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HABITAT MODELS FOR WATERBIRDS, WATERFOWL BROODS, AND AVIAN GUILDS IN FRAGMENTED WETLANDS, UPPER THAMES RIVER WATERSHED

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Abstract

We used remotely-sensed data, analyzed within a geo-information system, and log-linear analyses to investigate relationships between waterbirds and wetland area, shoreline length, isolation, and adjacent forest cover and roads in 19 wetlands in the Upper Thames River watershed within and adjacent to London. We identified 43 waterbird and waterfowl brood species using these wetlands between April and August. Waterbirds were grouped into 6 resource-based guilds. Most wetlands in the study area are small (10 wetlands are <2 ha). Three of the 19 wetlands have no adjacent forest and all but one have roads within 250 m of the shoreline. Wetland area, shoreline length, proximity to other wetlands, and adjacent forest cover were included in most of the habitat models. Species richness was higher in larger wetlands, although wetlands <2 ha supported as many as 28 species. Wetland area was the most important predictor variable for waterbirds, waterfowl broods, and divers. Shoreline length predicted species richness in all guilds, but was negatively related to divers. Adjacent forest predicted species richness in waterbirds in general and all guilds but waders and dabblers. Disturbance (roads within 250 m of a wetland) was negatively related to species in only the passerine guild. This research suggests that, in human-dominated landscapes, all wetlands are important to waterbirds and must be protected.

HERITAGE LANDSCAPE GUIDES: A VEHICLE FOR NATURAL AND CULTURAL HERITAGE CONSERVATION, APPRECIATION AND EDUCATION

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Abstract

A Heritage Landscape Guide tells the story of what humans and nature have done with the land. Parts of this story can be found in books and documents, or in the memories of people. Parts of it can be seen in historical maps and