

**Binck, Alex, “Assessing Bird Species and Community Diversity among Competing Land Uses in Western Limón Province, Costa Rica.” Advisor: Michael McCoy. Colorado College. 23pp.**

Agroforestry has received much attention recently for its ability to provide both economic and wildlife conservation benefits. I sought to evaluate conservation value by comparing bird species richness of four agricultural habitats—silvopasture, cacao agroforestry, pineapple monoculture, and banana monoculture—and riparian forests in Pueblo Nuevo de Guácimo, Limón, Costa Rica. Richness was greatest in silvopasture, and poorest in the banana monoculture ( $F = 256.89$ ,  $df = 4, 386$ ;  $P < 0.0001$ ). Surprisingly, the pineapple monoculture harbored significantly greater bird richness than the similarly intensive banana monoculture. Possible explanations include the use of aerial vs. boom spraying in banana and pineapple agriculture respectively, the similarity of pineapple agriculture to natural grasslands and the lack of natural habitats which resemble banana agriculture, and the longer range of audible sound in the open pineapple than in the closed banana. The great richness found in the silvopasture is possibly explained by large audible range of calls or by the great tree diversity found in this habitat. These results suggest that silvopasture may have an important part to play in future conservation efforts, but a review of the literature shows that high conservation value can be maintained in other habitats with appropriate management practices.