Project Unit: Creating a Wetland Garden to Absorb Rainwater
Frog Pond Elementary School, Little Egg Harbor School District

Teacher: Regina Nielsen
Grade Levels: Grades K – 2
Target Content Areas: Science

NJ Student Learning Standards in Science (NJ SLSS) and Next Generation Science Standards (NGSS): As students engage in the lessons and activities in this unit, they will be developing proficiencies in the following standards (NJ SLSS) and performance expectations (NGSS):

- **K-2-ETS1-1**: Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
- **K-2-ETS1-2**: Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
- **2-LS4-1**: Make observations of plants and animals to compare the diversity of life in different habitats.

Student Relevance: Little Egg Harbor is located near the Great Bay and Little Egg Harbor. The township includes forested areas and wetlands, which provide protection against flooding and extreme storms.

Problem(s) Identified by Students: Students identified an area on their playground that floods after storms.

Student Actions: Students were first visited by a representative from the Barnegat Bay Partnership and were presented a model that demonstrated the impact of rainwater runoff and flooding, while learning about the importance of native plants and wetlands. Students then toured their school grounds after a storm and identified a flooded area for placement of a wetland garden. In teams, the students then selected from native plants, bushes, grasses or trees suitable for wet sites and drew their garden plans on graph paper. The students completed their project by installing plants to create their wetland garden.
Tools, Programs or Resources:
- Native Plants for Wet Sites by the Barnegat Bay Partnership
- Image of Wetlands - Example
- Image 1 of Storm Water Runoff - Example
- Image 2 of Storm Water Runoff - Example
- Image of Rain Garden - Example
- Jersey Friendly Yards
- Additional Resources for Upper Grades: Little Egg Harbor Township Vulnerability and Exposure Analysis

Organizations or Partners:
- Barnegat Bay Partnership

Lesson Plans, Rubrics or Activities:
- Lesson Plans
- Wetlands Garden Rubric

Learning Objectives: Students will be able to (SWBAT):
1) Design a solution to absorb excess water in the wetland areas on the school property;
2) Identify “trouble area(s)” on the school grounds that contribute to flooding;
3) Research water absorbing, native plants and trees;
4) Create a garden design; and
5) Install a wetlands garden that decreases flooding and increases the school’s plant and animal diversity and habitats.

EFS Actions: Ecological Systems and Water

Enduring Understandings:
- A Healthy and Sustainable Future Is Possible
- We Are All In This Together
- Diversity Makes Our Lives Possible
- Create Change at The Source Not the Symptom
- Live By The Natural Laws
- We Are All Responsible

Eco-Schools USA in New Jersey: Biodiversity, Schoolyard Habitats and Watersheds, Oceans and Wetlands.