



# UTILIZING MAPS TO IMPROVE WATER QUALITY IN ATHENS- CLARKE COUNTY

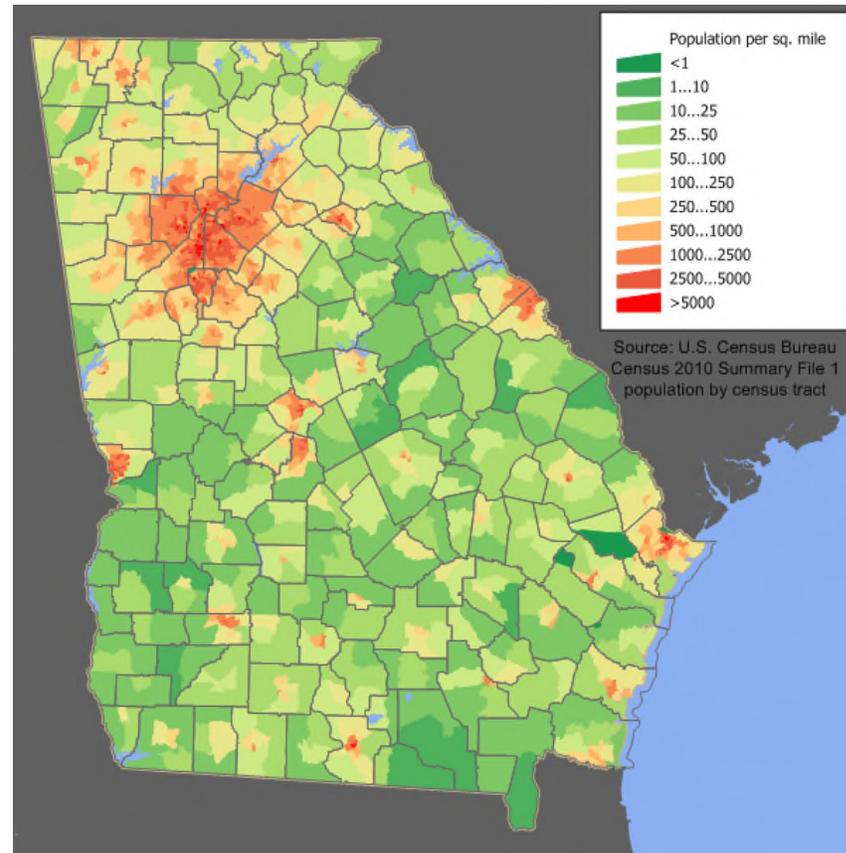
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**Athens-Clarke County**

**Stormwater Management Program**

# BACKGROUND – ATHENS-CLARKE COUNTY

- Population: ~ 120,000
- Area: 121 sq. miles
  - Smallest county by area in GA
- Key features:
  - Middle and North Oconee
  - Piedmont Region
  - University of Georgia



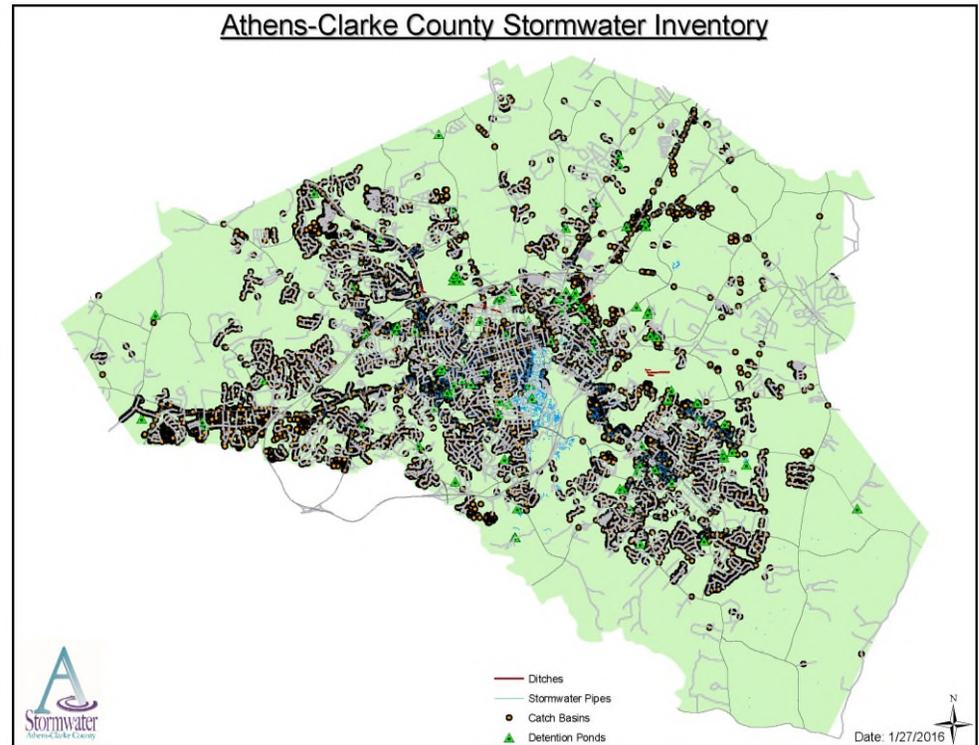
# BACKGROUND – WATER QUALITY

- NPDES Phase II Municipality
  - 2003 received first permit
  - 2005 Stormwater Utility Fee implemented
- 82 miles of impaired waters
- Local government dedicated to:
  - Water quality improvement and protection
  - Open and transparent government



# ATHENS-CLARKE COUNTY DATA

- Required to maintain inventory of:
  - Outfalls
  - Post-construction stormwater management structures
  - Green infrastructure
  - MS4 structures
- Required to track:
  - Water quality sampling stations
  - Water quality data
  - Public education and outreach efforts



# WATERSHED MANAGEMENT PLANS

- Comprehensive plans that summarize conditions and predict future needs
- Include recommendations for BMPs
- Use land use, historical use, impervious surface, hot spot analyses



# DISCONNECT BETWEEN DATA & PUBLIC

- Limited use of data and maps in public outreach
- Challenges:
  - Clear communication to broad audiences
  - Technical support for interactive databases
  - Quality Assurance/Quality Control of data



# LONG TERM DATA ACCESSIBILITY PLAN

- Strategic data management plan for internal and external uses
- County-wide GIS updates and improvements
  - Provide county data layers online
  - Develop interface that best uses ESRI products (ArcGIS Online)
  - Utilize Story Map to develop interactive narratives



# BRIDGING THE GAP – INFOGRAPHICS

## Spring Cleaning

ACC's Transportation and Public Works Department's Streets and Drainage Division spent February getting dirty to help our waters stay clean.

Culverts carry water under our roads.



Stopped up culverts can lead to flooding and major erosion.

## Not on the Streets crew's watch.



This spring, they removed **1,233** tons of dirt from ACC culverts.



That's enough to fill **80** dump trucks.

Created by the ACC Stormwater Management Program.

## Stop Poo-llution

Pet waste is a serious problem for Athens-Clarke County. What are you doing about it?

### Super Cool Athens

- ♥ Smallest county in Georgia by area
- ♥ Home of the Tree that Owns Itself
- ♥ Music hotspot
- ♥ Art literally everywhere

### Super Uncool Athens

- 💩 Over 80 miles of polluted waters
- 💩 Much of that water is polluted with animal waste
- 💩 Dogs contribute significantly to this problem



It is just not natural.



Urban areas, such as Athens-Clarke County, have many more animals than natural areas.



A dog produces 0.75 pounds of poo a day, on average. That's almost the weight of a football.



Dog poo has 7.82 billion fecal coliform bacteria and other pathogens. That is more bacteria than people on earth.

You think stepping in it is bad? Try swimming in it.



All those bacteria and pathogens can make people sick and keeps us from using our waterways for swimming and fishing.

When it rains, stormwater runoff carries those billions of bacteria and pathogens directly into our streams and rivers.



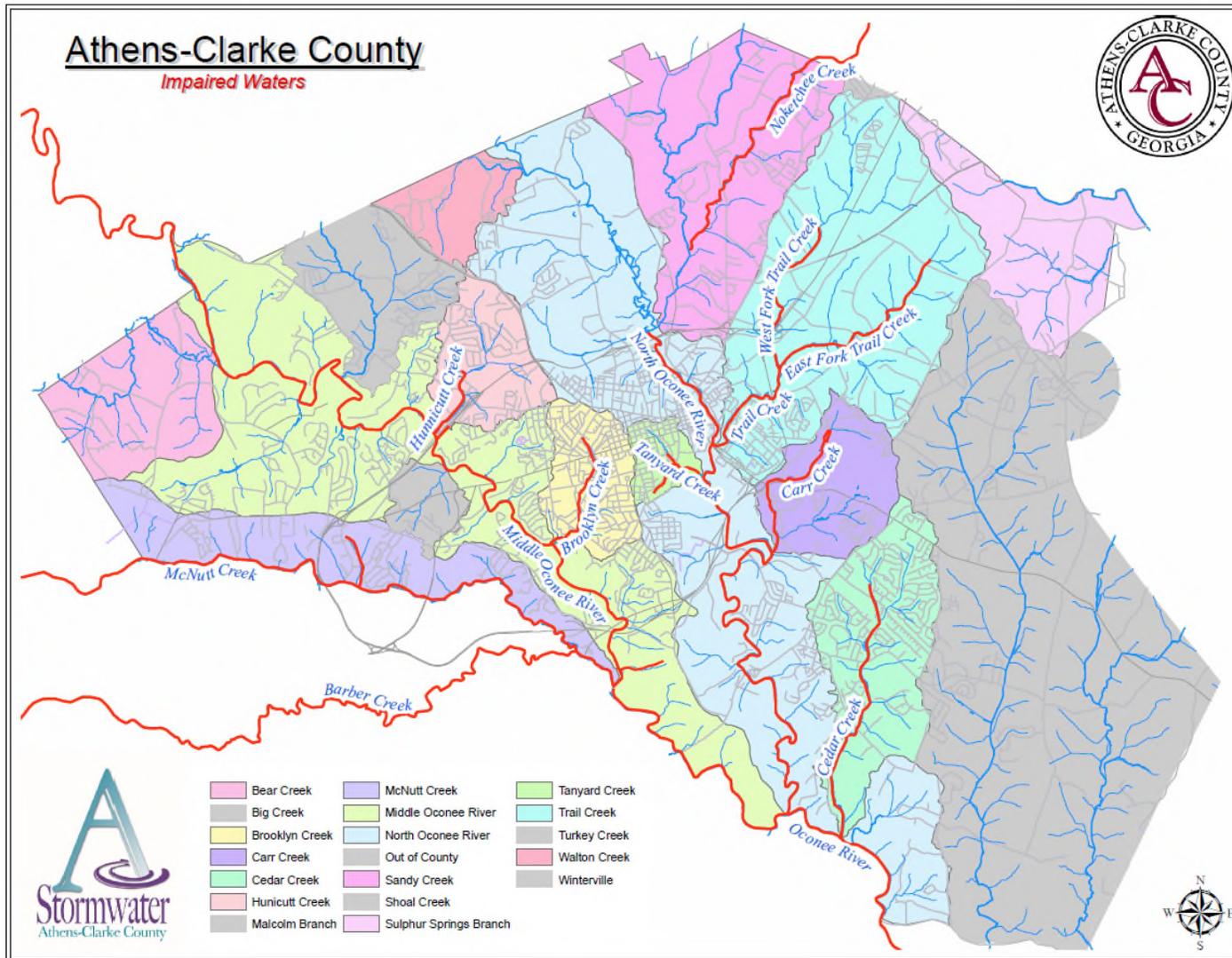
When poo decays in our streams and rivers, it uses up the oxygen in the water, killing aquatic life.



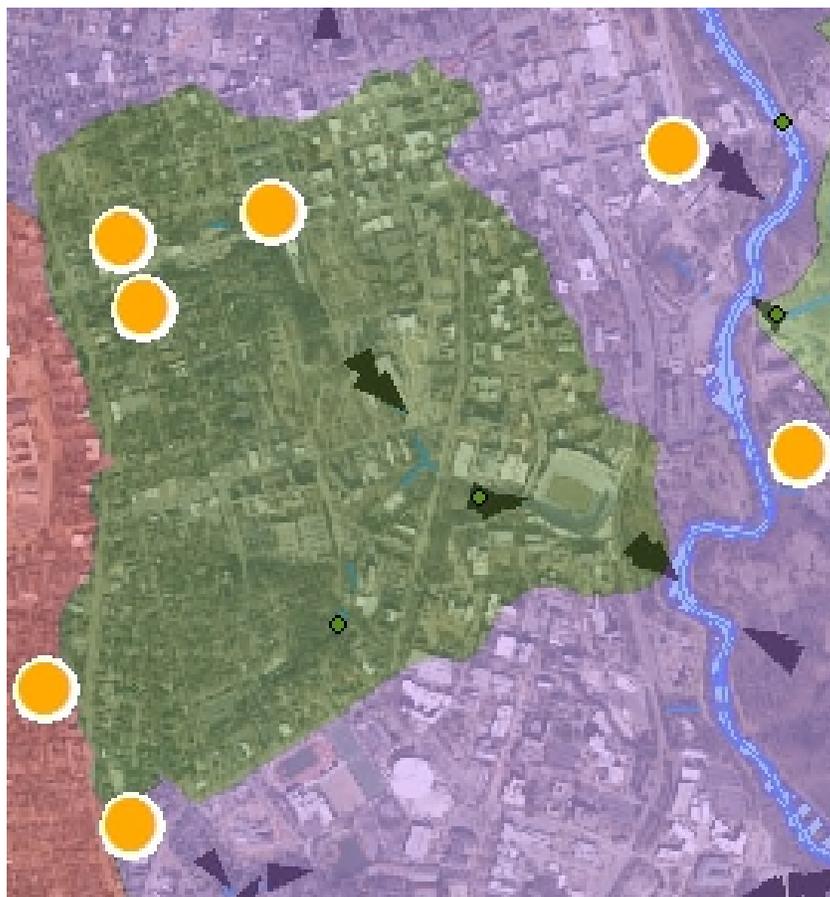
Poo also causes algae to grow because it contains plant nutrients. The algae uses up the oxygen in the water, killing aquatic life.



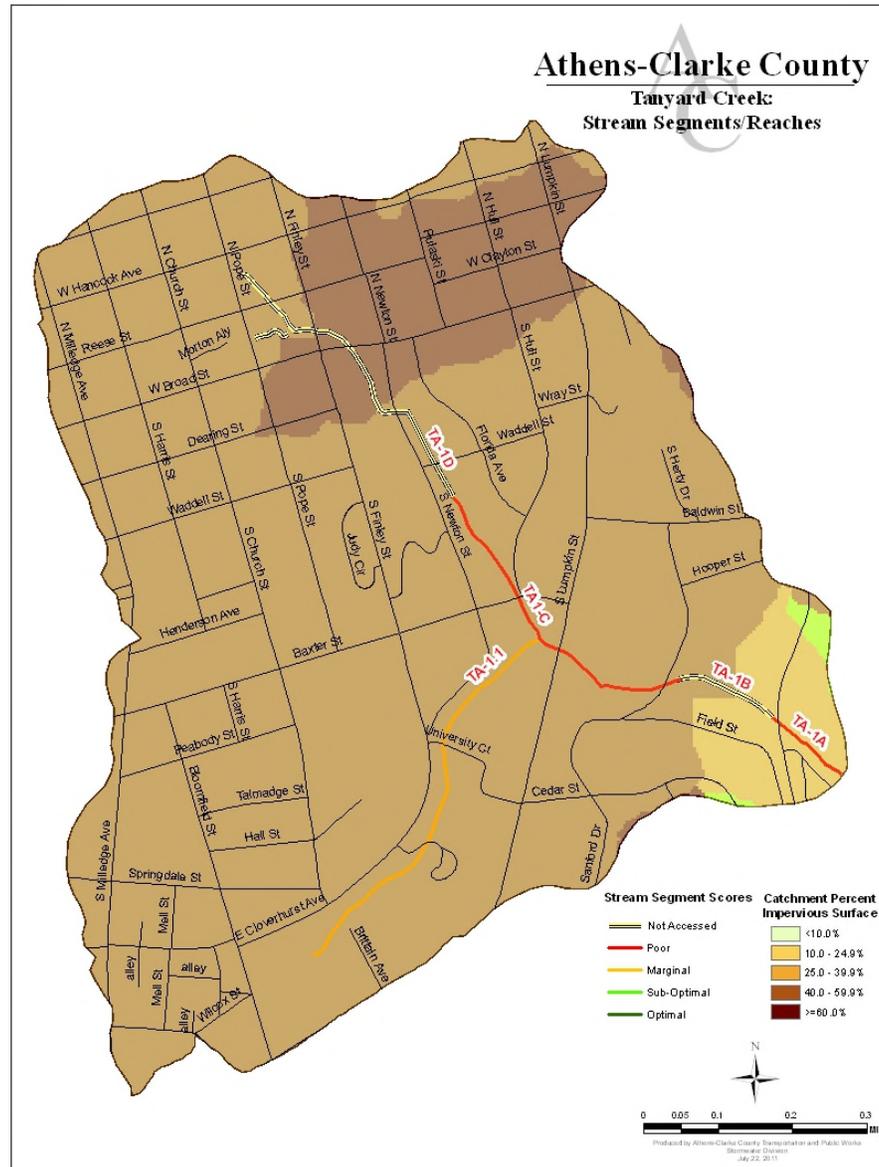
# BRIDGING THE GAP – COUNTY DATA



# BRIDGING THE GAP – WATERSHED DATA



# WATERSHED-SPECIFIC DATA



# BRIDGING THE GAP – NEIGHBORHOOD DATA



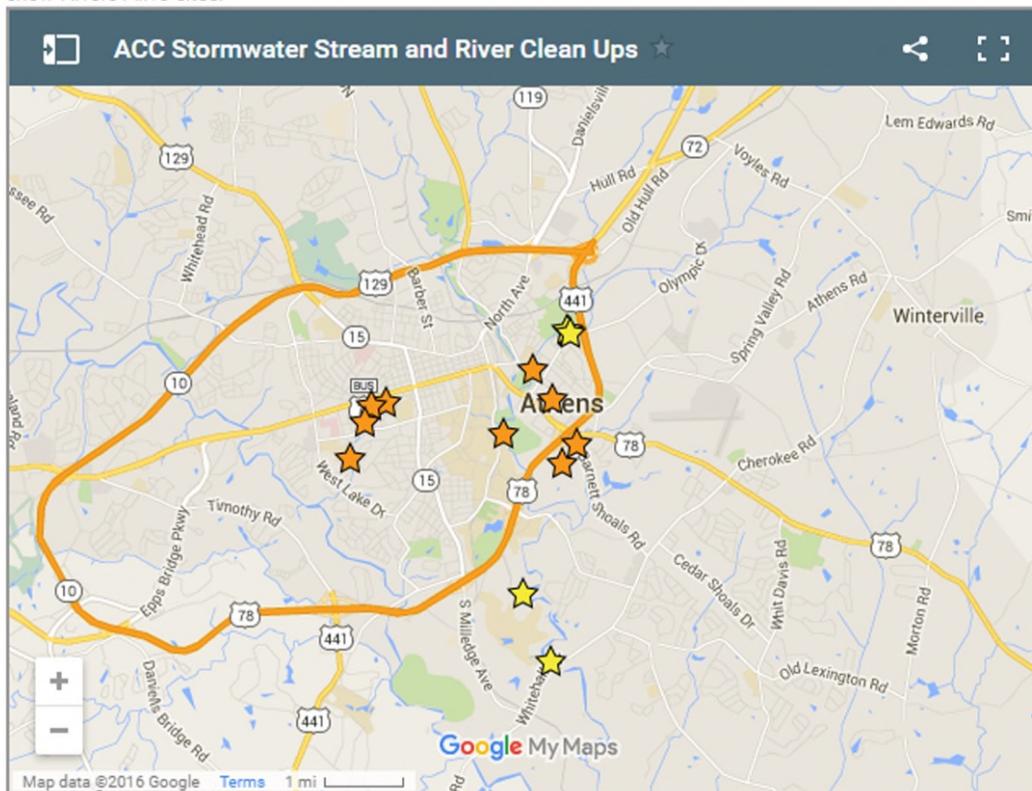
# GOOGLE MAP WIDGET – ACTIVE USE

## Volunteer

There are a number of ways you can get involved in your watershed! To get updates about Stormwater events and volunteer opportunities sign up for [Stormwater Education Updates](#), or contact the Stormwater Coordinator at [stormwater@athensclarkecounty.com](mailto:stormwater@athensclarkecounty.com) to schedule a volunteering event.

## Stream and River Clean Up

ACC Stormwater works with Keep Athens-Clarke County Beautiful to schedule, support, and lead stream and river clean ups. All groups are welcome. Check out the map below to see some of the clean ups that have taken place in the last year. The orange stars show Rivers Alive sites.



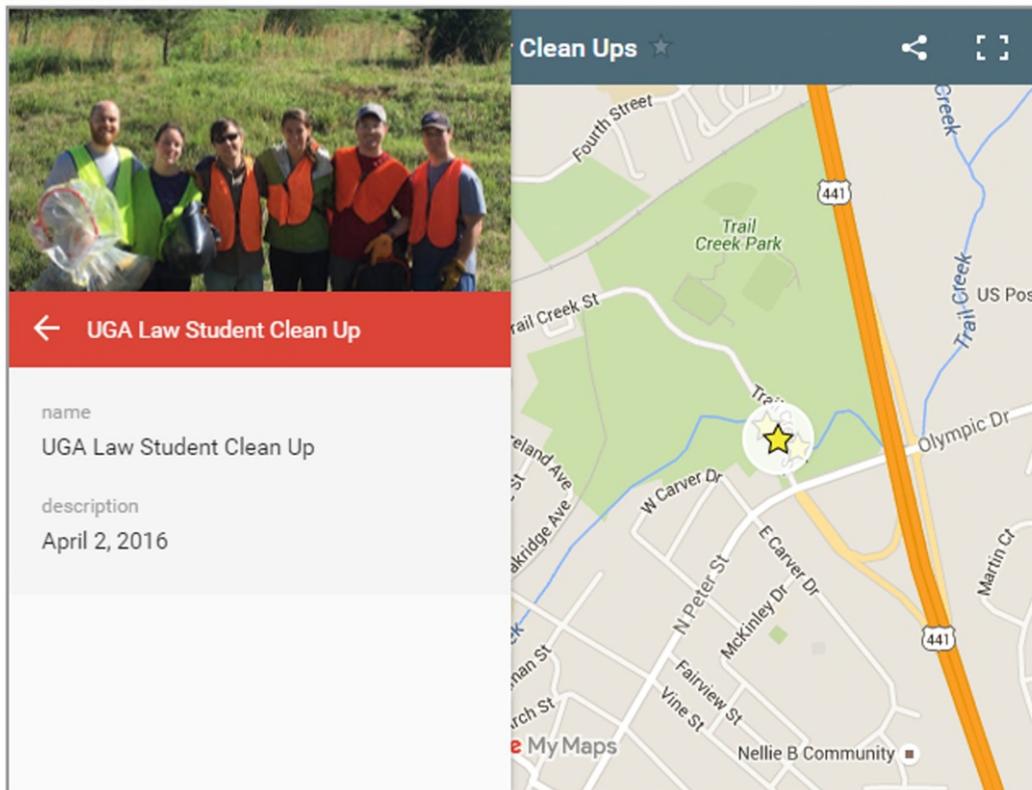
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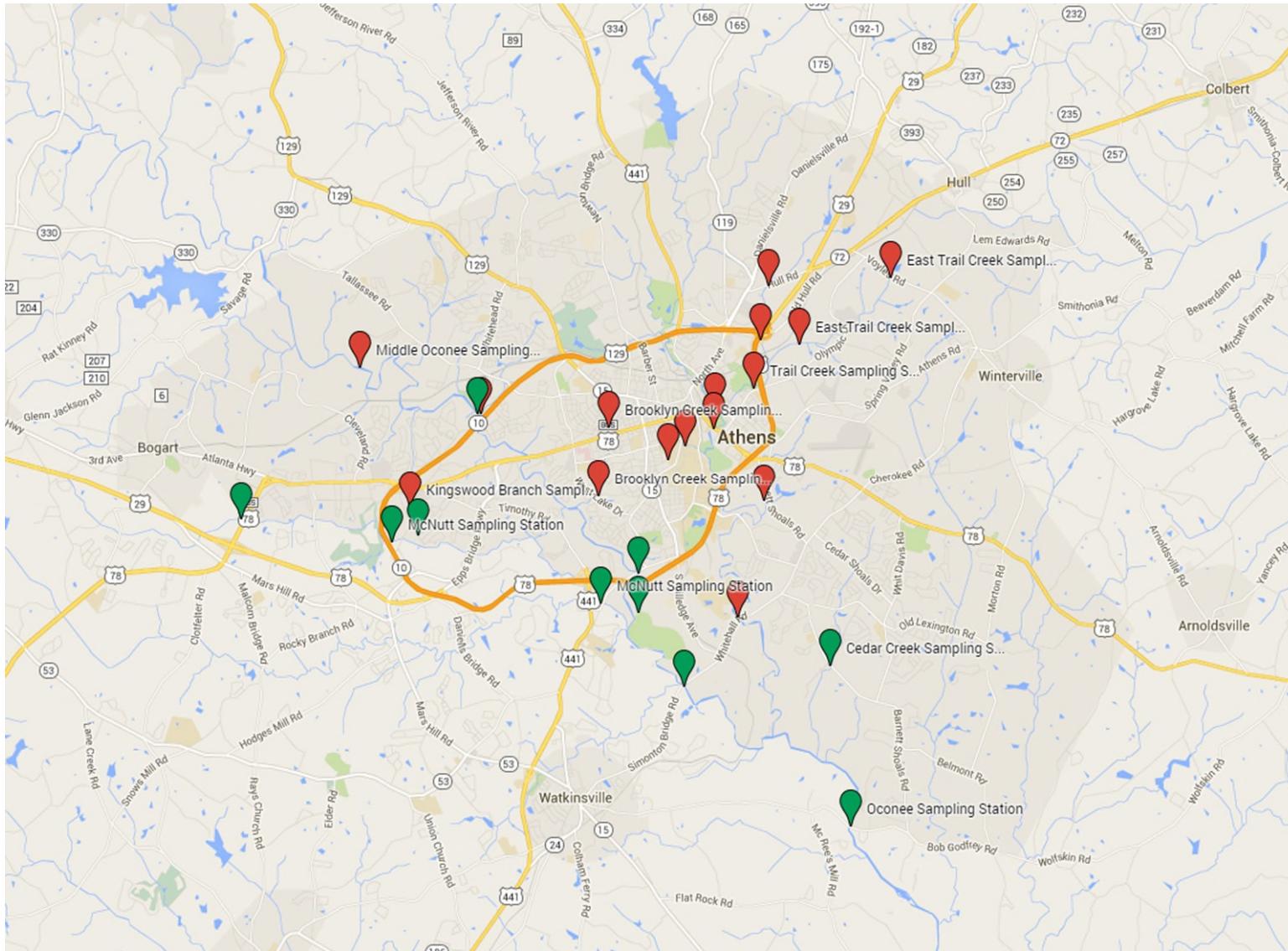
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The screenshot displays a Google Maps widget titled "Clean Ups". On the left, there is a photo of a group of seven people wearing orange safety vests and holding bags of trash. Below the photo is a red header with a back arrow and the text "UGA Law Student Clean Up". Underneath, the "name" field contains "UGA Law Student Clean Up" and the "description" field contains "April 2, 2016". The right side of the widget shows a map of the area around Trail Creek Park, with an orange star marker indicating the clean up location. The map includes labels for "Fourth Street", "Trail Creek Park", "Trail Creek", "US Post", "Olympic Dr", "W Carver Dr", "E Carver Dr", "N Peter St", "McKinley Dr", "Fairview St", "Vine St", "Nellie B Community", and "Martin Cr". The map also shows "Trail Creek St", "Ireland Ave", "Kirkridge Ave", "Nhan St", and "Arch St". The map is overlaid with a semi-transparent orange line representing a road or boundary. The widget includes standard Google Maps navigation icons at the top right and "My Maps" at the bottom left.



# GOOGLE MAP WIDGET – IN PROGRESS



# FUTURE DIRECTIONS

- Additional data
  - Trends over time
  - Multiple pollutants
  - Citizen science
- Reporting through maps
  - Encourage citizen feedback



# QUESTIONS

