

Research

Extension

Lab Focus

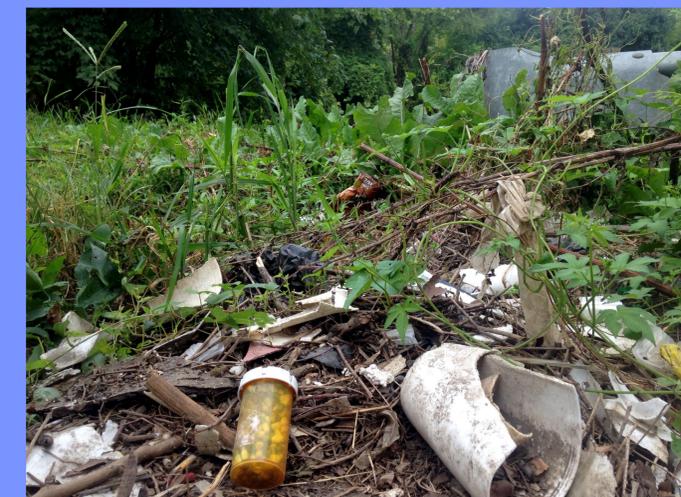
We are focused on improving our understanding of the interactions between urban development and soil and water quality, while also providing input for a variety of stakeholders on ways to minimize environmental impacts of urban communities.

Research in our group has focused on:

- Urban stream nitrogen and energy cycling
- Water column biogeochemical cycling (nutrient uptake, metabolism, denitrification)
- Denitrification in riparian soils and stream sediments
- Long-term water quality trends and drivers
- Recovery of urban stream ecosystem functions following flooding
- Effect of pharmaceuticals and personal care products on aquatic ecosystems

Our extension program will focus on:

- Working with developers to implement low-impact development strategies early in the development cycle
- Monitoring the effectiveness of a range of best management practices across the range of communities in Florida
- Educating regional and county extension agents on the sources and fate of nitrogen and other pollutants across the urban landscape
- Developing and implementing a state-wide citizen science soil and water quality monitoring program



Future Directions:

- Effect of lawn management practices on nutrient leaching
- Soil and water quality across socioeconomic gradients
- Interactions between emerging contaminants (pharmaceuticals, metals) and biogeochemical cycles
- Pre- and post-restoration monitoring of urban aquatic ecosystems
- Impacts of community management on soil and water resources across a range of management activities

Having an impact on Florida's urban communities:

- Our goal is to use cutting edge research results to produce novel development strategies while minimizing soil and water quality impairment
- We will work with a range of stakeholders, including individual households, homeowner's associations, municipal governments, and developers to balance the needs of society and the environment
- Through education and outreach, we strive to raise awareness to issues revolving around the impact of urban pollutants throughout Florida