

## **Delaware Environmental Literacy Update**

### **June, 2021**

#### **BACKGROUND DATA**

##### **ELIT Summary**

Four of the eight school districts in the Chesapeake Bay watershed responded to the ELIT survey in 2018 (off cycle). Of these school districts, two were somewhat prepared to implement high quality environmental education and two were unprepared. Two districts reported having district-wide meaningful watershed educational experiences in place for all students and one district reported having some outdoor programming available for high school students.

##### **Standards of Learning**

- Adopted the Next Generation Science Standards in 2013
- Delaware is a local control state, so each district selects high quality resources that meet the standards. Delaware state science assessments are in grade 5, grade 8 and high school biology.
- Support climate change/environmental literacy standards through inclusion in the following grade level topical areas of NGSS:
  - Kindergarten-Weather & Climate and Interdependent Relationships in Ecosystems
  - 2<sup>nd</sup> grade Earth's System and Interdependent Relationships in Ecosystems
  - 3<sup>rd</sup> grade Weather & Climate and Inheritance & Variations in traits
  - 4<sup>th</sup> grade Earth's System
  - 5<sup>th</sup> grade Earth's System and Matter & Energy
  - 6<sup>th</sup> grade System
  - 7<sup>th</sup> grade Natural Selection
  - 8<sup>th</sup> grade Matter & Energy in Organisms/Ecosystem, Energy Transfer, Weather & Climate, Human Impact
  - High School-Biology, Chemistry, Interacted Science and Physics

##### **Teacher preparation**

- Delaware has a Science Coalition made up of 12 out of 19 school districts and 15 charter schools in the state. They are currently transitioning to NGSS aligned curricular resources. They are currently offering materials base trainings at the elementary and secondary level for elementary and middle school teachers.
- Delaware Department of Education is offering NGSX trainings focusing on NGSS strategies. Their newest pathway is Oceans, Climate Change and Big Data for middle and high school teachers and will be offered for the first time this summer. NGSX and DDOE's science education associate are working on a pathway for Higher Education in hopes that they will train pre-service teachers on NGSS practices.
- There are several non-profit groups providing preservice and in-service teacher professional development (Delaware Nature Society, University of Delaware Sea Grant, Department of Natural Resources and Environmental Control, Department. Agriculture, DNERR, Delaware Museum of Nature History)

#### **RECENT ACCOMPLISHMENTS**

- Delaware Foundation for Science and Mathematics Education along with the DDOE science education Associate formed a statewide Watershed Group-State Agencies, Businesses, and school districts who meet regularly. This group applied for several grants to support environmental literacy and ran several informal educators' training on NGSS.
- Next Generation Science Exemplar (NGSX): Oceans, Climate Change, and Big Data course being offered this summer in the state for middle and high school teachers (July and Aug 2021) provided by a partnership with NGSX and the DE Dept. of Education.
- Delaware Yes! Youth Environmental Summit 2021 (2<sup>nd</sup> year) for DE high school students to learn more about environmental issues in their state and how to get involved.
- Delaware Association of Environmental Education (DAEE) Annual Conference-This year the focus was on outdoor classrooms. This annual conference is for any formal or nonformal educators in the state to learn more about environmental education topics. Also, DAEE launched a new website for 2020-21.

- DE Naturally Spring into Action Series sponsored by the Delaware Native Species Commission. This program is open to anyone in DE. The purpose is to raise awareness of Delaware’s rich biodiversity and motivate conservation action.
- The first DE Naturally 2021 Summit sponsored by the Delaware Center for Horticulture. It was open to anyone in DE who was interested in forging a new, collaborative partnership to protect Delaware’s flora and fauna.

## **CURRENT ENVIRONMENT**

### **Existing Environmental Education Efforts/Priorities**

- Revising the DE Environmental Literacy Plan
- Writing a DE Meaningful Watershed Educational Experience (MWEE) facilitators’ Guide
- Writing a basic MWEE online course for teachers
- Writing a basic MWEE online course for administrators
- Writing a basic MWEE online course for informal educators
- Working with two school districts and one charter school-developing a school/district literacy plan and providing MWEE professional development. Planning to use these two districts and charter school as “models” for other schools/districts to help with their implementation plan (Pending funding).
- Building outdoor learning networks and utilizing story maps created by DAEE for all districts/charter schools/private schools

### **Existing Climate Change Education Efforts/Priorities**

- Continue with the NGSX: Oceans, Climate Change, Big Data Course for all middle and high school teachers.
- Continue supporting the DE Yes! Youth Environmental Summit
- Mid Atlantic Climate Change Education Conference, June 28-July 1, 2021- sponsored by U.D. Sea Grant for formal and non-formal educators to share and learn about the latest trends in climate change education

### **Connections with Natural Resource agencies**

- Delaware Chesapeake Bay Interagency Workgroup Quarterly Workshops (strategic 5-year plan)
- New virtual programming options for school districts
- Virtual programming page with resources/videos natural resources

### **Existing Educational Equity Efforts/Priorities**

- DDOE Equity Summit (October 8)-Science strand with guest speaker, Dr. Bryan Brown. The strand will focus on Dr. Brown’s book, Science in the City, Culturally Relevant STEM Education
- DDOE Crackers and Cheese Sessions with teachers-Monthly book club virtual-Science in the City, Dr. Bryan Brown (Spring 2021 and Fall 2021)
- ACESSE Project (Council of State Science Supervisors) developing strategies with equity, citizen science, and climate justice
- Mid-Atlantic Climate Change Education Summit cohosted by Delaware Sea Grant and Delaware NERR along with the NOAA Environmental Education Training Center, NJ Sea Grant, PA Sea Grant, VA Sea Grant, Chesapeake Bay NERR – MD, Chesapeake Bay NERR - VA

### **Opportunities**

- Possible federal monies going to outdoor learning spaces/classrooms.
- Delaware Sea Grant is hosting a Green Careers Workshop for Educators.
- Delaware Sea Grant 15 Second Science, focusing on different science topics.
- Virtual learning will remain plus reaching larger and different audiences.
- Youth Conservation Corp
- Reaching and Engaging through Nature to Empower Wilmington (RENEW)-Tail Ambassadors Youth Development Program, Youth Nature After School Programs, Delnature Partners with City of Wilmington’s Green Jobs Program-6 wk summer internship, Summer with Southbridge at DEEC
- Adapted Delaware Master Naturalists program-virtually
- The Biology, Bioinformatics and Chemistry DSU research team to facilitate a hands-on STEM hybrid middle school summer camp for 4 weeks (2021), focusing on watersheds.

- Bring the Amazon Home to Delaware

### **Challenges**

- The current accountability system puts more emphasis on ELA and mathematics. This often leads to the marginalization of science especially at the elementary level
- Providing administrators with data that shows science/environmental education improves ELA/mathematic student achievement Supporting building and district leaders in understanding how to build time into their schedules to support science instruction
- Securing the necessary funding for high quality resources and professional learning outside of the Chesapeake Bay watershed
- Equity issues since not all districts and charters are in the Chesapeake Bay. State government would like all schools/districts to be involved
- Maintaining with connections during a COVID-19 pandemic

### **ENVIRONMENTAL LITERACY NETWORK**

**State Working Group:** Not active

**NAAEE Affiliate:** Delaware Association of Environmental Education

#### **Other Major State Environmental Literacy Partners:**

- The Delaware Foundation for Science & Mathematics Education
- Delaware Nature Society
- Delaware Sea Grant
- Delaware Teachers of Science
- Delaware Foundations for Science and Mathematics Education
- Stroud Water Research Center
- Department of Agriculture
- Department of Natural Resources and Environmental Control
- Delaware Solid Waste Authority
- Delaware Museum of Natural History
- U.S. Fish and Wildlife (DE Bay Estuary Project)

### **FUNDING**

#### **Major State Funding Programs Supporting MWEE**

- PNC programing for elementary students (DMNH)
- Corporations that support science education

#### **Active NOAA B-WET Grants**

- No B-WET grants between FY18-20 in Delaware

#### **Other Major Funding (federal, private, etc.)**

- DFSME grant-NGSX: Oceans, Climate Change, Big Data Pilot

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