Roads bring death and fear to forest elephants

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Why did the elephant cross the road? It didn't according to a new study by the Wildlife Conservation Society (WCS) and Save the Elephants that says endangered forest elephants are avoiding roadways at all costs. The authors of the study believe that these highly intelligent animals now associate roads with danger – in this case poaching, which is rampant in Central Africa's Congo Basin.

According to the study, which appears in the October 27th issue of the journal Public Library of Science (PLoSONE), forest elephants have adopted a "siege mentality," forcing populations to become increasingly confined and isolated. This in turn reduces these normally far-ranging animals' ability to find suitable habitat; thereby threatening long-term conservation efforts.

The study, which tracked 28 forest elephants with GPS collars, discovered that roads, particularly those outside of parks and protected areas, attract poachers and therefore have become formidable barriers to elephant movements. In fact, only one of the collared elephants crossed a road outside of a protected area and it did so at 14 times its normal speed.

The authors found that even in the largest remaining wilderness areas in Central Africa, forest elephants showed adverse reactions to roads, and that truly unconfined forest elephants traveling unfettered over wide landscapes may no longer exist anywhere in Central Africa. The results spell bad news for these endangered pachyderms, since a boom in road-

building is currently underway throughout much of the region.

"Forest elephants are basically living in fear of their lives in prisons created by roads. They are roaming around the woods like frightened mice rather than tranquil formidable giants of their forest realm," said Dr. Stephen Blake, the study's lead author. "Forest elephants are under siege with all of the graphic images that go with it – increasing the likelihood of fear, starvation, disease, massive stress, infighting, and social disruption."

The siege strategy may reduce the risk from poaching, but as roadless space decreases, it will likely result in loss of access to food and important mineral deposits. This will most likely result in aggressive negative behavior among elephants from different social groups, which in turn can affect reproductive success. Other negative impacts include overgrazing of local vegetation and reduced seed dispersal by elephants, which is vital to helping regenerate forests.

The WCS scientists who worked on the study include: Stephen Blake (who now works for the Max Planck Institute of Ornithology), Samantha Strindberg, Fiona Maisels, William Karesh, and Michael Kock. Other authors include Sharon Deem from the WildCare Institute, Saint Louis Zoo and University of Missouri, Ludovic Momont from the Muséum National d'Histoire Naturelle in Paris, Inogwabini-Bila Isia from the Durrell Institute of Conservation and Ecology, and Iain Douglas-Hamilton of Save the Elephants.

The authors report that since the data were collected, new road construction has already resulted in enormous losses of roadless wilderness areas in three of their six study sites in Republic of Congo and neighboring Gabon. Other multi-billion dollar development projects loom that include massive road development. However, the authors say there is still time to plan for wise development that includes diverting

roads away from wilderness areas, and reducing poaching of elephants.

"A small yet very feasible shift in development planning, one that is actually good for poor local forest people and for wildlife and wilderness, would be a tremendous help to protect forest elephants and their home," said Blake. "Planning roads to give forest elephants breathing space so that at least those in the deep forest can relax, as well as reduce the death and fear that comes with roads by reducing poaching, would be trivial in terms of cost but massively important for conservation."

Source: Wildlife Conservation Society

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