

COVE SCIENCE OUTDOOR LAB PROGRAM PROPOSAL

Submitted by: Wendy Fachon, Independent Environmental Educator

To: Katie Cooney, Molly Milko, 2nd Grade, Fishing Cove School

Date: September 24, 2015

Objective: To collaborate in developing an engaging curriculum that extends learning of GEMS-NET/FOSS concepts through real world observation and data collection in the woods and cove behind the school.

Schedule: One Friday afternoon per month, to be determined by teaching staff to suit the school schedule. Each session will have a key topic/activity focus to be determined by teachers collectively. Outdoor exploration will be followed by indoor time in reflection.

Activities may include, however, would not be limited to the following:

Observe plants and insects through seasonal changes and life cycles.

Learn to identify Poison Ivy and Ticks through the seasons and practice precautions.

Work in teams to track and compare changes throughout the marsh area.

Share camera and take nature photographs to help categorize species and to document activities.

Use magnifying glasses and a microscope to observe specimens and water samples in greater detail.

Take measurements to categorize species and track growth patterns and stages.

Gather, press, dry, mount and name plant specimens to create a class Herbarium collection.

Observe which plants attract which insects, and examine the concepts of food chains and food webs.

Observe optimal growing environments of each species – wet/dry, sand/soil/compost, sunny/shady, salty/non-salty, temperature, etc.

Collect and analyze soil and water samples.

Keep an individual nature/science journal: write down adventures, descriptions, changes and other observations; sketch specimens and label note-worthy features.

Learn how to use a field guide.

Learn the difference between primary research and secondary research.

Share pages of relevant books (aloud) to group and prompt reflection.

Work in teams to conduct secondary research online and library books.

Present team findings to class through a pretend *Scientist Symposium*.

Discuss the basic concepts of *environmental change*, *chemical pollution*, *adaptation* and *evolution*.

Notice what draws each child's interest and encourage further self-directed study and personal skill development.



October 16, 2015



We put on boots,
strapped on specimen
collection bags, and
walked down to
the salt marsh to
look for plants.





We found Pickleweed,
which is also called
Glasswort, and we
found Sea Lavender.





We found tidal
marsh animals like
barnacles and
crabs.





437 Slender Glasswort, 6–18", *ew.* $\frac{1}{16}$ – $\frac{1}{8}$ ", p. 465

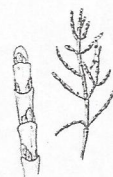


438 Wild Pine, 1–2', *ew.*

lanceolate leaves with wavy-toothed margins; Jerusalem-oak (*C. botrys*) has oak-like leaves.

34, 437 Slender Glasswort
(*Salicornia europaea*)
Goosefoot Family (Chenopodiaceae)

Description: A fleshy, cylindrical, leafless, opposite-branched plant with stem joints longer than wide.



Flowers: minute, green, borne in groups of three in the hollows of the upper joints in a spike $\frac{1}{8}$ " (3 mm) wide.

Leaves: reduced to minute, opposite scales.

Height: 6–18" (15–45 cm).

Flowering: August–November.

Habitat: Coastal salt marshes, especially on bare peat, salt licks, and inland salt marshes.

Range: Eastern New Brunswick and Nova Scotia south along the coast to Georgia; local in Michigan, Wisconsin, and Illinois.

Comments: This succulent turns reddish in the fall on northern tidal marshes. It is very salty and can be pickled or added raw to salads. Dwarf Glasswort (*S. bigelovii*) is usually unbranched, with joints wider than long; Woody Glasswort (*S. virginica*) has creeping stems that form extensive mats.

The Audubon Society
Field Guide to
North American
Wildflowers Eastern

The Audubon Society Field Guide to North American Wildflowers Eastern Region

The first all-photographic field guide. All 700 identification pictures are full-color photographs showing wildflowers—including grasses, sedges, and many flowering vines and shrubs—as you see them in their natural habitat.

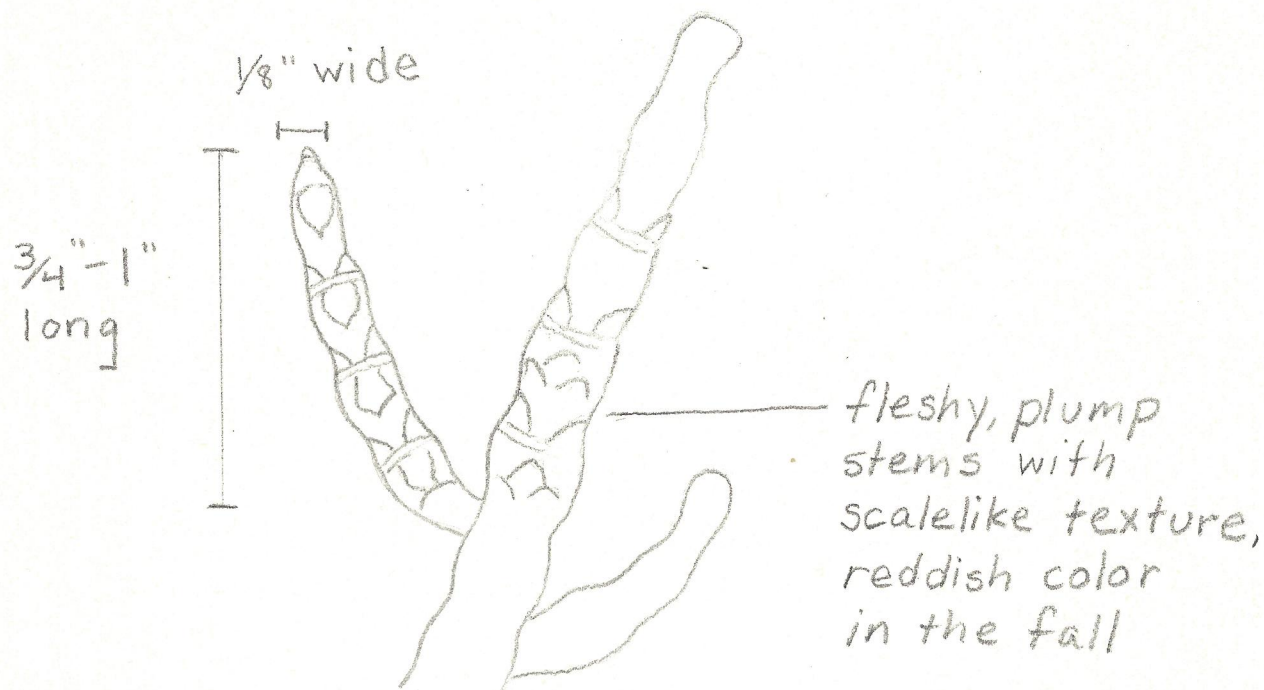
The first to use a simple visual key. Flowers are grouped by color and shape to make the identification quick, easy, and certain. More than 600 species are covered in full detail, with notes on more than 400 others.

Slender Glasswort
Salicornia europaea
(Pickfeweed, Samphire)
10/16/15 Fishing Cove



COLLECTING WILD PLANT DATA

- 1) Photography
- 2) Sketching
- 3) Descriptive writing
- 4) Specimen pressing



Press plant specimen by placing inside two sheets of folded newsprint paper. Place this under a heavy pile of books. The newsprint will absorb the water from the plant to help it dry out. Allow about two weeks to dry. Let sit longer if needed.

Mount dried specimen on acid free paper with glue, and place in clear plastic page protector. Add label indicating plant name, date collected, and location found.



Common Reed



Sea Lavender



Saltwort





Groundsel Tree



Goldenrod



Black Oak



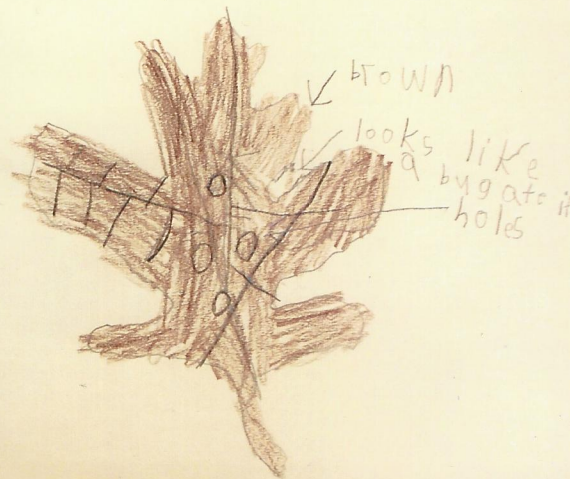
Post Oak



After the first
frost...

M E G A N

blunchis

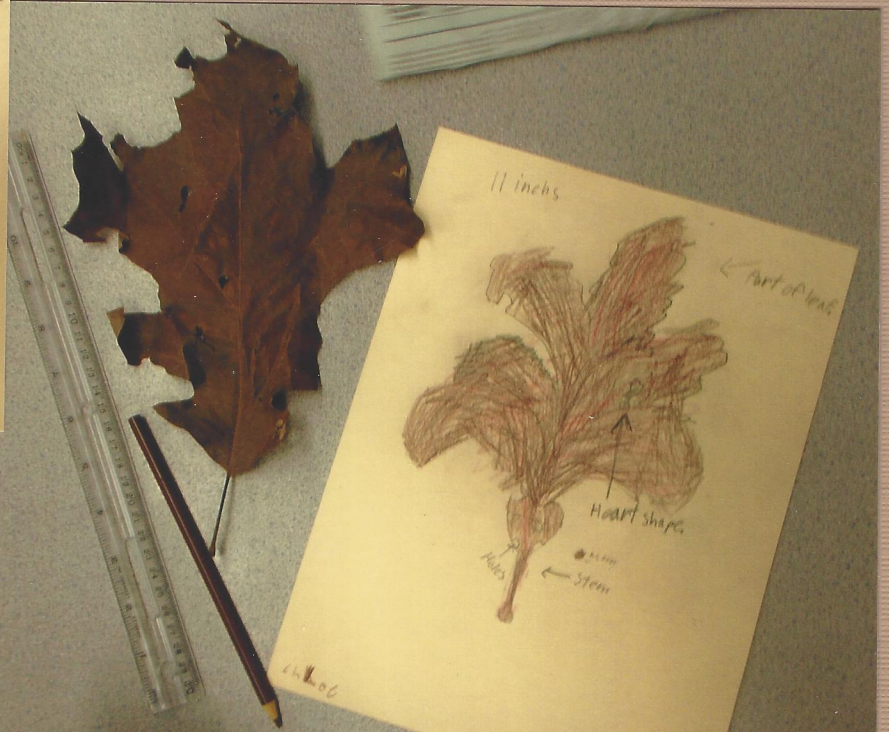
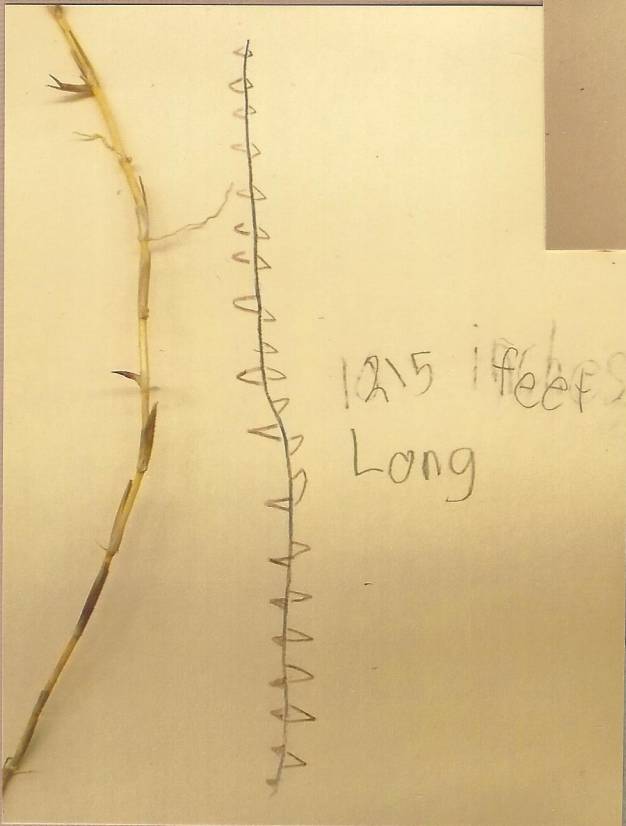


November 20, 2015
We returned to the
marsh and saw a lot
of change. Most of
the plants had dried
up and turned brown.
We collected new
specimens to draw.



Sketching, measuring,
and making notes.

11/20/15 Lillian



Salvia

alternate leaves

beach pea



- has a brown sprouts
- has a little green vine
- has oval leaf's

2. inches



other leaf that I
cherast



12 inches



My sketch

5 inches



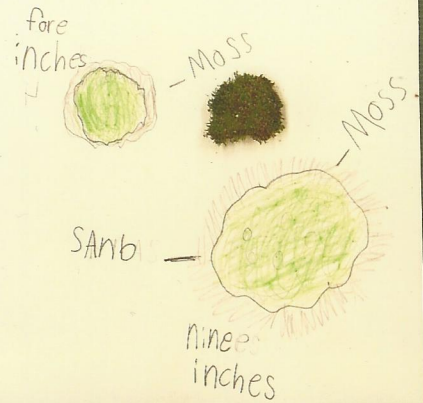
Rosemarie Hayward



A green leaf that turns red then brown
It has round edges. And crvs as it dies.



Alexandra 20.2015



This is how we start
to observe the marsh.