



Katy R. Beckham
GIS Analyst/Biologist

Research Planning, Inc.

Mrs. Beckham specializes in the use of Geographical Information Systems (GIS) technologies for natural resource mapping, water quality improvement/watershed management, and other ecological projects. Since joining RPI in 2006, Mrs. Beckham has served as a GIS Analyst, Biologist, QAQC Manager, and/or Database Manager in many types of projects, including: coastal resource mapping, natural resource mapping, natural resource damage assessments, alternative energy assessments, as well as provided GIS project support. Mrs. Beckham has worked on projects that have highlighted not only her GIS capabilities but also her skills as a trained biologist. She has co-authored several technical publications and reports while at RPI and previously at Clemson University.

EDUCATION

Certification as a GIS Professional (GISP), GIS Certification Institute (2015)

M.S., Forestry & Natural Resources, Clemson University, Clemson, S.C. (2004)
Thesis Title: Small Mammal-Forest Community Relationships of the Great Smoky Mountains National Park.

B.S., Aquaculture, Fisheries, & Wildlife Biology, Clemson University, Clemson, S.C. (2000)

Honors: National Science Foundation Fellowship, 2002; Xi Sigma Pi, 2004

PROFESSIONAL EXPERIENCE

2006 to present: GIS Analyst/Biologist, Research Planning Inc., Columbia, S.C.

2003 - 2006: Ecological Services Manager/Biologist, Kubal-Furr & Associates, Simpsonville, S.C.

2002 - 2003: Graduate Research Assistant at Clemson University (NSF Fellowship)

Ms. Beckham’s experience is outlined separately on the following pages in four main areas:

- 1) ESI/Coastal Resource Mapping
- 2) Natural Resource Damage Assessments
- 3) Alternative Energy / Environmental Assessments
- 4) Natural Resource Mapping and GIS Project Support

COASTAL RESOURCE MAPPING FOR OIL SPILL CONTINGENCY PLANNING AND RESPONSE

GIS Analyst/QAQC Manager: Mrs. Beckham served as GIS analyst and/or QAQC Manager on the following ESI Projects used for coastal zone management, contingency planning, and hazardous material/natural disaster responses:

Central California	2006
New York, Hudson River	2006

(cont'd)

Washington, Puget Sound & Strait of Juan de Fuca	2006
Alabama	2007
Maryland (2 volumes)	2007
Northern California	2008
Mississippi	2009
New York, Long Island Sound	2009
Southern California	2010
North Carolina (3 volumes)	2011
Florida Panhandle (GIS Analyst & QAQC Mgr)	2012
South Florida (GIS Analyst & QAQC Mgr)	2013
Texas, Upper Coast (GIS Analyst & QAQC Mgr)	2013
Louisiana (GIS Analyst & QAQC Mgr)	2013
Delaware Bay (GIS Analyst & QAQC Mgr)	2014
Washington/Oregon (GIS Analyst & QAQC Mgr)	2014

Her roles include(d): 1) Oblique photography interpretation and classification of shoreline; 2) Data acquisition; 3) Biological and Human-Use data digitization; 4) Digital data manipulation; and 5)QAQC review for data integrity as well as metadata production.

NATURAL RESOURCE DAMAGE ASSESSMENTS

GIS Analyst/Database Manager: Mrs. Beckham has served in GIS support roles for several natural resource damage assessments during her time at RPI. Those duties include(d): 1) Database Management; 2) QAQC; and 3) data compilation/digitization for shoreline oiling quantification procedures.

2006: GIS Analyst. Bouchard 120 Spill Natural Resource Damage Assessment. Mrs. Beckham compiled data for digital quantitative analysis of shoreline oiling extent and impact.

2007: GIS Analyst and biology project support. Obed Wild and Scenic River Natural Resource Damage Assessment. Mrs. Beckham compiled GIS data dictionary of relevant datasets to be used in environmental assessments.

2007: GIS Analyst/Database QA. Citgo Natural Resource Damage Assessment. Mrs. Beckham performed QAQC on data from Shoreline Cleanup Assessment Team (SCAT), and created spatial files as part of the GIS component.

2008: GIS Analyst. Cosco Busan Natural Resource Damage Assessment. Mrs. Beckham performed database and GIS file QAQC as well as providing data management.

2008: GIS Analyst. Selendang Ayu Natural Resource Damage Assessment. Mrs. Beckham georeferenced shoreline oiling segments to high resolution mosaic imagery. Segment data were derived from Shoreline Cleanup Assessment Team (SCAT) efforts.

ALTERNATIVE ENERGY / ENVIRONMENTAL ASSESSMENTS

GIS Analyst/Biologist/Database Manager: Mrs. Beckham has served in GIS support roles for several alternative energy/environmental assessments. Those duties include(d): 1) GIS Analyst; 2) Biologist; and 3) Database Management.

2007: GIS Analyst and Biology support. Worldwide Synthesis and Analysis of Existing Information Regarding Environmental Effects of Alternative Energy Uses on the Outer Continental Shelf for the Minerals Management Service (MMS 2007-038). Mrs. Beckham's duties included: 1) organization of bibliographic annotations pertaining to the literature cited in the document; 2) cooperation with government and private organizations in efforts to obtain all research related to alternative energy, particularly from wind farms, with respect to sea turtles; and 3) compilation of a GIS data dictionary of all benthic spatial data.

2007: Biologist. Critical Technical Review and Evaluation of MMS Site-Specific Study Techniques for the Minerals Management Service Marine Minerals Program (MMS 2007-047). Mrs. Beckham reviewed benthic studies to create a comparison schematic of benthic sampling methods.

2009 – 2012: GIS Analyst and Database Manager. South Atlantic Information Resources: Data Search and Literature Synthesis for the Bureau of Ocean Energy Management, (BOEM 2013-01157). Mrs. Beckham supported the BOEM South Atlantic Synthesis by performing literature searches, creating an annotated bibliography complete with abstracts and keywords, serving as day-to-day management of requests from Principal Investigators from each subject area, and creating a spatial component with GIS technologies reflecting study areas from each piece of literature.

NATURAL RESOURCE MAPPING AND PROJECT SUPPORT

GIS Analyst/Biologist/Database Manager: Mrs. Beckham has served as GIS analyst, Biologist, and/or Database Manager for several natural resource mapping projects as well as provided GIS support role for other projects RPI has completed.

2006: Biologist. Department of Transportation's Research and Special Programs Administration's Best Management Practices Project. Mrs. Beckham evaluated and compiled threatened and endangered species range data and human interaction issues, as well as coordinated with the U.S. Fish and Wildlife Service on appropriate practices for species protection during pipeline repairs.

2006: GIS Analyst. Petrobras. Mrs. Beckham converted GIS data from Portuguese to English and created a mapping project for display of the data.

2006 – 2012: GIS Analyst. EPA and S.C. Department of Health and Environmental Control (DHEC) Non-Point Source Pollution Projects. Mrs. Beckham provided GIS project support for 5 watersheds. In 2009, Mrs. Beckham also performed an intensive GIS analysis of predictive factors related to pollution run-off in both agricultural and septic environments. The

analysis was used to solicit participation in the cost-share program, in efforts to disseminate funds more effectively in the reduction of non-point source pollution.

2007: GIS Analyst. Motley Rice. Mrs. Beckham created wind rose diagrams and maps for litigation support.

2008: GIS Analyst. Jeddah Assessment project. Mrs. Beckham created renderings of a proposed monitoring system using three dimensional GIS visualization software. Video animations were also created to allow the monitoring system to be viewed from all aspects.

2008 – 2009: GIS Analyst. NOAA Gulf of Mexico Marine Debris Project. Mrs. Beckham performed routine updates to the Gulf of Mexico Marine Debris Program (GOMMDP) maps & Google Earth files. Cartographic products were created for placement on GOMMDP websites.

2009 – 2012 : GIS Analyst. NOAA Arctic Initiative Project. Mrs. Beckham compiled data dictionary of pertinent GIS data as well as mapping projects to visualize arctic erosion characteristics in the study area.

2010: GIS Analyst. Haiti Watershed Initiative (WINNER). Mrs. Beckham developed visualization tools in Google Earth for watershed project datasets. The broad goal of the initiative project was aimed at increasing agricultural productivity by making agricultural information more accessible.

2010: GIS Analyst/Database Manager. Abu Dhabi Coastal Environmental Atlas. Mrs. Beckham populated and provided QAQC services of a Non-spatial database as part of the Abu Dhabi Coastal Environmental Atlas.

SELECTED PUBLICATIONS

Beckham, K.R., C.L. Boring, and M. White. 2012. [Turning analysis into action: Targeting likely sources of watershed impairment](#) Arc User. Spring 2012:16-19.

Reeves, W.K., L.A. Durden, C. M. Ritzi, K.R. Beckham, P. E. Super, B.M. OConnor. 2007. Ectoparasites and other symbiotic arthropods of vertebrates in the Great Smoky Mountains National Park, USA. Zootaxa. 1392:31-68.

Riggins, K.D. 2004. Small Mammal-Forest Community Relationships of the Great Smoky Mountains National Park [thesis]. Clemson University: Clemson (SC). 60pp. Available from: Clemson University Library, Clemson, S.C.