

**R. GREGORY CORACE III, PH.D.**

**Applied Sciences Program  
Seney National Wildlife Refuge  
1674 Refuge Entrance Rd.  
Seney, MI 49883  
906.586.9851x14  
Greg\_Corace@fws.gov**

**PROFESSIONAL INTEREST**

My professional interest is to advance ecosystem, community, and species-level conservation and restoration across spatial scales and land ownerships by integrating applied research, land management, and tertiary education.

**SYNOPSIS OF PROFESSIONAL EXPERIENCE**

My major duty as Ecologist (Forester-Wildlife Biologist), US Fish and Wildlife Service (USFWS), is overseeing the Applied Sciences Program at Seney National Wildlife Refuge. This program formulates ecosystem goals and objectives as well as conducts applied research, management, and monitoring on over 100,000 acres, including multiple satellite refuges, managed primarily for ecological integrity and non-game wildlife habitat. Much of this work has involved working with universities and other Federal and State cooperators. Specific experience has been gained across a gradient of site conditions and land management goals and objectives, from the restoration and rehabilitation of forest and wetland ecosystems to the intensive management of habitats for the recovery of Endangered species (i.e., Kirtland's Warbler *Setophaga kirtlandii*). Supervisory experience has been achieved by seasonally overseeing a field crew comprised of interns, biological technicians, and graduate students, as well as university teaching and graduate committee involvement. I also function as a USFWS regional resource by assisting with training, planning, research, and management on other refuges in Michigan, Minnesota, Ohio, and Wisconsin and during February-March 2009 functioned as Acting Regional Forester (R4) for the USFWS Regional Office, Atlanta. Prior to government service, I was the sole proprietor of an ecological consulting firm that conducted ecological assessments planning and management for private landowners and public organizations in Michigan.

**EDUCATION**

Michigan Technological University, Houghton, MI	2007
Ph.D., Forest Science, Dissertation: "Using Multiple Spatial Scales to Prioritize Midwest Openland Bird Conservation"	
Northern Michigan University, Marquette, MI	1997
M.S., Biology, Thesis: "East African Freshwater Crab Taxonomy and Systematics."	
US Peace Corps, Botswana	1994
Science Instructor Certificate	
Northern Michigan University, Marquette, MI	1993
B.S., Zoology (Honors)	

**LICENSES AND CERTIFICATIONS**

- Leadership Fundamentals Program (Center for Creative Leadership, Dec. 6-7, 2011, San Francisco, CA)
- NCTC Scientific Writing for Publication (Instructor)
- WLD2125, Habitat Management Planning (USFWS)
- NCTC Applied Supervision (USFWS)
- NCTC Refuge Academy (USFWS)
- Firefighter Type 2 Certification
- Introduction to Fire Effects, Rx-310
- Intermediate Wildland Fire Behavior, S-290
- Introduction to Wildland Fire Behavior, S-190
- Human Factors on the Fireline, L-180
- Firefighter Training, S-130
- Introduction to Incident Command System, I-100

- Firefighter "Red Card" Certified (2002-2011)
- DOI Motorboat Operator Certification with Open Water Module (USFWS)
- ATV Operations, NSA03 (USFWS)
- Michigan Licensed Forester #663
- Michigan Certified Commercial Pesticide Applicator
- Michigan Wildlife Division Firearm Safety Training (2011)

#### **NATURAL RESOURCE MANAGEMENT POSITIONS**

US Fish and Wildlife Service-Wildlife Biologist, Seney NWR	2012+
US Fish and Wildlife Service-Forester and Acting Biologist, Seney NWR	2009-12
US Fish and Wildlife Service-Acting Regional Forester, Region 4 (February-March)	2009
US Fish and Wildlife Service-Visiting Biologist, Bahamas (February-March)	2008
US Fish and Wildlife Service-Visiting Biologist, Cabo Rojo and Desecheo NWRs, Puerto Rico (March)	2004
US Fish and Wildlife Service-Acting Biologist, Seney NWR	2004
US Fish and Wildlife Service-Forester, Seney NWR and Kirtland's Warbler WMA	2002
Private Ecological Consultant and Sole Proprietor-Integrated Land Management, Chassell, MI	1999+

#### **OTHER NATIONAL WILDLIFE REFUGE EXPERIENCE**

R3 Great Lakes Biological Network Forest Rapid Ecological Assessment (Leader)	2010-11
Forest Ecology and Management Consultation-Ottawa NWR	2008
R3 Great Lakes Biological Network Forest Ecology and Management Workshop-Seney NWR (Leader)	2007
Forest Ecology and Management Consultation-Shiawassee NWR	2007
Forest Ecology and Management Consultation-Rice Lake NWR	2007
Biological Review-Tamarac NWR	2006
R3 Biological Workshop Committee	2006

#### **ACADEMIC POSITIONS**

The Ohio State University, Columbus, OH	2011+
Adjunct Graduate Committee Member-School of Environment and Natural Resources	
Wayne State University, Detroit, MI	2010+
Adjunct Professor-Department of Biological Sciences	
Central Michigan University, Mt. Pleasant, MI	2009+
Adjunct Professor-Graduate Faculty-Department of Biology	
Michigan Technological University, Houghton, MI	2008+
Adjunct Professor-School of Forest Resources and Environmental Science	

#### **TEACHING EXPERIENCE**

Central Michigan University	
"Forest Ecology and Management"	2008
Michigan Technological University	
"US Forest Service Program of Advance Studies in Silviculture"	2005-06
"Forest Wildlife Ecology"	1999-00
Northern Michigan University	
"Human Anatomy and Physiology"	1995-97

“Introductory Botany”	1996
“Human Physiology”	1995
Matsha College, Kang, Botswana	
“Biology and Chemistry”	1993-94

#### UNIVERSITY CURRICULA DEVELOPMENT

School of Forest Resources and Environmental Sciences, Michigan Technological University, Houghton, MI

“Wildlife Habitat Conservation and Restoration” (3 credits)	<i>Approved</i>
“Wildlife Refuge Primer” (2credits)	<i>Approved</i>

#### GRADUATE COMMITTEE MEMBERSHIP (ABBREVIATED TITLES)

Wayne State University	<i>In Progress</i>
“Pre-European jack pine barrens reconstruction in Michigan.” (M. Tucker, M.S.)	
Michigan Technological University	<i>In Progress</i>
“Hydrological restoration at Seney NWR.” (M. Jackson, Ph.D.)	
Central Michigan University	<i>In Progress</i>
“Bird communities of biological legacy patches in jack pine ecosystems.” (B. Cullinane, M.S.)	
Wayne State University	<i>In Progress</i>
“Recolonization of Detroit by coyotes.” (William Dodge, Ph.D.)	
Wayne State University	<i>In Progress</i>
“A biogeographic analysis of upland sandpiper habitat use in Michigan.” (J. Korte, M.S.)	
The Ohio State University	<i>In Progress</i>
“Mixed-pine regeneration under varying disturbance regimes.” (P. Nyamai, Ph.D.)	
Central Michigan University	<i>Completed 2011</i>
“Double-crested cormorant movement in the Beaver Island Archipelago.” (T. Tucker, M.S.)	
Central Michigan University	<i>Completed 2011</i>
“Double-crested cormorant predation in the Beaver Island Archipelago.” (M. Van Guilder, M.S.)	
Michigan Technological University	<i>Completed 2011</i>
“An assessment of the Walsh Ditch restoration project.” (S. Welsh, M.S.)	

#### INVITED PAPERS AND PRESENTATIONS

- **Corace, R.G. III.** 2012. Variability in conservation planning across National Wildlife Refuge System units in Michigan. School of Forest Resources and Environmental Science, Michigan Technological University, Houghton, MI.
- **Corace, R.G. III.** 2012. Wilderness research and refuge restoration: study evaluation and application. Arthur Carhart National Wilderness Training Center, Interagency Regional Wilderness Stewardship Training, Munising, MI.
- **Corace, R.G. III,** P.C. Goebel and D.M. Kashian. 2012. Snag management in pine forest types in northern Michigan. Society for Ecological Restoration-Midwest/Great Lakes Chapter Annual Meeting, Ann Arbor, MI.
- Kashian, D.M. and **Corace, R.G. III.** 2012. Variability and persistence of post-fire biological legacies in jack pine-dominated ecosystems of northern Michigan. Webinar presented to the Lake States Fire Science Consortium.
- **Corace, R.G., III.** 2011. Panelist: landscape ecology principles in refuge management. Midwest Natural Resources Group, Chicago, IL.
- **Corace, R.G., III.** 2011. Restoration and disturbance ecology at Seney NWR. Northwestern University and Chicago Botanic Gardens, Chicago, IL.
- **Corace, R.G., III,** Kashian, D.M., Goebel, P.C. and E. Toman. 2011. Wildfire and structural and compositional patterns in jack pine ecosystems of the northern Lower Peninsula of Michigan: implications for restoration and ecological forestry. Fall Field Tour, Michigan Society of American Foresters, Lower Peninsula Chapter.

- **Corace, R.G., III.** 2011. Beyond Kirtland's Warbler: Multi-species consequences to jack pine ecosystem management. Jack Pine Symposium, University of Minnesota Tree Improvement Center, Cloquet, MN.
- **Corace, R.G., III.** 2010. A step-wise approach to invasive plant assessment and treatment: a glossy buckthorn model. Eastern Upper Peninsula Cooperative Weed Management Area, St. Ignace, MI.
- **Corace, R.G., III.** 2010. Ecological restoration and disturbance ecology at Seney NWR and Kirtland's Warbler WMA. Ecological Restoration class, School of Forest Resources and Environmental Science, Michigan Technological Univ., Houghton, MI.
- **Corace, R.G., III** and P.C. Goebel. 2010. An ecological approach to forest management for wildlife: integrating disturbance ecology patterns into silvicultural treatments. *The Wildlife Professional* 4:38-40. The Wildlife Society, Washington, D.C.
- **Corace, R.G., III.** 2009. Biogeographic patterns and Upland Sandpiper conservation in Michigan. Manomet Center for Conservation Sciences-USFWS R3/6, Neil Smith National Wildlife Refuge, Prairie City, IA.
- **Corace, R.G., III.** 2009. Conservation filters and ecological forestry on National Wildlife Refuges. The School of Environment and Natural Resources, The Ohio State University, Columbus, OH.
- **Corace, R.G. III,** Casselman, T., Olson, D. and P.C. Goebel. 2007. Application of ecological forestry at Seney National Wildlife Refuge: opportunities and limitations. Society of American Foresters Conference, Portland, OR.
- **Corace, R.G., III.** 2006 and 2007. Careers in National Wildlife Refuges, experiences from Seney NWR. School of Forest Resources and Environmental Sciences, Michigan Technological University, Houghton, MI.

#### **OTHER UNIVERSITY PRESENTATIONS**

Presentations on conservation biology, forest ecology and management, invasive plant management, and natural history have been given to classes from the following universities (many repeatedly): Andrews University, Grand Valley State University, Michigan Technological University, Northern Michigan University, Lake Superior State University, The University of Michigan, The University of Connecticut, and Oklahoma State University.

#### **MENTORING AND SUPERVISORY EXPERIENCE**

- Emily Grover, College of Wooster Writing Intern (2012)
- Carolyn Fado, College of Wooster Writing Intern (2012)
- Lindsey M. Shartell, Post-Doctoral Research Associate (2012)
- Morgan Slevin, Applied Sciences Intern (2012)
- Ellen Comes, Applied Sciences Intern (2011/2012)
- Andrew DiAllesandro, SCEP Biological Technician (2011)
- Meghan Cornwall, Applied Sciences Intern (2011)
- Jennifer Field, Applied Sciences Intern (2011)
- Joseph May, Biological Technician (2010)
- Alina Neel, Applied Conservation Biology Intern (2010)
- Dakotah Hunter, Applied Conservation Biology Intern (2010)
- Thomas Macy, Biological Technician (2009)
- Kim Trinkle, Applied Conservation Biology Intern (2009)
- Reid Plumb, Biological Technician (2008)
- Anna Treado, Applied Conservation Biology Intern (2008)
- Ken Leister, Biological Technician (2007)
- Julia Polasik, Applied Conservation Biology Intern (2007)
- Erin Brosnan, Biological Technician (2006)
- Heather Whitman, Applied Conservation Biology Intern (2006)
- Kasey Cornwell, Biological Technician (2005)
- Kim Henslee, Applied Conservation Biology Intern (2005)

- Vincent Cavalieri, Applied Conservation Biology Intern (2004)
- Lindsey Shartell, Applied Conservation Biology Intern (2004)

#### MULTI-AGENCY COOPERATION AND CONTROVERSIAL ISSUES EXPERIENCE

- **Kirtland's Warbler Wildlife Management Area (2002-Present):** as the first-level coordinator for this land unit, I provide key interaction with US Forest Service and Michigan Department of Natural Resources personnel on the management of habitat for Kirtland's Warbler, monitoring of populations of this species, and applied research projects.
- **US Coast Guard and Common Terns (2002-Present):** the largest Common Tern colony in the Upper Great Lakes is located at a US Coast Guard Facility in St. Ignace. My task has been to work with Station Commanders, Vessel Commanders, and USCG Attorneys on minimizing human impacts to nesting birds at an Important Bird Area in Michigan. In 2011, I drafted a formal conservation plan for these birds which was signed by USCG.

#### OTHER PROFESSIONAL LEADERSHIP EXPERIENCE (COOPERATORS)

- Conservation Innovation Grant Committee (State, Federal, Other) 2009
- Midwest Jack Pine Symposium Committee (State, Federal, Other) 2009
- Great Lakes Biology Network Forest Ecology and Management Meeting Committee (USFWS) 2008
- Upper Peninsula Invasive Plant Council (State, Federal, and Non-Profit Organizations) 2008+
- Michigan Forest Legacy Program Sub-Committee (State, Federal, Private) 2008+
- Michigan Important Bird Areas Technical Committee (State, Federal, University, Non-Profit) 2006-10
- Eastern Upper Peninsula Partners in Ecosystem Management Committee (State, Federal, Non-Profit) 2006-08
- US Fish and Wildlife Service Regions 3/5 Forest Workshop Committee (USFWS) 2006
- Michigan Bird Conservation Initiative Advisory Committee (State, Federal, Non-Profit) 2005-07
- US Fish and Wildlife Service Biological Workshop Conference Committee (USFWS) 2006

#### REFEREED PUBLICATIONS

- Shartell, L.M., Corace, R.G. III, Storer, A.J. and D.M. Kashian. *In Review*. Broad and local-scale drivers of earthworm functional groups in the Upper Midwest and associated impacts to forested ecosystems. *Ecological Applications*.
- **Corace, R.G. III** and M. Vaniman. *In Press*. Lessons learned from Seney refuge: exploring the benefits of applied research partnerships. *Wildlife Professional*.
- Shartell, L.M., **Corace, R.G. III** and A.J. Storer. *In Press*. Exotic earthworm communities of National Wildlife Refuges in the Upper Midwest: implications for forest conservation. *Journal of Fish and Wildlife Management*.
- **Corace, R.G. III**, Stout, A.T., Goebel, P.C. and D.M. Hix. *In Press*. Snag benchmarks and treatment options for mixed-pine forest restoration in eastern Upper Michigan. *Restoration Ecology*.
- Welsh, S., Pypker, T.G., **Corace, R.G. III**, Chimner, R.A., A.L. Maclean and J.A. Hribljan. *Accepted*. A case study in large-scale wetland restoration at Seney National Wildlife Refuge, Upper Michigan, USA. *American Midland Naturalist*.
- Miesel, J., Goebel, P.C., **Corace, R.G. III**, Hix, D.M., Kolka, R., Palik B. and D. Mladenoff. 2012. Fire effects on soils in Lake States forests: a compilation of published research to facilitate long-term investigations. *Forests* 3:1034-1070.
- Drobyshev, I., Goebel, P.C., Bergeron, Y. and **R.G. Corace, III**. 2012. Detecting changes in climate forcing on the fire regime of a North American mixed-pine forest: a case study of Seney National Wildlife Refuge, Upper Michigan. *Dendrochronologia* 30:137-145.
- **Corace, R.G. III**, Shartell, L.M., Schulte, L.A., Brininger, W.L. Jr., McDowell, M.K.D. and D.M. Kashian. 2012. An ecoregional context for forest management on National Wildlife Refuges of the Upper Midwest, USA. *Environmental Management* 49:359-371.
- Kashian, D.M., **Corace, R.G. III**, Shartell, L.M., Donner, D.M. and P.W. Huber. 2012. Variability and persistence of post-fire biological legacies in jack pine-dominated ecosystems of northern Michigan. *Forest Ecology and Management* 263:148-158.
- Rist, S.G., Goebel, P.C., **Corace, R.G. III**, Hix, D.M., Drobyshev, I. and T. Casselman. 2011. Do partial cross sections from live trees for fire history analysis result in higher mortality of sampled trees? *Forest Ecology and Management* 262:940-946.

- Drummer, T.D., **Corace, R.G. III** and S.J. Sjogren. 2011. Sharp-tailed Grouse lek attendance and fidelity in Upper Michigan. *The Journal of Wildlife Management* 75:311-318.
- **Corace, R.G. III**, Seefelt, N.E., Goebel, P.C. and H.L. Shaw. 2010. Snag longevity and decay class development in a recent jack pine clearcut in Michigan. *Northern Journal of Applied Forestry* 27:125-131.
- **Corace, R.G. III**, Goebel, P.C. and D.L. McCormick. 2010. Kirtland's warbler habitat management and multi-species bird conservation: considerations for planning and management across jack pine habitat types. *Natural Areas Journal* 30:174-190.
- Wilson, R.S., Hix, D., Goebel, P.C. and **R.G. Corace III**. 2009. Identifying land manager objectives and alternatives for mixed-pine forest ecosystem management and restoration in eastern Upper Michigan. *Ecological Restoration*. 27:407-416.
- **Corace, R.G. III**, Goebel, P.C., Hix, D.M., Casselman, T. and N.E. Seefelt. 2009. Applying principles of ecological forestry at National Wildlife Refuges: experiences from Seney National Wildlife Refuge and Kirtland's Warbler Wildlife Management Area, USA. *The Forestry Chronicle* 85:695-701.
- **Corace, R.G. III**, Flaspohler, D.J. and L.M. Shartell. 2009. Geographic patterns in openland cover and hayfield mowing in the Upper Great Lakes region: implications for grassland bird conservation. *Landscape Ecology* 24:309-323.
- Goebel, P.C., Hix, D.M., Wilson, R.S. and **R.G. Corace, III**. 2009. Linking ecological and structured decision-making networks to develop local- and landscape-scale restoration strategies for mixed-pine forests of Upper Michigan, USA. Pp. 192-196, In: Ecological Networks: Science and Practice. Proceedings of the 16<sup>th</sup> Annual Conference of the International Association of Landscape Ecology (UK Chapter). R. Catchpole, R. Smithers, P. Baarda, and A. Eycott (editors). International Association of Landscape Ecology (UK Chapter), Edinburgh, Scotland, UK.
- Drobyshev, I., Goebel, P.C., Hix, D.M., **Corace, R.G. III** and M. Semko-Duncan. 2008. Interactions among forest composition, structure, fuel loadings and fire history: a case study of red pine-dominated forests of Seney National Wildlife Refuge. *Forest Ecology and Management* 256:1723-1733.
- Drobyshev, I., Goebel, P.C., Hix, D.M., **Corace, R.G. III** and M. Semko-Duncan. 2008. Pre- and post-European settlement fire history of red pine-dominated forest ecosystems of Seney National Wildlife Refuge, Upper Michigan. *Canadian Journal of Forest Research* 38:2497-2514.
- **Corace, R.G. III**, Leister, K.P. and E. Brosnan. 2008. Efficacy of different glyphosate concentrations in managing glossy buckthorn (*Frangula alnus*) resprouts at Seney National Wildlife Refuge, Upper Michigan. *Ecological Restoration* 26:111-113.
- Nagel, L.M., **Corace, R.G. III** and A. Storer. 2008. An experimental approach to testing the efficacy of management treatments for glossy buckthorn (*Frangula alnus*) at Seney National Wildlife Refuge, Upper Michigan. *Ecological Restoration* 26:136-142.
- Losey, E.B., Deemer, B.R. and **R.G. Corace III**. 2007. History of sharp-tailed grouse (*Tympanuchus phasianellus*) at Seney National Wildlife Refuge and surrounding areas, Schoolcraft County, Michigan. *The Passenger Pigeon* 69:359-348.
- **Corace, R.G. III**, Lundrigan, B. and P. Myers. 2006. Nest site habitat characteristics and prey use of a breeding pair of great gray owls in the Upper Peninsula of Michigan. *The Passenger Pigeon* 68:353-360.
- **Corace, R.G. III**, McCormick, D. and V. Cavalieri. 2006. Population growth parameters of a reintroduced trumpeter swan flock, Seney National Wildlife Refuge, Michigan, USA (1991–2004). *Waterbirds* 29:38-42.
- Goebel, P.C., Wyse, T.C. and **R.G. Corace III**. 2005. Determining reference ecosystem conditions for disturbed landscapes within the context of contemporary resource management issues. *Journal of Forestry* 103:331-356.
- **Corace, R.G. III**, Cumberlidge, N. and R. Garms. 2001. A new species of Potamonautes (MacLeay, 1835) from the Ruwenzori Mountains of Uganda. *Proceedings of the Biological Society of Washington* 114:178-187.

#### CONSERVATION PLANNING DOCUMENTS

- US Fish and Wildlife Service (**R. G. Corace III** primary author). *Draft*. Habitat Management Plan for Seney NWR and Kirtland's Warbler WMA. Regional Office, Fort Snelling, MN.
- US Fish and Wildlife Service (**R. G. Corace III** minor contributor). *Submitted*. Huron NWR, Harbor Island NWR, and Michigan Islands NWR Comprehensive Conservation Plans. Regional Office, Fort Snelling, MN.
- **Corace, R.G. III**, Shartell, L.M., Bringer, W.L. Jr. and R.S. King. 2009. Assessment of ecoregional spatial patterns for National Wildlife Refuges of the Great Lakes Biology Network. Seney, NWR.
- US Fish and Wildlife Service (**R. G. Corace III** major contributor). 2009. Seney National Wildlife Refuge

Comprehensive Conservation Plan. Regional Office, Fort Snelling, MN.

- US Fish and Wildlife Service (**R. G. Corace III** primary contributor). 2009. Kirtland's Warbler Wildlife Management Area Comprehensive Conservation Plan. Regional Office, Fort Snelling, MN.
- US Fish and Wildlife Service (**R. G. Corace III** major contributor). 2002. Wildland fire management plan: Seney National Wildlife Refuge. Regional Office, Fort Snelling, MN.

#### EDITOR-REVIEWED TECHNICAL REPORTS AND PAPERS

- McCormick, D., and **R.G. Corace III**. 2011. Spruce Grouse (*Falci pennis canadensis*). In A.T. Chartier, J.J. Baldy, and J.M. Brenneman, editors. The Second Michigan Breeding Bird Atlas. Kalamazoo Nature Center. Kalamazoo, Michigan, USA. Accessed online at: <[www.mibirdatlas.org/Portals/12/MBA2010/SPGRaccount.pdf](http://www.mibirdatlas.org/Portals/12/MBA2010/SPGRaccount.pdf)>.
- **Corace, R.G. III**. 2011. Upland Sandpiper (*Bartramia longicauda*). In A.T. Chartier, J.J. Baldy, and J.M. Brenneman, editors. The Second Michigan Breeding Bird Atlas. Kalamazoo Nature Center. Kalamazoo, Michigan, USA. Accessed online at: <[www.mibirdatlas.org/Portals/12/MBA2010/UPSAaccount.pdf](http://www.mibirdatlas.org/Portals/12/MBA2010/UPSAaccount.pdf)>.
- **Corace, R.G. III**. 2011. Great Gray Owl (*Strix nebulosa*). In A.T. Chartier, J.J. Baldy, and J.M. Brenneman, editors. The Second Michigan Breeding Bird Atlas. Kalamazoo Nature Center. Kalamazoo, Michigan, USA. Accessed online at: <[www.mibirdatlas.org/Portals/12/MBA2010/GGOWaccount.pdf](http://www.mibirdatlas.org/Portals/12/MBA2010/GGOWaccount.pdf)>.
- **Corace, R.G. III**, P.C. Goebel and T.C. Wyse. 2009. A multi-scale assessment and evaluation of historic openlands at Sleeping Bear Dunes National Lakeshore. Natural Resource Technical Report NPS/GLKN/NRTR—2009/150. National Park Service, Fort Collins, CO.
- Goebel, P.C., McCormick, D.L. and **R.G. Corace III**. 2007. Ecological assessment of the USDI Fish and Wildlife Service's Kirtland's Warbler Wildlife Management Area. The School of Environment and Natural Resources, Ohio Agricultural Research and Development Center, The Ohio State University, Columbus, OH.
- **Corace, R.G. III**, Goebel, P.C. and T.C. Wyse. 2005. A landscape to field-scale assessment of the bird communities of historic openlands at Sleeping Bear Dunes National Lakeshore. *Michigan Birds and Natural History* 12:169-181.
- Nagel, L.M. and **R.G. Corace III**. 2002. Why the rift between ecology and forestry – aren't they one and the same? *Upper Peninsula Environmental Coalition Newsletter* 28:7-8.
- **Corace, R.G. III** and Michael G. Tansy. 2002. Brief look at restoration efforts at Seney National Wildlife Refuge, Michigan. The Wildlife Society's Restoration Working Group Newsletter, Bethesda, MD.
- **Corace, R.G. III**. 2001. Restoring pine barrens for avian conservation in Michigan's Upper Peninsula. *Society for Ecological Restoration News* 14:1 & 14.
- **Corace, R.G. III**, Lapinski, N.W. and S.J. Sjogren. 2001. Le Conte's Sparrow conservation assessment. US Forest Service, Hiawatha National Forest, St. Ignace, MI.
- **Corace, R.G. III**, Lapinski, N.W. and S.J. Sjogren. 2001. Sharp-tailed Grouse conservation assessment. US Forest Service, Hiawatha National Forest, St. Ignace, MI.
- **Corace, R.G. III**, Lapinski, N.W. and S.J. Sjogren. 2001. Black-backed Woodpecker conservation assessment. US Forest Service, Hiawatha National Forest, St. Ignace, MI.
- **Corace, R.G. III**, Lapinski, N.W. and S.J. Sjogren. 2001. Short-eared Owl conservation assessment. US Forest Service, Hiawatha National Forest, St. Ignace, MI.

#### PAPER AND POSTER PRESENTATIONS AND PUBLISHED ABSTRACTS

- Miesel, J.R., P.M. Nelson, P.C. Goebel, **R.G. Corace III** and D.M. Kashian. 2012. Forest fuels and vegetation in wildfire-regenerated jack pine (*Pinus banksiana* Lamb.) forests: informing ecological forestry in the Lake States region. Ecological Society of America 97<sup>th</sup> Annual Meeting, Portland, OR.
- Korte, J.L., Kashian, D.M. and **R.G. Corace, III**. 2012. Landscape characteristics of Upland Sandpiper habitat in Michigan. US International Association for Landscape Ecology (US-IALE) Annual Symposium. Newport, RI.

- **Corace, R.G. III**, Stout, A.C., Goebel, P.C. and D.M. Hix. 2012. Snag benchmarks and management recommendations for mixed-pine forest restoration. Western Great Lakes Resource Management Conference, National Park Service, Ashland, WI.
- Shartell, L.M., **Corace, R.G. III** and A. Storer. 2012. European earthworms: a potential constraint to forest restoration and conservation on National Wildlife Refuges. Society for Ecological Restoration-Midwest/Great Lakes Chapter Annual Meeting, Ann Arbor, MI.
- **Corace, R.G. III**, Goebel, P.C., Drobyshev, I. and D.M. Hix. 2012. Is mixed-pine forest restoration in the Upper Peninsula of Michigan for the birds? Michigan Bird Conservation Initiative Workshop, Tustin, MI.
- Shartell, L.M., **Corace, R.G. III** and A. Storer. 2012. Influences on exotic earthworm invasion in forest ecosystems across Great Lakes Biology Network National Wildlife Refuges. Western Great Lakes Resource Management Conference, National Park Service, Ashland, WI.
- Nyamai, P., P.C. Goebel, D.M. Hix and **R.G. Corace, III**. 2012. Initial regeneration layer response following a variable retention harvest in a mixed-pine forest ecosystem in the eastern Upper Peninsula of Michigan. Ecosummit, Columbus, OH.
- **Corace, R.G. III**, P.C. Goebel, D.M. Kashian and T. Pypker. 2012. Research-management partnerships and fire-dependent ecosystem restoration: case studies from Seney National Wildlife Refuge, Upper Michigan. Stewardship Network Conference, East Lansing, MI.
- Shartell, L.M., **R.G. Corace III** and A.J. Storer. 2012. European earthworm invasion patterns within National Wildlife Refuges of the Upper Great Lakes. 23<sup>rd</sup> USDA Interagency Research Forum on Invasive Species. Annapolis, MD.
- Shartell, L.M., **R.G. Corace III** and A.J. Storer. 2012. A multilevel approach to assess invasion patterns of European earthworms in Great Lakes National Wildlife Refuges. The Stewardship Network Conference: The Science, Practice & Art of Restoring Native Ecosystems. East Lansing, MI.
- Nyamai, P., P.C. Goebel, D.M. Hix and **R.G. Corace, III**. 2011. Downed woody fuel dynamics of mixed-pine forest ecosystems in the eastern Upper Peninsula of Michigan, U.S.A. Poster presentation, Annual Meeting of the Ecological Society of America, Austin, TX.
- Kashian, D.M., **R.G. Corace III**, L.M. Shartell, D. Donner and P.W. Huber. 2011. Variability and persistence of post-fire biological legacies in jack-pine dominated ecosystems of northern Lower Michigan. U.S. Chapter of the International Association for Landscape Ecology Annual Meeting, Portland, OR
- Shartell, L.M., **Corace, R.G. III** and A.J. Storer. 2011. Invasive exotic earthworm populations in Great Lakes National Wildlife Refuges. Ecosystem Science Center Student Research Forum, Michigan Technological University, Houghton, MI.
- Nyamai, P., Goebel, P.C., Hix, D.M. and **R.G. Corace, III**. 2011. Downed woody fuel dynamics of mixed-pine forest ecosystems in the eastern Upper Peninsula of Michigan, U.S.A. Ecological Society of America National Convention, Pittsburg, PA.
- **Corace, R.G. III**, Goebel, P.C., Kashian, D.M., Seefelt, N.S. and E. Toman. 2010. Back to the future: thinking ahead to the management of jack pine forest ecosystems for Kirtland's warbler and associated wildlife species. Oral Presentation: 71<sup>st</sup> Midwest Fish and Wildlife Conference, Minneapolis, MN.
- **Corace, R.G. III**, Shartell, L.M., Schulte, L.A., Kashian, D.M., Bringer, W.L. III and M.K.D. McDowell. 2010. An ecoregional context for forest management on National Wildlife Refuges of the Laurentian Mixed Forest Province. Poster Presentation: 71<sup>st</sup> Midwest Fish and Wildlife Conference, Minneapolis, MN.
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- **Corace, R.G. III**, Seefelt, N.E., Goebel, P.C. and H.L. Shaw. 2009. Snag management in Kirtland's warbler jack pine plantations. Midwest Jack Pine Symposium, Odanah, WI.
- Wilson, R.S., Hix, D.M., Goebel, P.C. and **R.G. Corace III**. 2009. Identifying land manager objectives and alternatives for mixed-pine forest ecosystem management and restoration in eastern Upper Michigan. Midwest Jack Pine Symposium, Odanah, WI.
- **Corace, R.G. III**, Goebel, P.C., McCormick, D.L. and N.E. Seefelt. 2009. Stepping back from single species habitat management at Kirtland's Warbler Wildlife Management Area: multi-species bird conservation and ecological forestry. MIBCI 3rd Annual Ornithological Congress, Petoskey, MI.
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- Hix, D.M., Goebel, P.C., Wilson, R., Drobyshev, I. and **R.G. Corace III**. 2008. Using fire history, vegetation, and risk analysis to develop integrated strategies for restoring mixed-pine forest ecosystems of eastern Upper Michigan. 93<sup>rd</sup> Ecological Society of American Conference, Milwaukee, WI.
- **Corace, R.G. III**, Goebel, P.C. and N.E. Seefelt. 2008. Forest ecosystem conservation and restoration: Seney National Wildlife Refuge and Kirtland's Warbler Wildlife Management Area. Proceedings: Western Great Lakes Research Conference, Marquette, MI.
- **Corace, R.G. III**, Goebel, P.C. and N.E. Seefelt. 2008. Approaches to forest management at National Wildlife Refuges in the Lake States: Seney National Wildlife Refuge and Kirtland's Warbler Wildlife Management Area. *Forest Wisdom*, The Forest Guild, Santa Fe, NM.
- **Corace, R.G. III**. 2008. Forest ecology and management, Seney National Wildlife Refuge and Kirtland's Warbler Wildlife Management Area. Lake States Meeting of the Forest Guild, Alberta, MI.
- **Corace, R.G. III**, Schulte, L.A., Brininger, W.L. Jr. and M.K.D. McDowell. 2008. An ecoregional context to forest conservation and restoration on National Wildlife Refuges of the Laurentian Mixed Forest Province. US Fish and Wildlife Service Region 3 National Wildlife Refuge System Biological Workshop, Moline, IL.
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- Shartell, L.M. and **R.G. Corace III**. 2007. Predictive modeling of invasion risk for exotic plants within Seney National Wildlife Refuge. Geographic Information Systems and the National Wildlife Refuge System Conference, Washington, DC.
- **Corace, R.G. III**, Goebel, P.C. and D.L. McCormick. 2007. Endangered Kirtland's warbler habitat management and multi-species bird conservation. Society of American Foresters Conference, Portland, OR.
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- Goebel, P.C., Hix, D., Drobyshev, I., Wilson, R., **Corace, R.G. III** and B. Palik. 2007. Restoration-based fuel reduction recommendations for mixed-pine forests of Upper Michigan. Society of American Foresters Conference, Portland, OR.
- Drobyshev, I., Goebel, C., Hix, D., **Corace, G.** and M. Semko-Duncan. 2007. Fire history of red pine-dominated forests of Seney National Wildlife Refuge, Upper Michigan. 2<sup>nd</sup> Fire Behavior and Fuels Conference, Tallahassee, FL.
- **Corace, R.G. III**. 2006. University cooperative research-management endeavors at Seney National Wildlife Refuge: an invasive species model. Invited Presentation to the US Fish and Wildlife Service, Washington, DC.

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- Petrillo, H.A., **Corace, R.G. III** and J.A. Witter. 2006. Current status and potential impacts of beech bark disease at Seney National Wildlife Refuge. USFWS Region 3 Biological Workshop, La Crosse, WI.
- Nagel, L.M., **Corace, R.G. III** and A.J. Storer. 2006. Management tools for an exotic wetland invader: glossy buckthorn. National Park Service Western Great Lakes Research Conference, Ashland, WI.
- **Corace, R.G. III**, McCormick, D. and V. Cavalieri. 2005. The status of trumpeter swan (*Cygnus buccinator*) at Seney National Wildlife Refuge (1991-2004). Western Great Lakes Research Conference, Marquette, MI.
- T.C. Wyse, Goebel, P.C. and **R.G. Corace III**. 2004. Application of an integrated approach for identifying reference conditions of disturbed forest ecosystems at Sleeping Bear Dunes National Lakeshore. 4<sup>th</sup> North American Forest Ecology Workshop, Corvallis, OR.
- Goebel, P.C., **Corace, R.G. III** and T.C. Wyse. 2003. Balancing the need to restore forest ecosystems while focusing on other important conservation goals – examples from Sleeping Bear Dunes National Lakeshore. Proceedings 2003 Society of American Foresters Conference, Bend, OR.
- Goebel, P.C., **Corace, R.G. III** and T.C. Wyse. 2003. Identifying reference conditions of disturbed ecosystems and applications for maintaining openland avian diversity at Sleeping Bear Dunes National Lakeshore. Western Great Lakes Research Conference and Chequamegon Bay Natural Resource Conference, Ashland, WI.
- **Corace, R.G. III**, Flaspohler, D.J. and J.R. Probst. 2003. Hierarchical assessment of grassland birds to evaluate hayfield management in the Upper Great Lakes. US Department of Interior Conference on the Environment, Phoenix, AZ.
- Goebel, P.C., **Corace, R.G. III** and T.C. Wyse. 2003. Identifying reference conditions of disturbed ecosystems and application for maintaining openland avian diversity at Sleeping Bear Dunes National Lakeshore. Proceedings: Western Great Lakes Research Conference, Ashland, WI.
- Wyse, T.C., Goebel, P.C. and **R.G. Corace III**. 2003. Application of an integrated approach for identifying reference conditions of disturbed forest ecosystems at Sleeping Bear Dunes National Lakeshore. Proceedings: Fourth Biannual North American Forest Ecology Workshop, Corvallis, OR.
- **Corace, R.G. III**, Sjogren, S.J., Probst, J.R. and D.J. Flaspohler. 2002. Status of sharp-tailed grouse in Michigan's Upper Peninsula (1946-2000): integrating surveys with multi-species assessment. Proceedings: 24<sup>th</sup> Prairie Grouse Technical Council Meeting, Woodward, OK.
- **Corace, R.G. III**, Sjogren, S.J., Probst, J.R. and D.J. Flaspohler. 2000. A multi-scale assessment of openland avifauna in Upper Michigan: the willow flycatcher model. The Ecology and Conservation of the Willow Flycatcher Conference, Tempe, AZ.
- **Corace, R.G. III**, Probst, J.R. and D.J. Flaspohler. 1999. A context for an openland avifauna conservation strategy for Michigan's Upper Peninsula. 61<sup>st</sup> Midwest Fish and Wildlife Conference, Chicago, IL.
- **Corace, R.G. III**, Probst, J.R. and D.J. Flaspohler. 1999. A context for openlands management in the Upper Peninsula of Michigan. From Fire to Forests: The Pine Barrens Research and Management Workshop, Ashland, WI.

#### **FUNDED RESEARCH-MANAGEMENT GRANTS (FUNDING AMOUNT AWARDED AS PI OR CO-PI)**

- Fire-Science Network and Delivery System for Fire-Dependent Ecosystems of the Northern Lake States. \$149,154 (Continuation, Joint Fire Science Program, 2011)
- Invasives with Volunteers. \$10,000 (US Fish and Wildlife Service, 2011)
- Influence of Fuel Moisture and Density on Black Carbon Formation During Combustion of Boreal Peat Fuels. \$70,916 (Joint Fire Science Program, 2011)
- Factors Influencing Invasive Earthworm and Plant Species Presence and Abundance in Network Forests. \$25,000 (US Fish and Wildlife Service, 2010)
- Development of a Multivariate Statistics Course for Refuges. \$5,000 (US Fish and Wildlife Service, 2010)

- Integrating Fuels Reduction and Pine Barrens Restoration in Endangered Kirtland's Warbler Habitat Management. \$214,532 (Joint Fire Science Program, 2010)
- Fire-Science Network and Delivery System for Fire-Dependent Ecosystems of the Northern Lake States. \$397,827 (Joint Fire Science Program, 2010)
- A Multi-Scaled Geographic Assessment of Upland Sandpiper Occupancy and Habitat Use. \$65,000 (US Fish and Wildlife Service Migratory Birds and Challenge Cost Share, 2010)
- Developing a Fire-Science Network and Delivery System for the Northern Lake States. \$20,000 (Joint Fire Science Program, 2009)
- Rapid Ecological Assessment of Refuge Forests of the Great Lakes Biology Network. \$29,000 (US Fish and Wildlife Service, 2009)
- A Geographic Assessment of Upland Sandpiper Occupancy, Density, and Productivity in Xeric Openland Landscapes of the Eastern Upper Peninsula of Michigan. \$5,000, pilot season (US Fish and Wildlife Service, 2009)
- An Assessment of Ecoregional Land Cover Patterns for Refuges of the Great Lakes Biology Network. \$10,000 (US Fish and Wildlife Service, 2008)
- Restoration-Based Fuel Reduction Recommendations for Mixed-Pine Forests of Upper Michigan. \$299,000 (Joint Fire Science Program, 2005)
- Developing a Sharp-tailed Grouse Monitoring Protocol. \$56,000 (Michigan Department of Natural Resources, 2004)
- Wildland-Urban-Interface Grants, Seney National Wildlife Refuge. \$140,000 (US Fish and Wildlife Service, 2002)
- Restoration and Maintenance of Historic Openlands of Sleeping Bear Dunes National Lakeshore: Impacts on Grassland and Forest Bird Communities. \$35,000 (National Park Service, 2002)
- Productivity Indices for Targeted Openland Birds in Upper Michigan. \$15,000 (US Forest Service North Central Research Station, 2001)
- Endangered, Threatened and Declining Openland Species of Upper Michigan: Increasing the Resolution of Study. \$5,000 (Michigan Department of Natural Resources, 2000)
- Establishing a Conservation Strategy for Openland Birds in Upper Michigan. \$5,000 (Michigan Department of Natural Resources, 1999)
- A Multi-Scale Assessment of Openland Avifauna of Upper Michigan. \$84,086 (US Forest Service North Central Research Station, 1998)

#### **TECHNICAL REVIEWER EXPERIENCE (JOURNALS-TEXTS-GRANT-OTHER PROGRAMS)**

- Invited member of panel on forest and fire management: Huron Mountain Club, Big Bay, MI (2012).
- *Journal of Forestry* (Reviewer)
- Joint Fire Science Program "Compatibility of fuels and fire management with conservation of threatened and endangered species." (*Reviewer*)
- Division of International Conservation (USFWS) *Wildlife Without Borders* Grant Program (*Reviewer*)
- *Forest Wildlife Ecology and Habitat Management* (CRC Press, *Reviewer*)
- *Landscape Ecology* (Reviewer)
- *USFWS Journal of Fish and Wildlife Management* (Subject Editor)
- *USFWS North American Fauna* (Subject Editor)
- *Journal of Environmental Monitoring and Management* (Reviewer)
- *Journal of Ecological Restoration* (Reviewer)
- *Journal of Wildlife Management* (Reviewer)
- US Geological Survey-US Fish and Wildlife Service Adaptive Management Proposals (Reviewer)
- *Journal of The Torrey Botanical Society* (Reviewer)
- *Natural Areas Journal* (Reviewer)

**PROFESSIONAL MEMBERSHIPS (PAST AND PRESENT)**

- The Wildlife Society
- Society for Ecological Restoration
- Society of Conservation Biology
- Ecological Society of America
- Natural Areas Association
- Society of American Foresters (Wildlife and Fish Ecology Working Group National Co-Chair, 2010+)
- The Forest Guild

**POPULAR PRESS MATERIAL**

- **Corace, G.** 2009. National Wildlife Refuges: a focus on forest ecology and management. *The Forestry Source* 14:6.
- Research and management presented in Associated Press articles carried by *USA Today*, *The Washington Post*, *The Detroit Free Press*, *The Lansing State Journal*, *The Marquette Mining Journal*, *The Daily Mining Gazette*, *The Environmental News Network*, and other national and local newspapers.
- Multiple projects presented in US Fish and Wildlife Service *Refuge Update* (Washington, D.C.): To Burn or Not to Burn: Still a Question [2006 3(5):23], Kirtland's Warbler [2006 3(6):10-11], Conserving Terns in the Changing Great Lakes [2007 4(6):6].
- **Corace, R.G. III.** 2001. Our other grouse: spruce grouse and sharp-tailed grouse. *Upper Michigan Outdoor Journal* 2:14-15.

**AWARDS**

- US Fish and Wildlife Service Region 3 *Biologist of the Year* 2011
- US Fish and Wildlife Service Region 3 *Star Award* 2010
- US Fish and Wildlife Service Region 3 *Recognition* 2007
- US Fish and Wildlife Service Region 3 *Star Award* 2006
- US Fish and Wildlife Service *Certificate of Appreciation* 2003
- Doctoral Fellowship, Michigan Technological University 1997-98
- Senior of the Year, Northern Michigan University 1993

**REFERENCES**

Available upon request.