

# PAUL J. KINDER, JR., PH.D.

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U.S. Citizen

## SUMMARY OF QUALIFICATIONS

- 12 years' executive experience in senior leadership and management
- 23 years' management experience leading multi-disciplinary staff (biologists, ecologists, hydrologists, economists, geospatial professionals, IT professionals, and technicians)
- Designed, developed, and managed enterprise geospatial systems (including Airborne LiDAR/Digital Imagery Program, drone-based remote sensing, terrestrial LiDAR)
- Supervised land planning and management (3200 acres Tucker County, WV)
- Developed business and markets for remote sensing, geospatial, and stream/wetland restoration services
- Developed curriculum and provided technical training to professionals, students, and stakeholders
- Focused expertise in social-ecological science, specializing in integrated watershed/ecosystem management
- Served as visiting faculty (Davis and Elkins College & West Virginia University) teaching environmental GIS, GPS, and remote sensing
- Taught UAV Remote Sensing and GIS at West Virginia University
- Served as PI on transdisciplinary research projects with federal, state, academic, and private sector partners

## CORE COMPETENCIES

- Transdisciplinary research, project management, personnel management, contract management
- Marketing, grant writing, business development, and federal/state agency coordination
- Remote Sensing and Geographic Information Systems (GPS, satellite imagery, airborne hyperspectral, LiDAR, and digital imagery)
- Environmental assessment, modeling, monitoring, and permitting
- Natural resources planning, restoration, and management
- Geospatial decision support systems development
- Information Technology development and management
- Technical writing, communications, facilitation, logistics
- Social network analysis
- Teaching

## PROFESSIONAL/RESEARCH EXPERIENCE

**West Virginia University – Program Coordinator – Master Science Energy Environments (July 2020 to present)**

**West Virginia University – Assistant Research Professor, Division of Resource Management and Economics (April 2017 to present)**

**Director, Natural Resource Analysis Center (July 2017 to present) <http://www.nrac.wvu.edu/>**

**Manager, Institute of Water Security and Science (Oct 2017 to present) <https://iwss.wvu.edu/>**

**Research Scientist, Natural Resource Analysis Center (July 2009 to July 2017)**

PI on \$2.2 million cooperative agreement between WVU Davis College of Agriculture, Natural Resources, & Design and USDA NRCS. The agreement aligns WVU Faculty Researchers with NRCS Staff to conduct applied research into the Food Desert Issue, Animal Feed Efficiency/Environmental Quality on WVU Farms, and Stream/Wetland restoration and wildlife habitat enhancements.

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Research, education, and service to state - developing and managing projects for natural resources research and service in aquatic ecosystems restoration, remote sensing/GIS, landscape ecology, flooding, and holistic watershed assessment, management, and design throughout Appalachia. Secured and managed a \$3M cooperative agreement with the State of WV for aquatic habitat restoration, research, and education in highland streams (managed fish passage and natural stream restoration projects on Upper Shavers Fork, Mill Creek of Kumbrabow, WV, and Holly River State Park:

<https://youtu.be/wQonub1Smuk>

<http://wvmetronews.com/2014/04/10/restoring-a-wild-trout-fishery/> and

<http://www.wchstv.com/news/features/west-virginia-wildlife/stories/Mill-Creek-Being-Restored-For-Native-Brook-Trout-38221.shtml#.VBHYG IdV8O>).

Co-producer of the PBS Documentary: "[Stewards of Shavers Fork](#)."

Secured and managed a \$1.5M agreement with the State of WV to collect, process, and analyze airborne lidar data for the Southern Coalfields of WV (40% of state of WV). Provided project management and staff supervision for airborne and terrestrial lidar data acquisition, processing and analysis to support shale gas exploration, solar power potential, stock pile volume estimation, stream/wetland restoration, national park mapping, archeology (PBS Time Team America OK, NM, & CO), and forest management.

Provided technical assistance, research support, and staff/student oversight for an investigation in the Powder River Basin, WY funded by NETL, USDA ARS, and USDA NRCS. Integrating, analyzing, and modeling airborne lidar, hyperspectral, and multi-spectral data in support of determining hydrologic impacts of produced water from coal bed methane production in Beaver Creek Watershed (sub-basin). Developed geospatial data in support of hydrologic, hydraulic, and landscape modeling.

Co-author in the development of the [WV State Wildlife Action Plan](#) (1<sup>st</sup> accepted by USFWS nationally) as well as served as co-author in the development of the WVDNR Statewide Aquatic Habitat Enhancement Program Plan.

PI on \$100K research grant with NRCS and WVSRA to explore the feasibility of bulk rail-based export of poultry litter from the Potomac Watershed in WV.

PI on \$90K research grant with National Park Service for Aquatic Resource Data Stewardship and Analysis for the New River Gorge National River.

#### **MapSpec, LLC. – Owner/President**

Small consulting firm specializing in National Environmental Policy Act facilitation and documentation, drone remote sensing, and GIS.

#### **Canaan Valley Institute – Director of Science & Technology (1998-2009) [www.canaanvi.org](http://www.canaanvi.org)**

Directed a permanent staff of twenty-six professionals and administered a \$3 million annual budget. Responsible for business development, fund raising, strategic/operational planning, project delivery, staff recruitment, conflict resolution, partner coordination, and contracts oversight. Served as Program Officer on federal grants (US EPA, USDA ARS, USDA NRCS, FEMA) and was principal overseeing team and project managers on fee-based work. Managed and/or participated in over two hundred projects relating to environmental research, assessment, restoration, and/or conservation; sample projects highlighted below:

- CVI Geospatial Laboratory and Information Technology System (Design/development)
- Landscape Analyst™ 1.0 extension to ArcView GIS (Software development)
- Horseshoe Run, WV Watershed Assessment (Stream/Habitat Restoration)
- Canaan Valley Wastewater, WV (Decentralized Wastewater Plan)
- National Hydrography Dataset Development in WV (US FGDC, pilot project)
- Tygart River Wetland Mitigation Bank Site (consulting services, Elkins, WV)
- Over a million acres of airborne Lidar data/ digital image acquisition, processing and data delivery (clients: federal, state, local agencies, private developers, engineering firms)

#### **West Virginia Division of Natural Resources, Wildlife Resources Section – Biometrics Supervisor (1994-1997)**

Designed, developed, and maintained an enterprise Geographic Information System consisting of Sun (Unix) / PC (Win95) based workstations, GPS units, and ArcInfo/ArcView databases detailing Wildlife Management Area and statewide wildlife and water resources. Provided technical support in agency-wide capital improvement planning and produced automated

GIS tools supporting land acquisition decision-making. Responsible for a division-wide computer technical support and training program and supervised Biometrics Unit and GIS Staff.

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### PROFESSIONAL AFFILIATIONS

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- American Society for Photogrammetry and Remote Sensing
- Phi Beta Kappa
- National Honor Society
- Gamma Sigma Delta
- WV Association of Geospatial Professionals

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### TRAINING/SKILLS

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- Kauffman Foundation - Fastrac Business Development Course
- Wildlands Hydrology - Natural Stream Channel Design Administrator Training
- ESRI ArcGIS, Global Mapper, LiDAR 360
- Optech ALTM 3100 Operations Training (Ground/Air operations, data processing)
- AISA+ Hyperspectral Operations Training
- Unix System Administration
- Stella Dynamic Systems Modeling
- R Statistics
- GeoCue (TerraSolid), MARS Pro, QT Modeler
- NEPA Effects Analysis and Documentation
- Writing Quality Environmental Impact Statements and Environmental Assessments
- Certified Railroad Hi-Rail Car Operation
- Videography and production
- FAA Licensed Commercial Drone Pilot
- Agisoft – structure from motion
- Field Equipment Operator (Excavator, Skid Steer, ATVs, Chainsaws, Wench and Cabling)
- UCINET
- FLIR UAV Thermal Remote Sensing
- Geodetics MMS UAV LiDAR Remote Sensing
- BaySpec UAV Hyperspectral Remote Sensing
- RedTail UAV LiDAR Remote Sensing

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### EDUCATION

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**West Virginia University** – *Doctor of Philosophy* – Human and Community Development, Davis College of Agriculture, Natural Resources, and Design, Division of Resource Economics and Management, 2017

**The Ohio State University** - *Master of Arts, Geography*, 1994

Byrd Polar Research Center Graduate Assistant (Huascaran Glacier, Peru Ice Coring Expedition 21,000 ft.)

**West Virginia University** - *Bachelor of Arts (Magna Cum Laude), Geography*, 1992

Regional Research Institute Undergraduate Fellow, Honors Program Graduate

### TEACHING:

D&E College B&E 201: Introduction to GIS

WVU RESM 440: Foundations of GIS

WVU RESM 693: Drones in Natural Resource Management

WVU ANRD 293: One Health – Systems Thinking Approach

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**VOLUNTEER**

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- Union Mission, Fairmont, WV (counseling, meal service)
- Tree of Life Church, Fairmont, WV (grounds keeping)
- Fairmont Church League Basketball Coach
- Wounded Warrior Outdoor Adventures (lead annual hunting and fishing events)
- Mollohan Family Charitable Foundation Board Member
- WVU Fly Fishing Club Faculty Advisor
- Patriots 4 Board Member
- Human/Animal Bond 501(c)3 Volunteer

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**PUBLICATIONS/PRESENTATIONS**

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- Strager, M., Hentz, A., Grushecky, S., & **Kinder, P.** (2019) An Analysis of Surface Runoff from Gas Well Pad Development Using UAV Imagery. *Journal of American Society of Mining and Reclamation*, IN REVIEW.
- Strager, M., **Kinder, P.**, Strager, J., Grushecky, S., & Kimmet, J. (2019) Applying UAV Imagery to Minimize Impacts to Surface Water from Oil and Gas Development. *American Society of Mining and Reclamation*, Big Sky, MT.
- Strager, M., **Kinder, P.**, & Grushecky, S. (2019) Modeling Potential Runoff from a Converted Forest lot Using UAV Imagery. 12th Southern Forestry and Natural Resource Management GIS Conference, Athens, GA.
- Kinder, P.**, Selin, S., & Strager, M. (2018). Social Network Structure and Dynamics in Adaptive Natural Resource Governance: A Case Study of Stream Restoration in West Virginia, USA. *Int J Recent Sci Res.* 9(11); <http://dx.doi.org/10.24327/ijrsr.2018.0911.2872>.
- Klein-Hentz, A., **Kinder, P.**, Hubbard, J., & Kellner, E. (2018). Accuracy and Optimal Altitude for Physical Habitat Assessment (PHA) of Stream Environments Using Unmanned Aerial Vehicles (UAV). *Drones.* 2(2), 20; <https://doi.org/10.3390/drones2020020>
- Hubbart, J., Kellner, E., Kinder, P., & Stephan, K. (2017). Challenges in Aquatic Physical Habitat Assessment: Improving Conservation and Restoration Decisions for Contemporary Watersheds. *Challenges.* 8(2), 31; <https://doi.org/10.3390/challe8020031>
- Maxwell, E., Riley, C., & **Kinder, P.** (2012). Comparison of lidar-derived data and high resolution true color imagery for extracting urban forest cover. *USDA Proceedings 18<sup>th</sup> Central Hardwood Forest Conference.* Morgantown, WV.
- Kinder, P.**, & Riley, A. (2012). Integrating short and long range ground-based laser scanning with airborne lidar. *SPAR International Conference.* Houston TX.
- Butler, P., Riley, A., & **Kinder, P.** (2012). Three point clouds: archeological heritage documentation and lidar in the ohio valley. 30<sup>th</sup> *Annual Symposium on Ohio Valley Urban and Historic Archeology*, Moundsville, WV.
- Butler, P., Riley, A., & **Kinder, P.** (2011). Architecture and landscape of a mined environment. *Architectural Research Centers Consortium Spring Conference.* Detroit MI.
- Kinder, P.**, Riley, A., Yuill, C., & Fletcher, J. (2010). Seeing the forest floor through the trees: A closer look at how canopy affects ground point density of airborne LiDAR- derived ground models in Appalachia forests. *ASPRS 2011 Annual Conference*, Milwaukee, WI.
- Kinder, P.** (2009). Environmental sustainability in West Virginia: Myth or reality? *Earth Day Celebration, West Virginia University, Political Science Seminar*, Morgantown, WV.
- Kinder, P.**, & Hoch, R. (2008). Airborne lidar and digital imagery in planning. *Indiana University Pennsylvania, Regional Planning Seminar*, Indiana, PA.
- Kinder, P.**, Mark, B., & Riley, A. (2008). Airborne lidar and digital imagery in glacier studies. *Ohio State University, Byrd Polar Research Center Seminar Series*, Columbus, OH.

- Miller, T., Gaujot, R., Bennett, D., Sammons, T., Huffman, R., & **Kinder, P.** (2008). Stream and wetland mitigation new regulations seminar, Gilbert, WV.
- Strager, M., & **P. Kinder.** (2004). Management and policy implications of different preferences toward conservation criteria. *Society for Conservation GIS*, Shepherdstown, WV.
- Kinder, P.**, Desai, C., & Neidig, C. (2002). Development of spatial and attribute crosswalks to National Hydrography Dataset (NHD) for West Virginia. *Project Report: USGS Federal Geographic Data Committee.*
- Smith, K., & **P. Kinder.** (2002). Status of mid-atlantic highland environment resources. *Congressional Testimony: United States House of Representatives, VA/HUD and Independent Agencies Appropriations Subcommittee.* Washington, D.C.
- Kinder, P.** (2000). The Canaan Valley Institute: Environmental GIS in the coalfields. *Conservation Geography.* 1(2000), 6 - 9.
- Kinder, P.** (2000). Watershed GIS. *Personal Interview. Confluence:* 2(4), 7-8.
- Kinder, P.**, Allen, W. (1999). GIS overview for community-based conservation. *USFWS National Conservation Training Center Seminar.* Shepherdstown, WV.
- Rowe, J., & **Kinder, P.** (1998). Providing customized GIS resources for watershed-based citizens groups. *1998 ESRI International User Conference.* San Diego, CA.
- Yuill, C., Strager, M., Fletcher, J., Kordek, W., & **Kinder, P.** (1996). A spatially explicit model to rank ownership parcels for wetland wildlife management. *GIS/LIS '96 Annual Conference and Exposition.* Denver, CO.
- Strager, M., Yuill, C., **Kinder, P.**, Fletcher, J., & Kordek, W. (1996). Identifying high value highland wetland complexes for wetland wildlife management opportunities. *GIS/LIS Annual Conference and Exposition Proceedings,* Denver, CO.
- Kinder, P.**, & Mosley-Thompson, E. (1994). Strategies for teaching an integrated earth systems curriculum. *American Geophysical Union Paper Presentation.* Baltimore, MD.