

LOGGING CREATES UNANTICIPATED THREAT TO APE HEALTH AND CONSERVATION IN EQUATORIAL AFRICA

T.R. Gillespie¹, D. Morgan^{2,3}, G. Vazquez-Prokopec¹, K.N. Cameron³, T. Reed³, C. Sanz⁴

¹Emory University, Atlanta, GA, USA, ²Lincoln Park Zoo, Chicago, IL, USA, ³Wildlife Conservation Society, Bronx, NY, USA, ⁴Washington University, St. Louis, MO, USA

Presenter's Email: kcameron@wcs.org

Selective logging is a dominant land use activity in forested areas of the tropics, with the potential to provide a sustainable and profitable supply of timber while ensuring biodiversity conservation. However, selective logging results in a suite of alterations in host ecology, forest structure, and human-wildlife overlap that may alter the risk of parasitic infection in resident ape populations. To examine the effects of active logging on ape parasitism and health, we conducted surveys for signs of apes and human overlap, examined ape fecal samples for gastrointestinal parasites, and assessed ape parasite infection risk in an active logging concession and adjoining undisturbed forest in northern Republic of Congo. Examination of ape fecal samples and vegetation plots (associated with tree species frequented by gorillas and chimpanzees) revealed a high prevalence of *Strongyloides stercoralis* larvae in areas of active logging. We recovered infective stage larvae from 25% of ground vegetation plots within the logging concession but none from plots within the adjacent (unlogged) national park, despite exhaustive sampling. Given that *S. stercoralis* was not thought to occur in humans in Equatorial Africa, and is associated with hyperinfections, with the capacity for high mortality rates in apes and humans, these findings represent an unanticipated threat to ape health and conservation.

Keywords: *Strongyloides stercoralis*, apes, parasitism, logging