



CONSERVATION

Move to list monkey as endangered spurs dispute

U.S. group challenges decision to reclassify macaque widely used in biomedical research

By Dennis Normile

A U.S. science advocacy group is weighing in on a conservation debate about monkeys in Southeast Asia. The National Association for Biomedical Research (NABR) has asked the International Union for Conservation of Nature (IUCN) to reverse its 2022 decision to shift the long-tailed macaque (*Macaca fascicularis*), an animal widely used in biomedical research, from vulnerable to endangered on its Red List of Threatened Species.

The IUCN decision was based on an assessment that “contains numerous errors and misstatements, and does not provide actual evidence of species declines,” NABR President Matthew Bailey argued in a 15 June

“hyperabundant”—in some regions. In some places they are considered pests and culled.

IUCN, an independent organization, does not directly regulate the global wildlife trade. But its Red List carries weight with national and international bodies that do set import and export rules, including the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The 184 nations that have joined CITES, for example, require buyers and sellers to obtain permits to trade in long-tailed macaques.

The U.S. generally allows macaques to be imported for use in biomedical research only if they have been bred in captivity. This is to protect wild populations and to ensure lab animals are pathogen-free. Last year, however, the U.S. government charged several

Indonesia. He believes populations will decline “if the situation is not improved.”

But wildlife managers in some areas say they have become pests. In Malaysia alone officials killed more than 97,000 macaques in 2022, according to reports, spurred by complaints about the animals biting people and raiding garbage dumps and crops.

A recent study supports the idea that macaques are thriving in some areas. The paper, published on 13 June in *Biological Reviews*, synthesized studies from 58 landscapes across Asia and new camera trap data from 20 sites in Thailand, Malaysia, Singapore, Sumatra, and Borneo. It found that long-tailed macaques are rare in intact forests, but can be “hyperabundant” where forest has been converted to croplands, including oil palm plantations. Those disturbed landscapes can feature habitat similar to the coastal and riverside vegetation the animals have long occupied. The data “clearly show” the macaque is not yet globally endangered, says co-author Matthew Luskin, an ecologist at the University of Queensland.

Laurence says IUCN is “being alarmist and not basing its decisions on good data.” Other researchers point to the assessment’s characterization of a 2021 study by conservation scientist Matthew Nuttall of the University of Stirling and colleagues. It tracked population trends of long-tailed macaques in a Cambodian reserve. The assessors note that study found numbers had declined by 50% over a decade. But the paper “actually states that the species is stable,” says conservation biologist Alice Hughes of the University of Hong Kong, who is not involved in the dispute.

Nuttall says the study did generate the two data points used by IUCN assessors. But considering other observations, he says the study “says the species are stable,” while suggesting “a shallow decline.” (Hansen notes all but one observed population declined by 50%.)

Luskin contends the macaque is vulnerable but not endangered. Whether IUCN will agree is uncertain. One complexity, says ecologist Jedediah Brodie of the University of Montana, who is not involved in the dispute, is that “there could be a global decline in the species at the same time as population increases in certain edge habitats.”

IUCN has asked NABR and the assessors to negotiate a resolution. If that fails, IUCN could ask outside experts to help reach a decision, which could take a year or more. ■



Researchers disagree on whether the long-tailed macaque, a mainstay of laboratory research, is endangered.

statement. NABR worries the change could lead to restrictions on importing macaques for research. The species, also known as the crab-eating macaque and cynomolgus monkey, accounted for more than 95% of the roughly 33,000 nonhuman primates imported into the United States in 2022.

NABR’s request has triggered IUCN’s review process and highlighted a debate over the macaque’s conservation status. Some researchers welcomed the endangered listing, given rising threats from hunters, habitat destruction, and poachers capturing the monkeys for trade. But it surprised others. “IUCN is off base here,” says ecologist William Laurence of James Cook University. A recent study concludes macaques are abundant—even

monkey suppliers with falsely labeling macaques caught in the wild as captive-bred (*Science*, 2 December 2022, p. 934).

Such poaching is one reason IUCN listed the macaque as endangered. Its assessment, by anthropologist Malene Hansen of Princeton University and 17 co-authors, cited a 2006 study that estimated the global population declined from 5 million in the 1980s to 3 million in the 2000s. Since then threats have grown and, over the next 3 macaque generations, “we suspect the species will experience at least a 50% decline,” the team wrote. “[It] may be facing irreversible population loss.”

That conclusion sounds right to primate ecologist Kurnia Ilham of Andalas University, who studies macaque troops on Sumatra in