

UNC's water research and outreach improves public health in North Carolina communities and in countries worldwide



From the Neuse

PHOTO BY RICK DOVE

Since Thorndike Saville and Herman Baity started UNC's sanitary engineering program in the 1920s, the University of North Carolina and its School of Public Health have played a crucial role in developing systems to supply, treat and distribute water. The impact of countless projects conducted by UNC School of Public Health faculty, students and staff have been felt, literally, from the Neuse River in North Carolina to the Nile River flowing across northern Africa.

Finding efficient and effective ways to supply and protect water across North Carolina and around the world is a defining mission of the School, particularly through its award-winning Department of Environmental Sciences and Engineering.

Water is a fundamental building block for all plant and animal life—indeed, the life of the planet. The human body cannot function without it to regulate temperature, carry nutrients and oxygen to cells, cushion joints, protect organs and tissues and remove

wastes. Without water, we cannot grow and produce food or provide basic sanitation. Today, one billion people worldwide lack access to safe water. Polluted water supplies and poor sanitation and hygiene account for the majority of serious diarrheal diseases. Worldwide more than 1.8 million people (mostly children under age 5) die each year from diarrheal diseases, according to the World Health Organization.

North Carolina is not immune to water problems. For example, the Neuse River is one of eastern North Carolina's most important sources of water for drinking, irrigation and recreation. Tragically, agricultural runoff, filled with fertilizers and animal wastes, along with waste discharges from industries and municipalities, have resulted in fish kills, algal blooms and other signals of significant pollution. Renowned School experts, partnering with UNC's Institute for the Environment and the Coastal Environmental and



to the Nile

Microbiological Processes Lab within UNC's Institute of Marine Sciences in Morehead City, N.C., are searching for ways to renew and protect these precious waters.

Half a world away, UNC researchers are helping the Eastern Nile Council of Ministers assess cooperative water resources management for the world's longest river, which has supported civilizations since ancient times. This work is part of the Nile Basin Initiative, a regional partnership to promote economic development and fight poverty throughout the Nile Basin.

Kayakers circle on the Neuse River where the Neuse and Trent Rivers join in New Bern, N.C. (above, left). UNC researchers are studying the growth, death and travel patterns of pathogens that enter the Neuse River through human influence. The Nile River (above, right) and its tributaries run through Uganda, Ethiopia, Sudan and Egypt. UNC School of Public Health researchers are helping the Eastern Nile Council of Ministers assess cooperative water resources management for the Nile River.

UNC's water experts collaborate with local and global organizations, including the World Health Organization, World Bank, United Nations and its committees (including UNESCO), U.S. Agency for International Development (USAID), Rotary International, water utilities of various sizes, many businesses and national, state and local governments.

"The work being done by water experts at UNC's School of Public Health is strengthening the foundation for economic development and literally saving lives every day," says Dr. John Briscoe, World Bank country director for Brazil, former senior water advisor at the Bank and former professor of water resources at the School. "Beyond finding the technical and engineering solutions for water management, water supply and sanitation, UNC School of Public Health faculty and students are exploring ways to get governments and local people involved and invested in their own water systems so improvements can be maintained and sustained, and countries and communities can thrive." ■

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