After assessing the best available information, we conclude that the Texas screwstem is not likely to become endangered within the foreseeable future throughout all of its range.

We also evaluated whether the Texas screwstem is endangered or threatened in a significant portion of its range. We did not find any portions of the Texas screwstem's range for which both (1) the portion is significant, and (2) the species is in danger of extinction in that portion, either now or within the foreseeable future. Thus, after assessing the best available information, we conclude that the Texas screwstem is not in danger of extinction in a significant portion of its range now or within the foreseeable future.

After assessing the best available information, we concluded that the Texas screwstem is not in danger of extinction or likely to become in danger of extinction within the foreseeable future throughout all of its range or in any significant portion of its range. Therefore, we find that listing the Texas screwstem as an endangered species or threatened species under the Act is not warranted. A detailed discussion of the basis for this finding can be found in the Texas screwstem species assessment form and other supporting documents on *https://www.regulations.gov* under Docket No. FWS–R2–ES–2024–0109 (see **ADDRESSES**, above).

Peer Review

In accordance with our joint policy on peer review published in the **Federal Register** on July 1, 1994 (59 FR 34270) and our August 22, 2016, memorandum updating and clarifying the role of peer review in the listing actions under the Act, we solicited independent scientific reviews of the information contained in the Texas screwstem SSA report. We sent the SSA report to four independent peer reviewers and received four responses. Results of this structured peer review process can be found at *https://www.regulations.gov* under Docket No. FWS–R2–ES–2024–0109. We incorporated the results of these reviews, as appropriate, into the SSA report, which is the foundation for this finding.

New Information

We request that you submit any new information concerning the taxonomy of, biology of, ecology of, status of, or stressors to the bog spicebush, Edward's Aquifer diving beetle, and Texas screwstem to the appropriate person, as specified under **FOR FURTHER INFORMATION CONTACT**, whenever it becomes available. New information will help us monitor these species and make appropriate decisions about their conservation and status. We encourage local agencies and stakeholders to continue cooperative monitoring and conservation efforts.

References

A complete list of the references used in these petition findings is available in the relevant species assessment form, which is available on the internet at *https://www.regulations.gov* in the appropriate docket (see **ADDRESSES**, above) and upon request from the appropriate person (see **FOR FURTHER INFORMATION CONTACT**, above).

Authority

The authority for this action is section 4 of the Endangered Species Act of 1973, 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 16, 2025, for publication. On June 9, 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.

[FR Doc. 2025–10777 Filed 6–16–25; 8:45 am]

BILLING CODE 4333–15–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–HQ–ES–2025–0028; FXES1111090FEDR–256–FF09E22000]

RIN 1018–BI11

Endangered and Threatened Wildlife and Plants; Endangered Species Status for Seven Species of Pangolin

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to list seven species of pangolin distributed throughout Asia and Africa as endangered under the Endangered Species Act of 1973, as amended (Act). This determination also serves as our 12-month finding on a petition to list these species. After a review of the best available scientific and commercial information, we find that listing these species is warranted. Accordingly, we propose to list the Chinese pangolin (*Manis pentadactyla*), Indian pangolin (*Manis crassicaudata*), Sunda pangolin (*Manis javanica*), Philippine pangolin (*Manis culionensis*), white-bellied pangolin (*Phataginus tricuspis*), black-bellied pangolin (*Phataginus tetradactyla*) and giant pangolin (*Smutsia gigantea*) as endangered species under the Act. Finalizing this rule as proposed would add these species to the List of Endangered and Threatened Wildlife and extend the Act's protections to these species. We also propose to revise the entry for Temminck's ground pangolin, which is listed as an endangered species under the Act, to reflect the species' current common name spelling and to use the most recently accepted scientific name.

DATES: We will accept comments received or postmarked on or before August 18, 2025. Comments submitted electronically using the Federal eRulemaking Portal (see **ADDRESSES**, below) must be received by 11:59 p.m. Eastern Time on the closing date. We must receive requests for a public hearing, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** by August 1, 2025.

ADDRESSES: You may submit comments by one of the following methods:

(1) *Electronically: Go to the Federal eRulemaking Portal: https://www.regulations.gov.* In the Search box, enter FWS–HQ–ES–2025–0028, which is the docket number for this rulemaking. Then, click on the Search button. On the resulting page, in the panel on the left side of the screen, under the Document Type heading, check the Proposed Rule box to locate this document. You may submit a comment by clicking on ''Comment.''

(2) *By hard copy: Submit by U.S. mail to:* Public Comments Processing, Attn: FWS–HQ–ES–2025–0028, U.S. Fish and Wildlife Service, MS: PRB/3W, 5275 Leesburg Pike, Falls Church, VA 22041–3803.

We request that you send comments only by the methods described above. We will post all comments on *https://www.regulations.gov.* This generally means that we will post any personal information you provide us (see Information Requested, below, for more information).

Availability of supporting materials: Supporting materials, such as the species status assessment report, are

available at *https://www.regulations.gov* at Docket No. FWS–HQ–ES–2025–0028.

FOR FURTHER INFORMATION CONTACT: Rachel London, Manager, Branch of Delisting and Foreign Species, Ecological Services Program, U.S. Fish and Wildlife Service, MS: ES, 5275 Leesburg Pike, Falls Church, VA 22041–3803; telephone 703–358–2171. 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. Please see Docket No. FWS–HQ–ES–2025–0028 on *https://www.regulations.gov* for a document that summarizes this proposed rule.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. Under the Act, a species warrants listing if it meets the definition of an endangered species (in danger of extinction throughout all or a significant portion of its range) or a threatened species (likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range). If we determine that a species warrants listing, we must list the species promptly and designate the species' critical habitat to the maximum extent prudent and determinable. We have determined that the Chinese pangolin, Indian pangolin, Sunda pangolin, Philippine pangolin, white-bellied pangolin, black-bellied pangolin, and giant pangolin meet the Act's definition of an endangered species; therefore, we are proposing to list them as such. Listing a species as an endangered or threatened species can be completed only by issuing a rule through the Administrative Procedure Act rulemaking process (APA; 5 U.S.C. 551 *et seq.*). No critical habitat will be designated for these species because, under 50 CFR 424.12(g), we will not designate critical habitat within foreign countries or in other areas outside of the jurisdiction of the United States.

What this document does. We propose to list the Chinese pangolin, Indian pangolin, Sunda pangolin, Philippine pangolin, white-bellied pangolin, black-bellied pangolin, and giant pangolin as endangered species under the Act. We also propose to correct the entry for another pangolin species that is already listed under the Act.

The basis for our action. Under the Act, we may determine that a species is an endangered or threatened species because of any of five 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 have determined that the Chinese pangolin, Indian pangolin, Sunda pangolin, Philippine pangolin, white-bellied pangolin, black-bellied pangolin, and giant pangolin meet the Act's definition of endangered species due primarily to the threat of overexploitation for local subsistence use, other consumptive use, and trafficking in international markets for use in traditional medicine products. Other factors such as habitat loss and poor genetic health affect these species.

Information Requested

We intend that any final action resulting from this proposed rule will be based on the best scientific and commercial data available and be as accurate and as effective as possible. Therefore, we request comments or information from other governmental agencies, Native American Tribes, the scientific community, industry, or any other interested parties concerning this proposed rule. We particularly seek comments concerning:

(1) The species' biology, range, and population trends, including:

(a) Biological or ecological requirements of these species, including habitat requirements for feeding, breeding, and sheltering;

(b) Genetics and taxonomy;

(c) Historical and current range, including distribution patterns and the locations of any additional populations of these species;

(d) Historical and current population levels, and current and projected trends; and

(e) Past and ongoing conservation measures for these species, their habitat, or both.

(2) Threats and conservation actions affecting these species, including:

(a) Factors that may be affecting the continued existence of these species, which may include habitat destruction, modification, or curtailment; overutilization; disease; predation; the inadequacy of existing regulatory mechanisms; or other natural or manmade factors;

(b) Biological, commercial trade, or other relevant data concerning any threats (or lack thereof) to these species; and

(c) Existing regulations or conservation actions that may be addressing threats to these species.

(3) Additional information concerning the historical and current status of these species.

Please include sufficient information with your submission (such as scientific journal articles or other publications) to allow us to verify any scientific or commercial information you include.

Please note that submissions merely stating support for, or opposition to, the action under consideration without providing supporting information, although noted, do not provide substantial information necessary to support a determination. Section 4(b)(1)(A) of the Act directs that determinations as to whether any species is an endangered or a threatened species must be made solely on the basis of the best scientific and commercial data available.

You may submit your comments and materials concerning this proposed rule by one of the methods listed in **ADDRESSES**. We request that you send comments only by the methods described in **ADDRESSES**.

If you submit information via *https://www.regulations.gov,* your entire submission—including any personal identifying information—will be posted on the website. If your submission is made via a hardcopy that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy submissions on *https://www.regulations.gov.*

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on *https://www.regulations.gov.*

Our final determination may differ from this proposal because we will consider all comments we receive during the comment period as well as any information that may become available after this proposal. Based on the new information we receive (and, if relevant, any comments on that new information), we may conclude that any of the seven pangolin species are threatened instead of endangered, or we may conclude that one or more of the seven pangolin species does not warrant listing as either an endangered species or a threatened species. In our final rule, we will clearly explain our rationale and the basis for our final decision, including why we made changes, if any, that differ from this proposal.

Public Hearing

Section 4(b)(5) of the Act provides for a public hearing on this proposal, if requested. Requests must be received by the date specified in **DATES**. Such requests must be sent to the address shown in **FOR FURTHER INFORMATION CONTACT**. We will schedule a public hearing on this proposal, if requested, and announce the date, time, and place of the hearing, as well as how to obtain reasonable accommodations, in the **Federal Register** at least 15 days before the hearing. We may hold the public hearing in person or virtually via webinar. We will announce any public hearing on our website, in addition to the **Federal Register**. The use of virtual public hearings is consistent with our regulations at 50 CFR 424.16(c)(3).

Previous Federal Actions

On July 15, 2015, we received a petition from Born Free USA, Center for Biological Diversity, Humane Society International, The Humane Society of the United States, and the International Fund for Animal Welfare that requested to list *Manis pentadactyla, M. javanica, M. culionensis, M. crasssicaudata, M. tricuspis, M. gigantea,* and *M. tetradactyla* as endangered species under the Act. On the same date, we received a second petition for rulemaking under the APA from the same group of petitioners to treat and protect these same seven species as threatened or endangered species because of their similarity of appearance to *M. temminckii,* or Temminck's ground pangolin, which is listed as an endangered species under the Act. On March 16, 2016, we published in the **Federal Register** (81 FR 14058) a 90-day finding combining the two petitioned actions (listing each species as either a threatened species or an endangered species based on the five factors under section 4(a)(1) of the Act, or treating and protecting each as threatened or endangered due to a similarity of appearance to Temminck's ground pangolin under section 4(e) of the Act) into a single finding that all seven species may be warranted for listing.

On May 24, 2021, we informed petitioners of our decision on the APA petition in which we considered the requirements for treating the seven pangolin species as endangered or threatened species under section 4(e) on the basis of their similarity of appearance to the listed Temminck's ground pangolin and determined that the seven petitioned pangolin species do not meet our criteria for treating them as endangered species or threatened species due to similarity of appearance to the endangered Temminck's ground pangolin. In this proposed rule, we use the valid taxonomic entities *Phataginus tricuspis, Phataginus tetradactyla,* and *Smutsia gigantea,* rather than the prior taxonomic synonyms *M. tricuspis, M. tetradactyla,* and *M. gigantea,* as used in the petitions, respectively, because of changes in taxonomy of pangolin species since the petitions were submitted (see Taxonomy, below).

Peer Review

A species status assessment (SSA) team prepared an SSA report for the Chinese, Indian, Sunda, Philippine, white-bellied, black-bellied, and giant pangolin. The SSA team was composed of Service biologists, in consultation with other species experts. The SSA report represents a compilation of the best scientific and commercial data available concerning the status of the species, including the impacts of past, present, and future factors (both negative and beneficial) affecting the species.

In accordance with our joint policy on peer review published in the **Federal Register** on July 1, 1994 (59 FR 34270), and our August 22, 2016, memorandum updating and clarifying the role of peer review in listing and recovery actions under the Act (*https://www.fws.gov/sites/default/files/documents/peer-review-policy-directors-memo-2016-08-22.pdf*), we are soliciting independent scientific review of the information contained in the Chinese, Indian, Sunda, Philippine, white-bellied, black-bellied, and giant pangolin SSA report. We will seek peer review of the SSA report from at least three independent peer reviewers. We will ensure that the opinions of peer reviewers are objective and unbiased by following the guidelines set forth in the August 22, 2016, memorandum, which updates and clarifies Service policy on peer review (Service 2016, entire). The purpose of peer review is to ensure that our decisions are based on scientifically sound data, assumptions, and analysis. Accordingly, our final decisions may differ from this proposal. Comments from peer reviewers will be posted at *https://www.regulations.gov,* incorporated, as appropriate, into the SSA report, and included in the decision file for the final rule.

Taxonomy

Eight species of pangolins within three genera (*Manis, Phataginus,* and *Smutsia*) are distributed throughout sub-Saharan Africa and southern Asia. The genus *Manis* is composed of four species found in Asia including: Chinese pangolin (*M. pentadactyla*), Indian pangolin (*M. crassicaudata*), Sunda pangolin (*M. javanica*), and Philippine pangolin *(M. culionensis*). Two genera of pangolins are native to sub-Saharan Africa including the arboreal (tree-dwelling) pangolins in genus *Phataginus,* and the fossorial (burrowing) pangolins in genus *Smutsia.* Genus *Phataginus* includes white-bellied pangolin (*P. tricuspis*) and black-bellied pangolin (*P. tetradactyla*); and genus *Smutsia* includes giant pangolin (*S. gigantea*) and Temminck's ground pangolin (*S. temminckii*), which was listed as an endangered species under the Act in 1976 (41 FR 24062, June 14, 1976).

Although the petitions refer to the Chinese, Indian, Sunda, Philippine, white-bellied, black-bellied, and giant pangolin as *Manis* species, best available data indicate that the genus occurring in Asia (*Manis*) is taxonomically distinct from the genera occurring in Africa (*Phataginus* and *Smutsia*) (Gaudin et al., 2009, p. 236). The Integrated Taxonomic Information System (ITIS) recognizes a single genus, *Manis,* of pangolins (ITIS 2025, unpaginated). However, the International Union for the Conservation of Nature (IUCN) Species Survival Commission Pangolin Specialist Group recognizes three distinct genera following Gaudin et al. (2009, entire). We recognize the three genera as the best scientific and commercial data available and use that taxonomy to inform this proposed rule.

As explained above, these taxonomic changes include revisions to the scientific name of the Temminck's ground pangolin. The entry for Temminck's ground pangolin on the List of Endangered and Threatened Wildlife was last revised in 2016 (81 FR 51550; August 4, 2016). Currently, the entry for Temminck's ground pangolin (*Smutsia temminckii*) appears on the list with the common name ''Pangolin, Temnick's ground'' and the scientific name ''*Manis temmincki*''. With this document, we also propose revisions to the entry at 50 CFR 17.11(h) for Temminck's ground pangolin to reflect the species' current common name spelling and to use the most recently accepted scientific name.

Proposed Listing Determination

Background

Pangolins are uniquely armored mammals, covered in keratinized scales that account for roughly 20 percent of their body weight. When threatened they assume a defensive posture, curling into a tight ball projecting the sharp

edges of their scales outward to deter predators. Pangolins have digestive tracts specialized for eating ants and termites, and a slow life-history strategy (*e.g.,* delayed and infrequent reproduction over a longer lifespan and generation length, with more parental involvement in care of individual offspring).

Chinese Pangolin—Ecology

The Chinese pangolin (*Manis pentadactyla*) was historically distributed throughout southern People's Republic of China (China), north and central Vietnam, Laos, northern Thailand, Burma, southern Bhutan, Nepal, northern Bangladesh, and northeast India (Wu et al., 2020a, p. 54). Suitable habitats include tropical and subtropical forest types (rainforest, bamboo, conifer, mixed), grasslands, and agricultural areas (Wu et al., 2020, pp. 55–56). Home ranges have been estimated to be 96 hectares (ha) (0.37 square miles (mi^2)) for males and 24.4 ha (0.09 mi^2) for females across various studies (Wu et al., 2020, p. 56). The Chinese pangolin is primarily fossorial and digs resident burrows for shelter surrounded by vegetation and feeding burrows in open grassy areas that allow access to its preferred myrmecophagous prey (termites and ants) (Heath, 1992, p. 4). Resident burrows are used for 1–15 consecutive days before individuals move to another burrow (Wu et al., 2020, p. 57). Males and females can occupy up to 80 and 40 resident burrows, respectively, within their home ranges (Challender et al., 2019, p. 7).

The mating season has been recorded from February to July, and females give birth in burrows between September and February (Zhang et al., 2016, p. 138). Gestation lasts from 180–225 days, usually producing one offspring annually, although the species may be capable of producing two offspring a year in rare cases (Zhang et al., 2016, p. 138). Offspring wean at around 4 months of age and reach sexual maturity between 12–18 months old (Sun et al., 2018, pp. 3–4). The lifespan of this species in the wild is unknown. In captivity, the Chinese pangolin has been recorded to reach 18 years of age; however, the rate of survival in captivity is generally very low (Yang et al., 2007, p. 3).

Indian Pangolin—Ecology

The Indian pangolin (*Manis crassicaudata*) was historically distributed throughout India, Sri Lanka, southern Nepal, northern Bangladesh, and eastern Pakistan (Mahmood et al., 2020, pp. 75–77). This species inhabits forests, grasslands, mangroves, and scrubland, with a preference for drier areas in its range (Karawita et al., 2018, pp. 6–8; Mahmood et al., 2020, p. 77). Behavior and life history vary throughout its range with more arboreal behavior being exhibited in tropical rainforest despite the species being primarily fossorial elsewhere (Heath, 1995, p. 3). The Indian pangolin uses sloped terrain to dig resting burrows with large rocks and boulders to offer more structural integrity and to dig feeding burrows in forested patches (Karawita et al., 2018, pp. 11–13; Mahmood et al., 2020, p. 79). Breeding is year-round, and gestation has been observed to last 251 days, producing one offspring annually (Mahmood et al., 2020, p. 82; Mohapatra et al., 2018, p. 559). Young reach sexual maturity around 3 years of age (Mahmood et al., 2020, p. 83; Mohapatra and Panda, 2014, p. 79).

Sunda Pangolin—Ecology

The Sunda pangolin (*Manis javanica*) was historically distributed throughout southeast Asia with a range extending into Thailand, Burma, Malaysia, Laos, Cambodia, Vietnam, Indonesia, Singapore and Brunei Darussalam (Chong et al., 2020, pp. 93–95). This species typically occurs in lower elevation tropical and evergreen forests, peat swamps, grasslands, and agricultural areas (Chong et al., 2020, p. 95). Average home range for the species is estimated to be 1.5 square kilometers (km^2) (0.58 mi^2), regardless of habitat type, location, or sex (Gray et al., 2023, p. 426). This species is semi-arboreal, using both burrows and large trees for sheltering and foraging myrmecophagous prey (Gray et al., 2023, p. 426). Its strong prehensile tail aids in climbing and can support its entire body weight, enabling individuals to hang from branches in defense posture to escape predators (Chong et al., 2020, pp. 98–99).

The Sunda pangolin is primarily nocturnal and solitary, aside from female-offspring parental care (Chong et al., 2020, p. 98). The species does not have a defined breeding season, and gestation lasts between 106–207 days, producing one young at a time (Zhang et al., 2015, p. 133). Little is known about the age of sexual maturity for this species, but individuals are considered adult between 1–2 years of age (Chong et al., 2020, pp. 100–101).

Philippine Pangolin—Ecology

The Philippine pangolin (*Manis culionensis*) is endemic to the Palawan region of the Philippines, which includes Palawan Island, the Calamian Islands, and several smaller surrounding islands (Coron, Culion, Balabac, Busuanga, and Dumaran) (Schoppe et al., 2020, pp. 113–114). The species has also been introduced to Apulit Island. Philippine pangolin uses a variety of forested habitats, including grassland-forest mosaics, logged forests, coastal forests, mangroves, and agricultural lands (Schoppe et al., 2020, p. 114). The species is believed to prefer strangler fig (*Ficus*) species, which provide fruit to attract ants and consist of structured root systems that individuals can shelter within (Schoppe et al., 2020, p. 114). The Philippine pangolin has a mean home range size of 47.3 ha (0.18 mi^2), which may vary between sexes and seasons (Schoppe, unpublished data, reported in Schoppe et al., 2020 p. 115). Another study of six Philippine pangolins reported female home ranges of 47 and 75 ha (0.18 and 0.29 mi^2), and male home ranges of 59, 96, and 120 ha (0.23, 0.37, and 0.46 mi^2), with males showing evidence of territoriality. Movements in the dry season were also longer, possibly related to needing to forage over larger distances to find food and water (Palawan Council for Sustainable Development, 2020, p. 27). The species is semi-arboreal and forages on the ground and in trees, eating ants and termites. Sheltering burrows are built on the forest floor, in tree hollows, between buttress roots, and near large rocks (Schoppe et al., 2020, p. 116).

Breeding for the Philippine pangolin is presumed to be year-round, and traditional ecological knowledge indicates that the species produces one young at a time (Schoppe et al., 2020, p. 118). Little is known about gestation and age of sexual maturity, but it is believed to be similar to the Sunda pangolin.

White-Bellied Pangolin—Ecology

The white-bellied pangolin (*Phataginus tricuspis*) was historically distributed through western and central sub-Saharan Africa with a range across Guinea, Guinea-Bissau, Sierra Leone, Liberia, Côte d'Ivoire, Ghana, Togo, Benin, Nigeria, Cameroon, Central African Republic, South Sudan, Uganda, Kenya, Rwanda, Burundi, Democratic Republic of the Congo, Republic of the Congo, Gabon, Equatorial Guinea, northern Angola, and isolated locations in Tanzania and Zambia (Jansen et al., 2020, pp. 145–147). This species is semi-arboreal, using a variety of forested habitats including rainforests and savanna-forest mosaics and dense woodlands (Jansen et al., 2020, p. 146). Home ranges vary from 3–30 ha (0.01–0.12 mi^2), with individuals typically

traveling 400–700 m (0.25–0.43 mi) each night (Jansen et al., 2020, p. 147).

The white-bellied pangolin is nocturnal and shelters in tree burrows near feeding burrow sites adjacent to ant and termite mounds (Akpona et al., 2008, pp. 199–200). Breeding is year-round with gestation lasting 140–209 days, producing one young annually (Jansen et al., 2020, pp. 150–150). Little is known about sexual maturity and lifespan, but the species has lived up to 10 years at the San Diego Zoo (Jansen et al., 2020, p. 151); however, the rate of survival of pangolins in captivity is generally very low (Hua et al., 2015). Compared to other pangolin species, white-bellied pangolin scales are thinner, potentially making it more susceptible to natural predators such as leopards (Jansen et al., 2020, p. 150).

Black-Bellied Pangolin—Ecology

The black-bellied pangolin (*Phataginus tetradactyla*) has a discontinuous historical range in sub-Saharan Africa spanning the Central African Republic, Democratic Republic of the Congo (DRC), Republic of the Congo, Gabon, Equatorial Guinea, Cameroon, southern Nigeria, Ghana, Côte d'Ivoire, Liberia, southern Guinea, and Sierra Leone (Gudehus et al., 2020, p. 129). As an almost entirely arboreal species, it inhabits rainforests, closed canopy forests, and forested areas near swamps and rivers, and may prefer forests dominated by palms (Kingdon and Hoffmann, 2013, p. 390). Home ranges vary by individual with averages measuring 9.27 ha (0.038 mi^2) (Gudehus et al., 2020, p. 131).

The black-bellied pangolin is primarily diurnal and has a highly specialized diet of tree ants. This species shelters in tree hollows, does not typically use resident or feeding burrows, and rarely descends to the ground (Gudehus et al., 2020, p. 132). Breeding is not seasonal, and gestation is estimated to last 104 days. Black-bellied pangolins are thought to reach sexual maturity around 2 years of age, but their life span is unknown (Gudehus et al., 2020, p. 134). This species is the most elusive species of pangolin (with one of the most severe stress responses to disturbance) and is thought to prefer densely vegetated, undisturbed habitat (Gudehus et al., 2020, pp. 134–135).

Giant Pangolin—Ecology

The giant pangolin (*Smutsia gigantea*) was historically distributed throughout equatorial Africa, with its range extending into Senegal, Guinea-Bissau, Guinea, Sierra Leone, Liberia, Côte d'Ivoire, Ghana, Nigeria, Cameroon, Central African Republic, South Sudan, Uganda, Rwanda, Tanzania, Democratic Republic of the Congo, Republic of Congo, Gabon, and Equatorial Guinea (Hoffmann et al., 2020, pp. 161–163). This species inhabits forest habitats, including forest-savanna mosaics, seasonal swamp forests, wooded savanna, and wet grasslands (Hoffmann et al., 2020, p. 163). While quantitative ecological studies are lacking, home ranges of the giant pangolin are believed to be large, with fixed resting locations from which individuals will move several kilometers in search of food (Hoffmann et al., 2020, p. 164). Individuals may use a network of multi-species burrows throughout their home range and may prefer to dig burrows near other supportive structures such as fallen trees, buttresses, dense vegetation, and caves (Hoffmann et al., 2020, p. 164).

The giant pangolin is nocturnal (Amin et al., 2023, p. 97). Prey include ants and termites with a preference for larger species (Difouo et al., 2021, p. 551). Breeding is year-round, producing one offspring at a time. Young remain dependent on the mother until the next offspring is born (Hoffmann et al., 2020, pp. 166–167). Among pangolin species, the giant pangolin is thought to have the longest generation time (roughly 15 years; Nixon et al., 2019 pp. 1–2).

Regulatory and Analytical Framework

Regulatory Framework

Section 4 of the Act (16 U.S.C. 1533) and the implementing regulations in title 50 of the Code of Federal Regulations set forth the procedures for determining whether a species is an endangered species or a threatened species, issuing protective regulations for threatened species, and designating critical habitat for endangered and threatened species.

The Act defines an ''endangered species'' as a species that is in danger of extinction throughout all or a significant portion of its range and a ''threatened species'' as a species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The Act requires that we determine whether any species is 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.

These factors represent broad categories of natural or human-caused actions or conditions that could have an effect on a species' continued existence. In evaluating these actions and conditions, we look for those that may have a negative effect on individuals of the species, as well as other actions or conditions that may ameliorate any negative effects or may have positive effects.

We use the term ''threat'' to refer in general to actions or conditions that are known to or are reasonably likely to negatively affect individuals of a species. The term ''threat'' includes actions or conditions that have a direct impact on individuals (direct impacts), as well as those that affect individuals through alteration of their habitat or required resources (stressors). The term ''threat'' may encompass—either together or separately—the source of the action or condition, or the action or condition itself.

However, the mere identification of any threat(s) does not necessarily mean that the species meets the statutory definition of an ''endangered species'' or a ''threatened species.'' In determining whether a species meets either definition, we must evaluate all identified threats by considering the species' expected response and the effects of the threats—in light of those actions and conditions that will ameliorate the threats—on an individual, population, and species level. We evaluate each threat and its expected effects on the species, then analyze the cumulative effect of all of the threats on the species as a whole. We also consider the cumulative effect of the threats in light of those actions and conditions that will have positive effects on the species, such as any existing regulatory mechanisms or conservation efforts. The Secretary determines whether the species meets the definition of an ''endangered species'' or a ''threatened species'' only after conducting this cumulative analysis and describing the expected effect on the species.

The Act does not define the term ''foreseeable future,'' which appears in the statutory definition of ''threatened species.'' Our implementing regulations at 50 CFR 424.11(d) set forth a framework for evaluating the foreseeable future on a case-by-case basis, which is further described in the 2009 Memorandum Opinion on the foreseeable future from the Department of the Interior, Office of the Solicitor (M–37021, January 16, 2009; ''M-Opinion,'' available online at *https://*

www.doi.gov/sites/doi.opengov.ibmcloud.com/files/uploads/M-37021.pdf). The foreseeable future extends as far into the future as the U.S. Fish and Wildlife Service and National Marine Fisheries Service (for species under that agency's jurisdiction) can make reasonably reliable predictions about the threats to the species and the species' responses to those threats. We need not identify the foreseeable future in terms of a specific period of time. We will describe the foreseeable future on a case-by-case basis, using the best available data and taking into account considerations such as the species' life-history characteristics, threat projection timeframes, and environmental variability. In other words, the foreseeable future is the period of time over which we can make reasonably reliable predictions. ''Reliable'' does not mean ''certain''; it means sufficient to provide a reasonable degree of confidence in the prediction, in light of the conservation purposes of the Act.

Analytical Framework

The SSA report documents the results of our comprehensive biological review of the best scientific and commercial data regarding the status of the species, including an assessment of the potential threats to the species. The SSA report does not represent our decision on whether the species should be proposed for listing as an endangered or threatened species under the Act. However, it does provide the scientific basis that informs our regulatory decisions, which involve the further application of standards within the Act and its implementing regulations and policies.

To assess the Chinese pangolin, Indian pangolin, Sunda pangolin, Philippine pangolin, white-bellied pangolin, black-bellied pangolin and giant pangolin viability, we used the three conservation biology principles of resiliency, redundancy, and representation (Shaffer and Stein, 2000, pp. 306–310). Briefly, resiliency is the ability of the species to withstand environmental and demographic stochasticity (for example, wet or dry, warm or cold years); redundancy is the ability of the species to withstand catastrophic events (for example, droughts, large pollution events); and representation is the ability of the species to adapt to both near-term and long-term changes in its physical and biological environment (for example, climate conditions, pathogens). In general, species viability will increase with increases in (and decrease with decreases in) resiliency, redundancy, and representation (Smith et al., 2018, p. 306). Using these principles, we identified each species' ecological requirements for survival and reproduction at the individual, population, and species levels, and described the beneficial and risk factors influencing the species' viability.

The SSA process can be categorized into three sequential stages. During the first stage, we evaluated the individual species' life-history needs. The next stage involved an assessment of the historical and current condition of the species' demographics and habitat characteristics, including an explanation of how the species arrived at its current condition. The final stage of the SSA process involved making predictions about the species' responses to positive and negative environmental and anthropogenic influences. Throughout all of these stages, we used the best available information to characterize viability as the ability of a species to sustain populations in the wild over time, which we then used to inform our regulatory decision.

The following is a summary of the key results and conclusions from the SSA report; the full SSA report can be found at Docket No. FWS–HQ–ES–2025–0028 on *https://www.regulations.gov.*

Summary of Biological Status and Threats

In this discussion, we review the biological condition of each species and its resources, and the threats that influence the species' current and future condition, in order to assess their overall viability and the risks to that viability.

Species Needs

Based on each species' life history described above (see discussion under Background) and in the SSA report (Service 2025, pp. 31–33), the seven species of pangolin all require demographically and genetically healthy populations to be able to withstand demographic and environmental stochasticity. Demographically healthy populations with large population sizes and stable or increasing growth rates are better able to endure and recover from poor environmental conditions and stochastic events. In species that are long-lived and have a slow reproductive rate, a stressor that causes direct mortality of adults could rapidly reduce population size. Pangolins have a single pup per year, long gestation periods, and generation times ranging from 7 to 15 years. Consequently, with their slow reproductive rate, pangolins require particularly high levels of adult survival to facilitate recruitment of new breeders into populations.

All species of pangolins also require genetically healthy populations to be able to withstand stochasticity and maintain evolutionary potential. Genetically healthy populations maintain high genetic diversity within and among populations across a species' historical range (Kardos et al., 2021, entire). These processes ensure that populations are resistant to loss of genetic diversity through genetic drift and inbreeding and maintain standing genetic variation and evolutionary potential to respond to shifting environmental conditions.

Pangolins require large, connected populations distributed across spatially heterogeneous environments, as this scenario maximizes evolutionary potential. When large populations are distributed across spatially variable conditions (referred to as spatial or environmental heterogeneity), the exposure to heterogeneous selection pressures contribute to local adaptation and adaptive differentiation, which increases among-population genetic diversity and evolutionary potential (Forester et al., 2016, pp. 114–115, 2022, pp. 508–512).

Pangolins also require a wide geographic distribution across spatially heterogeneous environments to minimize the degree to which correlated dynamics and catastrophic events impact extinction risk. Species with populations distributed widely across spatially heterogeneous environments are more likely to experience differential conditions. They are, thus, more likely to experience asynchronous environmental conditions and asynchronous demographic fluctuations among populations (*i.e.,* some populations are doing well while others are not). This, in turn, guards against concurrent population declines and, thus, species-wide extinction (Lande et al., 2003, entire). Conversely, loss of historical range and decline in spatial heterogeneity increases the risk of correlated dynamics via broad, regional-scaled environmental stochasticity (*e.g.,* populations experiencing poor years concurrently). Similarly, the spatial distribution of populations across the landscape also influences redundancy. Widely distributed populations across spatially heterogeneous conditions can also reduce the risk of catastrophic events affecting multiple populations simultaneously and equally. Finally, intact landscapes that facilitate habitat connectivity and gene flow between populations are important for ensuring that extirpated areas can be recolonized.

Threats

Poaching and International Trafficking

Pangolins are the world's most heavily trafficked mammal, with overexploitation identified as the leading cause of population declines (United Nations Office of Drugs and Crime (UNODC) 2020, pp. 66–67). Scales are currently the most heavily traded pangolin parts, accounting for 97 percent of seizures involving pangolins in 2018 (UNODC, 2020, p. 66). Demand for pangolin meat and scales is not species-specific, and species experiencing lower levels of poaching become increasingly exploited over time as other pangolin species become rarer. Harvest pressure has shifted geographically and across species over time as availability of species have declined because of overexploitation (Heinrich et al., 2016, p. 247).

Asian pangolins have been used in traditional Chinese medicine for centuries, and more recently, unsustainable harvest has driven dramatic declines in pangolin populations (Xing et al., 2020, pp. 227–237; Challender et al. 2019, unpaginated). As Asian pangolins have declined, African pangolin species have increasingly been introduced into international trade, compounding the existing overexploitation from traditional and bushmeat usage resulting in local declines (Zhang et al., 2022, p. 2; Boakye et al., 2014, entire, 2015, entire; Soewu et al., 2020, p. 253; Soewu and Adekanola, 2011, entire). This shift has created a global trade network in which most pangolin scales are currently exported from Africa to Southeast Asia with most trafficked pangolins destined for China and Vietnam (UNODC, 2020, p. 65; Gossé et al., 2024, p. 2; Tinsman et al., 2023, entire). An estimated 0.4 to 2.7 million pangolins are harvested annually in Central Africa, representing a roughly 150 percent increase over the last four decades. This trend is accompanied by a growing shift toward international commercial markets in Asia sourced from Africa (Ingram et al., 2018, p. 6).

Habitat Loss

Other leading threats to pangolin species include habitat loss and fragmentation. Pangolins are particularly sensitive to human disturbance and stress and, thus, likely require minimal interactions with humans and access to undisturbed habitats. Pangolins that interact with humans are highly prone to stress responses that can significantly reduce their health (Hua et al., 2015 pp. 101–103; Yan et al., 2021, p. 1017).

Pangolin habitat quality is dependent on several environmental factors including suitable climate, canopy cover, ground cover, prey availability, litter depth, distance to infrastructure (*e.g.,* roads), slope, and substrate type (Suwal et al., 2020, p. 8; Xian et al., 2022, pp. 8–16). Sub-Saharan Africa and South Asia are experiencing rapid human population growth, and increasing natural resource and land use demands that reduce the quality and availability of habitat for pangolins (Ritchie, 2024, unpaginated). The leading cause of deforestation in these areas is agricultural land conversion to support humans as farming shifts to the production of cash crops (Ritchie and Roser, 2024, unpaginated). In addition, agricultural conversion increases the application of pesticides, which may lead to direct poisoning of pangolins and reduction in their prey availability (Pietersen et al., 2014, p. 174; Avicor et al., 2023, pp. 4–5; Ejomah et al., 2020, pp. 6–8).

Genetic Health

Levels of genetic diversity are very low across all pangolin species due to overexploitation, declining populations, and restricted gene flow linked to habitat loss (Gu et al., 2023, pp. 5, 7, 10). All species of pangolins also have elevated metrics of inbreeding and genetic load (reduction in fitness due to homozygosity for deleterious alleles) (Gu et al., 2023, pp. 5, 7, 10). Taken together, these indicators of genetic health are associated with increased inbreeding depression (reduction in fitness due to mating among related individuals), reduced evolutionary potential (reduced ability to adapt evolutionarily to changing conditions), and overall reduced viability. The Sunda, Chinese, white-bellied, black-bellied, and giant pangolins were all found to have compromised immune function due to pseudogenization (a mutation that causes loss of function) within an important cluster of highly conserved gene families that activate the immune system in the presence of pathogens (Choo et al, 2016, pp. 1314–1315). The poor genetic health of these species places them at increased susceptibility to disease. Further, illegal trafficking occurs under conditions that likely facilitate cross-species transmission of viruses among pangolins and other animals (Ye et al., 2023, p. 7).

The petitions we received presented information on additional threats specific to each of the seven species of pangolin. We assessed these threats and address them in detail in the SSA report (Service 2025, entire). We focus our discussion within this proposed rule on the primary threats of overexploitation, habitat loss, and genetic health.

Conservation Efforts and Regulatory Mechanisms

All pangolins are listed in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which includes species threatened with extinction that are or may be affected by trade. Species included in Appendix I receive the highest level of protection under CITES (CITES Article II(1) and (4); CITES Article III; 50 CFR part 23). International trade in species included in Appendix I is permitted only under exceptional circumstances. Unlike Appendix-II and -III species, international trade in Appendix-I specimens for primarily commercial purposes is strictly prohibited under CITES, with only narrow exceptions provided in the Convention. Legal international trade in Appendix-I species for commercial purposes is limited to only Appendix-I animals bred in captivity for commercial purposes at CITES-registered captive-breeding operations and traded under a valid CITES document with CITES source code ''D'' in accordance with Resolution Conf. 12.10 and Article VII(4), and to pre-Convention animals removed from the wild or born in captivity before the species inclusion in the CITES Appendices (the pre-Convention date) and traded under a valid CITES pre-Convention certificate with CITES source code ''O'' in accordance with Article VII(2) (See CITES Articles III, VII(2), VII(4); Endangered Species Act section 9(c)(1); 50 CFR 23.5, 23.13, 23.20, 23.23, 23.24, 23.26, 23.27, 23.45, 23.46, 23.55). There are no CITES-registered captive-breeding operations for pangolin species, so there is virtually no current legal international trade in pangolin species for commercial purposes, and any such trade would require a valid CITES pre-Convention certificate (CITES, 2025a, unpaginated). The pre-Convention date for Chinese, Indian, Philippine, Sunda, and Temminck's pangolin is July 1, 1975. The pre-Convention date for black-bellied, giant, and white-bellied pangolin is February 26, 1976 (CITES, 2021, pp. 56–57).

Despite the transfer of all pangolins to CITES Appendix-I in 2016, effective January 2, 2017, many efforts to reduce illegal harvest, poaching, and trafficking have been insufficiently effective, reflecting some substantial barriers to implementation of CITES protections. In addition to the lack of complete and effective implementation of CITES

regulations for pangolins, there is minimal evidence that their inclusion in Appendix-I has reduced illegal trade of pangolins (Challender and O'Criodain, 2020, p. 315). At least 269 tons of pangolin products have been confiscated globally in the period 2017–2021 (Environmental Investigation Agency, 2021, p. 6).

While these enforcement efforts and confiscations are important and necessary measures for the species, there is evidence that demand and poorly regulated domestic markets in Asia continue to drive poaching and illegal trade in pangolins, increasingly from poorly regulated markets in Africa. On August 24, 2023, the Secretary of the Interior, in consultation with the Secretary of State, certified under the Pelly Amendment to the Fisherman's Protective Act of 1967 (22 U.S.C. 1978(a)(2)), that nationals of the People's Republic of China (PRC) are engaging in trade or taking of pangolin, diminishing the effectiveness of CITES (89 FR 83073, October 15, 2024 and Department of the Interior, 2023, entire). Pursuant to the Pelly Amendment (22 U.S.C. 1978(a)(5)), while a country such as the PRC is certified under the Pelly Amendment, the President may consider whether to direct the Secretary of the Treasury to prohibit the importation of certain products from that country into the United States. Any such import prohibitions would apply until the President determines that they no longer are appropriate or until the Secretary of the Interior, in consultation with the Secretary of State, determines that the reasons for which the Pelly Amendment certification was made no longer prevail and terminates the certification. Additionally, actions that the United States and the PRC have committed to undertake (and associated progress) related to pangolin conservation were shared at the 33rd Meeting of the CITES Animals Committee in July 2024 (CITES 2024a, entire; CITES 2024b, entire) and the CITES 78th Meeting of the CITES Standing Committee in February 2025 (CITES 2025b, entire; CITES 2025c, entire), respectively.

Nonprofit organizations from around the world have worked extensively to raise awareness of pangolin conservation issues. Local rescue groups have been established to attempt to rehabilitate and release poached pangolins; however, the success rate of rehabilitation and conservation impact is unknown. Captive-breeding of pangolins has been attempted by more than 100 zoos and institutions over the last 150 years with very limited success, with most offspring dying before reaching 6 months of age (Hua et al., 2015, pp. 101). Adult pangolins held in captivity also have a very high mortality rate, with many only surviving days to weeks in captivity (Wu and Ma, 2007, p. 7). Large-scale pangolin captive-breeding is unlikely to ever feasibly satisfy trade demands due to the rarity of the species, complex dietary needs, stress-induced immune suppression, unsuccessful captive transport and holding, breeding, and rearing, and consumer reception of captive-bred products (Challender et al., 2019, pp. 5–6). Failure of captive-breeding also limits the feasibility of conservation breeding programs that could replace individuals harvested from the wild or maintain captive populations to conserve genetic diversity (Snyder et al., 1996, entire).

Cumulative Effects

We note that, by using the SSA framework to guide our analysis of the scientific information documented in the SSA report, we have analyzed the cumulative effects of identified threats and conservation actions on these species. To assess the current and future condition of these species, we evaluate the effects of all the relevant factors that may be influencing these species, including threats and conservation efforts. Because the SSA framework considers not just the presence of the factors, but to what degree they collectively influence risk to the entire species, our assessment integrates the cumulative effects of the factors and replaces a standalone cumulative-effects analysis.

Current Condition

We now describe the current condition of each species of pangolin based upon the key historical and ongoing threats of overexploitation, habitat loss, and genetic health, and the effects of these threats on the viability of populations of these species, as indicated by the best scientific and commercial data available.

Chinese Pangolin—Current Condition

Historically, the Chinese pangolin has been harvested in large numbers, primarily for meat consumption in southern China, leather production, and traditional medicine (Challender et al., 2019a, entire). An unsustainable rate of harvest led to ''commercial extinction'' (*i.e.,* insufficient population to meet demand) of Chinese pangolin in mainland China by the 1990s, prompting China to illegally import large numbers of Chinese pangolins from Laos, Vietnam, and Burma (Challender et al., 2020, p. 265; Zhang, 2009, p. 70).

In response to harvest pressure, the supply of pangolins in Southeast Asia subsequently collapsed in 1995, and the price of scales more than doubled by 1996. As a result, contemporary trafficking in pangolins has shifted harvest of Chinese pangolin away from local subsistence use to international markets (Challender et al., 2020, p. 265). Poaching remains widespread in mainland China. It is estimated that illegal trade involved at least 3,500 Chinese pangolins in the period 2000–2019; these estimates are minimum values because roughly 105,000 pangolins sourced from Asia could not be identified to the species level (Challender et al., 2020, p. 268). Furthermore, these estimates are all based on seizures and reported CITES international trade; substantially more harvest likely occurred than has been observed, detected, or reported.

Land cover loss is another threat reducing the number, health, and distribution of Chinese pangolin populations. Throughout the historical range of the Chinese pangolin, 19.4 million ha of tree cover was lost from 2001 to 2023, constituting a roughly 12 percent decrease since 2000 (Hansen et al., 2013, unpaginated; Global Forest Watch, 2014, unpaginated). In the last few decades, China has implemented an afforestation program designed to help meet climate change goals (planting trees in areas that did not previously have forests, as contrasted with reforestation efforts that would be designed to restore lost forest habitat). However, this program has not fully offset overall forest declines, and more importantly for pangolin conservation, these efforts include a substantial amount of monoculture plantations that are not conducive to restoring or establishing usable pangolin habitat (Hua et al., 2018, p. 113).

Quantitative data on the census sizes of Chinese pangolin populations has been lacking due to the species' rarity, and its nocturnal and elusive behavior (Challender et al., 2019a, p. 5). The IUCN Red List Assessment for Chinese pangolin estimates that populations have declined by more than 80 percent (Challender et al., 2019c., p. 1). The population in mainland China was estimated at 50,000–100,000 individuals at the end of the 1990s, which equates to roughly an 89–94 percent decline overall in mainland China from the 1960s to the 1990s. In 2008, the population in mainland China was estimated to be 25,000–49,450 (Wu, 2004, p. 1; Zhang et al., 2022, p. 6). The Chinese pangolin has also disappeared

from more than half of its historical range in southern China (Gao et al., 2022, p. 7).

Genetic data provide a meaningful proxy for population health (Service 2025, p. 60). Recent genomics studies provide information on historical population trajectories, current population structure, effective population sizes, and genetic health across the species' range (Hu et al., 2020, entire; Wang et al., 2022, entire; Wei et al., 2024, entire). The most recent and comprehensive of these studies identified three main populations distributed across southern China. Within these populations, genomic data indicate declining population trends, reduced genetic diversity, high levels of inbreeding, and very small effective population sizes, all of which point to compromised population health (Wei et al., 2024, pp. 2–6). These findings corroborate other genetic studies that have identified reduced genetic diversity (Gu et al., 2023, pp. 5–7; Hu et al., 2020, pp. 802–807; Wang et al., 2022, pp. 4–7).

The Chinese pangolin is currently characterized by small effective population sizes, reduced genetic diversity, elevated levels of inbreeding, and increased genetic load, all of which are strong indicators of reduced viability and elevated extinction risk. Small effective population size makes a population more vulnerable to loss of genetic diversity through genetic drift and more likely to be impacted by inbreeding, which in turn, can reduce birth and survival rates. The highly reduced distribution of the Chinese pangolin adversely impacts the species' ability to withstand catastrophic events. The Chinese pangolin is therefore less able to withstand demographic and environmental stochasticity (*i.e.,* reduced resiliency) or catastrophic events (*i.e.,* reduced redundancy) and less able to show an evolutionary response to changing conditions (*i.e.,* reduced adaptive capacity or representation). These indicators suggest that the Chinese pangolin is currently experiencing and will continue to experience compromised population fitness, adaptability, and viability, even in the absence of threats.

Indian Pangolin—Current Condition

Harvest for bushmeat and other local uses is a historical and ongoing threat to Indian pangolins. Hunting by Tribal communities is deeply rooted in tradition because they rely on the meat as a source of protein and use the scales and claws for curios and traditional medicinal purposes (Mahmood et al., 2020, p. 84). Estimating the volume of domestic use of Indian pangolin bushmeat and scales throughout the species' range is challenging, in part because in India the legality of hunting varies by region. However, the Indian pangolin is thought to be declining across all range countries, as its low reproductive rate cannot keep pace with the rates of hunting (Gayen et al., 2024, p. 30). Population growth in rural areas increases the demand for bushmeat for subsistence hunting and pangolin parts for generating income (Nielsen et al., 2017, p. 285).

Starting in the early 2000s, Indian pangolin scales have been sourced in India, Pakistan, Sri Lanka, and potentially Nepal for use in China (Mahmood et al., 2020, p. 84). Data from seizures of Indian pangolin scales suggest that around 1,724 Indian pangolins were trafficked internationally between 2011 and 2017 (Mahmood et al., 2020, p. 85). The apparent rise in trafficking of this species may be linked to the declining populations of Chinese and Sunda pangolins. It could also be associated with growing awareness of the financial value of pangolin scales (Mahmood et al., 2020, pp. 84–85). There is also evidence that organized crime networks are involved in the trafficking of Indian pangolins. Seized scales have been found in shipments also containing illegal arms, ammunition, drugs, and parts of other illegally traded species, implicating involvement of organized crime (Mohapatra et al., 2015, p. 34).

Habitat loss compounds the effects of harvest and poaching to reduce the number, health, and distribution of Indian pangolin populations. India, which encompasses the majority of the species' range, has the largest human population in the world and has experienced rapid land cover changes. Between 1880 and 2010, India lost 26 million ha of forest and 20 million ha of grasslands and shrublands to the expansion of croplands and urban development (H. Tian et al., 2014, p. 81). By 2000, only 8.6 percent of the Indian pangolin's range remained forested (Hansen et al. 2013, unpaginated; Global Forest Watch 2014, unpaginated).

The Indian pangolin is classified as critically endangered by the IUCN, with projected population declines exceeding 80 percent between 2019 and 2040, driven by extensive overexploitation and habitat loss (Mahmood et al., 2019, p. 1). Quantitative data on abundance is limited; however, reports of declines across several parts of the species' range are available (Mahmood et al., 2020, p. 83). Surveys conducted among local community members and indigenous hunters indicate that the Indian pangolin is considered very rare and is experiencing declines throughout most of its range (Akrim et al., 2017, p. 9924; D'Cruze et al., 2018, p. 98; Gayen et al., 2024, p. 30).

Genetic data provide a meaningful proxy for population health (Service 2025, p. 60). A genetic study using whole genome resequencing identified several metrics of poor genetic health for Indian pangolins. In particular, genetic diversity is very low (Gu et al., 2023, p. 5), lower even than the critically endangered black rhino. Genomic inbreeding is also elevated as are levels of genetic load, which point to potential negative fitness impacts of overall low genetic diversity and elevated inbreeding of Indian pangolin (Gu et al., 2023, p. 5). These indicators of poor genetic health are likely to be associated with overall reduced population fitness, adaptability, and viability (Kardos et al., 2021, entire; Willi et al., 2022, entire).

Indian pangolin is currently characterized by very low genetic diversity, highly elevated levels of inbreeding, and increased genetic load, all of which are strong indicators of reduced viability and elevated extinction risk. In addition, populations of Indian pangolins are declining. The Indian pangolin is therefore less able to withstand demographic and environmental stochasticity (*i.e.,* reduced resiliency). The reduced distribution of Indian pangolin populations within a small and fragmented range adversely impacts the species' ability to withstand catastrophic events (*i.e.,* reduced redundancy). Due to poor genetic health, the Indian pangolin is less able to show an evolutionary response to changing conditions (*i.e.,* reduced adaptive capacity or representation). These indicators suggest that the Indian pangolin is currently experiencing and will continue to experience compromised population fitness, adaptability, and viability, even in the absence of threats.

Sunda Pangolin—Current Condition

Harvest and poaching have been important historical stressors for the Sunda pangolin and have occurred throughout the species' range. The species has been widely used as a source of bushmeat and traditional medicine in Peninsular Malaysia, Malaysian Borneo, and Indonesia, as well as in Vietnam, where the species is also consumed as a luxury meat in urban areas (Challender et al., 2019b, pp. 11–12).

There is a long history of harvesting this species for its scales and leather for international trade. Harvest of the Sunda pangolin has increased over time as the availability of Chinese pangolins declined due to overexploitation (Challender et al., 2020, p. 261). Despite being a protected species in primary exporting countries (*e.g.,* Indonesia, Malaysia, and Thailand), between 1975 and 2000, trade reported to CITES involved an estimated 442,966 Sunda pangolins, most of which went to the United States and Mexico for leather goods (Challender et al., 2020, p. 261). In addition, between 1994 and 2000, an estimated 47,000 Sunda pangolins were reportedly traded from Malaysia to China and Hong Kong (PRC) for use of scales in traditional medicine (Challender et al., 2020, p. 262). The introduction of zero annual—export quotas in 2000 caused a decline in reported trade of Sunda pangolin skins (Challender et al., 2020, p. 265), but also marked a shift toward more profitable international trafficking in scales (Gomez et al., 2017, p. 12). Since only a small proportion of illegal trade is observed or confiscated, these numbers represent minimum estimates of harvest for Sunda pangolin.

Habitat loss is another threat interacting with harvest and poaching that is reducing the number, health, and distribution of Sunda pangolin populations. Since 2000, tree cover has decreased by 25 percent within the Sunda pangolin's range, a reduction driven by industrial plantations (*e.g.,* palm oil and rubber plantations), shifting agriculture, fuelwood production, and urban development (Hansen et al., 2013, unpaginated; Global Forest Watch, 2014, unpaginated). These land cover changes have had dramatic impacts on the availability of suitable habitat for the Sunda pangolin. In Malaysian Borneo, 91 percent of suitable habitat for the Sunda pangolin is highly to moderately accessible to humans, resulting in pangolins being readily available in local markets (Panjang et al., 2024, p. 11). The Sunda pangolin's home range decreases with suitable forest cover, terrain, and resources, indicating that the species does not disperse to avoid habitat and resource constrictions (Gray et al., 2023, p. 430).

The Sunda pangolin is listed as critically endangered on the IUCN Red List of Threatened Species due to population declines attributed to overexploitation (Challender et al., 2019b, p. 1). The species is declining in the majority of its range (Chong et al., 2020, p. 101). The IUCN Red List assessment estimates that populations have declined 80 percent between 1998 and 2019 due to overexploitation (Challender et al., 2019b, p. 1). Singapore may be home to the only stable population of Sunda pangolins, and it is estimated at roughly 1,046 individuals in 2019 (Chong et al., 2020, p. 101).

Genetic data provide a meaningful proxy for population health (Service 2025, p. 60). Two genetic studies using whole genome resequencing have identified several metrics of very poor genetic health for the Sunda pangolin. Both studies have found extremely low genetic diversity in Sunda pangolin populations (Gu et al., 2023, p. 5; Hu et al., 2020, p. 802), with values among the lowest for pangolin species, and much lower than heterozygosity values for the critically endangered black rhino. These studies also identified high levels of genomic inbreeding in Sunda pangolin populations, the highest of all pangolin species (Gu et al., 2023, p. 5). Finally, both studies identified elevated levels of genetic load, which point to potential negative fitness impacts of overall low genetic diversity and elevated inbreeding. These indicators of poor genetic health are likely to be associated with reduced fitness due to inbreeding, the accumulation of deleterious alleles (*i.e.,* genetic load), reduced evolutionary potential, and overall reduced population fitness, adaptability, and viability (Kardos et al., 2021, entire; Willi et al., 2022, entire).

Genetic structure within Sunda pangolin populations also varied between mainland individuals and those occupying Southeast Asian islands except Java (Hu et al., 2020, pp. 800–807), with mainland populations having lower genetic health metrics (Hu et al., 2020, pp. 802–806). These results indicate that while all Sunda pangolin populations included in the study have highly compromised genetic health, the mainland population is at even higher risk of more immediate deleterious impacts on fitness and viability.

The Sunda pangolin is currently characterized by very low genetic diversity, very high levels of inbreeding, and increased genetic load, all of which are strong indicators of reduced viability and elevated extinction risk. The reduced distribution of Sunda pangolin populations adversely impacts the species' ability to withstand catastrophic events. The Sunda pangolin is, therefore, less able to withstand demographic and environmental stochasticity (*i.e.,* reduced resiliency) or catastrophic events (*i.e.,* reduced redundancy) and less able to show an evolutionary response to changing conditions (*i.e.,* reduced adaptive capacity or representation). These indicators suggest that the Sunda pangolin is currently experiencing and will continue to experience compromised population fitness, adaptability, and viability, even in the absence of threats.

Philippine Pangolin—Current Condition

Harvest for subsistence and traditional medicine has been an important historical stressor for the Philippine pangolin. Hunting is the leading threat to biodiversity in the Palawan region where the Philippine pangolin is endemic, and the species is harvested for food and traditional medicine throughout its range (Schoppe and Cruz, 2009, pp. 177, 182). The Philippine pangolin is a narrow endemic species, meaning its range is limited to Palawan Island and smaller surrounding islands (Schoppe et al., 2020, pp. 113–114). Though harvest for domestic use persists today, in the 2000s, several ethnic groups in the Palawan region began to shift from subsistence to market economies, with a concurrent increase in harvest of pangolins (Schoppe and Cruz, 2009, pp. 181–182). Consequently, the Philippine pangolin is currently hunted by both local and non-local hunters throughout the region and trafficked through the northern areas of Palawan; these pangolins are then traded locally, domestically, and internationally (Archer et al., 2021, pp. 5–8).

Although the Philippine pangolin has not historically been reported much in international trade and seizure records, there has been an increase in reports since 2010 (Archer et al., 2021, p. 4), and a sharp acceleration since 2016 (MacBeath et al., 2022, p. 1). The precise magnitude of this increase is unclear as some Philippine pangolins historically described in international trade and seizure records could have been Sunda pangolins, as they were not differentiated as separate species until 2005. Since 2013, the number of pangolin trade networks and actors involved in pangolin trafficking in Palawan has also increased and diversified (MacBeath et al., 2022, p. 19). The price of Philippine pangolin parts has also increased over the last few decades, likely due to growing demand in international markets (Schoppe and Cruz, 2009, p. 177; Archer et al., 2021, p. 9).

Habitat loss is also interacting with overexploitation to reduce the number, health, and distribution of the Philippine pangolin. Though peak deforestation in the Philippines occurred between 1977 and 1988, largely due to logging, high rates of

deforestation are still occurring throughout much of the country. Today the nation is estimated to have less than 10 percent of its historical forest cover (Nolos et al., 2023, p. 45). As forested areas are opened to roads and hunters, mortality rates of Philippine pangolins can increase due to more frequent motor vehicle collisions, and greater ease of opportunistic harvest (Schoppe et al., 2020, p. 120).

The Philippine pangolin is currently listed as critically endangered on the IUCN Red List of Threatened Species, and the population is declining, primarily due to overexploitation (Schoppe et al., 2019, p. 1). While there is a lack of quantitative data on populations, interviews with Indigenous peoples in the Palawan region and beyond indicate that the Philippine pangolin is becoming increasingly rare, and populations are declining throughout the region. Starting in the 2000s, reports of the species in the southern Palawan region were rare; however, in the north and central parts of the island, sightings of the Philippine pangolin were still commonly reported (Schoppe and Cruz, 2009, p. 178). More recently, declines in Philippine pangolin populations are reported to be particularly marked in the north. Locals estimate the population in the north has declined from 10,000 individuals to 500 between 1960 and 2018 (95 percent decline), and only 15 percent of the original population remains in the south (Acosta-Lagrada and Schoppe, 2018, p. 5).

Genetic data also provide a meaningful proxy for population health (Service 2025, p. 60). A genetic study using whole genome resequencing identified several metrics of poor genetic health for the Philippine pangolin; however, the sample size for the Philippine pangolin in the study was very small relative to other species (a single individual), so inferences are somewhat limited. From this one individual Philippine pangolin, the study identified the lowest genetic diversity of all pangolin species (Gu et al., 2023, p. 5). Genomic inbreeding was elevated (Gu et al., 2023, p. 5). Philippine pangolin also showed elevated levels of genetic load, which point to potential negative fitness impacts of overall low genetic diversity. These indicators of poor genetic health are likely to be associated with the accumulation of deleterious alleles (*i.e.,* genetic load), reduced evolutionary potential, and overall reduced population fitness, adaptability, and viability (Kardos et al., 2021, entire; Willi et al., 2022, entire).

The Philippine pangolin is currently characterized by very low genetic diversity, very high levels of inbreeding, and increased genetic load, all of which are strong indicators of reduced viability and elevated extinction risk. The reduced distribution of Philippine pangolin populations adversely impacts the species' ability to withstand catastrophic events. The Philippine pangolin is therefore less able to withstand demographic and environmental stochasticity (*i.e.,* reduced resiliency) or catastrophic events (*i.e.,* reduced redundancy), and less able to show an evolutionary response to changing conditions (*i.e.,* reduced adaptive capacity or representation). These indicators suggest that the Philippine pangolin is currently experiencing and will continue to experience compromised population fitness, adaptability, and viability, even in the absence of threats.

White-Bellied Pangolin—Current Condition

Harvest for bushmeat and other local uses is a historical and ongoing threat to white-bellied pangolins. Pangolin meat is openly sold in markets and restaurants throughout the species' range (Soewu et al., 2020, p. 248). Bushmeat consumption in general has increased in West and Central Africa over the last few decades (Ziegler et al., 2016, p. 405), as has the availability of pangolins in markets in some areas (Soewu et al., 2020, p. 248). Pangolin products are also used in traditional medicine and for ritualistic purposes in Central Africa and in rural areas of West Africa, where most people depend on traditional medicine for healthcare (Soewu et al., 2020, pp. 243, 249; Soewu and Adekanola, 2011, p. 1). The white-bellied pangolin, in particular, is used extensively for traditional medicinal and ritualistic purposes in Benin and Nigeria (Jansen et al., 2020, p. 153; Zanvo et al., 2021, p. 1).

Two decades ago, there were an estimated 400,000 white-bellied pangolins harvested annually in Central Africa, and the species was estimated to constitute roughly 73 percent of the total pangolin harvest at that time (Fa and Peres, 2001, p. 228). A more recent study estimated a 150 percent increase in harvest of African pangolin species in Central Africa over the last four decades, and that harvest rates have averaged roughly 0.4 to 2.7 million pangolins annually during that time (Ingram et al., 2018, p. 1). The higher estimates of total harvest of African pangolin species, as compared to Asian pangolin species, is indicative of the shift in harvest pressure from Asia to Africa as populations of Asian pangolin species have declined due to overexploitation. Though some of this escalation in harvest is driven by local consumption, international trade is also a strong driver. Before 2001, roughly 93 percent of reported CITES trade in pangolins was Asian species; however, since 2001, roughly 67 percent involved African species (Heinrich et al., 2016, p. 247). As Asian pangolins have declined, harvest and trade of African pangolins has increased dramatically to meet the demand for scales in Asia (Tinsman et al., 2023, pp. 3–5; F. Zhang et al., 2022, p. 2). Consequently, a growing global trade network exists wherein the majority of pangolin scales are exported from Africa to Southeast Asia (Tinsman et al., 2023, entire; Zhang et al., 2020, pp. 4–8). Records indicate that at least 8,000 white-bellied pangolins were traded (mostly from Central Africa to China) from 2013 to 2016. This number importantly does not include unreported trade, illegal trade, or harvest for subsistence (Challender et al., 2020, p. 265).

Concurrently, the illegal trafficking of African pangolin species has increased over the last decade (Ingram et al., 2019a, p. 8). The price of pangolin products has increased dramatically across many regions of West and Central Africa, which can signal growing species rarity and motivate a shift toward harvest for income over subsistence. Importantly, protected areas within the species' range do not provide refuge for pangolin populations, as multiple protected areas are identified as poaching hotspots across the white-bellied pangolin range (Tinsman et al., 2023, pp. 2–5).

Organized crime is also increasingly implicated in the trafficking of African pangolin species, including the white-bellied pangolin. Cameroon is recognized as a major hub for trafficking, with its growing infrastructure and networks for siphoning pangolins from rural areas into urban markets, particularly as prices increase (Simo et al., 2023, pp. 704, 711; Zhang et al., 2020, pp. 4–8). Over the last decade, seizures in Cameroon have increasingly shifted from pangolin meat to scales and have included products from other protected species, indicative of involvement of organized crime (Ingram et al., 2019a, p. 8). White-bellied pangolins are commonly encountered in most seizures involving pangolins, and often the most commonly encountered in the wild. White-bellied pangolins are thought to represent a majority of the 624,000 African pangolin species seized between 2016 and 2019; however, these seizure

numbers are dramatic underestimates of the true magnitude of trafficking, most of which goes undetected (Challender et al., 2020, pp. 267–268).

Extensive deforestation has occurred within the range of the white-bellied pangolin, particularly within the western portions. In the rainforest regions that the white-bellied pangolin occupies, an average of roughly 0.59 million hectares of rainforest were lost annually between 1990 and 2000 to logging, roads, urban development, and agricultural expansion (Mayaux et al., 2013, pp. 4–5). From 2001 to 2023, the white-bellied pangolin experienced an additional 10 percent loss of forested habitat (Hansen et al., 2013, unpaginated; Global Forest Watch, 2014, unpaginated). Though forest loss has occurred throughout the species' range in the last two decades, it has been greatest in West Africa, where deforestation rates were three times higher than in the rest of the species' range (Ingram et al., 2019b, p. 2; Mayaux et al., 2013, p. 1). Forest losses have reduced the availability and quality of habitat for the white-bellied pangolin, while also increasing human interactions and harvest pressure. Forest loss can directly impact the white-bellied pangolin, particularly since forest age appears to be a strong driver of occurrence for the species, which appears to prefer older successional forests (Akpona et al., 2008, pp. 198, 200).

Overexploitation and habitat loss have caused substantial declines in the number, health, and distribution of white-bellied pangolin populations. Though it is one of the more commonly encountered African pangolin species, it is not considered to be common within its range (Jansen et al., 2020, pp. 151–152; Waterman et al., 2014, p. 4). The white-bellied pangolin is estimated to have experienced a 40 percent decline in the period 1998–2019 (Pietersen et al., 2019, p. 1).

Genetic data also provide a meaningful proxy for population health (Service 2025, p. 60). The white-bellied pangolin shows the best metrics of genetic health of the eight pangolin species (Gu et al., 2023, pp. 5–7). Despite this, genetic diversity in particular is relatively low, falling between IUCN endangered ring-tailed lemurs and IUCN critically endangered black rhinos (Wilder et al., 2023, entire; Service, 2025, p. 126). Additionally, genetic indicators show a time lag relative to recent population declines, meaning that contemporary population declines are likely not yet manifesting in genomic sequence data (Gargiulo et al., 2024, entire). As populations continue to decline due to poaching and other threats, indicators of genetic health are expected to further deteriorate along a trajectory that is similar to genetic health metrics seen in other pangolin species.

The white-bellied pangolin is currently characterized by reduced genetic diversity and increased genetic load, both of which are strong indicators of reduced viability and elevated extinction risk. The reduced distribution of white-bellied pangolin adversely impacts the species' ability to withstand catastrophic events. The white-bellied pangolin is therefore less able to withstand demographic and environmental stochasticity (*i.e.,* reduced resiliency) or catastrophic events (*i.e.,* reduced redundancy) and less able to show an evolutionary response to changing conditions (*i.e.,* reduced adaptive capacity or representation). These indicators suggest that the white-bellied pangolin is currently experiencing and will continue to experience compromised population fitness, adaptability, and viability, even in the absence of threats.

Black-Bellied Pangolin—Current Condition

Harvest for bushmeat and other local uses is a historical and ongoing threat to black-bellied pangolins. Pangolin meat is openly sold in markets and restaurants throughout the species' range (Soewu et al., 2020, p. 248). Bushmeat consumption in general has increased in West and Central Africa over the last few decades (Ziegler et al., 2016, p. 405), as has the availability of pangolins in markets in some areas (Soewu et al., 2020, p. 248). Pangolin products are also used in traditional medicine and for ritualistic purposes in Central Africa and in rural areas of West Africa, where most people depend on traditional medicine for healthcare (Soewu et al., 2020, pp. 243, 249; Soewu and Adekanola, 2011, p. 1; Zanvo et al., 2021, p. 1).

Harvest of African pangolin species has intensified in recent decades and pangolins are increasingly reaching commercial international markets. The higher estimates of total harvest of African pangolin species, as compared to Asian pangolin species, is indicative of the shift in harvest pressure from Asia to Africa as Asian pangolin species have declined due to overexploitation. Though some of this escalation in harvest may be driven by local consumption, international trade is also strongly implicated. Before 2001, Asian species accounted for roughly 93 percent of reported CITES trade in pangolins. However, since 2001, roughly 67 percent of reported trade involved African species (Heinrich et al., 2016, p. 247). As Asian pangolins have declined, harvest and trade of African pangolins has increased dramatically to meet the demand for scales and meat in Asia (Zhang et al., 2022, p. 2). There is consequently a growing global trade network where the majority of pangolin scales are exported from Africa to Southeast Asia (Gossé et al., 2024, p. 2).

Concurrently, illegal trafficking of African pangolin species has increased over the last decade (Ingram et al., 2019a, p. 8). An estimated 624,000 African pangolin species were seized between 2016 and 2019 alone; however, the actual volume of illegal trade is dramatically higher as most trafficking goes undetected (Challender et al., 2020, pp. 267–268). Though authorities know with high confidence that the trade in African pangolin species has increased over time, and that all four species of African pangolin are involved, less information is available on how much of this trade is specifically composed of black-bellied pangolins, or of specific harvest rates for this pangolin species (Challender et al., 2020, p. 268).

Extensive deforestation has occurred in the range of the black-bellied pangolin, particularly in West Africa and the Democratic Republic of Congo (DRC). In the rainforest regions occupied by the black-bellied pangolin, an average of 0.59 million ha of rainforest were lost annually between 1990 and 2000 due to logging, roads, urban development, and agricultural expansion (Mayaux et al., 2013, pp. 4–5). From 2001 to 2023, the black-bellied pangolin experienced an additional 11 percent loss of tree cover throughout its range. Though forest loss has occurred throughout the species' range in the last two decades, it has been greatest in West Africa, where deforestation rates were three times higher than in the rest of the species' range (Ingram et al., 2019b, p. 2; Mayaux et al., 2013, p. 1). Collectively, these land cover changes have reduced the availability and quality of habitat for the black-bellied pangolin, while also increasing human interactions and harvest pressure.

Forest loss can have a pronounced impact on the black-bellied pangolin as it is highly arboreal, and shows a preference for densely vegetated, undisturbed habitat (Gudehus et al., 2020a, pp. 134–135). Even in areas where plantations provide some tree cover, habitat quality can be markedly diminished, due to fragmentation from roads and infrastructure, and the presence of pesticides that reduce prey diversity and availability (Pietersen et

al., 2014, pp. 168–171; Laurance et al., 2006, pp. 1258–1259; Mahmood et al., 2020, p. 85). Forest loss and land cover changes also increase hunting pressure, as accessibility to previously remote forest areas increases (Ingram et al., 2019, pp. 1–2). The black-bellied pangolin spends most of its time in the tree crown, which makes it harder to detect, and harder to capture. However, as the connectivity of the forest crown decreases, the species is more vulnerable to harvest as it travels on the ground to move from tree to tree (Gudehus et al., 2020, pp. 133–134). Furthermore, in the lower-stature trees found in secondary forest and oil-palm plantations, black-bellied pangolins can be harvested by hunters from the ground (Gudehus et al., 2020, p. 130).

Overexploitation, and habitat loss have caused substantial declines in the number, health, and distribution of black-bellied pangolin populations. The black-bellied pangolin is considered in decline throughout its range (Ingram et al., 2019, p. 2). The IUCN has estimated that the species has experienced 30–40 percent population decline since 2005 due to loss of suitable habitat and unsustainable hunting, though declines are likely greater, and as high as 50 percent in West Africa where deforestation rates and human population density are particularly high (Ingram et al., 2019, pp. 1–2).

Genetic data also provide a meaningful proxy for population health (Service 2025, p. 60). A genetic study identified several metrics of poor genetic health for black-bellied pangolin populations. In particular, genetic diversity is low (Gu et al., 2023, p. 5), lower than the critically endangered black rhino. Genomic inbreeding is also elevated (Gu et al., 2023, p. 5). The study also identified elevated levels of genetic load, which point to potential negative fitness impacts of overall low genetic diversity and elevated inbreeding. These indicators of poor genetic health are likely associated with reduced fitness due to inbreeding, the accumulation of deleterious alleles (*i.e.,* genetic load), reduced evolutionary potential, and overall reduced population fitness, adaptability, and viability (Kardos et al., 2021, entire; Willi et al., 2022, entire).

The black-bellied pangolin is currently characterized by low genetic diversity, elevated levels of genomic inbreeding, and increased genetic load, all of which are indicators of reduced viability and elevated extinction risk. The reduced distribution of black-bellied pangolin populations adversely impacts the species' ability to withstand catastrophic events. The black-bellied pangolin is therefore less able to withstand demographic and environmental stochasticity (*i.e.,* reduced resiliency) or catastrophic events (*i.e.,* reduced redundancy) and less able to show an evolutionary response to changing conditions (*i.e.,* reduced adaptive capacity or representation). These indicators suggest that the black-bellied pangolin is currently experiencing and will continue to experience compromised population fitness, adaptability, and viability, even in the absence of threats.

Giant Pangolin—Current Condition

Harvest for bushmeat and other local uses is a historical and ongoing threat to the giant pangolin. Unsustainable hunting for bushmeat is a primary threat to the species. This threat is becoming more frequently observed and is compounded by growing international trafficking (Hoffmann et al., 2020, p. 169). Pangolin meat is sold in markets throughout the species' range (Soewu et al., 2020, p. 248), and the giant pangolin is the most valuable target for hunters in Cameroon due to its size and large scales (Simo et al., 2023, p. 711). Bushmeat consumption in general has increased in West and Central Africa over the last few decades (Ziegler et al., 2016, p. 405), as has the availability of pangolins in markets in some areas (Soewu et al., 2020, p. 248). Pangolin products are also used in traditional medicine and for ritualistic purposes in Central Africa and in rural areas of West Africa, where most people depend on traditional medicine for healthcare (Soewu et al., 2020, pp. 243, 249; Soewu and Adekanola, 2011, p. 1).

There has been an estimated 150 percent increase in the harvest of African pangolin species in Central Africa over the last four decades, with an estimated 0.4 to 2.7 million pangolins harvested annually on average (Ingram et al., 2018, p. 1). Though some of this escalation in harvest is driven by local consumption, international trade is also strongly implicated. Before 2001, roughly 93 percent of reported CITES trade in pangolins was of Asian species (7 percent African). However, since 2001, roughly 67 percent of pangolin trade involved African species (33 percent Asian) (Heinrich et al., 2016, p. 247). As Asian pangolin species have declined, harvest and trade of African pangolin species has increased dramatically to meet the demand for scales and meat in Asia (Zhang et al., 2022, p. 2). Consequently, a global trade network is growing, with the majority of pangolin scales currently exported from Africa to Southeast Asia (Gossé et al., 2024, p. 2).

There has been a concurrent increase in illegal trafficking of African pangolin species, including the giant pangolin, over the last decade (Ingram et al., 2019, p. 8). Over the last decade, seizures have increasingly shifted from pangolin meat to scales and include products from other protected species, implicating the involvement of organized crime (Ingram et al., 2019, p. 8). The prevalence, number of, and price of giant pangolin products has also increased dramatically across many regions of West and Central Africa, which can signal growing species rarity and motivate a shift toward harvest for income as well as subsistence (Hoffmann et al., 2020, pp. 168–169).

Collectively, land cover changes have reduced the availability and quality of habitat for the giant pangolin, while also increasing human interactions and harvest pressure. Extensive deforestation has occurred in the range of the giant pangolin, particularly in the west. In the rainforest regions that the giant pangolin occupies, an average of roughly 0.59 million ha of rainforest were lost annually between 1990 and 2000 due to logging, roads, urban development, and agricultural expansion (Mayaux et al., 2013, pp. 4–5). From 2001 to 2023, the giant pangolin lost an additional 11 percent of tree cover. Though forest loss has occurred throughout the species' range in the last two decades, loss has been greatest in West Africa, where deforestation rates were three times higher than in Central Africa (Ingram et al., 2019, p. 2; Mayaux et al., 2013, p. 1).

Available data suggest that the giant pangolin is not common in any part of its range and is generally rare (Hoffmann et al., 2020, p. 167). The giant pangolin has been considered to be rare, declining throughout much of its range, and since the 1990s, is considered to be extirpated in Rwanda, Niger, and southwest Nigeria (Bräutigam et al., 1994, p. 17). Genetic data also provide a meaningful proxy for population health (Service 2025, p. 60).

A genetic study using whole genome resequencing identified several metrics of poor genetic health for the giant pangolin. In particular, genetic diversity is low (Gu et al., 2023, p. 5), comparable to the critically endangered black rhino. Genomic inbreeding is also elevated (Gu et al., 2023, p. 5). The study also identified elevated levels of genetic load, which point to potential negative fitness impacts due to inbreeding, the accumulation of deleterious alleles, reduced evolutionary potential, and overall reduced population fitness,

adaptability, and viability (Kardos et al., 2021, entire; Willi et al., 2022, entire).

The giant pangolin is currently characterized by low genetic diversity, elevated levels of genomic inbreeding, and increased genetic load, all of which are indicators of elevated extinction risk. The reduced distribution of giant pangolin populations adversely impacts the species' ability to withstand catastrophic events. The giant pangolin is therefore less able to withstand demographic and environmental stochasticity (*i.e.,* reduced resiliency) or catastrophic events (*i.e.,* reduced redundancy) and less able to show an evolutionary response to changing conditions (*i.e.,* reduced adaptive capacity or representation). These indicators suggest that the giant pangolin is currently experiencing and will continue to experience compromised population fitness, adaptability, and viability, even in the absence of threats.

Future Condition

As part of the SSA, we also considered the future magnitude of threats of overexploitation, land cover trends, and climate change and the projected responses of the Chinese, Indian, Sunda, Philippine, white-bellied, black-bellied, and giant pangolin. We assumed that current trends are anticipated to continue into the future, and that these species' responses would remain similar to observed responses in current conditions. Because we determined that the current condition of the Chinese, Indian, Sunda, Philippine, white-bellied, black-bellied, and giant pangolin are consistent with an endangered species (see Determination of Status for Seven Pangolin Species, below), we are not presenting the results of the assessment of magnitude and extent of future threats in this proposed rule. Please refer to the SSA report (Service 2025, pp. 74, 83–84, 95–98, 108–110, 126–130, 141–145, 158–162).) for the full analysis of future magnitude of threats.

Determination of Status for Seven Pangolin Species

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations (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 defines an ''endangered species'' as a species in danger of extinction throughout all or a significant portion of its range and a ''threatened species'' as a species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. 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.

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: (1) in danger of extinction throughout all of its range, (2) in danger of extinction throughout a significant portion of its range, (3) likely to become an endangered species within the foreseeable future throughout all of its range, or (4) 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, a number of 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) regarding the flat-tailed horned lizard, 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'' (*id.* at 1141). 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 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' (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) Distinct Population Segment (DPS)—that, if a [vertebrate] species is endangered or threatened in an SPR and the population in that SPR is a 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'' (*id.* at 98). 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).

We make this determination based on whether the best scientific and commercial data available indicate that the species has a similar extinction risk in all areas across its range (at a scale that is biologically appropriate for that species). When a species has a similar extinction risk in all areas across its range, we determine its regulatory status using the component ''throughout all of its range.'' For example, in some cases there is no way to divide a species' range in a way that is biologically appropriate. This could be because the range is so small that there is only one population or because the species functions as a metapopulation such that effects to one population directly result in effects to another population. On the other hand, when the species' extinction risk varies across its range, we determine its regulatory status using the component ''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.

Chinese Pangolin—Status

Best available commercial and scientific data indicate a high rate of decline in abundance and distribution of the Chinese pangolin, further supported by genetic analysis indicating high levels of inbreeding and very low genetic diversity. Overexploitation and habitat loss, the primary threats to the Chinese pangolin, have reduced the resiliency, redundancy, and representation of the species to the point that even in the absence of existing threats, the species would have very low viability.

After evaluating threats to the species and assessing the cumulative effect of the threats under the Act's section 4(a)(1) factors, we find that the Chinese pangolin has declined in abundance, genetic health, and range because of the historical and ongoing threats of overexploitation (Factor B) and habitat loss (Factor A) and that these declines have continued unabated under existing regulatory mechanisms such as the insufficient implementation and enforcement of CITES protections by importing, transit, and exporting countries (Factor D), such that the species is at risk of extinction. This risk is immediate rather than based upon future conditions. Thus, after assessing the best scientific and commercial data available, we determine that the Chinese pangolin is in danger of extinction throughout all of its range.

Chinese Pangolin—Determination of Status

Based on the best scientific and commercial data available, we determine that the Chinese pangolin meets the Act's definition of an endangered species because it is in danger of extinction throughout all of its range. Therefore, we propose to list the Chinese pangolin as an endangered species in accordance with sections 3(6) and 4(a)(1) of the Act.

Indian Pangolin—Status

The best available commercial and scientific data indicate that the Indian pangolin is considered rare and declining throughout its historical range primarily due to overexploitation and habitat loss and fragmentation. In addition, genetic analysis indicates very low genetic diversity and elevated rates of inbreeding and genetic load, all of which limit adaptive capacity and contribute to compromised overall viability of the species. The primary threats to the Indian pangolin have reduced the resiliency, redundancy, and representation of the species to the point that even in the absence of existing threats, the species would have very low viability.

After evaluating threats to the species and assessing the cumulative effect of the threats under the Act's section 4(a)(1) factors, we find that the Indian pangolin has declined in abundance, genetic health, and range because of the historical and ongoing threats of overexploitation (Factor B) and habitat loss (Factor A) and that these declines have continued unabated under existing regulatory mechanisms such as the insufficient implementation and enforcement of CITES protections by importing, transit, and exporting countries (Factor D), such that the species is at risk of extinction. This risk is immediate rather than based upon future conditions. Thus, after assessing the best scientific and commercial data available, we determine that the Indian pangolin is in danger of extinction throughout all of its range.

Indian Pangolin—Determination of Status

Based on the best scientific and commercial data available, we determine that the Indian pangolin meets the Act's definition of an endangered species because it is in danger of extinction throughout all of its range. Therefore, we propose to list the Indian pangolin as an endangered species in accordance with sections 3(6) and 4(a)(1) of the Act.

Sunda Pangolin—Status

The best available commercial and scientific data indicate a high rate of decline in abundance and distribution of the Sunda pangolin, and this information is further supported by genetic analysis indicating high levels of inbreeding, elevated levels of genetic load, and very low genetic diversity. Overexploitation and habitat loss, the primary threats to the species, have reduced the resiliency, redundancy, and representation of the species to the point that even in the absence of existing threats, the species would have very low viability.

After evaluating threats to the species and assessing the cumulative effect of the threats under the Act's section 4(a)(1) factors, we find that the Sunda pangolin has declined in abundance, genetic health, and range because of the

historical and ongoing threats of overexploitation (Factor B) and habitat loss (Factor A) and that these declines have continued unabated under existing regulatory mechanisms such as the insufficient implementation and enforcement of CITES protections by importing, transit, and exporting countries (Factor D), such that the species is at risk of extinction. This risk is immediate rather than based upon future conditions. Thus, after assessing the best scientific and commercial data available, we determine that the Sunda pangolin is in danger of extinction throughout all of its range.

Sunda Pangolin—Determination of Status

Based on the best scientific and commercial data available, we determine that the Sunda pangolin meets the Act's definition of an endangered species because it is in danger of extinction throughout all of its range. Therefore, we propose to list the Sunda pangolin as an endangered species in accordance with sections 3(6) and 4(a)(1) of the Act.

Philippine Pangolin—Status

The best available commercial and scientific data indicate a high rate of decline in abundance within the Philippine pangolin's limited range, and this information is further supported by genetic analysis indicating high levels of inbreeding, elevated levels of genetic load, and very low genetic diversity. Overexploitation and habitat loss, the primary historical and ongoing threats to the Philippine pangolin, have reduced the resiliency, redundancy, and representation of the species to the point that even in the absence of existing threats, the species would have very low viability.

After evaluating threats to the species and assessing the cumulative effect of the threats under the Act's section 4(a)(1) factors, we find that the Philippine pangolin has declined in abundance, genetic health, and range because of the historical and ongoing threats of overexploitation (Factor B) and habitat loss (Factor A). We further find that these declines have continued unabated under existing regulatory mechanisms, such as the insufficient implementation and enforcement of CITES protections by importing, transit, and exporting countries (Factor D), such that the species is at risk of extinction. This risk is immediate rather than based upon future conditions. Thus, after assessing the best scientific and commercial data available, we determine that the Philippine pangolin is in danger of extinction throughout all of its range.

Philippine Pangolin—Determination of Status

Based on the best scientific and commercial data available, we determine that the Philippine pangolin meets the Act's definition of an endangered species because it is in danger of extinction throughout all of its range. Therefore, we propose to list the Philippine pangolin as an endangered species in accordance with sections 3(6) and 4(a)(1) of the Act.

White-Bellied Pangolin—Status

The best available commercial and scientific data indicate a trend of declining abundance and constricting distribution of the white-bellied pangolin, and this information is further supported by genetic analysis indicating elevated levels of genetic load and low genetic diversity. The shift over time from poaching and hunting in the western portion of the species' range to Central Africa, as well as the shifting changes in land use, indicate a pattern that, although there may be higher abundance in Central Africa as compared with western Africa, declines in abundance have already occurred and will continue in Central Africa such that the western and central portions of the species' range are equally at risk of extinction. Overexploitation and habitat loss, the primary threats to the species, have reduced the resiliency, redundancy, and representation of the species to the point that even in the absence of existing threats, the species would have very low viability.

After evaluating threats to the species and assessing the cumulative effect of the threats under the Act's section 4(a)(1) factors, we find that the white-bellied pangolin has declined in abundance, genetic health, and range because of the historical and ongoing threats of overexploitation (Factor B) and habitat loss (Factor A). We further find that these declines have continued unabated under existing regulatory mechanisms, such as the insufficient implementation and enforcement of CITES protections by importing, transit, and exporting countries (Factor D), such that the species is at risk of extinction. This risk is immediate rather than based upon future conditions. Thus, after assessing the best scientific and commercial data available, we determine that the white-bellied pangolin is in danger of extinction throughout all of its range.

White-Bellied Pangolin—Determination of Status

Based on the best scientific and commercial data available, we determine that the white-bellied pangolin meets the Act's definition of an endangered species because it is in danger of extinction throughout all of its range. Therefore, we propose to list the white-bellied pangolin as an endangered species in accordance with sections 3(6) and 4(a)(1) of the Act.

Black-Bellied Pangolin—Status

The best available commercial and scientific data indicate a trend of declining abundance and constricting distribution of the historically rare, black-bellied pangolin, and this information is further supported by genetic analysis indicating elevated levels of genetic load and low genetic diversity among populations. The shift over time from poaching and hunting in the western range to Central Africa, as well as the shifting changes in land use, indicate a pattern that, although there may be higher abundance in Central Africa as compared with western Africa, declines in abundance have already occurred and will continue in Central Africa such that the western and central portions of the species' range are equally at risk of extinction. Overexploitation and habitat loss, the primary threats to the species, have reduced the resiliency, redundancy, and representation of the species to the point that even in the absence of existing threats, the species would have very low viability.

After evaluating threats to the species and assessing the cumulative effect of the threats under the Act's section 4(a)(1) factors, we find that the black-bellied pangolin has declined in abundance, genetic health, and range because of the historical and ongoing threats of overexploitation (Factor B) and habitat loss (Factor A). We further find that these declines have continued unabated under existing regulatory mechanisms, such as the insufficient implementation and enforcement of CITES protections by importing, transit, and exporting countries (Factor D), such that the species is at risk of extinction. This risk is immediate rather than based upon future conditions. Thus, after assessing the best scientific and commercial data available, we determine that the black-bellied pangolin is in danger of extinction throughout all of its range.

Black-Bellied Pangolin—Determination of Status

Based on the best scientific and commercial data available, we determine that the black-bellied pangolin meets the Act's definition of an endangered species because it is in danger of extinction throughout all of its range. Therefore, we propose to list the black-bellied pangolin as an endangered species in accordance with sections 3(6) and 4(a)(1) of the Act.

Giant Pangolin—Status

The best available commercial and scientific data indicate a trend of declining abundance and highly restricted distribution of giant pangolin populations as compared with its historical range, and this information is further supported by genetic analysis indicating elevated levels of genetic load, inbreeding, and low genetic diversity. Overexploitation and habitat loss, the primary threats to the species, have reduced the resiliency, redundancy, and representation of the species to the point that even in the absence of existing threats, the species would have very low viability.

After evaluating threats to the species and assessing the cumulative effect of the threats under the Act's section 4(a)(1) factors, we find that the giant pangolin has declined in abundance, genetic health, and range because of the historical and ongoing threats of overexploitation (Factor B) and habitat loss (Factor A). We further find that these declines have continued unabated under existing regulatory mechanisms, such as the insufficient implementation and enforcement of CITES protections by importing, transit, and exporting countries (Factor D), such that the species is at risk of extinction. This risk is immediate rather than based upon future conditions. Thus, after assessing the best scientific and commercial data available, we determine that the giant pangolin is in danger of extinction throughout all of its range.

Giant Pangolin—Determination of Status

Based on the best scientific and commercial data available, we determine that the giant pangolin meets the Act's definition of an endangered species because it is in danger of extinction throughout all of its range. Therefore, we propose to list the giant pangolin as an endangered species in accordance with sections 3(6) and 4(a)(1) of the Act.

Available Conservation Measures

The primary purpose of the Act is the conservation of endangered and threatened species and the ecosystems upon which they depend. The ultimate goal of such conservation efforts is the recovery of these listed species, so that they no longer need the protective measures of the Act.

Conservation measures provided to species listed as endangered or threatened species under the Act include recognition as a listed species, planning and implementation of recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing results in public awareness, and conservation by Federal, State, Tribal, and local agencies, foreign governments, private organizations, and individuals. The Act encourages cooperation with the States and other countries and calls for recovery actions to be carried out for listed species. The protection required by Federal agencies, including the Service, and the prohibitions against certain activities are discussed, in part, below.

Section 7 of the Act is titled, ''Interagency Cooperation,'' and it mandates all Federal action agencies to use their existing authorities to further the conservation purposes of the Act and to ensure that their actions are not likely to jeopardize the continued existence of listed species or adversely modify critical habitat. Regulations implementing section 7 are codified at 50 CFR part 402.

Section 7(a)(2) states that each Federal action agency shall, in consultation with the Secretary, ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. With respect to all pangolin species, no known actions require consultation under section 7(a)(2) of the Act. Given the regulatory definition of ''action'' at 50 CFR 402.02, which clarifies that it applies to activities or programs carried out ''in the United States or upon the high seas,'' the pangolin is unlikely to be the subject of section 7 consultations, because the entire life cycles of these seven species occur in terrestrial areas outside of the United States and these species are unlikely to be affected by U.S. Federal actions. Additionally, no critical habitat will be designated for any pangolin species because, under 50 CFR 424.12(g), we will not designate critical habitat within foreign countries or in other areas outside of the jurisdiction of the United States.

Section 8(a) of the Act (16 U.S.C. 1537(a)) authorizes the provision of limited financial assistance for the development and management of programs that the Secretary of the Interior determines to be necessary or useful for the conservation of endangered or threatened species in foreign countries. Sections 8(b) and 8(c) of the Act (16 U.S.C. 1537(b) and (c)) authorize the Secretary to encourage conservation programs for foreign listed species, and to provide assistance for such programs, in the form of personnel and the training of personnel.

The Act and its implementing regulations set forth a series of prohibitions and exceptions that apply to endangered wildlife. The prohibitions of section 9(a)(1) of the Act, and the Service's implementing regulations codified at 50 CFR 17.21, make it illegal for any person subject to the jurisdiction of the United States to commit, to attempt to commit, to solicit another to commit or to cause to be committed any of the following acts with regard to any endangered wildlife: (1) import into, or export from, the United States; (2) take (which includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) within the United States, within the territorial sea of the United States, or on the high seas; (3) possess, sell, deliver, carry, transport, or ship, by any means whatsoever, any such wildlife that has been taken illegally; (4) deliver, receive, carry, transport, or ship in interstate or foreign commerce, by any means whatsoever and in the course of commercial activity; or (5) sell or offer for sale in interstate or foreign commerce. Certain exceptions to these prohibitions apply to employees or agents of the Service, the National Marine Fisheries Service, other Federal land management agencies, and State conservation agencies.

We may issue permits to carry out otherwise prohibited activities involving endangered wildlife under certain circumstances. Regulations governing permits for endangered wildlife are codified at 50 CFR 17.22, and general Service permitting regulations are codified at 50 CFR part 13. With regard to endangered wildlife, a permit may be issued: for scientific purposes, for enhancing the propagation or survival of the species, or for take incidental to otherwise lawful activities.

The statute also contains certain exemptions from the prohibitions, which are found in sections 9 and 10 of the Act. For example, the provisions in section 9(b)(1) of the Act (16 U.S.C. 1538(b)(1)) provide a limited exemption from certain otherwise prohibited activities regarding wildlife specimens held in captivity or in a controlled environment on the date they were first subject to the Act, provided that such

holding and any subsequent holding or use of the wildlife was not in the course of a commercial activity (commonly referred to as ''pre-Act'' specimens). Therefore, if a pangolin is held in captivity prior to receiving protections under the Act (and the holding is not in the course of commercial activity), several activities are allowed without the need for a permit in accordance with section 9(b)(1) of the Act.

Section 9(b)(1) was amended in the 1982 amendments to the Act (96 Stat. 1426–27), to clarify that the scope of the 9(b)(1) exemption is limited to only certain section 9(a)(1) prohibitions, that the exemption does not apply to pre-Act wildlife held or used in the course of a commercial activity on or after the pre-Act date for the species, and that the pre-Act date for species first listed after the enactment of the Act is the date of publication in the **Federal Register** of the final regulation adding such species to the List of Endangered and Threatened Wildlife for the first time (H.R. Rep. No. 97–835, 97th Cong., 2nd Sess., at 35 (1982) (Conf. Rep.); S. Rep. No. 97–418, 97th Cong., 2nd Sess., at 24–25 (1982)). Specifically, section 9(b)(1) of the Act states that the prohibitions of sections 9(a)(1)(A) and 9(a)(1)(G) shall not apply to any fish or wildlife which was held in captivity or in a controlled environment on (A) December 28, 1973, or (B) the date of the publication in the **Federal Register** of a final regulation adding such fish or wildlife to any list of species published pursuant to section 4(c) of the Act (as relevant to listed wildlife, the list of endangered and threatened wildlife (50 CFR 17.11(h)) that such holding and any subsequent holding or use of the fish or wildlife was not in the course of a commercial activity.

Therefore, for pre-Act wildlife, there is a limited exemption from the prohibitions associated with: (1) import into, or export from the United States of any endangered wildlife, or (2) violation of regulations pertaining to threatened or endangered wildlife. Other prohibitions of section 9—including those at section 9(a)(1)(B)–(F), regarding take of endangered wildlife, possession and other acts with unlawfully taken wildlife, interstate or foreign commerce in endangered wildlife, and sale or offer for sale of endangered wildlife—continue to apply to activities with qualifying endangered pre-Act wildlife specimens. For threatened species, prohibitions are promulgated by regulation under section 4(d) of the Act, and a specimen may qualify for the exemption in 9(a)(1)(G) with regard to regulatory violations. Specimens born after the listing date and specimens taken from the wild after the listing date do not qualify as pre-Act wildlife under the text of section 9(b)(1) of the Act. If a person engages in any commercial activity with a pre-Act specimen, the wildlife would immediately cease to qualify as pre-Act wildlife and become subject to the relevant prohibitions, because it has been held or used in the course of a commercial activity.

Additional requirements apply to activities with all pangolins, separate from their proposed listing as endangered species. As CITES-listed species, all international trade of any pangolin by persons subject to the jurisdiction of the United States must also comply with CITES requirements pursuant to section 9 paragraphs (c) and (g) of the Act (16 U.S.C. 1538(c) and (g)) and to 50 CFR part 23. As ''fish or wildlife'' (16 U.S.C. 1532(8)), pangolin imports and exports must also meet applicable wildlife import/export requirements established under section 9, paragraphs (d), (e), and (f), of the Act (16 U.S.C. 1538(d), (e), and (f)); the Lacey Act Amendments of 1981 (16 U.S.C. 3371 *et seq.*); and 50 CFR part 14. Questions regarding whether specific activities with pangolins would constitute a violation of section 9 of the Act should be directed to the Service's Division of Management Authority (*managementauthority@fws.gov;* 703–358–2104).

Required Determinations

Clarity of the Proposed Rule

We are required by E.O.s 12866 and 12988 and by the Presidential memorandum of June 1, 1998, to write all rules in plain language. This means that each rule we publish must:

(1) Be logically organized;

(2) Use the active voice to address readers directly;

(3) Use clear language rather than jargon;

(4) Be divided into short sections and sentences; and

(5) Use lists and tables wherever possible.

If you feel that we have not met these requirements, send us comments by one of the methods listed in **ADDRESSES**. To better help us revise the rule, your comments should be as specific as possible. For example, you should tell us the numbers of the sections or paragraphs that are unclearly written, which sections or sentences are too long, the sections where you feel lists or tables would be useful, etc.

References Cited

A complete list of references cited in this rulemaking is available on the internet at *https://www.regulations.gov* and upon request from the Branch of Delisting and Foreign Species (see **FOR FURTHER INFORMATION CONTACT**).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Plants, Reporting and recordkeeping requirements, Transportation, Wildlife.

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 6, 2025, for publication. On May 30, 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.

Proposed Regulation Promulgation

Accordingly, we propose to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

■ 1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 1531–1544; and 4201–4245, unless otherwise noted.

■ 2. In § 17.11, in paragraph (h), amend the List of Endangered and Threatened Wildlife, under MAMMALS, by:

■ a. Adding entries for ''Pangolin, black-bellied'', ''Pangolin, Chinese'', ''Pangolin, giant'', ''Pangolin, Indian'', ''Pangolin, Philippine'', and ''Pangolin, Sunda'' in alphabetical order;

■ b. Revising the entry for ''Pangolin, Temnick's ground''; and

■ c. Adding an entry for ''Pangolin, white-bellied'' in alphabetical order.

The additions and revision read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Common name	Scientific name	Where listed	Status	Listing citations and applicable rules
MAMMALS				
* *	*	*	*	* *
Pangolin, black-bellied	*Phataginus tetradactyla*	Wherever found	E	[**Federal Register** citation when published as a final rule].
Pangolin, Chinese	*Manis pentadactyla*	Wherever found	E	[**Federal Register** citation when published as a final rule].
Pangolin, giant	*Smutsia gigantea*	Wherever found	E	[**Federal Register** citation when published as a final rule].
Pangolin, Indian	*Manis crassicaudata*	Wherever found	E	[**Federal Register** citation when published as a final rule].
Pangolin, Philippine	*Manis culionensis*	Wherever found	E	[**Federal Register** citation when published as a final rule].
Pangolin, Sunda	*Manis javanica*	Wherever found	E	[**Federal Register** citation when published as a final rule].
Pangolin, Temminck's ground	*Smutsia temminckii*	Wherever found	E	41 FR 24062, 6/14/1976.
Pangolin, white-bellied	*Phataginus tricuspis*	Wherever found	E	[**Federal Register** citation when published as a final rule].
* *	*	*	*	* *

Jillian Eanett,

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

[FR Doc. 2025–10288 Filed 6–16–25; 8:45 am]

BILLING CODE 4333–15–P