

# West Michigan Great Lakes Stewardship Initiative – 2010/2011 Project Abstracts



Teacher & School	Community Partners	Project Abstract
<p><b>Fruitport Middle School</b></p> <p>Rachel Kent Karen Pavlich</p> <p>260 8<sup>th</sup> grade students</p>	<ul style="list-style-type: none"> <li>Summit Lawn Care &amp; Snow Plowing Inc: excavation of the site</li> <li>Earthscapes: provided the plants plants</li> <li>Lions Club of Fruitport: worked with students during project implementation</li> <li>JFNEW: Performed an analysis to determine the need and location of storm water rain garden to decrease flooding, helped design rain garden, reviewed student desgns and helped with the calculations</li> <li>Muskegon Conservation District (MCD): merged all of the student designs into one</li> </ul>	<p><b>Rain Garden to Address Pollution Concern</b></p> <p>Fruitport Middle School's parking lot floods during heavy rainfall and there is concern that the runoff could pollute a nearby lake. A rain garden was chosen as a way to address this issue. Students measured the area of storm water draining off the school's roof, made necessary calculations and measurements to identify the size of rain garden needed, analyzed soil type, chose appropriate plants and made initial designs for their rain garden. In the classroom students learned about human impact, earth systems, groundwater systems, and flooding.</p> <p>In the spring students began working on drainage stream that flows through their campus into nearby Spring Lake. Students conducted water quality analysis at the headwaters on their campus and performed initial stream bank clean-up.</p>
<p><b>Bunker Middle School</b></p> <p>Dave Craymer</p> <p>125 8<sup>th</sup> grade students</p>	<ul style="list-style-type: none"> <li>Muskegon Conservation District (MCD): coordinate volunteers to assist students with proper survey techniques</li> <li>West Michigan Shoreline Regional Development Commission (WMSRDC): proposed community "need"/project</li> <li>Lake Neighborhood Association: project need &amp; development, clean-up day assistance</li> <li>Muskegon Lake Watershed Partnership: proposed project need, involved in planning</li> <li>JFNew &amp; Associates: designed student friendly plant survey for grant reporting requirements</li> </ul>	<p><b>WMSRDC Requires Site Survey</b></p> <p>The WMSRDC wanted to conduct site surveys to evaluate a large shoreline restoration site. For the second year Bunker 8<sup>th</sup> grade science students have performed these surveys for the WMSRDC. Students have been conducting general plant biodiversity surveys at two control sites and ten sites in the restoration area which will be evaluated for specific indicator species. Results will also be used to determine if further restoration is needed. The students will continue this work until the project is completed in 2015. In the classroom students will learn how to collect scientific data, what constitutes a valid survey, communication skills, and how humans can have negative and positive impacts on the environment.</p>
<p><b>Muskegon Community Catholic</b></p> <p>Barb Bourdon</p>	<ul style="list-style-type: none"> <li>Muskegon Conservation District; paired up school with community need</li> <li>Ruddiman Creek Task Force: project ideas</li> <li>Muskegon Lake Watershed Partnership:</li> </ul>	<p><b>Problem with Invasive Species</b></p> <p>Invasive species are becoming a problem around Ruddiman Creek and Muskegon Lake due to its urban location. Students placed native wetland plants at Muskegon Lake in</p>

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25 7 <sup>th</sup> & 8 <sup>th</sup> grade students	<ul style="list-style-type: none"> <li>project ideas</li> <li>Muskegon River Watershed Assembly (MRWA): proposed community need/project, worked alongside kids during the project, involved in all planning meetings</li> </ul>	an area where extensive invasive species removal was done by community organizations. In the classroom students learned about human impact, water quality, invasive and native species, stewardship, and ecosystems.
<b>Grant Middle and High School</b>  Sarah Simon Dawn Stickney 150 6 <sup>th</sup> grade students 150 7 <sup>th</sup> grade students	<ul style="list-style-type: none"> <li>Grant Area District Library: hired a gardener for additional rain garden maintenance over the summer</li> </ul>	<p style="text-align: center;"><b>Rain Garden Maintenance</b></p> Students assisted with the annual maintenance of the rain garden that was installed in the spring of 2010. This is the second year that students have helped the library staff, as the garden is a third of an acre in size, it is more than the library could handle on their own. Weather conditions were not appropriate to use a burn to help with its management this year.
<b>Whitehall Middle School</b>  Susan Tate  100 8 <sup>th</sup> grade students	<ul style="list-style-type: none"> <li>MAISD Regional Mathematics and Science Center: project planning, testing protocols and implementation leadership</li> <li>Muskegon Conservation District (MCD): project planning, and implementation implementation</li> <li>Tom Hamilton, White Lake Steele Headers and White River Partnership: site identification and provided project oversight</li> <li>White Lake PAC: site identification</li> </ul>	<p style="text-align: center;"><b>Water Quality Monitoring for the Future</b></p> Several watershed organizations are interested in baseline data of local watersheds. Students completed physical site assessments and conducted chemical testing for dissolved oxygen, phosphorous, etc. The data will be analyzed and given to appropriate watershed organizations. As part of their classroom studies students will investigate the relationship between storm water, groundwater, and surface water.
<b>Fremont Middle &amp; Daisy Brook Elementary</b>  Sean Henry Jasey Heft Terry Grabill  80 8 <sup>th</sup> and 9 <sup>th</sup> grade students	<ul style="list-style-type: none"> <li>Muskegon River Watershed Association: wrote grant, contacted homeowners, held informational presentations for schools, assisted on planting days</li> <li>Muskegon Conservation District: homeowner presentations and coordination, plant ordering and distribution</li> <li>Fremont Lake Property Owners: provided site and site designs</li> <li>Fremont Area Community Foundation : grant funds</li> </ul>	<p style="text-align: center;"><b>Shoreline Buffer Reduces Runoff Impact</b></p> Several home owners on Fremont Lake realized that turning turf grass into native plantings near the shore would mitigate the effects of runoff and improve lake water quality. Students worked with lakefront property owners to plant and mulch buffers of native species along the shoreline. In the classroom students learned about water quality, human impact, ecosystems, biotic and abiotic factors, food webs, population dynamics, surface water systems, and land use during this project.

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<p><b>Ravenna High School, Oakridge High School &amp; Oakridge Alternative High School</b></p> <p>Sara Lindstrom Lynne Foster Melanie Block Amy Weesies</p> <p>75 8<sup>th</sup>-12<sup>th</sup> grade students</p>	<ul style="list-style-type: none"> <li>• Pheasants Forever: provided trees and mulch, project idea</li> <li>• Double L Enterprises: provided irrigation truck, staff and project assistance.</li> <li>• Muskegon County Wastewater Management: provided land</li> <li>• Muskegon Conservation District (MCD): assisted with project coordination</li> <li>• Muskegon County Road Commission: supplied mulch</li> </ul>	<p style="text-align: center;"><b>Wildlife Habitat Improvement</b></p> <p>Muskegon County Pheasants Forever and students created a shelter belt” for wildlife winter habitat. Students are involved in the planning, preparation, planting, and management of 1,400 small fruit bearing shrubs, bushes, and spruce trees. Each school developed a one acre plot of the 10 acres total allocated by Muskegon County Wastewater Management. Students learned about biodiversity, human impact, native plants, and community/service learning.</p>
<p><b>Steele Middle School</b></p> <p>Ronace Zielinski-Hogan</p> <p>25 students</p>	<ul style="list-style-type: none"> <li>• Sheridan Township: provided and prepared the site.</li> <li>• Muskegon River Watershed Assembly: arranged for mulch and tools, assisted with project implementation</li> </ul>	<p style="text-align: center;"><b>Township Hall Shoreline Restoration</b></p> <p>Students converted a section of turf grass into native plantings near the shore of Fremont Lake at the Sheridan Township Hall. The planting will mitigate the effects of runoff and improve lake water quality. In the classroom students learned about human impact, ecosystems, biotic and abiotic factors, food webs, surface water systems, and land. Students also started making improvements to the outdoor area at Brookhaven Medical Care Facility.</p>