Joshua DeGayner

Education

B.S. – Environmental Science, University of Idaho, 2006

Professional Experience

Mr. DeGayner is a Senior Project Professional with the Sustainable Materials Management division and provides environmental support for projects performed out of the SCS Reston, Virginia office. His assignments since joining SCS in 2008 include field investigations and project management to support solid waste management and recycling studies as well as other environmental projects. Examples of his project experience include:

Solid Waste Studies

**Recycling Technical Assistance, Pennsylvania Department of Environmental Protection, PA**. Mr. DeGayner has provided recycling technical assistance to local governments to help overcome challenges to waste diversion and program inefficiencies. Projects include evaluating pay-as-you-throw systems, commercial recycling improvements, curbside collection of food waste, curbside collection of yard waste, and modernizing local recycling ordinances.

**Solid Waste Collection Program Efficiencies, City of College Park, MD**. Mr. DeGayner is working with the City of College Park to evaluate their existing solid waste collection program, particularly for bulky waste. Tasks involved riding along routes to access efficiency and interviewing waste management personnel. The project aims to improve collection practices and equitably distribute the costs of the program among residents and other stakeholders in the City.

**Recycling Program Development for Public Schools, Government Buildings, and Community College Facilities, Mecklenburg County, NC.** Project Manager to examine waste generation, collection, and recycling for Charlotte-Mecklenburg Schools, Central Piedmont Community College, and County Facilities. Conducted field sampling, interviews with facility recycling managers, and site tours. Mr. DeGayner researched innovative recycling programs at other school systems, colleges, and government facilities, particularly where there are concrete examples of efficient recycling/waste reduction programs. Using these programs as examples, SCS provided the County with ways to mimic and integrate the successful aspects of other recycling/waste reduction programs.

**Montgomery County, MD.** Mr. DeGayner has participated in several Solid Waste and Recycling Studies including:

* **Multi-Family Recycling Container Study** – Field Supervisor for this study to assess the effect of various container capacities at 30 different multi-family properties. Measured waste and recycling quantities and performed waste audits for 30 multi-family properties.
* **Non-Residential Waste Generation Study** – Project Manager for a study to estimate waste generation rates for 69 business type classifications in 2008/09 and again in 2015/16. Mr. DeGayner coordinated waste quantity measurements with a local private hauler using onboard scales to quantify waste generation amounts for different business types.
* **Commercial Waste Audits** – Field supervisor for this study to identify strategies for capturing additional material in the recycling program for five selected County businesses. Fieldwork included managing a team of four personnel to sort generated wastes into 30 categories specific to each business. Results of the waste characterization studies are used by the County to educate similar businesses on waste reduction and recycling methods.
* **Multi-Family Recycling Container Study** – Field technician for this study to evaluate the effect of various types of in-unit recycling bins on recycling quantities. Weekly quantities of recyclables and waste were measured before and after the distribution of several types of in-unit recycling bins at several multi-family properties.
* **Multi-Family Recycling Distance Study** – Field technician for this study to assess the effect of various distances from multi-family dwelling units to communal recycling collection areas onrecycling quantities and rates. Measured waste and recycling quantities for five weeks at 30 multi-family properties.
* **Commercial Recycling Conversion Estimates** – Field supervisor for this study to evaluate the density of recyclable materials for a variety of recycling collection containers, e.g., toters and dumpsters. Measurements of recycling quantities targeted a variety of business types and geographic sectors of the County. For 10 weeks, recycling quantities were sorted by material type, recorded onto a field data form, and compiled into estimates of composition and density for several container types. Results are used by the County to estimate annual recycling quantities from the commercial sector.
* **Documentation of Commercial Recycling Activity** - Project management to seek out commercial recycling activity not previously reported in annual reports. Mr. DeGayner supported the compilation of results, data analysis, and compilation of the final report and managed the team in order to collect the necessary data.

**The University of Maryland, Waste Reduction and Recycling Study.** Field Supervisor, assisting in determining specific and cost-effective programmatic strategies to insure the campus was able to achieve and maintain the state-mandated recycling goal. Project activities included waste characterization of facility types, evaluation of existing program operations, comparison of recycling programs at peer institutions, and identification of waste reduction strategies.

Solid Waste Composition Studies

**City of Santa Cruz Waste Characterization Study** – Field supervisor for a study of waste generated by the residential and commercial sectors of the City. Mr. DeGayner managed the collection of waste samples and sorting them into specific material categories. Mr. DeGayner managed between six and eight people in the field and provides quality assurance and control to the sampling protocol.

**Prince George’s County Waste Characterization Study** – Project Manager for a four-season study of waste generated by the residential and commercial sectors of the County. Mr. DeGayner managed the collection of 200 waste samples and sorting into specific material categories. Mr. DeGayner managed between six and eight people in the field, provides quality assurance and control to the sampling protocol, and oversees the Health and Safety Plan for the site.

**Prince William County Waste Characterization Study** – Project Manager for a two-season study of waste generated by the residential and commercial sectors of the County. Mr. DeGayner managed the collection of 100 waste samples and sorting into specific material categories. Mr. DeGayner managed between six and eight people in the field, provides quality assurance and control to the sampling protocol, and oversees the Health and Safety Plan for the site.

**Montgomery County 2016/17, 2012/13, and 2008/09** – Project Manager for a four-season study of waste generated by the residential and commercial sectors of the County. Mr. DeGayner is managing the collection of 300 waste samples and sorting them into 64 material categories. Each study targets the following sectors: single-family, multi-family, and commercial. Mr. DeGayner manages nine people in the field, provides quality assurance and control to the sampling protocol, and oversees the Health and Safety Plan for the site.

**Hamilton County, OH, Waste Composition Study**- Project Manager for two-season studies in 2010/11 and 2018 of residential waste collected from the City of Cincinnati and surrounding areas through City and private services. The information developed from this evaluation will be used to assess waste diversion programs and to identify recycling and waste diversion opportunities.

**New Hanover County, NC, Waste Composition Study**- Crew Leader for a two-season study in 2010/11 of residential and commercial waste and visual characterization of C&D waste loads delivered to the landfill. The information developed from this evaluation will be used in the future design, construction, and operation of waste management facilities in the County; and to identify recycling and waste diversion opportunities.

**City of Charlotte, NC, Multi-Family Waste Composition Study, 2011**- Project Manager for a single-season study of multi-family residential waste. The results of the study will be used to establish local waste collection ordinances and assess fees for waste collection services at multi-family properties.

**City of Norfolk, VA, Residential and Commercial Waste Composition Study, 2014**- Project Manager for a single-season study of residential and commercial waste. The information developed from this evaluation will be used in the future design, construction, and operation of waste management facilities in the County; and to identify recycling and waste diversion opportunities.

**Wake County, NC, Waste Composition Study**- Project Manager for a municipal solid waste composition sampling and analysis study in May 2011. A statistically valid sampling plan was derived to collect representative waste samples from residential, commercial, and multi-family sources incorporating all contributing geographies. SCS collected 100 samples and sorted waste components into 70 material types. The results of the study will help target outreach efforts and assess and refine the recycling program for the County.

**Chatham County, NC, Waste Composition Study**- Project Manager for a municipal solid waste composition sampling and analysis study in June 2011. Representative waste samples were obtained from the County’s 14 residential convenience centers. Additionally, SCS visually characterized bulky waste collected at each of the convenience centers. The goal of the project was to provide the County with data that can be used to help plan reuse, recycling, and waste reduction programs for the residential sector.

**Orange County, NC, Waste Stream Characterization Study**. Field Supervisor for the performance of a solid waste composition study in 2010 which included a comprehensive waste stream analysis of the residential, commercial, and construction/demolition waste sectors. Each study compared results to the preceding studies. Study elements included a characterization and training assignment that focused on assessing the recyclable and reusable components of C&D debris and an analysis of both the single- and multi-family waste streams. Mr. DeGayner performed the statistical evaluation of data outputs, wrote seasonal reports, and supervised the waste sorting crew and field activities.

**City of Cleveland, OH, Waste Composition Study**. Field Supervisor for a two-season study of residential waste collected through City services. SCS examined the waste streams of two separate collection methods to ascertain the effect on the waste composition. The results of the study are to be used in the evaluation of disposal technologies.

**Anne Arundel County, MD, Waste Composition Study.** Field Supervisor for the study of residential waste collected through County services in 2009. The studies each included visual characterizations of C&D and bulky wastes and characterization of the residential waste stream. Mr. DeGayner performed a statistical evaluation of data outputs, wrote seasonal reports, and supervised the waste sorting crew and field activities.

**Montgomery County, MD, Waste Composition Study.** Project Manager to characterize residential (both single- and multi-family) and commercial wastes disposed at the waste transfer station in 2008/09. Responsible for sampling design, field training, data collection and management, statistical analysis, and final report preparations.

**UNC Charlotte Waste Composition Study.** Project manager to characterize waste samples from different building types on the UNC Charlotte campus.

**GW University Waste Composition Study.** Project manager to characterize waste, recycling, and organics samples from different buildings on the GW campus.

**Howard County Organics Composition Study.** Project manager to characterize organics collected curbside in Howard County for composting operations.

**Rutgers NJ Waste Composition Study.** Project manager for collecting waste and recycling samples over the course of four seasons from counties throughout New Jersey.

Energy Auditing

**Level II Building Energy Audits for the National Capital Region of the National Park Service (NPS).** Performed energy and water audits in general accordance with a Level II energy audit following The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and the NPS Energy and Water Audit Guide protocols. National Parks that were assessed include:

* Harpers Ferry National Historical Park, West Virginia
* Wolf Trap National Park for the Performing Arts, Virginia
* Rock Creek Park, District of Columbia
* Prince William Forest Park, Virginia
* Chesapeake & Ohio Canal National Park, Maryland and District of Columbia
* George Washington Memorial Park, Virginia, and Maryland

Audit functions included reviewing building and equipment data, interviewing site personnel, analyzing utility rate information, observing energy-related equipment operation, performing a meter inventory, and completing a detailed sustainability checklist supplied by NPS. Information was then analyzed to identify cost-effective, energy efficiency retrofit measures. To date, SCS has audited 183 buildings totaling 717,000 square feet.

Environmental Services

**Gainesville, VA.** Tasks include soil sampling, data management, and field oversight to support hazardous waste cleanup for the Atlantic Research Corporation. Contaminated areas were delineated with Thiessen polygons for removal. Fieldwork included incremental sampling methods for perchlorate in soils.

**Washington, DC.** Tasks include assisting in the remediation of a heating oil release at an apartment complex. Tasks have included a review of previous investigation data (by others); periodic well gauging for free product and groundwater levels; interim remedial efforts (manual bailing and vacuum truck extraction events); groundwater sampling and reporting.

**Manassas, VA.** Multi-phased site characterization of a general store with an impacted potable supply well. The facility has operated as a service station since at least the 1940s. Principal constituents of concern included petroleum compounds (BTEX and MTBE). Typical tasks at the site include groundwater sampling of test wells, monthly water levels and DO measurements, and oversight/maintenance of a remedial groundwater oxygen injection system.

**Staunton, VA.** Multi-phased site characterization for a former bulk petroleum plant. Typical tasks at the site include groundwater sampling of test wells, and biosurfactant injection into the groundwater system.

**VA Phase I and II ESAs.** Mr. DeGayner has compiled environmental reports that have described field reconnaissance activities, potential areas of contamination, interpretation of historical data, employee and third-party interviews, and regulatory record research that identifies past management practices.

**Springfield, VA.** Assisted with the investigation and remediation of PCE-impacted groundwater at an active dry cleaner in a commercial shopping center. Monitored enhanced biodegradation of PCE compounds using an emulsified vegetable (soybean) oil solution.

Landfill Groundwater Services

**Fort Belvoir, Cullum and Theote Landfills, VA.** Conduct quarterly and semi-annual groundwater sampling events.

**Brown Station Road Landfill, Prince George’s County, MD.** Conduct monthly groundwater level measurements, and semi-annual groundwater and surface water sampling events.

**Former Telegraph Road Landfill, VA.** Conduct sampling of total and dissolved metals for landfill closure.

Landfill Gas Services

**Campbell County Landfill, VA.** Management of monthly wellfield data review, state compliance and reporting, and quarterly monitoring.

**Stanley Landfill, Page County, VA.** Management of quarterly sampling, state compliance and reporting, and gas remediation projects. Remedial projects include a dewatering system designed to pump leachate from waste extraction wells in order to improve gas quality and control.

**Sandy Hill Landfill, VA.** Investigation of leachate water in landfill gas extraction wells. Tasks include pumping out extraction wells, recording video, and noting well condition.

**Hilltop Landfill, VA.** Conduct quarterly landfill gas monitoring in perimeter wells, open vents, and closed vents. Monitoring includes taking pressure readings and recording levels of methane, oxygen, carbon dioxide, and hydrogen sulfide.

Other Experience

Moapa Band of Paiutes, Moapa, Nevada. As Water Quality Technician, administered the following grant programs:

* EPA Clean Water Act Section 106 Water Pollution Control Plan
* Clean Water Act Section 319 Non-Point Source Pollution Control
* NRCS Environmental Quality Incentives Project
* EPA Wetlands Program Development Grant
* Bureau of Indian Affairs Water Resources Development

Responsibilities included water sampling for a variety of pollutants, reporting to EPA, supervising and training several workers, attending local and state meetings, coordinating with state/county/federal officials, executing work plans, and preparing budgets for various projects.

Accomplishments included application and approval of funding for a USFWS Partners for Wildlife Project, completion of streambank restoration, tamarisk removal, fencing projects, application for a USFWS Tribal Wildlife Grant, and (as part of a team) drafting and finalizing the Muddy River Recovery Action Plan.