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Docket: FWS-HQ-ES-2025-0034

Honorable Doug Burgum  
Secretary of the Interior  
Department of the Interior  
1849 C Street, N.W.  
Washington DC 20240

Honorable Howard Lutnick  
Secretary of Commerce  
1401 Constitution Ave NW  
Washington, DC 20230

**Re: Comments Regarding Rescinding the Definition of “Harm” under the Endangered Species Act: 90 Fed. Reg. 16102 (April 17, 2025)**

Dear Secretary Burgum and Secretary Lutnick:

These comments are filed on behalf of the undersigned Kentucky organizations. These organizations and their members work to protect and preserve Kentucky’s environment, waterways and communities, and have an interest in the preservation of threatened and endangered species and the habitat they need to survive and recover. We submit these comments in strong opposition to the proposal by the U.S. Fish and Wildlife Service (“FWS”) and the National Marine Fisheries Service (“NMFS”) (collectively, “the Services”) to rescind the long-standing regulatory interpretation of the term “harm” in the Endangered Species Act’s (“ESA” or “the Act”) definition of prohibited take (the “Proposed Rule”).

**A. Rescinding the Definition of Harm is Inconsistent with the Plain Language and Intent of the ESA and Supreme Court Precedent**

The ESA represents our nation’s commitment to preventing the extinction of threatened and endangered species and protecting the ecosystems they need to survive and recover. The Services’ proposal is inconsistent with the text, purpose,

and legislative intent of the ESA. It undermines the Act's requirement for science-based conservation, ignores established precedent in *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687 (1995), lacks factual and legal justification, and violates the Services' constitutional duty to faithfully execute the laws passed by Congress.

The current and long-standing definition of "harm" is fully consistent with the ESA's plain language and purpose. Congressional intent clearly makes habitat conservation and protection central to the ESA. Congress enacted the ESA with the express purpose of conserving not just individual animals, but the ecosystems on which they depend. As stated in the ESA's statutory purpose: "The purposes of this chapter are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved . . ." 16 U.S.C. § 1531(b). Moreover, Congress found, "The destruction of natural habitats of endangered species and threatened species is the major cause of species extinction . . ." 16 U.S.C. § 1531(a)(5).

The ESA makes it clear that acts which result in significant habitat modification or degradation that result in actual death or injury to a species are prohibited. Rescinding the definition of "harm" would ignore Congress's express intent linking species protection with habitat protection and its recognition that habitat destruction is the most significant form of harm to a species. This expressed intent is strengthened by the 1982 amendments to §10 of the ESA, when Congress did not amend the Services' definition of "harm" because the definition of was a reasonable expression of Congress' intentions. Its rescission would ignore Congressional intent and statutory construction, thereby violating separation of powers, and failing the Constitution's requirement that agencies faithfully execute the laws passed by Congress.

The Services wrongly assert that rescinding the definition of "harm" would "be fully consistent with" the Supreme Court's opinion in *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687 (1995), which upheld the current regulatory definition of "harm" to include significant habitat modification that results in actual injury or death to listed species. The *Sweet Home* Court emphasized that the Services' definition of "harm" aligns with the ESA's plain language and ecological aims, reflecting congressional intent and legislative history, including the Act's 1982 amendments.

Justice Stevens, writing for the majority, concluded: "A habitat-destruction interpretation of 'harm' is reasonable in light of the broad purpose of the ESA to protect endangered and threatened wildlife." *Id.* at 698. The Court also found that "an ordinary understanding of the word 'harm' supports it," "the broad purpose of

the ESA supports” it, and the availability of incidental take permits “strongly suggests that Congress understood [the Act] to prohibit indirect as well as deliberate takings.” *Id.* at 700. There is no legally defensible rationale for rescinding the definition of “harm” under *Sweet Home* or subsequent Supreme Court precedent.

The Services’ justification for rescission also misrepresents *Loper Bright Enterprises v. Raimond* 603 U.S. 369 (2024) and wrongly assumes that, but for *Chevron* deference, the dissent’s interpretation would have prevailed in *Sweet Home*. Contrary to the Services’ stated justification, *Loper* did not create a “single best meaning” standard, nor does *Loper* invalidate “permissible readings” of regulations simply because it is “not the only possible such reading.” Moreover, the Supreme Court stated that *Loper* does not invalidate any previous decision utilizing *Chevron* deference, which includes *Sweet Home*. See *Loper Bright*, 603 U.S. at 412.

The Court’s decision in *Sweet Home* stands on a firm foundation of traditional statutory construction, not simply on deference. The majority in *Sweet Home* fundamentally disagreed with the dissent on the best reading of the statute and did not rely on *Chevron* deference in reaching its conclusions. Instead, the Court’s reasoning rested squarely on “traditional tools of statutory construction” including analysis of the statutory text, assessment of the ESA’s stated purposes in 16 U.S.C. § 1531 explicitly including conserving ecosystems, and a detailed legislative history evaluation. As such, the *Loper* decision does not impact the holding of *Sweet Home*. Rescinding the definition of harm would also upend thirty years’ worth of judicial precedent following *Sweet Home* and be wholly inconsistent with *Loper*’s affirmation of statutory *stare decisis*.

**B. Rescinding the Definition of Harm is Scientifically Indefensible and Ignores the Services’ Longstanding Acknowledgement that Habitat Modification and Degradation Harm Members of Listed Species**

Rescinding the definition of “harm” is scientifically indefensible and contrary to the plain language and congressional intent of the ESA. The Services’ current regulations recognize that “harm” must include a prohibition on killing or injuring ESA listed species through significant habitat modification or degradation, such as by destroying the resources that members of the species need for feeding, breeding, or sheltering. This definition appropriately reflects that habitat protection was a paramount concern when Congress enacted the ESA. Further, decades of ecological research show that loss, fragmentation, or degradation of habitat is the primary driver of species decline. By arbitrarily rescinding the definition of “harm,” the Services would be acting contrary to the scientific consensus and violating the ESA’s expressed intent to rely on objective biological data.

This proposed rule also signals a move away from science-based policy and toward political expediency, which is incompatible with both the plain language of the ESA and the agencies' duty to faithfully execute the laws passed by Congress. Congress intended for implementation of the ESA to be grounded in best available scientific data. This is codified in multiple sections of the statute, expressly stating "The Secretary shall make determinations... solely on the basis of the best scientific and commercial data available...." 16 U.S.C. § 1533(b)(1)(A).

Years of scientific evidence proves that significant habitat modification or degradation actually kills or injures fish and wildlife. In fact, habitat loss is the most significant driving force behind species extinctions. In a recent analysis of 20,784 species on the International Union for Conservation of Nature's ("IUCN") "Red" List of most imperiled global species, scientists found that nearly nine out of every ten such species are affected by habitat destruction. See Aaron S. Hogue & Kathryn Breon, *The Greatest Threats to Species*, 4(5) *Conserv. Sci. Pract.* 1, 4 (2022). For more than 70 percent of those species, habitat destruction was the primary factor threatening their continued existence. *Id.* at 5.

In numerous listing decisions, designations of critical habitat, biological opinions, habitat conservation plans, and recovery plans, the Services have made it abundantly clear that harm to the habitat of a threatened or endangered species biologically equals harm to the species, at both the individual and the population level. The Services' expert scientific determinations over the last 50 years irrefutably link habitat harm to species harm.

In Kentucky, two examples in particular highlight the clear connection between harm to habitat and harm to species, where habitat degradation and modification adversely impact essential behaviors (feeding, breeding, sheltering), causing harm to members of ESA-protected species: the Blackside dace (*Chrosomus cumberlandensis*) and the Big Sandy crayfish (*Cambarus callainus*). The existing definition—which includes habitat modification that significantly impairs essential behaviors such as breeding, feeding, or sheltering—is vital to the protection of these ESA-listed aquatic species in Kentucky's coalfields. They rely on clean and structurally complex stream habitats that are directly impacted by coal surface mining activities. Rescinding the definition would undermine the ESA's ability to protect them.

Both the Blackside dace and Big Sandy crayfish are federally listed and restricted to the central Appalachian region, with core habitat overlapping areas of historic and ongoing coal mining. The Blackside dace occupies headwater streams of the upper Cumberland River basin. Since its listing in 1987, it has suffered substantial habitat degradation due to sedimentation, increased conductivity, and

water contamination.<sup>1</sup> See 52 Fed. Reg. 22580 (1987). The Big Sandy crayfish, listed in 2016, is known from only 21 streams in the Big Sandy River basin. It is highly sensitive to sediment accumulations while its range overlaps mineable coal areas by approximately 98 percent.<sup>2</sup> See 81 Fed. Reg. 20,450 (2016).

### **1. Blackside Dace (*Chrosomus cumberlandensis*)**

The Blackside dace is a federally listed threatened species that inhabits small, upland streams primarily in the upper Cumberland River basin of southeastern Kentucky and northeastern Tennessee. Since its discovery in 1975 and listing in 1987, the species has experienced a sharp contraction in range due to habitat degradation, particularly from coal mining, logging, agriculture, and road construction. At the time of listing, it was known from only about 14 stream miles in 30 streams, and many populations were already severely diminished. 52 Fed. Reg. 22580.

Coal mining has historically posed the most significant threat to the species due to associated siltation, stream sedimentation, and acid mine drainage. Even today, coal-related activities remain a critical concern. The U.S. Fish and Wildlife Service noted that “the most frequently cited threat . . . was problems related to coal mining.”<sup>3</sup> The 2020 SMCRA Biological Opinion reaffirmed that ongoing surface mining activities can adversely modify Blackside dace habitat unless effective avoidance and minimization measures are implemented.<sup>4</sup>

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<sup>1</sup> Hitt, N. P., Floyd, M., Compton, M., & McDonald, K. (2016). Threshold responses of blackside dace (*Chrosomus cumberlandensis*) and Kentucky arrow darter (*Etheostoma spilotum*) to stream conductivity. *Southeastern Naturalist*, 15(1), 41–60.  
<https://doi.org/10.1656/058.015.0104>

<sup>2</sup> U.S. Fish and Wildlife Service. (2016). Endangered and threatened wildlife and plants; Threatened species status for the Big Sandy Crayfish and endangered species status for the Guyandotte River Crayfish; Final rule. *Federal Register*, 81(67), 20450–20476.  
<https://www.federalregister.gov/d/2016-07744>

<sup>3</sup> McAbee, Kevin & Nibbelink, Nathan & Johnson, Trisha & Mattingly, Hayden. (2013). Informing Recovery Management of the Threatened Blackside Dace, *Chrosomus cumberlandensis*, using a Bayesian-Belief Network Model. *Southeast. Nat.* 12.  
<http://dx.doi.org/10.1656/058.012.s416>

<sup>4</sup> U.S. Fish and Wildlife Service. (2020). Final programmatic biological opinion and conference opinion on the U.S. Department of the Interior Office of Surface Mining Reclamation and Enforcement’s Surface Mining Control and Reclamation Act Title V Regulatory Program. <https://osmre.gov/sites/default/files/2022-01/Final-BiOp-OSMRE-SMCRA-Title-V-Regulatory-Program-101620.pdf>

Scientific studies show that Blackside dace exhibit a threshold response to increased conductivity—an indicator of mining-related pollution—which significantly reduces the likelihood of occupancy in affected streams.<sup>5</sup> Furthermore, habitat modeling has demonstrated that Blackside dace are highly sensitive to physical habitat disturbances and changes in water quality, both of which are common outcomes of mining operations.<sup>6</sup> These findings align with earlier habitat studies that emphasized the species’ reliance on stable, well-vegetated watersheds and clean, cool water flows.<sup>7</sup>

The Blackside dace’s precarious status in Kentucky was described in the original listing as dependent on strict enforcement of mining regulations and stream protections. Agencies at that time acknowledged that habitat destruction from mining could require additional restrictions in high-quality habitats. 52 Fed. Reg. 22580.

## **2. Big Sandy crayfish (*Cambarus callainus*)**

The Big Sandy crayfish is endemic to the Big Sandy River basin, encompassing eastern Kentucky, southwestern Virginia, and southern West Virginia. Currently, it is known to inhabit only 21 stream systems across four subwatersheds, indicating a significant contraction from its historical range. Approximately 98% of its current habitat overlaps with areas of active or potential coal mining. 81 Fed. Reg. 20,450. The species is highly sensitive to sedimentation, a common byproduct of surface mining activities. It thrives in higher elevation (180–500 meters), clean, third- or fourth-order (or larger) fast-flowing permanent streams and rivers. A critical habitat component includes large, unembedded slab boulders situated on sand, cobble, or bedrock streambeds.<sup>8</sup> Research indicates that the presence of such

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<sup>5</sup> Hitt et al. (2016)

<sup>6</sup> Black, T. R., Jones, B. K., & Mattingly, H. T. (2013). Development and validation of habitat models for the threatened blackside dace at two spatial scales. *Southeastern Naturalist*, 12(1), 27–48. <https://doi.org/10.1656/058.012.s414>

<sup>7</sup> Starnes, LB, Starnes WC. 1981. Biology of the Blackside Dace *Phoxinus cumberlandensis*. *American Midland Naturalist* 106:360–372. <https://doi.org/10.2307/2425173>; U.S. Fish and Wildlife Service. (2015). Blackside dace 5-year review: Summary and evaluation. [https://ecos.fws.gov/docs/five\\_year\\_review/doc4641.pdf](https://ecos.fws.gov/docs/five_year_review/doc4641.pdf)

<sup>8</sup> USFWS, Final Biological Opinion (2020)

unembedded substrates is essential, as no individuals were observed in stream reaches with heavy sedimentation and embedded substrates.<sup>9</sup>

The primary threat to the Big Sandy crayfish is habitat degradation due to erosion and sedimentation, leading to stream substrate embeddedness.<sup>10</sup> Poor land-use practices, particularly those associated with the coal industry, directly contribute to this degradation. Surface mining activities result in increased sedimentation, elimination of headwater streams, introduction of physicochemical pollutants, habitat degradation, and fragmentation of riparian corridors.<sup>11</sup>

Studies have documented that sediment transfer from surface mines has a cumulative effect in higher-order streams—habitats that may contain the crayfish—greater than previously understood. The degradation of instream habitat may be exacerbated by the combined effects of surface mining and residential development.<sup>12</sup> Given these findings, it is imperative to implement and enforce

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<sup>9</sup> Loughman, Z. J., Welsh, S. A., Sadecky, N. M., Dillard, Z. W., & Scott, R. K. (2017). Evaluation of physicochemical and physical habitat associations for *Cambarus callainus* (Big Sandy crayfish), an imperiled crayfish endemic to the Central Appalachians. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 27(4), 755–763. <https://doi.org/10.1002/aqc.2746>

<sup>10</sup> Loughman, Z. J., Welsh, S. A., Sadecky, N. M., Dillard, Z. W., & Scott, R. K. (2016). Physical habitat and physiochemical covariates associated with in-stream presence of *Cambarus veteranus* (Faxon, 1914), an imperiled narrow endemic Appalachian crayfish. *Journal of Crustacean Biology*, 36(5), 642–648. <https://doi.org/10.1163/1937240x-00002456>

<sup>11</sup> U.S. Fish and Wildlife Service. (2018). Recovery outline for the Guyandotte River Crayfish (*Cambarus veteranus*) and Big Sandy Crayfish (*Cambarus callainus*). [https://ecos.fws.gov/docs/recovery\\_plan/20180531\\_GRC\\_BSC\\_Signed%20recoveryoutline\\_final.pdf](https://ecos.fws.gov/docs/recovery_plan/20180531_GRC_BSC_Signed%20recoveryoutline_final.pdf)

<sup>12</sup> Loughman et al. 2016; Bernhardt, E. S., Lutz, B. D., King, R. S., Fay, J. P., Carter, C. E., Helton, A. M., et al. (2012). How many mountains can we mine? Assessing the regional degradation of Central Appalachian rivers by surface coal mining. *Environmental Science & Technology*, 46(15), 8115–8122. <https://doi.org/10.1021/es301144q>; Bernhardt, E. S., & Palmer, M. A. (2011). The environmental costs of mountaintop mining valley fill operations on aquatic ecosystems of the Central Appalachians. *Annals of the New York Academy of Sciences*, 1223(1), 39–57. <https://doi.org/10.1111/j.1749-6632.2011.05986.x>; Palmer, M. A., Bernhardt, E. S., Schlesinger, W. H., Eshleman, K. N., Foufoula-Georgiou, M., Hendryx, M. S., et al. (2010). Mountaintop mining consequences. *Science*, 327(5962), 148–149. <https://doi.org/10.1126/science.1180543>; Appalachian Voices. (2015, May 5). Appalachian crayfish: Canaries in a coal mine. <https://appvoices.org/2015/05/05/appalachian-crayfish-canaries-in-a-coal-mine/>

stringent conservation measures to mitigate habitat degradation and ensure the survival of the Big Sandy crayfish.

### **3. Combined additional threats and other examples**

Compounding these threats is the ongoing failure to achieve timely and effective reclamation of surface mines in Kentucky. A 2025 report by Appalachian Citizens' Law Center found that of 408 analyzed permits, 333 had not produced coal for over 6 years—yet none had achieved final bond release.<sup>13</sup> Over 45% had not even reached Phase I reclamation, which should be completed within 7 months of coal removal. This chronic delay increases the duration and intensity of water quality degradation from unreclaimed highwalls, exposed spoil, and sediment runoff—conditions detrimental to both the Blackside dace and Big Sandy crayfish.

Many of Kentucky's other threatened and endangered species would be impacted by this proposal. In Kentucky, 29 species of mussels are currently federally listed as threatened or endangered, most due to habitat degradation. The Kentucky Creekshell, for example, is endangered due to habitat loss, degradation, and fragmentation resulting from stressors, including dams and other instream barriers, and degraded water quality from development, agriculture, and instream gravel mining. See 89 Fed. Reg. 76,196 (September 17, 2024). Our freshwater mussel populations have seen rapid declines and need further protection, not less.<sup>14</sup>

Rescinding the current definition of “harm” would significantly undermine the ESA's ability to protect species like the Big Sandy crayfish, Blackside dace, and Kentucky Creekshell, whose survival is intricately linked to the integrity of their habitat. By excluding habitat modification from the definition of “harm,” the proposed rule would eliminate a critical tool for addressing the primary threats to these species and preventing their take.

### **C. CONCLUSION**

In conclusion, the proposed rule contradicts the plain language and structure of the ESA. The purpose, language, and legislative history of the ESA – as described in *Sweet Home* – all point to Congress' intent to provide robust protection for endangered species, including from indirect threats like habitat destruction. This

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<sup>13</sup> Savage, E., Shelton, R., & Cromer, M. (2025). Delayed coal mine reclamation in Kentucky. Appalachian Citizens' Law Center. <https://aclc.org/wp-content/uploads/2025/02/Reclamation-Report-feb-2025.pdf>

<sup>14</sup> <https://kentucky Lantern.com/2023/09/18/in-kentuckys-rivers-researchers-try-to-understand-where-the-mussels-have-gone/>



proposal contradicts the ESA and instead places the profits of industry special interests above saving species from extinction. We thereby urge the Services to withdraw this proposal and uphold the regulatory definition of “harm” to include significant habitat modification.

Finally, if the Services proceed with this proposal, they must analyze the likely impacts of the Proposed Rule under the National Environmental Policy Act and engage in consultation under Section 7 of the ESA.

Sincerely,

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