

SUMMARY PAGE
BIOGRAPHICAL SUMMARY OF STEPHEN J SEDLOCK

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Virginia Polytechnic Institute and State University
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Professional Preparation

Master's Degree in Urban and Regional Planning, Virginia Commonwealth University, December 1997.
Bachelor's Degree in Geography, Virginia Polytechnic Institute and State University, August 1986.

Professional Appointments

Virginia Polytechnic Institute and State University, Center for Geospatial Information Technology,
Research Scientist: 2006 – present.
KEANE, Inc., Richmond, Virginia, Principal Consultant – GIS: 1999-2006.
TIMMONS, Inc., Richmond, Virginia, GIS Project Manager / Analyst: 1997-1999.
MAPCOM Systems, Inc., Richmond, Virginia, GIS Programmer / Project Manager: 1986-1997.
Virginia Polytechnic Institute and State University, Department of Geography, Research Assistant: 1986.

Professional Activities

Virginia Association of Mapping and Land Information Systems, Charter Member.
Certified ESRI ArcView Instructor, 1997-1999.

Professional Training

Introduction to ArcGIS Server, ESRI, Vienna, VA: 2007
Managing a Versioned Database, ESRI, Richmond, VA: 2005.
Building Geodatabases I, ESRI, Richmond, VA: 2005.
Programming and Customization of ArcGIS using Visual Basic for Applications, ESRI, Vienna, VA:
2000.
Introduction to Avenue Programming, ESRI, Vienna, VA: 1995.

Areas of Expertise

GIS: Comprehensive knowledge of geographic information systems, including all technical and administrative phases of projects and enterprise implementations.

Public Health: Develop and administrate GIS projects and implementations for public health applications.

Project Management: Plan, develop, coordinate and manage GIS projects across several different industries. These include, but are not limited to, local, state, and federal government, public health, homeland security, transportation, utility services, water/wastewater, environmental management, forestry, land management/zoning, and military master planning.

Military Master Planning: Facility and infrastructure master plan development, based on installation mission changes.

Local Government: GIS implementation for local government (cities, counties, and towns).

State Government: GIS implementations for state agencies in the Commonwealth of Virginia.

Professional Experience

Research Scientist, Center for Geospatial Information Technology, Virginia Polytechnic Institute and State University, 2006 – present.

Technical and business management lead for geospatial research projects at Virginia Tech. Functions include project management, application design and development, systems design and development, geospatial analysis, metadata reporting, technical specification writing, business development, proposal generation and presentation.

- ***Project: GIS Applications for Efficient and Effective Sensor Placement and Monitoring Locations for the Intelligence & Homeland Security*** – Developed software within ArcGIS to determine the best location for sensors such as cameras, infrared, etc. Developed a technical database of existing sensors to determine best location and spacing based upon parameters including, but not limited to, sensitivity, range and other technical performance parameters. Created ArcGIS custom objects using CASE tools within Microsoft Visio and Visual Studio .NET. Added custom behavior using Visual Basic/Visual Basic for Applications.
- ***Project: Development of a Statewide GIS-based Decision Support Database and Application for Virginia's Bikeway and Pedestrian Infrastructure*** – Principal investigator for developing a statewide GIS trails database, including trails maintained by local, state, and federal agencies. Project includes the development of a .NET C# web-based manager application for querying, displaying, and analyzing the trail database. Other deliverables include a needs assessment, literature review, and data update procedures
- ***Project: Virginia Department of Health Application Migration for Source Water Assessment GIS Program*** – Principal investigator and lead developer for migration of an ArcView GIS Avenue application to ArcGIS 9.x in VBA. The application allows for the reporting and mapping of public water source locations and the potential sources of contamination that may influence them.
- ***Project: Developing a Logical Model for a Geospatial Right-of-Way Land Management System*** – Lead analyst for the model development. Reviewed federal guidelines applicable to state transportation departments for right-of-way appraisal, acquisition, relocation and property management functions. Developed flow diagrams and charts documenting these processes.

Principal Consultant, Keane, Inc., 1999 - 2006.

Principal GIS consultant for the Virginia Department of Health (VDH). Provide ArcGIS, ArcIMS and ArcSDE/Oracle implementation for VDH central office (Richmond) and 35 local health district offices. Implement and manage projects, including technical specification, system design, system/application development (including GUI development), system analysis, database management, documentation and metadata reporting, project tracking, client contact, and other functions.

Train and provide technical support to new and advanced users in ESRI-based GIS software/technology, along with customized applications.

- ***Multiple Projects: Office of Information Management – Health Alert Network*** –
 - Design and development of GIS interface to the Statewide Alert Network (SWAN). GIS interface is used to notify all state emergency planners, epidemiologist, and other contacts during public health emergencies and exercises. Tools and interface developed using ArcIMS, Visual Studio .NET and MapDotNet.
 - GIS enterprise system for Virginia Department of Health (approximately 100 desktop users and several hundred ArcIMS users). This includes ArcSDE/Oracle implementation, conversion from shapefile to geodatabase, server configuration design, GIS software inventory project, license management, informational and training teleconferencing.

- Design and development of statewide CHEMPACK (emergency pharmaceutical supply) website and state government point-of-contact website, utilizing ArcIMS, HTML, and JavaScript.
- **Project: Source Water Assessment Project (SWAP) – Office of Drinking Water** – Designed and developed comprehensive ESRI-based GIS mapping and reporting system for project that assesses the potential sources of contamination for all 5,400 state public water systems. Mapping and reporting mechanisms were developed. Data development and geo-processing utilized ARC/INFO and ArcView customized applications. Programs developed with ArcObjects in VB, Avenue, and AML. ArcIMS website developed and maintained for VDH intranet, utilizing HTML and JavaScript.
- **Project: GIS biosolids database and application – Division of Waste Water Engineering** – Development of pilot database and application, using VB and ArcObjects, for biosolids (treated sewage applied as fertilizer to farms) mapping, reporting, and spatial analysis with ArcGIS.
- **Project: GIS for Pfiesteria Analysis – Division of Waterborne Hazards Control** – Designed and developed ArcView GIS application, providing a desktop tool for spatial analysis of pfiesteria-like organism (PLO) counts, water chemistry, and nutrient content. Analysis capabilities are both site-specific and regional, from 1998 - 2002. Mapping and reporting mechanisms were developed. Data development and geo-processing utilized ARC/INFO and ArcView customized applications.
- **Project: Fluoridation Website – Division of Dental Health** – Through ArcView GIS and ImageMapper software, provided a web locator of approximately 100 fluoridated water systems in Virginia. Also, provided MS Access support.

GIS Analyst/Project Manager, TIMMONS, 1997-1999.

Responsible for comprehensive ARC/INFO and ArcView GIS implementations. Designed and developed projects for all types of geographic information, including tax parcels, road networks, utility facility, environmental features, tree/timber stands, and land use/zoning.

Designed and developed GIS needs assessment reports, including inventories, interviews, analysis and final report generation.

Provided GUIs for clients and ARC/INFO tools for in-house production. Trained new and advanced users (certified ESRI instructor for ArcView software). Provided technical GIS support.

Responsibilities included system design, system development, system analysis, technical specification documentation, metadata reporting, project tracking, client contact, billing, resource allocations and all administrative functions. Developed future business through proactive marketing, conference presentations, and instructional seminars.

- **Project: County of Warren GIS project** – ARC/INFO GIS implementation. Provided county-wide data (across 219 square miles), customized ARC/INFO applications, system design and development, technical support, and training for the county's GIS implementation. Data development/conversion included tax parcels, road network and address ranges, structures, Commissioner of Revenue master listing (with link to GIS).
- **Project: Chesapeake Corporation GIS project** – ARC/INFO and ArcView implementation. Provided spatial data (coverage and shapefile) for all Virginia land holdings. Most of these were areas of tree growth (called "tree stands"). ArcView GUI provided analysis, reporting, map generation, and display.
- **Project: Needs Assessment Report – GIS implementation for Dinwiddie County** – Provided education, inventory, interviews, recommendations, cost-benefit analysis, and final presentation to the Board of Supervisors.
- **Project: Needs Assessment Report – GIS implementation for the Town of Front Royal** -- Provided education, inventory, interviews, recommendations, cost-benefit analysis.

Project Manager, MAPCOM Systems, Inc., 1986-1997.

Responsible for all ARC/INFO and ArcView GIS operations and projects. Developed and implemented projects for all types of geographic information, including tax parcels, road networks, utility facility, environmental features, military base features, land management of tree stands, mineral information, and land use/zoning. Provide GIS needs assessment for clients. Provided ARC/INFO GUIs for clients and in-house production.

Provided technical support and training to clients and in-house staff.

Managed projects involving technical specification, system design, system development, system analysis, project tracking, client contact, billing, resource allocations, and all administrative functions. Developed business through proactive marketing, conference presentations, and instructional seminars.

- ***Projects: Military Master Planning for Air and Army National Guard*** -- facility and infrastructure master plan development for military installations in Vermont, New Mexico and Idaho. Mapping phase of projects included mapping of current (MCP) and future development, including buildings, roads, and utilities.
- ***Projects: Sprint and GTE Telephone Facility Mapping*** – Automated mapping / Facility management (AM/FM) project for GTE in Virginia, and Sprint in Pennsylvania and New Jersey.
- ***Project: County of Stafford GIS Implementation*** – ARC/INFO and ArcView implementation, including county-wide data development and conversion (across 277 square miles), application design and development, system and database design, training, and technical support.

Conference Proceedings

S. Sedlock, “GIS Applied to Virginia’s Source Water Assessment Program”, Virginia Water Research Symposium 2002, Richmond, VA.

S. Sedlock and D. Reed, “PC-Based Automated Addressing and Parcel Maintenance”, Eighteenth Annual ESRI International User Conference, San Diego, CA, 1998.

S. Sedlock, “Role of GIS in helping implement NPDES Phase I”, Eleventh Annual Virginia Water Conference, Fredericksburg, VA, 1999.

S. Sedlock, “GIS Interface to the Statewide Alert Network”, Sixteenth Annual Virginia GIS Conference, Richmond, VA, 2005.

S. Sedlock, “GIS at the Virginia Department of Health”, Fifteenth Annual Virginia GIS Conference, Roanoke, VA, 2004.

S. Sedlock, “Integrating Parcels to County Commissioner of Revenue Databases”, Ninth Annual Virginia GIS Conference, Roanoke, VA, 1998.

S. Sedlock and R. Minich, “GIS and Linear Referencing”, 1997 A/E/C Systems National Conference, Philadelphia, PA.

S. Sedlock, “GIS Applied to Forest Land Management”, Seventh Annual Virginia GIS Conference, Wintergreen, VA, 1996.

S. Sedlock and J. Puuri, “GIS Implementation at Stafford County”, Fourth Annual Virginia GIS Conference, Richmond, VA, 1993.

Technical Reports

L. Carstensen and S. Sedlock, "GIS Applications for Efficient and Effective Sensor Placement," Virginia Polytechnic Institute and State University, Blacksburg, VA, 2006.

W. Qualls, S. Sedlock, et al, "Vermont Air National Guard Military Master Plan", Air National Guard Resource Center, Andrews Air Force Base, MD, 1994.

W. Qualls, S. Sedlock, et al, "New Mexico Air National Guard Military Master Plan", Air National Guard Resource Center, Andrews Air Force Base, MD, 1995.

W. Qualls, S. Sedlock, et al, "Idaho National Guard Military Master Plan", Air National Guard Resource Center, Andrews Air Force Base, MD, 1997.

GIS and IT Skills

- ArcGIS
- ArcIMS
- ArcSDE
- ARC/INFO Desktop
- ARC/INFO Workstation
- ArcView
- ArcMap
- ArcToolbox
- ArcCatalog
- ArcObjects
- Visual Basic
- Visual Basic for Applications
- HTML
- JavaScript
- Visual Studio .NET
- Visio, including CASE Tools
- MS Access
- SQL
- .NET
- MapDotNet