

FOR PUBLICATION

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

CENTER FOR BIOLOGICAL
DIVERSITY,

Plaintiff-Appellee,

v.

UNITED STATES FISH AND
WILDLIFE SERVICE,

Defendant-Appellee,

v.

ROSEMONT COPPER COMPANY,

*Intervenor-Defendant-
Appellant.*

No. 20-15654

D.C. Nos.
4:17-cv-00475-
JAS
4:17-cv-00576-
JAS
4:18-cv-00189-
JAS

OPINION

Appeal from the United States District Court
for the District of Arizona
James Alan Soto, District Judge, Presiding

Argued and Submitted September 23, 2022
Pasadena, California

Filed May 17, 2023

Before: Sandra S. Ikuta, Danielle J. Forrest, and Holly A. Thomas, Circuit Judges.

Opinion by Judge Forrest;
Partial Concurrence and Partial Dissent by
Judge H.A. Thomas

SUMMARY*

Environmental Law

In a case in which intervenor Rosemont Copper Company challenges the U.S. Fish and Wildlife Services's (FWS) designation of certain areas in southern Arizona as critical habitat for jaguar under the Endangered Species Act (ESA), the panel affirmed the district court's vacatur of the FWS's designation of the challenged area as occupied critical habitat; reversed the district court's grant of summary judgment in favor of the FWS regarding its designation of that same area and of Subunit 4b as unoccupied critical habitat; vacated the grant of summary judgment in favor of the Center for Biological Diversity (Center); and remanded with directions that the case be returned to the agency for further proceedings.

This litigation was initiated by the Center after the FWS concluded that Rosemont's proposed mine project would not destroy or adversely modify the designated critical habitat. Rosemont intervened and filed crossclaims against

* This summary constitutes no part of the opinion of the court. It has been prepared by court staff for the convenience of the reader.

the FWS, arguing that certain of its critical-habitat designations for the jaguar violated the Administrative Procedures Act (APA) and the ESA. This case concerns only Unit 3, which covers 351,501 acres and spans several counties and mountain ranges, including the Santa Rita Mountains; and Subunit 4b, which covers 12,710 acres and is a corridor connecting the Whetstone Mountains and the Santa Rita Mountains.

The FWS argued that the district court erred in rejecting the FWS's designation of Unit 3 as occupied critical habitat, and Rosewood argued that the district court erred in upholding the FWS's designation of Unit 3 and Subunit 4b as unoccupied critical habitat because the standard the FWS used was something less demanding than essential for the conservation of species. First, the panel held that the only plausible construction of "essential" in the ESA's definition of "critical habitat" is area that is indispensable or necessary to conservation, not merely beneficial to such efforts. Second, the panel considered whether the FWS's critical habitat designations of Unit 3 and Subunit 4b were proper. Because the FWS designated the northern Santa Rita Mountains as occupied critical habitat based on irrelevant photographs from decades after the jaguar was listed as endangered and a single timely sighting from a different mountain range, the panel affirmed the district court's conclusion that the FWS's challenged occupied critical-habitat designation was arbitrary and capricious.

Next, the panel addressed Rosemont's argument that the FWS failed to follow its regulation governing unoccupied critical-habitat designations. This court discussed the operative version of 50 C.F.R. § 424.12(e) in *Bear Valley Mut. Water Co. v. Jewell*, 790 F.3d 977 (9th Cir. 2015). The FWS and the Center argued that *Bear Valley* foreclosed

Rosemont's argument that the FWS erred by not sequentially considering both adequacy and essentiality. The panel held that imposing a sequential analysis to determine whether designation of unoccupied critical habitat is proper does not violate *Bear Valley*, which acknowledged both the inadequacy-of-occupied-habitat and essentiality-of-unoccupied-habitat requirements and upheld the FWS's challenged designation where these requirements were both met. Because the panel concluded that *Bear Valley* did not displace the agency's interpretation of Section 424.12(e), the panel considered whether the FWS's designation of Unit 3 and Subunit 4b as unoccupied critical habitat complied with Section 424.12, as interpreted by the agency.

The panel held that because the FSW did not comply with Section 424.12(e) by addressing whether designated occupied critical habitat was adequate to address conservation goals, its designation of Unit 3 and Subunit 4b as unoccupied critical habitat was arbitrary and capricious. The panel rejected the dissent's position that the FWS could properly consider the adequacy of areas occupied at the *time of designation* not just the *time of listing* in deciding whether designation of unoccupied areas was essential. The panel agreed with the Tenth Circuit that the governing version of Section 424.12 required the FWS to consider a species range at the time of listing because any other reasoning would be inconsistent with the ESA. The panel held further that even if the FWS should consider whether areas occupied at the time of designation, rather than listing, were inadequate to conserve the species, the FWS's analysis still fell short because it did not explain why the areas that it found were occupied when it made its unoccupied critical habitat designations were inadequate to conserve the jaguar. The panel concluded that the FWS did

not provide a rational connection between the facts found and the choice made, or articulate a satisfactory explanation to justify its designations of Unit 3 and Subunit 4b as unoccupied critical habitat.

Finally, Rosemont challenged the district court's refusal to remand for reconsideration of the FWS's economic-impact analysis. The panel held that Rosemont had not waived this issue. Rosemont's argument that the FWS needed to revisit its economic-impact analysis became relevant only after the district court concluded that the FWS used the wrong standard in determining that Rosemont's Mine would not adversely affect the designated critical habitat and remanded for the FWS to reconsider that issue. Thus, it was not improper for Rosemont to raise the argument for the first time on appeal. The panel held, however, that directing the FWS to reconsider its economic-impact analysis was premature at this point.

The panel concluded that it need not reach whether the FWS violated the APA in concluding that Rosemont's Mine would not adversely modify the Unit 3 and Subunit 4b critical-habitat designations, which the Center argued in its motion for summary judgment.

Concurring in part and dissenting in part, Judge H.A. Thomas agreed with the majority that the district court correctly vacated the FWS's designation of Unit 3 as occupied critical habitat. She also agreed it would be premature to vacate the FWS's economic-impact analysis. She dissented from the majority's holding that the district court erred in upholding the FWS's designation of Unit 3 and Subunit 4b as unoccupied critical habitat. She would hold that, when considered as a whole, the record amply supported the FWS's determination that habitat

within the United States—and the designated units in particular—were critical to the conservation of the jaguar as it faces threats elsewhere in its range.

COUNSEL

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OPINION

FORREST, Circuit Judge:

Rosemont Copper Company (Rosemont) challenges the U.S. Fish and Wildlife Service's (FWS) designation of certain areas in southern Arizona as critical habitat for jaguar under the Endangered Species Act (ESA). Rosemont seeks to develop a copper mine and related processing facilities in the area within and adjacent to the critical-habitat designations. This litigation was initiated by the Center for Biological Diversity (Center) after the FWS concluded that Rosemont's proposed mine project would not destroy or adversely modify the designated critical habitat. The Center alleged that the FWS and the United States Forest Service violated the Administrative Procedures Act (APA) in approving Rosemont's proposed mining project. Rosemont intervened and filed crossclaims against the FWS, arguing that certain of its critical-habitat designations for the jaguar violated the APA and the ESA. All parties moved for summary judgment.

The district court concluded that the FWS erred in designating *occupied* critical habitat in the northern Santa Rita Mountains because the record did not establish that jaguar occupied this area when this species was listed as endangered in 1972. *Ctr. for Biological Diversity v. U.S. Fish & Wildlife Serv.*, 441 F. Supp. 3d 843, 872 (D. Ariz. 2020). But it upheld the FWS's designation of this same area and an adjacent area as *unoccupied* critical habitat. *Id.* at 872–73. The district court also granted summary judgment in favor of the Center on its claim that the FWS violated the APA by improperly using a heightened standard in determining that Rosemont's mining project was not likely

to destroy or adversely modify designated critical habitat for the jaguar and remanded for the FWS to conduct a proper analysis. *Id.* at 855–57. Rosemont argues that if this case is remanded, the FWS should be instructed to reconsider its economic-impact analysis that was part of the basis for its critical-habitat designation. We conclude that the district court correctly vacated the FWS’s occupied critical-habitat designation but erred in upholding the FWS’s unoccupied critical-habitat designations. Therefore, we reverse the grant of summary judgment in favor of the FWS, vacate the grant of summary judgment in favor of the Center, remand with instructions for the district court to vacate the FWS’s critical-habitat designations, and remand to the agency for further proceedings consistent with this opinion.

I. BACKGROUND

A. The Endangered Species Act

The ESA is “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.” *Tennessee Valley Auth. v. Hill*, 437 U.S. 153, 180 (1978). It directs the Secretary of the Interior to “determine whether any species is an endangered species or a threatened species.”¹ 16 U.S.C. § 1533(a)(1). The Secretary publishes in the Federal Register “a list of all species determined . . . to be endangered species and a list of all species determined

¹ A “species” includes “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). An “endangered species” is “any species which is in danger of extinction throughout all or a significant portion of its range,” and a “threatened species” is “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” *Id.* § 1532(6), (20).

. . . to be threatened species.” *Id.* § 1533(c)(1). Upon listing a species as endangered or threatened, the Secretary is required to “concurrently . . . designate any habitat of such species which is then considered to be critical habitat.” *Id.* § 1533(a)(3)(A)(i). Critical habitat designations must be based on the conditions that existed at the time of listing, *id.* § 1532(5)(A), and “the best scientific data available and after taking into consideration the economic impact, . . . national security, and any other relevant impact, of specifying any particular area as critical habitat.” *Id.* § 1533(b)(2).

B. The Jaguar

The jaguar (*Panthera onca*) is a large felid found in South America, Central America, Mexico, and the southwestern United States. The jaguar’s total range spans over 3 million square miles. The portion of this range in the United States is less than one percent. Although “[t]he probability of long-term survival of the jaguar is considered high in 70 percent of the currently occupied range,” the population is decreasing because of many biological challenges, including the jaguar’s “large spatial requirements.”

More than 30,000 jaguars likely still live in the wild. About 600 of those are found in northwestern Mexico. No breeding pair of jaguars has been documented in the relevant area of the United States. There are only three undisputed records of female jaguars with cubs in the United States—the most recent being in 1910.² There is a single record of a

² The FWS followed a classification protocol for reports of jaguar present in the United States based on the degree of certainty or validity of the report. For example, a “Class I record” is substantiated by physical

female jaguar in the United States in 1963, but it is disputed. There have been no confirmed sightings of female jaguar in the United States since 1963. The FWS identified undisputed Class I records of eight or nine unique jaguars (all males) within the United States between 1962 and 2013. One of these included a jaguar that was shot in southern Arizona in 1965. “Jaguars in the United States are understood to be individuals dispersing north from Mexico . . . where the closest breeding population occurs about 210 km (130 mi) south of the U.S.-Mexico border.”

The FWS first listed the jaguar as endangered in 1972. The average lifespan of a jaguar is approximately ten years. “[T]he jaguar was included only on the foreign species list” because the jaguar was believed to be extinct in the United States.³ 90-Day Finding on a Petition to Revise Critical Habitat for the Jaguar, 86 Fed. Reg. 49985-01, 49986 (Sept. 7, 2021). The FWS issued a proposed rule in 1980 to list the jaguar as a domestic endangered species, but the proposed rule was withdrawn in 1982. The FWS did not list the jaguar as an endangered species in the United States until 1997. Despite the later designation of the jaguar as a domestic

evidence (e.g., a skin, skull, or photograph) and considered “‘verified’ or ‘highly probable.’” A Class II record has “detailed information of the observation,” but no physical evidence and is considered “‘probable’ or ‘possible.’” Disputed records include those where “the validity of the[] location[] is questionable because of the suspicion that the[] [observed] animals were released for ‘canned hunts.’”

³ The categorization of the jaguar as an endangered species on the foreign species list was in accordance with the Endangered Species Conservation Act of 1969 (ESCA), a precursor to the Endangered Species Act of 1973, which maintained separate listings for foreign species and species native to the United States. *See* 90-Day Finding on a Petition to Revise Critical Habitat for the Jaguar, 86 Fed. Reg. 49985-01, 49986 (Sept. 7, 2021).

endangered species, the FWS treats its 1972 listing as the jaguar's listing date within the United States because "it was always [FWS's] intent . . . to consider the jaguar endangered throughout its entire range when it was listed as endangered in 1972."⁴

The FWS did not designate critical habitat for the jaguar when it listed the jaguar as a domestic endangered species in 1997. The FWS concluded that a critical habitat designation in the United States was "not prudent" because "the primary threat to [jaguars] in the United States is direct taking rather than habitat destruction," and the "[p]ublication of detailed critical habitat maps and descriptions in the Federal Register would" be counterproductive. In 2006, the FWS reconsidered its decision not to designate critical habitat and again decided against making such a designation.

The FWS changed course on designating critical habitat for the jaguar in 2009. That year, the FWS's 2006 determination not to designate critical habitat for the jaguar was vacated by a federal court. *See Ctr. for Biological Diversity v. Kempthorne*, 607 F. Supp. 2d 1078, 1094 (D. Ariz. 2009). On remand in that litigation, the FWS concluded that "the designation of critical habitat for the jaguar would be beneficial" to conservation of the species. Based on this changed position, the FWS "convened a binational Jaguar Recovery Team in 2010." The team was tasked with "synthesiz[ing] information on the jaguar, focusing on [a]n area comprising jaguars in the northernmost portion of their range."

In April 2012, the Jaguar Recovery Team issued a "Recovery Outline for the Jaguar." The Recovery Outline

⁴ Rosemont does not dispute 1972 as the time of listing.

divided the jaguar's range into two "recovery units": the Northwestern Recovery Unit (NRU) and the Pan American Recovery Unit. Each unit has "core areas" with "persistent verified records of jaguar occurrence over time and recent evidence of reproduction." They also have "secondary areas" that "contain jaguar habitat with historical and/or recent records of jaguar presence [but] with no recent record or very few records of reproduction." Secondary areas "are of particular interest when they occur between core areas and can be used as transit areas through which dispersing individuals can move, reach adjacent core areas, and potentially breed."

The Recovery Outline focused on the NRU, which contains two core areas and secondary areas. The northernmost section of the NRU—a secondary area that extends into Arizona and New Mexico—is the area at issue in this case. This section of the NRU does not connect two core areas. The area that extends into the United States contains approximately 12,386 square miles, which is roughly 0.36% of the jaguar's current range. A map of the NRU is included as Appendix 1.

The Recovery Outline stated that "jaguars in the U.S. are thought to be part of a population, or populations, that occur largely in Mexico." And based on the evidence available, "any conclusions about the conservation importance of the habitat types in which jaguars have occurred or might occur in Arizona and New Mexico are preliminary and can vary widely." However, "the region to the south of Arizona and New Mexico is especially critical for the recovery of the jaguar in the southwestern U.S. because the source population is likely in central Sonora[, Mexico]."

Relying on the Recovery Outline, the FWS published a proposed rule in 2012 designating approximately 838,000 acres in southern Arizona and New Mexico as critical habitat for the jaguar. The FWS revised its initial proposal and sought additional public comment in 2013. The Arizona Game and Fish Department (Arizona) objected to critical habitat being designated for the jaguar within that state. Specifically, Arizona argued that “designating critical habitat for the less than 1% of historic jaguar range which occurs in the U.S. would jeopardize the credibility and long-term viability of the ESA,” and that “recovery of jaguar is entirely reliant on conservation action in the 99+% of its habitat found south of the international border.” Rosemont also submitted comments that the area within its proposed mining project should be excluded from the FWS’s critical-habitat designations.

The FWS published its Final Rule on March 5, 2014 (Final Rule). *See* Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Jaguar, 79 Fed. 12572, 12573 (Mar. 5, 2014). The Final Rule designated 764,207 acres in southern Arizona and southwestern New Mexico as critical habitat. *Id.* at 12572. The designated area includes six units, four located in Arizona (Units 1–4), one that straddles the Arizona/New Mexico border (Unit 5), and one located in New Mexico (Unit 6).⁵ *Id.* The FWS also designated several subunits within those units. *Id.* at 12591. This case concerns only Unit 3 and Subunit 4b. Unit 3 covers 351,501 acres and spans several counties and mountain ranges, including the Santa Rita Mountains. *Id.* at 12572.

⁵ The Tenth Circuit addressed challenges to the FWS’s designation of Units 5 and 6 as critical habitat in *New Mexico Farm & Livestock Bureau v. United States Department of Interior*, 952 F.3d 1216 (10th Cir. 2020).

Subunit 4b covers 12,710 acres and is a corridor connecting the Whetstone Mountains and the Santa Rita Mountains. *Id.* at 12593. A map of Units 1 through 4 is included as Appendix 2.

The FWS explained that in determining the occupancy of the jaguar at the time of listing, it was considering evidence from 1962 through 1982 (10 years before and after the listing date) because the “consensus” is that the average lifespan of a jaguar is 10 years. *Id.* at 12581. The FWS considered areas in which jaguars had been reported from 1982 to the present to be occupied given “it is likely those areas were occupied at the time of the original listing, but jaguars had not been detected because of their rarity, the difficulty in detecting them, and a lack of surveys for the species.” *Id.* The FWS then determined that Unit 3 was “occupied” by jaguar in 1972 and designated this area occupied critical habitat. *Id.* at 12593. The FWS based this determination on an undisputed Class I record of a jaguar in 1965, photos of a male jaguar in the Santa Rita Mountains in 2012 and 2013, and its finding that the mountain ranges within Unit 3 contained all the “primary constituent elements” (PCEs) for jaguars. *Id.* PCEs are “those specific elements of the physical or biological features that provide for a species’ life history processes and are essential to the conservation of the species.” *Id.* at 12587. Acknowledging uncertainty in its conclusion that Unit 3 was “occupied” at listing, the FWS also analyzed whether Unit 3 was properly designated as “unoccupied” critical habitat. *Id.* at 12607–08. The FWS found that it was because there was evidence of recent occupancy in Unit 3, the area contained features that constitute jaguar habitat, and the area contributed to the jaguar’s persistence. *Id.*

The FWS designated Subunit 4b only as unoccupied critical habitat. *Id.* at 12593–94. The FWS concluded that this area was essential to the conservation of the species because it connected the Whetstone and Santa Rita Mountain ranges and “represent[ed] areas through which a jaguar may travel between Subunit 4a and Mexico.” *Id.* at 12611.

C. Rosemont’s Mining Project

Rosemont’s proposed copper mine and related mineral-processing facilities (Mine) are located in the northern Santa Rita Mountains in Pima County, Arizona. Applying for the necessary federal authorizations and permits for its Mine, Rosemont consulted twice with federal agencies on endangered-species issues and requirements under the ESA. During both consultations, the FWS considered whether Rosemont’s Mine was likely to destroy or adversely modify the jaguar’s critical habitat that the FWS had designated. The FWS issued a biological opinion after each consultation (2013 and 2016 Biological Opinion) and concluded both times that the Mine was “not likely [to] destroy or adversely modify” critical habitat for the jaguar. Accordingly, the FWS declined to exclude Rosemont’s project area from its critical-habitat designation because “the construction and operation of the Rosemont Mine would not . . . adversely modify designated critical habitat” and the resulting economic costs from the designation, if any, would be limited.

D. Procedural Background

In September 2017, the Center sued the FWS, alleging that it violated the APA in issuing its 2016 Biological Opinion and approving Rosemont’s Mine. Rosemont intervened as a defendant and crossclaimed, arguing that the FWS violated the ESA and the APA by designating Unit 3

and Subunit 4b as critical habitat for the jaguar. The parties cross-moved for summary judgment.

The district court granted the FWS's and the Center's motions for summary judgment and denied Rosemont's motion. *Ctr. for Biological Diversity*, 441 F. Supp. 3d at 871–75. The district court agreed with Rosemont that the FWS erred in determining that Unit 3 was occupied by the jaguar when it was listed, but it held that the FWS properly designated Unit 3 and Subunit 4b as unoccupied critical habitat. *Id.* at 872–74. The district court also granted summary judgment to the Center on its claim that the FWS's 2016 Biological Opinion improperly used a heightened standard in determining that Rosemont's Mine was not likely to destroy or adversely modify critical habitat for the jaguar. *Id.* at 855–57.

Rosemont timely appealed. Thereafter, Rosemont petitioned the FWS to revise its critical-habitat designations to exclude the area where the Mine is located in the northern Santa Rita Mountains.⁶ We stayed Rosemont's appeal pending the FWS's ruling on Rosemont's petition. In September 2021, the FWS denied Rosemont's petition, finding that it “does not present substantial scientific or commercial information indicating that [the northern portion of Unit 3 and Subunit 4b] are not essential for the conservation of the species.” 90-Day Finding on a Petition

⁶ Rosemont's motion requesting that we take judicial notice of its Petition to Revise the Critical Habitat for the Jaguar Species, filed with the FWS on November 11, 2020, is granted. *See Anderson v. Holder*, 673 F.3d 1089, 1094 n.1 (9th Cir. 2012) (noting that “[w]e may take judicial notice of records and reports of administrative bodies.” (internal quotation marks and citation omitted)).

to Revise Critical Habitat for the Jaguar, 86 Fed. Reg. at 49988.

II. DISCUSSION

We review the district court's summary judgment rulings de novo to determine whether the FWS's challenged actions were "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A); *Ariz. Cattle Growers' Ass'n v. Salazar*, 606 F.3d 1160, 1163 (9th Cir. 2010). Agency action is arbitrary and capricious when the agency "relie[s] on factors which Congress has not intended it to consider, entirely fail[s] to consider an important aspect of the problem, [or] offer[s] an explanation for its decision that runs counter to the evidence before the agency." *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983); see also *Michigan v. EPA*, 576 U.S. 743, 750 (2015) ("Not only must an agency's decreed result be within the scope of its lawful authority, but the process by which it reaches that result must be logical and rational." (quoting *Allentown Mack Sales & Serv., Inc. v. NLRB*, 522 U.S. 359, 374 (1998))).

The first issue for decision is whether the FWS's designations of Unit 3 and Subunit 4b as critical habitat were proper. Because we conclude that they were not, we do not reach whether the FWS correctly determined that Rosemont's Mine would not adversely affect those designated critical habitats, the subject of the Center's motion for summary judgment. We also reject Rosemont's argument that the district court erred by not requiring the FWS on remand to reconsider its economic-impact analysis related to its critical-habitat designations because that issue is premature.

A. Critical Habitat Designations

As previously stated, when a species is listed as endangered or threatened, the Secretary of the Interior must “concurrently . . . designate any habitat of such species which is then considered to be critical habitat.” 16 U.S.C. § 1533(a)(3)(A)(i). Habitat may be designated as critical if it is “essential” to the “conservation of the species.” *Id.* § 1532(5)(A). The ESA identifies two types of critical habitat: occupied and unoccupied. *Id.* An area may be designated as “occupied” critical habitat if the species is present in the area when the species is listed, and the area has the “physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection.” *Id.* § 1532(5)(A)(i). The species need not be physically present permanently for an area to be designated as occupied; the area simply must “contain” the species. *Ariz. Cattle Growers’ Ass’n*, 606 F.3d at 1165. Stated another way, an area is occupied if the species “uses [it] with sufficient regularity that [the species] is likely to be present during any reasonable span of time.” *Id.* Unoccupied areas, or areas where the species is not present at listing, can be designated as critical habitat only if the Secretary determines “that such areas are essential for the conservation of the species.” 16 U.S.C. § 1532(5)(A)(ii).

While the ESA requires that both occupied and unoccupied areas be “essential” to conservation before they can be designated as critical habitat, *id.* § 1532(5)(A)(i)–(ii), the standard for designating unoccupied critical habitat is “more demanding” than the standard for designating occupied critical habitat. *Home Builders Ass’n of N. Cal. v. U.S. Fish & Wildlife Serv.*, 616 F.3d 983, 990 (9th Cir. 2010). When the FWS made the designations challenged in

this case, its governing regulations instructed that “[t]he Secretary shall designate as critical habitat areas outside the geographical area presently occupied by a species *only when a designation limited to its present range would be inadequate to ensure the conservation of the species.*” 50 C.F.R. § 424.12(e) (2012) (emphasis added).⁷

The FWS argues that the district court erred in rejecting the FWS’s designation of Unit 3 as occupied critical habitat. Rosemont argues that the district court erred in upholding the FWS’s designation of Unit 3 and Subunit 4b as unoccupied critical habitat because the standard the FWS used was something less demanding than “essential for the conservation of the species.”

1. Definitions

Congress did not define “essential” as used in the ESA’s “critical habitat” definition. Therefore, we begin by identifying its “ordinary or natural meaning.” *HollyFrontier Cheyenne Ref., LLC v. Renewable Fuels Ass’n*, 141 S. Ct. 2172, 2176 (2021) (citation omitted). There is significant agreement about the ordinary meaning of “essential”: it refers to something that is indispensable or necessary. *See* American Heritage Dictionary of the English Language (1970) (“Of the greatest importance; indispensable”); Webster’s New World Dictionary, Second College Edition (1970) (“Absolutely necessary; indispensable; requisite”); Webster’s Third New International Dictionary (1971) (“Necessary, indispensable”); *see also* Black’s Law Dictionary (4th ed. 1968) (“Indispensably necessary; important in the highest degree; requisite.”). Where

⁷ In 2016, the agency amended the regulation and recodified it at 50 C.F.R. § 424.12(b)(2). *See* 50 C.F.R. § 424.12(b)(2) (2019).

“[v]irtually every dictionary we are aware of” from the time the ESA was enacted references the same basic meaning, “[w]e have not the slightest doubt that is the meaning that the statute intended.” *MCI Telecomms. Corp. v. AT&T Co.*, 512 U.S. 218, 225, 228 (1994).

This interpretation of “essential” also is bolstered by the surrounding statutory text. *See, e.g., Weyerhaeuser Co. v. U.S. Fish & Wildlife Serv.*, 139 S. Ct. 361, 368 (2018) (“Statutory language cannot be construed in a vacuum.” (alteration and citation omitted)); *Yates v. United States*, 574 U.S. 528, 543 (2015) (“[A] word is known by the company it keeps”). Congress used “essential” in defining “critical habitat” as geographic areas that are “essential to” or “essential for” the “conservation of the species.” 16 U.S.C. § 1532(5)(A)(i)–(ii). “Critical” means “important or essential for determining” and refers to a “state on which the issue of things depends.” Webster’s New Twentieth Century Dictionary (2d edition 1971); *see also* Webster’s New World Dictionary, Second College Edition (1970) (“[O]f or forming a crisis or turning point; decisive”); Webster’s Third New International Dictionary (1971) (“[I]ndispensable for the weathering, the solution, or the overcoming of a crisis”).

“Conservation”—the concept that “essential” is connected to—is defined in the ESA. 16 U.S.C. § 1532(3). It is “the use of all methods and procedures which are *necessary* to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary.” *Id.* (emphasis added). “Necessary” also means “indispensable.” *See* Webster’s New World Dictionary, Second College Edition (1970) (“[T]hat cannot be dispensed with; essential; indispensable.”); American Heritage Dictionary of the English Language (1970) (“Needed to achieve a certain

result; requisite”). Taken together, both the accepted plain meaning of “essential” and the relevant surrounding statutory terms in the ESA unambiguously establish that for an area to be “essential” for conservation of a species, it must be more than beneficial; rather, the agency must determine that the species cannot be brought “to the point at which the measures provided pursuant to [the ESA] are no longer necessary” without the critical habitat designation. 16 U.S.C. § 1532(3).

Caselaw also supports this interpretation. In *Weyerhaeuser*, the Supreme Court construed the ESA’s definition of “critical habitat”—whether occupied or unoccupied—as including only “areas that are *indispensable* to the conservation of the endangered species.” 139 S. Ct. at 368–69 (emphasis added). And we previously indicated that “essential” means indispensable when we affirmed a district court’s conclusion that “[i]f certain habitat is essential, it stands to reason that if the [FWS] did not designate this habitat, whatever the [FWS] otherwise designated would be inadequate,” *Bear Valley Mut. Water Co. v. Salazar*, 2012 WL 5353353, at *22 (C.D. Cal. Oct. 17, 2012), *aff’d sub nom. Bear Valley Mut. Water Co. v. Jewell*, 790 F.3d 977 (9th Cir. 2015); *see also N.M. Farm & Livestock Bureau v. U.S. Dep’t of Interior*, 952 F.3d 1216, 1233 (10th Cir. 2020) (Hartz, J., concurring) (“The administrative record raises concerns about whether the Service defined *essential* to mean merely convenient or helpful. But I am confident that it will be more careful after remand.”); *Markle Interests, L.L.C. v. U.S. Fish & Wildlife Serv.*, 827 F.3d 452, 486 (5th Cir. 2016) (Owen, J., dissenting) (“Unit 1 is not ‘essential [i.e., of the utmost importance; basic and necessary] for the conservation of the species.’” (alteration in original)), *vacated*, 139 S. Ct. 590 (2018).

Indeed, while the parties disputed the meaning of “essential” in the district court, *Ctr. for Biological Diversity*, 441 F. Supp. 3d at 872–74, they seem to now agree that it means “indispensable,” “necessary,” and “something more than convenient or helpful.” But that is where their agreement ends. The FWS and the Center argue that “essential” is nonetheless a “broad standard” because it is used in reference to “conservation,” which is a broad concept. And Rosemont argues that the FWS’s and the Center’s proposed interpretation is a “watered-down standard that contravenes the plain meaning of the ESA.”

The FWS and the Center rely on our prior decisions recognizing that “the purpose of establishing ‘critical habitat’ is for the government to carve out territory that is not only necessary for the species’ survival but also essential for the species’ recovery.” *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv.*, 378 F.3d 1059, 1070 (9th Cir. 2004), *superseded on other grounds by* Definition of Destruction or Adverse Modification of Critical Habitat, 81 Fed. Reg. 7214 (Feb. 11, 2016); *see also Home Builders Ass’n of N. Cal.*, 616 F.3d at 989 (“*Gifford Pinchot* requires FWS to be *more* generous in defining area as part of the critical habitat designation.”).⁸ That is, the FWS and the

⁸ The district court relied on this statement in *Home Builders Association* in concluding that “essential” does not mean “indispensable” and that “this higher standard would not be in accordance with the intent of the ESA.” *Ctr. for Biological Diversity*, 441 F. Supp. 3d at 873 n.31 (citing *Home Builders Ass’n of N. Cal.*, 616 F.3d at 989). In *Home Builders Association*, the plaintiff made the “perverse” argument that our statement in *Gifford Pinchot* that “the purpose of establishing critical habitat is . . . to carve out territory that is not only necessary for the species’ survival but also essential for the species’ recovery” required

Center argue that Unit 3 and Subunit 4b are “essential for jaguar conservation” because “protecting these areas through the ESA’s consultation process will promote jaguar recovery.”

This argument is unpersuasive. While “conservation” encompasses both ensuring species’ survival and recovery, the ESA nonetheless requires the agency to show that *designation of critical habitat* is “necessary” or “indispensable” in accomplishing these objectives, not merely “beneficial” to or capable of “promoting” survival or recovery. Congress not only limited “conservation” to include those “methods and procedures *which are necessary* to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary,” 16 U.S.C. § 1532(3) (emphasis added), it also expressly limited the authority to designate habitat areas for protection to only “critical habitat,” which it defined as areas “essential” for conservation. *Id.* § 1532(5)(A). The “extremely broad[]” construction that the FWS, the Center, and the dissent advance reads out of the statute Congress’ limiting words: “critical,” “essential,” and “necessary.” *See* 16 U.S.C. § 1532(3), (5)(A). But our obligation is to give effect to all the terms of the statute.

the FWS to include *less* area in the critical-habitat designation challenged in that case. 616 F.3d at 988–89 (quoting *Gifford Pinchot*, 378 F.3d at 1070). In responding to this argument, we explained that *Gifford Pinchot* emphasized the dual survival and recovery purposes of critical-habitat designations, which “requires FWS to be *more* generous” in defining critical habitat, as opposed to more restrictive. *Id.* This context makes clear that we were not opining about the meaning of “essential” or suggesting that nonessential areas could be designated as critical habitat for accomplishing the dual purposes of designating critical habitat.

Ysleta Del Sur Pueblo v. Texas, 142 S. Ct. 1929, 1939 (2022). And doing so here means that the only plausible construction of “essential” in the ESA’s definition of “critical habitat” is area that is indispensable or necessary to conservation, not merely beneficial to such efforts.

2. FWS’s Designations

We now turn to whether the FWS’s critical habitat designations of Unit 3⁹ and Subunit 4b were proper.

a. Occupied Critical Habitat

The district court concluded that the FWS’s designation of Unit 3 was arbitrary and capricious because the FWS considered evidence of occupancy outside the timeframe of 1962–1982, which was counter to Congress’s intention that the agency consider occupancy at the time of listing. *Ctr. for Biological Diversity*, 441 F. Supp. 3d at 872. The FWS contends that this was error.

For land to be classified as occupied critical habitat, it must be “within the geographical area occupied by the species, at the time [the species] is listed.” 16 U.S.C. § 1532(5)(A)(i). Although the ESA and its implementing regulations do not define “occupied,” we have previously construed this term to refer to when a species “uses [the area] with sufficient regularity that it is likely to be present during any reasonable span of time.” *Ariz. Cattle Growers’ Ass’n*, 606 F.3d at 1165. This is a “highly contextual and fact-dependent inquiry.” *Id.* at 1164.

⁹ Rosemont contests the occupancy determination only as to the northern Santa Rita Mountains area of Unit 3—roughly 50,000 of the total 300,000 acres within Unit 3—and we limit our analysis to only this disputed portion.

The FWS designated Unit 3 as “occupied” based on a Class I sighting in the Patagonia Mountains in 1965 and photographs of a single male jaguar in the Santa Rita Mountains taken in 2012 and 2013. Final Rule, 79 Fed. Reg. at 12593. Because the jaguar was listed as endangered in 1972 and the average lifespan of a jaguar is ten years, it was reasonable for the FWS to consider sightings between 1962 and 1982, including the Class I sighting from 1965. However, we agree with the district court that the FWS’s reliance on the 2012 and 2013 photographs was “counter to Congress’ intention that the agency consider occupancy at the time of listing, not at the time of designation or some undefined period.” *Ctr. for Biological Diversity*, 441 F. Supp. 3d at 872.

The ESA makes clear that the FWS must designate critical habitat based on the occupancy status “*at the time [the species] is listed.*” 16 U.S.C. § 1532(5)(A)(i) (emphasis added). Thus, by relying on the 2012 and 2013 photographs, taken decades after listing, in designating Unit 3 as occupied critical habitat, the FWS “relied on factors which Congress has not intended it to consider.” *See Motor Vehicle Mfrs. Ass’n*, 463 U.S. at 43. Our limited role under arbitrary and capricious review does not extinguish our duty to “ensure that agency decisions are founded on a reasoned evaluation of the relevant factors.” *Marsh v. Or. Nat. Res. Council*, 490 U.S. 360, 378 (1989) (internal quotation marks omitted). Where the ESA expressly instructs the FWS to focus its inquiry on the time of a species’ listing, evidence falling outside a reasonable definition of that timeframe is not a “relevant factor.” *Id.*

Without the 2012 and 2013 photographs, the only evidence underlying the FWS’s occupancy determination is the Class I sighting from 1965. The FWS argues this alone

was enough to establish occupancy and that the district court did not adequately consider this evidence. We disagree. The district court considered the 1965 sighting and found it an “insufficient” basis to conclude that the jaguar occupied the northern Santa Rita Mountains, the only portion of the Unit 3 critical-habitat designation that Rosemont contests. *Ctr. for Biological Diversity*, 441 F. Supp. 3d at 872. The 1965 sighting was in the Patagonia Mountains. The district court was correct that this single sighting in a different mountain range has limited relevance to whether the area where Rosemont’s Mine is located was occupied by the jaguar in 1972. *Id.* This evidence alone does not support the finding that the jaguar used the challenged area “with sufficient regularity that it is likely to be present during any reasonable span of time.” *Ariz. Cattle Growers’ Ass’n*, 606 F.3d at 1165; *Turtle Island Restoration Network v. U.S. Dep’t of Com.*, 878 F.3d 725, 732 (9th Cir. 2017) (holding that agency action is arbitrary and capricious when the agency’s “explanation for its decision . . . runs counter to the evidence before the agency” (citation omitted)).

The FWS attempts to justify this occupied critical-habitat designation based on the circumstances surrounding its decision, including the difficulty of detecting jaguars during the 1970s and the presence of PCEs in Unit 3. But detection difficulties and the existence of favorable “physical or biological features” do not speak to whether jaguars occupied the disputed area in 1972. *See N.M. Farm & Livestock Bureau*, 952 F.3d at 1227. While jaguars are difficult to detect, without a Class I report or some other compelling evidence from the relevant period in the relevant place, much of the FWS’s decision rests on speculation. *See id.* (“[T]he Service’s reliance on sightings in 1995, 1996, and 2006 to support a conclusion of occupation in 1972 is not

based on expert opinion and is purely speculative.”). This is particularly true where the record otherwise establishes only minimal presence of the jaguar in the American Southwest generally.

In sum, because the FWS designated the northern Santa Rita Mountains as occupied critical habitat based on irrelevant photographs from decades after the jaguar was listed as endangered and a single timely sighting from a different mountain range, we affirm the district court’s conclusion that the FWS’s challenged occupied critical-habitat designation was arbitrary and capricious.

b. Unoccupied Critical Habitat

The FWS designated Unit 3 and Subunit 4b as unoccupied critical habitat. Before turning to the merits of these designations, we address Rosemont’s argument that the FWS failed to follow its regulation governing unoccupied critical-habitat designations.

i.

When the FWS issued the Final Rule that included its challenged critical-habitat designations, its governing regulation provided: “The Secretary shall designate as critical habitat areas outside the geographical area presently occupied by a species only when a designation limited to its present range would be inadequate to ensure the conservation of the species.” 50 C.F.R. § 424.12(e) (2012). Rosemont argues that this regulation imposes a two-step analysis. First, the FWS must determine that any *occupied* critical habitat is inadequate to conserve the jaguar. And second, the FWS must determine that designation of *unoccupied* critical habitat is essential for conservation.

The history of Section 424.12(e) is relevant to Rosemont’s argument. Section 424.12 was first promulgated in 1980. *See* 45 Fed. Reg. 13010-01, 13023 (Feb. 27, 1980). Up until 2016, including when the FWS issued the 2014 Final Rule, subsection (e) of the regulation read as just quoted—unoccupied critical habitat designations were allowed only when occupied critical habitat “would be inadequate to ensure the conservation of the species.” 50 C.F.R. § 424.12(e) (2012); *see* Final Rule, 79 Fed. Reg. at 12590. But the agency removed subsection (e) in 2016. 81 Fed. 7414-01, 7439–40 (Feb. 11, 2016). In the preamble to this regulatory amendment, the FWS explained that it was stepping away from a “rigid” two-step analysis, “i.e., first designating all occupied areas that meet the definition of ‘critical habitat’ (assuming that no unoccupied habitat is designated) and then, only if that is not enough, designating essential unoccupied habitat” because that “may not be the best conservation strategy for the species.” *Id.* at 7415. Then in 2019, the FWS restored the language previously contained in subsection (e). 84 Fed. Reg. 45020, 45053 (Aug. 27, 2019). Noting that the 2016 amendment “eliminat[ed] the sequenced approach to considering occupied habitat before unoccupied habitat,” the FWS stated that it was “restoring the requirement that the Secretary will first evaluate areas occupied by the species.” *Id.* at 45043.

We discussed the operative version of Section 424.12 in *Bear Valley*. 790 F.3d at 993. There, the plaintiffs argued that the FWS failed to consider both whether occupied habitat areas were adequate for conservation *and* whether unoccupied habitat areas were essential for conservation. *Id.* at 994. At issue there was conservation of sucker fish and the FWS’s designation as unoccupied critical habitat upstream areas that were “the primary sources of high quality course

sediment for the downstream occupied portions” of the river. *Id.* The FWS found that the upstream unoccupied sediment areas were essential because they provided spawning and feeding grounds and helped maintain water quality and temperature. *Id.* In rejecting the plaintiffs’ argument that the FWS failed to consider the adequacy of the occupied areas in meeting conservation objectives, we reasoned that the regulation’s reference to adequacy was just the ESA’s requirement that an area be “essential” to conservation, stated “in a different way.” *Id.* We further explained that in that case the FWS’s “Final Rule sufficiently explained why the designation of unoccupied habitat . . . was essential, and conversely, why designation of solely occupied habitat was inadequate for the conservation of the species.” *Id.*

The FWS and the Center argue that *Bear Valley* forecloses Rosemont’s argument that the FWS erred by not sequentially considering both adequacy and essentiality. Rosemont contends that we are not constrained by *Bear Valley* because the agency’s later amendments to Section 424.12 establish that the 2012 version of the regulation mandated a “rigid step-wise approach,” see 81 Fed. Reg. at 7415; 84 Fed. Reg. at 45043, and that interpretation supersedes *Bear Valley* under *National Cable & Telecommunications Association v. Brand X Internet Services*. 545 U.S. 967 (2005).

Under *Brand X*, “[a] court’s prior judicial construction of a statute trumps an agency construction otherwise entitled to Chevron deference only if the prior court decision holds that its construction follows from the unambiguous terms of the statute and thus leaves no room for agency discretion.” *Id.* at 982. We conclude that *Brand X* is not implicated here because our decision in *Bear Valley* does not conflict with the FWS’s interpretation of Section 424.12(e). See *Medina-*

Nunez v. Lynch, 788 F.3d 1103, 1105 (9th Cir. 2015) (noting that *Brand X* is implicated where “we confront a conflict between our own precedent and [an agency’s] later published precedent to the contrary.”). In *Bear Valley*, we did not reject the requirement that occupied habitat areas must be inadequate for conservation before an unoccupied critical-habitat designation is proper. Rather, we upheld the FWS’s unoccupied critical-habitat designation because the FWS “sufficiently explained why the designation of unoccupied habitat . . . was essential, and conversely, why designation of solely occupied habitat was inadequate for the conservation of the species.” 790 F.3d at 994. That is, we recognized the function and necessity of both inquiries. *See id.* If occupied critical habitat is adequate to conserve a protected species, then unoccupied areas *necessarily* are not essential to conservation. But if occupied critical habitat is inadequate for conservation, then designation of unoccupied critical habitat may be essential.

That we construed these analyses as closely related—particularly given the ecological facts at issue in *Bear Valley*—does not conflict with the agency’s interpretation that Section 424.12 requires both inquiries to be separately and sequentially considered. *Id.* Stated another way, imposing a sequential analysis to determine whether designation of unoccupied critical habitat is proper does not violate *Bear Valley*, which acknowledged both the inadequacy-of-occupied-habitat and essentiality-of-unoccupied-habitat requirements and upheld the FWS’s challenged designation where these requirements were both met. *Id.*; *cf.*, e.g., *Lambert v. Saul*, 980 F.3d 1266, 1268, 1275–76 (9th Cir. 2020) (applying *Brand X* where agency’s interpretation of the relevant statute as foreclosing a presumption conflicted with this court’s prior recognition of

such a presumption); *Empire Health Found. for Valley Hosp. Med. Ctr. v. Azar*, 958 F.3d 873, 877–78 (9th Cir. 2020) (applying *Brand X* after finding that the Department of Health and Human Services’ interpretation “directly conflict[ed] with [this court’s] interpretation” of the statute at issue), *rev’d sub nom. Becerra v. Empire Health Found. for Valley Hosp. Med. Ctr.*, 142 S. Ct. 2354 (2022); *Medina-Nunez*, 788 F.3d at 1105 (applying *Brand X* upon “confront[ing] a conflict between [this court’s] precedent and the BIA’s later published precedent to the contrary”); *Skranak v. Castenada*, 425 F.3d 1213, 1219 (9th Cir. 2005) (applying *Brand X* because adopting the agency’s interpretation would “conflict” with the court’s prior holding).

Because we conclude that *Bear Valley* does not displace the agency’s interpretation of Section 424.12(e), we consider whether the FWS’s designation of Unit 3 and Subunit 4b as unoccupied critical habitat complies with Section 424.12, as interpreted by the agency. In doing so, we note that two of our sister circuits have likewise applied the FWS’s interpretation of Section 424.12, including the Tenth Circuit in its review of the FWS’s designations of Units 5 and 6 under the same Final Rule at issue here. *See N.M. Farm & Livestock Bureau*, 952 F.3d at 1228–29; *Markle Interests, L.L.C.*, 827 F.3d at 470 (“Under the regulations in effect at the time that Unit 1 was designated, the Service had to find that the species’[] occupied habitat was inadequate before it could even consider designating unoccupied habitat as critical.”), *vacated on other grounds*, 139 S. Ct. 590 (2018).

ii.**a.**

Turning to the merits of the FWS’s designation of Unit 3 and Subunit 4b as unoccupied critical habitat, the FWS did not address whether “the designation of areas occupied by jaguars in 1972 would be inadequate to ensure the conservation of the species.” *See N.M. Farm & Livestock*, 952 F.3d at 1231. Perhaps this was because the FWS made its unoccupied designations after hedging on its occupied designations¹⁰ because it recognized that, based on the evidence of record, “an argument could be made that no areas in the United States were occupied by [jaguars] at the time it was listed.” Final Rule, 79 Fed. at 12582; *see also id.* at 12588 (“[S]ome expert opinions . . . suggest that jaguars in the United States had declined to such an extent by [listing] as to be effectively eliminated.”). But all we can do is speculate because the agency did not address Section 424.12’s adequacy requirement other than to recite it. *See id.* at 12578; *cf. Ctr. for Biological Diversity v. Haaland*, 998 F.3d 1061, 1068 (9th Cir. 2021) (noting that our review is “limited to the reasons given by the agency for its action.”).

It is well established that “an agency is to be held to the terms of its regulations.” *United States v. Coleman*, 478 F.2d 1371, 1374 (9th Cir. 1973) (citing *Service v. Dulles*, 354 U.S. 363, 372 (1957)). Because the FSW did not comply with Section 424.12(e) by addressing whether designated occupied critical habitat was adequate to address conservation goals, its designation of Unit 3 and Subunit 4b as unoccupied critical habitat was arbitrary and capricious.

¹⁰ The FWS designated as occupied critical habitat Units 1a, 3, 4a, 5, and 6. Final Rule, 79 Fed. Reg. at 12591–92.

See N.M. Farm & Livestock Bureau, 952 F.3d at 1231 (“Because [the FWS] did not follow its own regulations or provide a rational explanation for failing to do so, its designation of Units 5 and 6 as critical habitat was arbitrary and capricious.”).

The dissent argues that we misconstrue the governing regulation as limiting the FWS to determining whether occupied critical habitat (necessarily based on occupancy at listing) is adequate to conserve the species before designating unoccupied critical habitat. Dissent at 58–59. Relying on the regulation’s instruction that the agency consider the adequacy of any “geographical area *presently occupied* by a species,” the dissent argues that the FWS may properly consider the adequacy of areas occupied at the *time of designation* not just the *time of listing* in deciding whether designation of unoccupied areas is essential. Dissent at 59 (emphasis added) (quoting 50 C.F.R. § 424.12(e) (2012)). We do not find this argument persuasive. This reading of Section 424.12(e) contravenes Congress’s express requirement that the agency designate areas “outside the geographical area occupied by the species at the time it is listed” only where it finds “that such areas are essential for the conservation of the species.” *See* 16 U.S.C. § 1532(5)(A)(ii). We agree with the Tenth Circuit that the governing version of Section 424.12 “require[d] the [FWS] to consider a species’ range at the time of listing,” because any other reading “would be inconsistent with the [ESA].” *N.M. Farm & Livestock*, 952 F.3d at 1228 n.12 (quoting 16 U.S.C. § 1532(5)(A)(ii)).

The agency’s conduct further supports our conclusion. The agency has not advanced or adopted the dissent’s interpretation. In commentary to the 2016 amendment, the FWS explained that the language in the 2012 version that

“unoccupied habitat can be considered only if a determination is made that the [FWS] cannot recover the species with the inclusion of only the ‘geographical area presently occupied’ by the species . . . is *generally understood to refer to habitat occupied at the time of listing.*” Listing Endangered and Threatened Species and Designating Critical Habitat; Implementing Changes to the Regulations for Designating Critical Habitat, 81 Fed. Reg. 7414, 7415 (Feb. 11, 2016) (emphasis added) (citation omitted). The amendment commentary further evidences that the agency has not and does not adopt the dissent’s interpretation by acknowledging that the 2012 version of the regulation “confusingly references present range, while the two parts of the statutory definition refer to the area occupied at the time of listing” and explaining that the amendment sought to “reduce confusion to change the regulations to track the statutory distinction.” *Id.* at 7434. That is, the 2016 amendment clarified—it did not establish—that the agency may consider only the “geographical area occupied by the species *at the time of listing*” in assessing whether designation of unoccupied areas is essential to conservation. 50 C.F.R. § 424.12(b)(1)(i), (2019) (emphasis added); *see also id.* § 424.12(b)(2).

b.

Even if the dissent were correct that the 2012 regulation directs the FWS to consider whether areas occupied at the time of designation, rather than listing, are *inadequate* to conserve the species, the FWS’s analysis still falls short because it did not explain why the areas that it found were occupied when it made its unoccupied critical habitat

designations were inadequate to conserve the jaguar.¹¹ The FWS did, however, address whether designating Unit 3 and Subunit 4b as unoccupied critical habitat was “*essential* to the conservation of the [jaguar].” See Final Rule, 79 Fed. Reg. at 12582, 12594 (emphasis added). We conclude that none of the FWS’s justifications for finding these areas essential—individually or collectively—satisfy the ESA and, therefore, the FWS acted arbitrarily and capriciously in designating these areas as unoccupied critical habitat.

The FWS determined that Unit 3 was essential because “(1) [this area has] demonstrated recent (since 1996) occupancy by jaguars; (2) [it] contain[s] features that comprise suitable jaguar habitat; and (3) [it] contribute[s] to the species’ persistence in the United States by allowing the normal demographic function and possible range expansion of the proposed Northwestern Recovery Unit, which is essential to the conservation of the species” See Final Rule, 79 Fed. Reg. at 12582. The FWS determined that jaguars were present because of the 1965 sighting along with “multiple sightings of a male jaguar from October 2012 through September 11, 2013, in the Santa Rita Mountains.” *Id.* at 12627. Regarding suitable habitat, the FWS determined that Unit 3 contains favorable “[e]xpansive open spaces in the southwestern United States with adequate connectivity to Mexico that contain a sufficient native prey base and available surface water, have suitable vegetative cover and rugged topography to provide sites for resting, are

¹¹ The dissent asserts that the FWS was “justified in concluding that the designation of other areas alone would be inadequate to ensure the species’ conservation,” but it does not identify where in the Final Rule the agency made this determination. Dissent at 60. Thus, under the dissent’s view, it seems the appropriate outcome would be a remand, not affirmation of the agency’s unoccupied critical habitat designations.

below 2,000 m (6,582 feet (ft)) and have minimal human impact.” *Id.* at 12583. Specifically, the Santa Rita Mountains, where Rosemont’s Mine would be located, “contain all elements of the physical or biological feature essential to the conservation of the jaguar.” *Id.* at 12593. Finally, the FWS determined that Unit 3 is a “secondary area” that provides “a recovery function benefitting the overall recovery unit.” *Id.* at 12574.

First, it cannot be disputed that the evidence of jaguars present within Unit 3 is thin. The 2012 and 2013 jaguar sightings were of a *single* transient male. As previously discussed, the FWS also relied on these sightings in concluding that Unit 3 was “occupied” by jaguar. *Id.* at 12582. *Cf. Otay Mesa Prop., L.P. v. U.S. Dep’t of Interior*, 344 F. Supp. 3d 355, 376 (D.D.C. 2018) (Jackson, J.) (finding that the FWS acted arbitrarily and capriciously when “its ‘unoccupied critical habitat’ designation relied on the same methodology the agency had used to determine that [the area designated] qualifies as occupied critical habitat”). And these 2012 and 2013 sightings follow a long history of minimal presence of the jaguar generally. The FWS reported in its Final Rule that “some expert opinions . . . suggest that jaguars in the United States had declined to such an extent by [listing] as to be effectively eliminated.” Final Rule, 79 Fed. Reg. at 12588.

Second, whether Unit 3 contains the “features that comprise jaguar habitat” is not determinative. *Id.* at 12582. As now-Justice Jackson has explained, “the language of the [ESA] does not permit reliance on the mere presence of pertinent biological features (PCEs) to determine that an area qualifies as unoccupied critical habitat” where “Congress has quite clearly decided that the touchstone of unoccupied critical habitat (in contrast to occupied critical habitat) is

whether the area *itself* is ‘essential’ to the conservation of the species.” *Otay Mesa Prop., L.P.*, 344 F. Supp. 3d at 376; *see also Ariz. Cattle Growers’ Ass’n*, 606 F.3d at 1163 (recognizing that the ESA “differentiates between ‘occupied’ and ‘unoccupied’ areas, imposing a more onerous procedure on the designation of unoccupied areas by requiring the Secretary to make a showing that unoccupied areas are essential for the conservation of the species”); *see also Markle Interests, L.L.C. v. U.S. Fish and Wildlife Serv.*, 848 F.3d 635, 646 (5th Cir. 2017) (Jones, J., dissenting from the denial of rehearing en banc) (“For occupied habitat, the relevant specific areas contain physical or biological *features* essential to the conservation of a species. For unoccupied habitat, the specific *areas themselves* must be essential for the species’ conservation.”).

The dissent disputes that Unit 3 was designated as unoccupied critical habitat “based on the presence of PCEs alone,” discussing that the agency (1) also relied on 2012 and 2013 photographs of the jaguar in Unit 3, and (2) only designated areas “providing at least 100 square kilometers of habitat.” Dissent at 56. That an area provides at least 100 square kilometers of habitat is *itself* a PCE. *See* Final Rule, 79 Fed. Reg. at 12587 (“[W]e determine that the primary constituent elements specific to jaguars are: Expansive open spaces in the southwestern United States of at least 100 km in size”). So even under the dissent’s view, the FWS’s Unit 3 unoccupied critical habitat designation was based only on minimal evidence of the presence of jaguars and the presence of PCEs.

This is the standard for designating *occupied* critical habitat, not unoccupied. *See Otay Mesa Property, L.P.*, 344 F. Supp. 3d at 374 (“[T]he designation of ‘occupied critical habitat’ under the ESA turns on the identification of the areas

that the species occupies and where the PCEs exist within those areas.”); *see also Markle Interests, L.L.C.*, 848 F.3d at 646 (Jones, J., dissenting from the denial of rehearing en banc) (“The ESA’s text dictates that the unoccupied critical habitat designation is different and more demanding than occupied critical habitat designation.”). As previously discussed, while the FWS may consider the presence of the PCEs when designating unoccupied areas, it may not designate unoccupied critical habitat solely on that basis. *See Otay Mesa Prop., L.P.*, 344 F. Supp. 3d at 376; *see also Cape Hatteras Access Pres. All. v. U.S. Dep’t of Interior*, 344 F. Supp. 2d 108, 119 (D.D.C. 2004) (“[W]ith unoccupied areas, it is not enough that the area’s features be essential to conservation, the area itself must be essential.”). The dissent’s approach would allow the agency to designate areas that are not occupied by the relevant species within the meaning of the ESA so long as they contain PCEs—this would flip the standard by making it *easier* for the FWS to designate unoccupied rather than occupied critical habitat. *Home Builders Ass’n of N. Cal.*, 616 F.3d at 990 (explaining that the standard for designating unoccupied critical habitat is “more demanding” than the standard for designating occupied critical habitat). Finally, and most important, the FWS has conceded there is nothing in the Final Rule establishing that the jaguar will be unable to recover or survive if Unit 3 is not designated as critical habitat. And the Jaguar Recovery Outline, on which the FWS relied and which was prepared by experts from both the United States and Mexico, indicates that any impact to the jaguar related to Unit 3 will be minimal:

Because such a small portion of the jaguar’s range occurs in the U.S., it is anticipated that recovery of the species will rely primarily on

actions that occur outside the U.S. Activities that may adversely or beneficially affect jaguars in the U.S. are *less likely to affect recovery* than activities in core areas of their range.

Final Rule, 79 Fed. Reg. at 12574 (citing Jaguar Recovery Outline) (emphasis added). Not only that, these experts concluded that while “the region to the south of Arizona and New Mexico is especially critical for the recovery of the jaguar in the southwestern U.S.,” based on the available evidence, “any conclusions about the conservation importance of the habitat types in which jaguars have occurred or might occur in Arizona and New Mexico are preliminary and can vary widely.” Given this record, the FWS has not explained how “the best scientific data available” establishes that designation of Unit 3 is essential for conservation of the jaguar where the importance of this area is uncertain and this designation is “less likely” to impact the jaguar’s recovery. 16 U.S.C. § 1533(b)(2).¹²

Accordingly, we find that the FWS’s designation of Unit 3 as unoccupied critical habitat was arbitrary and capricious because the FWS failed to provide a “reasoned evaluation of the relevant factors,” *Marsh*, 490 U.S. at 378 (internal

¹² The dissent argues that the record sufficiently establishes that Unit 3 is essential because, as a peripheral habitat, it “provide[s] for possible range expansion and genetic exchange” and could “help[] the jaguar return to the territory it occupied before it became endangered.” Dissent at 54. We do not dispute that these functions would benefit the jaguar. But the repeated assertion that conservation is a “broad concept” that encompasses survival and recovery does not overcome Congress’s express requirement that an area itself be essential to serving these objectives.

quotation marks omitted), and its designation “is without substantial basis in fact,” *Arizona Cattle Growers’ Ass’n*, 606 F.3d at 1163.

We find some of the same deficiencies in the FWS’s designation of Subunit 4b as unoccupied critical habitat. The FWS determined that Subunit 4b “provides connectivity from the Whetstone Mountains to Mexico . . . [and] is essential to the conservation of the jaguar because it contributes to the species’ persistence by providing connectivity to occupied areas.” Final Rule, 79 Fed. Reg. at 12594. The FWS also noted that Subunit 4b contains “a combination of low human influence and either or both canopy cover and ruggedness such that they represent areas through which a jaguar may travel between the United States and Mexico.” *Id.* at 12611. Rosemont challenges this designation on two grounds. First, it argues that Subunit 4b cannot be essential because merely connecting members of the species in the United States and Mexico is “not essential to the conservation of the species.” *See All. for the Wild Rockies v. Lyder*, 728 F. Supp. 2d 1126, 1140 (D. Mont. 2010). Second, it argues that Subunit 4c, which was also designated critical habitat, provides an alternate corridor between the United States to Mexico.

We agree that Subunit 4b’s connectivity function and preferred ecological characteristics do not establish that its designation as critical habitat is “necessary” or “indispensable” for conservation of the jaguar. To be clear, we do not adopt Rosemont’s position that travel corridors linking population units are not “essential” under the meaning of the ESA as a general matter. Rather, we conclude that the FWS’s designation of Subunit 4b as an essential travel corridor is not supported by the record in this case—including that the FWS has designated a separate corridor

that provides the same connectivity function as Subunit 4b and the complete absence of evidence that jaguars have ever used Subunit 4b to travel between the United States and Mexico *or for any other purpose*.

The FWS's unexplained assertion that Subunit 4b is essential to jaguar persistence because it connects the mountains in the United States to Mexico does not make it so. Final Rule, 79 Fed. Reg. at 12594; *see State Farm Mut. Auto. Ins. Co.*, 463 U.S. at 43 (“[T]he agency must examine the relevant data and articulate a satisfactory explanation for its action including a ‘rational connection between the facts found and the choice made.’” (quoting *Burlington Truck Lines v. United States*, 371 U.S. 156, 168 (1962))); *see also Arizona Cattle Growers’ Ass’n v. U.S. Fish and Wildlife, Bureau of Land Mgmt.*, 273 F.3d 1229, 1243–44 (9th Cir. 2001) (finding the FWS’s issuance of an incidental take statement arbitrary and capricious because the evidence linking cattle grazing to an effect on the razorback sucker was too “speculative” and “woefully insufficient”). The Final Rule generally describes that ensuring connectivity between the jaguar in the United States and Mexico can aid conservation, but that is not the ESA’s standard. *See* 16 U.S.C. § 1532(5)(A)(ii); *see also N.M. Farm and Livestock Bureau*, 952 F.3d at 1233 (Hartz, J., concurring) (expressing concern that the FWS “defined *essential* to mean merely convenient or helpful” when designating unoccupied critical habitat for the jaguar). The FWS must demonstrate that *the specific travel corridor it designated*—Subunit 4b—is essential to conservation. *See Markle Interests, L.L.C.*, 848 F.3d at 638, 646–47 (Jones, J., dissenting from the denial of rehearing en banc); *see also Cape Hatteras Access Pres. All.*, 344 F. Supp. 2d at 119 (noting that the unoccupied area “itself must be essential”). Yet, nowhere does the FWS

reference any information indicating what impact not protecting Subunit 4b would have on the jaguar. Again, this is particularly problematic where the experts who studied recovery of the jaguar concluded that any actions taken in the United States are “less likely to affect recovery.” Final Rule, 79 Fed. Reg. at 12624.

Our decision in *Alaska Oil & Gas Association v. Jewell* does not compel a contrary result. 815 F.3d 544, 556 (9th Cir. 2016). There, we rejected the argument that the FWS could designate as critical habitat only areas containing actual polar bear den sites but not areas containing habitat suitable for denning where there was no evidence of current use of these areas by the species. *Id.* at 555. To start, there is a material difference between that case and this one. There, we were reviewing the FWS’s designation of *occupied* critical habitat. *Id.* Here, we are reviewing the FWS’s designation of *unoccupied* critical habitat. The designation of unoccupied critical habitat is governed by a different and *more stringent* standard. See 16 U.S.C. § 1532(5)(A); see also *Home Builders Ass’n of N. Cal.*, 616 F.3d at 990; *Ariz. Cattle Growers’ Ass’n*, 606 F.3d at 1165.

Additionally, *Alaska Oil* does not displace the limitation that the FWS may designate as critical habitat only those areas shown to be “*necessary* to species recovery [and survival].” 815 F.3d at 556 (emphasis added). The FWS met this requirement in *Alaska Oil* because the record there established “that many barrier islands provide denning habitat, as historically evidenced by denning polar bears”; that “polar bears regularly move across the barrier islands in search of denning, food, and rest;” and “that polar bears use barrier islands as migration corridors, moving between them.” *Id.* at 561. With that evidence, we rejected that “only such specific areas, which the bears could be shown to utilize

at the present time, could be designated as [occupied] critical habitat,” and we upheld the FWS’s designation as critical habitat of “all barrier islands along the Alaska coast and their associated spits.” *Id.* at 560–61.

But here, the record does not support the FWS’s finding that Subunit 4b is essential to conservation. The Final Rule acknowledges that “[e]ither Subunit 4b or 4c may be used by the jaguar” to travel to Mexico, and that Subunit 4c is the more direct route. Indeed, the 2013 Biological Opinion seemingly concedes that designation of Subunit 4b is not essential, noting “it is difficult . . . to determine whether Subunit 4b is so important to jaguar movement that loss of this connectivity would lead to an adverse modification conclusion,” particularly given the existence of “other connections between Units 3 and 4 within Subunit 4c.” *See also* Final Rule, 79 Fed. Reg. at 12591 (noting that Subunit 1b “provide[s] the jaguar connectivity with Mexico within the [NRU]”). This is particularly problematic where “there is no evidence that jaguars ever have used [Subunit 4b] for travel and [the FWS] cannot speculate whether they will use this area for travel in the future.” This is a material difference from the evidence of the polar bears’ presence in and use of the barrier islands at issue in *Alaska Oil*. 815 F.3d at 561.

The FWS and the dissent nonetheless contend that Subunit 4b is “necessary” and “indispensable” because “secondary areas that provide connectivity between core areas . . . *could* allow for range expansion and genetic exchange,” and jaguars *might* use Subunit 4b to travel between Mexico and the United States at some point in the future. Dissent at 49, 56–58. Indeed, the FWS contends that without Subunit 4b, “50% of the connectivity to Mexico from the Whetstones would likely be lost.” But again, this necessarily is speculation, and the 2013 Biological Opinion

concedes that “either or both subunits [4b and 4c] may (*or may not*) be important to the conservation of jaguars in the NRU.” If jaguars do not use Subunit 4b to travel between Mexico and the United States, then it is no percentage of connectivity for the jaguar. *Cf. N.M. Farm & Livestock Bureau*, 952 F.3d at 1227 (finding the FWS’s critical-habitat designation arbitrary and capricious where it relied on “speculative” findings that were “not based on substantial evidence”). And the potential benefit of connectivity is immaterial if the FWS cannot establish that Subunit 4b is needed to achieve that benefit. *See MCI Telecomm. Corp.*, 512 U.S. at 229 (explaining that “an agency’s interpretation . . . is not entitled to deference when it goes beyond the meaning that the statute can bear”).

For all these reasons, the FWS’s conclusion that it had “no reason not to include [Subunit 4b] as critical habitat” falls flat. Final Rule, 79 Fed. Reg. at 12611. *See generally Garcia v. Holder*, 659 F.3d 1261, 1267 (9th Cir. 2011) (granting “only limited deference” where agency decision is “conclusory or lacks meaningful analysis”). The dissent’s assertion that we are rejecting the FWS’s designation of Subunit 4b simply because there is no “direct evidence that jaguars use Subunit 4b to travel to Mexico, as opposed to Subunit 4c” is incorrect. Dissent at 57. Nor are we faulting the agency for failing to “identify . . . the precise spots where the species can be found.” Dissent at 57 (citing *Alaska Oil*, 815 F.3d at 555–57). We conclude that the agency designation of Subunit 4b was arbitrary and capricious based on the entirety of the record, including that the FWS designated as critical habitat a separate area that provides the same connectivity function as Subunit 4b (Subunit 4c) and failed to explain why designation of Subunit 4b was also essential, *see* Final Rule, 79 Fed. Reg. at 12611; there is *no*

evidence of jaguar using Subunit 4b at any point, for any purpose; and the FWS conceded that it cannot even “speculate whether [jaguar] will use [Subunit 4b] for travel in the future.” Habitat that “may (or may not) be important to the conservation of jaguars” definitionally is not *essential* to conservation. To conclude otherwise would render meaningless Congress’s limitations on the government’s authority to designate land as unoccupied critical habitat. *See Alaska Oil*, 815 F.3d at 562.

In sum, the FWS has not provided a “rational connection between the facts found and the choice made” or “articulate[d] a satisfactory explanation” to justify its designations of Unit 3 and Subunit 4b as unoccupied critical habitat. *State Farm Mut. Auto. Ins. Co.*, 463 U.S. at 43 (citation omitted).

B. Economic-Impact Analysis

Finally, Rosemont challenges the district court’s refusal to remand for reconsideration of the FWS’s economic-impact analysis. Section 4(b)(2) of the ESA requires the Secretary to consider the economic impact of designating a particular area as critical habitat in making any such designation. 16 U.S.C. § 1533(b)(2). Where the Secretary concludes that the harms of a particular designation outweigh its benefits, the area may be excluded from a critical-habitat designation. *Id.* Here, the FWS determined that Rosemont’s Mine “would not jeopardize the jaguar nor adversely modify designated critical habitat” and, therefore, the critical habitat designation would not cause any disproportionate economic impacts on Rosemont. Final Rule, 79 Fed. Reg. at 12626. Largely based on this economic-impact analysis, the FWS “did not find it to be reasonable or appropriate . . . to enter into the discretionary

exclusion analysis about whether to exclude the mine from the final designation.” *Id.* at 12620.

The district court held that the FWS applied the incorrect standard in determining that Rosemont’s Mine would not adversely modify critical habitat and remanded for the FWS to “reconsider” this conclusion under the proper standard of review. *Ctr. for Biological Diversity*, 441 F. Supp. 3d at 857. Accordingly, Rosemont claims that vacatur and remand is required because the predicate assumption upon which the Final Rule’s economic-impact analysis relied—that Rosemont’s Mine would not adversely modify designated critical habitat—was extinguished by the district court. Rosemont argues the agency’s economic-impact decision is rendered arbitrary and capricious because it rests on a “flawed premise [that] is fundamental to [the agency’s] determination.” *Safe Air for Everyone v. EPA*, 488 F.3d 1088, 1101 (9th Cir. 2007). The FWS and the Center contend that this argument is (1) waived because Rosemont did not raise the argument before the district court and (2) premature.

We disagree that Rosemont waived this issue. We have discretion to address arguments that “could not have [been] raised” sooner and were “promptly raised . . . once the decision on which it was based was issued.” *Randle v. Crawford*, 604 F.3d 1047, 1056 (9th Cir. 2010); *see also In re Eashai*, 87 F.3d 1082, 1085 n.2 (9th Cir. 1996) (“[T]he rule of waiver is one of discretion rather than appellate jurisdiction.”). Here, Rosemont’s argument that the FWS needs to revisit its economic-impact analysis became relevant only after the district court concluded that the FWS used the wrong standard in determining that Rosemont’s Mine would not adversely affect the designated critical habitat and remanded for the FWS to reconsider that issue.

See Ctr. for Biological Diversity, 441 F. Supp. 3d at 857. Thus, it was not improper for Rosemont to raise this argument for the first time in its appeal of the district court's decision.

However, we agree that directing the FWS to reconsider its economic-impact analysis is premature at this point. We have concluded that the critical-habitat designations that Rosemont challenges must be vacated. Thus, it is unclear what, if any, economic-impact analysis is needed as relates to Rosemont's interests. *See Texas v. United States*, 523 U.S. 296, 300 (1998) ("A claim is not ripe for adjudication if it rests upon contingent future events that may not occur as anticipated, or indeed may not occur at all." (internal quotation marks and citations omitted)).

III. CONCLUSION

We affirm the district court's vacatur of the FWS's designation of the challenged area of Unit 3 as occupied critical habitat, and we reverse the district court's grant of summary judgment to the FWS regarding its designation of that same area and of Subunit 4b as unoccupied critical habitat. As a result, we need not reach whether the FWS violated the APA in concluding that Rosemont's Mine would not adversely modify the Unit 3 and Subunit 4b critical-habitat designations, which the Center argued in its motion for summary judgment. We remand this case with direction that it be returned to the agency for further proceedings consistent with this opinion.

AFFIRMED IN PART, REVERSED IN PART, and REMANDED.¹³

¹³ Each party shall bear its own costs.

H.A. THOMAS, Circuit Judge, concurring in part and dissenting in part:

I agree with the majority that the district court correctly vacated the Fish and Wildlife Service's (FWS) designation of Unit 3 as occupied critical habitat. I also agree that it would be premature to vacate the FWS's economic-impact analysis. But I respectfully dissent from the majority's holding that the district court erred in upholding the FWS's designation of Unit 3 and Subunit 4b as unoccupied critical habitat. When considered as a whole, the record amply supports the FWS's determination that habitat within the United States—and the designated units in particular—are critical to the conservation of the jaguar as it faces threats elsewhere in its range.

I.

The jaguar is the largest felid in the Americas. It historically ranged from Argentina to the southern United States, with habitats from California to Texas. But human activity in the past century has driven the jaguar out of nearly all of its range in the United States. The decline in the domestic jaguar population was sufficiently severe that, when the FWS listed the jaguar as an endangered species in 1972, it believed the jaguar to be extinct in the United States. The FWS therefore designated no critical habitat for the jaguar for decades after its listing.

Things began to change for the jaguar in 1997. That year, recognizing that the jaguar had some presence within the United States, the FWS classified the jaguar as a native endangered species. Then, in 2009, a district court ordered the FWS to reconsider its decision not to designate any critical habitat for the jaguar. *Ctr. for Biological Diversity v.*

Kemphorne, 607 F. Supp. 2d 1078, 1094–95 (D. Ariz. 2009). In response to that 2009 order, the FWS convened the Jaguar Recovery Team, a group of experts and stakeholders from the United States and Mexico, to gather information about the northernmost portion of the jaguar’s habitat.

In 2012, the Jaguar Recovery Team issued its findings in the Recovery Outline for the Jaguar (Recovery Outline). The Recovery Team divided the area it studied into two units: the Northwestern Recovery Unit (NRU) and the Pan American Recovery Unit. The NRU stretched from Sinaloa, Mexico to southern Arizona and New Mexico. The Recovery Team divided the NRU into “core areas,” i.e., areas with reliable and recent evidence of jaguar habitat and reproduction, and “secondary areas,” i.e., areas with more sporadic evidence of jaguar populations and likely lower population densities. The portions of the NRU within the United States were classified as secondary.

These secondary areas were still vital for the recovery of the jaguar population. As the Recovery Team explained, “the long-term recovery needs for the jaguar” depended not only on the core areas, but also upon “the maintenance of secondary areas that provide connectivity between core areas and that could allow for range expansion and genetic exchange.” Indeed, the Recovery Team concluded that “[r]ange expansion and natural movement of the jaguar may be of increased importance in the face of climate change and increased habitat fragmentation.”

Following the Recovery Team’s report, the FWS designated certain areas in southern Arizona and New Mexico as critical habitat for the jaguar. To determine the jaguar’s critical habitat, the FWS identified areas that (i) are occupied by the jaguar, (ii) are greater than 100 square

kilometers, and (iii) contain all of the “physical or biological features essential to the conservation” of the jaguar. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Jaguar, 79 Fed. Reg. 12572, 12587 (Mar. 5, 2014) (Final Rule). These areas:

- (1) Provide connectivity to Mexico;
- (2) Contain adequate levels of native prey species . . .
- (3) Include surface water sources available within 20 km (12.4 mi) of each other;
- (4) Contain from greater than 1 to 50 percent canopy cover within Madrean evergreen woodland . . .
- (5) Are characterized by intermediately, moderately, or highly rugged terrain;
- (6) Are below 2,000 m (6,562 feet) in elevation; and
- (7) Are characterized by minimal to no human population density, no major roads, or no stable nighttime lighting.

Id. The FWS also designated as critical habitat certain areas providing connectivity to the jaguar’s habitat in Mexico.

Two areas are relevant here: Unit 3, which includes areas in the Santa Rita, Patagonia, Empire, and Huachuca Mountains; and Subunit 4b, which includes areas in the Whetstone Mountains connecting Unit 3 to Subunit 4a. The FWS found that Unit 3 contained each of the physical and biological features essential to jaguar conservation (also referred to as primary constituent elements, or PCEs), and that recent photographs of a jaguar in the area provided

evidence of jaguar occupation.¹ The FWS also designated Subunit 4b as unoccupied critical habitat, explaining that it provided connectivity between occupied areas in Unit 4 and Mexico.

In making its designation, the FWS considered comments arguing that no areas within the United States should be considered critical habitat for the jaguar. The FWS disagreed, explaining that populations “at the edge of a species’ range play a role in maintaining the total genetic diversity of a species; in some cases, these peripheral populations persist the longest as fragmentation and habitat loss impact the total range.” *Id.* at 12574. Accordingly, the FWS found that critical habitat within the United States contributed to “the jaguar’s persistence and recovery across the species’ entire range” and provided “areas for cyclic expansion and contraction” of the population in the nearby core areas of the NRU. *Id.* at 12605. In making this determination, the FWS referenced the work of the Recovery Team, emphasizing the Recovery Team’s habitat modeling and its findings regarding the features essential for jaguar conservation.

II.

“The Endangered Species Act of 1973 is a comprehensive scheme with the broad purpose of protecting endangered and threatened species.” *Defs. of Wildlife v. Zinke*, 856 F.3d 1248, 1252 (9th Cir. 2017) (cleaned up). In furtherance of this purpose, the Endangered Species Act (ESA) requires federal agencies to ensure “that any action”

¹ The FWS determined that Unit 3 and Subunit 4a, among other areas not relevant here, were occupied critical habitat. Recognizing the sparse evidence of jaguar occupation, however, the FWS made an alternative designation of these areas as unoccupied critical habitat.

they take “is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined . . . to be critical.” 16 U.S.C. § 1536(a)(2).

The ESA tasks the Secretary of the Interior and the Secretary of Commerce with designating a species’ critical habitat. *Id.* §§ 1532(15), 1533(a)(3)(A)(i). Under the ESA, critical habitat may either be occupied or unoccupied by the species in question. *Id.* § 1532(5)(A). An area may be designated as occupied critical habitat if it contains “those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection.” *Id.* § 1532(5)(A)(i). To be designated as unoccupied critical habitat, however, the area must be “essential for the conservation of the species.” *Id.* § 1532(5)(A)(ii). In other words, the designation of occupied critical habitat focuses on the features found in the area, while the designation of unoccupied critical habitat requires that the habitat itself be essential to the species’ conservation. *See id.* § 1532(5)(A).

Under the Administrative Procedure Act, the FWS’s designation of critical habitat “will be set aside only if it is ‘arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.’” *Bear Valley Mut. Water Co. v. Jewell*, 790 F.3d 977, 986 (9th Cir. 2015) (quoting 5 U.S.C. § 706(2)(A)). “Under this standard, we will sustain an agency action if the agency has articulated a rational connection between the facts found and the conclusions made.” *Id.* (internal quotation marks omitted). “In recognition of the agency’s technical expertise the court usually defers to the agency’s analysis, particularly within its area of competence.” *Ariz. Cattle Growers’ Ass’n v.*

Salazar, 606 F.3d 1160, 1163 (9th Cir. 2010) (reviewing a critical habitat designation). “A federal court may not substitute its judgment for that of the agency.” *Bear Valley Mut. Water Co.*, 790 F.3d at 986.

A.

The majority discusses at length the meaning of the word “essential” in the ESA’s definition of critical habitat, explaining that the term is used as a synonym for “necessary” or “indispensable.” But this discussion does little to resolve the dispute in this case. The parties do not disagree on the definition of the term “essential.” And the ESA does not require that critical habitat be “essential” in the abstract. Rather, it requires that critical habitat be “essential for the conservation of the species.” 16 U.S.C. § 1532(5)(A)(ii).

Conservation is a broad concept, including “all methods that can be employed to ‘bring any endangered species or threatened species to the point at which the measures provided pursuant to [the ESA] are no longer necessary.’” *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv.*, 378 F.3d 1059, 1070 (9th Cir. 2004) (quoting 16 U.S.C. § 1532(3)), *superseded on other grounds by* Interagency Cooperation—Endangered Species Act of 1973, as Amended; Definition of Destruction or Adverse Modification of Critical Habitat, 81 Fed. Reg. 7214 (Feb. 11, 2016). Accordingly, “the purpose of establishing ‘critical habitat’ is for the government to carve out territory that is not only necessary for the species’ survival but also essential for the species’ recovery.” *Home Builders Ass’n of N. Cal. v. U.S. Fish & Wildlife Serv.*, 616 F.3d 983, 989 (9th Cir. 2010) (quoting *Gifford Pinchot Task Force*, 378 F.3d at 1070).

The FWS found that the jaguar's recovery would "rely primarily on actions that occur outside the U.S." Final Rule, 79 Fed. Reg. at 12574. It further found that "[a]ctivities that may . . . affect jaguars in the U.S. are less likely to affect recovery than activities in core areas of their range." *Id.* Contrary to the conclusion reached by the majority, there is no conflict between these findings and a designation of critical habitat within the United States. Whenever the United States contains only a minority of a species' critical habitat, it is likely that conservation efforts in other countries will be more important than those here. We have previously rejected the notion that "designation is only necessary where it would protect the majority of species habitat." *See Nat. Res. Def. Council v. U.S. Dep't of the Interior*, 113 F.3d 1121, 1126 (9th Cir. 1997). The ESA, moreover, defines conservation broadly, and certain habitat may be "essential for the conservation of the species" even if other habitat is more important. 16 U.S.C. § 1532(5)(A)(ii).

Here, the FWS adequately justified its determination that habitat within the United States is essential to the jaguar's conservation, even though the jaguar's core habitat is found elsewhere. As the FWS explained, threats to the jaguar at the core of its range increase the value of habitat at the periphery. These peripheral habitats not only provide for possible range expansion and genetic exchange but also have the potential to outlast core areas as threats to the species increase. The jaguar's range in 1972, when it was listed as an endangered species, was already much smaller than its historical range, which extended well into the United States. The designation of habitat within the United States therefore helps the jaguar return to territory it occupied before it became endangered. Indeed, "[s]ince the point of the ESA is to ensure the species' recovery, it makes little sense to limit

its protections to the habitat that the existing, threatened population currently uses.” *Alaska Oil & Gas Ass’n v. Jewell*, 815 F.3d 544, 556 (9th Cir. 2016).

B.

Having determined that habitat within the United States is essential to the jaguar’s conservation, the FWS reasonably designated Unit 3 and Subunit 4b as critical habitat.

i.

The majority contends that the designation of Unit 3 was improper because the presence of PCEs alone cannot be determinative in designating an area as unoccupied critical habitat. But the FWS properly applied the appropriate standard: that the designated habitat be “essential to the conservation of the species.” 16 U.S.C. § 1532(5)(a)(ii).

The FWS designated Unit 3 as critical habitat because it contained evidence of recent jaguar habitation, featured every one of the PCEs identified by the Recovery Team to be essential to the jaguar’s recovery, and provided for the species’ persistence in the United States and possible expansion to a new range. This designation was based on the Recovery Team’s findings, which employed scientific modeling to determine which habitat features were essential to the jaguar. It was justified also by the Recovery Team’s determination that areas at the edge of the jaguar’s range play an important role in supporting the jaguar’s recovery and survival—particularly toward the northwest of the species’ range, where opportunities for expansion are necessary to preserve the genetic health of the NRU’s jaguar population.

The FWS determined that Unit 3 did not contain just some but rather all PCEs “essential to the conservation” of

the jaguar. Final Rule, 79 Fed. Reg. at 12587. This determination exceeds the standard necessary for designation of occupied critical habitat. See *Home Builders Ass'n of N. Cal.*, 616 F.3d at 988–89. Nothing in the ESA prevents the FWS from designating unoccupied habitat on the basis that the presence of certain PCEs makes the habitat “essential for the conservation of the species.” See 16 U.S.C. § 1532(5)(A)(ii). We have, in fact, upheld such designations in the past. See *Bear Valley Mut. Water Co.*, 790 F.3d at 994.

Nor was the designation of Unit 3 based on the presence of PCEs alone. Because the jaguar is a territorial animal requiring an expansive range, the FWS designated only areas providing at least 100 square kilometers of habitat. The FWS also pointed to multiple undisputed records of jaguars within the designated habitat, including photographs in 2012 and 2013 of a male jaguar in Unit 3.² Taken together, these explanations satisfy the FWS’s obligation to “articulate[] a rational connection between the facts found and the conclusions made.” *Id.* at 986 (internal quotation mark omitted).

ii.

The FWS also properly designated Subunit 4b as unoccupied critical habitat. As the FWS explained, Subunit 4b provides connectivity between Unit 4 and the jaguar’s habitat in Mexico, and includes features conducive to the jaguar’s travel, such as canopy cover, ruggedness, and low human influence. The agency’s determination was supported by the Recovery Outline, in which the Recovery Team

² Even if these photographs were too recent to show that Unit 3 was occupied at the time of listing in 1972, the FWS was not precluded from considering them to determine that the area was essential to the conservation of the jaguar at the time of designation in 2014.

explained that connectivity between jaguar populations was critical to the species' genetic health and to its ability to expand toward the edge of its range. It was also supported by a 2013 draft biological opinion regarding the Rosemont Copper Mine, which found that disruptions to the connectivity provided by Subunit 4b would reduce the conservation value of the designated habitat as a whole.

The majority finds the designation of Subunit 4b arbitrary and capricious because the FWS did not provide direct evidence that jaguars use Subunit 4b to travel to Mexico, as opposed to Subunit 4c (another unoccupied subunit connecting Subunit 4a to Mexico through Unit 3). But contrary to the majority's suggestion, this designation was not merely speculative. The FWS recognized that, to reach the jaguar population in Subunit 4a, jaguars would need the ability to travel through at least one of Subunit 4b and Subunit 4c—if not both. And the FWS determined that Subunit 4b contained features conducive to this purpose.

These findings are sufficient to satisfy the FWS's burden. As we explained in *Alaska Oil*, an area may be designated even as occupied critical habitat without direct evidence of a species' presence. 815 F.3d at 555–56. Nor is the FWS required to identify the specific location of the features justifying its designation or the precise spots where the species can be found. *Id.* at 555–57. The FWS need only “dr[a]w rational conclusions from the best available scientific data.” *Id.* at 562. The FWS has satisfied that standard here.

The majority attempts to distinguish *Alaska Oil* because it involved a designation of occupied rather than unoccupied critical habitat. But that fact simply explains why our decision in *Alaska Oil* focused on the locations of PCEs, the

presence of which is required for a designation of occupied critical habitat. *See id.* at 556; 16 U.S.C. § 1532(5)(A)(i). It does not, however, distinguish *Alaska Oil*'s holding that the FWS need not identify the specific locations of species or features when designating critical habitat. That holding is derived from the rule that the ESA “requires use of the best available technology, not perfection”—a rule applicable to both designations of occupied and unoccupied critical habitat. *Id.* at 555; 16 U.S.C. § 1533(b)(2).

The majority's approach risks prohibiting any designation of connective critical habitat in the absence of direct evidence that a species traverses through a specific designated route. Unless the FWS were certain which specific route or routes a species takes between areas of its habitat, the majority's approach would preclude the FWS from protecting any connective habitat at all. The ESA does not require this level of granularity. *See Alaska Oil*, 815 F.3d at 557–58 (upholding a critical habitat designation specified in five-mile increments). Here, the FWS reasonably determined that the jaguar would require connectivity between its core population in Mexico and its critical habitat in the United States, and that Subunit 4b was well-suited for this purpose.

C.

Finally, the majority finds that the FWS violated its own regulation, because it designated unoccupied habitat without first determining that designation of only occupied habitat would be inadequate to ensure the conservation of the jaguar. As an initial matter, the majority misconstrues the applicable regulation. The majority faults the FWS for failing to consider whether it would have been enough to designate only habitat occupied by the jaguar “in 1972.” Majority Op.

at 32. At the time the designation was issued, however, the FWS's regulation required the agency to determine whether the "geographical area presently occupied by a species . . . would be inadequate to ensure the conservation of the species" before designating unoccupied critical habitat. 50 C.F.R. § 424.12(e) (2012). In other words, the regulation directed the agency to consider the species' present range, rather than its range at the time of listing.³

This distinction matters. Even if the evidence on the record was insufficient to support a finding that the jaguar occupied Unit 3 in 1972, the FWS was justified in determining that Unit 3 comprised part of the jaguar's present range due to recent uncontroverted evidence of jaguar habitation, as well as the presence of every PCE. *See* Final Rule, 79 Fed. Reg. at 12578–79; *cf. Alaska Oil*, 815 F.3d at 556–57 (upholding a designation of occupied critical habitat due to the presence of PCEs, even without geographically precise evidence of the species' presence in the habitat). Accordingly, the FWS's regulation did not require it to make a separate finding that the designation of occupied areas other than Unit 3 would have been sufficient to ensure the jaguar's conservation.

In any event, the FWS adequately explained why designating critical habitat within the United States was essential to the conservation of the jaguar—and why leaving

³ The majority points to a statement from the FWS's rule repealing this provision in 2016 which asserts that the reference to "'geographical area presently occupied' by the species . . . is generally understood to refer to habitat occupied at the time of listing." Listing Endangered and Threatened Species and Designating Critical Habitat; Implementing Changes to the Regulations for Designating Critical Habitat, 81 Fed. Reg. 7414, 7415 (Feb. 11, 2016). But this interpretation of the regulation is contrary to its plain language. *See* 50 C.F.R. § 424.12(e) (2012).

conservation efforts entirely to other countries encompassing the core of the jaguar's range would not be enough. Because humans have killed jaguars or damaged their habitat, the jaguar's range has diminished significantly over the last century. As the Recovery Team found, the jaguar continues to face threats to its survival in much of its range. Accordingly, areas at the periphery of the jaguar's range play an important role in ensuring that the jaguar can not only survive but also recover.

For the reasons discussed above, these determinations justified the designation of critical habitat in Unit 3 and Subunit 4b. Unit 3 not only provides every one of the PCEs essential to the jaguar but also contains recent evidence of jaguar habitation. And Subunit 4b provides critical connectivity to Mexico, without which the jaguar may not be able to move between periphery and core populations. The FWS was therefore justified in concluding that the designation of other areas alone would be inadequate to ensure the species' conservation. *See* Final Rule, 79 Fed. Reg. at 12590.

* * *

The FWS reasonably determined that habitat within the United States was critical for the jaguar's conservation and recovery. This determination was supported by factual assessments lying at the core of the agency's expertise. Accordingly, I would uphold the FWS's designation of critical habitat for the jaguar.

Appendix 1



Appendix 2

