

THE GREAT OUTDOORS

Watershed Moment

The time is no- to protect our Delaware River Basin and all sources of our water supply.



Volunteers from CU Maurice River and Amcor along with representatives from Rutgers Water Resources Program conduct a wetland restorative planting at the company's grounds.

"When the well is dry, we learn the worth of water." —**Benjamin Franklin**

By Karla Rossini CU Maurice River

At the end of 2019, CU Maurice River was granted funding by National Fish and Wildlife through its Delaware Watershed Conservation Fund to continue growing a culture of stewardship within the commercial and non-profit communities of the Wild and Scenic Maurice River basin. In 2020

and 2021, this program will implement four green infrastructure demonstration examples in Millville's downtown area. Each of these initiatives will be visible models from which the professional community can profit via their peers' experience with conservation projects.

Here's a snapshot of the issue at hand: The Wild and Scenic Maurice River is the second longest and largest tributary to Delaware Bay, 50 miles long and draining 386 square miles. Its watershed has remarkable biodiversity and its marshes support 53% of the species listed on NJ's endangered list. Since 1977, the New Jersey Division of Fish and Wildlife has confirmed spawning migrations of adult alewife and blueback herring 10 miles upstream in Millville below the Union Lake Dam. Using the Preliminary Healthy Watershed Assessment (PHWA) framework developed by the Environmental Protection Agency (EPA), six of the Maurice River's thirteen HUC 12 sub-watersheds were considered to be within the top 25% of NJ's healthiest watersheds; the Manumuskin River was among the state's top five healthiest watersheds using the same criteria.

That said, in the New Jersey Water Supply Plan 2017-2022 the Maurice River's Watershed Management Area (WMA 17) is identified as having the highest deficit for potable use in the state. This plan projects that by 2020, WMA 17's remaining water availability will be -58.5mgd. Also using the EPA's PHWA, eight of the nine subwatersheds north of the Wild and Scenic designated area fall within NJ's 25% most vulnerable waterways when impacts stemming from water demand are projected. Meanwhile, the resource-rich southern sub-watersheds are being stressed by the demand in the northern region. In this scenario, current water consumption trends and water management practices are competing with the preservation of aquatic ecosystems.

Millville is the Maurice River Watershed's second most populated urban area and, according to Environment America's Threats to the Delaware River Basin Interactive Map, it is one of the watershed's highest concentrations of impervious surface coverage (ranging between 15-25%). Rainwater falls on these impervious surfaces, picking up man-made

contaminants, sediment, litter, and other solids as it is channeled into storm drains and storm pipes. This water is not filtered for pollutants before reaching surface waters, including the Maurice River, its tributaries, and even the Delaware Bay, and also the Atlantic where it mixes with salt water. By including green infrastructure in land management decisions, this run-off of fresh water and the resulting contamination of aquatic resources can be reduced. These *blue-minded* installations clean contaminants from fresh water as it slowly percolates into the local underground drinking water resource, replenishing the Kirkwood-Cohansey Aquifer.



Rutgers Water Resource Program Representatives Liz Pyschnik partners with CU Maurice River Robyn Montagna to plant a sweet pepperbush.

Rutgers University's Cooperative Extension's Water Resources Program –

Recognizing the need for examples of green infrastructure at businesses in the watershed's urban areas, CUMR contacted a previous partner in educational programming focusing on stewardship: Rutgers University's Cooperative Extension's Water Resources Program. Our two organizations have been working together since 2017 to organize educational programming, as well as identify and develop green infrastructure designs for commercial properties of special conservation interest or that offered a special opportunity for interpretation in stewardship outreach initiatives. In the installation phase of the stewardship program, we have implemented two green infrastructure projects together and have two more to realize. Rutgers is responsible for designing the engineering plans for the projects listed below and is also an active partner in their installation.



Cumberland Family Medicine–

CFM was founded in 1985 by Dr. Jill Mortensen. This doctors' office provides pediatric care, adult well health, and women's health and geriatric care, as they focus on helping the whole patient physically and mentally. The physicians have taken steps to reduce their carbon footprint by installing solar and have also reduced water waste indoors. Since they were interested in growing their best management practices, CUMR recommended they start managing outdoor spaces with water and wildlife in mind. In 2018, Rutgers developed a green infrastructure design including two raingardens for the property. The first phase of this design went into the ground in spring 2019 before the grant period. In this phase, an interpretative sign will be erected at the facility that highlights the

environmental benefits. The rain garden will promote the infiltration of over 66,000 gallons of stormwater per year, thereby reducing contaminants like suspended solids by 11lbs, phosphorus by 0.08lbs, and nitrogen by 0.81lbs from the water.



CU members Dr. Jill Mortensen, Master Gardener Kathy Geiger, and kindergartner Vera Rossini volunteer at the Amcor planting with the red twig dogwood they planted.

Amcor Rigid Packaging –

Amcor is a multi-national packaging company that is making strides to produce only recyclable or reusable products by 2025. Amcor has refurbished a 100-year-old factory, keeping energy and water savings at the forefront of decision-making. They have experienced great energy savings by converting all lighting to LED. They have implemented a Green Water Project that reduces the facility's demand on city water using reclamation. In July 2020, the project partners led a wetlands restorative planting at the facility. The site was once dry and managed for manicured lawn, but it was receiving more run-off than could be absorbed and has become too wet to be handled using traditional landscaping practices. Their green initiative involved the replanting of a 4,275 square foot area with over 3,300 native plants, which will reduce run-off by an approximate 166,491 gallons and remove contaminants like suspended solids by 27lbs, phosphorus by 0.20lbs, and nitrogen by 2.04lbs from the water.

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Amcor's Dorothy Schmitt pitches in with the plantings.

First United Methodist Church of Millville-

FUMC founded in 1868, is well known in Millville's community for the services it provides in the downtown neighborhood that empower through reflection and prayer. FUMC houses programs such as a nursery school, Boy Scouts, and junior and senior high youth groups. In recent years a dilapidated building

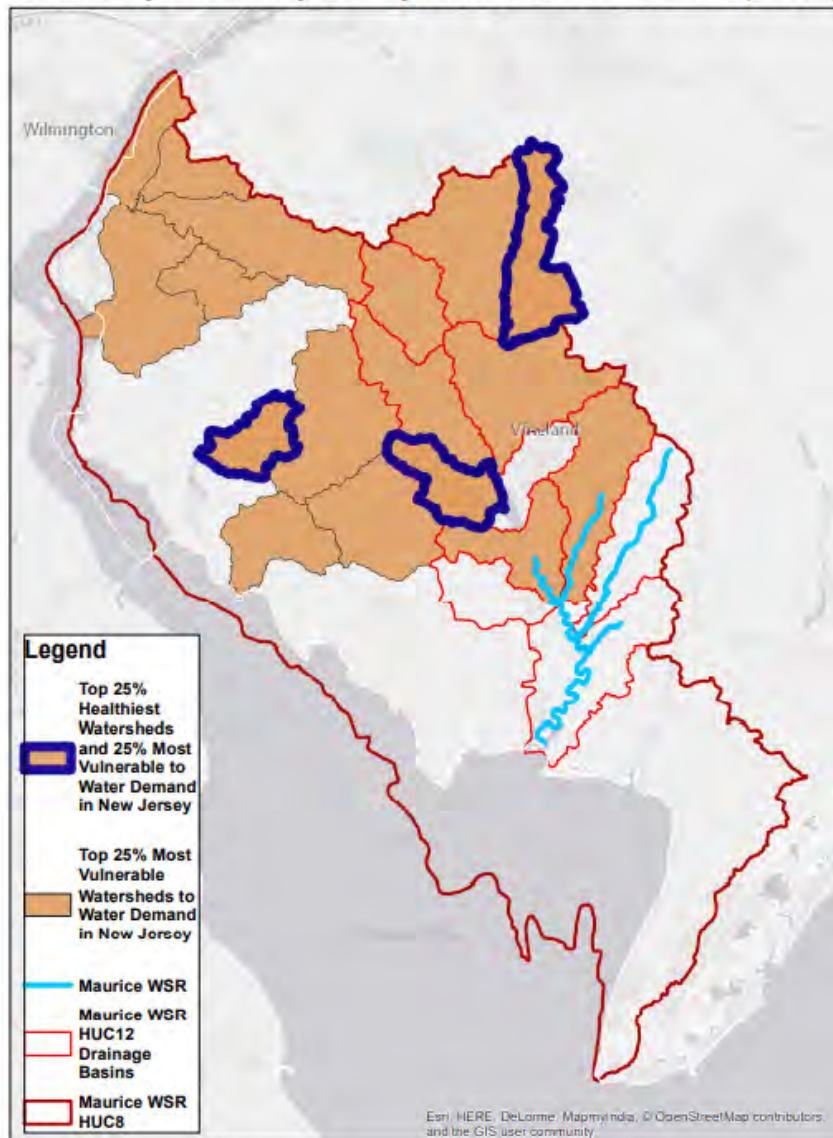
owned by the church and adjacent to the main facility was demolished, leaving behind a vacant lot. The upcoming installation of rain- and pollinator gardens at this site will promote the beautification of this urban neighborhood setting and provide the parishioners with a sanctuary garden, a tranquil setting for spiritual uplifting. The space will be used for congregating while also promoting infiltration of stormwater and supporting pollinator populations. By revitalizing this currently vacant lot using best management practices, the church's green infrastructure will catch an approximate 92,500 gallons of water that will help reduce suspended solids by 15lbs, phosphorus by 0.12lbs, and nitrogen by 1.13lbs per year. All the while the garden will provide much needed support to pollinators and birds that rely on native flora species for nourishment.

WheatonArts and Cultural Center- Wheaton, founded as Wheaton Village in 1968, is a nonprofit 501(c)(3) organization with a mission to engage artists and audiences in an evolving exploration of creativity. The mission is advanced through the interpretation of collections and exhibitions; education initiatives and culturally diverse public programs; residencies and other

opportunities for artists. Wheaton attracts tens of thousands of visitors per year. For the last five years, CUMR and Wheaton have been working together to progressively transform this campus into a demonstration site for responsible stewardship. In 2018, Rutgers eagerly joined this partnership. For this project, the organizations will repurpose a large lawn area by incorporating rain- and pollinator garden spaces. These installations will support water quality and create another location for visitors to explore connections between environmental and cultural stewardship. With a drainage area of approximately 9,075sqft, it will collect over 229,000gallons of rainwater per year, reducing the amount of contaminants that reach surface water resources by 37lbs of suspended solids, 0.28lbs of phosphorus, and 2.81lbs of nitrogen.

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New Jersey Preliminary Healthy Watersheds Assessment (PHWA)



For more information about CU Maurice River's stewardship and designation program, please email info@CUMauriceRiver.org or visit the [stewardship page](#) at or for general information on CU begin to learn about us on [our website](#)