



Seagrass Bed Field Trip

Field Site Locations:

- Bay County
 - St. Andrews State Park — Lagoon/Marina Side
4607 State Park Lane, Panama City, FL 32408
 - Tyndall Air Force Base — Outdoor Recreation Center/Marina Area
Visitors Center 2359 Roosevelt Blvd, Tyndall AFB, FL 32403

Note: Designed to be completed from shore.

Grade Level: K-12

Objectives: This field trip will focus on exploring seagrass beds and their communities. Within the habitat(s) selected, schools/classes will select up to 4-6 activities (depending on group size and time the school has available at the field site) from the tables below.

The focus will be for students to be able to describe the major physical, biological, and ecological features of each habitat visited during the field trip and discuss their solutions to human impacts. The discussion and salient points taught will be based on the grade level of the class (see Activity Descriptions by grade in tables below).

Background: Seagrass beds are economically and ecologically important ecosystems in this region, as they are essential for commercial and recreational species. Seagrass is one of the most productive ecosystems in the world and vital to protect. Underwater seagrasses provide critical habitat for animals like fish, turtles, and manatees. Seagrasses also act as filters, produce oxygen, stabilize sediments, and reduce wave action, helping to keep our waters clear. Providing local students an opportunity to see, understand, and experience the animals and habitats firsthand will help build memorable experiences that can help teachers drive home key points and help students develop an appreciation of the importance of these marine ecosystems.

Procedure: After splitting the class(es) into smaller working groups (<15), students will watch and/or participate (depending on age) as staff undertake the various sampling activities and lessons described below. E&FCA team members will explain the sampling and assist the group in processing the samples, as well as lead the students through the identification of organisms caught and their role in the habitat. Physical characteristics of the water and substrate will be compared to areas without the habitat present to contrast both the number and diversity of the organisms.

A typical field trip will be composed of:

1. Introduction and safety rules.
2. Site orientation and schedule.
3. Assemble groups and escort them to stations (To save time, TEACHERS please divide students into groups prior to arriving at the Field Site Location).
4. Students will rotate through 4-5 Activity Stations (depending on group size)
5. After students have rotated through all stations, they will either depart for school or have lunch on site (brought by school and/or students).

Available On Site: Restroom Facilities, water (to refill participants' water bottles), and in some cases shade (tents over stations), pavilions and picnic tables; Note: at the Tyndall AFB location – port-a-potties are available.

Materials: clip boards and handouts, Seine net, dip nets, buckets, dissecting trays, aquaria, sediment corer, sieves, water quality testing kits, DO meter, salinity meter, pH meter, ID cards (plant, invertebrate, fish), UW drone (as applicable) and screen.

Activity Time: ~2 hours, depending on the number of activities; choices of activities determined by teachers, depending on lesson integration with classroom curriculum and location available for field trip. Time at each station is determined by the number of stations and the age of the student (typically 20 to 35 minutes).

Florida Standards: see Activity Descriptions in tables below.

K through 2nd Grade: Seagrass Trip

Station	Description	Standards
Explore The Seagrass Beds (<i>wet activity – closed toe shoes needed</i>)	Staff will conduct seine netting and direct students in dip netting across the shallow seagrass beds; Specimens will be collected and put into touch tank and observation tanks and staff will help identify and characterize the critters living in this important nursery habitat.	SC.1.N.1.1-4; SC.2.N.1.1-6; SC.1.L.14.1; SC.1.L.17.1; SC.2.L.17.1-2
Piggyback Critters	Using field microscopes and observation trays, staff will help participants examine the organisms that live on the seagrass blades.	SC.1.N.1.1-4; SC.2.N.1.1-6; SC.1.L.14.1; SC.1.L.17.1; SC.2.L.17.1-2
Parts of a Seagrass Plant (<i>can be combined with Piggyback Critters</i>)	Students will label and learn the parts of a seagrass plant—blade, flower, shoot, rhizome, and roots—while discovering how each part helps the plant live underwater and support marine life.	SC.1.L.14.2; SC.2.L.16.1
Let's Talk about Manatees (<i>comes with FWC Activity Books upon request</i>)	A “manatee” will be our Q&A topic. Students will learn about how these giant, aquatic mammals graze on seagrasses and so much more.	SC.1.N.1.1-4; SC.2.N.1.1-6; SC.1.L.14.1; SC.1.L.17.1; SC.2.L.17.1-2
Plastic Pollution, does it ever go away?	Students will look for and collect plastic pollution along the shoreline; staff will facilitate a group discussion about plastic pollution/marine debris and how we can be stewards of our environment.	SC.K.N.1.1; SC.1.N.1.1; SC.1.N.1.4; SC.2.N.1.1-6

Note: For this age group, samples will be collected by staff and placed in touch tanks, aquaria or dissecting trays for observation and participant study. Some entry to the water is required to observe seine netting and to try dip netting for samples.

3rd through 5th Grade: Seagrass Trip

Station (Foundational)	Description	Standards
Explore The Seagrass Beds (<i>wet activity – closed toe shoes needed</i>)	Staff will conduct seine netting and direct students in dip netting across the shallow seagrass beds; Specimens will be collected and put into touch tank and observation tanks and staff will help identify and characterize the critters living in this important nursery habitat and answer questions about their role in the community.	SC.3.N.1.1-3, 5-7; SC.4.N.1.1-3, 5-7; SC.5.N.1.2; SC.5.N.2.1; SC.3.L.15.1; SC.3.L.17.1; SC.4.L.16.2; SC.4.L.17.2-4; SC.5.L.17.1
Station (Select 3)	Description	Standards
Be the Marine Scientist: Water Quality Field Investigations	Learn the scientific methods of field work and the impact water quality (physical and chemical) has on this important habitat and the critters who live there.	SC.3.N.1.1-3, 5-7; SC.4.N.1.1-3, 5-7; SC.5.N.1.2; SC.5.N.2.1 SC.3.P.8.1
Piggyback Critters	Using field microscopes and observation trays, staff will help participants examine the organisms that live on the seagrass blades.	SC.3.N.1.1-3, 5-7; SC.4.N.1.1-3, 5-7; SC.5.N.1.2; SC.5.N.2.1; SC.3.L.15.1; SC.3.L.17.1; SC.4.L.16.2; SC.4.L.17.2-4; SC.5.L.17.1
Parts of a Seagrass Plant (<i>can be combined with Piggyback Critters</i>)	Students will label and learn the parts of a seagrass plant—blade, flower, shoot, rhizome, and roots—while discovering how each part helps the plant live underwater.	SC.3.L.14.1; SC.3.L.15.2; SC.4.L.16.1
Let's Talk about Manatees (<i>comes with FWC Activity Books upon request</i>)	A “manatee” will be our Q&A topic. Students will learn about how these giant, aquatic mammals graze on seagrasses and so much more.	SC.3.N.1.1-3, 5-7; SC.4.N.1.1-3, 5-7; SC.5.N.1.2; SC.5.N.2.1; SC.3.L.15.1; SC.3.L.17.1; SC.4.L.16.2; SC.4.L.17.2-4; SC.5.L.17.1
Casting 101/Fishing	Participants will learn the basics and how to cast. Depending on skill/age, students will fish the habitat to see what they can catch with staff assistance and guidance.	SC.3.N.1.1-3, 5-7; SC.4.N.1.1-3, 5-7; SC.5.N.1.2; SC.5.N.2.1; SC.3.L.15.1; SC.3.L.17.1; SC.4.L.16.2; SC.4.L.17.2-4; SC.5.L.17.1
Plastic Pollution, does it ever go away?	Students will look for and collect plastic pollution along the shoreline; staff will facilitate a group discussion about plastic pollution/marine debris and how we can be stewards of our environment.	SC.3.N.1.1; SC.3.N.1.2; SC.3.N.1.6; SC.4.N.1.1-3; SC.4.L.17.4; SC.5.N.1.1; SC.5.N.1.

Note: For this age group, samples will be collected by staff and placed in touch tanks, aquaria or dissecting trays for observation and participant study. Some entry to the water is required to observe seine netting and to try dip netting for samples.

6th through 8th Grade: Seagrass Trip

Station (Foundational)	Description	Standards
Explore The Seagrass Beds (<i>wet activity – closed toe shoes needed</i>)	Staff will direct students in seine and dip netting across the shallow seagrass beds to help identify and characterize the critters living in this important nursery habitat and answer questions about their role in the community.	SC.6.N.1.5; SC.6.L.15.1; SC.7.L.17.1; SC.7.L.17.2; SC.7.L.17.3; SC.8.N.1.1
Station (Select 3)	Description	Standards
Be the Marine Scientist: Water Quality Field Investigations	Learn the scientific methods of field work and the impact water quality (physical and chemical) has on this important habitat and the critters who live there.	SC.6.N.1.5; SC.7.N.1.1; SC.7.N.1.3; SC.7.L.17.3; SC.8.N.1.1; SC.8.N.4.1
Piggyback Critters	Using field microscopes and observation trays, staff will help participants examine the organisms that live on the seagrass blades.	SC.6.N.1.5; SC.6.L.15.1; SC.7.L.17.1; SC.7.L.17.2; SC.7.L.17.3; SC.8.N.1.1
Squid or Octopus Dissection (<i>depends on availability</i>)	Students will investigate the taxonomy and anatomy of the cephalopod, through conducting a dissection.	SC.6.L.15.1; SC.6.L.14.3; SC.7.L.17.1; SC.7.L.17.2; SC.7.L.17.3; SC.8.N.4.1
Blue Crab Life	Participants will learn about the life cycle, anatomy, and behavior of blue crabs.	SC.6.L.15.1; SC.6.L.14.3; SC.7.L.17.1; SC.7.L.17.2; SC.7.L.17.3; SC.8.N.4.1
Fishing	Participants will fish the habitat to see what they can catch with staff assistance and guidance.	SC.6.L.15.1; SC.6.L.14.3; SC.7.L.17.1; SC.7.L.17.2; SC.7.L.17.3; SC.8.N.4.1
Plastic Pollution, does it ever go away?	Students will look for and collect plastic pollution along the shoreline; staff will facilitate a group discussion about plastic pollution/marine debris and how we can be stewards of our environment.	SC.7.E.6.6; SC.8.N.1.1
Blue Robotics UW ROV exploration *Coming Soon – Anticipated Available Date - October 2025 (<i>small groups required</i>)	Students will be given a chance to learn how to operate the ROV in shallow water using the controller to operate the propulsion, cameras, and echosounder. Monitors will allow the group to watch as ROV operation is demonstrated for them, and some students will be given a chance to operate the ROV, time permitting.	SC.6.L.15.1; SC.7.L.17.2; SC.7.L.17.3 SC.8.N.4.1
Watershed Concepts *Coming Soon – Anticipated Available Date - October 2025	Students will be introduced to the concept of watersheds, and explore the sources and impacts of pollution, using a watershed model in the field.	SC.6.N.1.5; SC.7.L.17.3; SS.7.G.5.1; SC.8.N.4.1

9th through 12th Grade: Seagrass Trip

Station (Foundational)	Description	Standards
Explore The Seagrass Beds (<i>wet activity – closed toe shoes needed</i>)	Staff will direct students in seine and dip netting across the shallow seagrass beds to help identify and characterize the critters living in this important nursery habitat and answer questions about their role in the community.	SC.912.L.15.6; SC.912.L.17.1; SC.912.L.17.2; SC.912.L.17.6
Station (Select 3)	Description	Standards
Be the Marine Scientist: Water Quality Field Investigations	Learn the scientific methods of field work and the impact water quality (physical and chemical) has on this important habitat and the critters who live there.	SC.912.L.17.3; SC.912.L.17.7; SC.912.L.17.16; SC.912.N.1.6
Piggyback Critters	Using field microscopes and observation trays, staff will help participants examine the organisms that live on the seagrass blades.	SC.912.L.15.6; SC.912.L.17.1; SC.912.L.17.2; SC.912.L.17.6
Squid or Octopus Dissection (<i>depends on availability</i>)	Students will investigate the taxonomy and anatomy of the cephalopod, through conducting a dissection.	SC.912.N.1.1; SC.912.N.1.6; SC.912.L.17.6
Fishing	Participants will fish the habitat to see what they can catch with staff assistance and guidance.	SC.912.L.15.3; SC.912.L.17.16; SC.912.L.17.20
Blue Crab Life	Participants will learn about the life cycle, anatomy, and behavior of blue crabs.	SC.912.N.1.1; SC.912.L.17.6; SC.912.L.17.3
Plastic Pollution, does it ever go away?	Students will look for and collect plastic pollution along the shoreline; staff will facilitate a group discussion about plastic pollution/marine debris and how we can be stewards of our environment.	SC.912.L.17.16
Blue Robotics UW ROV exploration *Coming Soon – Anticipated Available Date - October 2025 (<i>small groups required</i>)	Students will be shown how to operate the ROV, and some students will be given a chance to learn how to operate the ROV and navigate to a bait box offshore to view the fish/crustaceans that are attracted to the bait box. Navigation using the echosounder and internal compass will teach the students how to operate the ROV without seeing it underwater.	SC.912.L.15.3; SC.912.L.17.16; SC.912.L.17.20
Watershed Concepts *Coming Soon – Anticipated Available Date - October 2025	Students will be introduced to the concept of watersheds, and explore the sources and impacts of pollution, using a watershed model in the field.	SC.912.L.17.12; SC.912.L.17.13; SC.912.L.17.16; SC.912.L.17.20