Nesting Success in Deciduous Riparian Habitat: How Landscapes Affect Nest Predation and Brood Parasitism [TWS]

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Effective wildlife conservation programs depend on a thorough understanding of the processes that limit population growth and the scale at which these processes change. In the case of migratory birds, two of the primary processes that limit breeding productivity are nest predation by a host of predators, and brood parasitism by brown-headed cowbirds (*Molothrus ater*). The importance of these processes depend on the behaviors of the predators and brood parasites interacting with their environments over large spatial scales. We examined the relationship between patch size, edge effects and landscape composition in determining nest predation and brood parasitism rates for species nesting in deciduous riparian areas in western Montana. Predation and parasitism were monitored in sixteen riparian areas surrounded by different landscapes, eight of which are primarily forested, and eight of which are dominated by agriculture. Parasitism was strongly related to the density of farms and feedlots, and was higher in the agriculture treatment. However, predation pressure was consistently higher in forested landscapes. Parasitism may be more clearly related to certain landscape metrics because it reflects the behaviors and habitat use of a single species, the brown-headed cowbird. In contrast, predation rates are determined by interactions between predator community composition, predator behaviors, and the nesting patterns of potential prey in different landscapes, creating a more complex system.