

Upper GLSI Project Profile

Project Title: Upper Great Lakes Stewardship Initiative Base Funding (Upper GLSI)

Grantee Organization: Superior Watershed Partnership

Project Team: The Upper GLSI project team includes:

- Carl Lindquist, Executive Director (Superior Watershed Partnership)
- Abbie Hanson, Program Coordinator (Superior Watershed Partnership)
- Chris Standerford, Director (Seaborg Center at Northern Michigan University)
- Karen Bacula, Place-based Consultant (Seaborg Center)
- Kim Smith, Place-based Consultant (Seaborg center)

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Grant Amount: \$72,500

Time Frame: July 1, 2017 – July 1, 2018 (extended through October 31, 2018)

Focus Area: Great Lakes Stewardship Initiative (GLSI)

Brief Project Summary: In partnership with the Seaborg Center at Northern Michigan University, the Superior Watershed Partnership and the Upper Great Lakes Stewardship Initiative (GLSI) offer professional development for educators and support place-based stewardship projects for K-12 students in Alger, Delta, Marquette, and Schoolcraft Counties. As one of nine GLSI hubs throughout the state, the Upper GLSI promotes school-community partnerships that engage communities in project efforts and strengthen the stewardship impact among students. GLFT funding during the project period (July 1, 2017 – October 31, 2018) directly supported 51.5 total hours of professional development for 32 educators and provided project support for 750 students.

Review of Chart of Work

Four Focus Areas were identified in the original project chart of work. A summary of the activities completed under each focus area is provided below. Any deviations from the original chart of work are highlighted at the conclusion of each subcategory.

Focus Area 1: Best-practice systems for sustained professional development

- *Assess teacher needs regarding implementation of PBE.* Upper GLSI staff concluded a four day (one day per month) Introduction to Place-Based Education professional development series on May 2, 2018. Each session, participating educators completed surveys that provided opportunities for the educators to voice needs/desires for future professional development opportunities as well as ideas/suggestions on how Upper GLSI staff can best support implementation of PBE projects. Consistently, educators noted that they appreciate the incorporation of planning time into PD events in order to plan for PBE projects and discuss project ideas with Upper GLSI staff. Teachers have also expressed interest in PBE curriculum including Project WET/Project WILD as well as in PD opportunities that allow teachers to “assume the role of students” in hands-on PBE activities.
- *Implement diverse PD opportunities.* As part of Northern Michigan University’s Fall Conference event, a 1.5 hour PD session entitled “From Seed to Salad” was offered on October 13th, 2018. Led by the Education Coordinator at Michigan State University Extension North Farm, the workshop provided methods/examples for teaching science and PBE concepts through food. On the same date, Upper GLSI educators attended the Michigan Invasive Species Workshop for Grades 3-8 (external PD; collaborative event put on by Belle Isle Aquarium, Wayne State University, and Lake Superior Stewardship Initiative).

As mentioned above, a four day Introduction to Place-Based Education concluded on May 2nd. Full day in person sessions were held at Northern Michigan University on January 30, February 27, March 30, and May 2 for a cohort of 11 returning teachers (14 teachers attended day 1, three did not return for subsequent sessions). One “virtual day” of PD was also included as part of the series. Virtual content included a two hour grant writing workshop, an online discussion forum focused on culture in the classroom, as well as a dinner and dialogue event.

A GLSI supported two day summer institute was offered on June 18-19, 2018. A facilitator from Earth Force was contracted to provide content surrounding Earth Force’s six step Community Action and Problem Solving Process. Likely because the event was conducted as part of Northern Michigan University’s Summer Institute (multiple simultaneous sessions offered), no K-12 educators attended the event. Instead, the workshop turned into a “train the trainer” event, as four Upper GLSI staff members attended instead. The Work Force content was then delivered as part of the Upper GLSI’s fall Introduction to Place-based Education workshop in 2019.

Additional PBE that occurred during the project period (and into the 2018-2019 funding period) included the 2018-2019 four day fall workshop noted above. Workshop dates included September 27th, October 17th and 18th, and November 1st, 2018. The workshop was well attended by educators from Marquette and Delta County. Specific outcomes will be reported as part of the year two (2018-2019) funding report.

- *Resource sharing.* Throughout the course of both Introduction to PBE series, Upper GLSI staff presented teachers with multiple different tools and resources for implementing PBE. Examples include but are not limited to: Yoder lessons, Edutopia examples, resources through the Allen Alda Institute, and related Next Generation Science Exemplar System concepts. All materials utilized during PD sessions have been made available to participating teachers as both hardcopy documents as well as via a Google Drive file. Most importantly, the shared Google Drives created an online resource sharing community, where the teaching cohorts can add resources/thoughts/ideas to and learn from other members of the PBE teaching cohort.

- *Assess value of professional learning.* Surveys were distributed at the conclusion of each session in the four day series in order to assess the value of the PD event. Positive feedback was received regarding both the content and the delivery of each event. Of note, multiple participants mentioned that they are currently or that they anticipate relaying the PBE concepts and values learned as part of the professional development series to educators and administrators within their buildings. Additionally, participants noted that they appreciated the variety of speakers (including guest community partner speakers), as well as the opportunity to converse and learn from other members of the participating cohort.

As follow up for the 2017-2018 Intro to PBE series, participants were contacted by email in September 2018 and encouraged to reach out with new comments, concerns, or hopes moving forward. Additionally, educators were offered the opportunity to share their experiences with the 2018-2019 cohort of teachers via presentations at the 2018-2019 Intro to PBE workshop. Six of the thirteen educators participated.

Focus Area 2: Interdisciplinary, cross-grade teams of motivated educators in ready schools

- *Identify barriers to teacher collaboration.* One of the largest barriers to teacher collaboration expressed by many participating teachers involves the difficulty in juggling rigid school/class schedules. Teachers also expressed concerns with finding the time necessary to bring their ideas into action. To counter both of these barriers, Upper GLSI staff has remained supportive and available for planning, coordinating, and implementing project objectives. Upper GLSI staff continue to be open to visiting participating teachers at their locations and providing support in ways that are most meaningful to participants. Additionally, time to plan and collaborate with other educators is always built in to Upper GLSI sponsored PD.
- *Address school readiness.* Many participating educators noted that their school administrators are very supportive of PBE and project implementation. In particular, participation and support from Marquette Area Public Schools (MAPS) educators and administrators has surpassed that of other districts. Specific Upper GLSI schools in the district include: Sandy Knoll Elementary, Bothwell Middle School, Marquette Senior High School, and Marquette Alternative High School. Moving forward, the Upper GLSI will continue to promote increased involvement of MAPS educators. To increase involvement from the southcentral Upper Peninsula, educators from the Delta Schoolcraft ISD were specifically targeted for participation during the 2018-2019 school year. As a result, multiple educators from Delta County attended the 2018-2019 Introduction to PBE workshop – far surpassing any involvement from that region of the Upper GLSI service area than has been observed since the Upper GLSI was established.
- *Address poorly represented subject areas.* PD opportunities were/will continue to be open to teachers in all subject areas. Materials utilized in events were developed to be applicable for all subject areas. Participating teachers at 2017-2018 PD events included not only science educators, but art, English, French, and sustainability educators, among others.
- *Encourage efforts with larger teacher teams.* Larger minigrant awards were advertised for teaching teams consisting of two or more educators. All projects implemented during the 2017-2018 school year incorporated a teaching team of at least two. All projects currently being implemented during the 2018-2019 school year also include teaching teams of at least two. As the Upper GLSI program continues to grow, a goal is to continue to encourage larger teacher teams within schools.

Focus Area 3: Processes that foster strong community engagement and robust partnership

- *Promote, expand, and maintain partnerships.* During both four day Introduction to PBE series, guest speakers from multiple organizations/agencies were invited to speak. Representatives from Pictured Rocks National Lakeshore/Hiawatha National Forest, the U.S. Fish and Wildlife Service, the Marquette County Conservation District, Clear Lake Education Center, Michigan State University Extension, Lake to Lake Cooperative Invasive Species Management Area, and the Yellow Dog Watershed Preserve spoke and outlined opportunities for collaboration. As a result, several teachers have

developed projects that incorporate partnerships with some of the organizations/agencies. For example, teachers at Bothwell Middle School established a pollinator garden on school grounds with expertise and native plants supplied by the Marquette County Conservation District. Additionally, Ishpeming Middle School worked with the Marquette County Conservation District to complete stream quality/macrobenthic assessments in the City of Ishpeming. A project at Escanaba High School is currently incorporating input from the Lake to Lake Cooperative Invasive Species Management Area. Efforts will continue to promote and foster strong relationships between educators and community partners.

- *Recruit additional partners.* Written materials and/or other materials including press releases and social media posts were utilized by some 2017-2018 project teachers to illustrate student impact (see link and image below for examples). It is anticipated that student projects will be highlighted in similar ways during the 2018-2019 school year. Materials produced can be used to detail the mutual benefits of school/community partnerships and continue to recruit and foster new partnerships. Additionally, an Upper GLSI promotional video highlighting Marquette Alternative High School has also been produced. The video can be viewed [here](#).
 - [Ishpeming Middle School – macroinvertebrate stream sampling](#)
 - Image below highlights Bothwell Middle School’s newly constructed native pollinator garden



Focus Area 4: Regional strategies for change, growth, and sustainability

- *Formalize advisory group.* Informal commitments have been made by several candidates within the Upper GLSI service area. Potential Upper GLSI Advisory Group members include but are not limited to the Interagency Education Specialist with Pictured Rocks National Lakeshore and Hiawatha National Forest, the AmeriCorps Program Director with Marquette County and Alger County RESA,

Environmental Science and Education Faculty at Northern Michigan University and professional staff with several regional planning, environmental and education non-profit organizations.

- **Deviation from original chart of work:** As the GLSI makes its transition to a standalone non-profit organization, the Upper GLSI has decided to keep the nature of the advisory group informal. Input will be sought from willing participants as needed.
- *Develop strategic plan.* As part of the Great Lakes Stewardship Initiative's transition to a nonprofit organization, the Upper GLSI has participated in workshops that have provided fundraising tools and strategies meant to help sustain the hub in future years. The Upper GLSI will continue to work with central GLSI staff to strategize and implement a funding plan moving forward.
- *Identify financial constraints.* Once executed, the funding plan noted above is expected to provide the funding necessary to support PBE objectives through the Upper GLSI hub in future years.
- *Identify sources of community support.* The SWP and the Upper GLSI are well supported in the central Upper Peninsula. Long term relationships have been established and maintained at the local (businesses, local units of government, schools, universities), state (DNR, DEQ), and federal (USFS, USFWS, NPS) level. Moving forward, these relationships will continue to be utilized and new sources will be targeted for continued community support of the Upper GLSI. The Superior Watershed Partnership continues to incorporate the Upper GLSI into funding proposals in order to support K-12 place-based education opportunities into local projects. During the 2017-2018 school year, funding was obtained from the United Way of Marquette County and was used to directly support student projects and place-based learning.

Professional Development Attendance

2017-2018 Introduction to Place-Based Education Four Day Workshop

Table 1. Introduction to PBE – January 30, 2018 attendance

Last Name	First Name	District	School	New or Returning
Atwood	Stephen	MAPS	Marquette Senior High School	New
Bates	Autumn	NSA	North Star Academy Elementary	New
Beauchamp-Lagina	Peggy	Unaffiliated	Unaffiliated	New
Briggs-McNeal	Sarah	GAPS	Gwinn M.S.	New
Crunkleton	Jean	MAPS	Bothwell Middle School	New
Fryzel	Kimberly	MAPS	Marquette Senior High School	New
Girard	Anne	MAPS	Graveraet Elementary	Returning
Humphrey	Kristy	GAPS	Gwinn M.S.	New
Nelson	Libby	NICE	Aspen Ridge Middle School	Returning
Parlato	Kimberly	MAPS	Marquette Senior High School	New
Paulsen	Martin	MAPS	Graveraet Elementary	New
Prill	Brian	MAPS	Marquette Alternative High School	Returning
Rich	Kaitlin	IPS	Ishpeming Middle School	New
Willey	Charleen	IPS	Ishpeming Middle School	New

Table 2. Introduction to PBE – February 27, 2018 attendance

Last Name	First Name	District	School
Atwood	Stephen	MAPS	Marquette Senior High School
Bates	Autumn	NSA	North Star Academy Elementary
Briggs-McNeal	Sarah	GAPS	Gwinn M.S.
Crunkleton	Jean	MAPS	Bothwell Middle School
Girard	Anne	MAPS	Graveraet Elementary
Humphrey	Kristy	GAPS	Gwinn M.S.
Nelson	Libby	NICE	Aspen Ridge Middle School
Parlato	Kimberly	MAPS	Marquette Senior High School
Paulsen	Martin	MAPS	Graveraet Elementary
Rich	Kaitlin	IPS	Ishpeming Middle School
Willey	Charleen	IPS	Ishpeming Middle School

Table 3. Introduction to PBE – March 20, 2018 attendance

Last Name	First Name	District	School
Atwood	Stephen	MAPS	Marquette Senior High School
Bates	Autumn	NSA	North Star Academy Elementary
Briggs-McNeal	Sarah	GAPS	Gwinn M.S.
Crunkleton	Jean	MAPS	Bothwell Middle School
Girard	Anne	MAPS	Graveraet Elementary
Humphrey	Kristy	GAPS	Gwinn M.S.
Nelson	Libby	NICE	Aspen Ridge Middle School
Parlato	Kimberly	MAPS	Marquette Senior High School
Paulsen	Martin	MAPS	Graveraet Elementary
Rich	Kaitlin	IPS	Ishpeming Middle School
Willey	Charleen	IPS	Ishpeming Middle School

Table 4. Introduction to PBE – May 2, 2018 attendance

Last Name	First Name	District	School
Atwood	Stephen	MAPS	Marquette Senior High School
Bates	Autumn	NSA	North Star Academy Elementary
Briggs-McNeal	Sarah	GAPS	Gwinn M.S.
Crunkleton	Jean	MAPS	Bothwell Middle School
Girard	Anne	MAPS	Graveraet Elementary
Nelson	Libby	NICE	Aspen Ridge Middle School
Paulsen	Martin	MAPS	Graveraet Elementary
Rich	Kaitlin	IPS	Ishpeming Middle School
Willey	Charleen	IPS	Ishpeming Middle School

2018-2019 Introduction to Place-Based Education Four Day Workshop

Table 5. Introduction to PBE – September 27, 2018 attendance

Last Name	First Name	Grade Level	School	New or Returning
Backlund	Todd	11th 12th	Negaunee High School	New
Bilski	Jim	7-12	Bark River-Harris Schools	New
Cissell	Elizabeth	1,2,3 rd grade	North Star Montessori Academy	New
Clausen	Katrina	9-12	Gladstone	New
Corcoran	Kurt	6th	Aspen Ridge School	New
DeLong	Daniel	11th/12th	Escanaba	New
Demerse	Mary	10, 12	Escanaba High School	New
Fether	Jake	HS	Marquette Senior High School	New
Garber	Jessica	9-12	Escanaba High School	New
Hall	Lisa	Junior High	Bark River-Harris	New
Kainulainen	Jesse	9-12	Marquette Alternative High School	New
Kurpier	Kelly	High School	Success-VLC	New
Larrabee	Jessica	9-12 (mainly 10th)	Escanaba High School	New
Nelson	Libby	6-8	Aspen Ridge M.S.	Returning
Simon	Kelly	9-12	marquette senior high school, French	New
Swanson	Tyler	JH/HS	Bark River Harris High School	New
Waters	Sarah	High School	North Star Academy	New
Whitford	Nicole	6	Negaunee Middle School	New
Wright	Kathy	5th/6th grade	Powell Township School	Returning

Table 6. Introduction to PBE – October 17, 2018 attendance

Last Name	First Name	Grade Level	School
Cissell	Elizabeth	1,2,3 rd grade	North Star Montessori Academy
Clausen	Katrina	9-12	Gladstone
Corcoran	Kurt	6th	Aspen Ridge School
DeLong	Daniel	11th/12th	Escanaba
Fether	Jake	HS	Marquette Senior High School
Garber	Jessica	9-12	Escanaba High School
Hall	Lisa	Junior High	Bark River-Harris
Kainulainen	Jesse	9-12	Marquette Alternative High School
Kurpier	Kelly	High School	Success-VLC
Larrabee	Jessica	9-12 (mainly 10th)	Escanaba High School
Nelson	Libby	6-8	Aspen Ridge M.S.
Waters	Sarah	High School	North Star Academy
Whitford	Nicole	6	Negaunee Middle School

Table 7. Introduction to PBE – October 18, 2018 attendance

Last Name	First Name	Grade Level	School
Backlund	Todd	11th 12th	Negaunee High School
Cissell	Elizabeth	1,2,3 rd grade	North Star Montessori Academy
Clausen	Katrina	9-12	Gladstone
Corcoran	Kurt	6th	Aspen Ridge School
DeLong	Daniel	11th/12th	Escanaba
Fether	Jake	HS	Marquette Senior High School
Garber	Jessica	9-12	Escanaba High School
Hall	Lisa	Junior High	Bark River-Harris
Kainulainen	Jesse	9-12	Marquette Alternative High School
Kurpier	Kelly	High School	Success-VLC
Larrabee	Jessica	9-12 (mainly 10th)	Escanaba High School
Nelson	Libby	6-8	Aspen Ridge M.S.
simon	kelly	9-12	marquette senior high school, French
Waters	Sarah	High School	North Star Academy
Whitford	Nicole	6	Negaunee Middle School

Table 8. Introduction to PBE – November 1, 2018 attendance

Last Name	First Name	Grade Level	School
Backlund	Todd	11th 12th	Negaunee High School
Cissell	Elizabeth	1,2,3 rd grade	North Star Montessori Academy
Clausen	Katrina	9-12	Gladstone
Corcoran	Kurt	6th	Aspen Ridge School
DeLong	Daniel	11th/12th	Escanaba
Fether	Jake	HS	Marquette Senior High School
Garber	Jessica	9-12	Escanaba High School
Hall	Lisa	Junior High	Bark River-Harris
Kainulainen	Jesse	9-12	Marquette Alternative High School
Kurpier	Kelly	High School	Success-VLC
Larrabee	Jessica	9-12 (mainly 10th)	Escanaba High School
Nelson	Libby	6-8	Aspen Ridge M.S.
simon	kelly	9-12	marquette senior high school, French
Waters	Sarah	High School	North Star Academy
Whitford	Nicole	6	Negaunee Middle School

Place-Based Stewardship Education Activities

Table 9. Upper GLSI Place-Based Education Projects (2017-2018 school year, and through October 2018)

School	Grade	Teachers (new or returning?)	Total Students	Project/Event Details
Sandy Knoll Elementary	3	Nancy Usitalo (returning)	24	(continuation of 2016-2017 stewardship/stormwater/water quality project) On September 22, 2017 the entire 3rd grade from Sandy Knoll Elementary met along the Iron Ore Heritage Trail at a Superior Watershed Partnership migratory bird habitat restoration site. Students worked with SWP staff and Great Lakes Conservation Corps crew members to spread native pollinator friendly plant seed and to plant seedlings including black eyed susan and coreopsis. The work is intended to improve habitat for migratory birds and insects including the monarch butterfly adjacent to Lake Superior.
		Jodi Miller (returning)	24	
		Tom Morrison (new)	24	
Marquette Alternative High School	9-12	Brian Prill (returning; lead)	45	(continuation of 2016-2017 Lake Superior water quality/boat building project) On October 6, 2017 students from the Marquette Alternative High School (45 total) worked with Superior Watershed Partnership staff on a local project to improve the nearshore water quality of Lake Superior. Students helped to transport and plant 286 red and white pine trees along coastal habitat within the City of Marquette.
Marquette Alternative High School	9-12	Brian Prill (returning; lead)	52	On October 29, 2018, MAHS students assisted SWP's Great Lakes Conservation Corps crew with planting red oak and apple trees on State land near Harlow Lake in Marquette. Trees were planted in an effort to enhance wildlife habitat in an important deer wintering area.
Aspen Ridge Middle School	6-8	Libby Nelson (new; lead)	305	Students are continuing to use a hydroponic unit to gain an understanding of concepts including but not limited to sustainability education, entrepreneurship, service learning, and the "triple bottom line." Through research, utilizing the school's hoop house, and working with partners including Café BODEGA and Partridge Creek Farm, students are working to design and implement service learning projects that utilize entrepreneurship skills to address sustainability issues in the northern Great Lakes region.

School	Grade	Teachers (new or returning?)	Total Students	Project/Event Details
Gwinn Middle School	6-8	Kristy Humphreys (new; lead)	96	During the project period, students worked to continue and expand upon their salmon in the classroom program, culminating in a salmon release in the Dead River in the City of Marquette.
		Sarah Briggs McNeal (returning)		
Bothwell Middle School	6	Jean Crunkleton (new)	56	Students worked to create a pollinator garden on the school grounds. The project also incorporated invasive species management to promote the importance of biodiversity within the schoolyard ecosystem.
Ishpeming Middle School	5	Kaitlin Rich (new)	62	Students worked with the Marquette County Conservation District to sample macroinvertebrates and assess the stream quality of Partridge Creek in the City of Ishpeming.
Escanaba High School	9-12	Jessica Garber (new; lead)	62	During the 2018-2019 school year, students are working with the Lake to Lake Cooperative Invasive Species Management Area to identify invasive plant infestations locally and to raise and install a native plant garden on the school campus
		TOTAL	750	

Table 10. Related PBSE Projects/Events (Funded through other sources)

School	Date	Lead Teacher	Total Students	Activity/Event
Marquette Alternative HS	9/15/2017	Brian Prill	59	Students visited the Marquette Regional History Museum and listened to a presentation on Great Lakes rivers and watersheds with an emphasis on cold water trout streams. Then students toured a new exhibit on the history of fly fishing, historic and modern impacts to fish habitat and recent examples of trout stream restoration projects locally. Students also learned about opportunities to assist with local stream monitoring and habitat restoration projects.
Marquette Senior HS	11/22/2017	Wendy Hill-Manson	70	Along with local artist Stella Larkin (and her marine debris piece), gave three separate presentations to three sophomore biology classes focusing on plastic pollution in the Great Lakes. Following presentations, worked with student as they formulated ideas surrounding individual/group community impact projects.
Ishpeming Girl Scout Troop 5028	2/19/2018	Tricia Selen	6	Conducted a presentation including hands on activities related to energy conservation and recycling. Content incorporated impacts to the Great Lakes - climate change, energy consumption and conservation (renewable/clean versus coal, etc.), marine debris, etc.
Bothwell Middle School	3/19/2018	Jennifer Tapolcai	18	SWP staff conducted a presentation on the concept of "watersheds," and provided hands on illustrations of different factors that can impact water quality in a region.
Bothwell Middle School	3/21/2018	Ben Anderson	700	SWP staff attended a STEAM fair and staffed a booth incorporating a watershed model and marine debris educational art piece.
Gwinn Middle School		Sarah Briggs McNeal	30	Through funding provided by the United Way of Marquette County, the SWP is helping to provide continued support for an ongoing Upper GLSI project incorporating a pollinator and vegetable garden on the school grounds.
		TOTAL	883	

Photos



Photos 1 and 2. Upper GLSI Intro to Place-Based Education Workshop 2017-2018



Photos 2 and 3. Marquette Alternative High School students planting trees to improve nearshore water quality of Lake Superior



Photo 5. Gwinn Middle School students releasing salmon into the Dead River (top)



Photo 6. Aspen Ridge Middle School students growing herbs in a hydroponic setting (bottom)



Photo 7. Bothwell Middle School students creating a native pollinator garden on campus