

## Title: How Threatening Is Your Schoolyard?

Written by Tracy Lyles

**Overview:** The purpose of this assignment is to get students thinking about changes they can make to decrease threats to our local saltmarshes. Students will begin by reading the 'Threats' section of the saltmarsh guide and will annotate the text as they do so. They will underline key points as they read. Students will annotate the right margins with ideas for solutions to the problems the threats cause for our local saltmarshes. Students will annotate left margins with words they don't know the meaning of or words they want more information about. Students will then design a poster with groups that summarizes what they have learned from their reading. These posters will be hung in the school hallway as a way of educating their fellow students. Students will also walk the school campus and identify areas of concern as they relate to what they have learned from reading the 'Threats' section of the field guide. As they identify threats they will discuss plans for improvement. The final assessment for this unit will be to write a plan of action to either decrease or eliminate a threat that can be presented to the school's leadership committee.

### Objectives:

- \*Annotate the field guide 'Threats' section to ensure understanding of what they are reading
- \*Design a poster that outline threats and possible solutions
- \*Walk the school campus and identify threats and discuss reasonable solutions
- \*Compare student generated solutions with 'What Can You Do?' section of field guide
- \*Write a plan of action that addresses the identified threats to be presented to the school leadership team

### Grade Level(s):

11-12

### Time:

3-4 days (90 minute blocks)

### Materials: in bullet points

- \*Copies of field guide – 1 per student
- \*Copies of 'Threat' section of guide – 1 per student. NOTE: DO NOT INCLUDE 'What Can You Do?'
- \*Copies of 'What can you do?' section of the guide – 1 per group
- \*Poster paper – 1 sheet per group
- \*Highlighters, markers, pens and pencils
- \*Student cell phones (for pictures during schoolyard walk)
- \*Computers or iPads –at least 1 per group

### **Procedure:** Engage: (Day 1)

A short lecture on salt marsh ecology. The lecture will include information about *Spartina alterniflora* and the important of salt marshes to ecosystem health. If possible, arrange a field trip to your school's nearest marsh for the lecture.

Pose the question: How threatening is our school yard?

### Explore: (Day 1)

1. Give each student a copy of the 'Threats' section of the field guide
2. Instruct students to read and annotate this section. The left margin should include vocabulary that needs clarification. The right margin should include student thoughts about possible realistic solutions to each individual threat.
3. Assign students to groups and allow time for discussion in groups about the annotations that were made during the individual reading. Have them brainstorm a list of possible solutions for each threat they read about.

### Explain (Day 2)

1. Student groups will design a poster that has 3 columns. The column titles should be 'Threat', 'Illustration' and 'Solution'. The groups can include all of the threats they read about or they can pick 3-4 they feel are the most urgent in terms of needing to address. Teachers may want to encourage students to list specific issues associated with urban sprawl as individual issues.
2. At the high school level, students can be given a full 90 minute class period to complete this task. Groups should present their posters to the class. If this task is completed with time to spare, students should read other sections of the field guide and outline the sections in their notebooks.

### Elaborate (Day 3)

1. Walk students around the school campus and have them identify areas of concern as related to the threats they have been reading about. Students can take pictures as they walk. Students should walk with their groups so they can have discussions about possible ways to address the threats to either decrease them or eliminate them completely. Teachers may need to remind students to look closely at landscaping, under cars or drainage areas. Teachers should also encourage students to speak to the landscaping staff (if they are available) about the types of chemicals that are used on campus landscaping.
2. Upon returning to the classroom, have each group choose one area of concern they want to address.
3. Students should begin writing a comprehensive 'plan of attack' to either eliminate or decrease the threat. Students should be reminded that their solutions must be reasonable and cost effective.

### Elaborate (Day 4)

1. Student groups should continue to work on their plans.
2. Before finalizing their plans, groups should compare their solution ideas with the 'What Can I Do?' section of the field guide.
3. Student groups should peer review other groups and offer feedback and ideas during this process.
4. All proposals should be given to the school's leadership team for review and feedback. If possible, student groups should present their reports directly to the leadership team.

### Evaluate

The final homework assignment should be for student's to reflect on what they have learned during this process.

**Assessment:**

1. Student annotated field guides should not be graded. The teacher should, however, actively monitor students during this process and make sure all directions are being followed.
2. The poster can be assessed for accuracy related to the summary of the threat, an illustration that is appropriate to the threat and a solution that is realistic.
3. The culminating assessment will be the plan of action that will be presented to the school's leadership team.

**Standards:**

South Carolina Biology Standard:

**H.B.6D** Sustaining biodiversity maintains ecosystem functioning and productivity which are essential to supporting and enhancing life on Earth. Humans depend on the living world for the resources and other benefits provided by biodiversity. Human activity can impact biodiversity.

2010 NMEA Ocean Literacy Principles

**#5** – The ocean supports and great diversity of life and ecosystems

**#6** – The ocean and humans are inextricably interconnected.

### Scoring Guide for Plan of Action

The weighting of this grade (classwork, quiz, test, etc) will be at the discretion of the teacher.

The scoring guide is written for a 100 point scale. The criteria point values can be adjusted at the discretion of the teacher.

<b>Criteria</b>	<b>Points Possible</b>	<b>Points Earned</b>	<b>Comments</b>
Area of concern is clearly identified	5		
Justification for denoting the area as concerning is clearly defined	10		
The plan is reasonable (can be implemented easily and efficiently using existing resources)	20		
A budget for the plan has been researched. An itemized list of needed supplies/resources is included	20		
The plan is cost effective (can be implemented within the parameters of the budget)	5		
A timeline of plan implementation is included and reasonable	20		
A long term plan for maintaining changes is clearly identified (include school holidays)	10		
Spelling and grammar are correct. Formatting is easy to understand.	5		
Sources are cited	5		
Total Points Earned			