

MAKAYLA ZOELLERS, ELISA THOMPSON, BRANDON MAWHINNEY, Department of Biological Sciences, West Liberty University, WV 26074, HEIDI ROSS, El Valle De Anton, Cocle, Panama, & ZACHARY J. LOUGHMAN, Department of Biological Sciences, West Liberty University, WV 26074. Impacts of land cover usage on anuran biodiversity in central Panama.

Anurans worldwide are threatened by numerous human-driven factors, including habitat destruction, degradation, fragmentation, and the spread of the fungal disease Chytridiomycosis. Neotropical regions have experienced particularly high rates of anuran biodiversity loss due to this disease and other anthropogenic impacts. In this study, we conducted a density and biodiversity survey in central Panama to examine anuran occurrence in relation to habitat disturbance. Four sites—representing a forest, a stream, an open field, and a roadside ditch—were chosen within a 0.85-hectare area based on geographic location, habitat type, and degree of human influence. Each site was surveyed for at least 32 hours between 12:00 and 24:00, totaling 135.5 hours of observation. Every anuran encountered was photographed and identified taxonomically to family, and when possible, to genus and species. In total, 905 adult individuals were observed, representing 22 species from 17 genera within 8 families. As expected, higher biodiversity was found in the less disturbed forested sites, while lower biodiversity was observed in highly developed areas such as the field and roadside ditch. These findings are crucial for understanding how anthropogenic disturbance affects anuran biodiversity and for identifying species that can adapt to disturbed environments.