Allison R. Bailey
Principal, Sound GIS

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EXPERTISE

Over 15 years experience using GIS and remote sensing for natural resource management. I am trained as a biologist and have applied this expertise and associated analytical skills to numerous projects.

PHILOSOPHY: A defining characteristic of my approach to GIS is to use appropriate and scientifically valid tools and techniques for each problem, and to avoid allowing the tools to dictate or limit the questions that can be asked.

SKILLS

- **GIS**: Expert user of GIS software: ArcGIS, workstation ArcInfo, and Open Source GIS tools. Experienced with ERDAS Imagine. Comfortable working with vector and raster data formats, including remote sensing imagery. Facile with conversion of data from many formats, including CAD, ASCII, GPS, and others. Skilled analyst and cartographer.
- **Programming**: Effective at automating spatial analyses, cartography, and data conversion with Python and Perl.
- **Database**: Competent in database design/analysis with SQL in MS Access, SQL Server, Postgres/PostGIS, MySQL, and Oracle.
- **Scientific Analysis**: Skilled in scientific and analytical problem solving. Enjoy working with technical teams to translate scientific questions into GIS and database analyses, maps, datasets, or documentation.
- **Project Management**: Enjoy working directly with clients and project teams to understand and meet their needs. Experience mentoring other GIS analysts.

EXPERIENCE

Principal 2005 - present
Sound GIS, *Seattle, WA*

- Founded a GIS consulting firm which provides a full range of GIS services, including spatial analysis, data and database development, programming, scientific support, documentation, and mapping. Provide all technical and project management expertise. Clients include NOAA, Washington Department of Natural Resources, Washington Department of Ecology, The Nature Conservancy, Environmental Defense Fund, and various environmental consulting firms.
- Projects include:
  - Open Source Web-Mapping Support for Oil Spill Response and Restoration (NOAA): Technical liaison between web application developers and end users. Identify new feature requirements and prioritize development effort.
  - Change Analysis of Puget Sound's Nearshore Ecosystem (Corps of Engineers/Anchor Environmental): Provided regional GIS expertise on a large, multi-disciplinary team assessing change to the shoreline and estuarine conditions in Puget Sound, Washington.
  - Watershed GIS and Database Support (NOAA): Provide on-call GIS and database support for NOAA's watershed, natural resource damage assessment and restoration projects.
  - Marine Protected Area Gap Analysis (TNC): Conducted spatial analyses of marine protection levels in Washington State and identified spatial and regulatory gaps in protection.
  - Puget Sound Eelgrass User Needs Assessment and Geodatabase Development (WDNR): Conducted needs assessment and used results to design a spatial database of DNR's eelgrass data for public distribution.
  - Oil Spill Response Atlas, Puget Sound and Strait of Juan de Fuca (NOAA/CTC): Provided GIS, database, and biological expertise for compiling and developing data into a geodatabase for NOAA's Environmental Sensitivity Index (ESI) maps. Mentor CTC's GIS staff.
  - Groundfish Essential Fish Habitat (EFH) Environmental Impact Statement (EIS) (NOAA): Served as GIS technical lead to complete an EIS for West Coast groundfish EFH. This project received a Special Achievement in GIS Award from ESRI.

Senior GIS Analyst and Programmer 2001 - 2005
TerraLogic GIS, *Stanwood, WA*

- Contributed expertise in spatial analysis, cartography, data conversion, and database development and analysis. Expanded client base in marine and coastal GIS. Frequently served as technical lead for projects, including marketing, project scoping, client interaction, task management, delegation, and budget tracking.

- Project experience included GIS programming and data development to support hydraulic and hydrologic modeling; synthesizing disparate GIS data sets (raster, vector, ASCII, database, and other formats) into consistent relational databases and geodatabases; conducting spatial analyses of fisheries habitat, shoreline impacts, and other projects; automating cartography using AML/Arcplot and VBA within ArcMap.

GIS Analyst 1998 - 2001
NOAA, National Marine Fisheries Service, *Seattle, WA*
- As the sole GIS expert, supported a division of more than 20 scientists and analysts.
- Devised a novel geographic analysis to quantify linear extent of kelp bed habitats. Created and maintained relational databases and GIS for fisheries surveys. Automated data conversion, database development, and cartography using AML, Perl, VB, and Avenue. Produced a map series of essential fish habitat for 84 species.

Natural Resource Scientist (1991-1998) and Technician (1990-1991) 1990 - 1998
Washington State Department of Natural Resources, *Olympia, WA*
- Recommended and conducted cost-effective methods to inventory nearshore habitats in Puget Sound using aircraft remote sensing, GIS, GPS, and field surveys. Developed a GIS-compatible relational database to store and analyze field data for the inventory. Performed spatial and statistical analyses of inventory data. Documented and presented results to general and technical audiences.

Research Assistant 1995 - 1997
College of Marine Studies, University of Delaware, *Newark, DE*
- Completed research project to monitor an invasive plant species using remote sensing and GIS: "Detecting and monitoring *Phragmites* invasion of coastal wetlands: a comparison of remote sensing techniques."

Research Assistant 1987
Dr. David Duggins and Dr. Megan Dethier, Friday Harbor Laboratories, *Friday Harbor, WA*
- Undergraduate research assistant to Dr. David Duggins and Dr. Megan Dethier, supporting subtidal kelp and intertidal ecology research projects. Logged 75 hours SCUBA dive time.

Participant 1986
Carleton College Marine Biology Program at Friday Harbor Laboratories, *Friday Harbor, WA*
- Emphasis on field work and independent research. Learned subtidal and intertidal research methods. Logged 25 hours SCUBA dive time

EDUCATION

M.S. Marine Studies/Remote Sensing and GIS, University of Delaware, 1998
B.A. Biology, *cum laude*, Carleton College, Northfield, MN, 1988
Post-Graduate coursework in Python, Perl, spatial statistics , R, PostGIS, SQL, Java, ArcObjects