

## Great Lakes Grant Improves Water Quality

### The Challenge:

The Muskegon River Watershed in Michigan was experiencing substantial nonpoint source pollution from water runoff into its waterways from three locations—Clay Cliffs in Big Rapids, Bridgeton Township Park in Grant, and the city of Muskegon, a Great Lakes Area of Concern. The watershed is one of the largest in Michigan and covers 2,725 square miles. All of the surface water runoff that goes into the Muskegon River Watershed ultimately flows into Lake Michigan and impacts water quality.

### The Solution:

The Muskegon River Watershed Assembly (MRWA) brought communities together to address problem areas and protect their shared water source. The MRWA received a [Great Lakes Restoration Initiative](#) grant from the U.S. Department of Agriculture, Forest Service and Environmental Protection Agency for \$200,000 to purchase trees to plant along the affected waterways. Trees soak up pollutants in groundwater and storm water runoff and are often used to naturally improve water quality in specific areas. In all, over 60 volunteers and 5 employees planted more than 2,000 trees across the three locations from 2016 to 2019. More trees were planted at each site than the grant required. At two sites with higher tree mortality and challenging soil conditions, MRWA worked with the Forest Service to adapt the planting plan and replace trees with diverse varieties within the available budget. Volunteers also planted native grasses and shrubs, restoring habitats where land historically was cleared of vegetation.

### Resulting Benefits:

The recently planted trees will reduce water runoff by roughly 582,900 gallons in the first 5 years, improving water quality at the three locations as well as downstream in the watershed. The trees also increase shade, reduce soil erosion, and provide forest cover and habitat for wildlife.

*This project protects the Muskegon River Watershed's water quality, reduces storm water runoff, and enhances forest cover. (Forest Service Goal #1)*



A sign describes the tree planting and site enhancements at the city of Big Rapids. (Courtesy photo by Patricia Jarrett, Muskegon River Watershed Assembly)

### Sharing Success:

Many educational and outreach events were held during the project period to showcase the importance of tree planting to reduce runoff, stabilize eroding areas, and protect riparian and aquatic habitats. A Lake Ecology Day event in 2019 in Newaygo County provided school-aged children with a hands-on learning experience that included discussions about riparian habitats and shoreline protection. The Bridgeton Township Park boat launch, a popular recreation site, became a showcase location for its holistic approach to restoring ecological function. Along with the tree planting, community volunteers and students further enhanced the park with rain gardens, native wildflowers, and recreational amenities.

The project generated numerous articles in the MRWA's newsletter and in local newspapers, as well as signage at the planting sites and presentations. MRWA and Bridgeton Township used this collaborative opportunity to stimulate a strong and productive relationship. Building on their successful grant work, MRWA held meetings with representatives of three counties to promote partnering on a large-scale tree planting project for 2020. The meetings produced commitments from Newaygo and Mecosta County Parks; the cities of Newaygo, Reed City, and Muskegon; and Bridgeton Township to continue and expand tree planting efforts.

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