

FY 2019 Work Plan (rev. 9/12/18)
 University of Delaware
 Water Resources Center
 Institute for Public Administration
 Newark, Del.

Water Resources Center

The University of Delaware Water Resources Center (DWRC) was established in 1965 as one of the 54 National Institutes for Water Resources (NIWR) at land grant universities in the 50 states, District of Columbia, and three island territories of Guam, Puerto Rico, and U.S. Virgin Islands. The DWRC is supported through Section 104 of the Water Resources Research Act of 1984 administered by the U.S. Department of the Interior and U.S. Geological Survey. As part of the national NIWR network, the mission of the DWRC is to: (1) support research, education, and public outreach programs that focus on water supply, water management, and water quality - issues of importance to Delaware citizens and (2) foster/support training and education programs for future water scientists, engineers, managers, and policy-makers who will lead the water resources research, planning, and management efforts in our state in the future.

Water Resources Agency

For 4 decades, the Water Resources Agency has provided water assistance to governments in Delaware through the land-grant public engagement (service), learning (education), and scholarship (research) role of the University of Delaware. Since 1977 and amended in 1990/1997, the Water Resources Agency has been sponsored by a board of the State of Delaware, New Castle County, and Newark and Wilmington to provide for clean and plentiful water supplies in Delaware. A regional, intergovernmental approach is essential for water management since watersheds and aquifers cross many political jurisdictions. The Brandywine-Christina watershed in northern Delaware with headwaters in Maryland and Pennsylvania provides drinking water to a half million people and 2/3 of the population of Delaware, 3/4 of New Castle County, and all of Newark and Wilmington. Public/private water purveyors deliver drinking water from sole source aquifers to 1/3 of the State in southern New Castle, Kent, and Sussex counties. Delaware watersheds contribute \$6 billion annually to the First State economy and support 70,000 jobs and \$2 billion in wages.

Staff

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Jillian Young	Graduate Research Fellow (M.S. Water Science and Policy))
Kelly Jacobs	Graduate Research Fellow (M.S. Energy and Environmental Policy)
Nicolette Bugher	Undergraduate Research Fellow (B.S. Environmental Engineering)
Alyssa Cortese	Undergraduate Research Fellow (B.S. Environmental Science)
Allison Kaltenbach	Undergraduate Research Fellow (B.S. Environmental Engineering)
Mia Kane	Undergraduate Research Fellow (B.S. Environmental Science)

FY19 Budget

The intergovernmental water partnership cost-effectively leverages public and private contributions. Since watersheds cross many political boundaries, these investments provide benefits to many stakeholders and each State dollar is matched by these sources.

DWRC FY19 Budget
Operating Budget
State of Delaware
New Castle County
City of Newark
City of Wilmington
Grants
White Clay Creek Wild & Scenic River, National Park Service
William Penn Foundation (Year 4), Brandywine/Christina
USGS NIWR Delaware Water Resources Center
DCT Coastal Flood Inundation Grant
DRBC DRRF Water Quality Economic Study
DNS Clean Water Campaign

Project (FY19)	Description	Q1	Q2	Q3	Q4
State of Delaware					
Brandywine Christina Clean Water Partnership	Co-chair CB Clean Water Partnership. Implement Pollution Control Strategy. Define water quality trends ('95-'14).				
Senate Resolution 30 Clean Water and Flood Abatement Task Force	Serve as University of Delaware member of clean water initiative legislative task force.				
DNREC Climate Change Task Force	Implement water and climate change recommendations for DNREC Secretary Climate Change Task Force.				
Source Water Assessment and Protection Program (SWAPP)	Maintain SWAPP website. Update source water assessments for Wilmington, Newark, and United Water Delaware.				
Water Supply Coordinating Council	13 th Report to Governor and General Assembly update water demands to 2030. Drought guidelines for KC & SC w/DGS.				
Watershed Tributary Action Teams Pollution Control Strategies	Chesapeake Bay Watershed Implementation Plan (WIP). Watersheds website, Broadkill, Murderkill, White Clay Creek				
City of Wilmington					
Brandywine/Hoopers Reservoir Source Water Protection Plan	Assist City with implementation of source water protection plan in Delaware and Pennsylvania.				
Green Infrastructure Projects to Mitigate CSO Events	Assist City with planning/design of green infrastructure to reduce combined sewer overflows				
Wilmington Green Jobs Program	Sponsor watershed-based summer internship and training program for high school students.				
Brandywine Creek Brownfields Plan	Work with EPA, UD, Sea Grant, and City of Wilmington to clean up Brownfields along the Brandywine Creek.				
Water Rate Survey	Update and prepare water rate survey for utilities in Delaware and surrounding states.				
City of Newark					
Municipal Separate Storm Sewer MS4 NPDES Permit	Assist w/implementation of EPA/DNREC NPDES MS4 stormwater permit to meet Federal Clean Water Act.				
Stormwater Utility	Conduct research to assist Newark with development of a stormwater utility.				
Upper Christina River Stream Restoration Project	Clean Water Grant w/DNREC. Monitoring & public outreach for stream restoration (West Branch and Christiansted)				
Water and Stormwater System Models	Update EPANET2 water distribution and SWMM wastewater collection system models for Newark.				
White Clay Creek Early Warning System	Work w/ Newark and United Water Del. to develop early warning system for spills and emergencies.				
New Castle County					
Municipal Separate Storm Sewer MS4 NPDES Permit	Assist w/implementation of EPA/DNREC mandated stormwater permit to meet Clean Water Act.				
Water Resource Protection Area Program	Update WRPA mapping on GIS. RPATAC, review land development applications for WRPA impacts.				
Floodplain/Stormwater Mapping	Assist New Castle County with floodplain and stormwater mapping assistance				
Grants					
White Clay Creek Wild & Scenic River, National Park Service	Staff and student assistance to implement White Clay Creek watershed management plan.				
William Penn Foundation (Year 4), Brandywine/Christina	Conduct market-based funding financial feasibility study for the Brandywine/Christina watershed cluster				
USGS NIWR Delaware Water Resources Center	Direct the Delaware Water Resources Center and manage undergraduate/graduate water resources research program				
DCT Coastal Flood Inundation Grant	Conduct research on coastal flood inundation impacts on Delaware transportation infrastructure				
DRBC DRRF Water Quality Economic Study	Cost benefit analysis of water pollution abatement along the Delaware River.				
DNS Clean Water Campaign	Research in public opinion and advocacy of clean water investment in Delaware				