

Defining Habitat in the Endangered Species Act

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The Supreme Court's opinion in *Weyerhaeuser Co. v. United States Fish and Wildlife Service*, 139 S. Ct. 361 (2018), raises important questions about the scope of the Endangered Species Act's (ESA) protections for critical habitat. In a short ruling, the Court opined that "critical habitat" must be "habitat," but it did not attempt to define "habitat" as a scientific or legal matter. Here we provide a brief scientific and legal analysis and propose a definition of "habitat" that the Services could adopt to address this gap.

When Congress passed the ESA in 1973, it was acutely aware that stemming the loss of biodiversity required more than protecting individual animals and plants: it also required protecting habitat from destruction or adverse modification. To that end, the ESA's purpose is not only to address actions directed at species themselves – such as hunting and trade – but also to "provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved." 16 U.S.C. § 1531(b). Habitat protection is thus elemental to the ESA's statutory scheme. *See, e.g.*, 16 U.S.C. § 1533(a)(3)(A)(i) (requiring, when possible, designation of critical habitat at the time of listing); § 1534 (providing for land conservation); § 1536(a)(2) (prohibiting destruction or adverse modification of critical habitat); § 1538 (prohibiting "harm" to a listed species, which has been defined by the Services as including destruction of habitat that kills or injures wildlife by impairing essential behavioral patterns); § 1539 (providing for habitat conservation plans).

How habitat is defined thus has serious implications for species conservation. A definition that is too narrow and excludes degraded but restorable habitat, or areas that are likely to become habitat in the foreseeable future, could leave species without protections for areas they will need to be conserved. Such exclusion would be inconsistent with the purpose – and legal requirements – of the ESA. In the wake of the recent report on the accelerating loss of biodiversity in the United States and across the globe due largely to habitat loss (IPBES 2019), how and where we protect habitat is vital to preventing extinction and ensuring the long-term security of species.

Ecological Background

Though the term "habitat" has been used in various ways, correct biological definitions "all include the specific resources and conditions in an area that produce occupancy" (Krausman 1999). Incorrect use of the term can lead to misinterpretation of scientific findings and ineffective identification and prioritization of protected areas (Kirk et al. 2018). In one highly-cited paper, Hall et al. (1997) call for a standardized definition of habitat, offering their definition as "the resources and conditions present in an area that produce occupancy – including survival and reproduction – by a given organism," and noting that defining a specific habitat is highly species-dependent. Hall et al. (1997) also note specifically that "'unused' and 'unoccupied' habitat are not synonymous with 'non-habitat,'" and that such terms are appropriate when discussing threatened, endangered, or rare species who might use such unoccupied areas given the opportunity. Habitat important for conservation can include a wide variety of space and resource configurations, including areas that are marginal or of low quality (Vanbianchi et al. 2018), stopover habitats that are occupied temporarily or sporadically such as during migration (Sheehy et al. 2011), and artificial or built habitats (Wright et al. 2012).

Legal Background

The goal of the ESA is to conserve imperiled species. The ESA defines "conservation" as "the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary." As the Supreme Court

noted in *Tennessee Valley Authority v. Hill*, the “plain intent of Congress in enacting [the ESA] was to halt and reverse the trend towards species extinction, whatever the cost.” 437 U.S. 153, 184-85 (1978). Any definition of habitat adopted by the Services must therefore further that conservation goal.

The ESA explicitly recognizes both occupied and unoccupied critical habitat. Occupied critical habitat is defined as “the specific areas within the geographical area occupied by the species, at the time it is listed . . . on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management consideration or protection.” *Id.* § 1532(5)(A)(i) (emphasis added). By contrast, the definition of unoccupied critical habitat includes the “specific areas outside the geographical area occupied by the species at the time it is listed . . . upon a determination by the Secretary that such areas are essential for the conservation of the species.” *Id.* § 1532(5)(A)(ii) (emphasis added). Notably, Congress’s definition of unoccupied critical habitat specifically omits the requirement that such habitat possess the “physical or biological features” essential to species conservation and, instead, requires only that the Service make a “determination . . . that such areas are essential for the conservation [i.e., recovery] of the species.” *Compare* 16 U.S.C. § 1532(5)(A)(i) *with* 16 U.S.C. § 1532(5)(A)(ii). Any definition of habitat must accommodate both occupied and unoccupied habitat scenarios.

Definition

We recommend a definition that reflects the best available science, is consistent with the intent of the ESA, and is broad enough to account for species’ needs:

“Habitat” is the area or type of site where a species naturally occurs or depends on directly or indirectly to carry out its life processes, or where a species formerly occurred or has the potential to occur and carry out its life processes in the foreseeable future.

This definition is consistent with habitat definitions from the scientific literature, and it accommodates existing regulatory definitions and key concepts essential to implementing the ESA. It is separate from but complimentary to the ESA’s definition of “critical habitat.” The proposed definition has the following features:

- It is centered on identifying areas of interest that can be mapped, not just a list of associations of factors a species needs, such as temperature regimes (i.e., more than just a list of the “physical and biological features”).
- The proposed definition accounts for areas of currently occupied or unoccupied habitat, consistent with the definition of critical habitat in the ESA.
- It recognizes that because of material and energy flows in real ecosystems, areas that indirectly contribute to a species’ life processes are part of habitat.
- It includes a temporal component. Definitions of habitat in the literature do not include a temporal restriction, but critical habitat must be considered at least to the horizon of the foreseeable future because these areas are “essential to the conservation of the species,” that is, to recovery. The proposed definition admits the temporal component by allowing for “the potential to occur.”

As the Supreme Court noted, “‘critical habitat’ is the subset of ‘habitat’ that is ‘critical’ to the conservation of an endangered species.” 139 S. Ct. at 368. Our proposed definition of “habitat” is broad enough to encompass areas where a species currently lives, areas that species depend upon for portions of their lifecycle, areas that could presently support reintroduction, areas that could reasonably be restored or could be expected to support range expansion in the future, and places that provide essential nutrients or services to such areas. This gives the Service the flexibility needed to determine specifically what portions of a species’ range (current, historic, or potential) are in fact “critical” and require designation as critical habitat.

References

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