

**Comments on
the U.S. Fish and Wildlife Service and National Marine Fisheries Service
Notice of a Proposed Rulemaking regarding
Rescinding the Definition of “Harm” Under the Endangered Species Act**

Introduction

These comments are submitted in response to the United States Fish and Wildlife Service’s (USFWS) and National Marine Fisheries Service (NMFS) April 17, 2025 *Federal Register* Notice of a Proposed Rulemaking (NPR) regarding Rescinding the Definition of “Harm” Under the Endangered Species Act (ESA). The proposed rule would eliminate the USFWS’s and NMFS’s self-corrupting definitions of the term *harm*.

These agencies’ regulations have defined *harm* in a manner that has led to regulatory behavior inconsistent with the ESA’s statutory design and bureaucratic overreach far beyond the ESA’s four corners. Speculation, conjecture, and guestimates of theoretical harm to endangered and threatened species backed by potential civil and criminal penalties enables agencies to abusively exert control and extract concessions from people and public and private institutions seeking to engage in perfectly legitimate, often needed or even essential activities. Additionally, while difficult to measure, the wrongheaded *harm* regulations have almost certainly resulted in adverse unintended consequences for conservation by creating greater incentives to eliminate habitat that could cast a shadow over property.

Background

To understand how these agencies’ regulations have unrecognizably distorted the ESA requires discussion of the Act’s most significant regulatory mechanisms. As a practical matter, the ESA has two primary regulatory tools: the prohibition against the taking of listed species, and the requirement to consult or, more specifically, the prohibition against the adverse modification or destruction of critical habitat (CH).¹

“Take” is defined to mean: “to harass, *harm*, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”² The ESA lays out that the take prohibition applies to species listed as endangered and, by special rule, *may be applied* to threatened species.

The prohibition against adverse modification or destruction applies to CH that has been designated by the agencies for endangered or threatened species through regulation. The ESA defines CH as:

- (i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this Act, on which are found those

¹ While there are other significant ESA regulatory provisions such as the prohibition against actions jeopardizing a species, in terms of the number of related events and the consequences of implementing ESA’s provisions, the prohibitions against take and adverse modification are unique.

² ESA, Sec. 3(19).

physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and

(ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act, upon a determination by the Secretary that such areas are essential for the conservation of the species.³

At its simplest, one regulatory tool prohibits killing or reducing to possession (capturing, shooting, wounding, killing, harming etc.) an actual specimen of an endangered species or, by the promulgation of a special rule deemed “necessary and advisable,” a threatened species.⁴ The other regulatory tool applies to specifically geographically identified (on a map, by spatial description (e.g. specific caves, mile marked river reaches), GPS coordinates, etc.) habitat that is “essential to the conservation of the species.” The Act provides a system for using these very different tools for very different jobs. The USFWS’s and NMFS’s regulatory definitions of *harm* promote corruption of this structure provided by statute.

Critical Habitat

Congress made clear that the CH was not just a tool at the Secretary’s disposal should he choose to use it, but that the Secretary “*to the maximum extent prudent and determinable... shall, concurrently with making a determination... that a species is an endangered species or a threatened species, designate any habitat of such species which is then considered to be critical habitat...*” (emphasis added).⁵ As appropriate, the Secretary may later “revise such designation[s].”⁶ The Secretary is to designate CH “on the basis of the best scientific data available.”⁷

When designating CH, the ESA requires the Secretary do so “after taking into consideration the economic impact, the impact on national security, and any other relevant impact, of specifying any particular area as critical habitat.”⁸ After taking these matters into consideration, “the Secretary may exclude any area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat unless he determines, based on the best scientific and commercial data available, that the failure to designate such area as critical habitat will result in *the extinction of the species concerned*” (emphasis added).⁹ Notably, by definition, “except in those circumstances determined by the Secretary, critical habitat *shall not include the entire geographical area which can be occupied by the threatened or endangered species*”(emphasis added).¹⁰

³ ESA, Sec. 3(5)(A).

⁴ ESA, Sec. 4(d).

⁵ ESA, Sec. 4(b)(1)(B)(2).

⁶ ESA, Sec. 4(a)(3)(A)(ii).

⁷ ESA, Sec. 4(b)(1)(B)(2).

⁸ ESA, Sec. 4(b)(1)(B)(2).

⁹ ESA, Sec. 4(b)(1)(B)(2).

¹⁰ ESA, Sec. 3(5)(C).

An Example of a Species' CH

The regulations designating CH for the Indiana bat, *Myotis sodalis*, specify the CH as *only* including:

Illinois. The Blackball *Mine*, La Salle County.

Indiana. Big Wyandotte *Cave*, Crawford County; Bay's *Cave*, Greene County.

Kentucky. Bat *Cave*, Carter County; Coach *Cave* Edmonson County

Missouri. *Cave* 021, Crawford County; *Cave* 009, Franklin County; *Cave* 017, Franklin County; Pilot Knob Mine, Iron County; Bat *Cave*, Shannon County; *Cave* 029, Washington County (numbers assigned: by Division of Ecological Services, U.S. Fish and Wildlife Service, Region 6).

Tennessee. White Oak Blowhole *Cave*.

West Virginia. Hellhole *Cave*, Pendleton County (emphases added).¹¹

USFWS designated these locations as CH because “approximately 75 percent of the known population hibernates at the sites... The bats are entirely dependent on the shelter provided by these caves and mines during the winter. Their loss or subsection to excessive disturbance or modification would lead to *the near or total extinction of the species*” (emphasis added).¹²

The designated CH *does not* include anything close to the Indiana bat's entire range nor everywhere it has been documented. USFWS's Environmental Conservation Online (ECOS) database profile for the Indian bat reports the bat “is known to or is believed to occur” in: Alabama, Arkansas, Connecticut, Delaware, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Mississippi, Missouri, Nebraska, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Vermont, Virginia, West Virginia, and Wisconsin and, more specifically, in 1,019 counties in those states.¹³

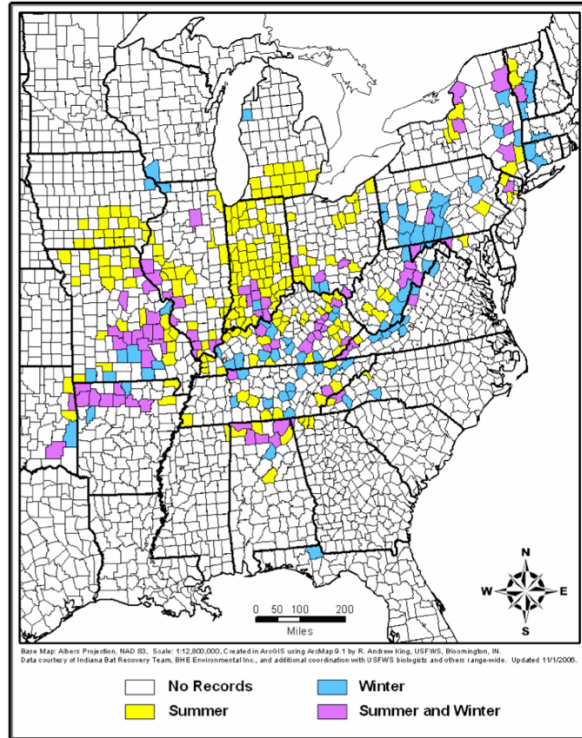
The distribution of the Indiana bat is depicted on a USFWS map included within the Indiana bat recovery plan.¹⁴ When looking at the map, it is important to understand that the many unshaded areas interspersed among and around shaded areas represent areas where there is “no record” of the bat, not that the bat has not or does not occur in habitat there.

¹¹ USFWS, Republication of Critical Habitats and Maps, Federal Register, Vol. 42, No. 184, September 22, 1977, pp. 17840-17841.

¹² USFWS, Determination of Critical Habitat for American Crocodile, California Condor, Indiana Bat, and Florida Manatee, Federal Register, Vol 41, No. 187, Friday, September 24, 1976, pp. 41914

¹³ USFWS, ECOS profile for the Indiana Bat, *Myotis sodalis*, accessed 5/14/2025. This list includes five states (Delaware, Kansas, Nebraska, South Carolina, and Wisconsin) that were, according to USFWS's ECOS profile not listed as part of the species “historic range.”

¹⁴ USFWS, Figure 3, Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision, April 2007, p. 19.



Indiana bat habitat

Obviously, the Indiana bat can be expected to and does occur in many locations outside of its cave and mine CH. For example, according to the recovery plan:

In summer, most reproductive females *occupy roost sites under the exfoliating bark of dead trees* that retain large, thick slabs of peeling bark...” including in “... riparian zones, bottomland and floodplain habitats, wooded wetlands, and upland communities. Indiana bats typically forage in semi-open to closed (open understory) forested habitats, forest edges, and riparian areas...¹⁵

Another USFWS document reports that Indiana bats “...have been found using bridges and/or culverts throughout their ranges” and that bats generally “have been documented throughout the United States using bridges and culverts as maternity sites, hibernation sites, temporary resting sites during foraging, and during periods of staging and swarming.¹⁶

In short, Indian bats do and can be expected to occur in a much larger and more varied habitat than just the areas USFWS designated as CH.

¹⁵ USFWS, Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision, April 2007, pp. 7-8.

¹⁶ USFWS, Range-wide Indian Bat and Northern Long-Eared Bat Survey Guidelines, March 2024, p. 10.

Take

The ESA prohibition against *take* includes ten key words. The words are: *harm, harass, hunt, shoot, wound, and kill* as well as *trap, capture, collect* and *pursue*. Rightly, the effects of take – common to all its individual elements – were described by Justice Anton Scalia as “when applied to wild animals” to mean “to reduce those animals, by killing or capturing, to human control.”¹⁷ Importantly, this understanding, as noted in the NPR, is consistent with the plain and longstanding meaning of the word *take* in regard to wildlife.¹⁸

Given the centuries’ long plain meaning of the word *take*, it was eminently logical in crafting the ESA to select this one word to economically represent its ten elements in statute. All these words represent direct kinetic events in the form of subject (a person), a transitive verb (take element) that results in a common outcome (killing or capturing) and a direct object (individual specimen(s) of a listed species). That these grouped words should be understood to share a common nature is consistent with the principle of statutory interpretation that a word is known by the company it keeps, or “*noscitur a sociis*.”

If *harm* is interpreted like the other elements of *take*, it would be applicable in numerous situations that Congress likely intended to capture but did not similarly itemize. For example, placing poisoned bait outside a species’ burrow under a henhouse, felling a tree with a nest full of juvenile birds that prematurely disperse on the ground, moving a mass of amphibian eggs from water to dry ground or flooding a nesting area. Most would likely agree that such actions would match a plain reading of the ESA’s *harm*. As the ESA is a strict liability law, for a violation to occur, one does not need to know that an endangered bird’s nest is in the tree or that an threatened tortoise lives in the burrow rather than a common species of snake, just that one is engaging in the action of felling the tree or placing the poisoned bait.

The ESA’s different levels of listing, endangered and threatened, also support an interpretation that *harm* is similar in nature to the other elements that make up *take*. Under the ESA, the take prohibition and therefore harm, is extended to all species determined to be endangered. By statute, this is not the case with those species determined to be threatened. For the *take* prohibition to be applied to threatened species, Congress provided that the Secretary is to do so by regulation “*as he deems necessary and advisable* to provide for the conservation of such species” (emphasis added).¹⁹ Notably, doing so by regulation subjects what the Secretary deems necessary and advisable to the public comment process and its requirement to be neither arbitrary nor capricious. The varied levels of listing and the different triggers applying *take* to each support the interpretation that *take* and its elements are focused directly on species not habitat. Statutorily treating the application of *take* to endangered species and threatened species differently reflects a built-in assumption that endangered species and therefore each individual animal is likely of greater conservation value while threatened species are generally likely to be

¹⁷ 515 U.S. at 717.

¹⁸ USFWS, Rescinding the Definition of Harm under the Endangered Species Act, Notice of proposed rulemaking; request for comments, April 16, 2025.

¹⁹ ESA, Sec. 4 (d). As with how the application of *harm* has drifted far afield, USFWS turned the statutory provision for designating 4(d) rules for threatened species inside-out, applying take to all current and future threatened species by a single rule and then exempting specific actions for particular species when choosing to do so.

relatively greater in number and, consequently, the loss of a few individual members may not significantly affect the species' long-term conservation prospects.

USFWS's current regulation defines harm in a manner that leads to regulators wandering far afield from the other elements of take: "Harm in the definition of 'take' in the Act means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering."²⁰

NMFS's current regulatory definition of harm is similar:

Harm in the definition of 'take' in the Act means an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including, breeding, spawning, rearing, migrating, feeding or sheltering.²¹

Both include a few functionally identical elements:

- Harm actually kills or injures wildlife;
- Harm may include significant habitat modification or degradation and;
- Harm caused by habitat modification or degradation significantly impairs essential behavioral patterns (breeding, spawning, rearing, migrating, feeding or sheltering)

That harm "actually kills" is consistent with other elements of take (those that do not involve reducing to possession) and the word's plain meaning. That both agencies chose to include the modifier "actually" is an attempt to prevent or to reassure others that exactly what has happened in practice would not happen. It may well be a case of "the lady doth protest too much."

Kill would not seem an overly complex and highly nuanced word to use in regulations for implementing the ESA. However, when it is attributed to habitat modification that impairs an essential behavior and through a chain of events results, at some point in the future, a dead body somewhere, harm is 'actually' hard if not often impossible to demonstrate. Regulators 'actually' often simply estimate, calculate, suppose or conjecture that some form of habitat modification will "actually kill." *Sometimes*, they are perhaps correct. The analyses are complicated and often sufficiently convoluted that much of USFWS's manual chapter on *Calculating Take from Land and Water Use* clearly revolves around tenuous arguments of habitat modification resulting in harm.²²

²⁰ 50 CFR 17.3

²¹ 50 CFR 222.102.

²² USFWS, Chapter 8: Calculating Take from Land and Water Use Activities,

USFWS teaches its staff:

Determining the amount of take requires the analysis of the proposed activities to identify ways the species or their habitats may be affected and whether those effects rise to the level of take. Identify all the “direct interactions” or “stressors” to resources required by covered species that may be associated with each activity. A direct interaction is an effect on the individual organism. A stressor is any agent capable of causing an adverse or beneficial change to a resource upon which an organism depends. Keep in mind a stressor might change, or new ones come into effect, as a result of the effects of climate change, such as increased wildfire frequency.²³

Regarding “Sources and Types of Take” USFWS states: [o]nce we have identified the responses of individuals, we must determine the demographic consequence at the population and species levels and how that may affect the population’s or species’ status as a whole.”²⁴ The USFWS provides the following example:

...loss of sagebrush may lead to a reduction in a species’ forage base, which can translate into reduced growth that can delay age at sexual maturity (or reduce size at sexual maturity, or reduce fecundity), which in turn affects reproduction, which ultimately affects species conservation and recovery.²⁵

In explaining the impact that will occur from take, USFWS explains “intensity,” the severity of the impact, by example:

the percent of the population impacted or the quantity and degree to which habitat is affected. We sometimes use population viability analysis to try to estimate or better understand the possible severity of impacts at various scales, *although the data needed for such analysis often is not available, so many assumptions are made*. Consequently, the outcomes need to be interpreted with care” (emphasis added).²⁶

In practice, the agencies’ assessments of harm have stretched from regulatory efforts consistent with law to extortion that should be accompanied with biological incantations, mysterious rhytmical arm movements and puffs of smoke.

Examples of Regulatory Abuse Using “harm” to Regulate Habitat

1. The Indiana Bat

A 33-page, March 9, 2018, biological opinion (BO) regarding a planned residential development in Warwick County, Indiana, illustrates just how tenuous USFWS’s assertion of the

<https://www.fws.gov/sites/default/files/documents/habitat-conservation-planning-handbook-chapter-8.pdf>, accessed 5/18/25.

²³ Ibid, p. 8-2.

²⁴ Ibid, p. 8-3.

²⁵ Ibid, p. 8-3.

²⁶ Ibid, p. 8-6.

take of a listed species through harm can be.²⁷ This biological opinion is just one of 317 BO's USFWS's Ecosphere database reports when searched for the Indiana bat.²⁸ Undoubtedly, the vast majority if not all or almost all of these *do not* regard the handful of caves and the mine determined to be Indiana bat CH. Consequently, the issue at hand was not whether there would be adverse modification or destruction of CH but take of Indiana bats, and it is likely that for many if not most of these BO's, harm to Indiana bats was a focus.

The Greenlife Development company's "action area" for the Victoria Preserve residential community was reported as 405 acres. As the project would affect near a half mile of stream (2,227 linear feet) and about 12 acres of wetlands, a wetlands 404 permit from the Army Corps of Engineers (USACE) was required.²⁹ As the issuance of a 404 permit constitutes a discretionary federal action under the ESA, the USACE needed to consult over affects of the project on the Indiana bat. The action included that the company planned to clear 260.77 acres of forest.³⁰

No federally designated CH was in or near the action area so there was no Indiana bat CH that could be adversely modified or destroyed.³¹ There was no known bat hibernacula (a cave, mine or similar feature where bats may congregate and hibernate over winter) in the action area, and the closest known hibernacula was reported as 55 miles from the site.³² Consequently, USFWS reported "the action area does not support wintering habitat for the Indiana bat" so no bats were to be expected at the site during the winter.³³ The company committed to limit its land clearing activities to between October 1 and March 31, a period during which Indiana bats were expected not to have emerged from their hibernacula and migrated to summer habitat.³⁴ USFWS recognizes this stating "thus, we do not anticipate any direct mortality from the felling of trees in the Action Area."³⁵

While nothing in the BO indicates actual use of the site by Indiana bats had been documented, USFWS states: "the area does have sufficient forest cover to be *suitable* as summer habitat... The mature woods are comprised of sufficient sized trees, scattered snags, and live trees with exfoliating bark that provide *suitable* roosting, foraging and commuting habitat for

²⁷ USFWS, Biological Opinion and Incidental Take Statement for the Effects of the Victoria Preserve project on the Endangered Indiana Bat (*Myotis sodalis*) Warrick County, Indiana, March 9, 2018.

<https://ecos.fws.gov/tails/pub/document/13309435>, accessed May 18, 2025. Of 317 BO's including the Indiana bat, this one was selected for review solely on the basis it was listed as regrading 'residential development,' something familiar to most. It was the *first* Indiana bat BO selected for the preparation of these comments raising a disturbing prospect for what the others contain.

²⁸ Search of USFWS Ecosphere database for the term "*Myotis sodalis*" on May 16, 2025.

²⁹ USFWS, Indiana Bat BO and ITS, p. 7.

³⁰ *Ibid*, p. 22.

³¹ *Ibid*, p. 21.

³² *Ibid*, p. 20.

³³ *Ibid*, p. 20.

³⁴ *Ibid*, p. 22.

³⁵ *Ibid*.

Indiana bats” (emphasis added).³⁶ The developer planned to clear “260.77 acres of suitable forest habitat for Indiana bats for roosting and foraging.”³⁷

To further minimize the potential for effects from the loss of suitable habitat, the company agreed to conduct tree clearing when bats would not be present and in phases over 12 years.³⁸ The first would begin in 2018 and include 100 or fewer acres. The second would begin in 2023 and include 72 or fewer acres, and the last was planned to begin in 2026 and include 100 or fewer acres.

Never-the-less, USFWS concluded “*however, some indirect adverse effects could still stress some Indiana bats to the point where take is reasonably certain to occur.*”³⁹ Elsewhere USFWS states, “*we estimate that adult female and/or juvenile Indiana bats from one maternity colony may be directly or indirectly taken by the proposed activity*” (emphasis added).⁴⁰ As the bats are not anticipated to be at the site during forest clearing, the ‘estimated’ take can only be attributed to the conjectured harm that follows habitat modification occurring when the bats are not on site.

USFWS described two scenarios that would make harm of Indiana bats through habitat modification supposedly “reasonably certain”: 1) the loss of a primary roost tree or multiple alternate roost trees and 2) alteration of foraging habitat and/or travel corridors. USFWS’s “reasonably certain” lines of reason are so thin they could not confidently suspend a spider.

Building on the assumption that the bats are present and may roost there as there are “live trees with exfoliating bark,” USFWS goes on to speculate that “...the loss of a primary roost tree or multiple alternate roost trees during the non-occupancy season would cause displaced individuals” – *meaning bats that had returned after winter hibernation to a specific tree for a roost and found it gone* – “to expend increased levels of energy while seeking out replacement roost trees.”⁴¹ Liberally sprinkling conditional qualifiers and caveats, USFWS conjectures, “*if increased energy expenditure occurs during a sensitive period of a bat’s reproductive cycle (e.g., pregnancy) it is assumed that spontaneous abortion or other stress-related reproductive delays or losses would be a likely response in some individuals, particularly those that may have already been under other environmental stresses*” (emphasis added).⁴² As to the other environmental stresses, USFWS specifically identifies bats suffering from the widespread fungal infection known as white nose syndrome.⁴³

Not done yet, USFWS further conjectures, “*it has been hypothesized that these stresses and delays in reproduction could also result in lower fat reserves being deposited prior to hibernation and ultimately lead to lower winter survival rates...*” (emphasis added).⁴⁴ The agency

³⁶ Ibid, p. 20.

³⁷ Ibid.

³⁸ Ibid, pp. 7-8.

³⁹ Ibid, p. 22.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Ibid.

⁴³ Ibid.

⁴⁴ Ibid.

explains, “females that do give live birth *may have* pups with lower birth weights or their pups *may have* delayed development... *This could in turn* affect the overwinter survival of the young-of-the-year bats *if* their delayed development caused them to enter fall migration and winter hibernation periods with inadequate fat reserves” (emphasis added).⁴⁵ With all these angles dancing on the head of a pin, USFWS concludes that “*a few bats* displaced by clearing for the project *may perish*.”⁴⁶ This is what “actually kills” can look like.

USFWS saves until the end of this analysis the rather remarkable acknowledgement that “but the majority of displaced bats will likely establish a new summer home range *in nearby habitat*. *The relative abundance and availability of suitable habitat in areas surrounding the project area* should greatly enhance the potential for displaced bats to successfully relocate to a new range.”⁴⁷ (If the federally endangered bats are so ubiquitous that it is safe to assume they occupy any suitable habitat, it raises entirely different questions.)

USFWS’s second speculative scenario for harm to the bats is that “tree clearing may also result in alteration of foraging habitat and/or travel corridors, forcing bats to fly farther while foraging at night.”⁴⁸ This too potentially causes a harm laden chain of events even though the agency has just acknowledged the relatively abundant and available, suitable, nearby habitat. USFWS conjectures:

the quality of foraging habitat *may also* be temporarily degraded due to erosion, and subsequent sedimentation of stream corridors, associated with construction of the project. Sedimentation *could also* reduce the overall production of aquatic insects, which make up a portion of the prey base of Indiana bats, *which in turn may* exacerbate the issue of lost foraging habitat in the area.⁴⁹

With the project unable to ensure its actions would not lead to the conjectured deaths of a few bats presumed to be present or their progeny at some future date, the BO notes mitigation in the form of compensation by permanently protecting 274 acres of suitable forested habitat within one year of initiating work in each development phase.⁵⁰ A website describing projects for the firm dtj Design addresses a Greenlife Development company phased development, Victoria National Golf Community, in Warwick County, Indiana. If the same, USFWS omitted mention that “the site was *strip-mined for coal over the past decades*, resulting in a series of spring-fed finger lakes, some which are deep ravines” (emphasis added).⁵¹

⁴⁵ Ibid.

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ Ibid.

⁴⁹ Ibid.

⁵⁰ Ibid. (This statement appears worded incorrectly given others within the document. Otherwise, it indicates a BO conservation measure is mitigating at a rate of more than 3 to 1 for the conjectured harm to “a few bats”).

⁵¹ dtj Design, Victoria National Golf Community, Explore our Work, dtj Design website, accessed 5/18/25.

2. Lake Erie Water Snake

The measures outlined in a BO to address potential harms to another threatened species, the Lake Erie water snake, are bewildering.⁵² The snake inhabits several islands in Ohio and across the border in Canadian waters. When this snake was added to the federal *List*, the threats were reported to include its small population, human persecution, habitat development and possibly invasive species.⁵³ When listing the snake, USFWS stated, “projects that will *harm individual Lake Erie water snakes or destroy their habitat* will require an incidental take permit from us... However, we believe most minor shoreline projects as they are currently undertaken will require few modifications”(emphasis added).⁵⁴

USFWS *never designated CH for this snake*. Yet, USFWS states ‘harm individuals’ ***or*** “destroy their habitat.” Here, USFWS describes two different conditions over which the agency claims authority, harming individual listed species and, separately, destroying their non-critical habitat. There is no mention that the authority to regulate destruction of habitat hinges upon that destruction killing at least an individual member of the species. USFWS either simply assumes it has authority to regulate non-critical habitat or that all habitat loss is inescapably so significant that it results in death to individual species. Neither position is defensible.

In practice, the demands imposed by USFWS were not as advertised. The previously referenced BO addresses a development of only seven homes planned to be built on 15-acres on a peninsula of Kelley’s Island, Ohio.⁵⁵

USFWS’s BO states that:

As more fully described below, the Service believes that direct take in the form of mortality, *harm*, and harassment is likely to result from such activities as construction and maintenance of residences and associated [Long Point Homeowners Association] development, roadkill events, and other otherwise lawful activities, despite full implementation of the proposed conservation measures (emphasis added).⁵⁶

The restrictions and demands - with many obviously resting on an assertion of harm - imposed by USFWS on the builder and homeowners are surreal:

- about 5 acres of shoreline of the 15 total acre development site, one-third, placed in permanent conservation easements;

⁵² USFWS, Biological Opinion for the issuance of a Section 10(a)(1)(B) Incidental Take Permit for Lake Erie water snake (*Nerodia sipedon insularum*) in the Long Point Homeowner’s Association, LLC Habitat Conservation Plan Kelley’s Island, Erie County, Ohio, May 2003. https://ecos.fws.gov/docs/plan_documents/bobs/bobs_188.pdf. USFWS documents use both “water snake” and “watersnake.” The former is used herein.

⁵³ USFWS, Threatened Status for Lake Erie Water Snakes (*Nerodia sipedon insularum*) on the Offshore Islands of Western Lake Erie, *Federal Register*, Vol. 64, No. 167, August 30, 1999, p. 47126.

⁵⁴ USFWS, Lake Erie Water Snake BO, p. 47130.

⁵⁵ *Ibid*, p. 4.

⁵⁶ *Ibid*, p. 15.

- all proposed residence, garage, outbuildings, roads, driveways, access roads, and septic mound construction will not occur within the area between the shoreline and 125 feet inland;
- permanent snake signage to alert drivers;
- two snake hibernacula constructed on each property;
- in-kind services with the approximate value of \$50,000 in the form of planning and landscape design from the homeowners' association;
- light colored driveway material used to discourage snakes from basking and being run over;
- maximum width of driveways to residential areas will be 12 feet;
- seasonal, height, temperature and zone based restrictions on mowing and pesticide/herbicide use;
- restrictions on excavation, clearing, and maintenance of habitat strips;
- a requirement to confine house cats;
- prohibition against inground pools, hot tubs, or fountains with excavation for such features limited to topsoil removal within the construction footprint; water in these structures to be de-chlorinated prior to draining, and hot tubs to be covered when not in use;
- a limit of 1 boardwalk or path no wider than 6 feet that cannot terminate with a single platform larger than 600 square feet;
- a limit of one firepit and requirement that it will not be filled with materials (e.g. brush, leaves, branches, logs) until the time of burning;
- ten-foot access routes for the Lake Erie water snake from the shoreline to inland areas will be provided along property lines and composed of natural vegetation to promote safe travel between the shoreline and hibernation sites;
- during forest clearing activities, stumps greater than 6 inches at ground level and all stumps with base cavities will not be removed to protect potential hibernacula;
- provision of up to \$18,700 funding for snake research by the home owners association and rights for snake researchers, USFWS and the Ohio Division of Wildlife to access the private properties;
- advising all visitors/renters/lessees of the protection measures;
- prior notice to USFWS of any substantial construction activities on the 15 acre property
- reporting all mortalities and injuries of Lake Erie water snakes within 24 to USFWS, or, if a weekend or holiday, by the end of the next business day and;
- a deed restriction requiring that present *and future owners comply* with the measures for the duration of the permit.⁵⁷

Negotiating this endless list of hoops, traps and tripwires for *seven homes* required from April of 1999 until May of 2002.⁵⁸ USFWS's outrageous kitchen sink demands traded for immunization against possible allegations of civil or criminal take and its most malleable element *harm* bring to mind the title character in Steve Martin's movie *The Jerk*. The jerk rambles on over his ever-expanding list of the "only thing I need... this, this ashtray... and this, this paddle ball... and this remote control... and these matches... and this lamp... and the

⁵⁷ Ibid, pp. 5-7, 16

⁵⁸ Ibid, pp. 2-4.

chair... What are you looking at, think I am some kind of a jerk or something?”

The sacrifices demanded to prevent harm to the snake through habitat modification are not just indefensible but so extraordinary, it is hard not to wonder whether personal animus, fanaticism, neurosis or just an opportunity to ‘stick it’ to the people who could afford these homes played a role. Almost certainly the homeowners bore the financial burden with the itemized costs beginning at about \$68,000 – almost \$10,000 per house – and this is without considering *five acres of shorefront* and any reduced value from the Byzantine regulatory maze that conveyed with the properties.

Although this regulatory labyrinth was ostensibly imposed because the snake’s small population was threatened by human persecution, development and possibly invasive species, all these assertions are at best highly questionable. The snake was reported to occur at greater densities on *more developed* islands.⁵⁹ Was the snake more aggressively persecuted by humans on the islands where there were fewer people or did people travel to the less developed islands to persecute the snakes? Why did the snake occur at *higher densities* on more developed islands and on the more developed portions of islands if it was threatened by development? Snake density on the less developed peninsula subjected to the absurd restrictions was 44 - 45 snakes per kilometer of shoreline while on the same island’s substantially more developed southern shore snake density reportedly ranged from 450 snakes/km to 1179 snakes/km, *larger by at least an order of magnitude*.⁶⁰ As for being threatened by invasive species, it was subsequently reported that the snake had altered its diet - *90% of it* - to a newly arrived *invasive* fish, the goby. Subsequently, the snake’s average body weight, growth rate and the fecundity of females increased.⁶¹

As for the snake’s population, USFWS reported that the population somehow more than doubled or tripled within a few years of listing.⁶² The window was small enough that few if any of the snakes born during this period could have reached sexual maturity and have begun contributing to population growth.⁶³ As for the snakes at the Long Point development, there were

⁵⁹ Ted Williams, Recovery: Saving the Lake Erie Watersnake, A Lesson in Outreach, The Nature Conservancy, January 23, 2017. <https://blog.nature.org/2017/01/23/recovery-saving-lake-erie-watersnake-lesson-outreach-science-communication/>, 5/18/25.

⁶⁰ USFWS, Final Environmental Assessment and Habitat Conservation Plan, November 2005, p. 23. https://ecos.fws.gov/docs/plan_documents/thcp/thcp_994.pdf, accessed 5/18/2025.

⁶¹ USFWS, Endangered and Threatened Wildlife and Plants; Removal of the Lake Erie Watersnake (*Nerodia sipedon insularum*) From the Federal List of Endangered and Threatened Wildlife, *Federal Register*, August 16, 2011. <https://www.federalregister.gov/documents/2011/08/16/2011-20104/endangered-and-threatened-wildlife-and-plants-removal-of-the-lake-erie-watersnake-nerodia-sipedon>, accessed May 18, 2025. “King et al... found that, since the appearance of round goby in the Great Lakes in the early 1990’s, Lake Erie watersnake diets have shifted from a diet of native fishes and amphibians to a diet composed of more than 90 percent round goby. This dietary shift corresponds to increased watersnake growth rates, increased body size, and increase in fecundity, with female watersnakes producing on average 25 percent more offspring post-invasion...”

⁶² The snake was estimated at “1,530 to 2,030 adults” in 1998 (USFWS, Threatened Status for Lake Erie Water Snakes (*Nerodia sipedon insularum*) on the Offshore Islands of Western Lake Erie, *Federal Register*, Vol. 64, No. 167, August 30, 1999, p. 47127) and was estimated at 5,130 adults by 2001 (USFWS, Removal of the Lake Erie Watersnake, *Federal Register*). The snake miraculously *more than doubled or tripled in just three years*.

⁶³ USFWS, Lake Erie Watersnake (*Nerodia sipedon insularum*) Recovery Plan, 2003, p. 7. “Female Lake Erie Watersnakes reach sexual maturity at approximately 3 years of age”

perhaps enough restrictions for each snake to have its own. The snakes there were estimated to be few enough in number that the cost of USFWS's requirements *not including* the value of the donated shoreline property was over a thousand dollars per 'threatened' snake. Harm was used as an excuse to regulate habitat based on exaggerated threats and an underestimated 'threatened' snake.

Regulation of Habitat Modification Using Harm Is Contrary to the Structure of ESA

Like the plain meaning of the word *take* and in that the other the words definitionally comprising take support that the word *harm* means to kill, so does the construct of the ESA itself.

While both USFWS and NMFS regulations would appear to affirm this understanding by including the phrase "actually kill or injure," by further defining actually killing as including "significant habitat modification or degradation" resulting from significantly impairing essential behavioral patterns, including, breeding, spawning, rearing, migrating, feeding or sheltering, the agencies insert into the definition an unavoidable slippery slope.

There is little habitat where a species may be found in which it is not engaging in one of these behaviors. The current harm definitions capture most whatever a species may be doing and wherever it may be found when whatever habitat modification that may harm it is considered. The definitions require that the modification and the impairment must be 'significant' with the bar being whether the act leads to 'actually killing or injuring' the species.

USFWS's own manual example on how to calculate take through significant habitat modification and significant impairment provides a revealing example of how affects to essential behavior can be plausible but ridden with speculation. The example states that 1) loss of habitat may lead to 2) a reduction in a species' forage base, that can 3) translate into reduced growth that can 4) delay age at sexual maturity which in turn 5) affects reproduction, which 6) ultimately affects species conservation and recovery. As "calculated," the chain of causation can be so complex and occur over such a lengthy period that acts which purportedly "actually kill" are really acts the agencies suppose or have just claimed would result in death or injury. As the examples of the Indiana bat and the Lake Erie water snake document, using extraordinarily tenuous logic to assert harm as the basis for imposing arbitrary and even draconian regulations is not constricted to USFWS's manual example. The agencies' current definitions of harm provide the guard-railed, lighted pathway to violate the same definitions' requirement that for an act to be considered harm under the ESA it must "actually kill."

The ESA provides for regulating habitat through *its own* CH provisions. Definitionally, CH "*shall not include the entire geographical area which can be occupied by the threatened or endangered species*" with the exception of "those circumstances determined by the Secretary." While the Secretary has discretion applying the take (including harm) prohibition to threatened species, CH is to be designated for both endangered and threatened species to the *maximum extent* prudent and determinable. The Secretary cannot exempt an area from designation as CH if doing so will result in the extinction of the species. Once, designated, "adverse" CH

“modification” is prohibited for any federal action which, importantly, traps substantial non-federal lands and activities through federal actions such as permitting. USFWS and NMFS define “significant habitat modification” that actually kills or injures a species by impairing essential behaviors as harm. If habitat modification actually kills a listed species is it not by plain meaning adverse, just like the “adverse modification” CH prohibition? In fact, a *Federal Register* notice regarding the snake has a heading: “adverse modification of

The effect of the current definitions has been to deform the term *harm* into an extra-legal habitat regulatory mechanism that can be applied anywhere endangered and threatened species occur unlike CH that is generally not to include the entire geographical area that a species can occupy. Unlike CH that can be excluded unless it will result in the extinction of the species, with significant habitat modification under the agencies’ harm definition, an act is prohibited with the much lower standard that a single member of a species cannot be “actually” killed or injured. In reality, the bar for harm through habitat modification is laying on the ground as the single injury or death need be nothing more than conjecture. Why would Congress allow the Secretary to exclude essential habitat from CH and then turn around and allow him regulate it under harm with an even lower bar? According to USFWS “a decision that the area does not meet the definition of critical habitat *would imply a lesser resource value*” (emphasis added).⁶⁴ Why would one be more restrictive regarding something of lesser value?

If harm was intended to capture ‘adverse modifications’ of any habitat that results in impairment of *essential* behavior patterns at the level of an individual species, while CH only includes habitat *essential* to the conservation of the species writ large? Can CH be essential if it does not somehow relate to essential behavior patterns?

While USFWS has overreached with regard to the actions it asserts constitute harm, it has also argued that there is little additional protection from designating CH:

In 30 years of implementing the Act, the Service has found that the designation of statutory critical habitat *provides little additional protection to most listed species*, while consuming significant amounts of available conservation resources. The Service's present system for designating critical habitat has evolved since its original statutory prescription into a process that *provides little real conservation benefit*, is driven by litigation and the courts rather than biology, limits our ability to fully evaluate the science involved, consumes enormous agency resources, and imposes huge social and economic costs. The Service believes that additional agency discretion would allow our focus to return to those actions that provide the greatest benefit to the species most in need of protection.⁶⁵

⁶⁴ USFWS, Endangered and Threatened Wildlife and Plants; Revised Critical Habitat for the Preble's Meadow Jumping Mouse in Colorado, 12/5/2010, <https://www.federalregister.gov/documents/2010/12/15/2010-30571/endangered-and-threatened-wildlife-and-plants-revised-critical-habitat-for-the-prebles-meadow>, accessed 5/19/2025.

⁶⁵ USFWS, Designation of Critical Habitat for the Southwestern Willow Flycatcher (*Empidonax traillii extimus*), Federal Register 10/19/2005, <https://www.federalregister.gov/documents/2005/10/19/05-20144/endangered-and-threatened-wildlife-and-plants-designation-of-critical-habitat-for-the-southwestern>; accessed 5/19/25.

As the agencies' interpretation of harm allows them to regulate anywhere a species occurs and do so without going through the CH designation process or while be held to CH's higher standard that the habitat must be essential to the conservation of the species, it explains, at least in part, why USFWS has viewed CH as affording little extra protection.

This view is supported by USFWS's practice in economic analyses of establishing baseline costs and separating the incremental costs of CH designation. The reality is, that with listing and the agencies' interpretation and application of harm, huge habitat regulatory costs result before CH is ever designated. As others have observed:

The USFWS employs a cost-benefit accounting method called "baseline analysis," which separates the impacts that would occur absent designation (baseline impacts) from the impacts attributable to designation (incremental impacts). It then only considers the incremental impacts, despite enormous disparities between baseline and incremental costs—one order of magnitude or two—and fanciful estimates that the economic impact of critical habitat designation is often \$0.⁶⁶

The baseline costs include the prohibition against take (and harm that has been used to regulate habitat) triggered by listing. In a CH economic impact analysis for the Preble's meadow jumping mouse, the 'incremental' or CH costs range of \$28 to 63 million while the "co-extensive" costs that include the prohibition against take (and harm used to regulate habitat) range from \$89 to 202 million.⁶⁷

Conclusion

With nearly 1,700 domestic endangered and threatened species, the majority of the nation is 'suitable' habitat for the breeding, migrating, feeding or sheltering for one species or another. Essentially, with the existing harm definitions the agencies have fabricated a habitat regulatory mechanism that is only tethered to harm's plain meaning and its companion take words by the thinnest thread and often not tethered at all. In practice, the current definitions of harm enable if not foster regulation on the basis of speculation and conjecture. As a result, USFWS and NMFS operate as if they have *carte blanche* to regulate any and all habitat modification, extracting concessions from vulnerable landowners as they do. The agencies' interpretation and application has near deformed the term *harm* into an arbitrarily wielded national land use veto. The proposal to rescind the USFWS's and NMFS's harm definitions and instead rest on the statutory definition of "take" reflects the single, best meaning of the statutory text and is unquestionably a vast improvement over the current definitions.

USFWS' and NMFS's demonstrated penchant for abusing regulatory authorities however, could perhaps be further appropriately curtailed by adding requirements that harm to an

⁶⁶ Ilya Shapiro and Randal John Meyer, Government Exceeds Its Powers in Enforcing the Endangered Species Act, Cato Institute, June 6, 2016,

<https://www.cato.org/blog/government-exceeds-its-powers-enforcing-endangered-species-act>, accessed 5/19/25

⁶⁷ USFWS, Endangered and Threatened Wildlife and Plants; Revised Critical Habitat for the Preble's Meadow Jumping Mouse in Colorado, 12/5/2010, Table 2, <https://www.federalregister.gov/documents/2010/12/15/2010-30571/endangered-and-threatened-wildlife-and-plants-revised-critical-habitat-for-the-prebles-meadow>, accessed 5/19/25.

individual not theoretical species must be demonstrated. This could include using direct physical evidence of death or injury (e.g. with a body, blood, feathers, egg shells), or at the least direct evidence that the species allegedly suffering the harm was at the site where the harm allegedly occurred (e.g. photo documentation, eDNA, tracks, scat, a fresh nest), and direct evidence that the killing or injury was demonstrably caused by the action not simply the product of a theoretical chain of events.

Rob Gordon
Advisor to CFACT