

James River grants to pay for riparian buffers, precision ag techniques

≈ Web-based app helped VEE decide which projects would be the most effective use of funds.

BY SARAH VOGELSONG

The Virginia Environmental Endowment is handing out the first round of grant funds in a multiyear program to benefit the James River — and “precision” is its key watchword.

“We were very deliberate about the way we were going to spend the money,” said VEE Executive Director Joseph Maroon. “We were hoping right from the beginning that the projects we would be able to select would help to fill a critical gap or really make a substantial improvement in the water quality of the James.”

This December, the VEE announced that it would award a total of \$4.56 million to six projects throughout the watershed as part of its James River Water Quality Improvement Program. This initiative, which places \$15.595 million in the VEE’s hands, was established in 2017–18 as part of a state and federal agreement with Dominion Energy to mitigate the environmental impacts of a high-voltage transmission line across the James between the Surry nuclear power station and Jamestown.

The first round of grants represents almost 30 percent of the mitigation funds. According to Maroon, the VEE Board of Directors received 25 proposals amounting to about \$40 million in funding requests.

Projects were evaluated using the Restoration Planner, a web-based “precision conservation” application developed by the Chesapeake Conservancy that allows users to access environmental data about specific parcels of land and the potential impacts a given project could have on them.

Maroon has called the Planner a “key factor” in the VEE’s decision-making that “ensures that we are investing our efforts and private funds in the most effective way.”

A little more than half of the funds disbursed in the first round will go toward planting and widening streamside buffers, with more than \$1.6 million awarded to the James River Association and \$750,000 to the Virginia Department of Forestry for these purposes in the Middle James region.

“We’re hoping between the two that we’ll have a substantial improvement in the amount of buffers along the James,” Maroon said.

Streamside or riparian buffers, usually planted with native trees, shrubs and grasses, are sometimes called “living filters.” They are extensively



The Virginia Environmental Endowment has awarded \$4.56 million to six projects as part of its James River Water Quality Improvement Program. The James, shown here just outside Mayo’s Island, near Richmond, originates in the Appalachian Mountains and flows into the Chesapeake Bay at Norfolk. (Sarah Vogelsong)

used in water quality improvement efforts because of their ability to decrease the quantities of nitrogen, phosphorus and sediment that flow into streams and rivers. These demonstrated effects led them to be identified as one of the VEE’s five funding priorities for the James River grant program.

In line with the goal of maximizing investments, the James River Association will aim to establish buffers in “priority restoration opportunity areas.” Some of the grant money provided to the Department of Forestry will go toward hiring a coordinator to oversee efforts.

Another award that looks to precision techniques is the \$640,000 grant to the Colonial Soil & Water Conservation District, which will work with the Henricopolis Soil & Water Conservation District to expand the use of precision agriculture techniques. Maroon called such techniques “the way of the future.”

An approach to agriculture that harnesses technology such as global positioning and geographic information systems, sensors, and satellite imaging, precision agriculture allows farmers to collect highly specialized data about different sections of their fields, then adapt their practices as needed. For example, rather than applying the same amount of pesticide or fertilizer uniformly to a field, the farmer can adjust rates of application depending on exactly how much is

needed in each management zone.

Conservationists have hailed precision agriculture as a win-win: Not only do these techniques reduce waste of resources and benefit the farmer’s bottom line, they also reduce the quantity of excess nutrients that run off fields into bodies of water.

According to Tom Dunlap, a conservation specialist with the Colonial SWCD, the proposal was “really dictated by the producers we have in our region.”

Comprising Charles City, James City, New Kent and York counties as well as the city of Williamsburg, the Colonial District is dominated by row-crop producers, a popular candidate for precision agriculture techniques because of the scale and relative uniformity of their operations.

An estimated 10 percent of farms in the Colonial District used precision agriculture in 2017. Dunlap said that he hopes that the new initiative, christened the Decision Agriculture & Precision Agriculture program, will be able to work with 40 to 50 row-crop producers in the region. All farmers whose land falls in the James River watershed within Charles City, James City, New Kent and Henrico counties are eligible to participate.

In addition to offering education and technical support to farmers interested in precision agriculture, the program will establish a cost-share framework to reimburse farmers for engaging in conservation practices.

“It’s easy to forget in the era when you have GPS receivers on top of all your new equipment ... but not everybody lives with the type of budget where they can afford a new half-million-dollar combine,” Dunlap said.

The other three VEE grant recipients are Trout Unlimited, which received \$480,350 to assist with conservation projects in Highland and Bath counties; James City County, which received \$781,900 to stabilize shorelines in Chickahominy Riverfront Park; and the Virginia Department of Health, which received \$300,000, supplemented by an additional \$200,000 from the Smithfield Foundation, for a cost-share program to repair and replace failing septic systems in James City, Isle of Wight and Surry counties.

The latter project fulfills yet another of the grant program’s targets by investing in the area that is expected to feel the greatest effects from the construction of the first leg of Dominion’s new transmission line.

With two projects focused on the Middle James, three on the Lower and one on the Upper, Maroon noted that the awardees encompass “a nice geographic spread.”

Based on estimates from tools such as the Chesapeake Assessment Scenario Tool, the VEE expects the six projects to ultimately reduce the amount of nutrient and sediment pollution flowing into the James River by more than 4 million pounds annually.