

# Male elephants get 'photo IDs' from scientists

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Asian elephants don't carry photo identification, so scientists from the Wildlife Conservation Society and India's Nature Conservation Foundation are providing the service free of charge by creating a photographic archive of individual elephants, which can help save them as well.

The researchers have developed a unique "photographic capture-recapture" survey method that identifies individual male elephants, specifically by the shape and size of their tusks, ears, and other features. This in turn can be used to monitor their survival rates and movement, according to a new study published in the current issue of the *Journal Animal Conservation* (10: 391-399).

"Unlike African elephants where both males and females have tusks, only male Asian elephants have valuable tusks, so they are specifically targeted by poachers," said WCS researcher Varun Goswami, the study's lead author. "In light of this fact, just counting all elephants with generic techniques isn't enough. Our new method allows specific tracking of male elephant population dynamics, so it is a powerful conservation tool."

Working in collaboration with the Karnataka State Forest Department in Nagarhole and Bandipur reserves, researchers systematically took more than 2400 photographs of individual elephants, sampling game roads and waterholes over an 80-day period. Male elephants in particular were given special treatment, with the scientists recording data such as tusk

length, thickness, angle, arrangement, as well as other characteristics ear shape, shoulder height, tail length, and scars. These data revealed some 134 individual male elephants in a population of 991 elephants, with an adult male/female ratio of 1 to 4.33. The data were analyzed using advanced ‘open capture-recapture models’.

The new method complements traditional survey techniques, which can gauge overall elephant densities and sex ratios at population levels, but are unable to monitor demographics of male elephants with a degree of rigor attained by studies that focus on data from individual animals. More importantly, such accurate assessments of male elephants can help conservationists monitor poaching rates over the long term. Also, elephant carcasses can be compared with archival photos to identify individuals and even to aid in law enforcement efforts.

In addition to poaching, another threat to male elephants comes from human farmers defending their food resources from crop-raiders. Recognizing individual males that are prone to crop-raiding can inform better management interventions. At present, exactly how many male elephants engage in crop-raiding is unknown.

“The rigor of this technique can help us achieve real conservation success with the Asian elephants, which are threatened across their 13 country range,” said Dr. Ullas Karanth, a co-author of the study who pioneered the use of the photographic capture-recapture method to study tigers earlier. “We believe this method can be expanded to answer other questions relevant to Asian elephant conservation across their entire range.”

Source: Wildlife Conservation Society

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