Great Lakes Fishery Trust Final Report - Grant # 2014.1420

April 17, 2015

**PROJECT PROFILE**

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| Project Title | Classroom With A Current |  |
| Grantee Organization | Grand Rapids Public Museum Foundation |  |
| Project Team | Tom Bantle, Grand Rapids Public MuseumTim Priest, Grand Rapids Public MuseumKate Moore, Grand Rapids Public MuseumMarilyn Merdzinski, Grand Rapids Public MuseumDavid Buth, Summers JourneyMike Posthumus, Grand Valley State UniversityColleen Bourque, GroundswellGary Whelan, Michigan DNR, Fisheries DvnWendy Olgilve, Grand Valley Metro Council | tbantle@grpm.orgtpriest@grpm.orgkmoore@grpm.orgmmerdzinski@grpm.orgdavid@summerjourneys.orgbourquec@gvsu.eduposthumi@gvsu.eduwhelang@michigan.govwendy.olgilvew@gvmc.org |
| Contact Person | Tom Bantle, Grand Rapids Public Museum | tbantle@grpm.org |
| Grant Amount | $ 49,200 |  |
| Time Frame | March 1, 2014 to February 28, 2015 |  |
| Focus | Stewardship |  |

Brief Project Summary

The Classroom with a Current Project engaged and supported a team of local high school students to design concepts for a new experiential watershed education exhibit or facility at the Grand Rapids Public Museum. The students’ concepts will inform a major museum redesign of existing natural history and interpretive exhibits to provide more comprehensive watershed and fisheries education opportunities for the West Michigan community to increase awareness, understanding and advocacy of the Great Lakes.

Project in Context

A major effort is underway to restore the Grand River to its natural connectivity, exposing the once “grand rapids” and also the regionally rare bedrock that is suitable spawning habitat for the state-threatened Lake Sturgeon. The partial removal and modifications to the Grand River’s Sixth Street Dam and the other four low head dams will change the river forever, allowing future generations to experience opportunities that the current generation could help achieve. This grassroots effort has grown into one of eleven Urban Waters Federal Partnership locations in the nation, sparking interest from local, state and federal agencies. Education is a critical component of the project and the “Classroom with a Current” project was an innovative approach to integrating the river restoration process into the development of exhibit concepts to teach museum visitors about the river, how communities are connected to the river, and how individuals can become better stewards of this environment.

Seeing a need for improved watershed and fisheries education, the Grand Rapids Public Museum (GRPM) began working closely with the Michigan Department of Natural Resources (MDNR) Fisheries Division and local Great Lakes Stewardship Initiative (GLSI) Hub “Groundswell” to develop plans to redesign their existing natural history and interpretation exhibits to include more comprehensive watershed and fisheries education for the community.

**Groundswell (Local GLSI Regional Hub):** Groundswell was approached to assist in developing the new GRPM watershed and river restoration education exhibit and has played a key role in developing the youth-based Watershed Exhibit Design Team.

**Michigan Department of Natural Resources, Fisheries Division (MDNR):** The MDNR is working toward a more holistic management of the Great Lakes ecosystems. This integrated management approach requires stakeholder involvement and participation from an informed public, one that understands the complex issues, values the ecosystem and acts accordingly. The MDNR agreed to partner with the GRPM in the development of key watershed and river restoration education exhibits and elements at its riverfront facility in downtown Grand Rapids. The MDNR sees the redesigned indoor and outdoor experiences at the Museum offering a unique and ready-made opportunity to reach the public and assist with the development of informed citizen stakeholders. **Lower Grand River Organization of Watersheds (LGROW):** The Grand Valley Metro Council’s LGROW helped connect students with key stakeholders in the river restoration effort including the engaged local, state, and federal agencies to help the project team better understand the many perspectives and complex systems inherent in watersheds and watershed education.

Project Goals

The primary goal of the Classroom with a Current Project was to provide the tools, knowledge, and appropriate context for a team of local high school students to design concepts for a new experiential watershed education exhibit at the Grand Rapids Public Museum. The students concepts will be used to inform planning during 2015 and 2016 for a major museum redesign that will include high quality watershed education opportunities to community students and museum visitors. Specifically, the final educational programs and/or exhibition will be designed to increase awareness and understanding of the ecology of the Great Lakes so (1) Michigan Residents become active and effective stewards of the Great Lakes and (2) advocates for strategies that support the long-term sustainability of the GL fisheries.

Results

* Students, a core audience, have had a primary voice in the initial design concepts for the new experiences and programs at the Grand Rapids Public Museum
* The CWAC project connected the Grand Rapids Public Museum’s educational and exhibition program plans to what is happening in the community of Grand Rapids with the river restoration efforts.
* The CWAC ideas will help inform and create new programs and experiences at the Museum that will engage visitors of all ages in learning about the river, the watershed and the Great Lakes.
* The CWAC ideas reinforced the importance of developing interpretive concepts of the watershed for new indoor and outdoor experiences at the GRPM.

Products and Resources

# [Wordpress blog](https://classroomwithacurrent.wordpress.com/) - Communication blog for participants https://www.google.com/url?q=https%3A%2F%2Fclassroomwithacurrent.wordpress.com%2F&sa=D&sntz=1&usg=AFQjCNGVHSuT9VIQcSQJoeljlfdsqGveWw

# [Survey Grand River Watershed Survey - delivered to hundreds of people to gauge understanding of our watershed.](https://docs.google.com/forms/d/1HGoU0_elIlm7MB20qSPcUWwfks0v7vywKSEdSl4DAfM/viewform) <https://docs.google.com/forms/d/1HGoU0_elIlm7MB20qSPcUWwfks0v7vywKSEdSl4DAfM/viewform>

# [Results Survey results from 124 respondents](https://docs.google.com/forms/d/1HGoU0_elIlm7MB20qSPcUWwfks0v7vywKSEdSl4DAfM/viewanalytics) https://docs.google.com/forms/d/1HGoU0\_elIlm7MB20qSPcUWwfks0v7vywKSEdSl4DAfM/viewanalytics

[Pinterest Board](https://www.pinterest.com/classroomGR/cool-places-spaces/) used to corral design inspiration for the project.

https://www.google.com/url?q=https%3A%2F%2Fwww.pinterest.com%2FclassroomGR%2Fcool-places-spaces%2F&sa=D&sntz=1&usg=AFQjCNE44608qLONdclYr-gp9ZiJ5bNIPA

[Video](http://www.grpm.org/explore/education/ywedt/) Video - produced to document the project https://www.youtube.com/watch?v=T99K12WqByA

 [Prezi](https://prezi.com/47ofjp25gmaz/classroom-with-a-current/) - Prezi - Concepts presented at 2014 Placed Based Education Conference and at the Classroom with a Current end of project open house. https://www.google.com/url?q=https%3A%2F%2Fprezi.com%2F47ofjp25gmaz%2Fclassroom-with-a-current%2F&sa=D&sntz=1&usg=AFQjCNHgw0oLyQlHPE71Am1mM\_NjzWoc7A

 [Graphic Interpretation](https://drive.google.com/a/grmuseum.org/file/d/0B18ltr5X6US_Mno2RGNNSmxYN00/view?usp=sharing) 3-D concept art of building exterior https://drive.google.com/a/grmuseum.org/file/d/0B18ltr5X6US\_Mno2RGNNSmxYN00/view?usp=sharing

[Media coverage](http://www.mlive.com/news/grand-rapids/index.ssf/2014/03/grand_rapids_public_museum_rec.html) Mlive Press Article about the project http://www.google.com/url?q=http%3A%2F%2Fwww.mlive.com%2Fnews%2Fgrand-rapids%2Findex.ssf%2F2014%2F03%2Fgrand\_rapids\_public\_museum\_rec.html&sa=D&sntz=1&usg=AFQjCNEMeQ8FGQchHa66GFUGZ7FLy-pXMQ

[Media Coverage - newsletter](http://www.great-mi.org/Newsletters/Newsletters14/GREAT%203Q2014%20Fall.pdf) Grand River Environmental Action Team newsletter with an article about the project http://www.google.com/url?q=http%3A%2F%2Fwww.great-mi.org%2FNewsletters%2FNewsletters14%2FGREAT%25203Q2014%2520Fall.pdf&sa=D&sntz=1&usg=AFQjCNEvVO9YXjKOqspSNXJF\_uOt1YlXBA

[Media Coverage Great Lakes Week Update 9/11/14](http://www.greatlakesnow.org/2014/09/great-lakes-week-2014-video-on-demand/) Rapids Restoration Project coverage showing YWET kids paddleboarding with Mayor Heartwell http://www.google.com/url?q=http%3A%2F%2Fwww.greatlakesnow.org%2F2014%2F09%2Fgreat-lakes-week-2014-video-on-demand%2F&sa=D&sntz=1&usg=AFQjCNG571ACuMLloZU6bqae1PUgTduFzw

[Media Coverage - Experience GR](http://www.experiencegr.com/articles/index.cfm?action=view&articleID=623&menuID=883) Grant Announcement http://www.google.com/url?q=http%3A%2F%2Fwww.experiencegr.com%2Farticles%2Findex.cfm%3Faction%3Dview%26articleID%3D623%26menuID%3D883&sa=D&sntz=1&usg=AFQjCNFJr5QGBrDTFZ2VZ8\_tBzBCjcjWLg

[Media Coverage - WMAES](http://www.wma-es.com/newsletter/may2014/wmaes_journal_may2014.html) Sophia Cervantes featured in West Michigan Academy of Environmental Science Newsletter http://www.google.com/url?q=http%3A%2F%2Fwww.wma-es.com%2Fnewsletter%2Fmay2014%2Fwmaes\_journal\_may2014.html&sa=D&sntz=1&usg=AFQjCNE-5yPYLqXTTF\_d6NZV6n6a0dxTag

<http://www.grbj.com/articles/79399-change-ups-bowling-to-lead-firms-consulting-division>Grand Rapids Business Journal Grant Announcement http://www.google.com/url?q=http%3A%2F%2Fwww.grbj.com%2Farticles%2F79399-change-ups-bowling-to-lead-firms-consulting-division&sa=D&sntz=1&usg=AFQjCNH6zoQTONmQRFTDGryn6\_R\_uMoZ5A

**FINAL NARRATIVE REPORT**

Background / Overview

The Grand Rapids Public Museum (GRPM) used a 2014 Great Lakes Fishery Trust Stewardship grant to pilot the “Classroom With A Current” (CWAC) program. Through CWAC, the GRPM created a Youth Watershed Exhibit Team (YWET), composed of twenty-five local high school students to develop concepts for educational programs and exhibition experiences focused on Grand River and Great Lakes watersheds for the Grand Rapids Public Museum. Students participated in sessions at the Grand Rapids Public Museum and in the field. These included sessions with community organizations, professionals, and experts in various fields including museum curators, designers, city officials, representatives from government agencies, representatives from native tribes, recreationists, environmentalists, and artists. Students traveled to several museums and interpretive centers where they learned firsthand about exhibit design and public interpretation. Students also participated in watershed-related service projects and visited a dozen sites along the Grand River including its source, its mouth, and numerous sites of interest along its course.

Project Outcomes

**Outcome 1: Youth Watershed Exhibit Design Team established.** Twenty-five students were selected following an application process that was broadcast to area schools in late March 2014. Between April and August 2014 the students worked collaboratively to learn more about the watershed and consider what exhibition experience they would like to see developed at the GRPM. During summer break, four student interned at the GRPM in the Collections Department assisting staff curators with collection inventory and cataloging. Between September and December 2014, a smaller group of seven students worked as project interns to refine and extend the early conceptual exhibit ideas for the year end final project presentation. With the project schedule spanning two school years, the smaller 7 member student team was not part of the original CWAC concept, but was pursued as an adaptive modification based on the experience in the first several months of the CWAC project.

Students communicated the YWET effort to the community through social media, a blog, a survey tool, and direct contact with members of the public by interviews on the street.

Students completed an online evaluation tool developed by Lisa Marchini-Polk and administered by Mike Posthumus. The summative assessment will be completed by the students in December and subsequently evaluated by Lisa Marchini-Polk, with a final report submitted in January 2015.

**Outcome 2: Students possess thorough knowledge of natural and cultural history of Grand River and Great Lakes watershed.**

Students actively participated in research sessions, gaining knowledge from presentations by experts in fisheries, water quality, Native American issues, recreation, urban planning, and more to acquire comprehensive knowledge. Research sessions included presentation and discussion with DNR Fisheries expert Gary Whelan, Kendall College of Design expert Gayle DeBruyn, DEQ expert Dana Strouse, Native American Tribal Representative Ron Yob, Grand Rapids Public Museum experts Dale Robertson and Tom Bantle, Social Ecologist and school board member Tony Baker, urban planning expert Ed Kettle, Grand Rapids City Manager Greg Sundstrom, Grand Traverse Bay Band of Odawa Indians Tribal Repatriation official Eric Hemenway, Grand Rapids Mayor George Heartwell, Grand Valley Metro Council representative Wendy Ogilvie, Whitewater Grand Rapids recreation, geology, and ecology experts Chip Richards and Kalie Nye, and more.

Students also participated in field trips, gaining knowledge from first-hand visits and hands-on activities led by experts in conservation, environmental action, exhibit design, cultural awareness, recreation, and more to benchmark ideas and develop their own. Field experiences include a watershed service project with West Michigan Environmental Action Council, a visit to the headwaters of the Grand River led by Great Lakes Environmental Action Team president Jim Seitz and supported by state representative Mike Stuckey, a visit to the Museum of the Great Lakes with behind the scenes tours by principal designer Chris Gilchrist, a visit to the Oden Fish Hatchery led by DNR Fishery expert Gary Whelan, a visit to the Field Museum in Chicago led by Hilary Hansen to meet with their design staff and learn how they developed their newest permanent exhibit, and a stand up paddle board session along key sites on the Grand River with Whitewater Grand Rapids co-founder Chip Richards and Grand Rapids mayor George Heartwell, a student-led tour of Kent Innovation High and their Grand River project, and more.

Students demonstrated the knowledge acquired from these sessions by evaluating a vast amount of highly interdisciplinary knowledge and synthesizing ideas into preliminary exhibit concepts to help connect the public to the watershed in the final GRPM exhibition redesign work that is part of its five year Strategic Plan.

**Outcome 3: Students define community role in Grand River and Lake Michigan Watershed stewardship through exploration of current issues and stewardship needs facilitated by project partner MDNR.**

Students met with Grand Rapids City Manager Greg Sundstrom and with Grand Rapids Mayor George Heartwell to discuss the Green Grand Rapids plan. Students also attended the annual Lower Grand River Organization of Watershed forum, Grand Valley Metro Council board meeting, Mayor’s steering committee, and several GR Forward river corridor, downtown, and river restoration steering committee meetings. Students gained an in-depth and first-hand knowledge of city plans as well as Urban Waters Federal Partnership plans.

Students developed an online survey tool to administer to the public to assess public perspectives on the watershed, including public attitudes on development, conservation, recreation, and education related to the watershed. The survey tool was broadcast through social media, sent through targeted mailing, and discussed with community members on the street.

The development of a watershed attitude report fell outside the scope of student work, but the online survey tool was developed, data points were gathered, and the tool and those data will be useful when an attitude report is developed in the future.

**Outcome 4: Youth voice integrated into Grand River Restoration Museum Exhibit.**

The GRPM’s redesign plans include development of a new Watershed exhibition at its main exhibition facility on the banks of the Grand River in Downtown GR. Plans are in motion to return rapids to the Grand River and bring activity and economic development to Downtown GR. The Grand Rapids Public Museum, as educator and interpreter, intends to create a comprehensive watershed program for educational and general public consumption that will include new and exciting experiences on the Museum grounds and river’s edge. When completed, it will provide visitors an innovative and hands-on learning experience focused on the science, history, culture and management of the Grand River, Great Lakes, and other natural resources. This project’s team of high school students key messages and core concepts will continue to inform the ongoing design and project development. The students will continue as critical members of the creative and design teams to ensure improved messaging to youth.

**Outcome 5: Student-designed watershed and river education exhibit presented to museum and community stakeholders.**

Students visited acclaimed interpretive centers throughout the Great Lakes during the spring to benchmark designs and develop their own ideas. These benchmarks and ideas were the foundation for the design the students developed throughout the summer and fall. Along with professional model maker Skip Luyk and professional graphic designer Ryan Hipp, the fall focus group of seven students formalized the ideas of the larger group of students and incorporated the entire body of knowledge acquired over six months into a formal presentation of their preliminary exhibit concepts for a proposed interpretive center to be built at the site of the Van Andel Museum Center.

The students prepared and delivered a formal presentation of their project at the Great Lakes Stewardship Initiative Place Based Education Conference in November 2014. They also presented their work to the GRPM staff and CWAC student families on December 9, 2014 , and then again, to the GRPM Foundation Board of Trustees’ Strategic Planning Committee in January of 2015.

Evaluation - excerpt from Project Evaluation Report Civic Research Services Inc

**Participants.**

The 25 students who participated in Classroom with a Current were strong students from various area high schools who are highly motivated for postsecondary education. From an environmental perspective, students have been engaged in a variety of volunteer and school-based environmental efforts. Sixty-five percent of responding students expressed an interest in the environmental, Great Lakes theme of CWAC when asked what motivated them to participate. Forty percent mentioned the potential for community impact, and most of these referenced both community and environmental impacts in their response. Other responses included the opportunity to create an exhibit (25%), the opportunity to work in and with the Grand Rapids Public Museum (15%), the opportunity to learn in a different way (15%), and the general desire to “make a difference” (15%).

**Benefits to students from participating.**

Students reported very consistently that this project was highly beneficial for the development of their “people” skills. Other workplace competencies such as time management, developing work plans, and public speaking skills were also strongly endorsed by CWAC participants as benefits of the program. All in all, with its emphasis on student-driven problem solving, CWAC seems to be an ideal structure for intensive development of workplace competencies, and these benefits are central to students’ overall strong endorsement of the program.

Students participating in the second phase of CWAC expressed significant emotional investment in the exhibit, and talked at some length about the value they associated with being responsible for a genuine product for use in the Grand Rapids Public Museum. The overall flavor of student feedback suggests that students cared deeply about being entrusted with something important, and also cared deeply that the adults operating the program respected their intellect and abilities, as demonstrated by their willingness to let the students make weighty decisions, as well as by their supportive attitudes and encouragement.

**Stewardship outcomes.**

Although CWAC students clearly value the environment and it was the leading theme in their descriptions of what motivated them to participate, there is not a lot of evidence to suggest the CWAC program helped further develop students’ stewardship aspirations and competencies. Pre‑program data indicates students were already predisposed to support the environment. Measures of five dimensions of stewardship motivations and behaviors declined marginally between the pre- and post-experience surveys. Student scores on the test of Great Lakes knowledge increase by about 5% between pre- and post-experience tests, with relatively high volatility in student scores. Students’ interest in an environmental careers did increase between the pre- and post-experience surveys.

**Recommendations.**

Based largely on student recommendations for ways to improve the program, the evaluation recommendations emphasize clarifying what can be clarified for students at the outset of the program while retaining the principle of student choice and ownership, but more aggressively supporting students who may be unprepared to work through ambiguity and complexity. Smaller class sizes, more specific coaching on exhibit design principles, authentic audiences for students’ ideas, and continued coaching on group dynamics were also recommended.

Related Efforts

This GRPM project named, “Classroom with a Current” was designed to engage and support a local team of students as they participated in immersive fieldwork and research throughout the Spring and Summer of 2014, visiting other water-focused interpretive centers, speaking to experts and more. With a second year of support the GRPM has goals of expanding the watershed programming it offers to supplement future exhibit plans. These include updating the current program offerings, creating teachable moments through programs and exhibitions, and integrating interpretation through indoor/outdoor experiences at GRPM’s Van Andel Museum Center. The CWAC student project has provided a way for youth, especially urban youth, to engage in stewardship education in conjunction with community partners and stakeholders and inform the further development of the GRPM’s watershed educational programs and exhibition experiences.

Communication/ Dissemination

**Publications**

Assisted by a graphic designer, the students concepts and proposed themes were compiled in a booklet presented to the GRPM.

**Presentations**

Mike Posthumus and colleen Borque gave a presentation about the project to the Lower Grand River Organization of Watersheds May 2, 2014. The students presented their concepts including a video and prezi to the 2014 Placed Based Education Conference on November 6, to the Expanded Learning Opportunities conference for after school programs on November 7, 2014, to the the GRPM staff, and at an event for family, friends, and interested parties at the end of the project on December 9, 2014.

**Websites**

A wordpress blog set up by GRPM and administered by the project leads was used to communicate project updates within the group and to the public.

**Other**

A three dimensional model of a proposed building concept was created by the students with the assistance of a professional model maker and presented to the GRPM for future reference.

Reflections

Ongoing “youth” voice and involvement is key to funding and community support of the GRPM Watershed exhibition project.

The students involved, proudly claimed ownership and became strong ambassadors of the project.

 Spreading the project over two school years presented a challenge for scheduling and participant retention.

Asking that participants take time away from the classroom was a tough sell on the schools and parents and most likely influenced our number of applicants negatively.

The river is a vital part of Grand Rapids that the community is interested in experiencing and learning more about.

Attachments

Project Evaluation Report

(2) Concept Sketches of building Exterior

Grand River Watershed Survey

Grand River Watershed Survey Results

Mlive Article “Grand Rapids Public Museum recruiting students for ‘Classroom with a Current’ watershed project”

Grant Budget Narrative

Grand River Environmental Action Team newsletter Vol 24 Number 3 Sept 2014

Pinterest Board ‘cool Places/Spaces’ Design Inspiration

GLFT Final Financial Report Narrative

GLFT Final Financial Report - Detailing expenditures of GLFT funds with documentation

Design and Fabrication Team Prezi - presentation