

The

Wetland Report

Fall 2017

A Bay Grasses in Classes Publication



A seasonal publication designed to inform and connect the participating schools of Bay Grasses in Classes:

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Spotlight on...

Lincoln Middle School

We have a new school joining the BGIC team! Lincoln Middle School in Manatee County will be building their nursery in just a few weeks.

Kimberley Lough, the lead BGIC teacher, is the agriscience program director as well as the FFA advisor at Lincoln, and has been teaching at the school for 15 years. One of the reasons she became a teacher is to provide students with the opportunity to grow their own food

in a small area and to connect them with their outdoor environment. She received the Green Schools Award for the second time in 2016 for her composting program.

At Lincoln, food scraps are collected from the cafeteria and from students (for extra credit!) to be composted and used in the FFA program.

We are very excited to have Kimberley and Lincoln Middle School with us!



Kimberley Lough (left) and Joseph Calinski showcasing their Green Schools Award at Lincoln Middle School.

A Notable Turnout:

Annual BGIC Teacher Retreat

The 4th annual teacher retreat was held on July 21 at Tampa Bay Watch. At the retreat, we discussed new aspects of the program, scheduled events, and listened to a presentation from the Tampa Bay Estuary Program about the overall health of the bay. We are proud to say that we had a bigger turnout for this event than any teacher retreat in the past. Thank you for attending, as it is vital for setting up a successful school year!

This year we will continue diversifying our species, growing more *Paspalum vaginatum* to provide for various restoration partners in the area.

Regarding monitoring and maintenance, we will be sharing all monitoring pictures with you on our website (tampabaywatch.org/bgic).



At this year's teacher retreat, we announced an additional member to our school nursery program lineup: *Paspalum vaginatum*, or "seashore paspalum."

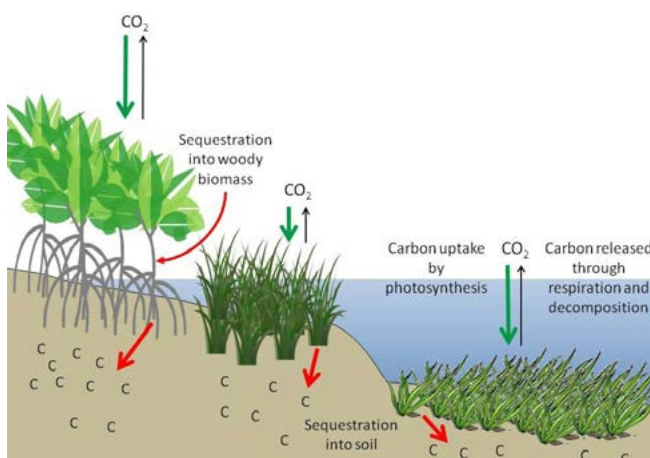
We are also implementing a fertilization schedule into the program and have ordered extended time-release, high-nitrogen fertilizer that has been distributed to all BGIC teachers. In addition, we distributed soil test kits for testing advanced parameters that we hope will align more closely with science curricula.

Salt Marshes Sequester Carbon Belowground

Carbon sequestration is the process of removing carbon from the atmosphere and storing it. Plants remove carbon dioxide from the atmosphere to use in photosynthesis and growth. When the plant dies or sheds, dead plant matter makes its way to the soil where it begins to decompose, releasing that carbon back into the atmosphere.

Since salt marsh soils tend to be anoxic (little to no oxygen), decomposition is very slow. This means that the carbon contained in plant matter will be released back into the atmosphere very slowly.

Natural salt marshes hold much more carbon than newly formed or restored salt marshes because they have had more time to build up soil carbon. Once a marsh is drained or destroyed, the soil is re-oxygenated and decomposition quickens, releasing the stored carbon back into the atmosphere.



This diagram shows the carbon cycle of marine and coastal plant species. Carbon is taken out of the air or water by plants as CO₂. It is then stored in plant matter and soil until it is broken down and released back into the cycle.

Seasonal

Nursery Care & Reminders

- With winter approaching, do not be surprised if some of your plants begin to turn brown. They are likely just going dormant for the season.
- If you have freshwater plants growing in your nursery, add salt directly on top of the freshwater plants to kill them off. Try to add the salt at the beginning of a several-day-long period of dry weather.



This newsletter is produced by the Bay Grasses in Classes team at Tampa Bay Watch, Inc., a nonprofit environmental stewardship program dedicated to the scientific and charitable purpose of monitoring, protecting, and restoring the Tampa Bay estuary. Visit tampabaywatch.org/bgic.



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TIERRA VERDE, FLORIDA 33715

It's

Autumn in the Marshes



Brittle star

OPHIOPHRAGMUS FILOGRANEUS

THE BRITTLE STAR IS A CLOSE RELATIVE OF THE SEA STAR THAT LIVES IN TURTLE GRASS BEDS AND FEEDS MOSTLY ON DETRITUS AND PLANKTON. WHEN THE WATER GETS COLD, THEY BURROW INTO THE FINE SEDIMENT FOR WARMTH. BRITTLE STARS CAN SHED AND REGENERATE ANY OF THEIR LIMBS, A DEFENSE STRATEGY SIMILAR TO THAT OF LIZARDS.



Frigate bird FREGATA MAGNIFICENS



FRIGATEBIRDS DO NOT HAVE WATERPROOF FEATHERS SO IF THEY LAND IN OPEN WATER THEIR FEATHERS WILL BECOME WATERLOGGED, PREVENTING THEM FROM TAKING OFF AGAIN. TO MAKE UP FOR THIS, THEY HAVE A HUGE WINGSPAN COMPARED TO THEIR WEIGHT AND CAN FLY FOR WEEKS AND EVEN MONTHS WITHOUT STOPPING. FRIGATE BIRDS FLY IN CIRCLES UNDER LARGE CUMULUS CLOUDS IN ORDER TO RIDE CONVECTION CURRENTS TO ALTITUDES ABOVE 5,000 FEET WITHOUT EVEN A FLAP OF THEIR WINGS.

Sea hare

APLYSIA BRASILIANA

THIS GASTROPOD IS NAMED FOR ITS 2 RHINOPHORES: APPANDAGES ON TOP OF THEIR HEAD THAT LOOK LIKE RABBIT EARS. WHEN THREATENED, THEY WILL RELEASE A PLUME OF TOXIC INK THAT CAN SCARE, CONFUSE AND DISORIENT PREDATORS. THEIR RHINOPHORES CAN DETECT CHEMICALS IN THE WATER (A PROCESS CALLED CHEMORECEPTION), WHICH GIVES THEM AN EXCELLENT SENSE OF SMELL.



Notes  from

a Mystery Marsh Resident

- I breathe air, but I can dive to depths of up to 100 feet, holding my breath for several minutes.
- I catch fish by diving and swimming after them.
- I fan out my body in the wind to dry after getting wet.

What am I?

The first person to submit the right answer to mcpall@tampabaywatch.org wins a prize!



From our Classroom Nursery to the Shorelines of Tampa Bay

Salt Marsh

Spartina alterniflora