

Thomas P. Hollenhorst

Research Fellow

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Education

1990 MS Wildlife Management, West Virginia University, Morgantown

1987 BS Biological Sciences, St Cloud State University, St Cloud, Minnesota

Special Skills and Qualifications

Twelve years of experience developing, applying and instructing others in the use of GIS and remote sensing technologies for the improved understanding and management of natural resources in the US and Canada.

Proficient in the use of standard office software products as well as most data management programs, popular GIS and remote sensing software programs as well as GPS devices and associated software (MS Word, WordPerfect, Excel, Access, ArcInfo, ArcView, Erdas Imagine). Extensive experience with many different types of GIS data including satellite imagery, aerial photos, TIGER data, USGS census data, National Wetland Inventory data, and STATSGO AND SURGO soils data.

Professional Experience

1998 GIS Project Coordinator, NRRI, University of Minnesota Duluth

Served as GIS project coordinator for several large EPA funded research projects at NRRI.

Developed GIS data layers to support landscape level studies of amphibian population health, aquatic stream systems as well as vernal pools in northern Minnesota. Currently working as the GIS project coordinator for a 6.5 million dollar EPA funded grant to develop environmental indicators for the Great Lakes. This involves coordinating the acquisition and analysis of digital data covering all 8 Great Lake states, instructing graduate students, technical staff and UMD professors in the use of the data and software, as well as developing protocols and procedures for the use of GIS, GPS and remote sensing software and devices.

2003 GIS Instructor, University of Wisconsin Superior Continuing Ed.

Taught "Introduction to GIS" and "Advanced GIS" course for working Professionals within the University of Wisconsin's Continuing Education Program.

1996 to 98 Senior GIS Analyst/Biologist, LGL Limited Environmental Research Associates, Sidney, BC

On behalf of the Nisga'a Tribal Council, British Columbia, Canada, compiled and analyzed digital and hard copy geographic data in support of various watershed restoration projects in the Nass Valley. On behalf of the Kaska Dena Council, British Columbia, Canada, compiled and analyzed geographic and ecologic information of their traditional claim territory in support of future treaty

negotiations. On behalf of the Ross River Dena of the Yukon Territory, Canada coordinating mapping efforts to support land claim negotiations. For the above clients also developed individual and group training workshops for use of GIS data and software.

1994 to 95 Researcher III, Cooperative Wildlife Research Laboratory, Southern Illinois University at Carbondale, IL

Conducted the day to day management of the GIS/Habitat Analysis Lab. Supervised and instructed several graduate students, professors and research technicians on the use of various geographic information system packages (Arc/Info, ArcView, TNTMIPS, MIPS, IRDRISI). Guided the purchase, setup and configuration of GIS hardware and software. Supervised the implementation of a satellite classification protocol for all of Illinois. Developed and implemented techniques for organizing and archiving data, gathering ground truth data and assessing classification accuracy. Supervised the gathering and implementation of various types of ancillary data (TIGER, DLG, and NWI data). Began creating, collecting and organizing digital spatial data to support the study of river otters in southern Illinois. Communicated results through professional meetings, journals and regular project reports.

1993 to 94 Researcher II, Cooperative Wildlife Research Laboratory, Southern Illinois University at Carbondale, IL

Conducted the day to day management of the GIS/Habitat Analysis lab. Supervised and instructed several graduate students, professors and research technicians on the use of various geographic information systems. Guided the purchase, setup and configuration of GIS hardware and software. Worked with a multi-disciplinary team (sponsored by The Nature Conservancy) consisting of economists, geographers, foresters, and wildlife scientist to study and model the Socio-economic and environmental impacts of alternative land use scenarios within the Cache River biopreserve. Developed various geographic data sets for the USDA Forest Service input/output model IMPLAN (Impact Analysis For Planning). Supervised the development and implementation of a satellite classification protocol for all of Illinois. Developed and implemented techniques for organizing and archiving data, gathering ground truth data and assessing classification accuracy. Supervised the gathering and implementation of ancillary data (i.e., Tiger, DLG and NWI data). Utilized electronic networks to share knowledge about a very quickly changing technology and to access publicly available data and resources. Communicated results at professional meetings and through regular project reports.

1992 to 93 Researcher II, Cooperative Wildlife Research Laboratory, Southern Illinois University at Carbondale, IL

Conducted the day to day management of a GIS lab. Instructed graduate students and professors on the use of various geographic information systems. Guided the purchase, setup and configuration of GIS hardware and software. Supervised the development of geographic data layers used to model bobwhite quail habitat suitability throughout Illinois. Assisted with the development, implementation and validation of the model. Related the results through regular reports, professional journals and presentations.

1992 Southern Illinois University at Carbondale, IL

Performed laboratory and field assignments related to on-going research to determine distribution, abundance, and habitat selection by wintering and breeding waterfowl in northeastern Illinois.

Conducted the analysis of remotely sensed data (e.g., satellite images, aerial photos, National Wetland Inventory maps) using a geographic information system (GIS). Set up, installed and configured various hardware and software equipment used with GIS programs. Provide technical supervision and instruction to various GIS users including graduate students and research technicians. Assisted with helicopter surveys, population censuses, data analysis, and report writing.

- 1990** **Wildlife Biologist, Wildlife International LTD, Easton, MD**
Participated in a toxicology study for the re-registration of a pesticide by the EPA. Conducted bird surveys, small mammal trapping, residue sampling and vegetation mapping on golf courses in Connecticut. Followed EPA protocol for data collection and quality assurance.
- 1989 to 90** **Fishery Technician, Resource Management and Research, Morgantown, WV**
Assisted with biweekly net samples of fish entrainment at two hydropower stations in West Virginia. Assisted with net repair and regular maintenance of hydro acoustic (SONAR) equipment used to determine the number and type of fish entrained. This involved repositioning of transducers and monitoring the acquisition and storage of hydro acoustic data on video tape via micro-computer.
- 1988 to 90** **Graduate Research Assistant, West Virginia University, Morgantown**
Designed and conducted a study of forage yields and wildlife associated with hawthorn stands of different densities. Collected vegetation data, avian population data (using variable circular plots and nest counts). Conducted data analysis using micro computers. Presented results at the Northeast Fish and Wildlife Conference.
- 1988 to 90** **Volunteer, West Virginia Raptor Rehabilitation Center, Morgantown**
Provided care, food and medical attention to injured birds of prey.
- 1987 to 88** **Natural Resource Technician, Hennepin Parks, Plymouth, MN**
Worked as purple loosestrife project coordinator. Designed and conducted studies to evaluate potential methods of controlling the invasive aquatic plant, purple loosestrife. Conducted aerial surveys of loosestrife infestations to measure the rate of spread. Conducted studies evaluating the efficacy of various herbicides for purple loosestrife. Acquired a state pesticide applicators license in order to work with these herbicides. Analyzed data and presented the results in various in-house reports and also at the North Central Weed Science Society conference.
- 1985 to 1987** **Assistant Recycling Center Coordinator, City of Robbinsdale, Minnesota**
Organized and supervised a municipal recycling center. Supervised 10-15 volunteers and a work squad of 10-15 juvenile delinquents assigned work by a Hennepin County judge.
- 1980 to 4** **Forestry Assistant/Park Maintenance Man, City of Robbinsdale, Minnesota**
Assisted the city forester with Dutch elm disease prevention, tree planting, and park development. Operated tractors, various large mowers, dump trucks and other mechanical equipment to perform regular park maintenance tasks.

Publications and Presentations

- Niemi, G., R. Axler, V. Brady, N. Danz, J. Hanowski, T. Hollenhorst, G. Host, L. Johnson, C. Johnston, J. Kingston, R. Regal, C. Richards, D. Swackhamer, R. Howe, J. Ciborowski, S. Bradbury. 2002. development of environmental indicators for the U.S. Great Lakes coastal region. Presented at the Western Great Lakes Research Conference, Northern Michigan University, Marquette, MI.
- L.B. Johnson, T. Hollenhorst, J. Schuldt, C. Richards, G. Host. 2001. Where is it and does it matter? Predicting in-stream conditions from land use at varying distances from the channel. Presented to the North American Benthological Society, La Crosse, WI.
- T. Hollenhorst, L.B. Johnson. 2000. Distribution patterns of malformed amphibians in relation to regional land use patterns. Presented at the 62nd Midwest Fish and Wildlife Conference, Minneapolis, Minnesota.
- T. Hollenhorst, L.B. Johnson, C. Richards, G. Host. 1999. Understanding the relationship between surficial geology and land use in the Upper Midwest. Presented at 61st Midwest Fish and Wildlife Conference, Chicago, IL.
- Roseberry, J. L., B. J. Richards, T. P. Hollenhorst. 1994. Assessing the potential impact of conservation reserve program lands on bobwhite habitat using remote sensing, GIS, and habitat modeling. *Photo. Engin. Rem. Sens.* 60:1139-1143.
- Hollenhorst, T., A. Woolf, R. Smith. 1993. Accessing information via electronic conferences, bulletin boards and networks to aid conservation efforts. Presented at the International Wildlife Management Conference, San Jose, Puerto Rico.
- Davie, K., T. Hollenhorst. 1993. Using GIS to link economic and ecologic analyses of the Cache River basin. Presented at The International Wildlife Management Conference, San Jose, Puerto Rico.
- Beck, R., J. Burde, K. Davie, R. Gates, T. Hollenhorst, S. Kraft, D. Sharpe, M. Wagner, A. Woolf. 1993. Ecological-economic modeling in the Cache River basin: the challenge of ecological-economic modeling on a watershed basin, a potential framework for sustainable development. Final Report Submitted to the Illinois Field Office of The Nature Conservancy.
- Hollenhorst, T. P., J. L. Roseberry. 1992. Bobwhite quail habitat analysis using GIS. Presented at GIS in Illinois 1992. Chicago, IL.
- Davie, K., T. P. Hollenhorst. 1992. Building a GIS for the Cache River bioreserve. Presented at GIS in Illinois 1992. Chicago, IL.
- Hollenhorst, T. P., D. E. Samuel, W. A. Lesser. 1991. Forage yields and wildlife associated with hawthorn stands in the Monongahela National Forest. *Transactions of the 46th Northeast Fish and Wildlife Conference.*
- Skinner, L. C., T. P. Hollenhorst. 1989. Incidence, spread and control studies of purple loosestrife (*Lythrum salicaria*) in Hennepin Parks. Report to the Metropolitan Council. Suburban Hennepin Regional Park District, Maple Plain, MN 75pp.

Skinner, L. C., T. P. Hollenhorst and C. J. Evenson. 1989. Control of purple loosestrife (*Lythrum salicaria*) with Triclopyr amine. North Central Weed Control Conference Research Report, Vol. 46.

Hollenhorst, T. P. Purple loosestrife (*Lythrum salicaria*) control in Minnesota. North Central Weed Control conference in Kansas City, Missouri, Dec. 1987.