DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–HQ–ES–2022–0134; FXES1111090FEDR–256–FF09E21000]

RIN 1018–BG93

Endangered and Threatened Wildlife and Plants; Significant Portion of Its Range Analysis for the Northern Distinct Population Segment of the Southern Subspecies of Scarlet Macaw

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final analysis and determination.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), determine that the northern distinct population segment (DPS) of the southern subspecies of scarlet macaw (*Ara macao macao*) is appropriately listed as a threatened species under the Endangered Species Act of 1973 (Act), as amended. Scarlet macaws are brilliantly colored parrots native to Mexico and Central and South America. This notification affirms the Service's February 26, 2019, final rule listing the scarlet macaw under the Act and provides a final significant portion of its range analysis for the northern DPS.

DATES: The final analysis and determination are effective June 3, 2025.

ADDRESSES: This final notification is available on the internet at *https://www.regulations.gov.* Comments and materials we received on our December 26, 2024, **Federal Register** document (87 FR 66093) are available for public inspection at *https://www.regulations.gov* at Docket No. FWS–HQ–ES–2022–0134.

FOR FURTHER INFORMATION CONTACT: Rachel London, Manager, Branch of Delisting and Foreign Species, Ecological Services Program, U.S. Fish and Wildlife Service; 703–358–2171; *rachel_london@fws.gov.* Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

SUPPLEMENTARY INFORMATION:

Background

Scarlet macaws (*Ara macao*) have the broadest range of all the macaw species (Ridgely 1981, p. 250). The range of the species extends from Mexico, south through Central America, and into the Amazon of South America to central Bolivia and Brazil. In Mexico and Central America, the scarlet macaw's historical range and population have been reduced and fragmented over the last several decades primarily because of habitat destruction and collection of wild birds for the pet trade (Vaughan et al. 2003, pp. 2–3; Collar 1997, p. 421; Wiedenfeld 1994, p. 101; Snyder et al. 2000, p. 150). The majority (83 percent) of the species' range and population lies within the Amazon biome of South America (Birdlife International (BLI) 2011a, unpaginated; BLI 2011b, unpaginated; BLI 2011c, unpaginated). In South America, the scarlet macaw occurs over much of its historical range within the Amazon and occurs in small areas outside the Amazon, such as west of the Andes Mountains in Colombia.

The scarlet macaw is classified as two subspecies, the northern subspecies (*A. macao cyanoptera*) and southern subspecies (*A. macao macao*) (Schmidt 2013, pp. 52–53; Schmidt et al. 2019, p. 735). The northern subspecies of scarlet macaw ranges from Mexico, south through Central America in Guatemala, Nicaragua, and Honduras, and down the Atlantic slope of Costa Rica, as well as on Isla Coiba in Panama. The southern subspecies of scarlet macaw occurs along the Pacific slope of Costa Rica and southward through mainland Panama and into the remainder of the species' range in South America. The subspecies are separated by the Central Cordilleras in Costa Rica (Schmidt 2013, pp. 52–53; Schmidt et al. 2019, p. 744).

On February 26, 2019, we published in the **Federal Register** a final rule under the Act (84 FR 6278; 2019 final rule). The 2019 final rule was the outcome of a rulemaking proceeding that began with a proposed rule (77 FR 40222, July 6, 2012; 2012 proposed rule) and a revised proposed rule (81 FR 20302, April 7, 2016; 2016 proposed rule). The 2019 final rule revised the List of Endangered and Threatened Wildlife in title 50 of the Code of Federal Regulations (CFR) (at 50 CFR 17.11(h)) to add the northern subspecies of scarlet macaw (*A. m. cyanoptera*) as an endangered species, the northern DPS of the southern subspecies (*A. m. macao*) as a threatened species (hereafter, ''the northern DPS''), and the southern DPS of the southern subspecies (*A. m. macao*) and subspecies crosses (*A. m. cyanoptera* and *A. m. macao*) as threatened species due to similarity of appearance. The 2019 final rule also added protective regulations to 50 CFR 17.41 pursuant to section 4(d) of the Act for the northern and southern DPSs of the southern subspecies and for subspecies crosses. For a more thorough discussion of the taxonomy, life history, distribution, and the determination of listing status for scarlet macaws under the Act, please refer to the Species Information section in the 2019 final rule (84 FR 6278 at 6284, February 26, 2019).

This Action

We are reassessing whether the northern DPS of the southern subspecies of scarlet macaw (*A. m. macao*) is in danger of extinction throughout a significant portion of its range (SPR) in response to an order issued by the U.S. District Court for the District of Columbia in *Friends of Animals* v. *Williams,* Case No. 1:21–cv–02081–RC. On April 3, 2023, in compliance with the Court's order, we published an initial SPR analysis and final threatened species determination for the northern DPS of the southern subspecies of scarlet macaw (88 FR 19549; hereafter, ''the 2023 SPR analysis''). Having determined that the northern DPS is not in danger of extinction throughout a significant portion of its range, we did not propose to revise the status of the southern subspecies of scarlet macaw in the northern DPS. Therefore, we affirmed the listing of the scarlet macaw as set forth in the 2019 final rule. However, on July 10, 2024, the Court found that we inappropriately limited the scope of public comments in the 2022 reconsideration. The Court vacated the 2023 SPR analysis and remanded it to us to reconduct after soliciting and considering public comments on the relevant, substantive issues.

On October 8, 2024, the Court further ordered that, ''if the Service receives no public comments on the SPR analysis that result in the need to repropose the listing decision for the Northern DPS, the Service will submit a final SPR analysis to the Office of the Federal Register no later than 120 days from the end of the public comment period.'' The Court's Order continued, ''if the Service does receive public comments on the SPR analysis that cause it to reconsider the Northern DPS's listing determination, the Service will need additional time to revise the listing determination to incorporate analysis of those comments and any additional data that addresses them. If this additional analysis leads the Service to reach a different listing determination that the public could not have anticipated, the Service may need to revise and repropose the Northern DPS listing determination. The Service will then submit any such re-proposal to the

Office of the Federal Register no later than September 30, 2025.'' The 2019 final rule has remained in effect, including with respect to the listing status (threatened species) and protective regulations under the species-specific section 4(d) rule for the northern DPS of the southern subspecies of scarlet macaw.

Summary of Comments

In the December 26, 2024, **Federal Register** document (89 FR 104950), we requested any interested party to submit comments on the 2023 SPR analysis for the northern DPS of the southern subspecies of the scarlet macaw (*A. m. macao*), with no limitations on the comments requested. We reviewed all comments received for substantive issues. In total, we received two non-substantive comments and one comment letter, with four attachments, that raised multiple substantive issues. We address these substantive comments below.

Comment (1): Commenter Friends of Animals claimed that in 2012 we determined that the northern DPS in Costa Rica was endangered.

Our response: Before issuance of the 2019 final rule, the scarlet macaw—including the northern DPS—was not a species listed under the Act. We issued two proposed listing rules for the scarlet macaw before the 2019 final rule: the 2012 proposed rule (77 FR 40222, July 6, 2012) and the 2016 proposed rule (81 FR 20302, April 7, 2016). Friends of Animals repeatedly refers to the 2012 proposed rule as if it represented a final agency action, as opposed to a proposal which, by definition, is subject to change. The fact that the 2016 proposed rule and 2019 final rule differed from the 2012 proposed rule does not mean the agency ''reversed course'' and must therefore provide more justification for its northern DPS listing decision than is typically required under the Administrative Procedure Act (5 U.S.C. 551 *et seq.*). A final rule may properly differ from a proposed rule and indeed must so differ when the record evidence warrants the change (*USW* v. *Marshall,* 647 F.2d 1189, 1221 (D.C. Cir. 1980)). Friends of Animals previously raised this issue in litigation, and our threatened listing determination was upheld by the Court in its July 10, 2024 opinion.

Comment (2): Friends of Animals stated that we did not use the best available science in making the final (2019) determination for the northern DPS.

Our response: The Act requires us to make a determination using the best scientific and commercial data available. We based our 2019 decision to list the northern DPS as a threatened species on the best scientific and commercial data available and adequately explained our reasons for doing so (84 FR 6278 at 6308), including why the final listing differed from the 2012 proposal (84 FR 6278 at 6278–6279). We also considered the new information provided as a result of the 2024 document opening a comment period, and for reasons described below, we are re-affirming our final threatened determination for the northern DPS. Friends of Animals previously raised this issue in litigation, and the Court upheld our threatened listing determination and its use of best available science in its July 10, 2024 opinion.

Comment (3): Friends of Animals stated that a peer reviewer of the 2012 proposed rule displayed pervasive biases in public statements that undermine their previous statements and comment submissions to the Service. Friends of Animals included as an attachment a November 2024 article that quotes the peer reviewer.

Our response: Friends of Animals' claim about the peer reviewer does not reflect the record, including why the 2019 final rule differed from the 2012 proposed rule. The record includes the peer reviewers' comments on both the 2012 and 2016 proposed rules. No peer reviewer feedback is accepted without question, and we consider it in light of other scientific information and expert comments. Our decision was based on the best scientific and commercial data available, including all the information we received following the initiation of the status review for the scarlet macaw in 2012 and in response to the 2016 proposed rule. This information included studies from a species expert and conservation organizations within the scarlet macaw's range countries. We examined the species' range; distribution and abundance; and all the Section 4(a)(1) factors affecting the species, including the destruction and modification of the species' habitat because of deforestation and forest degradation and threats posed by legal and illegal trade, including poaching (84 FR 6278 at 6290–6304, February 26, 2019). Lastly, Friends of Animals' attachment, selective quoting of the peer reviewer, does not directly display pervasive bias because the topic of attachment is on parental chick raising behavior, not on the status of all scarlet macaws.

Comment (4): Friends of Animals stated that the Service must conduct an SPR analysis that does not tie ''significant'' to the overall survival of the northern DPS. They stated that the Service appeared to be saying that a portion of the range can only be significant if its loss would jeopardize the continued viability of the northern DPS. They further stated that such reasoning is contrary to the plain meaning of the Act, and multiple courts have held that this very type of SPR analysis is arbitrary and capricious.

Our response: We disagree with Friends of Animals that we have applied an arbitrary and capricious definition of ''significant.'' They appear to suggest that we conducted a ''hypothetical loss test'' as was our practice outlined in the Final Policy on Interpretation of the Phrase ''Significant Portion of Its Range'' in the Act's Definitions of ''Endangered Species'' and ''Threatened Species'' (hereafter, 2014 SPR policy; 79 FR 37578, July 1, 2014). In actuality, we did not apply any aspect of the 2014 SPR policy definition of significant, including this hypothetical loss test, for the SPR analysis of the northern DPS of the scarlet macaw. We also did not state that a portion can only be significant if its loss would jeopardize the continued viability of the northern DPS. In our 2023 SPR analysis, we assessed whether a portion contributing meaningfully to the northern DPS' overall resiliency and representation or by itself will have only a minimal impact on the viability of the northern DPS (88 FR 19549 at 19557–19558, April 3, 3023). Contributing to viability is not the same standard as significant. In this final SPR analysis, we further clarify that we considered several factors related to the conservation value of a portion of the range for the species.

Comment (5): Friends of Animals stated that the Service must attempt to quantify the portion of the northern DPS's range when determining whether the portions are significant, consistent with analysis of other species. They suggest that Panama and northwest Colombia are significant portions of the northern DPS's range because they constitute most of the range and contain very large areas of suitable forested habitat. The commenter provided a range analysis as an attachment. They also provided several examples of previous determinations for other species where the Service has quantified portions of its range to help determine significant portion of its range.

Our response: The Act requires us to make a determination using the best scientific and commercial data available. We appreciate the additional information provided by Friends of Animals and have updated our SPR analysis below to better reflect our

understanding of the current range of the northern DPS. As discussed further below, we have included this information in our reassessment of whether the northern DPS is in danger of extinction throughout a significant portion of its range. As discussed in response to comment 4, above, to determine whether a portion of the range is ''significant,'' we consider several factors that are related to the conservation value of a portion of the range for the species. A strict numerical quantification of the proportion of the range that a portion constitutes is not a requisite for analysis of significance, nor is the mere presence of suitable habitat confirmatory evidence of significance.

Comment (6): Friends of Animals stated that the Service did not provide clear evidence to support the determination that the northern DPS in Costa Rica consists of two different populations. Per the commenter, the ''range analysis,'' particularly reported sightings from eBird, instead strongly show the northern DPS in Costa Rica to be one population.

Our response: The two populations on the Pacific slope in Costa Rica are referred to as the Área de Conservación Pacífico Central (ACOPAC) and the Southern Pacific Costa Rica (Área de Conservación Osa (ACOSA)) populations. According to the best scientific and commercial data available, the scarlet macaw population in ACOPAC has been expanding from the traditional stronghold in and around Carara National Park (Brightsmith 2016, in litt., p. 11). The ACOSA population is simultaneously expanding up the coast. Thus, scarlet macaws observed between the ACOPAC and ACOSA populations may represent individuals from either of the populations, and it is difficult to distinguish between expansion of the ACOPAC population to the south and the expansion of the ACOSA population to the north (Dear et al. 2010, p. 10; Brightsmith 2016, in litt., p. 11). Although we recognize scarlet macaws between the Osa Peninsula (ACOSA) and Carara National Park (ACOPAC) may come from either population, all are considered part of the northern DPS in Costa Rica for the purposes of this determination. We retain reference to these two populations solely for historical context on the status of the northern DPS as a whole.

Comment (7): Friends of Animals suggests that Colombia and Panama portions of the northern DPS's range are ''significant'' because they represent two of the three countries in which the northern DPS is found.

Our response: We do not consider geopolitical information as part of whether a portion of the range is ''significant.'' We consider the conservation value of the portion and its contribution to species' viability.

Comment (8): Friends of Animals suggests that the Colombia and Panama portions of the northern DPS's range are ''significant'' because they provide a safeguard for the northern DPS if regulatory mechanisms, or a natural disaster, disease, or other tragedy decimates the northern DPS in Costa Rica.

Our response: The best scientific and commercial data available, as considered and explained in our decision file does not suggest that natural disasters, disease, or lack of regulatory mechanisms are threats to scarlet macaws in the northern DPS in Costa Rica, and Friends of Animals did not provide new information regarding these threats. Further, we do not assess whether the loss of individuals of a species within one part of the range results in another part of the species' range being a ''significant portion of its range.'' The construction of this argument would be akin (although inverse) to the hypothetical loss test previously vacated by the courts (see response to comment 4).

Comment (9): Friends of Animals suggested that the Colombia and Panama portions of the northern DPS's range are significant because these portions include unique-value habitat relative to the rest of the habitat in the range. Both Colombia and Panama have large stretches of continuous forest, far larger than any continuous forest habitat in the northern DPS's range in Costa Rica.

Our response: Additional acreage of forested habitat does not automatically equate to unique-value habitat, nor is it confirmatory of significance. We are not currently aware of any life-history functions that the Panama or Colombia portions are providing that are not provided elsewhere within the range, within the context of a ''significant portion of its range'' analysis. For example, there is no information that the very small population in Panama or the unknown but likely small population in Colombia are serving as a source population for the northern DPS. The northern DPS contains similar ecosystems across its range—lowland tropical habitats bounded by highlands, the Pacific Ocean, or both. Therefore, the best available information does not indicate that forests where scarlet macaws occur in Panama or Colombia are higher quality or provide unique-value habitat relative to the remaining portions of the range in the northern DPS.

Comment (10): Friends of Animals claimed that populations in Colombia and Panama are uniquely valuable because their large stretches of continuous forests could provide ''potential habitat'' for scarlet macaws if existing habitat is degraded. Per Friends of Animals, the same cannot be said for populations in Costa Rica because there is no additional ''potential habitat'' for scarlet macaws to move to within Costa Rica.

Our response: We have no data or information supporting the claim that scarlet macaws are occupying or moving into areas of ''potential habitat'' in Colombia and Panama that the commenter states would support scarlet macaws. Indeed, much of the habitat in the Colombia and Panama parts of the northern DPS's range is already degraded. Furthermore, the best scientific and commercial data available do not demonstrate that scarlet macaws affected by habitat degradation readily move to adjacent forested areas. The northern DPS includes populations of scarlet macaw in each country that are separated from each other with no known connectivity between them despite the existence of suitable habitat. Therefore, Friends of Animals' statement that scarlet macaws could move into ''potential habitat'' from degraded land is speculation, unsupported, and not based on the best scientific and commercial data available.

Comment (11): Friends of Animals provided two studies: a 2024 study examining commercial captive breeding of parrots and a 2023 study on genetic variation between subspecies of scarlet macaws.

Our response: We note that the 2024 study provided assesses whether commercial captive breeding of parrots may be an effective supply-side intervention but does not explicitly reference scarlet macaws. This study does not change our prior assessment, as noted below, that releases of captive scarlet macaws could augment wild populations, but they may also introduce diseases if not conducted properly.

As for the 2023 study on genetics, the study further examines the phylogenetic relationships and patterns of genetic variation of the two subspecies of scarlet macaw (*A. m. cyanoptera* and *A. m. macao*) as well as comparisons to the *A. m. macao* in Amazonian South America to the subspecies in Central America. This study does not change our prior determination that the scarlet macaw consists of two subspecies and that the

A. m. macao ranges from Central America through the Amazon in South America.

Regulatory Framework

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations at 50 CFR part 424 set forth the procedures for determining whether a species meets the definition of an endangered species or a threatened species. The Act requires that we determine whether a species meets the definition of an endangered species or a threatened species because of any of the following factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. We consider these five factors and the species' responses to these factors when making these determinations.

Section 3 of the Act defines ''endangered species'' and ''threatened species.'' 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. Both definitions include not only the phrase ''throughout all,'' but also the phrase ''or a significant portion of its range.'' Thus, there are ultimately four bases for listing a species under the Act (in danger of extinction throughout all of its range, in danger of extinction throughout a significant portion of its range, likely to become an endangered species within the foreseeable future throughout all of its range, or likely to become an endangered species within the foreseeable future throughout a significant portion of its range). These four bases are made up of two classifications (*i.e.,* endangered or threatened) and two components (*i.e.,* throughout all of its range or throughout a significant portion of its range).

Beginning in 2001, several judicial opinions addressed our interpretation of the phrase ''or a significant portion of its range'' (the SPR phrase) in the statutory definitions of ''endangered species'' and ''threatened species.'' In *Defenders of Wildlife* v. *Norton,* 258 F.3d 1136 (9th Cir. 2001), the court held that the interpretation of the SPR phrase that we had applied in analyzing the status of the flat-tailed horned lizard was unacceptable because it would allow for a species to warrant listing throughout a significant portion of a species' range only when the species ''is in danger of extinction everywhere.'' The court held that the SPR phrase must be given independent meaning from the ''throughout all'' phrase to avoid making the SPR phrase in the statute superfluous.

In an attempt to address the judicial opinions calling into question our approach to evaluating whether a species was endangered or threatened throughout a significant portion of its range, the Service and the National Marine Fisheries Service (NMFS) (collectively, ''the Services'') published a '' 'Final Policy on Interpretation of the Phrase ''Significant Portion of Its Range'' in the Endangered Species Act's Definitions of ''Endangered Species'' and ''Threatened Species' '' (hereafter ''2014 SPR policy''; 79 FR 37578, July 1, 2014). The notice of the draft policy provides more detail about litigation before 2014 regarding the phrase (76 FR 76987, December 9, 2011). The 2014 SPR policy included four elements:

(1) Consequence—that the consequence of determining that a species warrants listing based on its status in a significant portion of its range is to list the species throughout all of its range;

(2) Significance—a definition of the term ''significant;''

(3) Range—that the species' ''range'' is the current range of the species; and

(4) DPS—that, if a [vertebrate] species is endangered or threatened in an SPR and the population in that SPR is a distinct population segment (DPS), the Service will list just the DPS.

Subsequently, two district courts vacated the definition of ''significant'' contained in the 2014 SPR policy (*Ctr. for Biological Diversity* v. *Jewell,* 248 F. Supp. 3d 946, 959 (D. Ariz. 2017) (''*CBD* v. *Jewell*'') and *Desert Survivors* v. *U.S. Dep't of the Interior,* 321 F. Supp. 3d 1011, 1070–74 (N.D. Cal. 2018) (''*Desert Survivors*'')). The courts found that the definition in the 2014 SPR policy set too high a threshold and rendered the SPR language in the statute superfluous, failing to give it independent meaning from the ''throughout all'' phrase. In 2020, another court (*Ctr. for Biological Diversity* v. *Everson,* 435 F. Supp. 3d 69 (D.D.C. 2020) (''*Everson*'')) also vacated the specific aspect of the 2014 SPR policy under which, ''if the Services determine that a species is threatened throughout all of its range, the Services will not analyze whether the species is endangered in a significant portion of its range.'' This was an extension of the definition of ''significant,'' which required a stepwise process in which we only considered whether a species may be endangered or threatened throughout a significant portion of its range when the species was not endangered or threatened throughout all of its range. In an extension of the earlier rulings from *CBD* v. *Jewell* and *Desert Survivors,* the court found that this aspect of the definition of the 2014 SPR policy was not only inconsistent with the statute because it ''rendered the 'endangered in a significant portion of its range' basis for listing superfluous,'' but was also ''inconsistent with ESA principles'' and ''not a logical outgrowth from the draft policy.'' Under this ruling, if we find a species is not in danger of extinction throughout all of its range, we must evaluate whether the species is in danger of extinction throughout a significant portion of its range, even in cases where we have determined that the species is likely to become in danger of extinction within the foreseeable future (threatened) throughout all of its range. The remaining three elements of the 2014 SPR policy remain intact.

In short, the courts have directed that the definition of ''significant'' must afford the phrase ''or a significant portion of its range'' an independent meaning from the ''throughout all of its range'' phrase. Therefore, to determine whether any species warrants listing, we determine for each classification (endangered and threatened) the appropriate component to evaluate (throughout all of its range or throughout a significant portion of its range).

For either classification (endangered or threatened), we consider the five factors and the species' responses to those factors regardless of which component (throughout all of its range or throughout a significant portion of its range) we have determined is appropriate for that classification. When assessing whether a species is endangered or threatened throughout a significant portion of its range, we address two questions because we must determine whether there is any portion of the species' range for which both (1) the portion is ''significant'' and (2) the species is in danger of extinction or likely to become in danger of extinction within the foreseeable future throughout that portion. We may address either question first. Regardless of which question we address first, if we reach a negative answer with respect to the first question that we address, we do not need to evaluate the other question for that portion of the species' range.

Scarlet Macaw in the Northern DPS

The scarlet macaw inhabits various habitat types throughout its range,

including tropical humid evergreen forest, deciduous and humid forest, intact and partially cleared lowland rainforest, mixed pine and broad-leaved woodlands, open areas and edges with scattered stands of tall trees, gallery forest, mangroves, and savannas, often near rivers (Juniper and Parr 1998, p. 425; Wiedenfeld 1994, p. 101; Forshaw 1989, p. 407; Meyer de Schauensee and Phelps, Jr. 1978, p. 99). Scarlet macaws prefer lowland, humid habitats that are dependent on the availability of fresh water (Schmidt et al. 2019, p. 744; Schmidt 2013, p. 175). The scarlet macaw generally occurs from sea level to about 500 meters (m) (1,640 feet (ft)) elevation, but it has been reported ranging up to 1,500 m (4,921 ft) in Central America (*i.e.,* Costa Rica) (Juniper and Parr 1998, p. 425; Vaughan 1983, in Vaughan et al. 2006, p. 919; Vaughan 2011, p. 22).

Generally, the species is geographically constrained between central highlands and either the Pacific or Atlantic Coasts. In the northern DPS, the range of the scarlet macaw occurs south of the Central Cordilleras of Costa Rica, along the Pacific slope, and south through Panama to northwest of the Andes Mountains in Colombia. Scarlet macaws are confined to the tropical forests in lower Central America by the central highlands and the Pacific Ocean. Similarly, in Colombia scarlet macaws inhabit moist tropical ecosystems along the mid- to lower-Magdalena River Valley, bounded by the Central and Oriental Cordilleras of the Northern Andes Mountains (Hilty and Brown 1986, p. 200). The geographical extent of these lowland habitats covers an area markedly smaller than either upper Central America or the Amazon Basin, with fewer major sources of fresh water (Schmidt et al. 2019, p. 745).

The scarlet macaw is considered somewhat tolerant of degraded or fragmented habitat (BLI 2011c, unpaginated; Forshaw 1989, p. 406; Brightsmith in litt. 2016, pp. 4–7). They can survive in human-modified landscapes provided sufficient large trees remain for nesting and feeding requirements (BLI 2011c, unpaginated; Forshaw 1989, p. 406; Ridgely 1981, p. 251). Landscapes may include a combination of agricultural land, pastureland, timber harvesting areas, and remnant forest patches (Vaughan et al. 2006, p. 920; Vaughan et al. 2005, p. 120; Vaughan et al. 2003, p. 7); partially cleared forest where large trees have been left standing (Forshaw 1989, p. 407); pastureland with scattered woodlots or remnant patches of rainforest (Vaughan et al. 2009, p. 396; Forshaw 1989, p. 407); and areas of human settlement (towns) (Guittar et al. 2009, p. 390). However, scarlet macaws occur at lower densities in disturbed or secondary forest habitat compared to primary, undisturbed forests (Cowen 2009, pp. 11–15; Karubian et al. 2005, pp. 622–623; Lloyd 2004, pp. 269, 272).

The total population of scarlet macaws in the northern DPS is approximately 1,275 to 2,475 birds (see table 1, below). Populations include: (1) two populations on the Pacific slope in Costa Rica—the ACOPAC and the ACOSA populations, (2) a very small population in the Chiriquí province and at the southern end of the Azuero Peninsula of Veraguas, near Cerro Hoya National Park in Panama, and (3) a population in northwest Colombia west of the Andes Mountains.

The Costa Rica populations account for most of the currently known population of the northern DPS of the scarlet macaw (see table 1). The ACOPAC population is estimated to contain approximately 450 birds (Arias et al. 2008, in McReynolds 2011, in litt. unpaginated). The estimates for the ACOSA population are between 800 to 1,200 birds (Dear et al. 2010, p. 17) but possibly up to 2,000 birds (Guzman 2008, p. 17). Combining plausible subpopulation estimates, the total population of scarlet macaws on the Pacific slope of Costa Rica that includes both the ACOPAC and ACOSA populations was estimated at approximately 1,800 birds (McReynolds 2011, in litt., unpaginated).

In Panama, the scarlet macaw was formerly widespread on the Pacific slope in the western half of the country. The species is currently described as almost extinct on the mainland but abundant and occurring in substantial numbers on Isla Coiba, a one-time penal colony where human settlement and most hunting were prohibited (Ridgely 1981, p. 253). The current population of scarlet macaws in Panama is estimated at less than 200 birds, with most of the population occurring on Isla Coiba, which are a different subspecies (northern subspecies (*A. m. cyanoptera*)) and not part of the northern DPS (Schmidt 2013, pp. 69–73; Schmidt et al. 2019, p. 740). Less than 25 birds are estimated to occur on mainland Panama (Keller and Schmitt 2008, in Brightsmith 2012, in litt. and McReynolds 2011, in litt., unpaginated). This very small number of scarlet macaws on mainland Panama are the only scarlet macaws in Panama that are considered part of the northern DPS of the southern subspecies and included in this analysis. In the border region of Costa Rica and western Panama, scarlet macaws have been successfully reintroduced in Tiskita, Costa Rica (Tiskita Jungle Lodge 2018, unpaginated). The successful reintroduction has resulted in a viable population at Tiskita and scarlet macaws are established at this location (Tiskita Jungle Lodge 2018, unpaginated). Additionally, a small, but unknown number of scarlet macaws occur on the southern end of Panama in the Azuero Peninsula of Veraguas, near Cerro Hoya National Park, Tonosi Forest Reserve, and farther to the east (Brightsmith 2016, in litt., p. 17; Sullivan et al. 2009, unpaginated; Rodriguez and Hinojosa 2010, in McReynolds 2011, in litt., unpaginated).

In northwest Colombia, little information is available on the population size, density, or distribution of scarlet macaws. Scarlet macaws are believed to occur in the Magdalena and Cauca River valleys in tropical ecosystems bounded by the Central and Oriental Cordilleras of the Northern Andes Mountains (Hilty and Brown 1986, p. 200; Forshaw 1989, p. 407). They have been reported as very rare or probably close to extinction in the Magdalena Valley, Cauca Valley, and to the north (Donegan 2013, in litt.; Ellery 2013, in litt.; McMullen 2010, p. 60). They may occur in very low numbers in the more remote and inaccessible parts of the region, but we lack further information on other potential populations.

TABLE 1—ESTIMATED POPULATION SIZE OF SCARLET MACAW IN THE NORTHERN DPS

Population range country	Population name	Population estimates number of individuals	
Scarlet Macaw (*Ara macao macao*) Northern DPS			
Costa Rica	Central Pacific Conservation Area—Área de Conservación Pacífico Central (ACOPAC).	~450	Plausible estimate of total population in Costa Rica ~1,800.

TABLE 1—ESTIMATED POPULATION SIZE OF SCARLET MACAW IN THE NORTHERN DPS—Continued

Population range country			
Costa Rica	Osa Conservation Area—Área de Conservación Osa (ACOSA).	~800–1,200, potentially up to 2,000	
Panama (mainland)	Cerro Hoya National Park	<25.	
Colombia	Northwest Colombia	unknown.	
Total Population Size of *A. m. macao;* Northern DPS.		1,275–2,475.	

Primary Factors Affecting the Scarlet Macaw in the Northern DPS

The two primary threats to scarlet macaws are the loss of forest habitat and collection of wild birds for the pet trade (Iñigo-Elias in litt. 1996, in Snyder et al. 2000, p. 150; Guedes 2004, p. 280). The primary cause of forest loss is conversion to agriculture for crops and pasture, although other human activities such as construction of infrastructure, selective logging, fires, oil and gas extraction, and mining also contribute to the loss of forest cover within the range of the species (Blaser et al. 2011, pp. 262–402; Boucher et al. 2011, entire; Clark and Aide 2011, entire; Food and Agricultural Organization of the United Nations (FAO) 2011a, pp. 17–18; May et al. 2011, pp. 7–13; Pacheco 2011, entire; Government of Costa Rica 2010, pp. 38–39; Belize Ministry of Natural Resources and Environment 2010, pp. 40–45; Armenteras and Morales 2009, pp. 133–145, 176–191; Kaimowitz 2008, p. 487; Mosandl et al. 2008, pp. 38–40; Nepstad et al. 2008, entire; Foley et al. 2007, pp. 26–27; Fearnside 2005, pp. 681–683).

Historically, large areas of forest have been removed throughout the species' range, particularly in Mexico and Central America, and any large tracts of forest that remain are fragmented and are mostly isolated from each other (Bray 2010, p. 93; see 84 FR 6278 at 6290–6296, February 26, 2019). Deforestation continues throughout much of the scarlet macaw's range, including in the northern DPS, and is a threat to the species because it eliminates the species' habitat by removing trees that support the species' essential needs for nesting, roosting, and food. Scarlet macaws require a large range and a variety of food resources. Thus, large-scale land conversion presents a generalized threat to scarlet macaw nest sites, foraging areas, and migration corridors (Schmidt 2013, p. 173). Scarlet macaws are dependent on larger, older trees that have large nesting cavities. Additionally, they primarily forage in the forest canopy, and are relatively general in their feeding habits. Abundance may fluctuate because they may move to areas with greater resource availability, influencing local and seasonal abundance (Lee 2010, p. 7; Cowen 2009, pp. 5, 23, citing several sources; Tobias and Brightsmith 2007, p. 132; Brightsmith 2006, unpaginated; Renton 2002, p. 17). Therefore, removal of older and larger trees decreases suitable nesting sites and food resources, increases competition, and causes the loss of current generations through an increase in infanticide and egg destruction (Lee 2010, pp. 2, 12). The species will use partially cleared and cultivated landscapes if they provide sufficient dietary requirements and maintain enough large trees. However, scarlet macaws have a better chance of surviving in large tracts of primary forest where suitable nesting cavities are more common than in open and small patches of non-primary forest (Iñigo-Elias 1996, p. 91). Therefore, as the size of the suitable habitat is reduced, it is less likely to provide the essential resources for the species (Ibarra-Macias 2009, p. 6; Lees and Peres 2006, pp. 203–205).

Competition for suitable nest cavities negatively affects reproductive success of scarlet macaws, including in the northern DPS. Competition limits available nesting sites and thus the number of pairs that can breed, or competition may cause nest mortality stemming from agonistic interactions. Intraspecific competition between different pairs of scarlet macaws, and competition with pairs of other macaw species that are larger and more competitive, is intense in some areas (Renton and Brightsmith 2009, p. 5; Iñigo-Elias 1996, p. 96; Nycander 1995, p. 428). Additionally, Africanized honeybees (*Apis mellifera scutellata)* are also reported to be a competitor with scarlet macaws for nest cavities (Garcia et al. 2008, p. 52; Vaughan et al. 2003, p. 13; Iñigo-Elias 1996, p. 61).

Collecting wild birds for the pet trade has been occurring for centuries (Cantu-Guzman et al. 2007, p. 9; Guedes 2004, p. 279; Snyder et al. 2000, pp. 98–99). Removing birds from the wild is driven by demand for the pet trade and is related to poverty because capture for sale in local markets can provide a significant source of supplemental income (Huson 2010, p. 58; González 2003, p. 438). Low salaries and high unemployment drive people to search for extra sources of income that may include collecting wildlife for the pet trade (TRAFFIC NA 2009, pp. 23–24).

Collection of scarlet macaws decreases the population, inhibits future breeding by removing reproductive age adults, may cause mortality of eggs or chicks, and may cause damage and loss of nesting sites (Cantu-Guzman et al. 2007, p. 14; see 84 FR 6278 at 6296–6299, February 26, 2019). Scarlet macaws are long-lived species and once successfully fledged from the nest, they have a high survival rate (Myers and Vaughan 2004, cited in Vaughan et al. 2005, p. 128). However, with a low reproductive rate, low survival of chicks and fledglings, late age to first reproduction, and a large proportion of the population as nonbreeding adults, scarlet macaws are particularly vulnerable to overexploitation, especially when individuals are removed from the wild year after year (Munn 1992, p. 57; Wright et al. 2001, p. 712). Collection and deforestation often operate synergistically because activities that clear forests increase access to previously inaccessible areas, which in turn increases the vulnerability of species to overexploitation by humans (Peres 2001, entire; Putz et al. 2000, pp. 16, 23).

The scarlet macaw is a popular pet species within its range countries, and most birds collected for the pet trade are sold as pets and remain within range countries (Snyder et al. 2000, p. 150; Wiedenfeld 1994, p. 102). Because of high mortality rates associated with capture and transport of wildlife, the number of birds sold or exported for the pet trade represents only a portion of those removed from the wild. Cumulative mortality rates before

parrots reach customers have been estimated to be as high as 77 percent; for nestlings, approximately 80 percent died before reaching a pet store (Iñigo and Ramos 1991 and Enkerlin 2000, in Cantu-Guzman et al. 2007, p. 60). Pet collection is a threat for the scarlet macaw in the northern DPS.

On June 6, 1981, the scarlet macaw was included in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). On August 1, 1985, the scarlet macaw was included in Appendix I of CITES because of the high level of trade. Species included in Appendix I are considered threatened with extinction, and international trade is permitted only under exceptional circumstances, which generally precludes commercial trade. The United States and Europe historically were the main markets for wild birds in international trade (FAO 2011b, p. 3). Trade was particularly high in the 1980s (Rosales et al. 2007, pp. 85, 94; Best et al. 1995, p. 234). However, in the years following the enactment of the Wild Bird Conservation Act in 1992 (WBCA; 16 U.S.C. 4901 *et seq.*), there was a substantial reduction of wild-caught parrots imported to the United States from Mesoamerica and South America as well as the rest of the world (Pain et al. 2006, p. 327). The European Union, which was the largest market for wild birds following enactment of the WBCA, banned the import of wild birds in 2006 due to disease concerns (FAO 2011b, p. 21), thus eliminating another major market and further reducing international trade of wild parrots and macaws.

The scarlet macaw is protected by domestic laws within all range countries, and all have a system of protected areas or national parks to conserve biodiversity. However, enforcement of wildlife laws is generally lacking because the agencies responsible often do not have the financial resources, personnel, or both, to adequately enforce their laws, particularly in remote areas (TRAFFIC NA 2009, p. 20; Valdez et al. 2006, p. 276; Mauri 2002, entire).

The scarlet macaw currently occurs in relatively small and fragmented populations throughout most of its range. Small, isolated populations place the species at greater risk of local extirpation or extinction due to a variety of factors, including loss of genetic variability, demographic and environmental stochasticity, and natural catastrophes (Lande 1995, entire; Lehmkuhl and Ruggiero 1991, p. 37; Gilpin and Soulé 1986, pp. 25–33; Soulé and Simberloff 1986, pp. 28–32; Shaffer 1981, p. 131; Franklin 1980, entire). The species maintains genetic diversity throughout its range and between the two subspecies. With the ongoing loss of habitat throughout the range, the loss of genetic variability could diminish their capacity to adapt to changes in the environment (Blomqvist et al. 2010, entire; Reed and Frankham 2003, pp. 233–234; Nunney and Campbell 1993, pp. 236–237; Soulé and Simberloff 1986, pp. 28–29; Franklin 1980, pp. 140–144). Other natural events that put small populations at risk include variations in birth and death rates, fluctuations in gender ratio, and environmental disturbances such as wildfire and climatic shifts (Blomqvist et al. 2010, entire; Gilpin and Soulé 1986, p. 27; Shaffer 1981, p. 131). Negative impacts associated with small population sizes of scarlet macaws may be magnified because of interactions with habitat loss and collection. Cumulatively, the small population sizes occurring in narrow lowland forested areas in fragmented habitat, combined with ongoing collection and a long-lived species' low reproduction rate, increases the species' vulnerability. As discussed below, some populations of the scarlet macaw in the northern DPS are relatively small and fragmented.

The scarlet macaw in the northern DPS occurs on the Pacific slope from northwestern Costa Rica, south through mainland Panama, and west of the Andes Mountains in Colombia. Deforestation, collection, lack of effective enforcement of existing laws, and small population size all cumulatively affect scarlet macaws in the northern DPS. In the 2023 SPR analysis based on the plain language of the Act and the Court's order in *Everson,* we assessed four portions within the northern DPS: the Pacific slope of Costa Rica, mainland Panama, Colombia west of the Andes, and Panama and Colombia combined. We concluded that there were no portions within the northern DPS where both the northern DPS is in danger of extinction and that portion of the range is significant.

The following is a final SPR analysis for the northern DPS of the southern subspecies of scarlet macaw based on the best scientific and commercial data available, including new information received during the public comment period opened on December 26, 2024 (89 FR 104950).

Status Throughout a Significant Portion of Its Range

As discussed above, a species may warrant listing if it is in danger of extinction or likely to become so within the foreseeable future throughout all or a significant portion of its range. Following the court's holding in *Everson,* and having determined in our 2019 final rule that the northern DPS of the southern subspecies of scarlet macaw (northern DPS) is not in danger of extinction (endangered species) throughout all of its range, we evaluate whether the northern DPS is in danger of extinction throughout a significant portion of its range—that is, whether there is any portion of the northern DPS' range for which both (1) the portion is significant; and (2) the northern DPS is in danger of extinction in that portion. In undertaking this analysis for the northern DPS, we choose to address the status question first. In examining the status question, we note that the statutory difference between an endangered species and a threatened species is the timeframe in which the species (subspecies or DPS) becomes in danger of extinction; an endangered species is in danger of extinction while a threatened species is not in danger of extinction but is likely to become so within the foreseeable future. In undertaking this analysis of whether the northern DPS is in danger of extinction throughout a significant portion of its range, we reviewed the best scientific and commercial data available regarding threats to the species, its responses to those threats, and any associated conservation measures. We then assessed the cumulative effects of those threats and conservation measures under the Act's section 4(a)(1) factors. We examined the following threats: habitat loss and fragmentation, collection for the pet trade, small population size, and the effects to suitable habitat because of changing climatic factors, including synergistic and cumulative effects.

The range of many species can theoretically be divided in several ways. For the northern DPS, we considered population sizes, geographic distribution, and threats to the northern DPS, including the northern DPS's response to the threats and cumulative effects. We considered whether the effects of the threats on the northern DPS are greater in any biologically meaningful portion of the northern DPS's range than in other portions such that the northern DPS is in danger of extinction in that portion. We focused our analysis on portions of the northern DPS' range that may meet the definition of an endangered species. We identified four portions of the northern DPS' range for these analyses: (1) the Pacific slope of Costa Rica, (2) mainland Panama, (3)

Colombia west of the Andes Mountains, and (4) Panama and Colombia combined.

The northern DPS includes populations of scarlet macaw in each country that are separated from each other with no known connectivity between them. Therefore, even if scarlet macaws can engage in larger scale movements within suitable habitat, the portions are based on the known population distributions of the northern DPS within each country and not strictly based on the geographic border of each country.

Analysis of the Costa Rica Portion

The northern DPS of scarlet macaw has been reduced from much of its historical range in Costa Rica due to the primary threats of habitat loss and collection (Bray 2010, p. 107; Marineros and Vaughan 1995, pp. 445–446; Vaughan et al. 2003, p. 8; McReynolds 2016, in litt., unpaginated). The northern DPS of scarlet macaw in Costa Rica occurs in lowlands along the Pacific slope flanked by the central highlands and the Pacific Ocean. The Costa Rica population in the northern DPS, including both the ACOPAC and ACOSA populations, is the largest population and accounts for most of the total population of scarlet macaws in the northern DPS.

Costa Rica is overall gaining forest cover throughout the country (Hansen et al. 2013, entire; FAO 2015, p. 10; Brightsmith 2016, in litt. p. 1). Nevertheless, some deforestation still occurs in parts of the country due to expansion of agriculture and livestock activities and to illegal logging in private forests, national parks, and reserves (Government of Costa Rica 2011, p. 2; Government of Costa Rica 2010, pp. 10–11, 38, 52–54; Parks in Peril 2008, unpaginated). The major driver of deforestation is the conversion of forest to livestock and agricultural uses because land users often generate a higher annual income with agriculture or livestock-raising than with forests. Indigenous communities have difficulties keeping nonindigenous farmers from encroaching onto their lands (Government of Costa Rica 2011, p. 1). Additionally, a lack of effective enforcement allows squatters and illegal loggers to exploit resources in protected areas.

A comprehensive study of deforestation in Costa Rica's parks system found that deforestation inside Level-1 protected areas, which denotes areas with absolute protections and where no land-cover change is allowed, was negligible from 1987 to 1997, and within the park's 1-kilomter (km) buffer zones the protected areas had a net forest gain for the same period. However, a 1 percent annual deforestation rate occurred in 10-km buffer zones of protected areas. Thus, as distance increases from Level-1 protected areas, total deforestation and deforestation rates also increase (Sanchez-Azofeifa et al. 2003, p. 128). Corcovado National Park, the largest protected area in ACOSA, is one of the Level-1 protected areas in Costa Rica most affected by deforestation within 1 km of its boundaries (Sanchez-Azofeifa et al. 2003, pp. 128–129). Within 10 km of the park, significant clearing also occurred (Sanchez-Azofeifa et al. 2003, p. 132). Additionally, in the ACOPAC scarlet macaw population, deforestation occurs around the Carara National Park with a higher rate of deforestation northwest of Carara than to the south (Sanchez-Azofeifa et al. 2003, pp. 128–129; Brightsmith 2016, in litt., p. 12). Generally, national parks on the Pacific slope experience less deforestation on surrounding lands than those on the Atlantic slope, which is attributed to the intensification and expansion of agricultural cash crops such as banana and pineapple (Sanchez-Azofeifa et al., 1999, 2001, cited in Sanchez-Azofeifa et al. 2003, p. 129).

Overall, the northern DPS's habitat and population size have been reduced from historical levels in Costa Rica. Even though some deforestation is ongoing, Costa Rica has experienced a positive change in forest cover over a 25-year period, from 1990 to 2015. Deforestation or forest degradation in the current range of the scarlet macaw is not occurring at a level that is causing any further decline of the northern DPS in Costa Rica.

Historically, northern DPS scarlet macaws in Costa Rica experienced heavy collection pressure, but there are ongoing efforts to reduce the magnitude of collection. Collection is important in many communities for both subsistence and monetary gain; the incentives to poach are great for low- income communities surrounding a park (Huson 2010, p. 66). Intense management efforts in the mid-1990s that included anti-poaching efforts increased recruitment into the population. However, the anti-poaching efforts and the associated increase in population size was not sustained over the long term (Vaughan et al. 2005, p. 127). A significant effort to control poaching in the Carara area is ongoing because poaching continues to be a serious problem (Vaughan 2005, pers. comm., in McReynolds 2016, in litt., unpaginated).

In 2005, the ACOPAC population of scarlet macaws was believed to be self-sustaining, even with heavy poaching pressure (Vaughan et al. 2005, p. 128). We have no information that suggests a change in this conclusion since 2005. In the ACOSA, approximately half (48 percent) of residents interviewed believed that scarlet macaws were still being poached, although 85 percent of the interviewees believed numbers of scarlet macaws were increasing and 43 percent of the interviewees mentioned less poaching occurs now than before (and none said poaching had increased (Dear et al. 2010, p. 13)). Overall, while collection is ongoing in the ACOSA and ACOPAC populations, the population of scarlet macaws is increasing despite the collection pressure.

Costa Rica's Wildlife Conservation Law and its amendments prohibit the hunting, collection, and extraction of all species, except in certain cases for subsistence by indigenous groups, scientific purposes, or species control (Costa Rica Embassy 2013, unpaginated; NOVA 2013, unpaginated; Tico Times 2017, unpaginated). Additionally, Costa Rica has protected its resources through an ambitious national parks and biological reserves system, but those parks and reserves are inadequately funded and insufficiently controlled (Government of Costa Rica 2010, p. 34). Poaching by local communities remains a concern; hunting within national park boundaries is illegal but difficult to enforce with limited funds and supervision (Huson 2010, p. 18; Government of Costa Rica 2010, p. 52). Officials in Carara National Park reported that they do not have enough staff to effectively control poaching (Huson 2010, p. 8).

Active reintroduction programs have added hundreds of scarlet macaws to the wild in the northern DPS in Costa Rica (Ara Project 2017, unpaginated; Brightsmith et al. 2005, p. 468; Dear et al. 2010, pp. 15–17; Forbes 2005, p. 97; Tiskita Jungle Lodge 2018, unpaginated). Most reintroduction projects also conduct environmental education at a local level and attract additional media attention to educate the public about the importance of scarlet macaws and their conservation (Brightsmith 2016, in litt., p. 22).

Success of reintroductions varies. On the Nicoya Peninsula in northwestern Costa Rica, scarlet macaws are currently released at Punta Islita, Playa Tambor, and Curú National Wildlife Refuge, which are all within 50 km of each other. These three release sites, though isolated, could help repopulate the Nicoya Peninsula (Brightsmith 2016, in litt., p. 15). Some released birds survived but have not produced chicks; we do not have information concerning

the status of most released birds at these locations (Brightsmith et al. 2005, p. 468). Within the South Pacific coast region, over 75 scarlet macaws have been released into the wild with close to 90 percent survival rate (Tiskita Jungle Lodge 2018, unpaginated). This reintroduction program was ceased once a large enough population was established to potentially connect with populations in the ACOSA farther north along the coast (Ara Project 2018, unpaginated; Tiskita Jungle Lodge 2018, unpaginated).

Releases of captive scarlet macaws could increase wild populations. Many captive-raised and confiscated birds are released adjacent to existing populations. Some released birds have found mates, food, and nesting resources in the wild. Conversely, releases of captive scarlet macaws could potentially pose a threat to wild populations by exposing wild birds to diseases for which wild populations have no resistance (Dear et al. 2010, p. 20; Schmidt 2013, pp. 74–75; also see IUCN 2013, pp. 15–17). However, these risks are small as the frequency of disease occurrence is low (see *Factor C* discussion in 77 FR 40222 at 40237–40238, July 6, 2012).

The population of scarlet macaws in the northern DPS is estimated to range between 1,475–2,475 birds (see table 1, above). Information indicates that the ACOPAC and ACOSA populations in Costa Rica, which make up the bulk of the northern DPS of scarlet macaw, are at least stable and likely increasing. The population appears to be expanding into suitable habitat along the Pacific slope between the ACOPAC and ACOSA populations. With regular sightings of scarlet macaws between the two populations, the scarlet macaw is now found from the Osa Peninsula (ACOSA population) to Carara National Park (ACOPAC population) (Brightsmith 2016, in litt., p. 13). While poaching, deforestation, small population size, and inadequate enforcement of existing protections continue to affect the species, because the population is increasing and expanding in its range between the two populations, we determine that the Costa Rica portion of scarlet macaw is not in danger of extinction. As a result of our finding that the northern DPS is not in danger of extinction throughout this portion of the range, we do not need to determine whether this portion of the range is ''significant.'' Therefore, this portion of the species' range does not provide a basis for determining that the species is in danger of extinction throughout a significant portion of its range.

Analysis of the Mainland Panama Portion

The best scientific and commercial data available on distribution and abundance indicates that there are very few scarlet macaws in the northern DPS on mainland Panama. The current population on mainland Panama is estimated to be fewer than 25 birds that occur in two areas, in northwest Panama in the upper Río Corotú near Puerto Armuelles and Querévalo in the Chiriquí province, and on the southern end of the Azuero Peninsula of Veraguas, near Cerro Hoya National Park, Tonosi Forest Reserve, and farther to the east. In the area of the upper Río Corotú near Puerto Armuelles and Querévalo in Chiriquí province, there have been sporadic sightings of scarlet macaws. However, it is uncertain if the birds in northwest Panama are a wild population or birds dispersing south from a reintroduction program at Tiskita, Costa Rica, that have successfully established in the area because of the program. Deforestation in Panama is relatively low for the Mesoamerica region; the annual decrease during 1990–2015 was 169 square kilometers (km^2) (or 0.4 percent) (FAO 2015, p. 12). Drivers of deforestation include urbanization, cattle ranching, agro-industrial development, unregulated shifting cultivation, open mining, poor logging practices, charcoal-making, and fire (International Tropical Timber Organization (ITTO) 2005, in Blaser et al. 2011, p. 354). Deforestation in the country currently occurs primarily in the Darieén, Colon, Ngabe Bugle, and Bocas del Toro provinces (Blaser et al. 2011, p. 354), which are outside the scarlet macaw's range in Panama. However, illegal logging is widespread in humid forests throughout Panama, even in protected areas (Blaser et al. 2011, p. 361). We are unaware of information indicating that deforestation and forest degradation are impacting scarlet macaws in northwest Panama. We are also unaware of information indicating that deforestation is occurring near the small but unknown number of scarlet macaws on the southern end of the Azuero Peninsula of Veraguas, near Cerro Hoya National Park and in the forest reserves just to the east. Less than 15 percent of the peninsula is covered by mature forest, but most of the remaining forest can be found in Cerro Hoya National Park and the Tronosa Forest Reserve to the east (Miller et al. 2015, p. 1).

Little information is available on collection of scarlet macaws in Panama, although it was historically a factor leading to the extremely low population size of the species in the country (McReynolds 2016, in litt. unpaginated). Cerro Hoya National Park is located on the southern tip of the Azuero Peninsula within Panama's most impoverished province (Veraguas) and the Los Santos province. Collection of wildlife (including scarlet macaws) is a threat in this area because locals use unoccupied lands for logging and to collect wildlife for sustenance and income. Poaching of wildlife is common in rural areas (Government of Panama 2005, p. 36; Parker et al. 2004, p. II–6). Therefore, it is reasonable to conclude that some level of poaching of scarlet macaws likely occurs in the country, although at what level is unknown. Because the species is vulnerable to overexploitation based on their life-history traits, poaching individuals from such a small population would impact the population's viability. Moreover, despite a program to use captive scarlet macaw feathers to reduce hunting of wild birds for their feathers, hunting still occurs, and collection of chicks for pets remains a concern at Cerro Hoya National Park (Rodriquez and Hinojosa 2010, in McReynolds 2016, in litt., unpaginated).

The National Environment Authority is the primary government institution for forest and biodiversity conservation and management in Panama. To protect and regulate the use of wildlife, flora and fauna, the Panamanian Government has created numerous laws, including Wildlife Law 24 that establishes wildlife as part of the natural heritage of Panama and provides for protection, restoration, research, management, and development of the country's genetic resources, including rare species; the General Law on the Environment (41), which establishes the basic principles and norms for the protection, conservation, and restoration of the environment and promotes the sustainable use of natural resources; and the National System of Protected Areas (Parker et al. 2004, p. III–2; Blaser et al. 2011, p. 355). However, the National Environment Authority has limited capacity and resources to ensure adherence to forest-related laws and regulations (Blaser et al. 2011, p. 361).

Overall, the scarlet macaw exists on mainland Panama in two areas with an extremely small overall population size (less than 25 birds). Deforestation is a threat to forests in Panama, but primarily occurs outside of the scarlet macaw's range. Illegal and small-scale subsistence logging is ongoing with little oversight and causes forest degradation. However, we are unaware of deforestation affecting the northern

DPS on mainland Panama. Poaching was not identified as a main threat to biodiversity in Cerro Hoya National Park (Parker et al. 2004, Annex G, unpaginated), but poaching is common in rural areas and collection of scarlet macaws within the park and in rural areas is likely ongoing. The scarlet macaw's life history traits limit the species' ability to recover, particularly if individuals are removed from the wild year after year. Given the extremely small population of macaws in Panama, the loss of even a few individuals in the wild represents an ongoing threat to the species' viability in Panama. Therefore, we conclude that the northern DPS is in danger of extinction in the Panama portion.

Because we concluded that the northern DPS is in danger of extinction in the Panama portion, we next proceed to evaluating whether this portion of the range is significant. As discussed above, two district courts vacated the definition of ''significant'' contained in the 2014 SPR policy. Therefore, for the purposes of this revised analysis, when considering whether this portion is ''significant,'' we considered factors such as whether the portion may (1) occur in a unique habitat or ecoregion for the species relative to the rest of the habitat in the range, (2) contain high quality or high value habitat relative to the remaining portions of the range or (3) contains a large geographic portion of the suitable habitat relative to the remaining portions of the range for the species.

New Information—Range Analysis

To determine whether a portion of the range may represent a large percentage of the range, we first map the current range. We received additional information during the public comment period that we used to revise the northern DPS range. The submitted ''range analysis'' (provided as an attachment) used multiple sources to map forested areas below 500 m and below 1,500 m within Costa Rica, Panama, and Colombia, including: (1) the International Union for Conservation of Nature (IUCN) range, (2) IUCN range with convex hulls of eBird point observations (hereafter ''eBird observations''), and (3) potential range polygons (hereafter ''potential range'') that include all lowland forests adjacent or accessible to the northern DPS population. The submitted ''range analysis'' removed areas with less than or equal to 75 percent tree cover that had not experienced forest loss since 2000, retained areas with tree height greater than or equal to 10 meters, and excluded areas in oil palm cultivation as of 2019. The ''range analysis'' includes quantification of forest area and non-forest area up to 500 m and up to 1,500 m.

After considering and evaluating the three recommendations provided, we have determined that the IUCN range represents the best scientific and commercial data available for the northern DPS.

The IUCN estimates the range of scarlet macaw on mainland Panama is approximately 1,583 km^2. This estimate represents the taxon's current and historical distribution based on expert assessment of the available data (IUCN 2018, p. 4). The best scientific and commercial data available indicate that the species occurs on the southern end of the Azuero Peninsula of Veraguas, near Cerro Hoya National Park, Tonosi Forest Reserve, and farther to the east. This area is similar to the range of eBird observations. We assume the eBird observations are accurate and are true reflections of species' observations, as eBird is managed by the Cornell Lab of Ornithology and documents bird distribution, abundance, habitat use, and trends through checklist data collected within a simple, scientific framework (Sullivan et al. 2009, unpaginated). However, the ''range analysis'' including eBird observations is based on a convex hull and more than doubles the size of the IUCN range. Convex hulls have known biases in overestimating range (Burgman and Fox 2003, p. 22), and the ''range analysis'' does not include the raw data of the eBird observations, limiting our ability to assess the impact of this bias on the range estimate. The ''potential range'' presented in the ''range analysis'' includes all lowland forests adjacent or accessible to the northern DPS population, including areas where there is a lack of data on the presence of scarlet macaws in the northern DPS. However, the presence of forested land does not necessarily equate to suitable habitat for the scarlet macaw. Given the northern DPS includes populations of scarlet macaw in each country that are clearly separated from each other with no known connectivity, the potential range likely overestimates the range by assuming forested areas adjacent to known populations of the northern DPS serve as habitat for the species, despite the lack of data to support presence within those areas. Thus, we conclude the IUCN range represents the best data available on the scarlet macaw's range in Panama.

The northern DPS contains similar ecosystems across its range—lowland tropical habitats bounded by highlands or the Pacific Ocean. Scarlet macaws are dependent on larger, older trees that have large nesting cavities, forage primarily in the forest canopy, and are relatively general in their feeding habits. The best scientific and commercial data available do not indicate that forests where scarlet macaws occur in mainland Panama are of higher quality or provide high value relative to the remaining portions of the range in the northern DPS. The Panama portion of the range accounts for a very small (only 2 percent) proportion of the current estimated range of the northern DPS. Finally, the total population of scarlet macaws on mainland Panama (approximately 25 birds) represents only about 1 percent of the total population of the northern DPS and best scientific and commercial data available do not indicate that the Panama portion has ever contained a large percentage of the rangewide population.

In summary, the Panama portion does not provide any unique habitat or ecoregion for the species relative to the rest of the habitat in the range. This portion does not contain high-quality or high-value habitat relative to the remaining portions of the range, nor does this portion contain a large geographic portion of the suitable habitat relative to the remaining portions of the range for the species. In addition, there were no other factors that would suggest that the portion is a significant portion of the northern DPS's range. Therefore, while the northern DPS of scarlet macaw is in danger of extinction within the Panama portion, that portion is not a significant portion of the northern DPS' range.

Analysis of the Colombia Portion

Scarlet macaws historically occurred in northwest Colombia in the tropical zone of the Caribbean region, and the inter-Andean valleys, the largest of which are the Magdalena and Cauca River valleys (Salaman et al. 2009, p. 21; Hilty and Brown 1986, p. 200; Forshaw 1989, p. 407). The species was reported to inhabit moist tropical ecosystems along the mid- to lower-Magdalena River Valley, bounded by the Central and Oriental Cordilleras of the Northern Andes Mountains (Hilty and Brown 1986, p. 200). However, northern DPS scarlet macaws have been reported as probably close to extinction in the Magdalena and Cauca River valleys, and areas north (Donegan 2013, in litt.; Ellery 2013, in litt.; McMullen 2010, p. 60). Scarlet macaws may occur in very low numbers in the more remote and inaccessible parts of the region, but their status there is not clear. We are unaware of any other detailed information on the

numbers, distribution, or status of the scarlet macaw in northwest Colombia.

The primary factors affecting the northern DPS of scarlet macaws in northwest Colombia are habitat loss, and to a lesser extent collection (Donegan 2013, in litt., unpaginated). Colombia has lost forest at an increasing rate (FAO 2020, p. 137; Ortega and Lagos 2011, p. 82; Salaman et al. 2009, p. 21; Colombia Gold Letter 2012, pp. 1–2; Restrepo et al. 2015, pp. 18–26; Restrepo and Escobar 2018, pp. 85–87) due primarily to conversion of land to pasture and agriculture, mining, illicit crops, logging, and palm oil agribusiness (Ortega and Lagos 2011, pp. 85–86; Salgado et al. 2022, p. 453). Agriculture is the major driver of forest loss. However, the drivers of deforestation do not operate at the same magnitude in all regions of Colombia (Arias Gaviria et al. 2021, p. 90).

The percentage of forest cover in the Magdalena basin is estimated to have declined by more than 40 percent, from 66 percent cover in 1980 to 22 percent in 2000, with an annual deforestation rate of 274,000 hectares per year (Restrepo et al. 2015, p. 15). In the central and lower basins of the Magdalena River, 30 percent of lowland forests were cut down by the year 2000 (Salgado et al. 2022, p. 458). The Magdalena and Caribbean regions had approximately only 7 percent and 23 percent (respectively) of their land area in original vegetation, with the remainder converted primarily to grazing land (79 percent and 68 percent, respectively) (Etter et al. 2006, p. 376). Within the Caribbean region, protected areas and sanctuaries have lost up to 70 percent of forest cover since they were created in the late 1970s and early 1980s (Miller et al. 2004, p. 454). This loss of forest in the Magdalena basin demonstrates that deforestation is ongoing in northwest Colombia with few large tracts of forest remaining.

The threat of habitat loss is higher in Colombia compared to the other parts of the range within the northern DPS. With limited information on population size or trends, we assume collection for the pet trade occurs throughout the range of the northern DPS and is not geographically concentrated in Colombia or occurring at a different scale from any other portion in the northern DPS. The best scientific and commercial data available suggest that the scarlet macaw's population in northwest Colombia is small and has been significantly reduced from its historical range. Viability of the presumed small population is likely low, exacerbated by ongoing threats of habitat loss and collection in light of the species' life-history traits that limit the rate of recovery from loss of wild populations. Therefore, we conclude that the northern DPS is in danger of extinction in the Colombia portion.

Because we concluded that the northern DPS is in danger of extinction in the Colombia portion, we next proceed to evaluating whether this portion of the range is significant. Similar to the Panama portion, for the purposes of this analysis, when considering whether this portion is ''significant'' we considered factors such as whether the portion may (1) occur in a unique habitat or ecoregion for the species relative to the rest of the habitat in the range, (2) contain high quality or high value habitat relative to the remaining portions of the range, or (3) contains a large geographic portion of the suitable habitat relative to the remaining portions of the range for the species.

For similar reasons articulated for the delineation of the Panama range, we determined the IUCN range is based on the best scientific and commercial data available and represents the most accurate and reliable assessment of the scarlet macaw's range in Colombia. This species occurs in the mid- to lower-Magdalena River Valley and Cauca River Valley in tropical ecosystems bounded by the Central and Oriental Cordilleras of the Northern Andes Mountains (Hilty and Brown 1986, p. 200; Forshaw 1989, p. 407). The IUCN estimates the range of the scarlet macaw in Colombia is approximately 133,450 km^2. This estimate represents an accurate depiction of the scarlet macaw's current and historical distribution in Colombia based on expert assessment of the available data (IUCN 2018, p. 4).

The scarlet macaw is known to occur up to 1,500 m in Costa Rica but at lower elevations in the remainder of its range, including up to 500 m in Colombia (Juniper and Parr 1998, p. 425). Therefore, we consider the range of scarlet macaw in Colombia to be limited to areas up to 500 m in elevation.

Strictly considering the IUCN range that was delineated in the ''range analysis'' as ''forest area up to 500m,'' Colombia would account for approximately 75 percent of the total IUCN range of the northern DPS of scarlet macaw. However, simply containing a large percentage of the range does not automatically make a portion of the range ''significant,'' nor does it account for the differences across the range.

The best scientific and commercial data available indicate that the range of scarlet macaws in Colombia is consistent with the IUCN range; however, that range includes significant areas of non-forest habitat. The proportion of the IUCN range that is forest habitat in the Colombia portion, per data provided in the ''range analysis,'' is 13.4 percent, which is significantly lower than the proportion of forest habitat in either Panama (33.1 percent) or Costa Rica (35.2 percent). Further, within the IUCN range in Colombia, only 33 percent of the range is forested and approximately 50 percent of the range is considered rangeland according to Sentinel-2 10-meter land use data (Esri Land Cover 2024). Based on the low proportion of habitat that is forested within the IUCN range as compared with the amount of forested habitat in other portions of the range, Colombia does not provide significant habitat in terms of quantity and quality. Limited scientific and commercial data are available regarding population size in Colombia. However, the scarlet macaw's population in northwest Colombia is likely small. We acknowledge recent population declines in this area as well as ongoing deforestation; however, there are no data available that indicate that the Colombia portion of the northern DPS historically supported a higher density of birds. Therefore, the best scientific and commercial data available suggest the Colombia population likely represents a minimal proportion of the total population of the northern DPS, and the best available information does not indicate that the Columbia portion has ever contained a large percentage of the rangewide population.

Additionally, the Colombia portion does not provide any unique habitat or ecoregion for the species relative to the rest of the habitat in the range or contain high quality or high value habitat relative to the rest of the range. The northern DPS contains similar ecosystems across its range—lowland tropical habitats bounded by highlands and/or the Pacific Ocean. Scarlet macaws are dependent on larger, older trees that have large nesting cavities, forage primarily in the forest canopy, and are relatively general in their feeding habits. The best available information does not indicate that forests where scarlet macaws occur in northwest Colombia are higher quality or provide high value relative to the remaining portions of the range in the northern DPS. No other factors suggest that the portion is a significant portion of the northern DPS' range. In summary, while we have determined that the northern DPS is in danger of extinction within the Columbia portion, the

portion is not a significant portion of the range of the northern DPS.

Analysis of the Panama and Colombia Portions Combined

Having determined that neither the Panama nor the Colombia portions are significant portions of the northern DPS's range, we considered whether the Panama and Columbia portions combined might be a significant portion of the range of the northern DPS' range where the species is endangered. The scarlet macaw in the northern DPS may be in danger of extinction in that combined portion because of ongoing threats of deforestation that removes the species' habitat for nesting and foraging, as well as collection for the pet trade. Viability of very small populations in Panama and Colombia is likely minimal, particularly because the species' life-history traits limit the rate of recovery from loss of wild populations. Therefore, we conclude that the scarlet macaw in the northern DPS is in danger of extinction in this portion.

Because we concluded that the northern DPS is in danger of extinction in this portion, we next proceed to evaluating whether this portion of the range is significant. As discussed above, for the purposes of this analysis, when considering whether this portion is ''significant'' we considered factors such as whether the portion may (1) occur in a unique habitat or ecoregion for the species relative to the rest of the habitat in the range, (2) contain high quality or high value habitat relative to the remaining portions of the range, or (3) contains a large geographic portion of the suitable habitat relative to the remaining portions of the range for the species.

Considering forested area up to 500 m within the IUCN range that was delineated in the ''range analysis,'' Colombia and Panama contain a large portion of the range, accounting for approximately 77 percent of the total IUCN range of the northern DPS of scarlet macaw. However, simply containing a large percentage of the range does not automatically make a portion of the range ''significant.'' Additionally, this portion does not provide any unique habitat or ecoregion for the species relative to the rest of the habitat in the range, contain high quality or high value habitat relative to the rest of the range, and no other factors suggest that the portion is a significant portion of the northern DPS' range.

The best scientific and commercial data suggest the population in the Panama and Colombia portion is small and likely represents a minimal proportion of the total population of the northern DPS and has always been a smaller percentage of the rangewide population compared to Costa Rica. In summary, while the northern DPS is in danger of extinction within the Colombia and Panama portion, this portion is not a significant portion of the northern DPS' range.

The analyses of the Panama portion, Colombia portion, and the portion that combines Panama and Colombia together, does not conflict with the courts' holdings in *Desert Survivors* v. *U.S. Department of the Interior* and *Center for Biological Diversity* v. *Jewell,* because, in reaching this conclusion, we did not apply the aspects of the 2014 policy, including the definition of ''significant,'' that those court decisions held to be invalid.

Conclusion

In compliance with the U.S. District Court for the District of Columbia's July 2024 opinion, we have reconducted our analysis of the ''significant portion of the range'' after soliciting and considering public comments on the relevant, substantive issues.

In this analysis of the northern DPS, we assessed four portions within the DPS: the Pacific slope of Costa Rica, mainland Panama, and Colombia west of the Andes, and Panama and Colombia combined. We concluded that none of the portions in the northern DPS are portions where the northern DPS of scarlet macaw is both in danger of extinction and the portion is ''significant.'' The northern DPS is not in danger of extinction throughout the Costa Rica portion; therefore, we did not need to address whether the portion is ''significant.'' The northern DPS may be in danger of extinction throughout either the Panama or Colombia portions; however, neither of these portions of the range are ''significant.'' Similarly, we concluded the northern DPS may be in danger of extinction throughout the combined Panama and Colombia portion; however, this portion of the range is also not ''significant.'' Having completed the ''significant portion of its range'' analysis for the northern DPS and determined that the northern DPS is not in danger of extinction throughout a significant portion of its range, we are not revising the current status of the northern DPS. Therefore, we affirm the listing of the scarlet macaw as set forth in the 2019 final rule.

Authority

This document is published under the authority of the Endangered Species Act, as amended (16 U.S.C. 1531 *et seq.*).

Signing Authority

Paul Souza, Regional Director, Region 8, Exercising the Delegated Authority of the Director of the U.S. Fish and Wildlife Service, approved this action on May 21, 2025, for publication. On May 27, 2025, Paul Souza authorized the undersigned to sign the document electronically and submit it to the Office of the Federal Register for publication as an official document of the U.S. Fish and Wildlife Service.

Madonna Baucum,

Regulations and Policy Chief, Division of Policy, Economics, Risk Management, and Analytics of the Joint Administrative Operations, U.S. Fish and Wildlife Service.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 635

[Docket No. 220919–0193; RTID 0648–XE934]

Atlantic Highly Migratory Species; Atlantic Bluefin Tuna Fisheries; Angling Category Retention Limit Adjustment

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Temporary rule; retention limit adjustment.

SUMMARY: NMFS has determined, based on consideration of the regulatory determination criteria regarding inseason adjustments, that the Atlantic bluefin tuna (BFT) daily retention limit that applies to Highly Migratory Species (HMS) Angling and HMS Charter/Headboat permitted vessels (when fishing recreationally for BFT) should be adjusted for the remainder of 2025, or until further modified. NMFS is adjusting the Angling category BFT daily retention limit from the default of one school, large school, or small medium BFT to: one school BFT and zero large school/small medium BFT per vessel per day/trip for private vessels with HMS Angling permits; two school BFT and zero large school/small medium BFT per vessel per day/trip for charter boat vessels with HMS Charter/Headboat permits when fishing recreationally for BFT; and two school BFT and zero large school/small medium BFT per vessel per day/trip for headboat vessels with HMS Charter/