

Avian use of restored grasslands and wetlands

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Swamp Sparrow

*Photo credit:
Rick & Nora Bowers*

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Goals:

To understand the response of native wildlife to habitat restoration, especially landscape-level projects that change the distribution of habitats across regions.

Recent Publications:

Bortoleto, L.A., et al. 2015. Suitability index for restoration in landscapes: an alternate proposal for restoration projects. *Ecological Indicators* 60:724-735.

Dunning, J.B., D.M. Scheiman, and A. Houston. 2011. Demographic and dispersal data from anthropogenic grasslands: what should we measure? *Sources, Sinks, and Sustainability across Landscapes*, (Hull, V., Liu, J., Morzillo, A., and Wiens, J., eds.) Cambridge Univ. Press, *in press*.

Ehrenberger, K.A., and J. B. Dunning. 2010. The response of selected wildlife to macrotopographic enhancements of a Wetland Reserve Program restoration. *Proceedings of the Indiana Academy of Sciences*, 119:158-169.

Statement of Problem:

For many reasons, landowners and conservation groups are emphasizing the restoration of ecological systems as a conservation priority. We are increasingly aware that preservation of existing, high-quality remnants of natural habitats is not the only way to protect biological diversity. Restoration of habitat patches provides additional places that support wildlife populations, increase buffer zones around existing natural areas, and otherwise increase the effectiveness of natural habitats in supporting a healthy environment. However, it is also true that restoration is poorly understood. We know how to dig a farm pond to support fish, but we do not have a good idea of how to restore a fully functioning marsh. We can seed prairie plants into a newly restored grassland, but we do not have accepted standards for assessing the project's success. Restoration ecology is therefore a fruitful area for additional research.

Restorations also provide a way to testing concepts of landscape ecology. Creation of habitat patches where none existed before results in changes in the distribution of habitat across regions. We can monitor the response of various wildlife species to see how they respond to such landscape change.

Current Activities:

Our research has focused on restoration ecology in grasslands, forest and wetlands. My students and I have conducted research on response of migratory birds and breeding amphibians to wetland restoration; breeding songbirds to prairie restoration, and forest birds to the use of prescribed fire as a restoration technique in mature forests. Various projects involve research with small mammals, shorebirds, ducks, sparrows, Neotropical migrant birds, frogs and toads. One project focused on the reproductive success of Swamp Sparrows in restored wetlands of central Wisconsin. We have also conducted work at the Kankakee Sands, a large-scale restoration of grasslands and wetlands by The Nature Conservancy in NW Indiana.

