason for this disparity is the indirect effects. While the thiamethoxam

---

[21] Found at https://www.regulations.gov/document/EPA-HQ-OPP-2011-0581-0093, EPA-HQ-OPP-2011-0581-0093 at 75.

[22] *Id.* at 67.

[23] https://www.epa.gov/endangered-species/draft-national-level-listed-species-biological-evaluation-thiamethoxam

[24] *Id.* Scroll down to "Appendix 4-1 Species Effects Determination Tables (XLSX)." In that spreadsheet go to the "Summary Tables Ch4" tab on the bottom. Table 4-1 has information on how many species of each taxa were likely to be adversely affected by thiamethoxam.

BE found the *direct* risks to fish were low, the *indirect* effects to aquatic invertebrates that fish rely on for food were very high and resulted in serious harms.

20. EPA's conclusions that halauxifen-methyl, flupyradifurone, bicyclopyrone, and benzovindiflupyr pose a lower risk to listed species based on its FIFRA ERA process are unfounded. The innate deficiencies with the FIFRA ERA process to assess risk to listed species makes it of limited value in making such a determination.

21. The limitations with the FIFRA ERA process are equally concerning in light of the potential to underestimate risk by not using uncertainty/offset factors. In my experience, EPA's FIFRA ERA process does not account for differences in pesticide sensitivity within or between species. For example, when measuring risk to humans, regulating agencies such as the EPA and Food and Drug Administration (FDA) will often apply uncertainty factors to offset the assumptions that lab mice or rats are appropriate surrogates for human toxicity. Since lab animals are usually inbred strains with few genetic differences between individuals, the EPA will apply a 10x uncertainty factor to account for the lack of genetic differences between test subjects. Another 10x uncertainty factor will then be additionally applied to account for probable differences in sensitivities between the test species and humans, effectively reducing the toxic dose by a factor of 100.

In EPA's FIFRA ERA process, no uncertainty factors are used for any species of plants or animals. That means that the sensitivity of the surrogate animal (the animal used in experiments to estimate toxicity) is assumed to be *identical* to every species in its taxa (and occasionally other taxa as well). For example, the bobwhite quail, a commonly used test animal, would be assumed to have the exact same sensitivity to a pesticide as a hummingbird, a lizard, or a salamander because birds are used as surrogates for all reptiles and land-based amphibians. Similarly, a mouse is assumed to have the exact same sensitivity to a pesticide as a weasel, a bear, or a whale. The lack of appropriate uncertainty/offset factors will, in my experience, likely overestimate toxicity to some species and underestimate it for others. This amount of uncertainty can spell disaster for a species on the brink and is the precise reason that the NAS Report was so critical of EPA's FIFRA ERA process. It really has no place or utility in the ESA context.

22. EPA recognizes that its FIFRA ERA process is not adequate for estimating risk to endangered species, as it now has a separate process for assessing whether there may be impacts to ESA-listed species or designated critical habitat, starting with the 2015 "Interim Approaches" that was a collaborative approach developed with the ESA consulting agencies, the U.S. Fish and Wildlife

Service and the National Marine Fisheries Service.[25] Then, in March 2020, EPA unilaterally adopted its "Revised Methods for National Level Listed Species Biological Evaluations of Conventional Pesticides,"[26] that again uses the three-step process recommended by the NAS report,[27] although CBD disputes that EPA's methods adopt all the NAS report recommendations.

23. Any attempt by EPA or intervenors to paint the FIFRA-ERA process as "good enough" for ESA purposes while it figures things out on remand is unfounded and goes against the NAS Report assessment that the FIFRA-ERA process is scientifically indefensible.

24. Intervenor and its declarants state without equivocation that the Four Pesticides are environmentally beneficial because they will replace, or have replaced, older, more toxic pesticides.[28] They do so without providing any evidence that supports this assertion. Even the EPA makes no statements in its

---

[25] Matuszko Decl. ¶ 7, EPA-APP 005; Interim Approaches for National-Level Pesticide Endangered Species Act Assessments Based on the Recommendations of the National Academy of Sciences April 2013 Report, at 1 (agencies "working together" to develop "joint interim scientific approaches . . . based on the NAS recommendations."). Available at https://www.epa.gov/sites/production/files/2015-07/documents/interagency.pdf.

[26] https://www3.epa.gov/pesticides/nas/revised/revised-method-march2020.pdf.

[27] Matuszko Decl. ¶ 8a, EPA-APP 007.

[28] Intervenors' Br. at 36, 45-46, 53; Maune Decl. ¶¶ 30-33, INT-APP 095-096.

brief that any of these Four Pesticides will replace, or have replaced, any older, more toxic pesticides.

25. In fact, the entire premise that halauxifen-methyl, flupyradifurone, benzovindiflupyr and bicyclopyrone, or any other newly approved pesticide, will replace other pesticides is unsubstantiated and false. The reason is simple: because growers are specifically told that they must use new pesticides in conjunction with, or in rotation with, older pesticides to delay pests becoming resistant to the newer pesticides.

26. This is written into the pesticide labels themselves. On the pesticide label of Sivanto 200SL (which contains flupyradifurone) it states: "Where possible, rotate the use of SIVANTO 200 SL or other Group 4 insecticides with different mode of action groups that control the same pests in a field."[29] The label also allows for tank mixing with other pesticides.[30] Pesticide labels for halauxifen-methyl,[31] benzovindiflupyr[32] and bicyclopyrone[33] have similar language. Users are

---

[29] JA ___, [FL Doc. 57, Sivanto Label at 6].

[30] JA ___, [FL Doc. 57, Sivanto Label at 8].

[31] JA ___, [HM Doc. 54, Quelex Label at 10].

[32] JA ___, [BE Doc. 63, Mural Label at 7].

[33] JA ___, [BCP Doc. 444, Acuron Label at 17].

being explicitly directed on the label to rotate or combine these new pesticides with other pesticides that Intervenor says it will replace.

27. The ability of flupyradifurone, benzovindiflupyr, bicyclopyrone, and halauxifen-methyl to replace any other pesticide is further hampered by the fact that often it is impossible to apply these pesticides alone because the products contain additional active ingredients. For example, the Acuron product contains bicyclopyrone and three other active ingredients (*S*-Metolachlor, atrazine, and mesotrione).[34] Likewise products containing halauxifen-methyl,[35] benzovindiflupyr,[36] and flupyradifurone[37] are all contained in products that have multiple ingredients. In fact, Intervenors statement that halauxifen-methyl is intended to replace 2,4-D[38] is complicated by the fact that they are now both literally sold together in the same product.[39] Therefore, using products with these pesticide products containing these active ingredients often results in using many other pesticides as well.

---

[34] JA ___, [BCP Doc. 444, Acuron Label at 1]

[35] JA ___, [HM Doc. 54, Quelex Label at 1].

[36] JA ___, [BE Doc. 63, Mural Label at 1].

[37] https://www3.epa.gov/pesticides/chem_search/ppls/092564-00076-20200617.pdf.

[38] Intervenor's Br. at 44.

[39] https://www3.epa.gov/pesticides/chem_search/ppls/062719-00724-20190606.pdf.

28. It should go without saying that combining halauxifen-methyl, flupyradifurone, benzovindiflupyr or bicyclopyrone with any other pesticide will necessarily *increase* the risk to listed species above the current status quo, not decrease it as Intervenor claims.

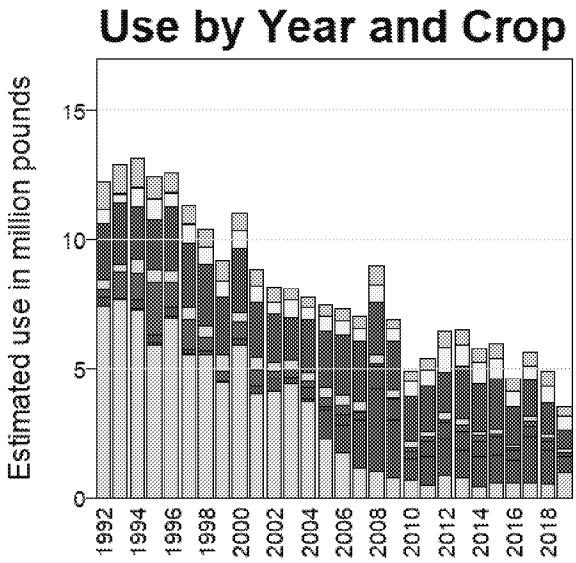
29. The sole example where Intervenor declarants cite to any outside authoritative source in stating that these new ingredients will replace older ones was provided by Ona Maune, where the declarant stated that California pesticide use data showed that use of a chlorpyrifos product was inversely associated with the use of a flupyradifurone product.[40] Incidentally, use of chlorpyrifos has been steadily decreasing in agriculture for the last 30 years in the U.S. (Figure 1).[41]

---

[40] Maune Decl. ¶¶ 32, INT-APP 095.

[41] https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2019&map=CHLORPYRIFOS&hilo=L&disp=Chlorpyrifos

Figure 1: Use of Chlorpyrifos by crop and Year in the U.S. (Source USGS)



In fact, California began a year-long phase out of nearly all uses of chlorpyrifos in 2019.[42] Therefore, any "correlation" used to show that any recently approved product is replacing chlorpyrifos has limited utility and is meaningless. Chlorpyrifos reduction in California or anywhere else has absolutely nothing to do with the approval of flupyradifurone.

30. It is clear that the goal of new pesticides is not to replace others, but to be used in a multi-chemical strategy to delay pest resistance. Therefore, the "environmental benefits" of these four pesticides that Intervenor points to are non-

---

[42] https://www.cdpr.ca.gov/docs/chlorpyrifos/index.htm

existent, as they cannot reasonably be assumed to reduce use of, or replace, other pesticides whatsoever. Again, Intervenor and its declarant provide no supporting information for their assertion.

31. To illustrate this issue more broadly, I have downloaded fungicide use data from the Pesticide Use Data System ("PUDS").[43] This database compiles farm-level survey data of pesticide use collected by the USDA's National Agricultural Statistics Service ("NASS") over the past few decades. Just looking at the two most widely grown crops in the U.S., corn and soybeans, show striking increasing trends in fungicide use (Figures 2-3).

---

[43] Hygeia Analytics. PUDS – The Pesticide Use Data System. Available here: https://hygeia-analytics.com/pesticides/usage/puds-the-pesticide-use-data-system/.

Figure 2:

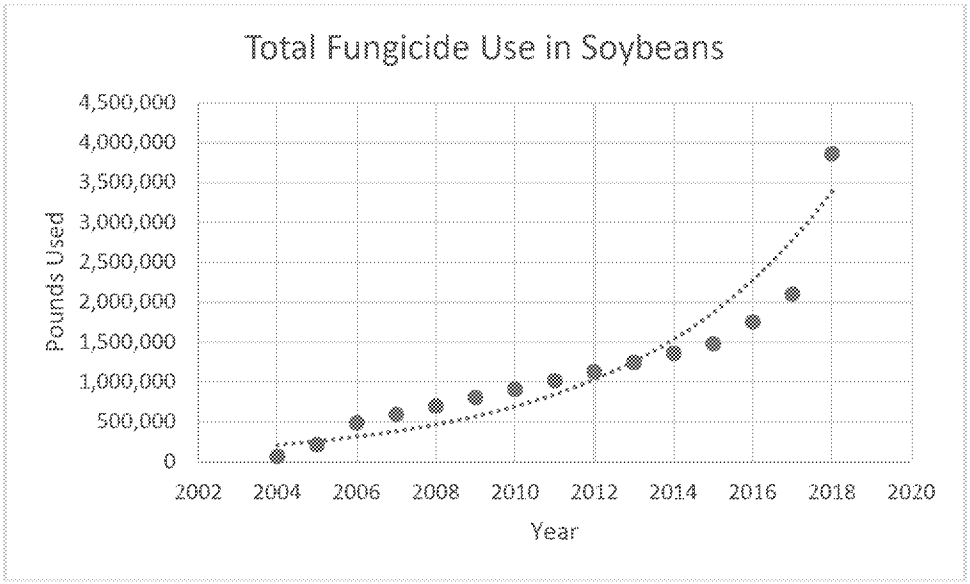
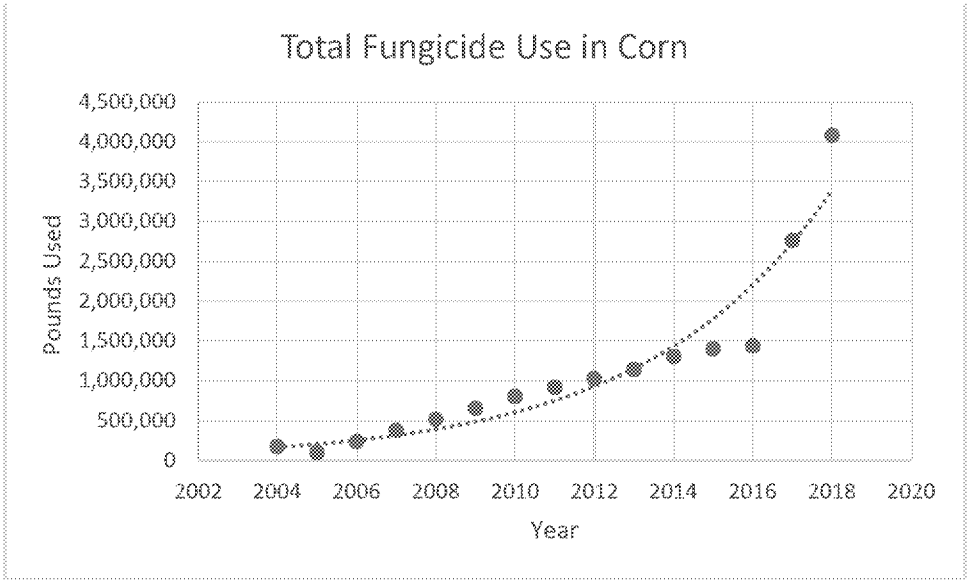


Figure 3:



32. Fungicide use on these two crops has been increasing at an exponential rate in the U.S. from at least 2004 to 2018 (the most recent year data are available). This is despite the fact that EPA has been consistently approving

new fungicides for use on these crops for the last few decades. EPA approved the new fungicide active ingredient flutriafol for use on soybeans in 2010[44] and two years later approved its use on corn.[45] In 2007, EPA registered the fungicide tetraconazole for use on soybeans[46] and in 2011 approved the new use on corn.[47] In 2012 the EPA approved the use of the new active ingredient fluxapyroxad on corn.[48] Also in 2012, the EPA approved the use of the fungicide picoxystrobin on

---

[44] USEPA Decision Memorandum re: Registration of New Active Ingredient Flutriafol (April 27, 2010), EPA-HQ-OPP-2009-0184-0017. Available here: https://www.regulations.gov/document/EPA-HQ-OPP-2009-0184-0017.

[45] *See, e.g.*, USEPA communication adding use of corn (Aug. 8, 2012). Available here: https://www3.epa.gov/pesticides/chem_search/ppls/004787-00055-20120808.pdf. *See also* USEPA Final Rule: Flutriafol; Pesticide Tolerances, 77 Fed Reg, 47296 (Aug. 8, 2012) (to be codified at 40 C.F.R. pt. 180), EPA-HQ-OPP-2010-0875-0004. Available here: https://www.regulations.gov/document/EPA-HQ-OPP-2010-0875-0004.

[46] USEPA Notice of Registration of Tetraconazole (April 4, 2007). Available here: https://www3.epa.gov/pesticides/chem_search/ppls/080289-00007-20070404.pdf. *See also* USEPA Final Rule: Tetraconazole; Pesticide Tolerance, 72 Fed. Reg. 18128 (April 11, 2007) (to be codified at 40 C.F.R. pt. 180), EPA-HQ-OPP-2006-0576-0008. Available here: https://www.regulations.gov/document/EPA-HQ-OPP-2006-0576-0008.

[47] *See, e.g.* USEPA communication adding use of corn to label (Aug. 30, 2011). Available here: https://www3.epa.gov/pesticides/chem_search/ppls/080289-00007-20110830.pdf. *See also* USEPA Final Rule: Tetraconazole; Pesticide Tolerances, 76 Fed. Reg. 53641 (Aug. 29, 2011) (to be codified at 40 C.F.R. pt. 180), EPA-HQ-OPP-2010-0583-0004. Available here: https://www.regulations.gov/document/EPA-HQ-OPP-2010-0583-0004.

[48] USEPA Registration Decision for the New Active Ingredient Fluxapyroxad (May 2, 2012). Available here: https://www.regulations.gov/document/EPA-HQ-OPP-2010-0421-0020. *See also* USEPA Notice of Pesticide Registration (May 2, 2012). Available here:

corn and soybeans.[49] In 2008, the EPA approved the use of the fungicide prothioconazole on soybeans[50] and approved its use on corn in 2010.[51] In 2008, the EPA approved the use of tebuconazole on corn and soybeans.[52]

33. I have also downloaded herbicide use data from the Pesticide Use Data System ("PUDS"). This database compiles farm-level survey data of pesticide use collected by the USDA's National Agricultural Statistics Service

---

https://www3.epa.gov/pesticides/chem_search/ppls/007969-00306-20120502.pdf. *See also* USEPA Final Rule: Fluxapyroxad; Pesticide Tolerances, 77 Fed. Reg. 28270 (May 14, 2012) (to be codified at 40 C.F.R. pt. 180), EPA-HQ-OPP-2010-0421-0019. Available here: https://www.regulations.gov/document/EPA-HQ-OPP-2010-0421-0019.

[49] *See, e.g.*, USEPA Notice of Registration of Picoxystrobin (Nov. 30, 2012). Available here: https://www3.epa.gov/pesticides/chem_search/ppls/000352-00840-20121130.pdf. *See also* USEPA Final Rule: Picoxystrobin; Pesticide Tolerances, 77 Fed. Reg. 72226 (Dec. 5, 2012) (to be codified at 40 C.F.R. pt. 180), EPA-HQ-OPP-2010-0458-0013. Available here: https://www.regulations.gov/document/EPA-HQ-OPP-2010-0458-0013.

[50] *See* USEPA Final Rule: Prothioconazole; Pesticide Tolerance, 73 Fed. Reg. 14714 (Mar. 19, 2008) (to be codified at 40 C.F.R. pt. 180), EPA-HQ-OPP-2007-0178-0004. Available here: https://www.regulations.gov/document/EPA-HQ-OPP-2007-0178-0004.

[51] *See* USEPA Final Rule: Prothioconazole; Pesticide Tolerances, 75 Fed. Reg. 29908 (May 28, 2010) (to be codified at 40 C.F.R. pt. 180), EPA-HQ-OPP-2009-0279-0005. Available here: https://www.regulations.gov/document/EPA-HQ-OPP-2009-0279-0005.

[52] USEPA Final Rule: Tebuconazole; Pesticide Tolerances, 75 Fed. Reg. 47065 (Aug. 13, 2008) (to be codified at 40 C.F.R. pt. 180), EPA-HQ-OPP-2005-0097-0012. Available here: https://www.regulations.gov/document/EPA-HQ-OPP-2005-0097-0012.

("NASS") over the past few decades. Just looking at the two most widely grown crops in the U.S., corn and soybeans, show striking increasing trends in herbicide use (Figures 4-5).

Figure 4:

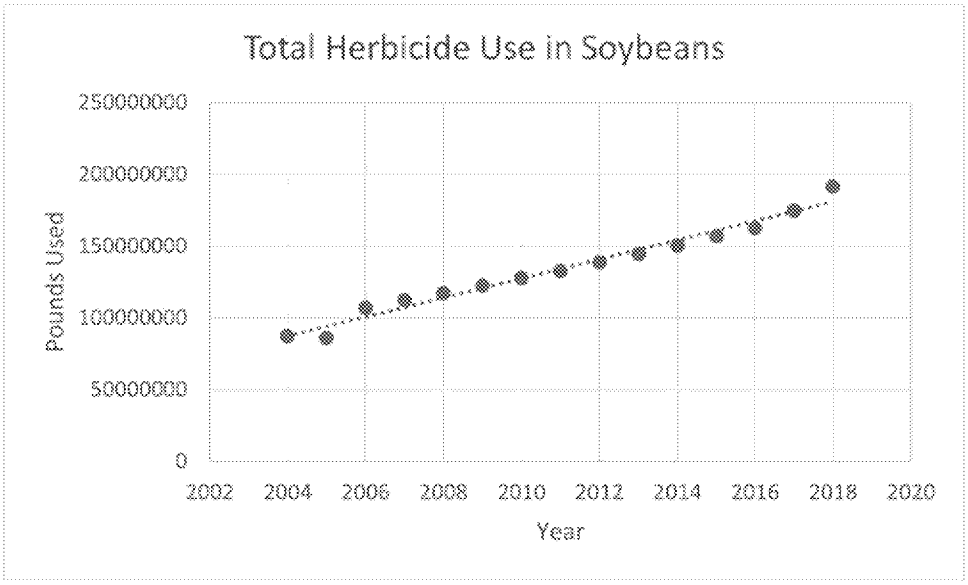
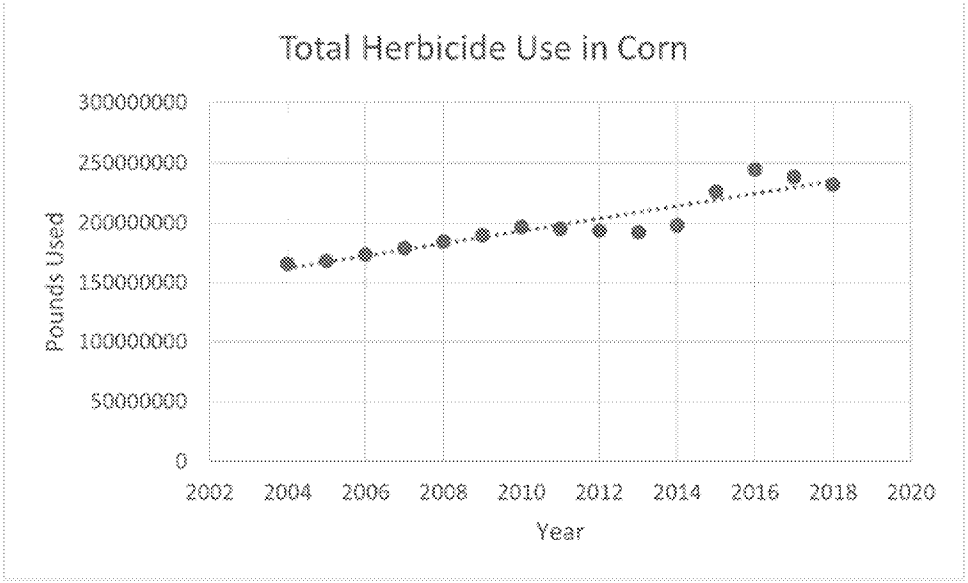


Figure 5:



34. Herbicide use on these two crops has been increasing at a linear rate in the U.S. from at least 2004 to 2018 (the most recent year data are available). This is despite the fact that EPA has been consistently approving new herbicides for use on these crops for the last few decades. EPA approved the herbicide flumioxazin in 2008 for use on corn[53] and for use on soybean in 2016.[54] EPA approved the herbicide new active ingredient pyroxasulfone for use on corn in

---

[53] USEPA Final Rule: Flumioxazin; Pesticide Tolerances, 73 Fed. Reg. 39247 (July 9, 2008) (to be codified at 40 C.F.R. pt. 180), EPA-HQ-OPP-2007-0871-0003. Available here: https://www.regulations.gov/document/EPA-HQ-OPP-2007-0871-0003.

[54] USEPA Final Rule: Flumioxazin; Pesticide Tolerances, 81 Fed. Reg. 54510 (Aug. 16, 2016)) (to be codified at 40 C.F.R. pt. 180), EPA-HQ-OPP-2015-0652-0002. Available here: https://www.regulations.gov/document/EPA-HQ-OPP-2015-0652-0002.

2012[55] and for new use on soybeans in 2013.[56] EPA approved the herbicide isoxaflutole for use on soybean in 2011[57] EPA approved the use of the herbicide rimsulfuron for use soybeans in 2009,[58] in addition to prior approval for use on corn. EPA approved the herbicide tembotrione for use on corn in 2009.[59]

35. It is illogical and dangerous to assume that new pesticides will simply just replace older pesticides when EPA's regulation has allowed for increasing

---

[55] USEPA Registration of Herbicide Pyroxasulfone on Corn and Non-Crop Areas (Feb. 16, 2012). Available here: https://www.regulations.gov/document/EPA-HQ-OPP-2009-0717-0017. *See also* USEPA Final Rule: Pyroxasulfone; Pesticide Tolerances, 78 Fed. Reg. 13252 (Feb. 27, 2013) (to be codified at 40 C.F.R. pt. 180), EPA-HQ-OPP-2012-0308-0004. Available here: https://www.regulations.gov/document/EPA-HQ-OPP-2012-0308-0004.

[56] *See, e.g.* USEPA communication adding use on soybean to label (Feb. 28, 2013). Available here: https://www3.epa.gov/pesticides/chem_search/ppls/059639-00193-20130228.pdf. *See also* USEPA Final Rule: Pyroxasulfone; Pesticide Tolerances, 77 Fed. Reg. 12207 (Feb. 29, 2012) (to be codified at 40 C.F.R. pt. 180), EPA-HQ-OPP-2009-0717-0016. Available here: https://www.regulations.gov/document/EPA-HQ-OPP-2009-0717-0016.

[57] *See, e.g.*, USEPA communication adding use on soybean to label (Nov. 17, 2011) Available here: https://www3.epa.gov/pesticides/chem_search/ppls/000264-00600-20111117.pdf.

[58] USEPA Final Rule: Rimsulfuron; Pesticide Tolerances, 74 Fed. Reg. 67132 (Dec. 18, 2009) (to be codified at 40 C.F.R. pt. 180), EPA-HQ-OPP-2009-0004-0004. Available here: https://www.regulations.gov/document/EPA-HQ-OPP-2009-0004-0004.

[59] USEPA Final Rule: Tembotrione; Pesticide Tolerances, 74 Fed. Reg. 47891 (Sept. 18, 2009) (to be codified at 40 C.F.R. pt. 180), EPA-HQ-OPP-2008-0813-0003. Available here: https://www.regulations.gov/document/EPA-HQ-OPP-2008-0813-0003.

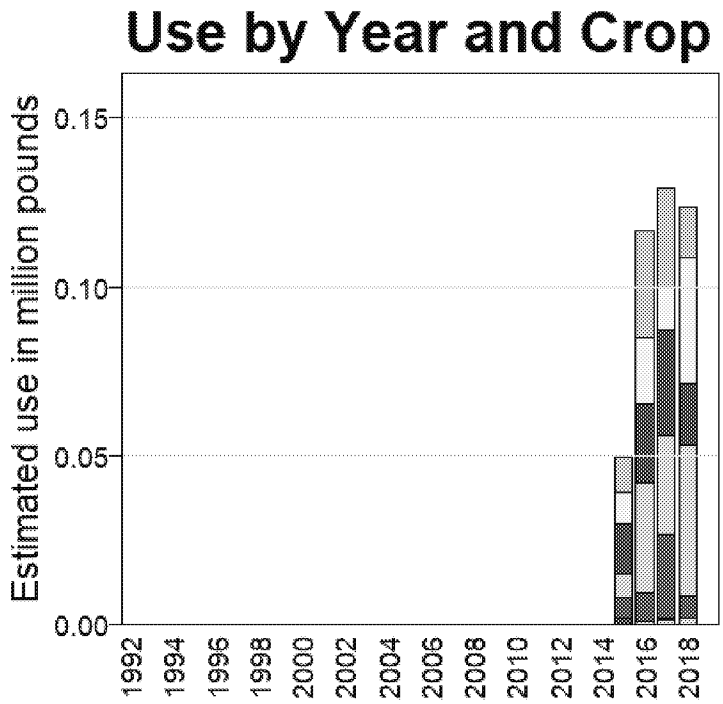
pesticide use and growers are being told to combine pesticides instead of replace them. As I've shown, from 2004-2018, EPA's multiple new approvals of herbicides and fungicides on corn and soybeans during this time period had the opposite effect as Intervenor argue will happen for halauxifen-methyl, flupyradifurone, benzovindiflupyr and bicyclopyrone. These pesticides are intended to be used alongside currently registered alternatives, not to replace them.

36. Remand without vacatur will not have the effect of decreasing the use of older, more toxic pesticides because those pesticides, in many cases, are already being used alongside the new ingredients right now. Arguing that any of these new pesticide ingredients – with their unanalyzed toxic effects on endangered wildlife – can help species recovery or are somehow environmentally beneficial is unfounded.

37. Furthermore, the argument made by EPA and Intervenor that vacatur would have disruptive consequences for agriculture is not compelling. The most recent data that are publicly available on pesticide use on a national level are preliminary estimates from USGS in 2018 or 2019, depending on the pesticide. The challenged approvals of flupyradifurone, benzovindiflupyr, bicyclopyrone, and halauxifen-methyl were finalized by EPA in 2015, 2015, 2015, and 2016,

respectively. Yet despite having been approved for three or four years, the use of these pesticides is still very low compared to their "alternatives" (Figures 6-9).[60]

Figure 6: Use of Flupyradifurone by crop and year



[60] Graphs downloaded from the United States Geological Survey (USGS) National Water-Quality Assessment (NAWQA) Project available here: https://water.usgs.gov/nawqa/pnsp/usage/maps/compound_listing.php.

Figure 7: Use of Bicyclopyrone by crop and year

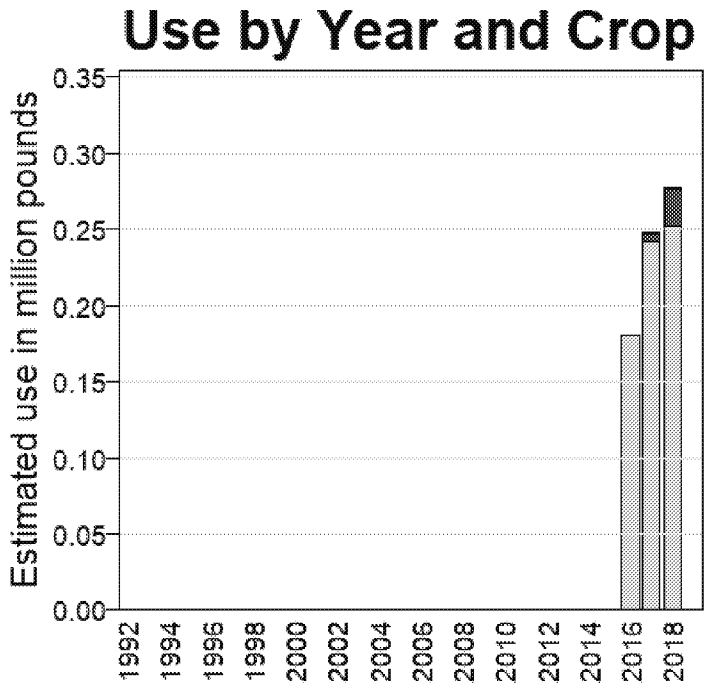


Figure 8: Use of Benzovindiflupyr by crop and year

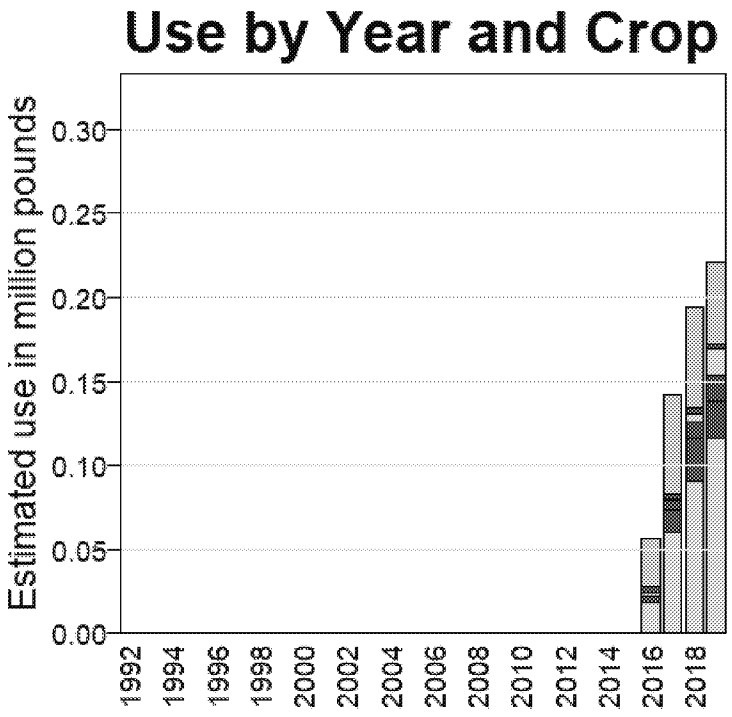
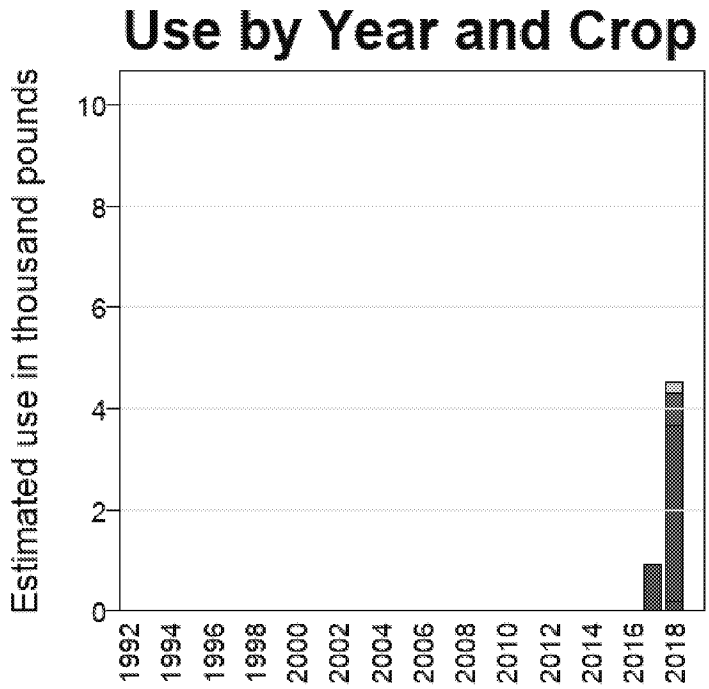


Figure 9: Use of Halauxifen-methyl by crop and year



38. About 0.12 million pounds of flupyradifurone was used in 2018 (Figure 6). This is on the lower end of use compared to the alternatives that EPA identified in its registration decision.[61] This compares to roughly 1.4 million

[61] JA ___, [Registration Decision at 7 (attached to FL Petition and FL Doc. 103,]. EPA identifies bifenthrin, zeta-cypermethrin, thiamethoxam, imidacloprid, acetamiprid, chlorpyrifos, acephate and abamectin as alternatives to flupyradifurone.

pounds of bifenthrin,[62] 0.13 million pounds of zeta-cypermethrin,[63] 0.19 million pounds of thiamethoxam,[64] 1.1 million pounds of imidacloprid,[65] 0.13 million pounds of acetamiprid,[66] 3.5 million pounds of chlorpyrifos,[67] 4.4 million pounds

---

62 https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2018&map=BIFENTHRIN&hilo=L&disp=Bifenthrin.

63 https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2018&map=ZETACYPERMETHRIN&hilo=L&disp=Zeta-Cypermethrin.

64 https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2018&map=THIAMETHOXAM&hilo=L&disp=Thiamethoxam. As noted on this USGS page, perceived drop in use in 2015 is attributable to elimination of data use estimates for seed treatment application.

65 https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2018&map=IMIDACLOPRID&hilo=L&disp=Imidacloprid. As noted on this USGS page, perceived drop in use in 2015 is attributable to elimination of data use estimates for seed treatment application.

66 https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2018&map=ACETAMIPRID&hilo=L&disp=Acetamiprid.

67 https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2018&map=CHLORPYRIFOS&hilo=L&disp=Chlorpyrifos.

of acephate,[68] and 0.08 million pounds of abamectin[69] used each year. Therefore, the 0.12 million pounds of flupyradifurone used in 2018 was roughly 1% compared to the total volume of 11.05 million pounds of EPA recognized alternative insecticides used.

39. About 0.28 million pounds of bicyclopyrone was used in 2018 (Figure 7). This is extremely low use compared to the alternatives that EPA identified in its registration decision.[70] This compares to roughly 70 million pounds of atrazine,[71] 56 million pounds of metolachlor-S,[72] and 4.7 million pounds of mesotrione[73] used each year. Therefore the 0.28 million pounds of bicyclopyrone used in 2018 was

---

68 https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2018&map=ACEPHATE&hilo=L&disp=Acephate.

69 https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2018&map=ABAMECTIN&hilo=L&disp=Abamectin.

70 JA ___, [Registration Decision at 7 (attached to BCP Petition and BCP Doc. 103)]. EPA identified the benefit that Acuron will ultimately reduce use of atrazine, mesotrione and S-metolachlor.

71 https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2018&map=ATRAZINE&hilo=L&disp=Atrazine.

72 https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2018&map=METOLACHLORS&hilo=L&disp=Metolachlor-S.

73 https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2018&map=MESOTRIONE&hilo=L&disp=Mesotrione.

less than 1% compared to the total volume of 130.98 million pounds of EPA recognized herbicide alternatives used.

40. About 0.23 million pounds of benzovindiflupyr was used in 2018 (Figure 8). This is on the lower end of use compared to the alternatives that EPA identified in its registration decision.[74] This compares to roughly 0.19 million pounds of penthiopyrad,[75] 0.24 million pounds of fluopyram,[76] sedaxane (N/A),[77] 0.44 million pounds of boscalid,[78] 3.1 million pounds of captan,[79] and 7 million

---

[74] JA ___, [BE Doc. 66, Registration Decision at 9 (attached to BE Petition and BE Doc. 66]. EPA identified the benzovindiflupyr alternatives penthiopyrad, fluopyram, sedaxane, boscalid, captan and mancozeb.

[75] https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2018&map=PENTHIOPYRAD&hilo=L&disp=Penthiopyrad.

[76] https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2018&map=FLUOPYRAM&hilo=L&disp=Fluopyram.

[77] https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2018&map=SEDAXANE&hilo=L&disp=Sedaxane. Sedaxane is used solely for seed treatment, which is a use not accounted for in USGS numbers post-2014.

[78] https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2018&map=BOSCALID&hilo=L&disp=Boscalid.

[79] https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2018&map=CAPTAN&hilo=L&disp=Captan.

pounds of mancozeb[80] used each year. Therefore the 0.23 million pounds of benzonvindiflupyr used in 2018 was 2% compared to the total volume of 11.2 million pounds of EPA recognized herbicide alternatives used.

41. About 0.004 million pounds of halauxifen-methyl was used in 2018 (Figure 9). The EPA did not identify alternatives in its registration decision of halauxifen-methyl,[81] however Intervenor's declarant Dwayne R.J. Moore does so in his declaration.[82] Tables 9 and 10 of the Moore declaration compares the toxicity and fate of halauxifen-methyl to "four potential replacement pesticides."[83] These four herbicides are atrazine, glyphosate, 2,4-D and fluroxypyr. Use of halauxifen-methyl is extremely low compared to these alternatives. The use of 0.004 million pounds of halauxifen-methyl compares to roughly 70 million pounds of atrazine,[84]

---

[80] https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2018&map=MANCOZEB&hilo=L&disp=Mancozeb..

[81] JA ___, [Registration Decision (attached to HM Petition and HM Doc. 322)].

[82] Moore Decl. Tables 9 and 10, INT-APP 060-061.

[83] Moore Decl. ¶ 97, INT-APP 059.

[84] https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2019&map=ATRAZINE&hilo=L&disp=Atrazine.

275 million of pounds of glyphosate,[85] 45 million of pounds of 2,4-D,[86] and 1.3 million pounds of fluroxypyr[87] used each year. Therefore the 0.004 million pounds of halauxifen-methyl used in 2018 was less than 1% compared to the total volume of 391.304 million pounds of EPA recognized herbicide alternatives used.

42. While it can be difficult to compare the use of new ingredients to alternatives because they are often approved for use on different crops, the relatively low volume of use of flupyradifurone, benzovindiflupyr, bicyclopyrone, and halauxifen-methyl indicate to me that they have not been widely adopted by growers. There may be a few niche crops where their use is a bit higher, but altogether these are not market leading products – or even close to it. Therefore, the disruptive consequences to agriculture will be relatively low.

43. I have also been involved in tracking EPA's lack of response to the D.C. Circuit's 2017 order remanding the cyantraniliprole registration to EPA to conduct an ESA effects determination. On May 21, 2021, EPA responded to

---

85 https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2019&map=GLYPHOSATE&hilo=L&disp=Glyphosate.

86 https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2019&map=24D&hilo=L&disp=2,4-D.

87 https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2018&map=FLUROXYPYR&hilo=L&disp=Fluroxypyr.

CBD's Freedom of Information Act request for records mentioning and/or including EPA's ESA "effects determination" for cyantraniliprole by saying that it conducted an extensive search and found no records responsive to this request.[88]

I declare under penalty of perjury that the foregoing is true and correct to the best of my ability.

Executed this 29th day of October, 2021 in Olympia, WA,

NATHAN DONLEY, PH.D

[88] Letter from Sharon Y. McBride to Ann Brown (May 6, 2021) (attached as Exhibit 1).

EXHIBIT 1

Donley Declaration

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

May 6, 2021

OFFICE OF CHEMICAL SAFETY
POLLUTION PREVENTION

Ann Brown
Center for Biological Diversity
P.O. Box 11374
Portland, OR 97211

Re: Freedom of Information Act Request **EPA-HQ-2019-003718/Closing Response**

Dear Ms. Brown:

Thank you for your Freedom of Information Act request dated February 24, 2021 requesting records from February 20, 2018 to the date EPA conducts this search, the records mentioning and/or including EPA's Endangered Species Act1 "effects determination" generated in connection with the agency's registration order for cyantraniliprole ("CTP") and pesticide products containing CTP, consistent with the remand and opinion of the United States Court of Appeals for the District of Columbia Circuit, Ctr. for Biological Diversity v. EPA, 861 F.3d 174 (D.C. Cir. 2017).

An extensive search was conducted, and we were unable to find any responsive records to your request. This letter concludes our response to your request. You may appeal this response by email at hq.foia@epa.gov, or by mail to the EPA's National FOIA Office, U.S. EPA, 1200 Pennsylvania Avenue, N.W.(2310A), Washington, DC 20460 or through FOIAonline if you are an account holder. If you are submitting your appeal by hand delivery, courier service, or overnight delivery, you must address your correspondence to 1200 Pennsylvania Avenue, N.W., Room 5315, Washington, DC 20460. Your appeal must be in writing, and itmust be received no later than 90 calendar days from the date of this letter. The Agency will not consider appeals *received* after the 90-calendar-day limit. Appeals received after 5:00 p.m. EST will be considered received the next business day. The appeal letter should include the FOIA tracking number listed above. For quickest possible handling, the subject line of your email, the appeal letter, and its envelope, if applicable, should be marked "Freedom of Information Act Appeal." Additionally, you may seek dispute resolution services from EPA's FOIA Public Liaison at hq.foia@epa.gov or (202) 566-1667, or from the Office of Government Information Services (OGIS). You may contact OGIS in any of the following ways: by mail, Office of Government Information Services, National Archives and Records Administration, Room 2510, 8610Adelphi Road, College Park, MD 20740-6001; email, ogis@nara.gov; telephone, (202) 741-5770 or (877) 684-6448; or fax, (202) 741-5769.

There are no fees associated with your request. If I can be of further assistance, please feel free to email at mcbride.sharony@epa.gov (Tuesday–Friday from 7:30 a.m. to 5:00 p.m.). Refer to the above FOI identifier number when contacting me about this request.

Sincerely,

Sharon Y. McBride
Public Information & Records Integrity Branch
Communication Service & Information Division
Office of Program Support