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Podcast Episode 002

Water Science for a changing world

NCWSC-002: Marking the Milestone, The Triangle Area Water Supply Monitoring Project, Twenty years and counting…

The following podcast is a product of the U.S. Geological Survey and the North Carolina Water Science Center.

[Intro audio]: Stream in the rain audio mix. **Mary Giorgino***: "You know, you need at least 20 years worth of data to be able to say anything about water quality trends and at the time that seemed like a really long horizon. And then we turned around and here it was we--had 20 years worth of data. That was a milestone that was worth noting*."

Marking the milestone, the Triangle Area Water Supply Monitoring Project, twenty years and counting. I am Ray Douglas, and you're listening to "Water Science for a changing world". Joining us today by phone is Mary Giorgino, USGS Water Quality Specialist for North Carolina.

Ray Douglas: Mary, what the is the Triangle water supply monitoring project?

Mary Giorgino: The Triangle Area Water Supply Monitoring Project is a long-term partnership between the U.S. Geological Survey and several local governments here in North Carolina to track water quality in area water supplies. The Triangle is a multi-county area that's anchored by Raleigh, Durham, and Chapel Hill, and it's home to the Research Triangle Park.

Douglas: What was the reason for so much interest in this study?

Giorgino: Back in 1988, the Triangle had been experiencing some rapid growth for the previous decade or so, and along with that growth, water supply demands were increasing. And the U.S. was in a drought. Droughts had come and gone over the years. There were two new large reservoirs in the area, Army Corps reservoirs, and two small water supply reservoirs that were built for specific cities. So there were several area governments that had a common interest in drinking water quality so they partnered with the USGS to start this project.

Douglas: What were some of the goals?

Giorgino: The initial focus was more on the occurrence of pesticides, PCBs and other organic compounds.They also wanted to collect nutrient data so that they could do some long term trend analysis to document water quality changes that might occur from some management actions that had taken place. North Carolina had just introduced a phosphate detergent ban, and several of the area wastewater treatment plants had upgraded their systems for nutrient removal.

Douglas: Can you tell us a little about any changes that have occurred since 1988?

Giorgino: In the last 20 years we've seen more than a 50% increase in population in this area. Along with that we've seen a change in land use; we've lost some of our agricultural lands to urbanization and suburban development, and of course the demand for drinking water has

increased. In fact it's increased far more than the initial projections that these municipalities were making back in 1988.

Douglas: Mary, how many cooperators do you have participating in this project?

Giorgino: We currently have 11 different cities, towns, and counties that are partnering in this project, and the level of cooperation and camaraderie is very impressive.

Douglas: What has kept this projects sustained for 20 years?

Giorgino: It's just the interagency partnership that has been developed--it really provides continuity over the years. I asked some of our partners what was important about this project and why they kept coming back to the table. For them it was the consistency and the quality of the data collection. Because we have this committee of partners established, the sampling network is able to be flexible to respond to emerging water quality issues.

Douglas: And what were some of those water quality issues?

Giorgino: Pesticides and PCBs were the initial focus. Then in the 1990s there was the Cryptosporidium outbreak in Milwaukee, and the partners here wanted to take a look at those parasites in this region.

Douglas: I understand your cooperators encouraged outreach, tell us a little about that?

Giorgino: We're starting out by going to some of the local YMCA branches and area schools--elementary and middle schools. Our Partners felt like it was a good thing to celebrate this.

Douglas: Can you tell us a little more about the educational activities?

Giorgino: The theme for our outreach activities is "Water Warriors: Make a splash for water quality." The activities themselves are age dependent, but we always have some kind of hands-on experiment. With the younger kids we work with having them try to dissolve different things in water and have them decide whether something will or won't dissolve. And then the older kids are able to get into the concept of making and testing hypothesis. So we work with them on pH testing which is one of the measurements that we make in the field, so they test the pH of different liquids like soda pop and milk and water, and it's very interesting to see what they think is going to happen. We also let them go through an exercise that we call "gearing up" where they get to try on some of our gear and handle some of the equipment that we use in the field. The younger kids we turn that in to a relay race and tell them that they have to collect a water sample but they're not allowed to dip their bottle until they have their life jacket on. And then we play Water Jeopardy with some of the older kids and get them to test their knowledge of water and water quality. It's a lot of fun.

Douglas: Mary, Thank you for talking with us today, and for all of the great work you're doing in North Carolina.

[**Close Audio]:** Stream in the rain audio mix. We've been speaking with Mary Giorgino, USGS Surface Water Specialist for North Carolina. For more on the the Triangle Area Water Supply Monitoring Project visit us on the web at nc.water.usgs.gov.

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