



## FOSTERING GREAT LAKES LITERACY, IDENTITY AND STEWARDSHIP

### CORE QUESTION

What influences whether Great Lakes education is present in Michigan's K-12 schools, and how could innovations to the system help build Great Lakes literacy — while also enhancing traditional academic performance?

### INTEGRATED ASSESSMENT

#### OVERVIEW

Michigan is at the heart of the Great Lakes. The lakes are our most notable and treasured natural resource, providing social, economic and environmental benefits to Michigan and the surrounding region. However, when it comes to the Great Lakes, residents' scientific understanding and stewardship commitment are often lacking.

There is an opportunity to strengthen the role that Great Lakes-related content plays in the state's K-12 systems. Yet, before any changes to these systems are suggested, the project team will perform an assessment of the current state of Great Lakes education in Michigan. Based on that research and stakeholder input, the team will subsequently make recommendations for enhancing K-12 education within the Great Lakes State.

#### PROJECT DESCRIPTION

This project, to be carried out over several phases, will compile and analyze existing research and data sets about Great Lakes K-12 learning, and will engage diverse stakeholders in deliberative dialogue around policy options to enhance Great Lakes learning.

The research will build upon what is known about interdisciplinary teaching as well as barriers to including Great Lakes education in the classroom. For example, one recent study examined "enabling practices" — defined as ways in which teachers overcome such barriers. They noted that innovation, determination, trust, active principal support, time and teacher conceptual understanding were characteristics that helped move environmental education forward.

### GLOSSARY

**Great Lakes Literate:** Understanding essential Great Lakes principles and fundamental concepts, and being able to make responsible decisions, communicate accurately and take positive stewardship actions with regard to the Great Lakes.

**Deliberative Dialogue:** A conversation that usually takes place in small groups that provides a way for community members of diverse views and experiences to exchange ideas about a particular issue. The goal is for the group is to understand the complexities of the issue and make recommendations for the future.

## WHAT IS INTEGRATED ASSESSMENT?

Rather than running additional experiments, an integrated assessment research team summarizes what is known and offers an assessment of how the science could be interpreted and used. The team focuses on a complex environmental issue and then conducts a comprehensive analysis of natural and social scientific data and information.

The IA process is different from traditional research because researchers work closely with stakeholders to examine an issue from many perspectives, identify challenges and evaluate feasible solutions. The aim is to create results that are current, trusted, accessible and useful.

Studies performed specifically in the Great Lakes region noted that teachers' pedagogical knowledge is linked to the likelihood of teaching environmental issues in the classroom, and that professional development (mentoring, conferences, self-study) is also key. Standardized curriculum and testing also plays an increasing role in whether or not the Great Lakes are integrated into the classroom.

The objectives of this project are to:

- Facilitate long-term relationships between the IA team, agency representatives, stakeholders and K-12 system members, and across existing Great Lakes networks.
- Compile and analyze existing research concerning the relationship of Great Lakes education to K-12 systems in Michigan
- That includes impacts on learners' Great Lakes literacy, academic achievement in traditional subjects like science, math, social studies and language arts.

- Prepare policy options focused on Great Lakes and K-12 education systems; engage stakeholders to further assess the options.
- Make final recommendations for policies and innovative governance structures and processes for integration of Great Lakes education into K-12 systems.

## EXPECTED OUTCOMES

Project deliverables include:

- Summary of research prepared by and for use by the IA team.
- Issues booklet to be used in Deliberative Dialogue sessions with stakeholders.
- Final project report, summarizing research and dialogue results, with clear policy and governance recommendations and technical specifics for guiding implementation.
- At least two peer-reviewed products for journals or professional conferences.

## GET INVOLVED

Stakeholders will be engaged from the start of the project and will be asked to participate in deliberative dialogues as well as other outreach efforts. Stakeholders for the project span beyond the Michigan Department of Education and local and county school districts.

Given the status of school funding and recent reductions in state funding for schools, any policy solution for this problem will necessarily involve innovative public-private, school-community partnerships, at district/community levels, at county/regional levels, and at the state level. The matrix of stakeholders is complex, and the structured dialogue process will be used to ensure that various voices are represented.

Additionally, the research team will conduct dialogues in all corners of the state, ensuring geographic and ethnic diversity. The team will also engage all types of educators and stakeholders, representing early childhood, middle school years, high school and beyond.



## CONTACT

### Principal Investigator

#### Shari L. Dann

Associate Professor and  
Extension Specialist  
Michigan State University  
sldann@msu.edu

### Co-Investigators

#### Janet Vail, Ph.D.,

Grand Valley State  
University  
vailj@gvsu.edu

#### Joan Chadde

Michigan Technological  
University  
jchadde@mtu.edu

### Michigan Sea Grant

#### Steve Stewart

Southeast Michigan and  
Co-director of Education  
stew@msu.edu

#### Brandon Schroeder

Northeast Michigan  
schroe45@msu.edu

[WWW.MISEAGRANT.UMICH.EDU/  
LITERACY](http://WWW.MISEAGRANT.UMICH.EDU/LITERACY)

This project will bring together constituencies involved in Great Lakes K-12 school-community stewardship education, including: Michigan Departments of Education, Natural Resources, Environmental Quality; Michigan Sea Grant; Great Lakes Stewardship Initiative; Intermediate School Districts; Math and Science Centers; STEM Partnership; professional organizations (Michigan Science Teachers' Association, Michigan Alliance for Environmental and Outdoor Education); COSEE Great Lakes (Center for Great Lakes Literacy); B-WET Great Lakes; conservation organizations; businesses (tourism, retail, manufacturing, consulting); vessel-based educators; federal, state and local agencies; and unaffiliated teachers, principals and school/community leaders.



Michigan Sea Grant helps to foster economic growth and protect Michigan's coastal, Great Lakes resources through research, education and outreach.



MICHIGAN STATE  
UNIVERSITY



MichiganTech

