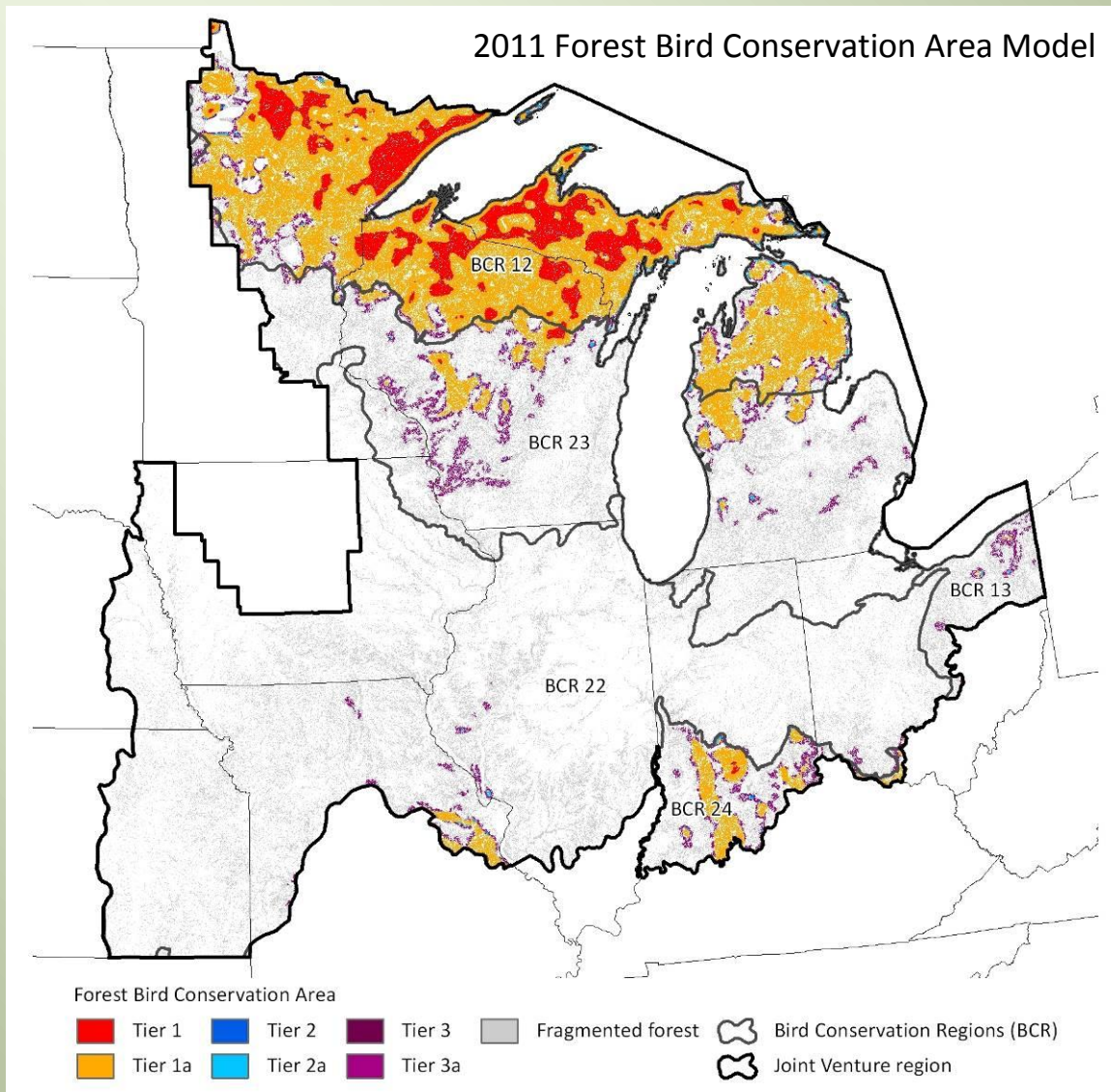




# 2011 Annual Report

## Upper Mississippi River and Great Lakes Region Joint Venture Science Office



**Fourth Annual Report: Developed to inform and update on the role, vision, and recent accomplishments of JV science staff and partner biologists forming the JV Science Team. We welcome feedback from our valued colleagues.**

# Joint Venture Science Office

**JV Mission:** The Upper Mississippi River and Great Lakes Region Joint Venture will deliver a full spectrum of bird conservation through regionally based, biologically driven, landscape-oriented partnerships.

Following JV Management Board direction, the Science Staff and Technical Committee will improve the scientific foundation of bird conservation within the JV region. Management Board technical priorities include:

- Apply scientific information to support strategic planning and implementation of all-bird conservation.
- Identify sources of uncertainty and evaluate biological assumptions of JV objectives.
- Provide a framework for coordinated habitat and population monitoring and evaluation.
- Maintain strong links among planning, implementation, and evaluation to improve delivery of all-bird conservation at multiple scales.

**Science Staff Vision:** Working with partners, the JV Science Office will help achieve regional population objectives for priority bird species and increase habitat conservation efficiency and effectiveness. JV scientists will integrate bird population and environmental trends in a proactive approach to conservation planning, design, and evaluation. Efforts will result in expanded bird viewing and hunting opportunities plus other societal values (improved water quality, flood reduction, and carbon sequestration) associated with healthy plant and wildlife communities. Superior outcomes will result from strong partner relationships built on trust, common purpose, and mutual support, exemplifying the synergy of an effective joint venture.

## Contact Information:

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Region Joint Venture Science Office  
U.S. Fish and Wildlife Service  
2651 Coolidge Road, Suite 101  
East Lansing, MI 48823-6316

**Joint Venture web site:**  
[www.UpperMissGreatLakesJV.org](http://www.UpperMissGreatLakesJV.org)

## 2011 Bird-group Committees – The “JV Science Team”

The Joint Venture Science Team consists of 10 JV Technical Committee members plus several ad hoc members with expertise in bird habitat conservation and biological modeling. The Science Team was responsible for completion of the 2007 JV Implementation Plan and associated Bird-group Strategies. With the exception of JV staff (Kahler and Soulliere), Science Team members serve on a voluntary basis. Their contributions and dedication reflect the best of the JV science partnership.

### Waterfowl

John Coluccy<sup>1</sup>, DU (co-chair)  
Greg Soulliere<sup>1</sup>, FWS (co-chair)  
Mike Eichholz, SIU  
Bob Gates<sup>1</sup>, OSU  
Ron Gatti<sup>1</sup>, WI DNR  
Dave Luukkonen<sup>1</sup>, MI DNR  
Doreen Mengel<sup>1</sup>, MO DOC  
Charlotte Roy, MN DNR  
John Simpson, WPMC

### Shorebirds

Tom Cooper, FWS (co-chair)  
Bob Russell, FWS (co-chair)  
James Cole, TNC  
David Ewert<sup>1</sup>, TNC  
Bob Gates<sup>1</sup>, OSU  
Katie Koch, FWS  
Brad Potter, FWS  
Greg Soulliere<sup>1</sup>, FWS

### Landbirds

David Ewert<sup>1</sup>, TNC (co-chair)  
Tom Will, FWS (co-chair)  
Andy Forbes, FWS  
Melinda Knutson, FWS  
Mark Nelson<sup>1</sup>, USFS  
Andy Paulios, WI DNR  
Brad Potter, FWS  
Greg Soulliere<sup>1</sup>, FWS  
Wayne Thogmartin<sup>1</sup>, USGS  
Mike Ward, IL NHS

### Waterbirds

Dan Holm<sup>1</sup>, IL DNR (co-chair)  
Steve Lewis, FWS (co-chair)  
Ben Kahler, FWS  
Brian Loges, FWS  
Doreen Mengel<sup>1</sup>, MO DOC  
Mike Monfils, MNFI  
Bob Russell, FWS  
Greg Soulliere<sup>1</sup>, FWS

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<sup>1</sup> Science Team member who also serves on JV Technical Committee

# Primary Science Office Objectives and Accomplishments in 2011

Using a scientific process, identify habitat requirements for bird species of greatest concern in the JV region.

The JV Implementation Plan and associated bird-group strategies, completed in 2007, provided the first list of explicit population and habitat objectives for priority bird species (JV focal species) in the JV region. Several information gaps regarding breeding, migration, and wintering habitat requirements for birds were identified in the planning process. Lists of research and monitoring needs to improve regional bird habitat conservation decisions were compiled in 2008 and prioritized for each bird group during 2009.

Members of the JV Science Team and other bird conservation colleagues are currently completing the research and monitoring projects identified on this extensive list. In 2011, Science Office staff assisted in proposal development and, in some cases, data collection, analysis, and reporting. As evaluation projects are completed, the list of research and monitoring priorities is updated.

Improve bird habitat conservation partnerships and incorporate an adaptive approach in planning.

In addition to collaboration at scientific meetings, oral and poster presentations were prepared by JV staff for several 2011 events. JV plan information sharing remains a priority, and we received many requests for science products to better target bird habitat conservation in the region.

A scientific planning approach was thoroughly incorporated into JV bird-group strategies and the JV All-bird Implementation Plan. Regular feedback on plan products, plus on-going completion of evaluation projects, has resulted in new science to be used when refining future JV plan iterations.

Provide quality customer service and technical assistance to partners.

Networking with the science community and members of the JV Management Board has improved our understanding of regional bird conservation challenges, partner interests and available resources, and ongoing bird research, monitoring, and management initiatives.

JV Science Team members represent various agencies, organizations, and disciplines, and their 2011 efforts collectively enhanced the JV science foundation, largely on a volunteer basis. Regular communication between JV staff and these science associates has strengthened the partnership.

The JV science office is recognized for regional bird habitat planning expertise. Technical assistance and input to conservation initiatives was provided at the continental, regional, state, and smaller scales in 2011. A strong relationship with researchers using spatial data and modeling has improved our ability to design desired landscapes and fueled discussion regarding potential data sources useful to future planning.

# 2011 Publications and Professional Reports

- Denton, J. C., C. L. Roy, G. J. Soulliere, and B. A. Potter. 2011 *In review*. **Change in density of duck nest cavities at forests in the north central United States.** Journal of Fish and Wildlife Management.
- Denton, J. C., C. L. Roy, G. J. Soulliere, and B. A. Potter. 2011 *In press*. **Current and projected abundance of potential nest sites for cavity-nesting ducks in hardwoods of the north central United States.** Journal of Wildlife Management.
- Monfils, M. J., P. W. Brown, D. B. Hayes, G. J. Soulliere, and E. N. Kafkas. 2011 *In review*. **Breeding bird use of diked and undiked coastal wetlands in Michigan.** Journal of Wildlife Management.
- NAWMP Writing Team. 2011 *In review*. **North American Waterfowl Management Plan 2012: people conserving waterfowl and wetlands.** Canadian Wildlife Service, U.S. Fish and Wildlife Service, Secretaria de Medio Ambiente y Recursos Naturales.
- NAWMP Writing Team. 2011 *Draft*. **NAWMP Action Plan: A companion document to the 2012 N. A. Waterfowl Management Plan.** Canadian Wildlife Service, U.S. Fish and Wildlife Service, Secretaria de Medio Ambiente y Recursos Naturales.
- Petrie, M., M. G. Brasher, G. J. Soulliere, J. M. Tirpak, D. B. Pool, and R. R. Reker. 2011. **Guidelines for establishing joint venture waterfowl population abundance objectives.** North American Waterfowl Management Plan Science Support Team Technical Report 3-10-2011.
- Potter, B. A., S. Hart, and D. Catanzaro. 2011 *Draft*. **A conceptual spatial model for identifying productive forest locations for woodland breeding birds in the Upper Mississippi River and Great Lakes Joint Venture Region.** U.S. Fish and Wildlife Service, Fort Snelling, MN, USA.
- Potter, B. A. 2011. **Upper Mississippi River and Great Lakes Region Joint Venture habitat conservation accomplishments.** U.S. Fish and Wildlife Service, Fort Snelling, MN, USA.
- Soulliere, G. J., B. M. Kahler, M. G. Brasher, M. Petrie, R. Johnson, M. Johnson, J. Vest, R. Holbrook, T. Bowman, S. Slattery. 2011 *Draft*. **Refining map of geographies with greatest continental significance to waterfowl for the 2012 NAWMP revision.** North American Waterfowl Management Plan Science Support Team Technical Report.
- Soulliere, G. J., B. M. Kahler, J. E. Austin. 2011 *Draft*. **Trends in scaup harvest and hunting community: implications for harvest management and sustaining scaup hunting traditions.** Wildlife Society Bulletin.
- Soulliere, G. J. and B. M. Kahler. 2011 *Draft*. **Harvest and hunting**, chapter in North American Scaup Conservation Plan. U.S. Fish and Wildlife Service Report.
- Soulliere, G. J., B. Loges, and E. Dunton. 2011 *Draft*. **Monitoring Midwest waterfowl during the non-breeding period: Zion IL waterfowl survey workshop report.** Journal of Fish and Wildlife Management.
- Soulliere, G. J., B. A. Potter, J. M. Coluccy, and B. M. Kahler. 2011 *Abstract*. **Establishing non-breeding habitat objectives for sea ducks in the Upper Mississippi River and Great Lakes Joint Venture Region.** 3<sup>rd</sup> North American Sea Duck Symposium Program, Seward Alaska, USA.
- Soulliere, G. S., B. A. Potter., and B. M. Kahler. 2011. **Upper Mississippi River and Great Lakes Region Joint Venture Science Office Annual Report 2010.** U.S. Fish and Wildlife Service, Fort Snelling, MN, USA.
- Thogmartin, W. E., B. A. Potter, and G. J. Soulliere. 2011. **Bridging the conservation design and delivery gap for wetland bird habitat conservation in the Midwestern United States.** Journal of Conservation Planning 7:1-12.

## 2011 Professional Presentations and Posters

- Kahler, B. M. December 2011. **Revising North American waterfowl and waterbird geographic significance maps.** Presentation to Upper Mississippi River and Great Lakes Region Joint Venture Science Team, Des Moines, IA.
- Potter, B. A. March 2011. **Targeting conservation in the Upper Great Lakes Young Forest Initiative area.** Poster at 2011 U.S. Fish and Wildlife Service GIS Workshop, Shepherdstown, WV.
- Potter, B. A. March 2011. **Targeting wetland-bird habitat conservation in the Upper Mississippi River and Great Lakes Joint Venture Region.** Poster at the 2011 U.S. Fish and Wildlife Service GIS Workshop, Shepherdstown, WV.
- Potter, B. A. March 2011. **Conservation design and decision support tools.** Presentation to U.S. Fish and Wildlife Service Partners for Fish and Wildlife Staff, East Lansing, MI.
- Potter, B. A. August 2011. **Conceptual spatial model for forest bird conservation.** Presentation at JV Science Team Landbird Committee meeting, Zion, IL.
- Soulliere, G. J. July 2011. **Upper Mississippi River and Great Lakes Region Joint Venture: reporting progress at the triennial assessment.** Presentation at JV Management Board meeting, Nebraska City, NE.
- Soulliere, G. J. July 2011. **Upper Mississippi River and Great Lakes Region Joint Venture waterfowl research application.** Presentation at JV Management Board meeting, Nebraska City, NE.
- Soulliere, G. J., B. Loges, and E. Dunton. August 2011. **Overview and expectations for Midwest non-breeding waterfowl monitoring workshop.** Presentation at the Midwest Bird Conservation and Monitoring Conference, Waterfowl Survey Workshop, Zion, IL.
- Soulliere, G. J., B. Loges, and E. Dunton. August 2011. **Monitoring Midwest waterfowl during the non-breeding period: workshop summary.** Presentation at the Midwest Bird Conservation and Monitoring Conference, Waterfowl Survey Workshop, Zion, IL.
- Soulliere, G. J., B. A. Potter, J. M. Coluccy, and B. M. Kahler. September 2011. **Establishing non-breeding habitat objectives for sea ducks in the Upper Mississippi River and Great Lakes Joint Venture Region.** Poster presentation at 3<sup>rd</sup> North American Sea Duck Symposium, Seward, AK.
- Soulliere, G. J. September 2011. **Upper Mississippi River and Great Lakes Region Joint Venture: progress on assessment team recommendations.** North American Waterfowl Management Plan Committee meeting, Minneapolis, MN.
- Soulliere, G. J. October 2011. **Upper Mississippi River and Great Lakes Region Joint Venture: establishing waterbird research and monitoring priorities.** Presentation at Western / Upper Great Lakes Waterbird meeting, Sault Ste. Marie, MI.

**Evaluation projects with significant 2011 funding and / or Joint Venture science staff collaboration. Projects reviewed in 2011 by the JV Technical Committee and recommended for funding are also included.**

<b>Project Title</b>	<b>Project status in 2011</b>
Habitat use by spring migrating landbirds within the Great Lakes basin with special emphasis on shoreline habitats	Recommended for funding, 2-year project
Waterfowl abundance and productivity in the Great Lakes states: assessing and refining biological models for conservation planning	Recommended for funding, 2-year project
Aerial observer's identification guide and training manual for surveying North American waterfowl	Recommended for funding, 1-year project
Scaup Conservation Action Plan: integrated model refinement and evaluation	Recommended for funding, 2-year project (1-yr by JV)
Red-headed woodpecker habitat use in upland and floodplain areas: implications for region-wide conservation and management	Recommended for funding, 2-year project
Body mass dynamics and foraging ecology of migrating shorebirds in the southwestern Lake Erie basin: autumn versus spring habitat limitation	Study ongoing, year 1 of 3 completed
Stopover ecology of American Golden-Plovers	Study ongoing, year 1 of 2 completed
Piloting marsh bird monitoring in Missouri	Study ongoing, year 1 of 2 completed
Evaluating factors limiting blue-winged teal production and survival in the Great Lakes region	Study ongoing, year 4 of 5 completed
Distribution and abundance of diving ducks on Lake St. Clair, Detroit River, and western Lake Erie	Study ongoing, year 2 of 3 completed
An assessment of waterbird populations and breeding habitat requirements on northern Great Lakes islands	Completed, final report soon available
Evaluating the Wisconsin Strategic Grassland Bird Conservation Plan (phase II)	Completed, final report soon available
Migrant landbird stopover site quality and use on northern Great Lakes islands	Completed, final report soon available
Ohio Breeding Bird Atlas II (2006-2011): completion of statewide abundance surveys in the final field season	Completed, final report soon available
Dunlin stopover ecology and shorebird management at inland sites in the Great Lakes region	Completed, final report soon available
Foraging thresholds of spring-migrating dabbling ducks in central Illinois	Completed, final report available (see summary, p. 8)
Vital rates of breeding waterfowl in the boreal forest of the Great Lakes region	Completed, final report available (see summary p. 8)
Combining radio telemetry and ground technologies to evaluate landbird migration and identify stopover locations along the upper Mississippi River system	Completed, final report available (see summary p. 8)
Great Lakes Colonial Waterbird Survey	Completed, final report available (see summary p. 8)

## Recently Completed Project Summaries and Contacts

**Foraging Thresholds of Spring Migrating Dabbling Ducks in Central Illinois** – *Randolph Smith, Joshua Stafford, Aaron Yetter, Christopher Whelan, Christopher Hine, and Michelle Horath (Illinois Natural History Survey)*

Researchers experimentally estimated “giving-up-density” (GUD) for spring migrating dabbling ducks during 2010-11. GUDs express the amount of food remaining after birds cease foraging, and can be used to estimate foraging thresholds. GUD was evaluated with respect to initial seed density (kg/ha), seed size, predation risk (visual obstruction near foraging sites), substrate type (e.g., sand or clay), and environmental covariates (e.g., temperature). This study increased our understanding of GUD, a key component of the JV energetics model used to generate non-breeding waterfowl habitat objectives. Results will be used for model refinement when revising the JV Waterfowl Habitat Conservation Strategy.

**Vital rates and nest characteristics of ring-necked ducks in the boreal forest of northern Minnesota** – *Charlotte Roy and Christine Herwig (Wetland Wildlife Populations and Research Group, Minnesota Department of Natural Resources), Jody Kennedy and Elizabeth Rave (Bemidji State University)*

This project focused on improving survey techniques for breeding ring-necked ducks and determined hen survival, recruitment success, and habitat characteristics influencing hen success. During 2008-10, estimated daily nest survival and hen survival for the brood-rearing period (June-September) were similar to reports for other duck species. This project provided the first estimates of ring-necked duck hen survival during the breeding season. Brood survival was lower than expected, and this was the first documentation of brood survival for the JV region. Study information will be used to develop a regional species account, as the ring-necked duck was identified as a potential focal species in the JV Waterfowl Habitat Conservation Strategy.

**Combining Radio Telemetry and Ground Technologies to Evaluate Landbird Migration and Identify Stopover Locations along the Upper Mississippi River System** – *Pat Heglund (U.S. Fish and Wildlife Service), Melissa Meier, Eileen Kirsch, and Manuel Suarez (U.S. Geological Survey), Paul Rodewald and David Slager (The Ohio State University)*

The primary goal of this 2008-10 project was to better understand landbird migration timing, spatial patterns, and stopover habitats of landbirds using the Upper Mississippi River system. A combination of NEXRAD, land cover maps, radio telemetry, and physiological assessments (as an indicator of habitat quality) was used to evaluate site specific habitat use, stopover duration, and distances birds move between stopover sites. Findings from this effort, including contrasts in use of upland vs. floodplain forest, will be valuable when revising the JV Landbird Habitat Conservation Strategy.

**Great Lakes Colonial Waterbird Survey** – *Francesca Cuthbert and Linda Wires (University of Minnesota)*

Following three field seasons of data collection during 2007-09, a project report was developed in 2010-11 describing the inventory of all breeding waterbirds on the Great Lakes, the fourth such census. This report provides: 1) estimates of regional population sizes for each species, 2) changes in population abundance and distributions, 3) estimates of colony size, 4) comparison of accuracy for ground and aerial counts, 5) comparison of estimates obtained from the traditional one-season count with an estimate of peak numbers obtained from several counts during a season, and 6) identification of a subset of sites to monitor on a more frequent basis in the future for detecting population trends. In addition, landscape features associated with waterbird colonies can be used for species-habitat modeling in the next JV Waterbird Habitat Conservation Strategy.



# JV Science Office Goals and Future Direction

## Near-term (<2 years)

- Strengthen relationships with science entities important to JV mission, and collaborate on bird research and monitoring critical to regional bird conservation. Key science partners include the JV Science Team, North American Waterfowl Management Plan Science Support Team (NSST), Regional Coordinated Bird Monitoring (CBM) Team, and science partners associated with Landscape Conservation Cooperatives (LCCs).
- Promote use of JV planning tools, collect feedback regarding strengths and weaknesses of the JV Implementation Plan, develop and refine GIS and other planning products useful to partners, and measure effectiveness of products to partners. Priority focus will be enhanced bird habitat delivery by partner organizations serving on the JV Management Board.
- Continue addressing concerns regarding JV science foundation identified in the North American Waterfowl Management Plan Assessment, and work toward comprehensive completion of science elements in the matrix of “Desired Characteristics of Joint Ventures.”
- Expand knowledge of bird ecology, contemporary conservation practices, measuring landscape change, and the potential impacts of climate change on priority bird species. New information will be used to develop and refine JV species accounts, bird habitat conservation objectives, planning documents, and bird habitat accomplishment reporting.

## Long-term (>2 years)

- Identify and integrate regional bird conservation priorities with societal initiatives developed to counter environmental threats. A primary focus will be mitigation and adaptation to landscape and climatic changes, plus implementing the 2012 North American Waterfowl Management Plan.
- Establish JV partnership as a national leader in bird conservation by continually improving scientific foundation, efficiency, and effectiveness of conservation initiatives in the JV region. Strategic Habitat Conservation (SHC) via planning-implementing-evaluating will be central to improving JV conservation approaches over time.

## Science Office Personnel

**Greg Soulliere:** Greg has served as the JV Regional Science Coordinator since 2004. His goal is to improve the science foundation used for bird habitat conservation decisions, ultimately increasing the efficiency and effectiveness of the JV partnership. He has extensive field experience in waterfowl and wetland ecology and waterbird habitat management, and a growing understanding of the habitat requirements for other bird groups. He chairs the JV Science Team, a collection of scientists providing technical guidance to partners who deliver bird habitat conservation in the JV region.

Greg received a M.S. degree in Wildlife Management from the University of Wisconsin, where he studied the ecology of cavity nesting ducks. His B.S. in Wildlife Biology is from Michigan State University. Greg also completed an M.B.A. at Lake Superior State University, fueling an interest in human resources management and applying business concepts to conservation decisions.

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*Email: [Greg\\_Soulliere@fws.gov](mailto:Greg_Soulliere@fws.gov)*

**Ben Kahler:** After serving as a Biological Science Technician with the JV Science Office since September 2010, Ben was promoted to JV Wildlife Biologist/Spatial Modeler in January 2012. His work involves assisting the JV partnership and other programs with wildlife habitat and population models and organizing and distributing GIS data.

Ben will earn his M.S. in Natural Resources with a Specialization in Wildlife Science in 2012 from The Ohio State University where he studied landscape and environmental features affecting the distribution of secretive marshbirds. He received a B.S. in Natural Resources with Distinction in Fisheries and Wildlife Management and a B.A. in Anthropology from The Ohio State University before serving three years as a Peace Corps volunteer in the Republic of Vanuatu. Ben's interests in applied resource conservation matured during his time in the Southwest Pacific. His work integrated geospatial applications for regional assessment and planning, with complimentary goals of food and water security, terrestrial and aquatic biodiversity, and wildlife habitat conservation.

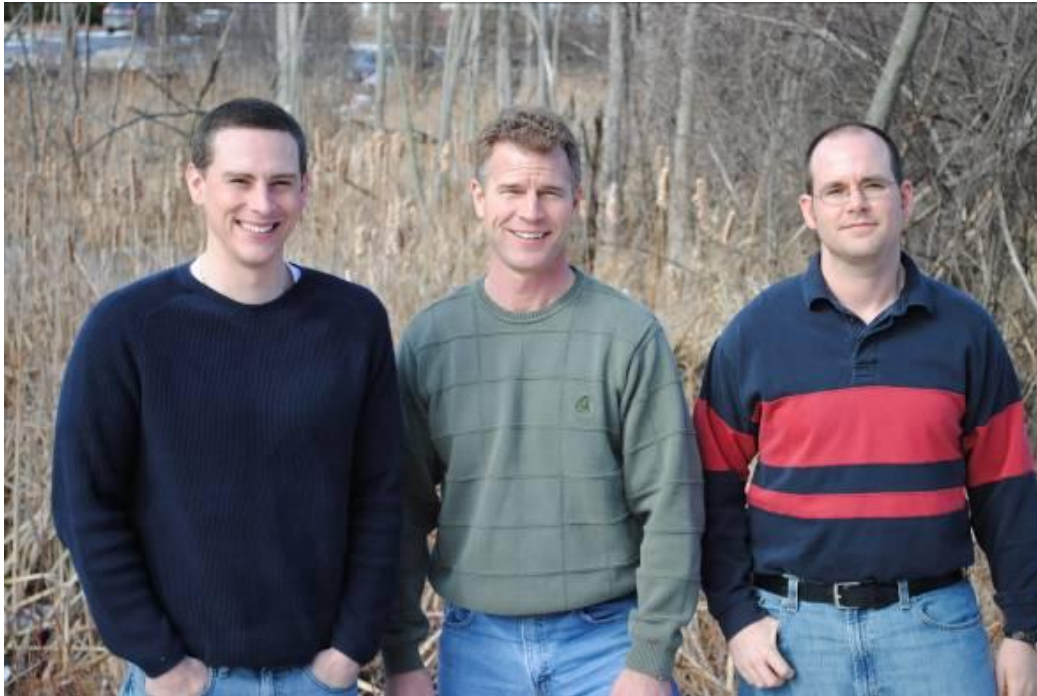
*Phone: 517-351-8334,*

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**Brad Potter:** Brad started as a Biological Technician with the JV Science Office in 2005 and was promoted to JV Wildlife Biologist/Spatial Modeler in 2009. In August 2011, Brad left the JV Science staff, taking a promotion and joining the Upper Midwest and Great Lakes Landscape Conservation Cooperative (LCC) as the new Science Coordinator. Brad continues to serve on the JV Shorebird and Landbird Committees, and provides a valuable science conduit between the JV and LCC. His career interests remain advancing use of technology and methods for landscape planning through partnerships.

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Upper Mississippi River and Great Lakes Region Joint Venture Science staff: Brad Potter (now with the Upper Midwest and Great Lakes LCC), Greg Soulliere, and Ben Kahler.

*Upper Mississippi River and Great Lakes Region Joint Venture Science Office Annual Report*  
For more information about the Joint Venture, visit our web site: [www.UpperMissGreatLakesJV.org](http://www.UpperMissGreatLakesJV.org)