

# 90-DAY FINDING PETITION REVIEW FORM

## LISTING AS A THREATENED OR AN ENDANGERED SPECIES

Federal Docket No. FWS-HQ-ES-2023-0228

### 90-DAY FINDING ON A PETITION TO LIST THE LONG-TAILED MACAQUE (*Macaca fascicularis*) AS A THREATENED OR ENDANGERED SPECIES UNDER THE ENDANGERED SPECIES ACT

#### Petitioned action being requested:

- List as an endangered or a threatened species
- Reclassify (uplist) from a threatened species to an endangered species
- Other

#### Petitioned entity:

- Species
- Subspecies
- DPS of vertebrates

#### Background

Section 4(b)(3)(A) of the Endangered Species Act (Act) requires that we make a finding on whether a petition to list, delist, uplist (reclassify the species from a threatened species to an endangered species), or downlist (reclassify the species from an endangered species to a threatened species) a species presents substantial scientific or commercial information indicating that the petitioned action may be warranted. Our regulations provide that, for a petition to meet the “substantial scientific or commercial information” standard, we must determine in the 90-day petition finding that the petition includes “credible scientific or commercial information in support of the petition’s claims such that a reasonable person conducting an impartial scientific review would conclude that the action proposed in the petition may be warranted” (50 CFR § 424.14(h)(1)(i)).

The Act and our regulations are clear that the responsibility is squarely on the petitioner to present the requisite level of information to meet the substantial information test to demonstrate that the petitioned action may be warranted. This means that the petitioner must not only present credible information that threats may be present; they also need to present credible information concerning a species’ documented or likely response to that threat, and that the species’ response is to such a level that listing or uplisting may be warranted. Where the petitioner has failed to do so, we should make a not-substantial finding on the petition -- we should not augment their petition with our own knowledge or other information we are aware of. If we are aware of species that may be in danger of extinction, we should undertake a status review on our own accord, regardless of the receipt of a petition.

Our regulations further state that we will consider whether a petition presents a complete and balanced representation of the relevant facts when making our finding of whether a petition presents substantial information that the requested action may be warranted. Thus, if we find that a petition cherry-picked information, ignored relevant and readily available information, and presented a biased and incomplete representation of facts, we should consider whether the petition has met the requirement to present substantial information (see instructions below for more information).

We note that designating critical habitat is not a petitionable action under the Act. Petitions to designate critical habitat (for species without existing critical habitat) are reviewed under the Administrative Procedure Act and are not addressed here. See 50 C.F.R. § 424.14(j). To the maximum extent prudent and determinable, any proposed critical habitat will be addressed concurrently with a proposed rule to list a species, if applicable.

### **Petition History**

On April 12, 2023, we received a petition requesting that long-tailed macaque be listed as a threatened species or an endangered species under the Act from People for the Ethical Treatment of Animals, Lisa Jones-Engel, Birutė Mary Galdikas, Jane Goodall, Action for Primates, Born Free USA, Sarah Kite, Nedim C. Buyukmihci, Angela Grimes, Liz Tyson-Griffin, The Macaque Coalition, Ecoflix, Ian Redmond, International Primate Protection League, Wildlife Alliance, Physicians Committee for Responsible Medicine, Michael Schillaci, One Voice, Abolición Vivisección, Sam Shanee, Gemunu de Silva, Northwest Animal Rights Network, Pam Mendosa, Phoenix Zones Initiative, Hope Ferdowsian, ACP, Nikhil Kulkarni, Neotropical Primate Conservation, EMS Foundation, Tim Ajax, Rise for Animals, Wildlife Friends Foundation Thailand, Douc Langur Foundation, Fundacion Entropika, Angela Maldonado, Animal Defenders International, World Animal Protection, Paula Pebsworth, and Japan Anti-Vivisection Association. The petition clearly identified itself as such and included the requisite identification information for the petitioner, required at 50 CFR 424.14(c). This finding addresses the petition.

### **Evaluation of a Petition to List the Long-tailed Macaque as a(n) Endangered or Threatened Species Under the Act**

#### *Species and Range*

Does the petition present substantial information that the petitioned entity may be a listable entity (i.e., a species, subspecies, or distinct population segment)?

Yes

No

Long-tailed macaque (*Macaca fascicularis*)

Historical range: Bangladesh, Brunei Darussalam, Cambodia, Nicobar Islands of India, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, and Vietnam

Current range: Brunei Darussalam, Cambodia, Hong Kong of China, Nicobar Islands of India, Indonesia, Lao People's Democratic Republic, Malaysia, Mauritius, Myanmar, Palau, Papua New Guinea, Philippines, Singapore, Thailand, Timor-Leste, and Vietnam

This is a recognized species by Raffles, 1821.

## *Statutory and Regulatory Standards for Evaluation of the Petition*

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 is an “endangered species” or a “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.

In accordance with 50 CFR 424.14(d), the Service’s determination as to whether the petition provides substantial scientific or commercial information indicating that the petitioned action may be warranted will depend in part on the degree to which the petition includes the following types of information: (1) Information on current population status and trends and estimates of current population sizes and distributions, both in captivity and the wild, if available; (2) Identification of the factors under section 4(a)(1) of the Act that may affect the species and where these factors are acting upon the species; (3) Whether and to what extent any or all of the factors alone or in combination identified in section 4(a)(1) of the Act may cause the species to be an endangered species or threatened species (i.e., the species is currently in danger of extinction or is likely to become so within the foreseeable future), and, if so, how high in magnitude and how imminent the threats to the species and its habitat are; (4) Information on adequacy of regulatory protections and effectiveness of conservation activities by States as well as other parties, that have been initiated or that are ongoing, that may protect the species or its habitat; and (5) A complete, balanced representation of the relevant facts, including information that may contradict claims in the petition.

### **Evaluation of Information in the Petition**

When evaluating a petition, we assess the information in the petition and the sources that it includes as references. While we may use any readily available information (e.g., in our files or published literature that we are aware of) to determine the credibility of the information presented in the petition, we do not use readily available information to bolster the petition, should the petitioner fail to provide substantial information, because the Act requires that we make a finding as to whether the petition itself presents substantial information indicating that the petitioned action may be warranted. Our implementing regulations at 50 CFR

424.14(h)(1)(i) state that conclusions drawn in the petition without the support of credible scientific or commercial information will not be considered “substantial information.” “Credible scientific or commercial information” may include all types of data, such as peer-reviewed literature, gray literature, traditional ecological knowledge, etc. Thus, we first must determine whether the information provided in the petition is credible. In other words, the Service must evaluate whether the information in the petition is substantiated and not mere speculation or opinion. Any claims that are not supported by credible scientific or commercial information do not constitute substantial information and will not be further evaluated. Next, we determine whether the conclusions drawn in the petition are reasonable (i.e., actually supported by that credible information).

After identifying the claims in the petition that are supported by credible information, we consider those claims in the context of the factors in section 4(a)(1) of the Act. When evaluating information presented in the petition, we consider factor D in light of the other factors, not independently. In other words, we consider whether the petition presents substantial information indicating that existing regulatory mechanisms may be inadequate to address the magnitude or imminence of threats identified in the petition related to the other four factors; therefore, we consider existing regulatory mechanisms in conjunction with each relevant claim presented in the petition.

To complete our analysis for a 90-day finding on a petition to list or uplist, we first identify the claims in the petition that are supported by credible information indicating that a potential threat is occurring or is likely to occur within the species’ range. After identifying the claims that are supported by credible information that a threat is occurring or likely to occur, we next determine whether the petition has presented credible information that those threats affect the species at a population or species level, after taking into account any mitigating actions or conditions that may ameliorate those threats, such that the petitioned action may be warranted. If we find that the petition does not present substantial information that the petitioned action may be warranted based on the information provided regarding the status and trends of the species or on one or more factors, we consider the cumulative impact of all of the threats that are supported by credible information. Based on these steps, we draw our conclusion and petition finding based on the standard for 90-day findings, which is whether the petition presents “credible scientific or commercial information in support of the petition’s claims such that a reasonable person conducting an impartial scientific review would conclude that the action proposed in the petition may be warranted.” Our evaluation assesses the extent to which the credible information in the petition indicates that a reasonable person would conclude that the petitioned action may be warranted.

### *Claims Addressing Threats*

We first assess whether the petition supported its claims with credible information (i.e., whether the petition has presented credible information that the threat is occurring or is likely to occur and that the species may be exposed to the threat) (Table 1). If the supporting information indicates that the threat is occurring or is likely to occur in the future and that the species may be exposed to it, we then assess whether the petition presented credible information that reasonably indicates the presence of negative effects on the species as a whole.

If the petition did not present credible information indicating population-level effects, our analysis of that individual threat presented in the petition is complete, as there would be no species-level effects; we may then analyze that threat later if we need to evaluate cumulative effects. If the credible information about the particular threat indicates species-level effects, our analysis of that individual threat presented in the petition is complete. If the credible information about the particular threat does not indicate species-level effects but does indicate population-level effects, we assess the extent to which the credible information in the petition indicates that the scale of the effects of that threat are such that a reasonable person would conclude that listing or uplisting may be warranted.

If we find that there is credible information indicating that threats are having or are likely to have a negative effect on the species as a whole, such that a reasonable person would conclude that listing may be warranted, we can stop and make a positive “substantial information” finding. We would then evaluate all the threats in detail based on the best scientific and commercial data available when we conduct the status assessment and make the 12-month finding. A positive 90-day petition finding does not indicate that the petitioned action is warranted. Such a finding indicates only that the petition presents substantial information that the petitioned action may be warranted and that a full review should occur.

**TABLE 1:** Evaluation of claims in the petition. Assessment of the credibility of scientific and commercial information in the petition and the extent to which claims supported by credible scientific or commercial information in the petition corroborates the presence of negative impacts to populations, or the species.

Threat or Activity	Exposure. Is the claim of the threat in the petition supported by credible scientific and commercial information? Does the petition support the claim that there is a potential threat and it is occurring or is likely to occur within the range of the species? If no, explain. If yes, include brief summary statement and citations to the credible information.	Response (Populations/Species). Do the claims and the supporting information indicate negative effects such that listing or uplisting may be warranted? Yes or no. Explain and describe below.
Deforestation and habitat fragmentation (Factor A)	<p>Yes. The petition presents credible information that deforestation and habitat fragmentation is occurring within the species’ range, where the species is likely to occur (Gumert 2011; Hansen et al. 2022a).</p> <p>The petition claims that from 2005 to 2015, Southeast Asia lost approximately 80 million hectares of forest, much of which occurred in Indonesia, Malaysia, Myanmar, and Cambodia, and that widespread deforestation is predicted to occur through 2050. (Estoque et al. 2019) However, the petition does not contextualize these values of forest lost with regard to the species’ habitat and the proportion of total habitat lost from deforestation.</p> <p>The petition also claims that deforestation in Southeast Asia is occurring at faster relative rates than those of other tropic regions. (Sodhi et al. 2004)</p> <p>The petition claims that deforestation in Southeast Asia is occurring because of logging, agriculture, and human development, which is fragmenting, degrading, and changing natural habitats of long-tailed macaques (Sodhi et al. 2004; Malaivijitnond et al. 2011).</p>	<p>No. Although undisturbed habitats for long-tailed macaques are becoming scarcer (Gumert 2011), the petition does not present substantial information to indicate negative effects on populations or the species. The petition does not make a connection between habitat loss and population-level effects.</p> <p>Information cited within the petition states long-tailed macaques are edge species and overall habitat generalists, and further, that rapid development in Southeast Asia has created more edge habitat and, in turn, more environments suitable for sustaining long-tailed macaques (Gumert 2011).</p> <p>The petition claims that given habitat loss, many troops of long-tailed macaques in Thailand are overcrowded, i.e., too dense to be sustainable; additionally, given the habitat fragmentation, there is a risk of inbreeding because of increased isolation. However, Malaivijitnond et al. (2011), cited within the petition, reports that despite their habitats changing from natural forests to parks and temples close to human development, the distribution patterns of long-tailed macaques in Thailand are similar to those described 30-40 years ago.</p> <p>Additional publications cited in the petition focus on deforestation and biodiversity loss more broadly and do not directly address threats to long-tailed macaques (Estoque et al. 2019, Sodhi et al. 2004).</p>

<p>Collection (Factor B)</p>	<p>Yes. The petition presents credible information that collection of the species from the wild is occurring. The petition claims that overutilization for commercial, recreation, scientific, or education purposes could pose a serious threat as the species is heavily used in biomedical research (Warne et al. 2023), including research into the spread of SARS-CoV2 and treatment of CoVID-19, and is the predominate species in international trade for primate research (Hansen et al. 2021, 2022b).</p> <p>The petition indicates that the species is listed in Appendix II of CITES. Per information cited in the petition, since 2000, CITES has reported legal trade of over 700,000 specimens and body parts of long-tailed macaques on average annually. Of the 700,000, approximately 37,000 specimens and body parts are reportedly from wild-caught individuals on average annually, with a range from 693 to 112,578 specimens and body parts per year (CITES 2023).</p> <p>Beyond legal trade, the petition provides information that indicates illegal trade is a possible threat to the species (Hansen et al. 2021; Warne et al. 2023) with at least one on-going smuggling case involving thousands of long-tailed macaques from Cambodia into the USA (IRS 2022). Although not specific to long-tailed macaques, the petition cites Hansen et al. (2022), which states that for every 100 animal parts that legally enter the USA, it is estimated that another 28 are illegally imported.</p> <p>Lastly, the petition states that long-tailed macaques are kept as pets (Aldrich &amp; Neale 2020) and traded domestically in Southeast Asia (Hansen et al. 2021).</p>	<p>No. It is estimated that roughly 3 million long-tailed macaques exist in the wild (Hansen et al. 2022a). The references within the petition present information that the average annual rate of take of wild individuals, for all purposes, since 2000 represents approximately 1% of the current estimated population. The petition does not discuss the effects of current levels of take on populations or the species. The petition primarily focuses on information relating to trade of specimens reported as bred in captivity or captive-bred; however, this information does not discuss the effects of these levels of trade on populations or the species.</p> <p>Although the petition presents credible information that collection of wild individuals for use in biomedical research is occurring, particularly from Cambodia, including wild specimens that are illegally taken, illegally traded, and falsely reported as bred in captivity (Warne et al. 2023, Hansen et al. 2021, 2022b, CITES 2023, IRS 2022 Aldrich &amp; Neale 2020), it does not discuss the effects of this taking and illegal trade on any specific population or the species.</p> <p>The petition also does not present information on the overall biological sustainability of wild take, such as reasonable estimates of the number of specimens taken from the wild legally and illegally to establish breeding facilities for the legal and illegal trade, for any specific population or the species.</p>
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<p>Hunting (Factor B)</p>	<p>Yes. The petition presents credible information that hunting is occurring within the range of the species where the species is likely to occur.</p> <p>The petition provides information indicating that hunters in Cambodia target long-tailed macaques (Ibbett et al. 2021) and that hunting occurs in Myanmar for consumption and for domestic and international trade. (San &amp; Hamada 2011)</p>	<p>No. The petition does not provide credible information regarding negative effects of hunting on the populations or species. The petition mentions hunting in two populations and does not detail the populations' responses or the species' response.</p> <p>The petition cites Ibbett et al. (2021), which describes hunting for wildlife in Cambodia. Of the hunters and retired hunters interviewed, only 6% reported catching primates, which included several primate species. Given this information, it is reasonable to assume that even fewer than 6% of hunters caught long-tailed macaques specifically in this study. With such a small percentage of hunters targeting long-tailed macaques, and without further information on the magnitude and frequency with which long-tailed macaques are taken by those hunters, we cannot conclude that hunting in Cambodia by itself is having a negative effect on populations or the species.</p> <p>The petition also cites San &amp; Hamada (2011), which found that hunting long-tailed macaques occurred in three of the five regions surveyed in Myanmar. They did not systematically report the extent, amount, or frequency of hunting for long-tailed macaques. This was the only study cited in the petition that noted a population response to hunting, stating that macaques were hard to observe because they avoided humans that tracked them. Beyond avoidant behavior, for which no negative effect on the population or species is noted, no other population or species responses were mentioned.</p>
<p>Disease (Factor C)</p>	<p>Yes. The petition does present credible information that disease and infection could be a threat to the species within the species' range where the species is likely to occur. Long-tail macaques are susceptible to various infections, including CoVID-19 (Hansen et al. 2021), measles, influenza, parainfluenza (Aldrich &amp; Neale 2020), and a breadth of gastrointestinal infections that cause diarrhea (Johnson et al. 2022). The petition states that these diseases can be introduced to wild populations more readily via the pet trade by releasing habituated and confiscated individuals into the wild and</p>	<p>No. The petition does not present credible information regarding the effects of diseases on any wild populations or the species. The information provided in the petition largely focuses on diseases in captive and traded populations.</p> <p>The petition cites Johnson et al. (2022), which states that diarrhea can affect up to 30% of a population annually but claims that the diseases causing the diarrhea vary widely, that there are several other potential causes of the diarrhea (e.g., stress, dietary insufficiencies), and does not note the temporal extent of the infliction or effects on the overall fitness and survival of individuals, troops, or populations.</p>



	<p>through increasing human-primate interactions (Malaivijitnond et al. 2011; Aldrich &amp; Neale 2020).</p>	<p>The petition cites Hansen et al. (2021), which states that although long-tailed macaques are susceptible to CoVID-19, they typically only experience mild symptoms.</p> <p>The petition provides information that indicates the pet trade and loss of habitat can cause an increased level of exposure through increased human interactions (Malaivijitnond et al. 2011; Aldrich &amp; Neale 2020), but the extent, magnitude, and overall effects on any given population or the species is not discussed within the petition.</p>
<p>Culling and sterilization (Factor E)</p>	<p>Yes. The petition does present credible information that sterilization and culling from the population is occurring within the species' range where the species is likely to occur. The petition claims that culling is directly causing localized declines in Malaysia (PERHILITAN 2020, 2019, 2018, 2017, 2016, 2015), Hong Kong (Jones-Engel et al. 2011), and Singapore (Sha et al. 2009; Hansen et al. 2021). Additionally, the petition claims that local sterilization efforts in Hong Kong and Singapore could impact populations (Jones-Engle et al. 2011).</p>	<p>No. The petition only discusses the ongoing threat in the context of three populations (Singapore, Hong Kong, and Malaysia) and does not present credible information indicating negative effects to populations or the species such that the species may warrant listing.</p> <p>The petition provides information that estimates that roughly 3 million long-tailed macaques exist in the wild (Hansen et al. 2022a), while the population in Singapore is estimated to be less than 1,500 individuals (Sha et al. 2009). Although an estimated 14-33% of the population in Singapore has been culled, it is a small proportion of the species in total (Sha et al. 2009, Jones-Engel et al. 2011).</p> <p>The petition cites Jones-Engel et al. 2011, which states that in Hong Kong, the population has expanded from 100 to 2,000 individuals in 30 years. Population control measures (i.e., killing, culling, and sterilization) were put in place because of the expanding populations. Killing and culling were not proven to be effective means of population control. The sterilization efforts have only caused a 5% drop in the population in Hong Kong (Jones-Engel et al. 2011), again having no negative effect on the overall species.</p> <p>Information provided in the petition indicates that in Malaysia, expansive culling efforts have been reported. From 2015 to 2020, the Department of Wildlife and National Parks in Malaysia reported culling 46,594 to 62,845 long-tailed macaques annually, totaling over 345,000 individuals during that time period (PERHILITAN 2020,</p>

		<p>2019, 2018, 2017, 2016, 2015). Although these efforts are directly taking individuals out of the population, the petition does not provide a description of species-level responses.</p> <p>The petition does provide references to news articles regarding killing events in the Philippines (GMA News 2022) and Thailand (Boonkong &amp; O'Connor 2019), but the news articles do not provide enough detail to show population responses or species-level responses that may warrant listing.</p>
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Factor D cannot be an independent basis for determining that a species is an endangered species or a threatened species. We consider the effect of existing regulatory mechanisms, together with conservation efforts, when we evaluate claims in the petition regarding the individual threats associated with Factors A, B, C, or E. Because we have concluded that the petition does not provide substantial information that the species may warrant listing based on threats associated with Factors A, B, C, or E, we conclude there is not substantial information to evaluate any existing regulatory mechanisms for their effect on the threats and the status of the species.

#### *Cumulative Effects of Claims Supported by Credible Information*

If we do not find substantial information indicating that one or more threats are having or are likely to have an impact on the species to the point that the species may warrant listing, we consider the cumulative effects of all of the claims in the petition that are supported by credible information indicating the presence of potential threats affecting individuals or populations of the species.

Because we have concluded the petition provides credible information that effects to individuals of the long-tailed macaque are reasonably certain to occur from more than one threat/activity but do not rise to the level of impacting populations or the species as a whole, we must assess whether cumulatively these effects to individuals may result in a finding that the petitioned action may be warranted. In this case, we consider the threats of habitat degradation and loss, collection, hunting, disease, and culling and sterilization. The petition does not provide credible information indicating that the threats identified by the petitioners may have synergistic or cumulative effects on the population such that the petition actions may be warranted for the long-tailed macaque.

#### *Evaluation of Information Summary*

The petitioner provided credible information indicating potential threats to individuals of long-tailed macaques due to habitat loss and degradation (Factor A), collection and hunting (Factor B), disease (Factor C), and culling and sterilization (Factor E). While we found that the petition provided documentation of negative impacts to individual macaques from these potential threats, the petition did not present credible information that indicates negative impacts to populations or the species as a whole, and the petition did not present credible information that indicates negative impacts to populations or to the species due to cumulative effects of the threats such that the species may warrant listing.

#### **Petition Finding**

We reviewed the petition, sources cited in the petition, and other readily available information (within the constraints of the Act and 50 CFR 424.14(h)(1)). We considered the credible information that the petition provided regarding the individual and cumulative effects of the threats that fall within factors under the Act's section 4(a)(1) as potentially ameliorated or exacerbated by any existing regulatory mechanisms or conservation efforts. Based on our review of the petition and readily available information regarding the effects of habitat loss and degradation (Factor A), collection and hunting (Factor B), disease (Factor C), and culling and sterilization (Factor E), we find that the petition does not provide substantial scientific or

commercial information indicating that listing the long-tailed macaque (*Macaca fascicularis*) as a threatened or an endangered species may be warranted.

**Author**

The primary authors of this notice are the staff members of the Branch of Delisting and Foreign Species, U.S. Fish and Wildlife Service.

**FOR FURTHER INFORMATION CONTACT:** Rachel London, Headquarters Office, telephone 703-358-2491

**Regional Outreach Contact:** NA

Date:

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