

Survey Protocol Me Maybe: Why Survey Protocols Will Help Better Determine the Presence or Absence of Endangered Species

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Determining whether or not a species occupies a given area for the purposes of issuing incidental take permits or for critical habitat designations is no simple task, and the United States Fish & Wildlife Service and the National Marine Fisheries Service have struggled with creating an adequate solution. One method of dealing with this, which has been the center of at least one lawsuit, is with the creation of standardized survey protocols.

The Endangered Species Act does not define the term “occupied,” which leads to unpredictable critical habitat determinations on an ad hoc basis, particularly vulnerable to the exploitation by partisan surveyors. The implementation of standardized survey protocols could alleviate these difficulties, promoting accurate surveys while minimizing over-inclusive designations causing economic harm to regulated parties.

The Fish & Wildlife Service has previously been sued over the implementation of survey protocols, but, because the protocols were only recommended, the courts never had the chance to examine their validity. The great deference afforded to administrative agencies, particularly with regards to an agency’s scientific expertise and the Act’s “best available science” mandate, would likely give the services the authority to mandate standardized survey protocols, provided that the proper notice and comment procedures were followed.

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I. INTRODUCTION

Determining whether a species is present or absent in a given area for the purposes of the Endangered Species Act (ESA) is more challenging than one might realize. This difficulty has caused the United States Fish & Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) of the National Oceanic and Atmospheric Administration (NOAA) (hereinafter “the Services”) to struggle with solutions. One promising method to deal with this would be the implementation of standardized survey protocols, which researchers could use to simplify their presence or absence determinations during critical habitat designations.

This article examines both the necessity for and the validity of standardized survey protocols. I begin with a brief background on the relevant portions of the ESA and describe how courts have interpreted the term “occupied” in this context. I then analyze problems in the absence of survey protocols and potential

benefits from their implementation. Finally, I examine the legal validity of the Services mandating such protocols given the ESA's best available science mandate.

A. *The Definition of "Occupied" and the Need for Survey Protocols*

Concurrently with listing a species as "endangered" or "threatened" under section 4 of the Endangered Species Act, the Services are obliged to designate the habitat of such species as "critical habitat."¹ The ESA defines "critical habitat" as "the specific areas within the geographical area *occupied* by the species" that contain biological features "(I) essential to the conservation of the species and (II) which may require special management considerations or protection. . . ."² Additionally, "upon a determination by the Secretary that such areas are essential for the conservation of the species," the Services may also designate "specific areas outside the geographical area *occupied* by the species at the time it is listed" as "critical habitat."³ The term "occupied" is ambiguous and has been the point of contention in at least one instance of critical habitat designation.⁴ Determining what constitutes "occupied" habitat is less intuitive than one might think. The importance of critical habitat designation is that section 7 of the ESA requires federal agencies to consult with the Services before taking any action that could affect any listed species or its critical habitat.⁵

Thus, before making a critical habitat designation, the Services must decide if the land in question is occupied by a given endangered species;⁶ designating unoccupied land as critical habitat is statutorily more onerous.⁷ The ESA defines critical habitat as including "specific areas outside the geographical area occupied by the species"⁸ but does not otherwise define "occupied," leaving the definition up to the agency's reasonable interpretation.⁹ The Services have not issued any regulation defining the term "occupied," retaining flexibility to

¹ 16 U.S.C. § 1533(a)(3).

² 16 U.S.C. § 1532(5)(A) (emphasis added).

³ *Id.* (emphasis added).

⁴ *Ariz. Cattle Growers' Ass'n v. Salazar*, 606 F.3d 1160, 1164-65 (9th Cir. 2010) (finding that the term "occupied," as used in the ESA, is ambiguous, and giving deference to the FWS's definition of the term, which is not limited to areas in which a species resides; noting that a similar construction of "occupied" also appears in the FWS's Endangered Species Consultation Handbook).

⁵ 16 U.S.C. § 1536(a)(2).

⁶ *Cape Hatteras Access Pres. Alliance v. U.S. Dept. of Interior*, 344 F. Supp. 2d 108, 122 (D.D.C. 2004).

⁷ *Ariz. Cattle Growers' Ass'n v. Kempthorne*, 534 F. Supp. 2d 1013, 1028 (D. Ariz. 2008), *aff'd sub nom. Ariz. Cattle Growers' Ass'n v. Salazar*, 606 F.3d 1160 (9th Cir. 2010).

⁸ 16 U.S.C. § 1532(5)(A).

⁹ *Salazar*, 606 F.3d at 1163; *Cape Hatteras*, 344 F. Supp. 2d at 119 (citing *Chevron v. Natural Res. Def. Council*, 467 U.S. 837, 842 (1984)).

define the term on a species-by-species basis should the need arise.¹⁰ This flexibility allows the word “occupied” to encompass more than a species’ mere residence: it can broadly be interpreted to include as much as its entire home range,¹¹ which may be necessary for its protection. How the Services interpret the word in a given situation can depend on a number of factors, including the species’ migration habits and mobility.¹² Because of the Services’ perceived expertise, courts are reluctant to second-guess such an interpretation.¹³

This broad agency discretion, unsurprisingly, has resulted in tension between the regulator and the regulated.¹⁴ Ultimately, this flexibility allows the Services to designate areas where a species is “likely to occur” as being “occupied.”¹⁵ The only clear limitation on this discretion appears to be the distinction the ESA draws between occupied and unoccupied areas.¹⁶ So long as the Services do not define an area as “occupied” simply because it is suitable for future occupancy, the Services’ designation will likely be upheld.¹⁷ While this flexibility is convenient for the Services, it makes their designations more difficult to predict, as there are no clear standards. With the significant economic impacts of critical habitat designation,¹⁸ such unpredictability may displease private actors. The Services have helped ease this lack of clarity with the creation of “Primary Constituent Elements” (PCEs). Still, as will be discussed later, PCEs are helpful—but not sufficient—for the predictable designation of critical habitat.

Implementing standardized survey protocols could help rectify this unpredictability. Survey protocols would be composed of a formalized set of instructions and parameters for researchers to use when determining the presence or absence of a species in a given area, which would remove much of the unpredictable “human element” from surveys. Allowing presence/absence determinations to be made on an ad hoc basis is simply too capricious given the massive importance and effects of the ESA.

B. Background on the Endangered Species Act

Enacted by the U.S. Congress in 1973, the Endangered Species Act embodies the legislature’s recognition that “various species of fish, wildlife, and plants”

¹⁰ *Cape Hatteras*, 344 F. Supp. 2d at 119-20.

¹¹ *Salazar*, 606 F.3d at 1164.

¹² *Id.*

¹³ *See id.* at 1165.

¹⁴ *Cf. id.*

¹⁵ *Ariz. Cattle Growers’ Ass’n v. Kempthorne*, 534 F. Supp. 2d 1013, 1029 (D. Ariz. 2008), *aff’d sub nom. Ariz. Cattle Growers’ Ass’n v. Salazar*, 606 F.3d 1160. (9th Cir. 2010).

¹⁶ *See Salazar*, 606 F.3d at 1163.

¹⁷ *See id.* at 1167.

¹⁸ *See generally Kempthorne*, 534 F. Supp. 2d 1013 (where plaintiffs fought vigorously over the consideration of a critical habitat designation’s economic impacts).

have been extinguished as a result of unrestrained economic growth and development.¹⁹ Some believe that the ESA is an attempt to balance species conservation with previously-lacking restraints on economic development. While this balance originally tilted heavily in favor of species conservation, recent regulations, amendments, and judicial opinions have begun to level out this inequality.²⁰ According to the Supreme Court, Congress has made it “abundantly clear that the balance has been struck in favor of affording endangered species the highest of priorities.”²¹ It is up to both the FWS and the NMFS of NOAA to implement the ESA, though most listed species fall within the purview of the FWS.²² Throughout this article, I refer to both services collectively as “the Services.”

Section 9 of the ESA sets out prohibited acts, punishable under section 11.²³ One of those prohibited acts is to “take” any species listed as endangered under section 4.²⁴ The Act defines “take” as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”²⁵ “Taking” also includes “significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.”²⁶ While it is generally unlawful to deliberately “take” a listed species, section 10 provides some exceptions, notably the Incidental Take Permit (ITP) that may be issued by the Services after the submission and approval of a Habitat Conservation Plan (HCP).²⁷ The HCP provides the Services with details of the activity and the proposed measures that will be taken to mitigate harm to the endangered species.²⁸

When reviewing an ITP application and its HCP, the Services complete an “internal consultation” whereby one unit consults with another within the same “agency.”²⁹ During this consultation, a “biological assessment” of the proposed

¹⁹ See generally 16 U.S.C. §§ 1531-1544 (2006).

²⁰ See LAWRENCE R. LIEBESMAN & RAFAEL PETERSEN, *ENDANGERED SPECIES DESKBOOK* 1 (Environmental Law Institute ed., 2d ed. 2010).

²¹ *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 194 (1978).

²² Holly Doremus, *The Purposes, Effects, and Future of the Endangered Species Act's Best Available Science Mandate*, 34 ENVTL. L. 397, 401 (2004).

²³ 16 U.S.C. § 1538.

²⁴ 16 U.S.C. § 1538(a)(1)(B).

²⁵ 16 U.S.C. § 1532(19).

²⁶ 50 C.F.R. § 17.3 (2012).

²⁷ See 16 U.S.C. 1539 (an incidental take permit may be issued if, after public comment on the habitat conservation plan, that the taking will be i) incidental; ii) the applicant will minimize harm to “the maximum extent practicable;” iii) the conservation plan will be adequately funded; iv) “the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild;” and v) any measures also required by the Secretary will be taken).

²⁸ *Id.*

²⁹ 16 U.S.C. § 1536(a)(2).

action's potential impacts is conducted.³⁰ Depending upon the results of this assessment, a "Biological Opinion" (BiOp)³¹ "as to whether the action, taken together with cumulative effects, is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat" may be required.³² If the Services' BiOp concludes that the proposed action will not jeopardize a listed species or adversely affect its critical habitat but will likely result in an incidental taking, the Services must issue an Incidental Take Statement (ITS).³³ The ITS's primary purpose is to authorize the taking of a listed endangered species.³⁴

C. Best Available Science

Agencies are obligated to discharge all of their duties under the ESA "solely on the basis of the best scientific and commercial data available."³⁵ The ESA itself also calls for the best scientific data available in a number of its provisions: e.g., listing determinations, critical habitat designation, and citizen petitions.³⁶ Not one of these, however, requires scientific certainty—only the use of the best science available.³⁷ This is an important distinction, as the scientific method's purpose is rejecting falsifiable null hypotheses to some predetermined confidence interval; there is no "proving" in the sense of absolutes. A set of data can either be used to reject an idea (e.g. the idea that a certain species is not present in a given area can be *rejected* by the discovery of the species in that area) or it can be used to *fail to reject* an idea (e.g. the idea that a certain species is not present in a given area is not necessarily rejected by the non-discovery of the species in that area; the idea has simply failed to be rejected). Additionally, not all scientific conclusions are created equal, as they can vary based upon confidence intervals. For example, if the gathered data suggests a conclusion with 95% certainty, this means that there is a 5% chance the result was incorrect and the data aligned that particular way as a matter of chance. This can be better demonstrated with a thought experiment: imagine surveying a forest for red

³⁰ 16 U.S.C. § 1536(c); 50 C.F.R. § 402.12(a).

³¹ 16 U.S.C. § 1536(b). (a formal consultation, requiring a Biological Opinion, is only necessary if the proposed agency action is *likely to adversely affect* a listed species; if the agency action *may affect* a listed species, only an informal consultation, not requiring a Biological Opinion, is necessary); 50 C.F.R. § 402.13; 50 C.F.R. § 402.14.

³² 50 C.F.R. § 402.14(g)(4).

³³ *Or. Natural Res. Council v. Allen*, 476 F.3d 1031, 1034 (9th Cir. 2007) (citing 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(i); *Arizona Cattle Growers' Ass'n v. U.S. Fish & Wildlife, Bureau of Land Mgmt.*, 273 F.3d 1229, 1242 (9th Cir. 2001)).

³⁴ *Id.* at 1034.

³⁵ *Trout Unlimited v. Lohn*, 645 F. Supp. 2d 929, 949 (D. Or. 2007) (quoting 15 USC § 1533(b)(1)(A)).

³⁶ *Doremus*, *supra* note 22, at 406-07.

³⁷ *Trout Unlimited*, 645 F. Supp. 2d at 949.

squirrels for six months and not observing a single red squirrel. You may be able to conclude, based upon your survey methodology, that there is a 99% chance you observed no red squirrels because they are not present in this forest. You did not prove the absence of red squirrels in this forest, though.³⁸ There is some chance, however unlikely, that on your way back to your camp to prepare your report, a red squirrel will dart across your path, and that you simply missed them before by chance alone. This illustrates the inherent problem with any research: the absence of evidence is not equivalent to evidence of absence; the best a researcher can strive for is a high confidence interval.

If a researcher's methodology is not conducted with a high enough confidence interval, the chances of a resulting type I or a type II error will be greatly increased. A type I error is better known as a "false positive." In the context of an environmental survey, one way this could occur is if a researcher incorrectly concludes that a species is present in a given area. Conversely, a type II error would occur when a researcher improperly fails to reject the null hypothesis, mistakenly concluding that a species is not present in a given area. Either one of these errors can cause the incorrect designation of critical habitat. A type II error, in particular, runs the risk of precluding a designation entirely. By using standardized survey protocols as a means of economizing on scientific data, the Services could ensure adequate confidence intervals and survey methodologies to minimize the risk of these errors.

Determining the presence or absence of a species in a given area is not always as straightforward as in the earlier example, which involved sitting in the forest, watching for squirrels. A species may be more elusive, there may not be enough time to sit around waiting, or there may be a myriad of other technical limitations leading to data that is merely equivocal.³⁹ A dwindling species, in particular, may be especially difficult to detect.⁴⁰ Science is no stranger to uncertainty; as such, "[u]ncertainty is endemic in the ESA context."⁴¹ Additionally, the ESA does not mandate a specific confidence interval required for decision-making.⁴² With the importance of ESA decisions, the lack of standardization of what constitutes "the best available science," the possible difficulties in determining the presence of an endangered species, and the societal "hunger for objective, rule-based decision making . . . especially when

³⁸ See, e.g., *Envtl. Prot. Info. Ctr., Inc. v. Pac. Lumber Co.*, 67 F. Supp. 2d 1090, 1097 (N.D. Cal. 1999) (discussing the particular difficulties of establishing the presence or absence of the coho salmon, the court explained "if coho are observed, then their presence is conclusively established; however, if coho are not observed, then one can only state that no coho were observable"), *vacated*, 257 F.3d 1071 (9th Cir. 2001).

³⁹ See *Doremus*, *supra* note 22, at 438-39.

⁴⁰ See *id.* at 440.

⁴¹ *Id.* at 438-39.

⁴² *Id.* at 439.

pit[ing] human interests against those of another species,”⁴³ it may be valuable for the Services to implement surveying protocols standardizing the determination of the presence or absence of a species in a given area.

D. Purpose

Before an agency takes any action, including a biological assessment, it must first determine if any threatened or endangered species are present in the area.⁴⁴ As stated earlier, this can present some challenges. One way these challenges have been dealt with is the standardization of survey methodologies. The EPA did just this when it formulated survey protocols for the quino checkerspot butterfly, as seen in *National Ass’n of Home Builders v. Norton (NAHB)*.⁴⁵ In *NAHB*, appellants attempted to challenge the validity of survey protocols set by the FWS.⁴⁶ But this challenge never made it out of the gate, as the protocols in question were not subject to judicial review because they were merely “recommended,” and did not determine “the rights or obligations of landowners;” they were without legal consequence.⁴⁷ This result raises an important question: if the Services decide to mandate similar survey protocols in the future, will their validity be upheld when they are inevitably challenged? In this paper, I will examine the legal issues surrounding survey protocols, including the problems in their absence and their potential validity if mandated.

II. PROBLEMS IN THE ABSENCE OF ADEQUATE SURVEY METHODOLOGY

A. Lack of Specificity in Primary Constituent Elements

Similar to survey protocols are “primary constituent elements” (PCEs), designated by the Services to be focused upon during critical habitat designation.⁴⁸ PCEs are features in areas that are “essential to the conservation of a species.” Examples include “roost sites, nesting grounds, spawning sites, feeding sites, seasonal wetland or dryland, water quality or quantity, host species or plant pollinator, geological formation, vegetation type, tide, and specific soil types.”⁴⁹ In order to be designated as critical habitat, PCEs must be discovered

⁴³ *Id.* at 399.

⁴⁴ *See Pac. Coast Fed’n of Fishermen’s Associations v. U.S. Bureau of Reclamation*, 426 F.3d 1082, 1085 (9th Cir. 2005).

⁴⁵ *See Nat’l Ass’n of Home Builders v. Norton*, 415 F.3d 8 (D.C. Cir. 2005).

⁴⁶ *Id.* at 9.

⁴⁷ *Id.* at 14.

⁴⁸ *See* 50 C.F.R. § 424.12(b) (2012).

⁴⁹ *Id.* (“[T]he Service uses the term “primary constituent elements” to describe those physical or biological features that are considered ‘essential to the conservation of the species,’ as that phrase is used in 16 U.S.C. section 1532(5)(A)(i).”); *Home Builders Ass’n of N. Cal. v. U.S. Fish & Wildlife Serv.*, 268 F. Supp. 2d 1197, 1209 (E.D. Cal. 2003).

on occupied land.⁵⁰ While the ESA itself defines critical habitat as containing “those physical or biological features essential to the conservation of the species,” the Services have interpreted that with the phrase “Primary Constituent Elements.”⁵¹ The careful enumeration of PCEs is especially important, as critical habitat designations can be overturned for lacking specificity.⁵²

Without properly defined PCEs, there is no way of knowing if a critical habitat designation comports with the ESA.⁵³ In *Home Builders Association of Northern California*, this failure to comport created a number of problems. First, there was confusion on which biological features were even essential to the conservation of the species.⁵⁴ Second, the lack of sufficient detail caused a failure to exclude areas that were unlikely to contribute to the conservation of the target species during critical habitat designation.⁵⁵ Third, ambiguous PCEs made it impossible for the Service to articulate “a reasonable connection between the facts found and the choice made [to designate critical habitat].”⁵⁶ Fourth, the uncertainty in the PCEs made designating the land as “occupied” into an abuse of discretion, as such uncertainty rendered the record void of supporting facts.⁵⁷ Finally, the lack of clear PCEs was a result of the Service failing to consider the “best scientific data available.”⁵⁸

In *Middle Rio Grande Conservancy District*, another case in which the FWS determined insufficient PCEs, the court noted that if the Service was acting on the “best scientific data available,” it should have been able to specify sufficient PCEs.⁵⁹ These broad PCEs allowed the Service to minimize the need to examine any portion of the species’ habitat, as they were so generic, they potentially encompassed “the entirety of the Middle Rio Grande.”⁶⁰ Such vague PCEs are over-inclusive and can have “dramatic and unavoidably negative economic consequences.”⁶¹ The district court recognized that, even though setting specific PCEs could be “painstaking,” it is required by both the law and the severe economic consequences of the alternative.⁶²

⁵⁰ *Cape Hatteras v. U.S. Dept. of Interior*, 344 F. Supp. 2d 108, 122 (2004).

⁵¹ *Home Builders Ass’n*, 268 F. Supp. 2d at 1209.

⁵² *Doremus*, *supra* note 22, at 441 (citing *Home Builders Ass’n*, 268 F. Supp. 2d 1197 and *Middle Rio Grande Conservancy District v. Babbitt*, 206 F. Supp. 2d 1156 (D. N.M. 2000)).

⁵³ *See Home Builders Ass’n*, 268 F. Supp. 2d at 1211.

⁵⁴ *Id.* at 1209.

⁵⁵ *Id.* at 1214.

⁵⁶ *Id.* at 1217-18.

⁵⁷ *Id.* at 1222.

⁵⁸ *See id.* at 1223-24.

⁵⁹ *Middle Rio Grande Conservancy Dist. v. Babbitt*, 206 F. Supp. 2d 1156, 1184-85 (D.N.M. 2000), *aff’d sub nom.* *Middle Rio Grande Conservancy Dist. v. Norton*, 294 F.3d 1220 (10th Cir. 2002).

⁶⁰ *Id.* at 1185.

⁶¹ *See id.* at 1186.

⁶² *Id.* at 1186-87.

The specificity required for PCEs when designating critical habitats demonstrates the clear importance of accurately determining the presence of a species as best as possible. Similarly, sufficient survey protocols, though not required by law like PCEs, can help accomplish the same goals, helping to avoid the negative consequences of presence/absence designations being over or under inclusive.

B. The Importance of Adequate Survey Protocols for Incidental Take Permits

This next case demonstrates the importance of having and following adequate survey protocols while reminding us of the inevitable problems with allowing the regulated industries to conduct those protocols. In *Marbled Murrelet (Brachyramphus Marmoratus) v. Pacific Lumber Co.*, while following a set of reliable survey protocols, the Pacific Lumber Company understated the importance of marbled murrelet sightings while surveying.⁶³ Pacific Lumber owned and wanted to harvest trees from a particular piece of forest referred to as “THP-273.”⁶⁴

In April of 1990, The California Department of Forestry denied a harvest proposal, as it did not contain sufficient mitigation measures under CESA,⁶⁵ California’s analogue to the Federal ESA. In August 1991, Pacific Lumber conducted its own marbled murrelet surveys with an unclear methodology.⁶⁶ Pacific Lumber’s resident expert apparently observed and then heard what he believed to be a marbled murrelet flying ten feet above his head in THP-273, but noted that these observations could not be confirmed detections.⁶⁷

Again, in August 1990, Pacific Lumber conducted marbled murrelet surveys according to their own unclear methodology.⁶⁸ It consisted of four, two-hour surveys at four different stations in THP-273. “Pacific Lumber’s employees” conducted these surveys and, apparently, made no detections.⁶⁹

Finally, in 1992, The California Board of Forestry overturned the denial by the Department of Forestry and granted Pacific Lumber a permit to harvest old-growth trees on THP-273, provided that it first surveyed the area for marbled murrelets in accordance with the “PSG Protocol,” set by a professional scientific organization, and then shared its result to ensure no “take” would occur.⁷⁰ The PSG Protocol was infinitely more complex than what Pacific Lumber had been

⁶³ *Marbled Murrelet v. Pac. Lumber Co.*, 880 F. Supp. 1343, 1365 (N.D. Cal. 1995), *aff’d sub nom.* *Marbled Murrelet v. Babbitt*, 83 F.3d 1060 (9th Cir. 1996).

⁶⁴ *Id.* at 1344.

⁶⁵ *Id.* at 1349; *see* CAL. FISH & GAME CODE § 2081(b)(2) (West 2012).

⁶⁶ *Id.* at 1353.

⁶⁷ *Id.*

⁶⁸ *See id.*

⁶⁹ *Id.*

⁷⁰ *Id.* at 1350.

doing in the past: the PSG Protocol set out a number of requirements for survey stations, including locations based on a number of factors, including canopy coverage and proximity to roads.⁷¹ It even specified the sort of weather in which the surveyors should work and peak times for expecting detection, requiring surveys at regular intervals throughout the breeding season.⁷² In addition, it explicitly defined which observations constituted detections and required that all surveyors be certified by a training process approved by the state.⁷³ The PSG Protocol's creators recognized that marbled murrelets are difficult to detect and found that their presence could be determined with a single observation of "occupied behavior" over the course of two consecutive years.⁷⁴

Unfortunately, when conducting surveys in 1992-1994, Pacific Lumber did not properly follow the PSG Protocol, misclassifying nearly 100 detections that the PSG Protocol deemed "occupied behavior."⁷⁵ In fact, the court went as far as saying Pacific Lumber's surveys were either "designed to fail" or "were administered with indifference."⁷⁶

The difference in methodologies between Pacific Lumber's surveying technique and the PSG Protocol demonstrates the necessity of required, adequate survey protocols. There is little incentive for an industry to create its own thorough survey protocol when the detection of a listed species threatens its own economic gain. Expecting a business to actively work against itself is counter-intuitive. This also demonstrates the importance of having surveys conducted by impartial, independent third parties. In *Pacific Lumber*, the surveyors were essentially Pacific Lumber employees, answering directly to an entity that stood to gain from the endangered species non-discovery.⁷⁷ At worst, they are incentivized to falsify results. At best, they have little incentive to perform a thorough survey.

C. Different Qualities of Survey Methodologies

As touched upon in the introduction, because of the complex nature of ecosystems and species behavioral patterns, some species are more difficult to survey for than others. In *Environmental Protection Information Center, Inc. v. Pacific Lumber Co.* (whom I will refer to as PALCO to avoid confusion with the case in the previous section, also dealing with Pacific Lumber), PALCO entered into an agreement with California and the federal government, wherein PALCO had to write and submit an ITP application which, if granted, would allow

⁷¹ *Id.* at 1351-52.

⁷² *Id.*

⁷³ *Id.*

⁷⁴ *Id.* at 1353.

⁷⁵ *Id.* at 1365.

⁷⁶ *Id.* at 1362.

⁷⁷ *Id.* at 1361.

PALCO to harvest timber from particular forests.⁷⁸ These forests contained rivers and streams that were home to the coho salmon, an endangered and elusive anadromous fish.⁷⁹ Harvesting timber could affect the cohos' water quality, making it difficult for the coho to find food, affecting their chance of survival.⁸⁰ Coho population distributions are unusual in that they may be absent from an area for as many as fifteen years before reestablishing a colony, which makes their absence or presence difficult to establish; noting their apparent absence can only mean that they are not there at that moment.⁸¹

An expert for PALCO described himself as particularly fond of a survey methodology known as "electrofishing," which he and the court categorized as more accurate than alternatives. Electrofishing "involves placing into the water a small electrical current towards which fish are attracted and then stunned with Alka Seltzer."⁸² Defendant PALCO commissioned a campaign of electrofishing surveys in an area known as the Bear Creek drainage, none of which detected the presence of any coho.⁸³ The plaintiff in this suit also conducted surveys in the Bear Creek drainage.⁸⁴ The plaintiff enlisted a knowledgeable undergraduate who was studying a number of relevant fields (although less experienced than PALCO's surveyors) and preferred a visual observation survey methodology.⁸⁵ Plaintiff's surveys produced wildly different results, noting several coho and some dubious water temperatures.⁸⁶ One of these surveys was even taken immediately after one of PALCO's electrofishing surveyors had left.⁸⁷ Plaintiff was unable to explain how two surveys, conducted contiguously, produced opposite results.⁸⁸ The parties reached similarly contrasting survey results in the Mattole River Watershed.⁸⁹

This battle of the experts left the court to weigh the surveyors' credibility and look into the historical coho presence in the area.⁹⁰ While fact-finding is certainly the province of the court, having such different survey methodologies with wildly contrasting results is less than ideal. In an administrative law context, when there is a battle of the experts, courts normally defer to the

⁷⁸ *Env'tl. Prot. Info. Ctr., Inc. v. Pac. Lumber Co.*, 67 F. Supp. 2d 1090, 1094 (N.D. Cal. 1999), *vacated*, 257 F.3d 1071 (9th Cir. 2001).

⁷⁹ *Id.* at 1096.

⁸⁰ *Id.*

⁸¹ *Id.* at 1097.

⁸² *Id.* at 1098.

⁸³ *Id.* at 1098-99.

⁸⁴ *Id.* at 1099.

⁸⁵ *Id.*

⁸⁶ *Id.* at 1098-99.

⁸⁷ *Id.*

⁸⁸ *Id.* at 1100.

⁸⁹ *Id.* at 1101-02.

⁹⁰ *Id.* at 1102-03.

agency's experts, who are presumed to have the requisite knowledge and skill.⁹¹ In a suit involving two non-governmental entities, a court, normally composed of *legal* experts, is left deciding which scientist is more reliable. Deciding which survey protocols are the best is the type of decision that belongs in a laboratory, not the court. For this reason, having either the FWS or the NMFS establish protocols whenever possible makes sense. This takes the battle out of the courtroom and puts it into the hands of subject-matter experts.

D. Benefits of Setting Survey Protocols

In addition to having expert agencies decide which protocols are the best, having the Services designate survey protocols for each species provides a resource for landowners in determining whether or not a particular endangered species is present on their property. According to the FWS in *NAHB v. Norton*, "knowing how to survey land as accurately as possible" helps landowners decide whether or not their activities constitute a "take" and could help them in preparing an HCP, should they choose to apply for an ITP.⁹² Given the varying quality of surveys, exemplified in the PALCO case, issuing protocols for landowners to use in surveying their land for an endangered species is a reasonable measure. If these protocols are derived appropriately from a group of subject-matter experts and constitute "the best available science," they could even become a default standard for courts when presented with conflicting expert testimony.

III. VALIDITY OF MANDATING SURVEY PROTOCOLS

A. Direct Attempts to set protocols

In *NAHB v. Norton*, the FWS promulgated a set of survey protocols that provided a methodology for the detection of the endangered quino checkerspot butterfly.⁹³ These protocols, initially published several months after listing the butterfly (and revised a year later based on information from public workshops), never went through formal notice and comment,⁹⁴ making them an obvious target for litigation. While these protocols warned that any surveys "may not be considered valid" if their methods are not followed, the D.C. Circuit held that

⁹¹ See *Defenders of Wildlife v. Babbitt*, 958 F. Supp. 670, 679 (D.D.C. 1997) (citing *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 377 (1989)); see *New York v. Reilly*, 969 F.2d 1147, 1150 (D.C. Cir. 1992) ("We are particularly deferential when reviewing agency actions involving policy decisions based on uncertain technical information.").

⁹² *Nat'l Ass'n of Home Builders v. Norton*, 298 F. Supp. 2d 68, 73 (D.D.C. 2003), *aff'd*, 415 F.3d 8 (D.C. Cir. 2005).

⁹³ *Nat'l Ass'n of Home Builders v. Norton*, 415 F.3d 8, 9 (D.C. Cir. 2005).

⁹⁴ *Id.* at 11.

the protocols did not constitute “final agency action” because they were merely “recommended” and not mandated; they did not “determine the rights or obligations of landowners” and no legal consequences flowed from them.⁹⁵ As such, they were not subject to review by the court due to a want of jurisdiction.⁹⁶ Because of this, the court did not address the validity of setting these protocols, whether or not they required notice and comment, and whether or not they improperly shifted the burden of determining the presence/absence of the butterfly to individual landowners.

There have been instances unlike *NAHB*, where the FWS did hold formal notice and comment prior to publishing survey protocols. In 1998, the FWS published notice for, and opened comment on, survey protocols for the endangered cactus ferruginous pygmy-owl.⁹⁷ Similar to survey protocols, the FWS published notice for “Draft Karst Survey Guidance and Scientific Permit Requirements for Conducting Presence/Absence Surveys for Endangered Karst Invertebrates in Central Texas,” which “outlines methods to be used, information to be included in final reports, and minimum qualifications for personnel conducting presence/absence surveys for federally-listed endangered, terrestrial, karst invertebrate species.”⁹⁸ Although they chose to publish notice and open comment in this instance, it is unclear whether or not the FWS was actually required to do so.

B. Administrative Procedure Act (APA) Deference to Agencies

In any analysis of what agencies can or cannot do, the amount of deference courts afford to agencies is important to consider. When it comes to ambiguous (or nonexistent) statutory language, courts should defer to an agency’s permissible interpretation of that language.⁹⁹ In *Arizona Cattle Growers Ass’n v. Kempthorne*, the court applied this *Chevron* deference to the Service’s interpretation of the ambiguous statutory term “occupied” during critical habitat designation.¹⁰⁰ In this case, the Service interpreted the term “occupied” not only to include areas where the species in question was known to occur, but also

⁹⁵ *Id.* at 12, 14 (citations omitted).

⁹⁶ *Id.* at 12.

⁹⁷ Endangered and Threatened Wildlife and Plants; Notice of Availability of Protocol for Surveying for the Endangered Cactus Ferruginous Pygmy-Owl; Opening of Public Comment Period on Survey Protocol, 63 Fed. Reg. 43362-02, 43362-63, (Aug. 13, 1998) (to be codified at 50 CFR Part 17).

⁹⁸ Draft Karst Survey Guidance and Scientific Permit Requirements for Conducting Presence/Absence Surveys for Endangered Karst Invertebrates in Central Texas, 69 Fed. Reg. 17225-01, 17225-26 (proposed Apr. 1, 2004).

⁹⁹ *Chevron v. Natural Res. Def. Council*, 467 U.S. 837, 842-45 (1984).

¹⁰⁰ *Ariz. Cattle Growers’ Ass’n v. Kempthorne*, 534 F. Supp. 2d 1013, 1029 (D. Ariz. 2008), *aff’d sub nom. Ariz. Cattle Growers’ Ass’n v. Salazar*, 606 F.3d 1160 (9th Cir. 2010).

areas where that species was likely to occur.¹⁰¹ This deference demonstrates the considerable leeway given to the Services in deciding upon the presence or absence of a species in a given area. The Services need not worry if a court finds its methods unwise; to be upheld, their decisions need only be reasonable.¹⁰² As a natural extension to their ability to designate an area where a species is likely to occur as occupied, the Services may be able to further define “occupied” and “likely to occur” as requiring predetermined empirical data: that is, survey protocols. So long as such a determination was not unreasonable, a court should defer to the agency’s interpretation. After all, when Congress is silent on a matter (here, the definition of occupied), the *Chevron* doctrine presumes Congress delegated the authority of interpretation to the agencies.

An agency’s actions are similarly protected: a court may only set such an action aside if it is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law” or is “without observance of procedure required by law.”¹⁰³ This standard of review is deferential, presuming agency actions to be correct.¹⁰⁴ Additionally, a court may not substitute its own judgment for that of an agency.¹⁰⁵ This is not to say that courts will blindly accept anything an agency does; even in highly technical cases, courts will delve into a “substantial inquiry” into the facts, ensuring that the agency’s decision is “based on a consideration of the relevant factors.”¹⁰⁶

If the Services adopt survey protocols for a particular species, a reviewing court will need to decide if that adoption was arbitrary and capricious. As this is a highly technical area, this means that the agency needs to base such an adoption on scientific evidence.¹⁰⁷ A court does not need to agree with the agency’s interpretation of the scientific evidence, as a court is not supposed to assume the role of a scientist; it merely will ensure evidence was rationally relied upon.¹⁰⁸ This rational basis standard of review is lower than both the

¹⁰¹ *Id.*

¹⁰² *Id.* at 1030 (“While the approach taken by the Service may not be the one that this Court would have arrived at independently, *Chevron* precludes the Court from substituting its own judgment where the agency’s determination was reasonable.”).

¹⁰³ 5 U.S.C. §§ 706(2)(A), 706(2)(D) (2006).

¹⁰⁴ *See Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 415 (1971).

¹⁰⁵ *Id.* at 416.

¹⁰⁶ *Ethyl Corp. v. Env’tl. Prot. Agency*, 541 F.2d 1, 36 (D.C. Cir. 1976) (“The more technical the case, the more intensive must be the court’s effort to understand the evidence, for without an appropriate understanding of the case before it the court cannot properly perform its appellate function. But that function must be performed with conscientious awareness of its limited nature. The enforced education into the intricacies of the problem before the agency is not designed to enable the court to become a superagency that can supplant the agency’s expert decision-maker. To the contrary, the court must give due deference to the agency’s ability to rely on its own developed expertise.”).

¹⁰⁷ *See id.* at 35, 37.

¹⁰⁸ *Id.* at 37.

“preponderance of the evidence” and “substantial evidence” standards, making it extremely easy to meet.¹⁰⁹ In *Ethyl Corp. v. EPA*, the court acknowledged that the 10,000 pages of evidence relied upon could allow it to support almost any conclusion as rational.¹¹⁰ This does not mean the Services could draw a conclusion contrary to the evidence before it. An agency action is still subject to the *State Farm* “hard look” doctrine during arbitrary and capricious review:

[A]n agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, *offered an explanation for its decision that runs counter to the evidence before the agency*, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.¹¹¹

Provided that the Services decide to adopt survey protocols for the determination of a particular species’ presence or absence based on scientific data suggesting it would be beneficial to do so, the protocols’ adoption would likely be deemed rational under arbitrary and capricious review. However, if the Services only had data suggesting such protocols would be unhelpful or harmful, yet adopted them anyway, the adoption would likely be defeated under the *State Farm* “hard look” doctrine.

In *NAHB v. Norton*, the survey protocols for the quino checkerspot butterfly were created with the input from knowledgeable entomologists, biologists, and other data, including scientific literature.¹¹² While there was no public comment on these protocols (which was the basis for the lawsuit), the FWS solicited input from scientists and experts during a workshop.¹¹³ The FWS asserted that these protocols would help landowners “survey land as accurately as possible.”¹¹⁴ In that instance, the protocols were ostensibly beneficial. While it is difficult to imagine a set of facts where evidence-based survey protocols would hinder a presence/absence determination, stranger sets of facts have found their ways into court reporters.¹¹⁵

¹⁰⁹ *See id.*

¹¹⁰ *Id.* (“The record in this case is massive over 10,000 pages. Not surprisingly, evidence may be isolated that supports virtually any inference one might care to draw.”).

¹¹¹ *Farmers Union Cent. Exch., Inc. v. F.E.R.C.*, 734 F.2d 1486, 1500 (D.C. Cir. 1984) (emphasis added) (citing *Motor Vehicles Mfr. Ass’n v. State Farm Mutual Auto. Ins. Co.*, 463 U.S. 29, (1983)).

¹¹² *Nat’l Ass’n of Home Builders v. Norton*, 298 F. Supp. 2d 68, 72 (D.D.C. 2003), *aff’d*, 415 F.3d 8 (D.C. Cir. 2005).

¹¹³ *Id.*

¹¹⁴ *Id.* at 73.

¹¹⁵ *See, e.g., Zokhrabov v. Jeung-Hee Park*, 963 N.E.2d 1035, 1035 (Ill. App. Ct. 2011) (fifty-eight-year-old woman sues estate of decedent, killed by a train, after she was injured by his flying remains).

C. *Deference to Agencies' Scientific Judgment and the "Best Available Science"*

While the arbitrary and capricious standard of review for agency actions is already highly deferential, when an agency's scientific expertise is in question, the court must be "most deferential."¹¹⁶ Agency actions need not be supported with scientific certainty; they are free to interpret data as they see fit.¹¹⁷ This allows agencies to act based upon either conservative or liberal data interpretations, as long as "a reputable body of scientific thought" supports that data.¹¹⁸ This special, heightened deference enables judgments "on the frontiers of scientific knowledge," which can largely be based on policy reasoning.¹¹⁹

There are certainly limitations on the deference afforded to agencies' scientific judgments. Even if a decision is based in science, the presumption of agency expertise may be rebutted if a decision is not reasoned.¹²⁰ If the agency itself cannot rationally connect the science with its decision, a court may remand the case and require that a rational decision be made.¹²¹ This rational connection must also be articulable.¹²² Importantly, a court need only defer to an agency's expertise on the matter if an agency actually utilizes the analyses of its experts; that is, an agency may not merely publish conclusory assertions and attempt to claim the deference typically afforded to its purported scientific "expertise."¹²³ If an agency ignores and/or contradicts the analyses of its experts, its action can be set aside as arbitrary and capricious.¹²⁴

In order to avoid having their survey protocols defeated by aggrieved organizations, the Services should formulate and adopt survey protocols only after a proper analysis of expert reports and a reasoned, articulable explanation. Because this standard is so heavily tilted in favor of the Services, the scientific reasoning in favor of them need only be rational. If the Services' experts found new data suggesting that survey protocols may enhance the accuracy of presence/absence determinations, a court would not likely find the adoption of such protocols to be arbitrary and capricious.

¹¹⁶ *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 103 (1983).

¹¹⁷ *See, e.g., Indus. Union Dep't, AFL-CIO v. Am. Petroleum Inst.*, 448 U.S. 607, 656 (1980).

¹¹⁸ *Id.*

¹¹⁹ *Hercules, Inc. v. Envtl. Prot. Agency*, 598 F.2d 91, 106 (D.C. Cir. 1978) (citing *Indus. Union Dep't, AFL-CIO v. Hodgson*, 499 F.2d 467, 474-75 (1974)).

¹²⁰ *Defenders of Wildlife v. Babbitt*, 958 F. Supp. 670, 679 (D.D.C. 1997) (citing *ALLTEL Corp. v. FCC*, 838 F.2d 551, 562 (D.C.Cir.1988)).

¹²¹ *Id.*

¹²² *Id.*

¹²³ *Id.* at 685.

¹²⁴ *Id.*

D. Abrupt Reversal

One caveat to the deference that will be afforded to the Services should survey protocol adoption be challenged is the “abrupt reversal rule.” The abrupt reversal rule arises when an agency’s new interpretation conflicts with that agency’s earlier interpretation.¹²⁵ In such a case, the agency’s new, conflicting interpretation is entitled less deference than it would otherwise be entitled.¹²⁶ If the Services previously allowed a species’ presence or absence to be determined without the use of standardized survey protocols but then changed paths and decided to require them, their decision would be afforded less deference. This is not to say such a change in policy is entitled no deference; if the Services can show that their change in policy was “reasonable and that a reasonable rationale existed for the change,” it will still be afforded “some weight.”¹²⁷ How much weight “some weight” constitutes is unclear. More important is whether or not the adoption of survey protocols would even be inconsistent with previously not requiring such protocols be used. As the Services are required to regulate using the best available science, perhaps such a new requirement is indicative of new frontiers in science and is not inconsistent at all—removing the abrupt reversal rule from the analysis entirely. After all, it would be nonsensical to require the Services to regulate using the “best available science” while simultaneously applying the abrupt reversal rule to preclude the Services from keeping up-to-date with new scientific developments and methodologies.

E. Best Available Science

As previously stated in the introduction, agencies are obligated to discharge all of their duties under the ESA “solely on the basis of the best scientific and commercial data available.”¹²⁸ This standard does not require absolute scientific certainty, as applying the best available science does not always yield certainty.¹²⁹ Weak science is not fatal to an agency’s decision, so long as the decision made is reasonable in light of the data.¹³⁰ This standard is essentially about ensuring an agency does not ignore available scientific evidence that is superior to the evidence the agency based its decision on.¹³¹ That is, unless there is better, unused data, imperfect science will not violate the ESA;¹³² non-

¹²⁵ Nat’l Wildlife Fed’n v. Babbitt, 128 F. Supp. 2d 1274, 1300 (E.D. Cal. 2000).

¹²⁶ *Id.* (citing Idaho v. Clarke, 994 F.2d 1441, 1445 (9th Cir. 1993)).

¹²⁷ Idaho v. Clarke, 994 F.2d 1441, 1445 (9th Cir. 1993).

¹²⁸ Trout Unlimited v. Lohn, 645 F. Supp. 2d 929, 949 (D. Or. 2007) (quoting 15 USC § 1533(b)(1)(A)).

¹²⁹ *See id.*

¹³⁰ Greenpeace Action v. Franklin, 14 F.3d 1324, 1337 (9th Cir. 1992) (upholding management measures that were uncertain because they were reasonable in light of the data on hand).

¹³¹ *Trout Unlimited*, 645 F. Supp. 2d at 950.

¹³² *See San Luis & Delta-Mendota Water Auth. v. Salazar*, 760 F. Supp. 2d 855, 871 (E.D. Cal.

dispositive evidence does not render a decision arbitrary and capricious.¹³³ This is important, as it prevents the haphazard implementation of the ESA on mere “speculation or surmise.”¹³⁴

As expected, when dealing with the “best available science,” there is plenty of deference to go around (provided you are an agency). An agency itself is in charge of deciding what constitutes the best available science and courts are expected to defer to that determination.¹³⁵ This is because deciding what constitutes the best available science “implicates core agency judgment and expertise to which Congress requires the courts to defer.”¹³⁶ The scientific methodologies an agency chooses to use should be given substantial deference, as to do otherwise results in courts implementing their own notions of public good,¹³⁷ upsetting the balance of powers.

When it comes to a battle of the experts, courts will typically side with the agencies: if experts on both sides of the dispute have conflicting views, it is not up to the court to decide which expert is more persuasive, as that decision belongs to the agency.¹³⁸ This does not mean agencies are unchecked. A court must still review the record and ensure that the evidence found most compelling by the agency was found to be so after a reasoned review of both sets of evidence and their respective significances.¹³⁹ Such a review is compelled both by the necessity of substantive judicial review and the requirement that agencies consider all the relevant factors.¹⁴⁰ As such, while siding with the agency’s experts is not automatic, it is probable.

The ESA’s best available science mandate is perhaps the most compelling force justifying the formulation and adoption of survey protocols for determining the presence or absence of a species in a given area. As explained in the introduction, presence/absence determinations are difficult and inherently uncertain. Not observing a species does not indicate its absence and observing an elusive species can be a challenge. But this uncertainty does not make the best available science mandate any less applicable.¹⁴¹ The Services’ experts could very well, and very reasonably, conclude that the best way to determine a

2010) (citing *Kern Cnty. Farm Bureau v. Allen*, 450 F.3d 1072, 1080-81 (9th Cir.2006)).

¹³³ *Nat’l Wildlife Fed’n v. Babbitt*, 128 F. Supp. 2d 1274, 1300 (E.D. Cal. 2000)).

¹³⁴ *Bennet v. Spear*, 520 U.S. 154, 176 (1997).

¹³⁵ *San Luis & Delta-Mendota Water Auth.*, 760 F. Supp. 2d at 871.

¹³⁶ *Id.*

¹³⁷ *Id.*

¹³⁸ *See Marsh v. Natural Res. Council*, 490 U.S. 360, 378 (1989).

¹³⁹ *Id.* (“in the context of reviewing a decision not to supplement an EIS, courts should not automatically defer to the agency’s express reliance on an interest in finality without carefully reviewing the record and satisfying themselves that the agency has made a reasoned decision based on its evaluation of the significance-or lack of significance-of the new information”).

¹⁴⁰ *Id.*

¹⁴¹ *See Nat’l Wildlife Fed’n v. Babbitt*, 128 F. Supp. 2d 1274, 1300 (E.D. Cal. 2000).

species' presence or absence is to take specific, enumerated steps. This could ensure that private actors take the proper steps and guarantee a consistent application of the law, unlike the *PALCO* cases discussed earlier. Granted, this is only if the Services review all the evidence and decide that the science supports implementing protocols. The Services may not acknowledge the existence of better research that suggests survey protocols are unhelpful and then simply choose to ignore it.

F. Intent of the ESA

When deciding upon what the best available science actually mandates, it is important to take the intent of the ESA into account as well. When drafting the ESA, Congress intended that preventive action be taken “sooner rather than later.”¹⁴² This is in response to the days where action was not taken until it was too late.¹⁴³ As such, courts have consistently allowed less than conclusive evidence to constitute “best available data,” giving “the benefit of the doubt to the species.”¹⁴⁴ Given the legislative history of the ESA, if the best available data suggests there is a chance survey protocols will help a species survive, but it is far less than certain and will result in increased costs, a court may very well defer to the agency's protocols, as doing so gives the benefit of the doubt to the endangered species.

IV. NOTICE AND COMMENT

A. Interpretative Rules

The thrust of the appellant's argument in *NAHB v. Norton* was that the FWS's survey protocols imposed a burden upon landowners but were adopted without notice and comment.¹⁴⁵ The reviewing courts never entertained this argument though, as both courts concluded that the protocols were merely “recommended” and had no legal consequence.¹⁴⁶ But what if the protocols were not mere recommendations? In this instance, the FWS avoided some of the more burdensome requirements of rulemaking by not requiring its protocols to be followed. If the Services decide to mandate similar protocols in the future, they may be bound by different procedural requirements. If the Services mandated a set of protocols that passed the finality test established in *Bennet v. Spear*—that

¹⁴² *Defenders of Wildlife v. Babbitt*, 958 F. Supp. 670, 680 (D.D.C. 1997) (citing H.R. Rep. No. 412, at 5 (1973)).

¹⁴³ *Id.*

¹⁴⁴ *Id.* (citing *Conner v. Burford*, 848 F.2d 1441, 1454 (9th Cir.1988)).

¹⁴⁵ See Brief for Appellant at 15, *Nat'l Ass'n of Home Builders v. Norton* 415 F.3d 8 (2005) (No. 00CV02155) 2004 WL 1346425.

¹⁴⁶ See *Nat'l Ass'n of Home Builders v. Norton*, 415 F.3d 8, 14 (D.C. Cir. 2005).

is, the implementation of the protocols “determined the rights or obligations of landowners and legal consequences [flowed] from them” — a court would have standing to review those protocols.

Section 553 of the Administrative Procedure Act requires that, generally, before promulgating a rule, an agency must publish notice in the Federal Register, giving the public a chance to comment on the proposed rule.¹⁴⁷ I say “generally” because Congress crafted several exceptions to this requirement of “notice and comment”: it does not apply to “interpretative rules, general statements of policy, or rules of agency organization, practice or procedure” or “when the agency for good cause finds (and incorporates the finding and a brief statement of reasons therefor in the rules issued) that notice and public procedure thereon are impracticable, unnecessary, or contrary to the public interest.”¹⁴⁸ These exceptions are interpreted narrowly,¹⁴⁹ as notice and comment was designed “to reintroduce public participation and fairness to affected parties after governmental authority has been delegated to unrepresentative agencies,”¹⁵⁰ and “assure[] that the agency will have before it the facts and information relevant to a particular administrative problem, as well as suggestions for alternative solutions.”¹⁵¹ As such, these exceptions are intended to give agencies flexibility when creating rules that do not affect substantive rights.¹⁵² In short, these exceptions are for rules that “are not determinative of issues or rights addressed. They express the agency’s intended course of action, its tentative view of the meaning of a particular statutory term, or internal house-keeping measures organizing agency activities.”¹⁵³

Given the exceptions to notice and comment and the burdens imposed by survey protocols, it is unlikely that the Services will be able to mandate protocols without first submitting them to the Federal Register for notice and comment. Although there is no bright line distinction, the “interpretative rule” exception typically applies when a rule “merely clarif[ies] or explain[s] [an] existing law or [regulation]”¹⁵⁴ and are “essentially hortatory and instructional.”¹⁵⁵ In contrast, the Services prescribing explicit methodologies for landowners to use when determining whether or not they require an incidental take permit (i.e., implementing survey protocols) does more than merely explain

¹⁴⁷ 5 U.S.C. § 553 (2006).

¹⁴⁸ *Id.*

¹⁴⁹ *Am. Hosp. Ass’n v. Bowen*, 834 F.2d 1037, 1044 (D.C. Cir. 1987) (citing *Nat’l Ass’n of Home Health Agencies v. Schweiker*, 690 F.2d 932, 949 (D.C. Cir.1982)).

¹⁵⁰ *Id.* (quoting *Batterton v. Marshall*, 648 F.2d 694, 703 (D.C. Cir.1980)).

¹⁵¹ *Id.* (quoting *Guardian Fed. Sav. & Loan Ass’n v. Fed. Sav. & Loan Ins. Corp.*, 589 F.2d 658, 662 (D.C. Cir.1978)).

¹⁵² *Id.* at 1045.

¹⁵³ *Id.* (quoting *Batterton*, 648 F.2d at 702).

¹⁵⁴ *Id.* (quoting *Alcaraz v. Block*, 746 F.2d 593, 613 (9th Cir. 1984).

¹⁵⁵ *Id.* (quoting *Alcaraz*, 746 F.2d at 613).

the ambiguous term “occupied.” In fact, mandating survey protocols is functionally similar to an instance touted as a “classic example” of a non-interpretative rule: in *Pickus v. United States Board of Parole*, the D.C. Circuit held that a set of guidelines enumerating specific factors that would decide parole eligibility constituted a non-interpretative rule, and were subject to the APA’s notice and comment requirement.¹⁵⁶ While parole is a very different subject than the Endangered Species Act, both parole guidelines and survey protocols enumerate specific requirements that do more than merely explain a statute. Thus, mandatory survey protocols are substantive rules and would likely need to go through notice and comment, as required by section 553 of the APA.

The purpose of notice and comment, mentioned earlier, further supports the idea that a court would require survey protocols to go through the formal rulemaking process of notice and comment. With the amount of scientific research required for the formation of survey protocols and the collaborative nature of science itself, it would be especially important to give the public, including affected parties, an opportunity to collaborate in settling on the most scientifically appropriate protocols: “public participation . . . in the rulemaking process is essential in order to permit administrative agencies to inform themselves, and to afford safeguards to private interests.”¹⁵⁷

B. General Statements of Policy or Rules of Agency Organization, Practice or Procedure

Another exception to notice and comment is when the rule in question is a general statement of policy.¹⁵⁸ This exception, interpreted narrowly,¹⁵⁹ would not likely include survey protocols. A general statement of policy “is merely an announcement to the public of the policy which the agency hopes to implement in future rulemakings or adjudications.”¹⁶⁰ A general statement of policy is akin to a “press release” in that it foreshadows future rulemakings or “announces the course which the agency intends to follow in future adjudications.”¹⁶¹ Looking again at *Pickus*, survey protocols will not likely fit into the narrow definition of “general statements of policy,” and will have to go through notice and comment. In *Pickus*, the parole guidelines were not “general statement[s] of policy”

¹⁵⁶ *Id.* at 1046 (summarizing the holding of *Pickus v. U.S. Bd. of Parole*, 507 F.2d 1107, 1112-13 (D.C. Cir.1974)).

¹⁵⁷ *Batterton v. Marshall*, 648 F.2d 694, 704 n.47 (D.C. Cir. 1980) (quoting S. Doc. No. 248, at 19-20 (1946); see ATTORNEY GENERAL’S COMM. ON ADMINISTRATIVE PROCEDURE, ADMINISTRATIVE PROCEDURE IN GOVERNMENT AGENCIES 108 (1941)).

¹⁵⁸ 5 U.S.C. § 553 (2006).

¹⁵⁹ *Am. Hosp. Ass’n v. Bowen*, 834 F.2d 1037, 1044 (D.C. Cir. 1987) (citing *Nat’l Ass’n of Home Health Agencies v. Schweiker*, 690 F.2d 932, 949 (D.C. Cir.1982)).

¹⁶⁰ *Batterton v. Marshall*, 648 F.2d 694, 706 (D.C. Cir. 1980) (quoting *Pac. Gas & Elec. Co. v. FPC*, 506 F.2d 33, 38 (D.C. Cir. 1974)).

¹⁶¹ *Id.*

because they were similar to a formula and “define[d] a fairly tight framework to circumscribe the Board’s statutorily broad power”¹⁶² If a rule explaining a methodology does not leave an agency with any discretion to modify its elements, it is not a “general statement of policy” and must go through notice and comment.¹⁶³ Survey protocols do exactly that. The Services are given broad authority to interpret the term “occupied” as they see fit; adopting survey protocols gives an extremely precise interpretation to that term that cabins discretion the Services would otherwise have.

The last exception to notice and comment is if a rule is “of agency organization, practice, or procedure.”¹⁶⁴ This exception exists to give agencies the freedom to manage and organize their internal operations.¹⁶⁵ While applying this exception is somewhat difficult, as many internal agency rules affect the rights of outside parties, this exception does not apply where a rule encroaches on “substantial private rights and interests.”¹⁶⁶ Again, survey protocols would not likely fit into this exception and would need to go through notice and comment.

Also functionally similar to survey protocols are the “new specifications for the kinds of clinical investigations deemed necessary to establish the effectiveness of drug products prior to FDA approval” at issue in *Pharmaceutical Manufacturers Ass’n v. Finch* and the new methodology “for determining the one undefined variable in the statutory fund allocation formula” in *Batterton v. Marshall*. Despite each of the methodologies at issue in these cases having elements that may have seemed procedural, both were found to affect substantial rights and interests and were required to go through notice and comment.¹⁶⁷ Survey protocols, being no different, would clearly not fall within this exception to notice and comment either.

If the survey protocols at issue in *NAHB v. Norton* were actually mandated and were not merely a recommendation, *NAHB* would have likely succeeded with their challenge. While the survey protocols may have scientifically been sound, such a rule had to first go through notice and comment.

V. CONCLUSION

By passing the ESA, Congress gave endangered species the highest of priorities.¹⁶⁸ Even so, protecting various species is no simple task. Determining

¹⁶² *Id.* at 706-07 (explaining *Pickus v. U.S. Bd. of Parole*, 507 F.2d 1107, 1112-13 (D.C. Cir. 1974)).

¹⁶³ *Id.* at 706.

¹⁶⁴ 5 U.S.C. § 553 (2006).

¹⁶⁵ *Batterton*, 648 F.2d at 707.

¹⁶⁶ *Id.* at 708.

¹⁶⁷ *Id.* at 706 (citing *Pharm. Mfrs. Ass’n v. Finch*, 307 F. Supp. 858, 863 (D. Del. 1970)).

¹⁶⁸ *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 194 (1978).

whether or not a species occupies a particular area is less simple than it seems¹⁶⁹ and the Services have struggled with creating measures to deal with this. Survey protocols, in particular, appear to be a fruitful means of addressing the problem. Still, every solution is not without its opponents.¹⁷⁰

There are several key problems in the absence of survey protocols. Courts have recognized several of these problems in the context of Primary Constituent Elements (PCEs), which serve a very similar purpose. If PCEs are insufficiently specific, courts can invalidate critical habitat designations,¹⁷¹ as to hold otherwise can allow over and under inclusive designations, harming both endangered species and the economy.

The ESA uses, but does not define, the term “occupied,” so it is up to the Services to define it as they deem necessary.¹⁷² This can lead to unpredictability in critical habitat designations that could potentially be cleared with survey protocols. Still, survey protocols are not without their own problems.

When a regulated industry itself is charged with devising a method to determine if a species occupies an area in which the industry intends to work, it is incentivized to develop insufficient survey methodologies.¹⁷³ Still, properly designed survey protocols can only help so much. While sufficient methodologies may address the issue of poorly developed protocols, they cannot make partisan surveyors honest.¹⁷⁴ For this reason, it may be helpful for the Services to either enlist impartial surveyors themselves or require that surveyors be certified and disinterested. A certification process could also help lessen the disparity between the qualities of ostensibly qualified surveyors; two surveyors, each with apparent “expertise,” can obtain wildly different results,¹⁷⁵ making it difficult for courts to know whom to trust.

In *NAHB v. Norton*, the FWS recommended a set of survey protocols for the quino checkerspot butterfly. Because these protocols were only recommended and not mandated, the court never got a chance to examine their validity.¹⁷⁶ Properly examining the validity of such protocols requires a concentrated look into administrative law.

¹⁶⁹ See *Ariz. Cattle Growers v. Salazar*, 606 F.3d at 1164-65.

¹⁷⁰ See generally *Nat'l Ass'n of Home Builders v. Norton*, 415 F.3d 8 (D.C. Cir. 2005) (National Association of Home Builders challenged the adoption of survey protocols on several grounds because it felt that the implementation of such protocols would impose undue financial burdens on property owners).

¹⁷¹ See, e.g., *Home Builders Ass'n of N. Cal. v. U.S. Fish & Wildlife Service*, 268 F. Supp. 2d 1197, 1216 (E.D. Cal. 2003).

¹⁷² *Ariz. Cattle Growers*, 606 F.3d at 1164-65.

¹⁷³ See *Marbled Murrelet v. Pac. Lumber Co.*, 880 F. Supp. 1343, 1365 (N.D. Cal. 1995), *aff'd sub nom.* *Marbled Murrelet v. Babbitt*, 83 F.3d 1060 (9th Cir. 1996).

¹⁷⁴ *Id.* at 1362.

¹⁷⁵ See *Envtl. Prot. Info. Ctr.*, 67 F. Supp. 2d 1090, 1099-100 (N.D. Cal. 1999), vacated, *Envtl. Protection Info. Center, Inc. v. Pacific Lumber Co.*, 257 F.3d 1071 (9th Cir. 2001).

¹⁷⁶ *Nat'l Ass'n of Home Builders v. Norton*, 415 F.3d 8, 9. (D.C. Cir. 2005).

There is great deference afforded to an agency's reasonable interpretation of ambiguous statutory language. As such, courts have given *Chevron* deference to the FWS's definition of the undefined ESA term "occupied."¹⁷⁷ This deference could easily be extended to the formulation of survey protocols for determining if an area is, or is not, occupied, so long as such a requirement is not "arbitrary and capricious." For the most part, this requires that the adoption of survey protocols be rationally based upon scientific evidence.¹⁷⁸

Formulating survey protocols certainly calls "the best available science" into the forefront of an analysis. When it comes to an agency's scientific expertise, courts are most deferential.¹⁷⁹ When setting survey protocols, the Services need to carefully consider *all* the evidence put forth by the experts; they cannot ignore any better evidence that contradicts their desired course of action.¹⁸⁰ The Services also need to be mindful if the adoption of survey protocols constitutes an "abrupt reversal" of previous policy. While this does not invalidate a new rule, it affords the agencies less deference.¹⁸¹

A decision to adopt survey protocols need not be based on scientific certainty; the ESA's best available science mandate only requires that the best science be used.¹⁸² If the Services' experts decide that survey protocols are the best way to determine the presence or absence of a species in a given area, courts will likely defer to that judgment, even if another organization's experts disagree.¹⁸³ With the ESA, Congress intended action be taken "sooner rather than later."¹⁸⁴ Even if the Services are not sure that survey protocols will help, they will likely be given the benefit of the doubt.

The appellants in *NAHB v. Norton* complained that the FWS's survey protocols imposed a burden upon them without first going through notice and comment.¹⁸⁵ While the court never reached this argument, it raises an interesting question: if the Services chose to *mandate* such protocols, would they be required to go through notice and comment? Under section 553 of the APA, all rules, save for a few exceptions, must go through notice and comment.¹⁸⁶ The exceptions are for "interpretative rules," "general statements of policy," or "rules of agency organization, practice or procedure."¹⁸⁷ These exceptions are

¹⁷⁷ *Ariz. Cattle Growers' Ass'n v. Kempthorne*, 534 F. Supp. 2d 1013, 1029 (D. Ariz. 2008), *aff'd sub nom. Ariz. Cattle Growers' Ass'n v. Salazar*, 606 F.3d 1160 (9th Cir. 2010).

¹⁷⁸ *See Ethyl Corp. v. Env'tl. Prot. Agency*, 541 F.2d 1, 37 (D.C. Cir. 1976).

¹⁷⁹ *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 103 (1983).

¹⁸⁰ *See Defenders of Wildlife v. Babbitt*, 958 F. Supp. 670, 679 (D.D.C. 1997).

¹⁸¹ *See Nat'l Wildlife Fed'n v. Babbitt*, 128 F. Supp. 2d 1274, 1300 (E.D. Cal. 2000).

¹⁸² *See Greenpeace Action v. Franklin*, 14 F.3d 1324, 1336 (9th Cir. 1992).

¹⁸³ *See Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 378 (1989).

¹⁸⁴ *Defenders of Wildlife v. Babbitt*, 958 F. Supp. at 680.

¹⁸⁵ *Nat'l Ass'n of Home Builders v. Norton*, 415 F.3d 8,14 (2005).

¹⁸⁶ 5 U.S.C. § 553 (2006).

¹⁸⁷ *Id.*

interpreted narrowly¹⁸⁸ and will not likely encompass the formulation of survey protocols. The “interpretative rule” exception is generally for rules that merely explain an existing law, not specific methodologies to go about doing something.¹⁸⁹ Survey protocols would similarly not fall under the other two exceptions. “General statements of policy” are typically considered to be opinions of how an agency plans to implement something in a given situation in the future¹⁹⁰ and rules of “agency organization, practice, or procedure” are normally understood to only include rules that do not encroach on “substantial private rights and interests.”¹⁹¹ As such, the formulation and adoption of survey protocols would need to go through the proper notice and comment procedures, as they would not fall into the listed exceptions.

While *NAHB v. Norton* was cut short on procedural grounds before deciding anything revolutionary, it foreshadows the possible use of survey protocols to address the strangely difficult problem of whether or not a species occupies a particular area. Given the intuitive problem of allowing landowners to devise their own means of determining the presence or absence of a species on their land, the adoption of survey protocols may seem like common sense. Whether such protocols are actually allowed in practice though, may be anything but.

¹⁸⁸ *Am. Hosp. Ass’n v. Bowen*, 834 F.2d 1037, 1044 (1987).

¹⁸⁹ *Id.*

¹⁹⁰ *Batterton v. Marshall*, 648 F.2d 694, 706 (D.C. Cir. 1980).

¹⁹¹ *Id.* at 707-08.