HARNESSING SPATIAL TOOLS FOR LANDSCAPE-LEVEL BONOBO CONSERVATION PLANNING IN THE MARINGA-LOPORI-WAMBA LANDSCAPE, DRC

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When prioritizing areas for bonobo conservation, conservation planners can benefit significantly from harnessing spatial data and modeling tools. Surveys and satellite imagery have determined that the Maringa-Lopori-Wamba (MLW) Landscape in northern DRC contains significant bonobo populations and large tracts of intact forests that are threatened by the land requirements (predominately slash-and-burn agriculture and human settlements) of a growing human population. A challenge for conservationists is how to balance objectives of maintaining adequate bonobo habitat and ecological connectivity while encouraging sustainable human land use. We address this by using Marxan, a spatially-explicit site selection tool, to identify areas best suited for future agricultural expansion while conserving areas important for bonobo habitat and connectivity. Our approach involves significant use of spatial data and analysis to generate the inputs for the Marxan model. The identification of core bonobo habitat and connectivity areas involves integration of land use and land cover data derived from satellite imagery with bonobo survey observations and spatially-explicit human threat datasets. Spatial tools and models that can balance multiple objectives have a valuable role in conservation planning in DRC and will help inform a future national bonobo conservation strategy. The Marxan model output informs a landscape-level land-use plan that guides conservation interventions aimed at protecting bonobo habitat and connectivity while simultaneously supporting opportunities for sustaining human livelihoods. Our presentation will review model inputs, assumptions, caveats, and identify data gaps for improvement.

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