

# Re-evaluation of the Felidae for the 2008 IUCN Red List

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**T**he IUCN Red List of Threatened Species ([www.iucn-redlist.org](http://www.iucn-redlist.org)) is the leading measure of global plant and animal conservation status (Rodrigues *et al.* 2006). It illustrates IUCN's great strength in the knowledge, expertise and dedication of its Species Survival Commission (SSC) members. The IUCN Red List is updated annually and, to remain useful, species should be re-evaluated regularly, especially groups with relatively large numbers of threatened species such as the Felidae. The last comprehensive IUCN Red List evaluation for cats was in 2002 (Nowell 2002).

The unprecedented gathering of expertise at the recent Felid Biology and Conservation Conference provided an opportunity to re-evaluate the cat family for the 2008 IUCN Red List and get broader engagement from specialists in the assessment process. The IUCN-led Global Mammal Assessment (GMA) has been undertaking a series of workshops to evaluate the conservation status of the world's 5,500 or so mammals. In collaboration with the Cat SG, a two-day Cats Red List workshop was organized, generously sponsored by Panthera Foundation, and ably hosted by the University of Oxford's WildCRU at their headquarters - Tubney House, Oxford, UK. The GMA also maintained an office at the Felid Congress where delegates whom were not able to attend the workshop could provide input on Red List status and range maps.

A re-evaluation of species status at their global extent of occurrence was the top priority of the workshop, with additional subspecies being evaluated as time permitted. For a consistent taxonomy we followed the classification resulting from decades of phylogenetic analysis undertaken by Steve O'Brien's group (Eizirik *et al.*, *subm.*). Some notable changes from the taxonomy used in the Cat Action Plan (Nowell & Jackson 1996) include the recognition of two species of clouded leopard and the

Chinese mountain cat considered as a subspecies of the widespread wildcat *F. silvestris*, such that the total number of felid species remains unchanged at 36. Subspecies were included based on modern analyses using either molecular or morphological methods, although not all subspecies have yet been assessed.

Felids were generally listed either under the A criterion (having suffered a significant recent population decline) or under the C or D criteria (having relatively small populations, with or without a decline). For the Red List, population decline is measured over a time period of one or two (Criterion C) or three generations (Criterion A). For our purposes, generation length was calculated as "age of maturity plus half the length of the reproductive cycle" (=half of the age of last reproduction minus the age of sexual maturity), following the IUCN Guidelines. We thank David Mallon, co-Chair of the IUCN/SSC Antelope Specialist Group (which is currently in the process of their own reassessment), for helping lead this calculation during the workshop.

For the IUCN Red List, population is defined as the number of "mature individuals known or inferred to be capable of reproduction." This was interpreted for cats as the effective population size ( $N_e$ ), or number of animals estimated to be passing on their genes through successful raising and recruitment of offspring. To calculate this number, 50% of the estimated total number of adults was used as a general measure, based on four felid studies (Nowell and Jackson 1996: 214).

Any cat specialist wanting to provide input to the 2008 IUCN Red List assessment of should contact Kristin Nowell to obtain the IUCN Red List data sheets and Jan Schipper to obtain copies of the distribution maps. The deadline for further input is December 31, 2007.

Cat specialists also want to see the IUCN Red List applied at the population level to capture priorities for conservation measures. IUCN does provide

guidance on the use of the IUCN Red List categories and criteria at the national and regional levels (IUCN 2003), and a recent European Mammal Assessment evaluated the two Lynx species at the sub-population level (Temple & Terry 2006). The Cat SG is working with the SSC to find the best way to expand the sub-population level analysis to additional cat species, working closely with recent exercises led by WCS and others to map and categorize populations of felid species including tiger, jaguar, lion, cheetah and snow leopard.

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