

FOR PUBLICATION
UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

NORTHWEST ECOYSTEM ALLIANCE;
CENTER FOR BIOLOGICAL DIVERSITY;
TAHOMA AUDUBON SOCIETY,
Plaintiffs-Appellants,

v.

UNITED STATES FISH AND WILDLIFE
SERVICE; DAVE ALLEN, Regional
director of U.S. Fish and Wildlife
Service; STEVE WILLIAMS, Director
of U.S. Fish and Wildlife Service;
GALE NORTON, Secretary of the
Department of the Interior,
Defendants-Appellees.

No. 04-35860
D.C. No.
CV-03-01505-PA
OPINION

Appeal from the United States District Court
for the District of Oregon
Owen M. Panner, Senior Judge, Presiding

Argued and Submitted
November 15, 2006—Portland, Oregon

Filed February 2, 2007

Before: Alfred T. Goodwin, Diarmuid F. O'Scannlain, and
Raymond C. Fisher, Circuit Judges.

Opinion by Judge Goodwin

COUNSEL

Brent Plater, Center for Biological Diversity, San Francisco, California; Stephanie M. Parent, Pacific Environmental Advocacy Center, Portland, Oregon, for the plaintiffs-appellants.

M. Alice Thurston, U.S. Department of Justice, Washington, D.C., for the defendants-appellees.

OPINION

GOODWIN, Circuit Judge:

The United States Fish and Wildlife Service (the “Service”) denied a petition to classify western gray squirrels in Wash-

ington state as an endangered “distinct population segment” (“DPS”) under the Endangered Species Act (“ESA”), 16 U.S.C. § 1531 *et seq.* Plaintiff-appellants Northwest Ecosystem Alliance, Center for Biological Diversity, and Tahoma Audubon Society (collectively, the “Alliance”) sought review of the Service’s decision in the district court, which entered summary judgment upholding the Service’s determination. The Alliance filed a timely notice of appeal. We affirm.

I. BACKGROUND

A. *The Endangered Species Act*

Congress enacted the ESA to “provide a means whereby ecosystems upon which endangered species and threatened species depend may be conserved, [and] to provide a program for the conservation of such endangered species and threatened species.” 16 U.S.C. § 1531(b). The ESA requires the Service to identify and list species that are “endangered” or “threatened.” 16 U.S.C. § 1533. The Service may list a species, on its own initiative, through notice-and-comment rulemaking. 16 U.S.C. § 1533(b)(5). Alternatively, a species may become listed through the petition process provided by the Administrative Procedure Act (“APA”), 5 U.S.C. § 553(e). Any interested person may petition the Service to add or remove a species from the list. *Id.*; 16 U.S.C. § 1533(b)(3)(A). Upon receiving such a petition, the Service must promptly determine whether the petition is supported by “substantial scientific or commercial information.” 16 U.S.C. § 1533(b)(3)(A). If so, the Service is to “commence a review of status of the species concerned.” *Id.* The Service is required to make a finding on the status of the species within twelve months and publish its finding in the Federal Register. 16 U.S.C. § 1533(b)(3)(B). The Service must make its decision “solely on the basis of the best scientific and commercial data available.” 16 U.S.C. § 1533(b)(1)(A). If the Service finds that a petitioned action is warranted, it must promptly publish a pro-

posed regulation to implement its finding. 16 U.S.C. § 1533(b)(3)(B)(ii). A decision by the Service to deny a petitioned action is subject to judicial review. 16 U.S.C. § 1533(b)(3)(C)(ii).

The definition of the term “species” is at the heart of the instant appeal. The ESA defines “species” to include “any subspecies of fish or wildlife or plants, and any *distinct population segment* of any species of vertebrate fish or wildlife which interbreeds when mature.” 16 U.S.C. § 1532(16) (emphasis added). Thus, a population of wildlife that does not constitute a taxonomic species may nevertheless qualify for listing as a DPS. The statute does not expressly define the term “distinct population segment.” The Service and the National Marine Fisheries Service (“NMFS”) have jointly adopted a policy statement to guide their evaluation of whether a population group should be treated as a DPS. Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act, 61 Fed. Reg. 4722 (Feb. 7, 1996) (“DPS Policy”). The DPS Policy sets forth two factors for consideration: the “[d]iscreteness of the population segment in relation to the remainder of the species to which it belongs,” and the “significance of the population segment to the species to which it belongs.” *Id.* at 4725. Discreteness is satisfied if a population segment is “separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors,” or if a population’s boundaries are marked by international borders. *Id.* Significance, in turn, is analyzed under four non-exclusive factors: (1) whether the population persists in a unique or unusual ecological setting; (2) whether the loss of the population would cause a “significant gap” in the taxon’s range; (3) whether the population is the only surviving natural occurrence of a taxon; and (4) whether the population’s genetic characteristics are “markedly” different from the rest of the taxon. *Id.* A population qualifies as a DPS if it is both discrete and significant. *Id.* If a population is deemed to be a

DPS, the inquiry then proceeds to whether it is endangered or threatened. *Id.*

B. *Western Gray Squirrels in Washington*

Sciurus griseus griseus, a subspecies of the western gray squirrel,¹ is the largest native tree squirrel in the Pacific Northwest. Status Review and 12-Month Finding for a Petition To List the Washington Population of the Western Gray Squirrel, 68 Fed. Reg. 34,628, 34,629 (June 10, 2003) (“Final Finding”). Members of the subspecies are “silvery-gray with dark flanks and creamy white underneath.” *Id.* They live in trees, rarely venture into open spaces, and subsist principally on acorn and nuts. Historically, the western gray squirrel was widespread throughout Washington, Oregon, California, and western Nevada. *Id.* at 34,630. Today, the western gray squirrel is fairly common in California, where it is a regulated game species, with an estimated population of eighteen million. *Id.* at 34,631. In Oregon, the subspecies is not rare and is legally hunted, but its distribution appears to be much reduced from historical levels. *Id.* at 34,632. In Nevada, the western gray squirrel is rare and has been classified as a “protected species” under state law. *Id.* at 34,631.

In Washington, the western gray squirrel once ranged from the Puget Sound to the Columbia River, and from the Cascade Mountains to Lake Chelan. *Id.* at 34,632. The population has long been separated from the rest of the subspecies by the Columbia River. During the last century, its distribution has been reduced to three geographically isolated populations: the Puget Trough population, the North Cascades population, and the South Cascades population.

The Puget Trough population, which is found near the

¹The two other subspecies are *Sciurus griseus nigripes* and *Sciurus griseus anthonyi*. Final Finding, 68 Fed. Reg. at 34,629. Only *Sciurus griseus griseus* is at issue here.

Puget Sound, lives in a transitional ecological setting. *Id.* at 34,633. The population's habitat of Oregon white oak woodlands is nestled between upland Douglas-fir forests and prairies. The habitat is wetter, flatter, and contains fewer mast-producing trees than the rest of the subspecies' range. Consequently, the Puget Trough population is more dependent on the Oregon white oak for sustenance than populations in ecologically more diverse habitats. "Although the western squirrel was once common on the partially wooded prairies adjacent to the Puget Sound, the surviving Puget Trough population is now centered on Fort Lewis," a military reservation. *Id.* "During intensive surveys in 1998 and 1999, only 6 western grey squirrels . . . were detected in over 4,000 hours of survey effort." *Id.* Some researchers have concluded that the Puget Trough population is "at a high risk of extirpation." *Id.*

The North Cascades population is found in Chelan and Okanogan Counties. *Id.* at 34,632. Unlike the Puget Trough, the North Cascades habitat lacks oaks, the main source of winter foods for the western gray squirrel in most of its range. *Id.* at 34,635. Instead, the North Cascades population subsists on seeds and nuts produced by pine trees, big leaf maples, and English walnut trees. A survey in 2000 detected only three remnants out of the eighty-nine nests recorded in a 1996 survey, and found eighteen previously unreported nests. The reduced number of nests suggests a corresponding population decline.

The South Cascades population, which constitutes the largest remaining population of western gray squirrels in Washington, is found in Skamania, Klickitat, and Yakima counties. *Id.* at 34,632, 34,634. One study has found western gray squirrels in Klickitat to have substantially larger body measurements than elsewhere in the subspecies' range. *Id.* at 34,637. The study also concluded that the Klickitat population have substantially larger home range sizes and more nests per squirrel than elsewhere. Surveys in 2000 and 2001 produced population density estimates of 0.08-0.13 squirrel per hectare

in the Klickitat Wildlife Area, as compared with 1.37 per hectare in Lake County, California, or with 2.47 per hectare in Yosemite Valley in California. *Id.* at 34,634.

C. *Procedural History*

On January 4, 2001, the Service received a petition filed by the Alliance requesting an emergency rule to list the Washington population of the western gray squirrel as an endangered or threatened species. On October 29, 2002, the Service published its initial finding that the petition presented substantial information to indicate that one or more distinct population segments of western gray squirrels may exist in Washington. 90 day Finding for a Petition To List the Washington Population of the Western Gray Squirrel as Endangered or Threatened, 67 Fed. Reg. 65,931. The Service proceeded with a twelve-month status review. An early draft decision prepared by the Service's staff scientists recommended listing the Washington population as an endangered DPS. However, the Service ultimately denied the petition in a June 2003 decision published in the Federal Register. Final Finding, 68 Fed. Reg. at 34,628. The Service determined that the Washington population was not significant, under the DPS Policy, to the taxon to which it belonged.

On November 3, 2003, the Alliance filed a complaint in the District of Oregon seeking declaratory and injunctive relief against the Service and its officials. The Alliance contended that the Service's decision was arbitrary and capricious. On August 2, 2004, the district court granted summary judgment for the Service.

This appeal presents two issues: (1) whether the Service's construction of the term "distinct population segment" is entitled to *Chevron* deference, and if so, whether the Service's construction is reasonable; and (2) whether the Service's denial of the petition was arbitrary and capricious.

II. JURISDICTION AND STANDARD OF REVIEW

The district court had subject matter jurisdiction under 28 U.S.C. § 1331 and 16 U.S.C. § 1540(c) & (g). We have appellate jurisdiction pursuant to 28 U.S.C. § 1291.

We review de novo the district court's grant of summary judgment. *United States v. City of Tacoma*, 332 F.3d 574, 578 (9th Cir. 2003). As discussed below, we review the Service's interpretation of the ESA, as expressed in the DPS Policy, under the analytic framework laid out in *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984). We review the Service's decision on the Washington gray squirrel under the APA, which provides that an agency action may be set aside only if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). This standard of review is "highly deferential, presuming agency action to be valid and affirming the agency action if a reasonable basis exists for its decision." *Independent Acceptance Co. v. California*, 204 F.3d 1247, 1251 (9th Cir. 2000) (citations omitted). We may not consider information outside of the administrative record, *Love v. Thomas*, 858 F.2d 1347, 1356 (9th Cir. 1988), and may not "substitute [our] judgment for that of the agency." *Citizens To Preserve Overton Park v. Volpe*, 401 U.S. 402, 416 (1971), *abrogated on other grounds by Califano v. Sanders*, 430 U.S. 99, 105 (1977). Our task is simply to ensure that the agency "considered the relevant factors and articulated a rational connection between the facts found and the choices made." *Nat'l Ass'n of Home Builders v. Norton*, 340 F.3d 835, 841 (9th Cir. 2003) (quoting *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 105 (1983)); *see also Blue Mountain Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1211 (9th Cir. 1998) (court must determine whether the agency decision was "based on a consideration of the relevant factors") (citation omitted).

III. DISCUSSION

A. *Whether the DPS Policy Is Entitled to Chevron Deference*

The Alliance contends that the DPS Policy’s requirement that a population be significant to its taxon is unlawfully restrictive. The Alliance does not seek to invalidate the DPS Policy on its face, but only as applied here.²

A court reviewing an administrative interpretation of a statute must first ascertain whether Congress has spoken clearly on the issue. *Chevron*, 467 U.S. at 842-44. If the statute is clear, we “must give effect to the unambiguously expressed intent of Congress” regardless of the agency’s view. *Id.* at 843. If the statute is ambiguous, however, we do not simply impose our own independent interpretation. *Id.* Rather, we must determine how much deference to give to the administrative interpretation. *Id.*; *United States v. Mead Corp.*, 533 U.S. 218, 227-31 (2001). The precise degree of deference warranted depends on the statute and agency action at issue. *Mead*, 533 U.S. at 227-31. Under *Chevron*’s classic formulation,

[i]f Congress has explicitly left a gap for an agency to fill, there is an express delegation of authority to

²We may nevertheless consider the general validity of the element of the DPS Policy — i.e., the significance requirement — that was used by the Service to deny the Washington gray squirrel a listing as an endangered DPS. We may not, however, evaluate elements of the DPS Policy that were not applied against the Alliance. We note that the Service does not argue on appeal that the validity of the significance requirement cannot be evaluated in an as-applied suit. We also note that, before the district court, the Service did not challenge the Alliance’s first claim for relief. It is this claim, that the Service “had a nondiscretionary duty to list the Washington populations of the western gray squirrel under the ESA upon determining they are imperiled distinct population segments,” that objects to the *existence* of the significance requirement rather than merely its *application* to the Washington gray squirrels.

the agency to elucidate a specific provision of the statute by regulation. Such legislative regulations are given controlling weight unless they are arbitrary, capricious, or manifestly contrary to the statute.

467 U.S. at 844. If *Chevron* deference is inapplicable because Congress has not delegated interpretative authority to the agency, the agency's views still "constitute a body of experience and informed judgment to which courts and litigants may properly resort for guidance." *Skidmore v. Swift & Co.*, 323 U.S. 134, 140 (1944). The "fair measure of deference" may then range from "great respect" to "near indifference," depending on "the degree of the agency's care, its consistency, formality, and relative expertness, and . . . the persuasiveness of the agency's position." *Mead*, 533 U.S. at 228.

[1] The ESA does not expressly define "distinct population segment," and the parties agree that the term has no generally accepted scientific meaning. Because the statutory term is elastic, we must decide whether the DPS Policy is entitled to deference under the *Chevron* standard, or under the less deferential *Skidmore* standard.

[2] *Chevron* deference applies "when it appears that Congress delegated authority to the agency generally to make rules carrying the force of law, and that the agency interpretation claiming deference was promulgated in the exercise of that authority." *Mead*, 533 U.S. at 226-27. "[D]elegation of such authority may be shown in a variety of ways, as by an agency's power to engage in adjudication or notice-and-comment rulemaking, or by some other indication of a comparable congressional intent." *Id.* at 227. "It is fair to assume generally that Congress contemplates administrative action with the effect of law when it provides for a relatively formal administrative procedure tending to foster the fairness and deliberation that should underlie a pronouncement of such force." *Id.* at 230. In the ESA, Congress expressly delegated authority to the Service to develop criteria for evaluating peti-

tions to list endangered species. Under 16 U.S.C. § 1533(h)(2), the Service is required to publish, in the Federal Register, guidelines on “criteria for making findings . . . with respect to petitions.” The Service must also “provide to the public notice of, and opportunity to submit written comments on, any guideline (including amendment thereto) proposed to be established under this subsection.” 16 U.S.C. § 1533(h). In substance, the formality § 1533(h) requires for policy statements is indistinguishable from notice-and-comment rulemaking under the APA. *Compare* 16 U.S.C. § 1533(h) *with* 5 U.S.C. § 553.³ This fact weighs in favor of affording *Chevron* deference.

The Alliance contends that the DPS Policy is an informal policy statement that lies “beyond the *Chevron* pale.” *Mead*, 533 U.S. at 234; *see Christensen v. Harris County*, 529 U.S. 576, 587 (2000) (“[I]nterpretations contained in policy statements, agency manuals, and enforcement guidelines, all of which lack the force of law[,] do not warrant *Chevron*-style deference.”). However, one important reason for denying *Chevron* deference to policy statements is that they are generally exempt from the public notice-and-comment procedures required by § 553 of the APA. 5 U.S.C. § 553(b)(3)(A); *cf. Mead*, 533 U.S. at 232-234 (denying *Chevron* deference to letter rulings adopted without public notice and comment); *Christensen*, 529 U.S. at 587 (advisory opinion letter adopted without notice and comment); *Reno v. Koray*, 515 U.S. 50, 61 (1995) (internal agency guideline adopted without notice and comment). In contrast, § 1533(h) of the ESA expressly requires public notice and comment for both the creation and the modification of the DPS Policy. These procedural rigors, combined with the express congressional command to the Service to develop guidelines,⁴ distinguish the DPS Policy

³The only noteworthy difference is that whereas § 553(e) of the APA gives interested citizens the right to petition for the issuance, amendment, or repeal of a rule, § 1533(h) of the ESA does not expressly recognize such a right for guidelines.

⁴*Cf. EEOC v. Arabian American Oil Co.*, 499 U.S. 244, 256-58 (1991) (no *Chevron* deference to agency guideline adopted without express congressional delegation of authority).

from garden-variety policy statements that do not enjoy *Chevron* status.⁵

[3] Notwithstanding the robust process through which the DPS Policy emerged, the Alliance submits that *Chevron* deference is inappropriate because the DPS Policy does not have the “force of law.” *Mead*, 533 U.S. at 227. The Alliance emphasizes that the Service had considered adopting the DPS Policy as a rule, but ultimately decided to adopt it as a policy statement instead.⁶ This argument is unpersuasive. The DPS Policy was not formulated in response to any party’s petition but rather as a definitive statement of how the Service would conduct all future “evaluation[s] of distinct vertebrate population segments for the purposes of listing, delisting, and reclassifying under the Act.” 61 Fed. Reg. at 4725. The Alliance has presented no evidence that the DPS Policy has ever been treated (by the Service or parties presenting petitions to list species) as anything other than legally binding. We therefore hold that the DPS Policy is entitled to *Chevron* deference.

B. *Whether the DPS Policy Is a Reasonable Construction of the ESA*

An agency interpretation that enjoys *Chevron* status must be upheld if it is based on a reasonable construction of the statute. *Chevron*, 467 U.S. at 843-45. The Alliance argues that the DPS Policy cannot withstand scrutiny even under the deferential *Chevron* standard.

⁵The district court case that the Alliance cites involving the Habitat Conservation Planning Handbook, *National Wildlife Federation v. Babbitt*, 128 F. Supp. 2d 1274 (E.D. Cal. 2000), is inapt. The case never states that the Handbook was issued pursuant to § 1533(h), but does say that even though “[t]he Secretary argues that the HCP Handbook is not legally binding,” “[t]here is room for argument on this point.” *Id.* at 1292. The Handbook was also not pivotal to the case so the district court had no occasion to examine fully the deference to which the Handbook is entitled.

⁶The Service’s internal deliberation on whether to adopt a definition of “distinct population segment” as a rule or as a policy is documented in the record. (Excerpts of Record 375-76, 405, 407.)

[4] First, the Alliance challenges the DPS Policy's requirement that a population be both discrete and significant in order to qualify as a "distinct population segment." The Alliance asserts that the words "distinct" and "discrete" are synonyms. *Webster's Third New International Dictionary* 659 (2002). Thus, they contend, any requirement that a population be significant in addition to being discrete is an additional hurdle not contemplated by the statute. However, the term "distinct" is not as limited in meaning as the Alliance suggests. "Distinct" can mean "notable" or "unusual." *Id.* It is not inconsistent with common usage, nor is it unreasonable, for the Service to construe "distinct" to mean both "discrete," in the sense of being separate from others, and "significant," in the sense of being notable.

[5] Second, the Alliance claims that the significance requirement conflates separate statutory definitions. The term "significant" appears in the ESA's definition of "endangered species," which is defined as "any species which is in danger of extinction throughout all or a significant portion of its range" 16 U.S.C. § 1532(6). The DPS Policy incorporates a separate significance requirement into the definition of "distinct population segment," which is in turn part of the statutory definition of "species," 16 U.S.C. § 1532(16). The Alliance argues that the DPS Policy conflates the statutory definitions of "species" and "endangered species," reducing the latter to mere surplusage. Actually, the two significance requirements serve different functions. The significance requirement in the DPS Policy pertains to whether a population qualifies as a species, while significance in § 1532(6) relates to whether a species is endangered. The two terms overlap to some extent in application,⁷ but they are not identical. For example, a population may be significant under the DPS Policy if it has distinctive ecological or biological traits,

⁷See *Nat'l Ass'n of Home Builders v. Norton*, 340 F.3d 835, 848 (9th Cir. 2003) (noting similarity between the DPS Policy and § 1532(6)).

but that has no bearing on whether the population is actually in danger of extinction for purposes of § 1532(6).

[6] Third, the Alliance argues that the DPS Policy reflects an impermissibly narrow understanding of the ESA's purpose and focuses excessively on conserving genetic resources. In the Alliance's view, the Service's attention to genetic resources is inappropriate in light of Congress's finding, expressed in the ESA's preamble, that wildlife have "esthetic, ecological, educational, historical, recreational, and scientific value." 16 U.S.C. § 1531(a)(3). The DPS Policy actually describes the ESA's purposes as follows: "The Services understand the Act to support interrelated goals of conserving genetic resources and maintaining natural systems and biodiversity over a representative portion of their historic occurrence. The draft policy was intended to recognize both these intentions, but without focusing on either to the exclusion of the other." 61 Fed. Reg. at 4723. That statement is not inconsistent with the ESA's expressly stated goal of providing "a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved." 16 U.S.C. § 1531(b). In addition, the significance requirement (which is the only portion of the DPS Policy to which the Alliance objects) may be satisfied not only by evidence of genetic differences but also by a population's persistence in unusual ecological settings, its status as the only natural surviving occurrence of a taxon, or evidence that its loss would result in a significant gap in its taxon's range. These are not the hallmarks of a policy that focuses on the conservation of genetic resources at the expense of all the other goals of the ESA.⁸

⁸Moreover, even if the DPS Policy privileges the conservation of genetic resources, there is ample support for such an approach in the legislative history. Although the term "distinct population segment" was not added to the ESA until 1978, that language is consistent with Congress' original intent in passing the ESA to preserve genetic resources. *See* H.R. Rep. No. 93-412, at 5 (1973) ("From the most narrow point of view, it is in the best interests of mankind to minimize the losses of genetic variations. The reason is simple: they are potential resources.").

[7] Fourth, the Alliance argues that the Service, in formulating the DPS Policy, improperly considered congressional policy preferences expressed after the enactment of the ESA. After the ESA was amended to encompass distinct population segments, the General Accounting Office proposed that Congress repeal the amendment to prevent a proliferation of endangered species listings. Although Congress declined to adopt the proposal, a Senate committee report cautioned that it was “aware of the great potential for abuse” of the Service’s DPS authority. S. Rep. No. 96-151, at 7 (1979). The report further stated an expectation that the Service would “use the ability to list populations *sparingly* and only when the biological evidence indicates that such action is warranted.” *Id.* (emphasis added). The DPS Policy expressed an intent to follow that instruction. 61 Fed. Reg. at 4722. The Alliance contends that the policy views of a subsequent Congress should not be considered in interpreting a statutory term. The Alliance’s position might be more persuasive if we were construing the statutory term on a blank slate, but that is not the situation here. We are reviewing an agency determination under the deferential *Chevron* standard. So long as the agency action is not manifestly contrary to the statute, it is not improper for the agency to consider the views of the elected branches in interpreting an ambiguous statutory term. *See Chevron*, 467 U.S. at 866 (“[F]ederal judges — who have no constituency — have a duty to respect the legitimate policy choices made by those who do.”). Here the committee report’s language was not in obvious tension with the statutory text and the Service did not err by relying on it in part.

Fifth, the Alliance contends that the DPS Policy has been applied inconsistently, pointing to *National Association of Home Builders* as support for its claim. However, the western pygmy-owl’s preliminary listing in that case took place before the DPS Policy was issued in 1996 and thus cannot be used to show inconsistency in the policy’s application. 340 F.3d at 839. Similarly, the bald eagle, grizzly bear, and gray wolf listings that the Alliance cites all took place well before 1996

(the last of the three was in 1978) and hence shed no light on the faithfulness of the Service's adherence to the DPS Policy.⁹ The Alliance also offers recent examples of discrete, endangered populations that were not granted protection by the Service (because they failed the significance requirement) — but, crucially, offers no examples of populations that were granted protection under the DPS Policy despite being found insignificant to their taxon.

[8] For all these reasons, the DPS Policy is a reasonable construction of “distinct population segment.”

C. *Whether the Service's Denial of the Petition Was Arbitrary and Capricious*

Applying the DPS Policy, the Service found that western gray squirrels in Washington constitute a discrete population, but are not significant to the taxon. It therefore denied the petition. The Alliance vigorously challenges the Service's determination on the “significance” prong.

We note that the Service's internal draft finding of May 16, 2003 recommended granting the petitioned action. The Alliance complains that the Service's final finding reached the opposite conclusion without citing any new data. However, the Service may change its mind after internal deliberation. *See Southwestern Ctr. for Biological Diversity v. Bureau of Reclamation*, 143 F.3d 515, 523 (9th Cir. 1998). The only question before us is whether the Service, in reaching its ultimate finding, “considered the relevant factors and articulated a rational connection between the facts found and the choices made.” *Nat'l Ass'n of Home Builders*, 340 F.3d at 841.

⁹*See* Determination of Certain Bald Eagle Populations as Endangered or Threatened, 43 Fed. Reg. 6230 (Feb. 14, 1978); Amendment Listing the Grizzly Bear of the 48 Conterminous States as a Threatened Species, 40 Fed. Reg. 31,734 (July 28, 1975); Endangered Species, 32 Fed. Reg. 4001 (Mar. 11, 1967) (listing the gray wolf).

The DPS Policy sets forth the following four factors to be used to determine a population's significance to its taxon:

1. Persistence of the discrete population segment in an ecological setting unusual or unique for the taxon,
2. Evidence that loss of the discrete population segment would result in a significant gap in the range of a taxon,
3. Evidence that the discrete population represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historic range, or
4. Evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics.

61 Fed. Reg. at 4725. The Service found that the first, second, and fourth factors warranted analysis and that none of those factors established the Washington gray squirrels' significance to their taxon. The Alliance argues that the Service's findings on those factors were arbitrary and capricious, and not supported by the scientific evidence in the record.

1. *Ecological Setting*

[9] First, the Alliance challenges the Service's finding that the North Cascades and the Puget Trough do not constitute unusual or unique ecological settings for the taxon.¹⁰ The North Cascades habitat is notable for its lack of oak trees, which are the main source of winter foods in most of the sub-

¹⁰The Alliance does not dispute the Service's finding that the South Cascades habitat is similar to habitats in Oregon, and therefore not unique. Final Finding, 68 Fed. Reg. at 34636.

species' range. Gray squirrels in the North Cascades, as noted, subsist primarily on the seeds of pine trees. The Alliance believes that the lack of oak trees compels the finding that the North Cascades habitat is a unique ecological setting. However, the Service offered reasonable grounds for its contrary conclusion. While recognizing that oak trees are absent from the North Cascades, the Service emphasized that "throughout their range, western gray squirrels consume a variety of types of tree seeds, including many conifer species." Final Finding, 68 Fed. Reg. at 34,636. In other words, the North Cascades habitat is not unique, because the squirrels there consume conifer tree seeds just as they do in a variety of habitats. That reasoning is not arbitrary or capricious.

[10] The Alliance also attacks the Service's finding on the Puget Trough habitat. Unlike the North Cascades, the Puget Trough is notable for its concentration of oak trees, which makes the Puget Trough's vegetation more homogenous than elsewhere in the subspecies' range. In contrast, "[e]lsewhere in the subspecies' range, Oregon white oaks occur in communities having a wider range of mast-producing tree species, including a variety of oak and pine species." *Id.* at 34,636. While recognizing the concentration of oak in the Puget Trough habitat, the Service concluded that the difference between the Puget Trough and other habitats "are not so great" as to constitute a "unique or unusual ecological setting for the western gray squirrel." *Id.* Although the Service could have explained its reasoning in more detail, it is clear in context that the Service had in mind the widespread persistence of the Oregon white oak throughout the subspecies' range. Because it is undisputed that Oregon white oaks are not unique to the Puget Trough habitat, the Service's conclusion was not arbitrary or capricious.

2. *Significant Gap in the Range*

The Alliance also disputes the Service's finding that a hypothetical loss of the entire Washington population would

not cause a significant gap in the range of the taxon. For purposes of the “gap in the range” analysis, the term “significant” has “its ‘commonly understood meaning,’ which is ‘important.’ ” *Nat’l Ass’n of Home Builders*, 340 F.3d at 846 (citations omitted).

The Service’s discussion of this factor is not a paragon of clarity. Nonetheless, the Service’s reasoning can be discerned with careful reading. *See id.* (the court may uphold agency decisions “of less than ideal clarity if the agency’s path may reasonably be discerned” (citation omitted)). At the outset, the Service noted that Washington gray squirrels constitute an isolated, peripheral population at the northern portion of the subspecies’ range. Final Finding, 68 Fed. Reg. at 34,636. As a general matter, peripheral populations often face ecological circumstances not found elsewhere in the taxon’s range, and may consequently develop distinctive morphological, behavioral, or genetic characteristics through adaptation to local conditions. The Service then considered whether the Washington population had developed such distinctive qualities.

First, the Service considered evidence suggesting that Washington gray squirrels may be more shy and secretive — as they are rarely seen and often flee from human observers — than their counterparts in Oregon and California. *Id.* at 34,637. The Service found the evidence to be indeterminate. The Service noted that the evidence was anecdotal, and that there are no comparative studies on elusive behavior across the range of the species. The Service also cited evidence that secretive behavior was not unique to Washington squirrels, because similar behavior had also been observed among Oregon squirrels. The Service further stated that even if such behavior does indeed characterize Washington squirrels, there was no evidence that it was caused by adaptation to a peripheral habitat. In the Service’s view, behavioral differences, if any, could simply be attributable to the larger populations south of the Columbia River and their adaptability and proximity to urban areas. *Id.*

The Service next considered evidence on morphology and home range size. A study of gray squirrels in Klickitat County, part of the South Cascades population, found them to be significantly larger in body dimension than elsewhere in the subspecies' range. *Id.* at 34,637. The same study also found that the gray squirrels in Klickitat County had substantially larger home range size when compared with elsewhere in the subspecies' range. The Service, however, declined to credit the results of the study. The Service noted that the study was based on a small sample size — which the record showed to be fewer than fifty squirrels — in a small area of Klickitat county. The Service further theorized that variations in measurement methods, rather than actual differences, might account for the observed results in home range size. Even if the results were accurate, the Service could discern no basis for attributing them to the peripheral location of Washington gray squirrels.

The Service ultimately determined that, while a hypothetical loss of the Washington population would “represent a serious reduction in the species['] range,” it would not be of biological and ecological significance to the taxon as a whole. *Id.* Put differently, the Service believed that any gap caused by the loss of the Washington population would not be significant because the population lacks biologically distinctive traits.

The Alliance complains that the Service dismissed evidence purely on the basis of scientific uncertainty. The ESA instructs the Service to make its determinations “solely on the basis of the best scientific and commercial data available,” 16 U.S.C. § 1533(b)(1)(A), and the Service may not ignore evidence simply because it falls short of absolute scientific certainty. *See Defenders of Wildlife v. Babbitt*, 958 F. Supp. 670, 679-80 (D.D.C. 1997) (Service applied wrong legal standard in dismissing scientific evidence because it was not “conclusive”); *Center for Biological Diversity v. Lohn*, 296 F. Supp. 2d 1223, 1236-40 (W.D. Wash. 2003) (NMFS was capricious

and arbitrary in relying on outdated taxonomic classifications which the best available science showed to be incorrect). We are unpersuaded that the Service was justified in rejecting the secretive behavior evidence and Klickitat County study solely because they were anecdotal. Of course a rigorous, large-scale study of Washington gray squirrels' behavior and morphology would be preferable, but in the absence of such a study, credible anecdotal evidence represents the "best scientific . . . data available" and cannot be ignored. Nevertheless, we hold that the Service did not arbitrarily and capriciously fail to find a significant gap on the basis of such data. Similarly shy and secretive behavior has been documented among Oregon squirrels, and the Klickitat County study was limited geographically to a subset of one of the three Washington habitats of the gray squirrel. While crediting the anecdotal evidence, the Service could have concluded that the extirpation of squirrels whose behavior is not unique and whose larger size is known to exist only in a single county would not create a significant gap in the taxon.

The Alliance further challenges the Service's determination that a "serious reduction" in the subspecies' range does not amount to a "significant gap" due to the absence of biologically distinctive traits in the Washington population. *See* Final Finding, 68 Fed. Reg. at 34,637. The Alliance analogizes the "significant gap" factor in the DPS Policy to 16 U.S.C. § 1532(6), which defines an "endangered species" as a species that is "in danger of extinction throughout all or a significant portion of its range." We have recognized that a species can be considered extinct throughout a significant portion of its range "if there are major geographical areas in which it is no longer viable but once was." *Defenders of Wildlife v. Norton*, 258 F.3d 1136, 1145 (9th Cir. 2001). It does not follow that a serious reduction in the western gray squirrel's geographic range similarly suffices to satisfy the "significant gap" factor. Unlike § 1532(6), the "significance" inquiry under the DPS Policy is not limited to geographic factors. On its face, the DPS Policy considers ecological, historical, and genetic fac-

tors in addition to geography. Nothing in the DPS Policy or in the ESA limits the Service's significant gap inquiry to geographic factors.

[11] The Alliance counters that previous administrative applications of the DPS Policy have found "significant gaps" in the range of taxa solely on account of geographic factors. The Alliance asserts that the Service's current refusal to do the same for Washington gray squirrels is arbitrary and capricious. *See National Cable & Telecomm. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 125 S. Ct. 2688, 2699 (2005) ("Unexplained inconsistency is, at most, a reason for holding an interpretation to be an arbitrary and capricious change from agency practice"). The Alliance cites four prior administrative decisions. Three actually considered biological factors as part of their "significant gap" analyses.¹¹ Only one of the four relied solely on geography to find that the population's extirpation would cause a significant gap.¹² In practice, the

¹¹*See* Final Endangered Status for a Distinct Population Segment of Smalltooth Sawfish (*Pristis pectinata*) in the United States, 68 Fed. Reg. 15,674, 15,675-76 (Apr. 1, 2003) (finding that loss of U.S. smalltooth sawfish population would create a significant gap partly because the population "comprises an important component of the sawfishes' remaining global biological diversity"); Final Rule to List the Columbia Basin Distinct Population Segment of the Pygmy Rabbit (*Brachylagus idahoensis*) as Endangered, 68 Fed. Reg. 10,388, 10,397-98 (Mar. 5, 2003) (finding that loss of Columbia Basin pygmy rabbits would constitute a significant gap partly because the population is experiencing increased "directional selection" and "exhibiting genetic consequences of long-term isolation"); Final Endangered Status for a Distinct Population Segment of Anadromous Atlantic Salmon (*Salmo salar*) in the Gulf of Maine, 65 Fed. Reg. 69,459, 69,460 (Nov. 17, 2000) (finding that loss of the Gulf of Maine population of Atlantic salmon would "negatively affect the genetic resources of Atlantic salmon as a whole because it would contribute to further range reduction").

¹²Determination of Threatened Status for the Northern Population of the Copperbelly Water Snake, 62 Fed. Reg. 4183, 4184 (January 29, 1997) ("The loss of the peripheral, isolated, northern population [of copperbelly water snakes] is considered as significant as characterized under policy, as it would result in a significant reduction in the range of the taxon.") .

Service has regarded the “significant gap” inquiry as a flexible one, and has considered various non-geographic factors on different occasions. Here, the Service has articulated a reasonable basis — the Washington population’s lack of biologically and ecologically distinguishing features — for its conclusion that the loss of the population would not cause a significant gap. We cannot say that the Service’s analysis, which is in fact substantially more detailed than those cited by the Alliance, is an arbitrary and capricious departure from prior practice.

3. *Marked Genetic Differences*

The third factor the Service considered was whether the Washington population’s genetic characteristics differ “markedly” from the remainder of the subspecies’ range. “Under the DPS Policy, ‘markedly’ is given its common meaning, which in this context is ‘appreciably.’ ” *Nat’l Ass’n of Home Builders*, 340 F.3d at 851. The parties do not dispute that some genetic differences exist between Washington gray squirrels and the rest of the taxon in Oregon and California. The question is whether their genetic profiles differ “markedly.”

The Service based its decision on a peer-reviewed study of genetic differences among gray squirrel populations in Washington, Oregon, and California. Final Finding, 68 Fed. Reg. at 34,638. The study was carried out by Kenneth I. Warheit, a senior research scientist with the Washington Department of Fish and Wildlife. Dr. Warheit conducted microsatellite DNA analysis on samples from 3 California gray squirrels, 24 Oregon squirrels, and 101 Washington squirrels.¹³ He analyzed the samples’ alleles, which are series of two or more different genes that occupy the same position on a chromosome. He

¹³“Microsatellites are short (no longer than six base pairs (nitrogenous bases that are part of the DNA molecule, such as cytosine and guanine)) tandemly repeated segments interspersed throughout the chromosome.” Final Finding, 68 Fed. Reg. at 34,638.

found that each population in California and Oregon showed at least three “private alleles” that are present only in that population. In contrast, no Washington population had private alleles. In other words, “all alleles present in each of the Washington population are also present in at least one of the Oregon or California populations.” *Id.* At the same time, he found reduced genetic diversity in the Washington populations compared with Oregon and California, and “considerably more genetic differentiation between Washington and Oregon or California[] than there is between Oregon and California populations.” *Id.* He then conducted mitochondrial control region sequence analysis on a subset of 67 squirrels.¹⁴ He determined that no haplotype — which is the set of one allele of each gene, and which comprises the genetic constitution of an individual or taxon — was shared across the Columbia river. Mitochondrial DNA analysis also demonstrated that the Washington population had substantially less genetic diversity. Dr. Warheit found only 3 haplotypes from 40 Washington squirrels, compared with 14 haplotypes from 27 California and Oregon squirrels.

After reviewing Dr. Warheit’s study, the Service concluded that “[w]hile there is clearly some genetic information that shows that the Washington populations are different from other populations . . . at this time we do not believe them to be markedly so.” *Id.* at 34,639. The Service explained that evidence of genetic differentiation is “counterbalanced” by the fact that the Washington population has no private alleles, “that some haplotypes in Washington are more closely related to haplotypes in Oregon than other haplotypes in Washington,” and “the fact that the Washington populations . . . show reduced genetic diversity.” *Id.* The Service further explained that the results of the study may have been confounded by

¹⁴“Mitochondria are structures in the cell, but outside of the nucleus, which contains DNA inherited only from the mother.” Final Finding, 68 Fed. Reg. at 34638. In contrast, microsatellite DNA is inherited from both parents.

“the effects of small population size and the consequent inbreeding and genetic drift” in Washington. *Id.* The Service also noted that the study used a small sample size for the California population.

[12] The Alliance contends that the presence of unique haplotypes in the Washington population is sufficient to establish marked genetic differentiation, notwithstanding the fact that the population has no private alleles. However, we must defer to the agency’s interpretation of complex scientific data. *United States v. Alpine Land and Reservoir Co.*, 887 F.2d 207, 213 (9th Cir. 1989) (“Deference to an agency’s technical expertise and experience is particularly warranted with respect to questions involving engineering and scientific matters.”). We decline the Alliance’s invitation to impose our own view on whether alleles or haplotypes constitute the best markers of genetic differentiation.

Next, the Alliance maintains that reduced genetic diversity in Washington is itself evidence of the population’s genetic distinctiveness. Nothing in the DPS Policy or in the ESA compels the Service to focus on relative genetic diversity, rather than on the presence or absence of unique alleles, as the best indicators of genetic differentiation. As an internal Service memorandum explained, because “there was no evidence from the analysis that [Washington] populations possessed unique microsatellite alleles . . . most of the differentiation [between Washington and the rest of the range] comes from reduced numbers of alleles” in Washington. Whether the Service was correct to focus on the alleles is beside the point; interpretation of complex genetic data falls within the domain of the Service’s scientific discretion, to which we must defer so long as the Service has articulated a rational basis for its conclusion.

Lastly, the Alliance argues that whether some haplotypes in Washington are closer to haplotypes in Oregon than to others in Washington is irrelevant for the question of overall genetic

differences between Washington and Oregon. This argument ignores the inference that if all of the Washington haplotypes were closer to each other than to haplotypes in California and Oregon, the overall genetic profile of the Washington population would be more distinct.

[13] Because the Service has articulated reasoned connections between the record and its conclusion, its genetic analysis was not arbitrary or capricious.

IV. CONCLUSION

[14] As set forth above, the DPS Policy is entitled to *Chevron* deference. Under the *Chevron* standard, the DPS Policy was a reasonable construction of the ESA. The Service's decision denying the petition was not arbitrary or capricious.

AFFIRMED.