Daniel Majka

EDUCATION

MS, Ecology
Purdue University, 2003-2005

Thesis: GIS-based modeling of avian distributions in a montane tropical forest

BS, Natural Resources & Environmental Science
Purdue University, 1998-2002

Focus: GIS & Water Resources
Minor: English

Technical Skills

GIS: ArcGIS, ArcSDE, Python, AML
Web: HTML, CSS, PHP/MySQL, ExpressionEngine, CodeIgniter
Design: Photoshop, InDesign

CONTACT

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EXPERIENCE

GIS Manager/Analyst
June 2007 – present

The Nature Conservancy, Tucson, AZ

- Performed spatial analysis and wrote Python geoprocessing scripts for urban growth modeling, infrastructure impact analysis, conservation planning, and ad-hoc projects. Updated linear-referenced stream database. Created graphs, maps, and visualizations to communicate analysis to internal and external partners.
- Managed SQL Server ArcSDE geodatabase containing 500+ layers for 8 primary users. Obtained, prepared, and managed new GIS data to meet staff project needs. Reorganized data file structure to improve internal organization and access to GIS data.
- Served as statewide GIS coordinator for 17 staff. Provided GIS training and mentoring through presentations, one-on-one sessions, and GIS tip sheets. Mentored 3 staff to maintain data distribution websites.
- Responsible for all aspects of Arizona Nature Conservancy science website (azconservation.org), including functional requirements, visual design, information architecture, HTML and CSS coding, and content management system integration. Designed and programmed PHP-based database web application for collecting and distributing hydrological data collected at preserve sites.

GIS Programmer/Analyst
Jun 2005 – Dec 2007

Northern Arizona University, Flagstaff, AZ

- Created suite of Python-based geoprocessing tools – CorridorDesigner – for conducting GIS-based wildlife corridor & habitat analyses in ArcGIS. Lead analyst on statewide wildlife corridor planning project – performed all GIS modeling, parameterized habitat models, obtained, organized, and processed GIS data, created > 200 maps, and developed efficient Python-based workflows to manage data output. Performed field visits; collected data using GPS and stored data with photos in custom-created Microsoft Access database application.
- Conducted 5 training workshops to over 125 government agency, NGO, and university employees across Western United States. Documented workflows and trained and mentored colleague to perform spatial wildlife analysis. Assisted individuals from agencies and organizations around the world apply and troubleshoot GIS tools for designing wildlife corridors from 2007 to present.
- Wrote eight 75-150 page reports detailing wildlife corridor conservation plans. Designed 25-page website (corridordesign.org) to distribute CorridorDesigner; wrote and edited webpage content, software tutorials, and workshop materials.

MS Graduate Student
July 2003 – May 2005

Purdue University Biology Dept, West Lafayette, IN

- Created over 25,000 GIS-based distribution models for 41 bird species in Tilarán Mtns, Costa Rica, using 5 statistical classification techniques.
- Used AML, SAS, Avenue, and R scripts to automate modeling tasks. Created topographic indices from digital elevation models. Obtained Landsat data and processed using Erdas IMAGINE remote sensing software.
- Teaching assistant for four courses; introduced field ecology & conservation biology students to GIS principles using labs and presentations.

GIS Technician Jan 2002 – July 2003
Purdue University Ag. & Biol. Engineering Dept, West Lafayette, IN

- Developed customized ArcView extension for Office of Indiana State Chemist to simplify common tasks. Created 92 volume GIS atlas for state of Indiana. Created, edited, and maintained GIS layers for watershed modeling. Performed complex water body and transportation sensitivity analysis for DOT.
- Instructed 54 students in 3 lab sections of Introduction to Field Surveying course. Created labs and field exercises to introduce students to GPS collection techniques and basic GIS analysis. Assisted students with term projects for graduate-level GIS course.

AWARDS & HONORS

2011. *Arizona Chapter of the Wildlife Society 2011 Conservation Award*. Given to a person not employed directly as a wildlife biologist who contributes significantly to the conservation of wildlife and their habitat in Arizona. Awarded for CorridorDesigner GIS tools and corridordesign.org website.

2010. Work on GIS-based wildlife corridor design featured in Fall 2010 ESRI *ArcNews* article, *Designing Wildlife Corridors Helps Species Survive*.

2009. *Arizona's Natural Infrastructure* map reprinted in 24th edition ESRI Map Book.

PUBLICATIONS

R.M Marshall, M.D. Robles, D.R. Majka, and J.A. Haney. 2010. Sustainable water management in the Southwestern United States: reality or rhetoric? PLoS One 5(7): e11687. doi:10.1371/journal.pone.0011687.

Beier, P., D.R. Majka, and S.L. Newell. 2009. Uncertainty analysis of least-cost modeling for designing wildlife linkages. Ecological Applications 19: 2067-2077.

Beier, P., D.R. Majka, and W.D. Spencer. 2008. Forks in the road: choices in procedures for designing wildland linkages. Conservation Biology 22: 836-851.

Majka, D.R. 2007. GIS for designing corridors. Remotely Wild: Newsletter of the GIS, Remote Sensing, & Telemetry Working Group of the Wildlife Society: Winter 2007.

Beier, P., and D.R. Majka. 2006. Eight linkage design reports, submitted to Arizona Game & Fish Department, Phoenix, AZ. Available at corridordesign.org/linkages

PRESENTATIONS

Majka, D.R., and T. Schnaible. 2011. Conservation by DESIGN: Using the power of design to improve science communication. The Nature Conservancy's Conservation Science for People and Nature Conference. Oct 20, 2011.

Majka, D.R., M. Robles, J. Haney, and R. Marshall. 2010. Sustaining river flows in the face of growing municipal water demands. Joint Annual Meeting of the Arizona and New Mexico Chapters of the Wildlife Society. Flagstaff, AZ. Feb 6, 2010.

Majka, D.R. 2009. CorridorDesigner: ArcGIS tools for designing wildlife corridors. Society for Conservation Biology-USGS Colorado Plateau joint meeting. Flagstaff, AZ. Oct 6, 2009.

Majka, D.R., P. Beier, and J. Jenness. 2007. Designing wildlife corridors with GIS. Full-day workshops presented in Phoenix, Tucson, Boulder, San Diego, and Monterrey.

Majka, D.R. 2007. A multi-species approach to designing corridors. Arizona Parks & Recreation Association Conference on Open Space. Tempe, AZ, May 9, 2007.