

DAVID P. HELMERS

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EDUCATION

Bachelor of Science, Geography, 1999 (GPA: 3.68)
Certificate in Environmental Studies, 1999

UNIVERSITY OF WISCONSIN - MADISON
UNIVERSITY OF WISCONSIN –MADISON

PROFESSIONAL EXPERIENCE

GIS/Research Specialist

01/2008 – present

SILVIS Lab, Department of Forest and Wildlife Ecology, University of Wisconsin-Madison

- Conduct geospatial research on numerous large scale projects focusing on land use/land cover change, conservation, biodiversity, and avian ecology.
- Provide GIS, scientific programming, image processing, technical support, and advice to principal investigators, research associates, and graduate students.
- Design, develop, and manage SILVIS Lab website; create and maintain a large database of lab research content, publications, maps, and spatial data.
- Manage computing infrastructure and administer hardware/software/data on multi-user application and file servers and on single-user workstations.

GIS/Remote Sensing Specialist

01/2006 – 12/2007

FERST Lab, Department of Forest and Wildlife Ecology, University of Wisconsin-Madison

- Mapped decadal changes in surface mine-lands in the central Appalachians between 1976 and 2006 using logic-based multi-date land cover classification comparisons.
- Simulated sedimentation changes on the Roanoke River floodplain and created 3D visualizations for use in a publicly viewed documentary.

GIS Programmer

01/2005 – 12/2005

Gower Lab, Department of Forest and Wildlife Ecology, University of Wisconsin-Madison

- Coded solutions to couple geospatial inputs to a site-specific ecosystem model
- Conducted model runs utilizing parallel computing techniques on multiple platforms.

Faculty Research Assistant

04/2002 – 12/2004

Appalachian Lab, University of Maryland Center for Environmental Science, Frostburg, MD

- Developed code/interfaces linking two ecological models that simulate nutrient cycles in forests to a GIS. Co-authored user guide and packaged model for public distribution.

GIS Modeler

10/2000 – 08/2001

Wisconsin Department of Natural Resources, Monona, WI

- Created land cover databases for a study exploring relationships between nutrient status of lakes and the surrounding land use of alternative contributing areas.

TECHNICAL SKILLS

- GIS: ArcGIS and extensions, GDAL/OGR, QGIS, GRASS, Google Earth, ERDAS Imagine
- Scripting: Python, NumPy, Visual Basic, C++, BASH, DOS, Perl
- Web Development: Drupal, HTML, CSS, PHP, MySQL, JavaScript
- Systems administration, multi-user server management, Windows, Linux
- Spatial Analysis, Remote Sensing Techniques, Statistics, Cartographic Principles/Design

HONORS

- UW-Madison Distinguished Graduate (Top 20% of class)
- Four (4) time member of UW-Madison Dean's List
- Winner of the Schober & Radtke Scholarship and the New Berlin Scholarship Fund

PUBLICATIONS

- 1) Fuentes, M. P. B., B. L. Bateman, D. Helmers, R. L. Pressey, R. L. Kamrowski, and V. C. Radeloff. Conservation hotspots for marine turtles nesting areas based on exposure to coastal development and sea level rise. *Conservation Biology*, **in review**.
- 2) Hamilton, C. M., M. Baumann, A. M. Pidgeon, D. Helmers, W. E. Thogmartin, P. J. Heglund, and V. C. Radeloff. Past and predicted future effects of housing growth on open space pathways and habitat connectivity around National Wildlife Refuges. *Landscape and Urban Planning*, **in review**.
- 3) Martinuzzi, S., V. C. Radeloff, L. N. Joppa, C. M. Hamilton, D. P. Helmers, A. J. Plantinga, and D. J. Lewis. Scenarios of future land use change around United States' protected areas. *Conservation Biology*, **in review**.
- 4) Wood, E. M., A. M. Pidgeon, V. C. Radeloff, D. Helmers, P. D. Culbert, N. S. Keuler, and C. H. Flather. Housing development, protected areas, and avian community conservation. *Journal of Applied Ecology*, **in review**.
- 5) Martinuzzi, S., J. C. Withey, A. M. Pidgeon, A. J. Plantinga, A. A. McKerrow, S. G. Williams, D. P. Helmers, and V. C. Radeloff. Future land-use scenarios and the loss of wildlife habitat in the southeastern U.S. *Ecological Applications*, **in press**.
- 6) Wood, E. M., A. M. Pidgeon, V. C. Radeloff, D. Helmers, P. D. Culbert, N. S. Keuler, and C. H. Flather. Housing development outside protected areas erodes avian community structure within. *Ecological Applications*, **in press**.
- 7) Lawler, J., D. Lewis, E. Nelson, A. J. Plantinga, S. Polasky, J. Withey, D. Helmers, S. Martinuzzi, and V. C. Radeloff. Projected land-use change impacts on ecosystem services in the U.S.. *Proceedings of the National Academy of Science*, **2014**.

- 8) Beaudry, F., V. C. Radeloff, A. M. Pidgeon, A. J. Plantinga, D. J. Lewis, D. Helmers, and V. Butsic. The loss of forest birds habitats under different land use policies as projected by a coupled ecological-econometric model. *Biological Conservation*, 165: 1-9. **2013**.
- 9) Martinuzzi, S., V. C. Radeloff, J. Higgins, D. Helmers, A. J. Plantinga, and D. J. Lewis. Key areas for conserving United States' biodiversity likely threatened by future land use change. *Ecosphere*, 4(5):58. **2013**.
- 10) Neumann, W., G. Ericsson, H. Dettki, N. Bunnefeld, N. S. Keuler, D. P. Helmers, and V.C. Radeloff. Difference in spatiotemporal patterns of wildlife road-crossings and wildlife-vehicle collisions. *Biological Conservation*, 145:70-78. **2012**.
- 11) Radeloff, V. C., E. Nelson, A. J. Plantinga, D. J. Lewis, D. Helmers, J. J. Lawler, J. C. Withey, F. Beaudry, S. Martinuzzi, V. Butsic, E. Lonsdorf, D. White, and S. Polasky. Economic-based projections of future land use in the conterminous United States under alternative policy scenarios. *Ecological Applications*, 22(3): 1036-1049. **2012**.
- 12) Radeloff, V. C., S. I. Stewart, T. J. Hawbaker, U. Gimmi, A. M. Pidgeon, C. H. Flather, R. B. Hammer, and D. Helmers. Housing growth in and near United States' protected areas limits their conservation value. *Proceedings of the National Academy of Sciences*, 107(2): 940-945. **2010**.
- 13) Townsend, P.A., D. Helmers, C. Kingdon, B. McNeil, K. de Beurs, K. Eshleman. Changes in the extent of surface mining and reclamation in the Central Appalachians: 1976-2006. *Remote Sensing of the Environment*, 113: 62-72, doi:10.1016/j.rse.2008.08.012. **2009**.

REFERENCES

Available upon request