

# Conservation value of isolated woodlots

*Barny Dunning, Project Leader*



## **Cooperators:**

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## **Graduate Students:**

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## **Goals:**

This study examines the use of small upland forest woodlots in northwest Indiana as stopover habitat by migratory landbirds, to determine whether migrants use habitat patches at close proximity to riparian forest corridor more than isolated patches, and whether there are seasonal variations in woodlot use. It will help elucidate the mechanisms of stopover habitat selection, and will identify important migratory stopover locations as possible conservation or restoration targets, or as locations for more intensive studies of stopover ecology.

## **Recent Publications:**

Packett, D. L. and J. B. Dunning. Stopover habitat selection by migrant landbirds in a fragmented forest-agricultural landscape. Ecological Society of America annual meeting, August 2006; Midwest Ecology and Evolution Conference, March 2007.

## **Statement of Problem:**

Suitable stopover habitat is as important to the survival of migratory birds as are habitats on their breeding and wintering grounds. Migrants require stopover habitat for resting and refueling, and because migration progress is subject to unpredictable weather events, it is important to maintain a network of stopover sites along the migration route. The landscape of the Midwestern United States has undergone extensive fragmentation for agriculture and/or development, and in many areas potential stopover habitat has been reduced to riparian corridors and isolated woodland patches. Riparian forest corridors and other large forest tracts receive more attention from the conservation community than small habitat patches. Partly because small forest patches are often unsuitable habitat for breeding birds, they are not generally recognized as valuable conservation priorities. They may provide a critical resource as stopover habitat, however; the Nature Conservancy has called them "fire escapes" and "convenience stores" that can supply a migrant's immediate or short-term needs.

In general, habitat selection by migratory birds is poorly understood, and decisions about which habitats to conserve or restore are complicated by the fact that "critical" habitat varies from place to place depending on local population density, landscape structure, and distance from the center of a species' range. A recent Nature Conservancy report summarized the extant studies on migration through the Great Lakes basin and identified a need for research on how migrant birds use riparian and isolated habitat patches, and the importance of patch density and connectivity.

## **Current Activities:**

This study examines how migrants select stopover sites among the isolated woodlots in the forest-agricultural landscape of northwest Indiana, one of the ecologically richest, and most heavily altered, landscapes in the Midwest. We are intensively monitoring Spring and Fall migration at small woodlots at three levels of isolation from riparian forest corridors in the Wabash River basin. We are also comparing the breeding and migrant bird communities in the woodlots. We find that while few species of migratory birds are present during the breeding season, the woodlots are heavily used during migration. Our results indicate that migrants through this area do not prefer riparian systems over isolated habitat patches in either Spring or Fall, and suggest that isolated forest patches may be important conservation targets in fragmented landscapes.

**Research Activities 2007-08**  
**Forestry and Natural Resources**