



Inland Seas

EDUCATION ASSOCIATION

2022 Great Lakes Watershed Field Course Teacher Packet

What you will find in this packet

This packet should help you get a good picture of what we are offering. In it you will find:

- Great Lakes Watershed Field Course Overview
- Great Lakes Watershed Field Course: Goals and Objectives
- Commitment requirements of participating teachers
- Commitments Inland Seas will make to you
- 7 Good Reasons to Participate
- Meaningful Watershed Experiences Defined

Great Lakes Watershed Field Course: Overview

Program Dates and Location:

The Great Lakes Watershed Field Course will take place August 15-18, 2022. The course will be headquartered at the Capt. Thomas M. Kelly Biological Station, 100 Dame St., Suttons Bay, MI.

What is the Great Lakes Watershed Field Course?

Our mission is to create Great Lakes stewards through education and experiences that build a personal connection between students and the Great Lakes. The Great Lakes Watershed Field Course facilitates experiences for teachers to learn about issues impacting their watershed, an area that drains into our Great Lakes, and supports them in learning how to positively impact their watershed. We have learned that giving youth autonomy to identify an issue impacting their watershed and work collaboratively to solve that issue in their community builds those personal connections and empowers them as difference-makers. We offer teachers tools to build student autonomy, take their students outside of their classroom, assess community watershed strengths, identify areas for community betterment, and make an impact.

This immersion experience is a four-day professional development field course in Suttons Bay, Michigan. Inland Seas Education Association (ISEA) will introduce teachers to a wide range of professionals who will share their expertise and passion for conservation projects and field-based education. ISEA will also offer the opportunity to observe projects that exemplify best practices to:

- Combat invasive species
- Promote nearshore health by protecting watersheds from polluted runoff
- Restore wetlands and other habitats

The first step is to help teachers become well-versed in the types of projects and experiences they can bring to their classrooms. In addition to field visits, participants will sail aboard ISEA's 77' tall ship schooner, *SV Inland Seas*, and use it as a platform for investigating Great Lakes ecology. ISEA will provide transportation to all of the field sites and experts who can involve us in their work and answer all of your questions.

The next step in the process is to help teachers do a project with their students. Teachers in this program may have a wide range of experiences with this kind of work.

- Perhaps you have done community action projects with your students in the past and want to troubleshoot your process and get some fresh inspiration for your work.
- Maybe you have dreamed about doing stewardship action projects with students and are ready to take the next step toward making it happen.
- You may possibly be a teacher looking for the best educational opportunities for your students, yet haven't given much thought to community action projects.

Regardless of your motivation, we will give you a framework for doing the work and introduce you to education experts who can help you take the next step.

Finally, we recognize the importance of down time in any professional development experience. Teachers need time to relax, integrate what they have learned, have

conversations with fellow participants, and take care of personal needs. The schedule will allow for these things and offers opportunities to get to know the Grand Traverse region. If place-based education is what we are asking you to do, we must show you what it looks like to connect to place.

Ongoing support:

When the field course is over, teachers will be well equipped to make a step forward to implement all they have learned. They will design a set of meaningful watershed experiences for their students and engage them in a stewardship action project. Projects can be small or large, in the school or in the community. It's up to teachers and students to decide what works for their curriculum and what is meaningful to the group. ISEA will keep in touch with teachers through a series of group webinars throughout the school year and will provide up to \$300 for project implementation.

Agenda:

Program participants will spend time on the ISEA campus, engage in a program aboard the tall ship schooner *Inland Seas*, and travel around the Grand Traverse region to learn about watershed conservation projects throughout the four-day field course.

Sample Agenda:

- Day One
 - Welcome and introductions
 - Primer on the Earth Force process
 - Shipboard program on schooner *Inland Seas*
 - Group dinner
- Day Two
 - Workshop on decision making techniques
 - Canoeing Ottaway/Boardman River to learn about dam removal
 - Stakeholder interview techniques
 - Nutrient management discussion at NW Michigan Horticultural Research Station
 - Group bonfire at ISEA Campus
- Day Three
 - Fisheries management shipboard program with Grand Traverse Band Natural Resources Department
 - Workshop on setting goals, strategies, and action planning for stewardship projects
 - Beach seining to learn about ecosystem health through shoreline techniques
 - Group sunset on Lake Michigan beach
- Day Four
 - Teacher planning time
 - Leo Creek Preserve - water quality testing techniques
 - Field course alumni presentation
 - Planning next steps
 - Reflection and wrap-up

Participants will arrive late afternoon on Sunday, August 14 and leave the evening of Thursday, August 18. A detailed agenda for the four-day field course will be sent to

participants prior to their arrival. Dates for group calls and webinars throughout the school year will be decided jointly.

Read about the experience of 2019 field course participant, teacher Susan Myer, in the blog she wrote for our website entitled, "[Making Connections & Providing Experiences for Our Students.](#)"

About Us:

Inland Seas Education Association is committed to connecting people to the Great Lakes through experiential programming and first-hand experience with science and Great Lakes ecology. We exist to encourage stewardship behavior, promote science, and provide unforgettable and meaningful experiences with the Great Lakes. Inland Seas has been offering Great Lakes watershed programming since 1989, aboard our tall ship schooner, *SV Inland Seas*, and onshore in the forests, streams, and shorelines. Learn more at schoolship.org

How to Apply

[Visit our website](#) for a link to the application.

Some things to help you prepare to fill in the application:

1. We will ask you for a reference who can speak to your level of commitment to education, your experience as an educator, and/or your innovation in teaching. This could be a supervisor, principal, science specialist, etc. We will reach out to this person so they can speak on your behalf. In the application we will ask for the name, phone number, and email address of your reference.
2. There are four short essay questions, copied below. Write 1-2 paragraphs for each one.
 - a. In what ways do you hope to grow as an educator as a result of the Great Lakes Watershed Field Course?
 - b. In what ways will you be able to contribute to the Great lakes Watershed Field Course community before, during, and after the course?
 - c. Describe your motivation to link STEM education and place-based experiences to student-led action projects. Do you have past experiences with place-based outdoor experiences and/or student-led action projects?
 - d. How often do you integrate water, the water cycle, local bodies of water, or other water-related content into your curriculum? (Estimate by weeks, standards, or describe your units that include water) If you do not currently integrate these topics, please share your initial thoughts on how you might incorporate watershed topics into your curriculum in the future.

Applications are due **April 29, 2022 by 5:00 p.m. EST**. We will inform you of your acceptance by May 20, 2022. If you have any questions about this program, hesitations about any of the commitments, or ideas for how to make this offer even more valuable or enticing, please contact us. We want to work with the best teachers in the Great Lakes region and want to figure out a way to make it work for both of us. Please contact Juliana Lisuk at jlisuk@schoolship.org or 231-271-3077 ext.104.

Great Lakes Watershed Field Course: Goals and Objectives

Description:

This year-long collaboration will prepare teachers to design and implement action-based watershed curriculum for their home communities. Teachers will meet in Suttons Bay, MI for a four-day experience that will lay a foundation in place-based education, investigate Great Lakes health, and take part in watershed activities that improve water quality. Teachers will engage their students over the following school year in an investigatory and service project that improves watershed functionality and health in their home community. To implement this project, they will follow the [Earth Force model](#) - a framework for student led stewardship action projects. Teachers will learn the Earth Force model during the four-day field course.

Prerequisites:

None, although experienced teachers are encouraged to apply.

Goals:

- Increase educator knowledge about watershed concepts and human connection to the watershed.
- Support teachers in developing curriculum that involves firsthand experience, rigorous academic learning standards, discovery and wonder, sense of community, responsible citizenship, and positive interactions with science, technology, engineering, and math.
- Engage students in personalized, investigatory watershed projects that improve watershed functionality and health, and train students in responsible civic action.

Learning Objectives:

After completing this course, learners will be able to:

- Explain why learner-centered, discovery-oriented, place-based curriculum is important.
- Design and implement a meaningful watershed experience for their students based on the Earth Force model.
- Point to various watershed actions that support watershed functionality and health.
- Describe current critical issues impacting watersheds and how those issues play out in their home areas.
- Provide reasons to protect and improve the health of the Great Lakes.

Required Materials/Textbook:

None. All materials provided or are freely available online.

General Methodology:

1. Sailing and science research on the schooner *Inland Seas*
2. Field trips to local watershed projects
3. Lecture and discussion with watershed and curriculum experts
4. Practice developing meaningful watershed experiences for students
5. Small group and individual curriculum planning
6. Contributions to a virtual community platform
7. Periodic group calls/webinars during the school year

Commitments

Teachers must commit to the following:

1. Complete pre-workshop assignments (should take less than 4 hours).
2. Attend the entire 4-day workshop, August 15-18, 2022 in Suttons Bay, Michigan. *Transportation to and from the workshop is not included.*
3. Bring a classroom of students (32 people max, including adults) to Inland Seas for a shipboard education program in fall 2022 or spring 2023. *There is no cost for the program, but schools are responsible for transportation.*
4. Engage students in meaningful watershed experiences using the Earth Force model.
5. Develop a stewardship action plan with at least one classroom of students.
6. Support your students in the implementation of their action plan.
7. Participate in three virtual group meetings during the 2022/23 school year.
8. Attend a culmination/celebration event at the end of the project period.
9. Evaluate student projects with students.
10. Complete ISEA evaluations at various points before, during, and after the program.

Inland Seas promises to provide:

1. Visits to exemplary conservation projects in the Grand Traverse region related to the prevention and control of invasive species, reducing nutrient runoff, and restoring habitat for native species.
2. Access to experts on environmental issues related to watershed health and current information on these topics.
3. Access to experts on field-based education pedagogy and strategy.
4. Earth Force training on how to develop and implement stewardship action projects with students.
5. At least one trip aboard the sailing vessel and schooner *Inland Seas*.
6. Opportunities to get to know the Grand Traverse region. (e.g., paddling, hiking, food, drink, etc.)
7. Support on meeting state education standards while completing stewardship action projects.
8. An online group to ask questions, share resources, and communicate ideas.
9. Ongoing support throughout the school year, including three group calls/webinars.
10. Full scholarship to bring one class of students (32 people max, including adults) for an Inland Seas Schoolship program in fall 2022 or spring 2023. (\$825 value)
11. Meals, lodging, and transportation to field sites during the 4-day program.
12. A mini-grant to support student stewardship projects. (\$300 value)
13. The opportunity to earn SCECHs (Michigan continuing education credits).

7 Good Reasons to Participate

1. Expand your network of amazing teachers who have similar interests.
2. Act on your desire to get your students working in their school and community on meaningful projects that support educational goals and community needs.
3. Learn from experts in conservation, education, restoration, and watershed science to expand your knowledge base and inspire your curriculum design.
4. Provide your students with a curriculum that teaches them to be active participants in their lives and communities.
5. Do something fun and interesting for yourself. These four-days will be full of meaningful and rewarding experiences!
6. Give your students a powerful science learning experience aboard our ship. A full scholarship is available for each participating teacher to bring their class.
7. Gain SCECHs as a Michigan teacher.

This opportunity is for you if you:

- Teach (either formally or informally) grades 3rd-12th in the Great Lakes region.
- Want to involve your students in real issues in the real world.
- Care about guiding students toward greater civic responsibility.
- Have the time and interest to commit to an unpredictable stewardship action project design and implementation process with your students.
- Understand the importance of field-based and hands-on experiential education for students.
- Crave connection and collaboration with other amazing teachers.
- Want to go sailing on a tall ship schooner and want the same experience for your students.
- Desire deeper understanding about the ways humans interact with their watershed.
- Want your students to care about the health and future of freshwater.
- Like to collaborate with students and give them power and control over their education.
- Have the freedom to design original curriculum that brings students out of the classroom.

Meaningful Watershed Experiences Defined

The meaningful watershed experiences promoted in the Field Course are based on the Meaningful Watershed Educational Experiences (MWEEs) defined in the NOAA Bay Watershed Education and Training (B-WET) Program. The following text describing MWEEs is from the NOAA B-WET [website](#).

MWEEs are multi-stage activities that include learning both outdoors and in the classroom, and aim to increase the environmental literacy of all participants. Teachers should support students to investigate topics both locally and globally that are of interest to them, learn they have control over the outcome of environmental issues, identify actions available to address these issues, and understand the value of those actions.

Meaningful Watershed Educational Experiences (MWEEs) for students should be learner centered and focused on questions, problems, and issues to be investigated through collecting, analyzing and sharing data; learning protocols; exploring models; and examining natural phenomena. These activities, grounded in best practices and the context of the local community and culture, help increase student interest, motivation, and attitudes toward learning, and achieve environmental stewardship. As a result of the MWEE activities students should have an understanding of basic watershed concepts, as well as the interaction between natural systems (e.g. wildlife, plants, and water cycle) and social systems (e.g. communities, transportation systems, and schools), highlighting the connection between human activity and environmental conditions. MWEEs consist of multiple components as defined below.

1.1 Issue definition and background research

Students focus on an environmental question, problem, or issue requiring background research and investigation. They learn more about the issue through classroom instruction, the collection of data, conducting experiments, talking to experts and reviewing credible publications.

1.2 Outdoor field activities

Students participate in multiple outdoor field activities sufficient to collect the data or make observations required for answering the research questions and informing student actions, or as part of the issue definition and background research. Students should be actively involved in planning the investigation, taking measurements, or constructing the project within appropriate safety guidelines, with teachers providing instruction on methods and procedures, data collection protocols, and proper use of equipment as needed. These activities can take place off-site and/or on the school grounds.

1.3 Stewardship action projects

Students participate in an age appropriate project during which they take action to address environmental issues at the personal or societal level. Participants in B-WET MWEE activities should understand they have control over the outcome of environmental issues, be encouraged to identify actions to address these issues and understand the value of those actions. Examples of stewardship activities include:

- Watershed Restoration or Protection (e.g., create schoolyard habitat, planting trees or grasses, invasive species removal, community cleanup, stormwater management)
- Everyday Choices (e.g., reduce/reuse/recycle/upcycle, composting, energy conservation, water conservation)
- Community Engagement (e.g., presentations, social media, event-organizing, messaging at community events/fairs/festivals, mentoring, PSAs, flyers, posters)
- Civic Action (e.g., town meetings, voting, writing elected officials/decision makers, advocating for policy change)

1.4 Synthesis and conclusions

Students analyze and evaluate the results of projects and investigations. Students synthesize and communicate results and conclusions to an external audience such as other classrooms, schools, parents, or the community.