

What is the Census?

- The Census of Community-Based Environmental Learning (CBEL) is a joint project of Maine Mathematics and Science Alliance and Maine Environmental Education Association.
- Based on conversations with other leaders in the EE field in Maine over several years, we realized we didn't have a complete picture of what was going on across the state.
- We wanted to conduct an initiative to help us understand the scope of education connected to the environment and communities across the K-12 formal in-school and out-of-school time worlds and how it applies to the best practices in environmental ed.
- The census report documents a baseline understanding of the strengths and weaknesses in the field, and provides guidance and a clearer understanding of how to build capacity to equitably meet the needs of learners today and tomorrow.



Who has added to the conversation to develop the census?

- We convened an advisory group of leaders in the EE field to help guide and support the process. They included representatives across schools (educators, administrators); nonprofit organizations (land trusts, environmental learning centers, etc.); and universities.

When was the report released?

The report and program case studies were publicly released in January 2020 and can be accessed here: <https://mmsa.org/projects/cbel/>

What did we achieve?

We received survey responses from 20% of schools in Maine, 20% of libraries in Maine, 40% of land trusts in Maine; as well as numerous nonprofit organizations that allowed us to achieve the following goals:

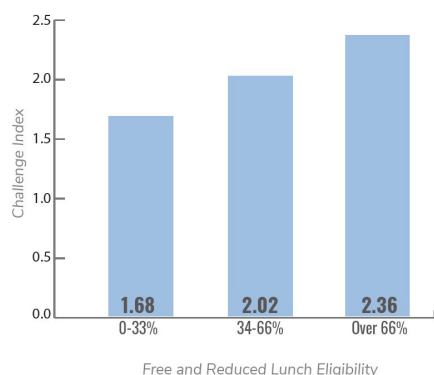
1. Describe challenges to implementing CBEL and identify creative solutions
2. Identify any inequities in access to CBEL programs
3. Understand current practice and provide opportunities for improvement
4. Determine professional development needs
5. Gather and share success stories that highlight creativity and innovation through a series of case studies

Census Highlights- School and Organization CBEL Landscape

Schools often have **access to resources** on or within walking distance of school grounds that can provide the setting for a variety of CBEL programming. However, these spaces are reported as being underutilized. At the same time, one of the most significant barriers to implementing CBEL for schools is transportation.

Short-term partnerships and field trips were reported by both schools and organizations as the most common methods of implementing CBEL.

CBEL Challenge Index by Free and Reduced Lunch Eligibility at Schools

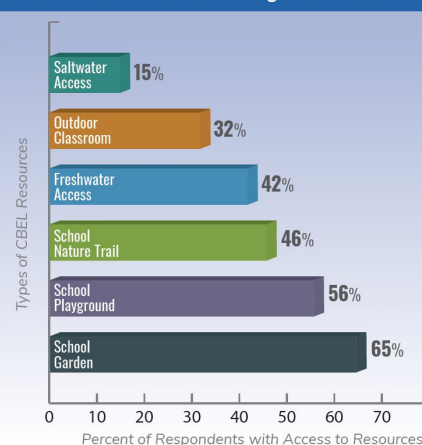


Schools with higher numbers of Free and Reduced Lunch eligibility numbers often had less money allocated in their budget for CBEL programming, fewer resources available to them within walking distances, and rated higher levels of challenges to implementing CBEL.

The most **common challenges** reported by school administrators to implementing **CBEL** included funding for programs, having the time to coordinate projects, access to transportation to offsite locations, and pedagogical expertise. However, school administrators offered innovative and creative methods of overcoming these challenges including obtaining equipment through gear exchanges, having dedicated school support staff, and utilizing resources within walking distance.

Organizations and nonprofits are a critical component of the CBEL ecosystem in Maine. Counties with the most organizations serving them include Cumberland, Knox, and York; while more rural counties such as Somerset, Piscataquis, and Franklin are the least served by organizations.

CBEL Resources within Walking Distance to Schools



Responding Organizations Serving Youth by County



Census Highlights- CBEL Projects in Action

CBEL projects in Maine often connect students to local natural resource-based economies, culture, or environmental assets in a **“place-based” learning design**.

Educators most often highlighted **extended programming and projects** (occurring over several weeks to a full year) as the most impactful CBEL programs.

Partnerships are critical in CBEL projects with over 80% of the projects having at least one partner engaged and contributing to the project and over 1/3 of projects having at least three partners engaged.

Projects Linked to Place across Maine

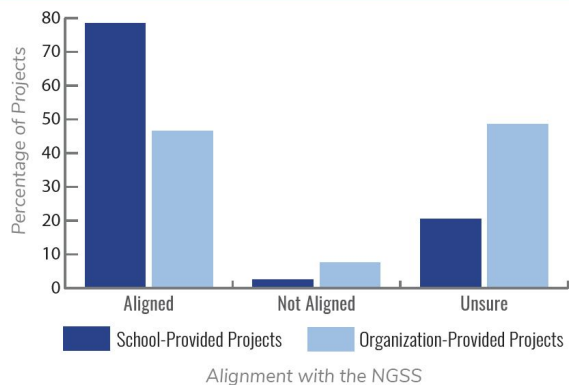


- 20% Gardening and agriculture
- 11% Forestry and forest ecosystems
- 11% Marine ecosystems, fisheries, and aquaculture
- 11% Freshwater and watersheds

Aroostook County
(agriculture economy)
40% of projects related to agriculture/gardening

Hancock County
(longest coastline & fisheries-based economy)
24% of projects related to marine and fisheries

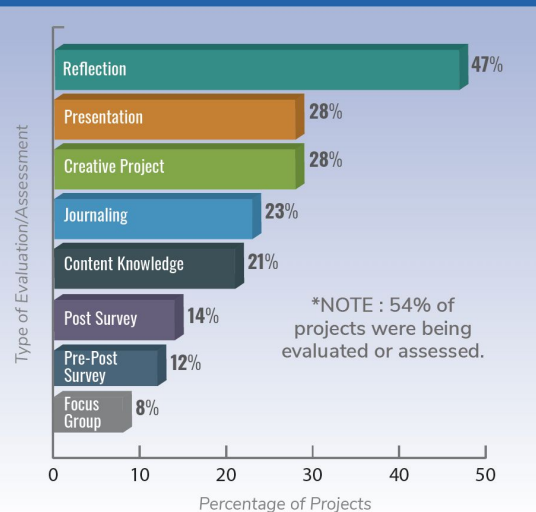
Project Alignment with the Next Generation Science Standards



Projects from school respondents were more often aligned with the **Next Generation Science Standards (NGSS)** than organization projects and there seems to be a lack of knowledge of the science standards for organizational respondents.

Evaluation was occurring in 54% of CBEL projects and there is a wide range of evaluation methods use, most often tending towards those that are less time and resource intensive.

Evaluation Methods for CBEL Projects



Census Highlights- Building on Best Practices

Best practices in CBEL were drawn from the North American Association for Environmental Education's *Guidelines for Excellence in K-12 Environmental Education* and focused on both science inquiry skills and environmental action skills.

The most commonly used science inquiry practices across all projects were: **Questioning, Collecting Information, and Drawing Conclusions and Developing Explanations.**

The most commonly used environmental action practices were **Identifying and Investigating Locally Relevant Issues, Sorting out the Consequences of Issues, and Understanding Societal Values and Principles.**

Projects incorporated the best practices in very different ways and we found three statistically significant clusters of projects:

1. **Emerging projects** implement few science and/or environmental action practices but are connecting youth to CBEL.
2. **Progressing projects** more fully incorporate the practices but may struggle to bridge the gap between science and environmental action practices.
3. **High-Mastery projects** incorporate many of the practices in ways that bridge environmental action and science inquiry.



Census Highlights- Advancing the CBEL Field

Educators identified needs for professional learning in CBEL that included instruction on concrete topics (gardening, ocean science, forestry, etc.); instruction on climate change education and sustainability issues; and making connections to the local community, including connecting and identifying local environmental issues and connecting with partners.

Educators also requested a more centralized way of accessing information on professional learning opportunities in CBEL such as a central calendar containing all offerings across the state.