

BEFORE THE U.S. DEPARTMENT OF THE INTERIOR

AND

THE U.S. FISH AND WILDLIFE SERVICE

**RULEMAKING PETITION TO PROTECT SEVEN PANGOLIN SPECIES  
UNDER THE SIMILARITY OF APPEARANCE PROVISION OF THE  
ENDANGERED SPECIES ACT**



Photos (left to right): Temminck's Ground Pangolin (*Manis temminckii*), Tree Pangolin (*Manis tricuspis*), Sunda pangolin (*Manis javanica*), Indian Pangolin (*Manis crassicaudata*), Chinese pangolin (*Manis pentadactyla*), giant pangolin (*Manis gigantea*). Petitioners also request listing for the Philippine pangolin (*Manis culionensis*) and the long-tailed pangolin (*Manis tetradactyla*) but were unable to procure photos.

Photo credits (left to right): Hinweise zur Weiternutzung (<https://de.wikipedia.org/wiki/Steppenschuppentier#/media/File:Steppenschuppentier2.jpg>); Piekfrosch ([https://commons.wikimedia.org/wiki/File:Pangolin\\_borneo.jpg](https://commons.wikimedia.org/wiki/File:Pangolin_borneo.jpg)); Masteraah (<https://commons.wikimedia.org/wiki/File:4anteater.jpg>); Sandip Kumar (<https://commons.wikimedia.org/wiki/File:4anteater.jpg>); Nachbarnebenan ([https://commons.wikimedia.org/wiki/File:Zoo\\_Leipzig\\_-\\_Tou\\_Feng.jpg](https://commons.wikimedia.org/wiki/File:Zoo_Leipzig_-_Tou_Feng.jpg)); Line1 ([https://en.wikipedia.org/wiki/Giant\\_pangolin#/media/File:Manis\\_gigantea\\_01\\_by\\_Line1.JPG](https://en.wikipedia.org/wiki/Giant_pangolin#/media/File:Manis_gigantea_01_by_Line1.JPG))



## NOTICE OF PETITION

July 15, 2015

Sally Jewell  
Secretary  
Department of the Interior  
1849 C Street, NW  
Washington, DC 20240

Dan Ashe  
Director  
U.S. Fish and Wildlife Service  
1849 C Street, NW  
Washington, DC 20240

**Re: Petition to the U.S. Department of the Interior and the U.S. Fish and Wildlife Service to Designate Seven Pangolin Species as “Endangered” Due To Similarity of Appearance with the Temminck’s Ground Pangolin (*Manis temminckii*)**

Dear Secretary Jewell and Director Ashe:

Pangolins, also known as scaly anteaters, are quickly being driven to extinction around the world. Substantial legal trade in pangolin parts is ongoing, and over the past few decades, the illegal trade in pangolins has grown at a terrifying rate, threatening all of the world’s eight pangolin species. This trade is due to a dramatic increase in demand for pangolin scales, which are used in traditional East Asian medicine. Without additional legal protections in the United States, internationally, and in the pangolins’ native countries, these enigmatic and unique animals are likely to be wiped out in the coming years. Additional protections cannot come quickly enough – because of their nocturnal and solitary nature, pangolins are difficult to study and their biology is not well understood. For several of these eight pangolin species, scientists may not be able to completely assess their conservation status before they go extinct given current trends in trade.

As detailed in this petition, there is an active and ongoing legal trade in pangolin parts, including in the United States. And while the full extent of the illegal pangolin trade is unknown, the best available information suggests a rate of exploitation that is substantial and growing. Scientists estimate *one million* pangolins have been taken from the wild in the last decade to meet the demand for pangolin meat and scales, and the recent rate of take could lead to all eight species’ extinction.

Although all pangolin species are currently protected under Appendix II of the Convention on International Trade in Endangered Species of Wild Flora and Fauna (“CITES”) and the Temminck’s ground pangolin (*Manis temminckii*) is listed as “endangered” under the U.S. Endangered Species Act (“ESA”),<sup>1</sup> these legal protections are inadequate to address the scale of the pangolin conservation crisis. Additional protections under both U.S. law and international law are needed. The U.S. Fish and Wildlife Service (“the Service”) can do its part by taking emergency action to protect the seven non-ESA listed species of pangolin under the ESA’s similarity of appearance provision at Section 1533(e). This provision allows the Service to protect a species of wildlife when the species so closely resembles a listed species that enforcement personnel have substantial difficulty in differentiating between the listed and non-

---

<sup>1</sup> 41 Fed. Reg. 24,062, 24,067 (Jun. 14, 1976).

listed species, this difficulty presents an additional threat to the currently listed species, and the treatment of the unlisted species as protected would facilitate better law enforcement.<sup>2</sup>

As demonstrated below, the seven non-ESA listed pangolins meet the similarity of appearance standard. Differentiating between the pangolin species – especially when the species are traded in the common form of detached or powdered scales – is extremely difficult, which makes it harder for law enforcement to protect the ESA-listed Temminck’s ground pangolin from illegal import and trade. While all eight species of pangolins deserve full endangered status due to their overutilization for commercial purposes and habitat destruction, the similarity of appearance provision provides the agency an opportunity to act *quickly* to control import and trade of all listed pangolins into and within our borders.<sup>3</sup>

Accordingly, pursuant to Section 1533(e) of the ESA and its implementing regulations and Section 553(e) of the Administrative Procedure Act (“APA”), the Center for Biological Diversity, the International Fund for Animal Welfare, Humane Society International, The Humane Society of the United States, and Born Free USA hereby petition the U.S. Department of the Interior, by and through the Service, to protect as “Endangered” the Chinese pangolin (*Manis pentadactyla*), Sunda pangolin (*Manis javanica*), Indian pangolin (*Manis crassicaudata*), Philippine pangolin (*Manis culionensis*), long-tailed pangolin (*Manis tetradactyla*), tree pangolin (*Manis tricuspis*), and giant pangolin (*Manis gigantea*) because of their similarity of appearance to the endangered Temminck’s ground pangolin (*Manis temminckii*).<sup>4</sup>

Dated this 15th day of July, 2015

Katie Wilson  
Legal Intern  
Brett Hartl  
Endangered Species Policy Director  
Sarah Uhlemann  
Senior Attorney & International Program Director  
Center for Biological Diversity  
2400 NW 80<sup>th</sup> Street, #146  
Seattle, WA 98117

*On behalf of Petitioners Center for Biological Diversity, the International Fund for Animal Welfare, Humane Society International, The Humane Society of the United States, and Born Free USA*

---

<sup>2</sup> 16 U.S.C. § 1533(e).

<sup>3</sup> Petitioners have filed a separate petition pursuant to ESA Section 4(a) requesting that the Service list the seven pangolin species as endangered in their own right, but these species and the already-listed pangolin species could suffer further precipitous decline while a comprehensive status review is conducted. Accordingly, Petitioners request that the Service act quickly to list the seven species under ESA Section 4(e), so the species may be provided at least interim protection.

<sup>4</sup> 16 U.S.C. § 1533(e); 43 C.F.R. § 14.2; 5 U.S.C. § 553(e).

## PETITIONERS

This petition is presented on behalf of the following organizations. The APA directs that “[e]ach agency [of the Federal Government] shall give an interested person the right to petition for the issuance . . . of a rule.”<sup>5</sup> Each organization listed below and its members are “interested persons” within the meaning of the APA and hence petition the Service to protect the seven pangolin species pursuant to the APA and in accordance with the ESA.<sup>6</sup>

### **Center for Biological Diversity**

The Center is a non-profit, public interest environmental organization dedicated to the protection of species and their habitats through science, policy, and environmental law. The Center has over 900,000 members and online activists throughout the United States and abroad. Find us at [www.biologicaldiversity.org](http://www.biologicaldiversity.org)

*Contact:* Sarah Uhlemann, [suhlemann@biologicaldiversity.org](mailto:suhlemann@biologicaldiversity.org), (206) 327-2344

### **International Fund for Animal Welfare (IFAW)**

Founded in 1969, IFAW (the International Fund for Animal Welfare) saves animals in crisis around the world. With projects in more than 40 countries, IFAW rescues individual animals, works to prevent cruelty to animals, and advocates for the protection of wildlife and habitats. For more information, visit [www.ifaw.org](http://www.ifaw.org).

*Contact:* Jeff Flocken, [jflocken@ifaw.org](mailto:jflocken@ifaw.org), (202) 536-1904

### **Humane Society International**

Humane Society International is one of the only international animal protection organizations in the world working to protect all animals—including animals in laboratories, farm animals, companion animals, and wildlife—and our record of achievement demonstrates our dedication and effectiveness. HSI: Celebrating Animals, Confronting Cruelty. [www.hsi.org](http://www.hsi.org)

*Contact:* Teresa M. Telecky, Ph.D., [ttelecky@hsi.org](mailto:ttelecky@hsi.org), (301) 258-1430

### **The Humane Society of the United States**

The Humane Society of the United States is the nation’s largest animal protection organization. HSUS is committed to the goals of protecting, conserving, and enhancing wildlife and wild lands and fostering the humane treatment of all animals.

*Contact:* Anna Frostic, [afrostic@humanesociety.org](mailto:afrostic@humanesociety.org), (202) 676-2333

### **Born Free USA**

Born Free USA is a global leader in animal welfare and wildlife conservation. Through litigation, legislation, and public education, the organization leads vital campaigns against animals in entertainment, exotic “pets,” trapping and fur, and the destructive international wildlife trade. Born Free USA brings to North America the message of “compassionate conservation” — the vision of the United Kingdom-based Born Free Foundation, established in 1984 by Bill Travers and Virginia McKenna, stars of the iconic film *Born Free*, along with their son, Will Travers. Born Free USA’s mission is to end suffering of wild animals in captivity,

---

<sup>5</sup> 5 U.S.C. § 553(e); *see also* U.S. CONST., amend. I. (“Congress shall make no law . . . abridging . . . the right of the people . . . to petition Government for a redress of grievances.”).

<sup>6</sup> *Id.*; 16 U.S.C. § 1533(e).

conserve threatened and endangered species, and encourage compassionate conservation globally. More at [www.bornfreeusa.org](http://www.bornfreeusa.org), [www.twitter.com/bornfreeusa](https://www.twitter.com/bornfreeusa) and [www.facebook.com/bornfreeusa](https://www.facebook.com/bornfreeusa).

*Contact:* Rosalyn Morrison, [Rosalyn@bornfreeusa.org](mailto:Rosalyn@bornfreeusa.org), (916) 642-3678

## PETITION

### **I. Biology and Conservation Status of the Pangolin Species**

Pangolins are insectivorous mammals adapted to a diet of ants and termites.<sup>7</sup> Pangolins inhabit tropical and subtropical forests, bush, and open savannah regions in Africa and Asia.<sup>8</sup> Physical adaptations include a long, sticky tongue that reaches into nests and laps up prey, as well as strong forelimbs with long claws for digging into nests such as termite mounds. Pangolins have no teeth, and prey is swallowed whole. The most characteristic feature of pangolins is their keratin scales that cover the entire dorsal surface of the animal.

Pangolins are highly vulnerable to exploitation due to their life history and are unlikely to recover quickly from events that reduce their population size. Pangolins are nocturnal, solitary animals that only meet to mate, usually just once a year. Pangolins have lengthy gestation period, and females typically produce only one young per year. Following birth, pangolins remain with their mother for three months before they are weaned.

Pangolins are also very easy to capture in the wild. Pangolins have a very poor sense of vision and rely heavily on smell and hearing to locate their termite and ant prey, making them vulnerable to traps, snares, and hunters. Pangolins' main defense when threatened by predators is to roll up into a ball, thereby making them extremely easy and attractive target for poachers, as capture requires no special skill or even the use of a weapon or trap.<sup>9</sup> Combined with continued habitat loss and fragmentation throughout the species' range, the pangolin's slow reproductive rate and ease of capture puts the species at a high risk from exploitation and trade.<sup>10</sup>

There are eight pangolin species; four occurring in Asia and four in Africa. The species include: (1) the Chinese Pangolin (*Manis pentadactyla*), (2) the Sunda or Malayan Pangolin (*Manis javanica*), (3) the Philippine or Palawan Pangolin (*Manis culionensis*); (4) the Indian or Thick-tailed Pangolin (*Manis crassicaudata*), (5) the Temminck's (also spelled "Temnick's") Ground, Ground, Cape, Steppe, or South African Pangolin or Scaly Anteater (*Manis temminckii*, also referred to as *Smutsia temminckii*), (6) the Giant Ground Pangolin (*Manis gigantea*, also referred to as *Smutsia gigantea*), (7) the Tree or African White-bellied Pangolin (*Manis tricuspis*, also referred to as *Phataginus tricuspis*), and (8) the Long tailed or Black-bellied Pangolin (*Manis tetradactyla*, also referred to as *Uromanis tetradactyla*). There is substantially more information available on the Asian species than the African species, but all are in imminent danger of extinction from the ongoing scale and meat trade.

---

<sup>7</sup> Daniel W. S. Challender *et al.*, *Time-Budgets and Activity Patterns of Captive Sunda Pangolins (Manis javanica)*, 31 ZOO BIOLOGY 206, 207 (2012).

<sup>8</sup> *Id.*

<sup>9</sup> Martha E. Heath, *Manis pentadactyla*, 414 MAMMALIAN SPECIES 1-6 (1992).

<sup>10</sup> L. Zhang *et al.*, *Current Status of Chinese Pangolin Manis pentadactyla in the Wild: A Rapid Range Wide Population Assessment* (in Chin Sing Yun & Sandrine Patel, *Proceedings of the Workshop on Trade and Conservation of Pangolins Native to South and Southeast Asia*, TRAFFIC Southeast Asia 103 (2009)).

## A. Chinese Pangolin (*Manis pentadactyla*)

As of 2013, the Chinese pangolin is now classified by the International Union for Conservation of Nature (“IUCN”) as “Critically Endangered,” with evidence indicating that it has been extirpated from substantial portions of its range due to trade and over-exploitation and is otherwise “in steep decline across most of its range.”<sup>11</sup> The IUCN estimates that over the species’ last three generations (21 years, generation length estimated at seven years), the Chinese pangolin has been heavily exploited for international trade. The IUCN further predicts that the Chinese pangolin will continue to decline at a rate of  $\leq 90\%$  over the next 21 years.<sup>12</sup>

The Chinese pangolin range extends from Nepal’s Himalayan foothills, southern Bhutan, northern India, western and northern Myanmar, to northern Laos and Vietnam, northwestern Thailand, and southern China, but the species has declined throughout much of this extensive range.<sup>13</sup> In 2010, it was estimated that the Chinese pangolin population in China ranged from 25,100 to 49,500, with populations in Guangdong and Hunan dropping as low as 10% compared to the population size estimated in 2002, and extirpation of populations from Hainan, Henan, and Jiangsu provinces.<sup>14</sup> Populations in Taiwan are thought to be greatly reduced today, and the subspecies (*M. p. pentadactyla*) is considered rare.<sup>15</sup> The species is very rare in Vietnam and populations have declined dramatically in the last two decades. Hunting of pangolins in Nepal for international trade also suggests populations are declining and continue to be subject to exploitative pressure.<sup>16</sup> Trade figures suggest this species is under severe hunting pressure in Northeast India.<sup>17</sup> The species is functionally extinct in Laos, with only a few records of individuals being sighted in recent years.<sup>18</sup>

## B. Sunda Pangolin (*Manis javanica*)

The Sunda pangolin is now classified by the IUCN as “Critically Endangered,” with evidence indicating that it is rapidly declining and is becoming increasingly rare due to trade and over-exploitation.<sup>19</sup> According to the IUCN, there have been “suspected declines of  $\leq 80\%$  over

---

<sup>11</sup> Daniel Challender *et al.*, *Manis Pentadactyla*, IUCN Red List of Threatened Species (2014).

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

<sup>14</sup> L. Zhang *et al.*, *Current Status of Chinese Pangolin Manis pentadactyla in the Wild: A Rapid Range Wide Population Assessment* (in Chin Sing Yun & Sandrine Patel, *Proceedings of the Workshop on Trade and Conservation of Pangolins Native to South and Southeast Asia*, TRAFFIC Southeast Asia 103 (2009)).

<sup>15</sup> Chao Jung-Tai, *Studies on the Conservation of the Formosan Pangolin (Manis pentadactyla pentadactyla)*, I. *General Biology and Current Status*, Division of Forest Biology, Taiwan Forestry Research Institute (1989); Chao *et al.*, *Formosan Pangolin Population and Habitat Viability Assessment: Final Report*, IUCN/SSC Conservation Breeding Specialist Group (2005).

<sup>16</sup> Daniel Challender *et al.*, *Time-Budgets and Activity Patterns of Captive Sunda Pangolins (Manis javanica)*, 31 ZOO BIOLOGY 206, 207 (2012).

<sup>17</sup> Misra & Hanfee, *Pangolin distribution and trade in East and Northeast India*, 14 TRAFFIC DISPATCHES 4-5 (2000); Daniel Challender *et al.*, *Time-Budgets and Activity Patterns of Captive Sunda Pangolins (Manis javanica)*, 31 ZOO BIOLOGY 206 (2012).

<sup>18</sup> John Duckworth *et al.*, *Wildlife in Lao PDR: 1999 Status Report* (1999).

<sup>19</sup> Daniel Challender *et al.*, *Manis Javanica*, IUCN Red List of Threatened Species (2014).

the last 21 years (generation length estimated at seven years), and projected continuing declines of  $\geq 80\%$  over the next 21 years” as hunting moves from the northern portion of the species’ range to the southern.<sup>20</sup> The magnitude of trade in Sunda pangolins – including individual seizures of up to 17 tons of Sunda pangolins between 2000 and 2013 – likely means that thousands of pangolins are being removed from the wild each year, a level that is unsupportable given the life history of this species.<sup>21</sup>

The Sunda pangolin occurs across mainland and island Southeast East Asia, from southern China and Myanmar, through Laos, Thailand, central and southern Vietnam, and Cambodia, to Peninsular Malaysia, Indonesia, and Borneo.<sup>22</sup> The Sunda pangolin is now extremely rare in the northern part of its range where there have been massive population declines due to trade.<sup>23</sup> In three areas of Vietnam where interviews were conducted, 95% of hunters there believed pangolins populations have declined severely – especially since 1990 when commercial trade in pangolins escalated.<sup>24</sup> The rarity of the Sunda pangolin in these areas has generally been corroborated.<sup>25</sup> The Sunda pangolin appears to be declining in parts of Laos as well, with recent reports indicating that populations had been reduced to one percent of the population level from 30 years ago.<sup>26</sup> The IUCN notes that populations also appear to be declining in many portions of Cambodia primarily due to hunting.<sup>27</sup> The species was described as common in Peninsular Malaysia up through 1999,<sup>28</sup> but appears to be decreasing due to hunting pressures for trade. The Sunda pangolin is considered threatened and is increasingly rare in Thailand.<sup>29</sup>

Sunda pangolin populations are believed to be declining rapidly in the species’ Indonesian range in Sumatra, Java, and Borneo.<sup>30</sup> In Sabah, *Manis javanica* has previously been considered relatively common, but populations are now under pressure from collection for both local use

---

<sup>20</sup> *Id.*

<sup>21</sup> *Id.*

<sup>22</sup> *Id.*

<sup>23</sup> Hanneke Nooren & Gordon Claridge, *Wildlife Trade in Laos: The End of the Game*, Netherlands Committee for IUCN (2001).

<sup>24</sup> Peter Newton *et al.*, *Pangolins in Peril: Using Local Hunters’ Knowledge to Conserve Elusive Species in Vietnam*, 6 ENDANGERED SPECIES RESEARCH 41-53 (2008).

<sup>25</sup> Rachel Nuwer & Diana Bell, *Identifying and Quantifying the Threats to Biodiversity in the U Minh Peat Swamp Forests of the Mekong Delta, Vietnam*, 5 ORYX FIRSTVIEW 1-7 (2013); Douglas MacMillan & Quoc Anh Nguyen, *Factors Influencing the Illegal Harvest of Wildlife by Trapping and Snaring Among the Katu Ethnic Group in Vietnam*, 5 ORYX FIRSTVIEW 1-9 (2013).

<sup>26</sup> John Duckworth *et al.*, *Wildlife in Lao PDR: 1999 Status Report* (1999); Hanneke Nooren & Gordon Claridge, *Wildlife Trade in Laos: The End of the Game*, Netherlands Committee for IUCN (2001).

<sup>27</sup> Daniel Challender *et al.*, *Manis javanica*, IUCN Red List of Threatened Species (2014).

<sup>28</sup> Kalan Ickes & Sean Thomas, *Native, Wild Pigs (Sus scrofa) at Pasoh and Their Impacts on the Plant Community* (2003) (in T. OKUDA, ECOLOGY OF THE LOWLAND RAIN FOREST IN SOUTHEAST ASIA 507-20 (2003)).

<sup>29</sup> James Bain & Stephen Humphrey, A PROFILE OF THE ENDANGERED SPECIES IN THAILAND 384 (1982).

<sup>30</sup> Daniel Challender, *Asian pangolins: Increasing affluence driving hunting pressure*, 23 TRAFFIC BULLETIN 92-93 (2011).

and international trade. A 2010 report indicates that over 22,000 pangolins were collected for trade in an 18-month period here between 2007 and 2009.<sup>31</sup>

### C. Philippine Pangolin (*Manis culionensis*)

The Philippine pangolin is endemic to the Palawan Islands in the Philippines and is found in primary and secondary forests and other mosaic habitats with sufficient vegetative cover.<sup>32</sup> The IUCN now classifies the species as “Endangered” due to suspected populations declines of >50% over a period of 21 years (three generations of seven years each) primarily driven by exploitation for international trade, as well as subsistence hunting and habitat loss.<sup>33</sup>

On April 8, 2013, a Chinese boat ran aground on a coral reef in the Philippines that contained approximately 10 tons of frozen pangolins in its hold.<sup>34</sup> This single seizure likely represented hundreds – possibly over 1000 – pangolins harvested from the wild. While the species of pangolin was not confirmed, given the location of where this ship was grounded, it is likely that this seizure was mostly, if not entirely, comprised of Philippine pangolins.

### D. Indian Pangolin (*Manis crassicaudata*)

The Indian pangolin is now classified by the IUCN as “Endangered;” trade of this species is rapidly increasing as populations of the remaining three Asian pangolin species collapses.<sup>35</sup> The species is classified as “Endangered” due to a predicted decline of > 50% over the next 21 years (three generations of seven years each). The Indian pangolin is also threatened by wide-scale habitat loss, habitat degradation, and fragmentation across most of its range, making it more vulnerable to illegal poaching.

The Indian pangolin is distributed across parts of eastern Pakistan through much of India, southern Nepal, Bangladesh, and Sri Lanka.<sup>36</sup> In Pakistan, the species was thought to be uncommon and is likely in decline.<sup>37</sup> Research in the Potohar Plateau area has documented rapid population declines to obtain pangolin scales for international trade.<sup>38</sup> The Indian pangolin was

---

<sup>31</sup> Sandrine Pantel & N.A. Anak, *A Preliminary Assessment of Pangolin Trade in Sabah*, TRAFFIC Southeast Asia, Petaling Jaya, Malaysia (2010).

<sup>32</sup> Jacob Esselstyn *et al.*, *The Mammals of Palawan Island*, Philippines, 117 PROCEEDINGS OF THE BIOLOGICAL SOCIETY OF WASHINGTON 271-302 (2004).

<sup>33</sup> Levita Lagrada *et al.*, *Manis culionensis*, IUCN Red List of Threatened Species (2014).

<sup>34</sup> Damian Carrington, *Chinese Vessel on Philippine Coral Reef Caught with Illegal Pangolin Meat*, THE GUARDIAN (April 15, 2013), <http://www.theguardian.com/environment/2013/apr/15/chinese-vessel-philippine-reef-illegal-pangolin-meat>; Joshua Lipes, *Chinese Fishing Crew Faces Poaching Charges*, RADIO FREE ASIA (April 16, 2013), <http://www.rfa.org/english/news/china/poaching-04162013183100.html>.

<sup>35</sup> Jonathan Baillie *et al.*, *Manis crassicaudata*, IUCN Red List of Threatened Species (2014).

<sup>36</sup> Chelmala Srinivasulu & Bhargavi Srinivasulu, *SOUTH ASIAN MAMMALS: THEIR DIVERSITY, DISTRIBUTION, AND STATUS* 100 (Springer, New York 2012).

<sup>37</sup> T.J. Roberts, *THE MAMMALS OF PAKISTAN* (Ernest Benn, London, UK 1977).

<sup>38</sup> T, Mahmood, *et al.*, *Illegal mass killing of Indian Pangolin (Manis crassicaudata) on Potohar Region, Pakistan*, 44 PAKISTAN JOURNAL OF ZOOLOGY 1457-1461 (2012).

described as rare in Bangladesh in the mid-1980s and likely only occurs in low numbers.<sup>39</sup> In Nepal, the species is found in protected areas, but its population in the country has not been assessed. The Indian pangolin is listed as Vulnerable in the Indian Red Data Book.<sup>40</sup> The Indian pangolin is described as uncommon in Sri Lanka.<sup>41</sup>

### E. African Pangolins

The conservation status of African species of pangolins is far less well known than those in Asia; however, available information indicates that the status of African pangolins has declined in recent years. Seizures of African pangolins in Asia evidence an increasing international trade of African pangolins to Asia.<sup>42</sup> Since 2008, seizures of African pangolins have been reported in Asia and Europe, with China as one of the purported final destinations.<sup>43</sup> The IUCN has noted that, “[a]s syndicates smuggling pangolins . . . from Africa to Asia become ever more sophisticated it is highly probable that African pangolin species will become more important as source populations for the Asian markets.”<sup>44</sup> While seized pangolins and pangolin parts are often not identified to the species level, Temminck’s ground pangolin, giant pangolin, and tree or white-bellied pangolin have all been identified in seizures between 2000 and 2012.<sup>45</sup>

The Temminck’s ground pangolin (*Manis temminckii*) is the most widespread of the African species. Its range extends from southeastern Chad through South Sudan, most of East African and southern African, and as far south as the Northern Cape of South Africa.<sup>46</sup> The Temminck’s ground pangolin was listed as endangered under the ESA in 1976.<sup>47</sup> The Service listed the Temminck’s ground pangolin, along with 158 other species, because the pangolin was then-listed on Appendix I of the Convention on International Trade in Endangered Species (“CITES”).<sup>48</sup> Unfortunately, despite these protections, the Temminck’s ground pangolin is in decline due to increasing demand.<sup>49</sup> The IUCN estimates an inferred past, ongoing, and projected future population reduction of 30-40% over a 27 year period (three generations of nine years each) due to illegal trade to Asia and the bushmeat trade.<sup>50</sup> Since 2010, there has been an increase in Temminck’s ground pangolin seizures. There were at least 79 confiscations in southern Africa between 2010 and 2013, with many occurring in ports and other areas suggesting that some ground pangolins were being exported for international trade to foreign consumers.<sup>51</sup>

---

<sup>39</sup> Mohammad Ali Reza Khan, MAMMALS OF BANGLADESH: A FIELD GUIDE (1985).

<sup>40</sup> Benoy Krishna Tikader, THREATENED ANIMALS OF INDIA (1983).

<sup>41</sup> William Watt Addison Phillips, MANUAL OF THE MAMMALS OF SRI LANKA (1981).

<sup>42</sup> Daniel Challender & Lisa Hywood, *African Pangolins Under Increased Pressure from Poaching and Intercontinental Trade*, 24 TRAFFIC BULLETIN 53-55 (2012).

<sup>43</sup> *Id.* at 54.

<sup>44</sup> Darren Pietersen *et al.*, *Smutsia temminckii*, IUCN Red List of Threatened Species (2014).

<sup>45</sup> Daniel Challender & Lisa Hywood, *African Pangolins Under Increased Pressure from Poaching and Intercontinental Trade*, 24 Traffic Bulletin 53-55 (2012).

<sup>46</sup> *Id.*

<sup>47</sup> 41 Fed. Reg. 21,062 (June 14, 1976); 50 C.F.R. § 17.11.

<sup>48</sup> Temminck’s ground pangolin was listed under Appendix I of CITES in 1975 but was later downlisted to Appendix II.

<sup>49</sup> Darren Pietersen *et al.*, *Smutsia temminckii*, IUCN Red List of Threatened Species (2014).

<sup>50</sup> *Id.*

<sup>51</sup> *Id.*

The IUCN recently reclassified the giant pangolin (*Manis gigantea*) from “Near Threatened” to “Vulnerable,” largely due to the impact of bushmeat hunting and increased international trade.<sup>52</sup> This species is predicted to decline >40% over a 27-year period (three generations of nine years each). The giant pangolin’s range extends from Senegal through Guinea, Sierra Leone, Liberia, Cote d’Ivoire, and Ghana.<sup>53</sup> The giant pangolin is threatened by increasing demand for pangolin in Asia, with international trade in giant pangolin documented in 2012.<sup>54</sup>

The IUCN recently reclassified the tree pangolin (*Manis tricuspis*) from “Near Threatened” to “Vulnerable” based on current and projected declines of at least 40% over a 21-year period (three generations of seven years each) due mainly to the bushmeat trade and an increased international trade.<sup>55</sup> The tree pangolin’s range spreads from Guinea-Bissau through Guinea, Sierra Leone, most of West and Central Africa, and as far south as northwestern Zambia.<sup>56</sup> The tree pangolin is subject to exploitation throughout its range as well as growing evidence of international trade to Asian markets.<sup>57</sup> In 2011, 100 tree pangolins were seized en route to Thailand from Guinea.<sup>58</sup>

The IUCN recently reclassified the long-tailed pangolin (*Manis tetradactyla*) from “Least Concern” to “Vulnerable” based on current and projected declines of at least 40% over a 21 year period (three generations of seven years each) due mainly to the bushmeat trade and an increased international trade.<sup>59</sup> The long-tailed pangolin inhabits forested regions from Sierra Leone through southeastern Guinea, Liberia, Cote d’Ivoire, and southwest Ghana.<sup>60</sup> As with the other species of African pangolin, the long-tailed pangolin is threatened by local hunting and increasing international trade.<sup>61</sup>

## **II. Threats to Pangolins from International Trade**

Both trade data and anecdotal seizure information clearly show that the eight pangolin species are over-utilized and threatened by international trade. As demonstrated below, demand is growing for pangolin meat and scales, which are used in traditional East Asian medicine. Scientists estimate *one million* pangolins have been taken from the wild in the last decade to service this demand,<sup>62</sup> and between 100,000 and 135,000 pangolins a year may be needed to

---

<sup>52</sup> Carly Waterman *et al.*, *Smutsia Gigantea*, IUCN Red List of Threatened Species (2014).

<sup>53</sup> *Id.*

<sup>54</sup> *Id.*

<sup>55</sup> Carly Waterman *et al.*, *Phataginus tricuspis*, IUCN Red List of Threatened Species (2014).

<sup>56</sup> *Id.*

<sup>57</sup> *Id.*

<sup>58</sup> Daniel Challender & Lisa Hywood, *African Pangolins Under Increased Pressure from Poaching and Intercontinental Trade*, 24 TRAFFIC BULLETIN 53-55 (2012).

<sup>59</sup> Carly Waterman *et al.*, *Phataginus tetradactyla*, IUCN Red List of Threatened Species (2014).

<sup>60</sup> *Id.*

<sup>61</sup> *Id.*

<sup>62</sup> Daniel Challender *et al.*, *Scaling up Pangolin Conservation: IUCN SSC Pangolin Specialist Group Conservation Action Plan*, IUCN SPECIES SURVIVAL COMM’N (Pangolin Specialist Group, London, Eng.) 4 (July 2014).

meet the demand in China alone.<sup>63</sup> Increased oversight of the international and domestic trade in pangolin parts and products is needed to bring the species back from the brink of extinction.

Specifically, pangolin trade occurs mainly to meet demand for meat and pangolin scales in East Asia and East Asian communities abroad. Pangolin meat is considered a delicacy and is available on menus in China and Vietnam.<sup>64</sup> Market surveys by TRAFFIC in five South China cities (Kunming, Nanning, Fuzhou, Guangzhou, and Haikou) showed that 18% of restaurants claimed to serve pangolin meat at an average price of \$175 per kg.<sup>65</sup> Pangolin scales are used in traditional medicine and are believed to cure a variety of ailments, including dispersing congealed blood, promoting menstruation and lactation, reducing swelling and promoting discharge and pus, and dispelling pain from stiffness.<sup>66</sup>

In recent years, “[d]emand for pangolin products is soaring in Asia, fuelled by rapid economic growth.”<sup>67</sup> Pangolin scales are currently reportedly worth USD \$600 per kilogram, twice what they were in 2008.<sup>68</sup> The price of live pangolins has also increased rapidly, from USD \$12 per kilogram in the early 1990s to USD \$171 per kilogram by the late 2000s.<sup>69</sup>

---

<sup>63</sup> Wu, S. B. & G. Z. Ma, *The status and conservation of pangolins in China* (2007). TRAFFIC East Asia Newsletter 4: 1-5.

<sup>64</sup> Daniel Challender *et al.*, *Scaling up Pangolin Conservation: IUCN SSC Pangolin Specialist Group Conservation Action Plan*, IUCN SPECIES SURVIVAL COMM’N (Pangolin Specialist Group, London, Eng.) 4 (July 2014).

<sup>65</sup> Xu Ling, *The Pangolin Trade in China, Proceedings of the Workshop on Trade and Conservation of Pangolins Native to South and Southeast Asia* (2010) (in Chin Sing Yun & Sandrine Patel, *Proceedings of the Workshop on Trade and Conservation of Pangolins Native to South and Southeast Asia*, TRAFFIC SOUTHEAST ASIA 189-93 (2009)).

<sup>66</sup> Andrea Gaski *et al.*, *Prescription for Extinction: Endangered Species and Patented Oriental Medicines in Trade (Species in Danger)* 43 (1994); *see also* HelloTcm, Pangolin Scales, <http://www.hellotcm.com/Herb/herb186.shtml> (describing alleged medicinal properties of pangolin scales on a website devoted to traditional Chinese medicine).

<sup>67</sup> Zhou *et al.*, *Scaling up Pangolin Protection in China*, 12 FRONTIERS IN ECOLOGY & ENVIRONMENT 97-98 (2014).

<sup>68</sup> *Id.* But *see* Xu Ling, *The Pangolin Trade in China, Proceedings of the Workshop on Trade and Conservation of Pangolins Native to South and Southeast Asia* (2010) (in Chin Sing Yun & Sandrine Patel, *Proceedings of the Workshop on Trade and Conservation of Pangolins Native to South and Southeast Asia*, TRAFFIC SOUTHEAST ASIA 189-93 (2009)) (noting prices of scales in 2009 to be \$132-175 per kilogram).

<sup>69</sup> Xu Ling, *The Pangolin Trade in China, Proceedings of the Workshop on Trade and Conservation of Pangolins Native to South and Southeast Asia* (2010) (in Chin Sing Yun & Sandrine Patel, *Proceedings of the Workshop on Trade and Conservation of Pangolins Native to South and Southeast Asia*, TRAFFIC SOUTHEAST ASIA 189-93 (2009)); Wu *et al.*, *A New Record of Mammalia in China – Manis javanica*, 30 ACTA ZOOTOXONOMICA SINICA 440-43 (2005).

## A. The Legal Pangolin Trade

According to the UNEP-WCMC CITES Trade Database, there is a significant legal, international trade in all pangolin species.<sup>70</sup> Between 1975 and the 1990s, the primary trade in pangolins was in the form of skins, shoes, and leather products.<sup>71</sup> During this period, the United States was regarded as the largest importer of pangolin leather, with imports of pangolin leather to other countries “negligible by comparison.”<sup>72</sup> However, in the 1990s, there was a substantial increase in trade in pangolin derivatives and scales, as well as increased trade for “medical” purposes.<sup>73</sup>

While commercial export of wild-caught Asian pangolin species has been prohibited by CITES since 2000,<sup>74</sup> commercial trade in African species continues, and a substantial trade in all pangolins for “personal” and “medicinal” purposes is ongoing.<sup>75</sup> Many countries within the range of the eight species of pangolin have become exporters of pangolin species, including China, Vietnam, Malaysia, Togo, Senegal, Gabon, Namibia, and Central African Republic.<sup>76</sup> In recent years, major importers of pangolin scales, derivatives, and medicine include the United States, Hong Kong, China, Vietnam, and Thailand.<sup>77</sup>

In fact, the United States appears to remain a primary importer of legal pangolin products. The CITES trade database documents pangolin imports into the United States since 1979, showing a total of 12,569 pangolin unit imports to the United States between 1979 and 2013, 3375 of which occurred between 2010 and 2013, with imports steadily increasing since 2008.<sup>78</sup> In 2013 alone, 13 of 28 shipments reported in the CITES trade database were imported into the United States, and the majority of these shipments were scales or derivatives imported for “personal” purposes.<sup>79</sup>

---

<sup>70</sup> See Annex A: UNEP-WCMC CITES Trade Database for Manis 1979-2013, derived from: UNEP-WCMC *CITES Trade Database Comparative Tabulation Report*, <http://trade.cites.org/#> (to access data, select search by taxon, and then search by genus “manis”) (last visited May 18, 2015).

<sup>71</sup> *Id.*

<sup>72</sup> Proposition 11.13, *Transfer of Manis crasicaudata, M. pentadactyla, M. javanica from Appendix II to Appendix I*, proposal for amendment to appendices I & II, Convention on Int’l Trade in Endangered Species, Eleventh Conference of the Parties 1 (April 10-20, 2000).

<sup>73</sup> See Annex A.

<sup>74</sup> Pursuant to CITES, all Asian pangolins are subject to zero export quota “for specimens removed from the wild and traded for primarily commercial purposes.” CITES Appendix II. Available at: <http://www.cites.org/eng/app/appendices.php> (last visited May 19, 2015); CITES (2000b); Amendments to Appendices I and II of the Convention adopted by the Conference of the Parties at its 11th meeting in Gigiri, Kenya, from 10 to 20 April 2000.

<sup>75</sup> See Annex A.

<sup>76</sup> *Id.*

<sup>77</sup> *Id.* Petitioners note that some of these imports may have been confiscated. However, the data indicates that, at the very least, a substantial market for pangolin parts exists in the United States.

<sup>78</sup> *Id.*

<sup>79</sup> *Id.*

Further, a 2015 report produced by Petitioner Humane Society International (“HSI”) revealed the broad availability of pangolin products in the United States.<sup>80</sup> Many of these products, like the “Armadillo Counter Poison Pill,” are produced in China and are available both online and in brick-and-mortar stores, and many of these products do not specify which species of pangolin is being sold.<sup>81</sup> Pangolin has been seen for sale in California supermarkets.<sup>82</sup>

## **B. The Illegal Pangolin Trade**

While legal international trade can be monitored via the UNEP-WCMC CITES Trade Database, illegal trade is more difficult to precisely quantify. However, documented seizures and other anecdotal evidence suggest this illicit trade is on the rise, prompting the IUCN to label the pangolin “the most heavily trafficked wild mammal in the world.”<sup>83</sup>

Specifically, over the past decade, there has been substantial and growing numbers of seizures of pangolins and pangolin parts. A workshop held by TRAFFIC in 2009 revealed massive confiscations in several East Asian nations. Presenters estimated that 49,662 pangolins were smuggled from Indonesia between 2002 and 2008.<sup>84</sup> In Thailand, border officials seized 7,734 pangolins between 2003 and June 2008.<sup>85</sup> There were two large seizures of the Sunda pangolin in Vietnam in 2008 comprising a total of 23 tons of frozen pangolin meat and scales and a seizure in Sumatra, Indonesia in 2008 consisting of 14 tons of frozen pangolins.<sup>86</sup> In 2009, Malaysian authorities caught two men attempting to sell 130 pangolins.<sup>87</sup>

The TRAFFIC workshop also documented a distinct rise in seizures of pangolins and pangolin scales in China between 2005 and 2008:

In 2005, 10 seizures were recorded for a total of 629 pangolins and 469 kg of scales; in 2006, the number of seizures and the volume of confiscated products increased sharply to 25 seizures, with a total of 4534 pangolins and 1938 kg of scales. In May 2006, the Xiamen Customs seized 2849 pangolins, smuggled

---

<sup>80</sup> See Humane Society International, *Pangolin Products Available Online in the United States* (Feb. 6, 2015). Available at: [www.hsi.org/assets/pangolin\\_products\\_available.pdf](http://www.hsi.org/assets/pangolin_products_available.pdf) (last visited May 21, 2015).

<sup>81</sup> *Id.*

<sup>82</sup> *Pangolins: The World’s Most Trafficked Wild Mammal*, <http://www.wildaid.org/program/pangolins> (last visited March 18, 2015).

<sup>83</sup> Daniel Challender *et al.*, *Scaling up Pangolin Conservation: IUCN SSC Pangolin Specialist Group Conservation Action Plan*, IUCN SPECIES SURVIVAL COMM’N (Pangolin Specialist Group, London, Eng.) 4 (July 2014).

<sup>84</sup> Gono Semiadi, Dedy Darnaedi, & Ahmad Jauhar Arief, *Sunda Pangolin Manis javanica Conservation in Indonesia: Status & Problems* (in Chin Sing Yun & Sandrine Patel, *Proceedings of the Workshop on Trade and Conservation of Pangolins Native to South and Southeast Asia*, TRAFFIC SOUTHEAST ASIA 12 (2009)).

<sup>85</sup> Ronasit Maneesai & Pol. Col. Subsak Chavalviwat, *Issues and Challenges of Pangolin Enforcement in Thailand* (in Chin Sing Yun & Sandrine Patel, *Proceedings of the Workshop on Trade and Conservation of Pangolins Native to South and Southeast Asia*, TRAFFIC SOUTHEAST ASIA 49 (2009)).

<sup>86</sup> Chin Sing Yun & Sandrine Patel, *Proceedings of the Workshop on Trade and Conservation of Pangolins Native to South and Southeast Asia*, TRAFFIC SOUTHEAST ASIA 143-62 (2009).

<sup>87</sup> *Id.* at 143.

from Indonesia and Malaysia. In 2007, although the volume of seized pangolins decreased, more than 4000 kg of scales were confiscated. This year [2008], up to now, there have already been 14 seizures, for a total of 534 pangolins and over 2000 kg of scales.<sup>88</sup>

More recent reports of seizures confirm the illegal pangolin trade continues. For example, in 2014, several incidents were reported in the media. In January 2014, the Nepali police arrested a woman for attempting to smuggle 14 kg of pangolin scales hidden in a sack of dried fish across the border to Tibet. Also in January, in Dandeli, India, forest officials seized two kilograms of pangolin scales. In late March, authorities arrested two smugglers in Imphal, Manipur that were transporting 18.3 kg of pangolin scales. On March 31, Pakistan customs officials seized 145 kg of pangolin scales at Benazir Bhutto International Airport, Islamabad, Pakistan.

Historically, African pangolins were primarily threatened by excessive hunting and habitat loss.<sup>89</sup> However, as Asian pangolin populations have declined sharply and are subject to CITES zero export quotas, traders have turned to the African pangolin species to meet market demand.<sup>90</sup> Anecdotal information, such as the increasing frequency of African pangolin seizures in Asia,<sup>91</sup> demonstrates that pangolin poaching is rapidly rising in Africa for intercontinental trade to Asian markets.<sup>92</sup> As recently as May 18, 2015, a major bust at the Shanghai airport revealed a whopping 248 kg of pangolin scales being smuggled from Africa.<sup>93</sup>

After reviewing recent confiscations, at the 65<sup>th</sup> meeting of the Standing Committee of CITES in July, 2014, the CITES Secretariat reported: “Information received by the Secretariat suggests that the illegal trade in pangolin specimens is escalating at an alarming rate.”<sup>94</sup> All pangolin species are currently subjected to unsustainable trade, and it is imperative to extend ESA protection to the unlisted seven species in order to ensure that trade in the listed Temminck’s ground pangolin is effectively prohibited.

---

<sup>88</sup> Xu Ling, *The Pangolin Trade in China, Proceedings of the Workshop on Trade and Conservation of Pangolins Native to South and Southeast Asia* (2010) (in Chin Sing Yun & Sandrine Patel, *Proceedings of the Workshop on Trade and Conservation of Pangolins Native to South and Southeast Asia*, TRAFFIC SOUTHEAST ASIA 189-93 (2009).

<sup>89</sup> Pangolin Specialist Group, *Threats*, <http://www.pangolinsg.org/pangolins/> (last visited March 19, 2015).

<sup>90</sup> Daniel Challender *et al.*, *Scaling Up Pangolin Conservation*, IUCN SSC Pangolin Specialist Group Conservation Action Plan (2014), at 4.

<sup>91</sup> Daniel Challender & Lisa Hywood, *African Pangolins Under Increased Pressure from Poaching and Intercontinental Trade*, 24 TRAFFIC BULLETIN 53-55 (2012).

<sup>92</sup> Pangolin Specialist Group, *Threats*, <http://www.pangolinsg.org/pangolins/> (last visited March 19, 2015).

<sup>93</sup> Yao Lan, *Shanghai seizes 249 kg of pangolin scales smuggled from Africa*, Ecns.cn (May 19, 2015). Available at: <http://www.ecns.cn/m/visual/hd/2015/05-19/66263.shtml> (last visited May 19, 2015).

<sup>94</sup> CITES SC65 Doc. 27. 2014. Report of the CITES Secretariat on enforcement matters. <http://cites.org/sites/default/files/eng/com/sc/65/E-SC65-27-01.pdf>.

### **III. Protection of the Currently Unlisted Pangolin Species Under the ESA’s Similarity of Appearance Provision**

Under Section 4(e) of the Endangered Species Act, the Service may protect any species as endangered or threatened when its appearance is similar to an already-listed species, and the listed species would benefit from the protection of the other similar-appearing species.<sup>95</sup> To qualify for listing, the Secretary must first find that a species so closely resembles in appearance, at the point in question, an already-listed species that enforcement personnel would have substantial difficulty in attempting to differentiate between the listed and unlisted species. Second, the substantial difficulty in attempting to differentiate between the listed and unlisted species must pose an additional threat to the listed species. Finally, such treatment of an unlisted species must substantially facilitate the enforcement and further policy of the ESA.<sup>96</sup>

As described below, the seven unlisted pangolin species closely resemble the ESA-listed Temminck’s Ground Pangolin, particularly in their most commonly-traded form of scales and powdered derivatives. Such similarity of appearance makes it difficult for enforcement officials to differentiate between the listed and unlisted pangolins, creating a substantial risk that the United States is importing endangered Temminck’s Ground Pangolin, thereby stimulating the take and trade of pangolins in their home ranges. By listing the seven pangolin species under ESA Section 4(e)’s similarity of appearance section, the Service would substantially facilitate protection of the Temminck’s Ground Pangolin, as intended by the ESA.

#### **1. The Seven Pangolin Species Closely Resemble the Temminck’s Ground Pangolin**

Under the first prong of ESA Section 4(e), the seven unlisted pangolin species closely resemble the listed Temminck’s ground pangolin at the point of import.<sup>97</sup> Distinguishing between different pangolin species is a substantial challenge in regulating the trade in pangolins.<sup>98</sup> Even when the body is intact, pangolins generally look similar, as pangolins are all share the same color and shape. Although the various pangolin species vary in size, because young and immature animals are also collected, it can be difficult to distinguish a juvenile of the larger species from an adult of the smaller species.

More importantly, once the scales of pangolins have been removed from the dead animals, it is extremely difficult to differentiate between pangolin species.<sup>99</sup> Pangolins are most often traded in the form of scales.<sup>100</sup> However, pangolin scales contain few distinct morphological features, which “make[s] it difficult to positively identify a protected species

---

<sup>95</sup> 16 U.S.C. § 1533(e).

<sup>96</sup> *Id.*

<sup>97</sup> *Id.* (listing under 4(e) appropriate if “such species so closely resembles in appearance, at the point in question, a species which has been listed pursuant such section that enforcement personnel would have substantial difficulty in attempting to differentiate between the listed and unlisted species”).

<sup>98</sup> Daniel Challender, *Asian Pangolins: Increasing Affluence Driving Hunting Pressure*, 23 TRAFFIC BULLETIN 92 (2011) (noting “the difficulty in distinguishing between different species, particularly when dealing solely with scales”).

<sup>99</sup> *Id.*

<sup>100</sup> Zhou *et al.*, *Scaling up Pangolin Protection in China*, 12 FRONTIERS IN ECOLOGY & ENVIRONMENT 97-98 (2014).

visually.”<sup>101</sup> Scale derivatives, such as powdered scales, are even more difficult to distinguish, as any distinguishing characteristics are removed in processing. Thus, it is extremely difficult for non-experts to determine the species of specimens in trade in their most commonly traded forms: loose and powdered scales. Only through DNA analysis can scales be identified at the species level, and DNA profiles for each species are still being developed.<sup>102</sup>

In fact, in 1994, the African pangolin species were added to Appendix II of CITES, in part, because “there is a problem of distinguishing parts and derivatives from all *Manis* species,” including distinguishing African species from already-CITES-listed Asian pangolin species.<sup>103</sup> Both the CITES Secretariat and the Animals Committee noted that the “‘look-alike’ problem” between species’ scales hindered effective regulation of international trade in the species.<sup>104</sup>

### Examples of Loose Pangolin Scales:



Source: National Geographic



Source: ECVV.com



Source: manufacturer.com



Source: hellotcm.com

<sup>101</sup> Hsieh et al., *Establishing the Pangolin Mitochondrial D-Loop Sequences from the Confiscated Scales*, 5 FORENSIC SCIENCE INTERNATIONAL: GENETICS 303-307 (2011).

<sup>102</sup> *Id.*

<sup>103</sup> CITES, Doc. 9.47 (Annex 3) *Consideration of Proposals for Amendment of Appendices I and II. Recommendations from the CITES Secretariat* (1994).

<sup>104</sup> CITES, Proposals 7–8. *Transfer from Appendix I to Appendix II of *Manis temminckii* and inclusion of *Manis gigantea*, *Manis tetradactyla* and *Manis tricuspis* in Appendix II. Amendments to Appendices I and II of the Convention*. CITES Secretariat (1994); see also CITES, Doc. 9.47 (Secretariat noting that “the nature of the trade in pangolins (scales and other parts) makes it more difficult to control the international trade”).



Source: wildaid.org



Source: eia-international.org

The Service has listed multiple species under the ESA’s similarity of appearance section based on comparable levels of similarity. For example, the Service protected the shovelnose sturgeon (*Scaphirhynchus platyrhynchus*) because of its similarity to the federally-endangered pallid sturgeon (*Scaphirhynchus albus*). These two species are similar in appearance, so much so that fishermen and fish biologists struggle to distinguish between the species, and the Service determined this similarity was adequate to show that enforcement personnel cannot distinguish between the two fish species.<sup>105</sup>

Likewise, before the southern white rhino was listed in 2014 pursuant to Section 4(e), five federally listed rhino species faced a similar problem to the ground pangolin. Like the seven unlisted pangolin species, the southern white rhino’s similarity of appearance with the endangered rhino species caused substantial difficulty for enforcement personnel in distinguishing between listed and unlisted species. Similar to the unlisted pangolins, the southern white rhino is commonly traded in the form of horns, parts, and other products, and accordingly, the Service listed the southern white rhino as threatened under Section 4(e).<sup>106</sup> The Section 4(e) listing was primarily justified because “differentiating between the horns and other products made from the southern white rhino and endangered [rhino species] is difficult for law enforcement to determine without genetic testing, decreasing their ability to enforce and further the provisions and policies of the Act.”<sup>107</sup>

The seven unlisted pangolin species so closely resemble the Temminck’s ground pangolin that enforcement personnel would have substantial difficulty in differentiating between the Temminck’s ground pangolin and the unlisted species.

## **2. The Similarity of the Pangolin Species Represents an Additional Threat to the Temminck’s Ground Pangolin**

Under the second prong of ESA Section 4(e), the seven pangolin species’ similarity of appearance to the Temminck’s ground pangolin presents an additional threat to the Temminck’s ground pangolin.<sup>108</sup> As noted above, the CITES Animals Committee concluded that the

<sup>105</sup> *Ill. Comm. Fishing Assn v. Salazar*, 867 F. Supp. 2d 108, 115 (D.D.C. 2012).

<sup>106</sup> 79 Fed. Reg. 28,847 (May 20, 2014).

<sup>107</sup> *Id.*; see also Interim Rule, 78 Fed. Reg. 55,649, 55,654 (Sept. 11, 2013).

<sup>108</sup> 16 U.S.C. § 1533(e)(B) (“the effect of th[e] substantial difficulty [in differentiating between species] is an additional threat to an endangered or threatened species”).

similarity in appearance between pangolin scales creates a “‘look-alike’ problem which influence[s] effective regulation of international trade in the species.”<sup>109</sup> Enforcement personnel’s substantial difficulty in differentiating between the Temminck’s ground pangolin and the unlisted species allows poachers and smugglers to take and export the endangered pangolin to the United States without consequence, rendering the existing ban on import of Temminck’s ground pangolin futile in the face of species-wide pangolin import and trade.<sup>110</sup>

Increased international trade of the ground pangolin continues to grow despite CITES Appendix II listing of all pangolin species and the Temminck’s ground pangolin’s ESA endangered listing, indicating that existing legal protection is insufficient to protect the Temminck’s ground pangolin. This growing threat to the Temminck’s pangolin directly results from the seven unlisted pangolin’s close resemblance and enforcement personnel’s inability to distinguish between it and other pangolin specimens in trade (“the point in question”).<sup>111</sup>

### **3. Protecting All Pangolin Species Will Facilitate Enforcement and Further the Policy Objectives of the Endangered Species Act**

Finally, under the ESA Section 1533(e)’s third prong, treatment of the unlisted pangolin species as endangered will help to conserve the endangered Temminck’s ground pangolin and the seven other pangolins in furtherance of the ESA’s policy objectives.<sup>112</sup> A prohibition on the import and interstate trade of the Chinese pangolin, Sunda pangolin, Indian pangolin, Philippine pangolin, long-tailed pangolin, tree pangolin, and giant pangolin would substantially advance law-enforcement efforts to protect the Temminck’s ground pangolin by eliminating law enforcement’s difficulty in distinguishing between the species, thus ensuring the ESA’s ban on import and trade of Temminck’s ground pangolin is fully enforced. Designating the unlisted pangolin species as endangered will hold accountable those who might otherwise continue the illegal trade in pangolins. As detailed above, African pangolins, including the Temminck’s ground pangolin, are increasingly at risk, as Asian pangolin specimens are being depleted and demand for pangolins is being met by African pangolin species.

Additionally, CITES Article VIII requires Parties, including the United States, to take “appropriate measures” to enforce its provisions, including measures to penalize trade or possession of protected specimens and to confiscate such specimens.<sup>113</sup> The CITES provisions have been incorporated into the ESA.<sup>114</sup> Listing all seven non-listed pangolins as endangered under the ESA will fulfill the intent of this requirement by providing additional and heightened

---

<sup>109</sup> *Transfer from Appendix I to Appendix II of Manis temminckii and Inclusion of Manis gigantea, Manis tetradactyla, and Manis tricuspis in Appendix II*, proposal for amendment to appendices I & II, Convention on Int’l Trade in Endangered Species, Ninth Conference of the Parties 13 (Nov. 7-18 1994) (discussing the Animals Committee’s 1993 meeting in Brussels to discuss international trade in pangolins).

<sup>110</sup> See *Ill. Comm. Fishing*, 867 F. Supp. 2d at 115-16 (describing the inability to effectively enforce the ban as rendering the ban futile); 16 U.S.C. § 1538(a)(1)(A) (banning import of endangered species).

<sup>111</sup> 16 U.S.C. § 1533(e)(4)(A).

<sup>112</sup> 16 U.S.C. § 1533(e)(C).

<sup>113</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora, art. 8, March 3, 1973; 50 C.F.R. § 23.78.

<sup>114</sup> See 16 U.S.C. § 1537(A).

scrutiny during import. Lastly, listing all pangolin species will bring public attention to the pangolins' plight and potentially foster additional support for the Temminck's ground pangolin's protection.

#### IV. Conclusion

All eight species of pangolin are in danger of extinction from the growing international trade in the species' scales and meat. Scientists estimate one million pangolins have been taken from the wild in the last decade to service this demand,<sup>115</sup> and if trade is not controlled, pangolins may become extinct. Yet despite the pangolins' declining statuses, substantial legal trade in pangolin and pangolin parts remains, and a substantial market for pangolin parts exists in the United States.<sup>116</sup> In addition to legal trade, illicit trade in pangolins is increasing.<sup>117</sup>

The Service has listed the Temminck's Ground Pangolin as endangered since 1976 and thus import and interstate trade in the species is prohibited by the ESA.<sup>118</sup> However, because the eight pangolin species are extremely difficult to distinguish, particularly in their commonly-traded form of detached scales and powders, there is a substantial risk the United States is allowing the import and trade of Temminck's Ground Pangolin, in violation of the ESA.

Accordingly, this petition requests that the Service list the seven currently unlisted pangolin species – the Chinese pangolin (*Manis pentadactyla*), Sunda pangolin (*Manis javanica*), Indian pangolin (*Manis crassicaudata*), Philippine pangolin (*Manis culionensis*), long-tailed pangolin (*Manis tetradactyla*), tree pangolin (*Manis tricuspis*), and giant pangolin (*Manis gigantea*) – as Endangered under Section 4(e) of the ESA for their similarity of appearance to the endangered Temminck's ground pangolin (*Manis temminckii*).<sup>119</sup> The species' close resemblance at the point of trade makes it difficult for enforcement officials to differentiate between the listed and unlisted pangolins. By listing the seven pangolin species under ESA Section 4(e)'s similarity of appearance section, the Service would substantially facilitate protection of the Temminck's Ground Pangolin, as intended by the ESA.

Finally, Petitioners have also filed a separate petition requesting that the Service list the seven species as endangered pursuant to ESA Section 4(a). As demonstrated in that petition, all pangolin species are "in danger of extinction" due to over-utilization, habitat destruction, and inadequate regulatory mechanisms.<sup>120</sup> However, the unlisted pangolin species and the already-listed Temminck's ground pangolin could suffer further precipitous decline while a comprehensive status review is conducted in response the 4(a) petition. Accordingly, Petitioners

---

<sup>115</sup> Daniel Challender *et al.*, *Scaling up Pangolin Conservation: IUCN SSC Pangolin Specialist Group Conservation Action Plan*, IUCN SPECIES SURVIVAL COMM'N (Pangolin Specialist Group, London, Eng.), July 2014, at 4.

<sup>116</sup> See Annex A.

<sup>117</sup> CITES SC65 Doc. 27. 2014. Report of the CITES Secretariat on enforcement matters.

<http://cites.org/sites/default/files/eng/com/sc/65/E-SC65-27-01.pdf>.

<sup>118</sup> 41 Fed. Reg. 21,062 (June 14, 1976); 50 C.F.R. § 17.11.

<sup>119</sup> 16 U.S.C. § 1533(e).

<sup>120</sup> 16 U.S.C §§ 1532(6); 1533(a).

request that the Service act quickly to list the seven species under ESA Section 4(e), so the species may be provided at least interim protection.

**V. Proposed Regulatory Language**

§ 17.11 Endangered and threatened wildlife.

\* \* \* \* \*

(h) \* \* \*

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Species rules
Common name	Scientific name						
MAMMALS	*	*	*	*	*	*	*
Pangolin, Chinese	<i>Manis pentadactyla</i>	Bhutan; China; Hong Kong; India; Lao People's Democratic Republic; Myanmar; Nepal; Taiwan, Province of China; Thailand; Viet Nam	Entire.....	E(S/A)	*	*	*
Pangolin, Giant	<i>Manis gigantea</i>	Cameroon; Central African Republic; Congo; Congo, The Democratic Republic of the; Côte d'Ivoire; Equatorial Guinea (Bioko, Equatorial Guinea (mainland)); Gabon; Ghana; Guinea; Guinea-Bissau; Liberia; Senegal; Sierra Leone; Tanzania, United Republic of; Uganda	Entire.....	E(S/A)	*	*	*
Pangolin, Indian	<i>Manis crassicaudata</i>	India; Nepal; Pakistan; Sri Lanka	Entire.....	E(S/A)	*	*	*
Pangolin, Long-Tailed	<i>Manis tetradactyla</i>	Cameroon; Central African Republic; Congo; Congo, The Democratic Republic of the; Côte d'Ivoire; Equatorial Guinea (Equatorial Guinea (mainland)); Gabon; Ghana; Liberia; Nigeria; Sierra Leone	Entire.....	E(S/A)	*	*	*
Pangolin, Philippine	<i>Manis culionensis</i>	Philippines	Entire.....	E(S/A)	*	*	*
Pangolin, Sunda	<i>Manis javanica</i>	Brunei Darussalam; Cambodia; Indonesia; Lao People's Democratic Republic; Malaysia; Myanmar; Singapore; Thailand; Viet Nam	Entire.....	E(S/A)	*	*	*
Pangolin, Tree	<i>Manis tricuspis</i>	Angola (Angola); Benin; Cameroon; Central African Republic; Congo; Congo, The Democratic Republic of the; Côte d'Ivoire; Equatorial Guinea (Bioko, Equatorial Guinea (mainland)); Gabon; Ghana; Guinea; Guinea-Bissau; Kenya; Liberia; Nigeria; Rwanda; Sierra Leone; South Sudan; Tanzania, United Republic of; Togo; Uganda; Zambia	Entire.....	E(S/A)	*	*	*