

FY 2025 Work Plan (9/1/24)
 University of Delaware - Water Resources Center
 Institute for Public Administration
 Joseph R. Biden, Jr. School of Public Policy & Administration
 Newark, Del.

Mission

Delaware Water Resources Center (UDWRC): 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/Northern Mariana Islands/American Samoa, Puerto Rico, and U.S. Virgin Islands. The UDWRC is Congressionally chartered by Section 104 of the Water Resources Research Act of 1964 and 1984 with appropriations administered by the U.S. Department of the Interior and U.S. Geological Survey. As part of the NIWR national network, the mission of the UDWRC is to: (1) support research, education, and public outreach programs that focus on water supply, water management, and water quality - issues important 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.

Water Resources Agency: Since 1977, 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 and 1997, a board of the State of Delaware, New Castle County, and Newark and Wilmington have sponsored the Water Resources Agency to provide 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: The UDWRC employs the following faculty, scientists, and research students to fulfill our mission:

Gerald McAdams Kauffman	Director/Associate Professor
Andrew R. Homsey	Policy Scientist/GIS Manager
Nicole M. Minni	Associate Policy Scientist/GIS Laboratory Lewes Campus
Martha C. Narvaez	Associate Director/Policy Scientist/
Marta Driscoll	Budget Analyst
Lydia Franks	Graduate Research Fellow (M.S. Water Science & Policy)
Caroline Gilliard	Graduate Research Fellow (M.S. Water Resources Engineering)
Jhaney Hamlett	Graduate Research Fellow (Master of Public Administration)
Nicole Re	Graduate Research Fellow (M.S. Energy and Environmental Policy)
Megan Wassil	Graduate Research Fellow (M.S. Water Science & Policy)

FY25 Budget: The intergovernmental water partnership cost-effectively leverages public/private contributions. Since watersheds cross political boundaries and each State dollar is matched by Federal, local, and nonprofit sources.

UDWRC FY25 Budget
Operating Budget
State of Delaware
New Castle County
City of Newark
City of Wilmington
USGS NIWR Delaware Water Resources Center
Grants
White Clay Creek National Wild & Scenic River (NPS)
Brandywine/Christina Cluster Phase 2, Year 5 (WPF)
White Clay Creek State of the Watershed (BC, BRCA, TNC, Stroud))
Brandywine Flood Study
DESG Red Clay Creek and Alosine NFWF
DELDOT South Bowers Flood Study
TNC Coastal Resiliency Grant
Del. Center for Horticulture GIS Grant

Program	FY 2025 Performance Measures/Deliverables for the Water Resources Agency	Dec 1, 2024
Water Supply	1.1. Serve as technical advisor to DNREC in water supply planning and management for the Water Supply Coordinating Council Act of 2023. Assume leadership role in the newly reconstituted WSCC tasked with coordinating clean, sufficient, and secure water supply for the citizens of the state of Delaware.	
	1.2. Conduct research to plan/manage drinking water supply (100 mgd) for Delaware residents.	
	1.3. Compile data to estimate drinking water supply/demand needs and projections (mgd).	
	1.4. Prepare plans to develop adequate water supplies to meet future water demands (150 mgd) given Delaware pop. projected to exceed 1,000,000 people by 2025.	
	1.5. Report on water conditions and drought operating guidelines for Delaware drinking water supplies.	
	1.6. Serve by HB200 to implement Delaware Clean Water and Flood Abatement Task Force.	
Water Quality	2.1. Coordinate and implement initiatives to protect and restore Delaware waterways in accordance with the Federal Clean Water Act and state regulations and goals.	
	2.2. Implement Pollution Control Strategy (PCS) to improve water quality in Brandywine-Christina Watershed that provides 60% of the drinking water supply to Delaware.	
	2.3. Develop and maintain the Delaware Watersheds website. Implement outreach/education efforts to the website. Develop GIS mapping for the websites.	
	2.4. Compile and map the City of Wilmington lead inventory in accordance with the EPA's Lead and Copper Rule.	
	2.5. Assist Newark, Wilmington, New Castle County, DelDOT, Delaware MS4 NPDES stormwater permits in implementing plans. Serve on Delaware Stormwater Consortium w/MS4 communities.	
	2.6. Prepare GIS-based spatial database and registry of restoration projects in the Delaware, Chesapeake, and Inland Bays estuary watersheds. Hands-on GIS research for the Center for Inland Bays Annual Diamondback Terrapin Count	
	2.7. Provide technical support/research to Delaware DNREC with Chesapeake Bay Implementation Plan (WIP), Local Govt. Advisory Committee (LGAC), Local Leadership Workgroup (LLWG).	
	2.8. Prepare GIS-based mapping and inventory for Delaware's wetlands to support protection and restoration.	
	2.9. Work with State and County officials to develop stormwater management facility mapping and catchment delineation in support of stormwater programs, TMDL implementation, and MS4 compliance.	
	2.10. Maintain Species Conservation Research Program's Flora of Delaware website and online database.	
	2.11. Post water quality reports for the UD Citizen Monitoring Program.	
	2.12. Disseminate the report and present and provide data on the White Clay Creek State of the Watershed.	
Source Water Protection	3.1. Conduct research for the Delaware Source Water Protection Program in accordance with the Federal Safe Drinking Water Act and Delaware Source Water Protection Act.	
	3.2. Develop and operate website and GIS mapping for technical utilization to delineate Water Resource Protections Areas to protect drinking water supply sources.	
	3.3. Develop source water protection ordinances for adoption by Delaware municipal/county governments.	
	3.4. Implement source water susceptibility reports for drinking water intakes at the Brandywine Creek at Wilmington, Hoopes Reservoir, White Clay/Red Clay Creek, and Christina River at Smalley's Pond.	
	3.5. Host and support Source Water Protection Program website and databases.	
	3.6. Help develop urban stormwater management strategies through collaboration with the Delaware Center for Horticulture in Wilmington, specifically helping guide development of green infrastructure, street tree planting, and urban greening/wildlife corridor efforts.	
	3.7. Serve on the Citizens Technical Advisory Committee (CTAC).	
Student Research	4.1. Support University of Delaware water research assistantships for graduate/undergraduate students in public policy, engineering, and environmental studies majors and Delaware high school graduates.	
	4.2. Coordinate the City of Wilmington Green Jobs program for high school students.	
	4.3. Take leadership role in the Annual GIS Day, which provides Delaware students a hands-on opportunity to learn about GIS and how it is used in water resources as well as other industries and other STEM careers. This event has been held for 17 years and reached over 4,250 students.	

2024-2025 UDWRC Advisory Panel

Ms. Stefanie Baxter
Associate Scientist, Geologist
257 Academy Street
Delaware Geological Survey
University of Delaware
Newark, DE 19716

Ms. Betzaida (Betzy) Reyes
Physical Scientist
U.S. Geological Survey
1289 McDade Drive
Dover, DE 19901

Dr. Asia Dowtin
Assistant Professor
Department of Forestry
Natural Resources Building
Michigan State University 480 Wilson Rd.
East Lansing, MI 48824

Mr. Ethan Robinson
Department of Public Works
City of Newark
220 S. Main Street
Newark, DE 19711

Dr. Dewayne Fox
Assistant Professor, Fisheries
College of Agriculture and Related Sciences
Delaware State University
Agriculture Annex Room 123
1200 N. DuPont Hwy, Dover, DE 19901

Ms. Erica Rossetti
Urban Water Coordinator
Partnership for the Delaware Estuary
110 S. Poplar Street
Wilmington, DE 19801

Mr. Christian Hauser
Associate Director
Delaware Sea Grant College Program
College of Earth, Ocean, and Environment
University of Delaware
102 Robinson Hall
Newark, DE 19716

Mr. Kash Srinivasan
KS Group, LLC
603 E. Matson Run
Wilmington, DE 19802

Ms. Stacy McNatt
Department of Special Services
New Castle County
87 Reads Way
New Castle, DE 19720

Ms. Kristen Travers
Director of Conservation
Delaware Nature Society
P.O. Box 700
Hockessin, DE 19707

Ms. Shane Morgan
Management Plan Coordinator
White Clay Creek Wild and Scenic River Program
182 Sawmill Road
Landenberg, PA 19350

Dr. Caroline Voter
Assistant Professor
Civil and Environmental Engineering
University of Delaware
203 Ocean Engineering Lab
Newark, DE 19716

Dr. Mi Ling Li
School of Marine Science & Policy
University of Delaware
102 Robinson Hall
Newark, DE 19716

Mr. Steve Williams
Environmental Program Administrator
Division of Watershed Stewardship
Delaware DNREC89 Kings Highway
Dover, DE 19901

Ms. Chris Oh
Assistant Water Division Director
Department of Public Works
City of Wilmington
City/County Building
800 N. French St.
Wilmington, DE 19801

UDWRC Students

2024

Lydia Franks (M.S. Water Science & Policy)
Jhaney Hamlet (Master of Public Administration)
Megan Wassil (M.S. Water Science & Policy)

2023

Lydia Franks (M.S. Water Science & Policy)
Alex Makowski (Master of Public Administration)
Megan Wassil (Environmental Engineering)
Sophia Talley (Environmental Engineering)

2022

Lydia Franks (M.S. Water Science & Policy)
Alex Makowski (Master of Public Administration)
Elizabeth Shields (Master of Public Policy)

2021

Sophie Philips (M.S. Energy and Environmental Policy)
Hayley Rost (Master of Public Administration)
Elizabeth Shields (Master of Public Policy)

2020

Sophie Philips (M.S. Energy and Environmental Policy)
Hayley Rost (M.S. Energy and Environmental Policy)
Hana Mra Mra (M.S. Water Science and Policy)
Kelly Slabicki (M.S. Water Science and Policy)

2019

Kelly Jacobs (M.S. Energy and Environmental Policy)
Matt Kirchoff (M.S. Energy and Environmental Policy)
Polly Ni (Environmental Engineering)
Justin Leary (Environmental Engineering)
Mary Kegelman (Environmental Engineering)

2018

Kelly Jacobs (M.S. Energy and Environmental Policy)
Karice Redhead (M.S. Energy and Environmental Policy)
Alyssa Cortese (B.S. Environmental Science)
Natalie Zimmerman (B.S. Geological Sciences)

2017

Jillian Young (M.S. Water Science and Policy)
Briana Diacopoulos (M.S. Water Science and Policy)
Jordan Martin (M.S. Water Resources Engineering)

2016

Chelsi Cambell (B.S. Civil and Environmental Engineering)
Matthew Ludington, (M.S. Water Science and Policy)
Andrea Miller, (B.A. Environmental Studies)
Maya Kassoff, (B.S. Environmental Science)

2015

Laura Askin (Public Administration)
Samantha Brucker (Urban Affairs and Public Policy)
Kristen Molfetta (Water Science and Policy)
Matthew Ludington (Water Science and Policy)

2014

Jillian Allen (Civil and Environmental Engineering)

Matt Bachman (Water Science and Policy)
Hannah Diehl (Civil and Environmental Engineering)
Asia Downtin (Geography)
Andrew Colletti (Civil and Environmental Engineering)
Tobias Muller (Civil and Environmental Engineering)
Danielle Notvest (Civil and Environmental Engineering)
Kelli Platt (Civil and Environmental Engineering)
Radhika Samant (Civil and Environmental Engineering)
Julie Swanson (Civil and Environmental Engineering)
Sara Veale (Civil and Environmental Engineering)

2013

Kevin Archibald (Biology)
Emily Baumbach (Natural Resources Management)
Joe Brown (Urban and Regional Planning)
Asia Downtin (Geography)
Caren Fitzgerald (English and Environmental Studies)
Kate Miller (Water Science and Policy)
Thomas Santangelo (Water Science and Policy)
Kelsey Wentling (Environmental Studies)

2012

Devika Banerjee (Environmental Studies)
Catherine Cruz-Ortiz (Energy and Environmental Policy)
Kaitlyn Cyr (Environmental Studies)
Jordan Deshon (Civil and Environmental Engineering)
Ian Kaliaken (Civil and Environmental Engineering)
Seth Olsen (Natural Resources Management)

2011

Erica Addonizio (Chemical Engineering)
Dustin Briggs (Civil and Environmental Engineering)
Sarah Chatterson (Urban Affairs and Public Policy)
Chelsea Halley (Natural Resources Management)
Lawrence Latour (Civil and Environmental Engineering)
Stacy Mack (Urban Affairs and Public Policy)
Erin McVey (Urban Affairs and Public Policy)
David Specht (Civil and Environmental Engineering)

2010

Kayla Iuliano (Geography)
Audrey Yorke (Civil and Environmental Engineering)

2009

Kaci Angeline (Geography)
Erika Farris (Urban Affairs and Public Policy)
Maureen Seymour (Urban Affairs and Public Policy)
Kelly Wolfe (Urban Affairs and Public Policy)

2008

Jonathan Barton (Electrical and Computer Engineering)
Kyle Campbell (Civil and Environmental Engineering)
Christi DeSisto (Civil and Environmental Engineering)
Erin Dilworth (Natural Resources Management)
Kiersten Joesten (Natural Resources Management)
Angelina Micheva (Urban Affairs and Public Policy)
Mary Kate O'Brien (Natural Resources Management)
Julie Trick (Civil and Environmental Engineering)
Laura Yayak (Natural Resources Management)

2007

Andrew Belden (Energy and Environmental Policy)
Priscilla Cole (Energy and Environmental Policy)
Jyoti Karkhi (Energy and Environmental Policy)

2006

Molly Hesson (Energy and Environmental Policy)
Kevin Vonck (Urban Affairs and Public Policy)
Melissa Zechiel (Urban Affairs and Public Policy)

2005

Steven Ernest (Natural Resources Management)
Elaine Grehl (Horticulture Administration, Longwood Graduate Program)
Andrew Kauffman (Civil and Environmental Engineering)
Laura Robinson (Civil and Environmental Engineering)
Lori Schnick (Geology)

2004

Amy Dolan (Energy and Environmental Policy)
Sarah Wozniak (Energy and Environmental Policy)

2002

Justin Bower (Urban Affairs and Public Policy)
Martha Corrozi (Urban Affairs and Public Policy)
Jarod Doucette (Electrical Engineering)
Tara Harrell (Natural Resources Management)

2001

Jennifer Campagnini (Natural Resources Management)

2000

Nigel Bradly (Marine Policy)
Anne Kitchell (Marine Policy)

1999

Tammy Brant (Marine Policy)
Jennifer Egan (Geology)
Maryjane Middelkoop (Marine Policy)

1998

Kareem Ali (Civil and Environmental Engineering)
Rose Marie Alicea (Education)
Suzanna Donohue (Marine Policy)

1997

Annemarie Cinaglia (Geography)
Katie Miller (Geography)
Tammy Nguyen (Geography)

1996

Daniel Blevins (Geography)
Erin Guire (Geography)
Marcia Horner (Geography)
Matt Kennedy (Geography)
Bryan Lennon (Civil and Environmental Engineering)

1995

Carin Cataldi (Geography)
Ty Fitzpatrick (Geography)
Leon Palermo (Civil and Environmental Engineering)

1994

Lori Blackburn

David Mannering (Geography)

Gail Slevin (Geography)

Anne Welsh

Toby Wolf (Geography)