

## Exercise 3 Stewardship projects

### Focus Question

What are some ways students can serve as stewards of a local wetland area?



### Performance Task

Students will plan and carry out stewardship activities to protect, preserve, or restore a local wetland area.

### Background and Notes

The Estuaries 101 middle school lesson “Score one for the estuaries” includes an overview of stewardship, stories, and examples of student stewardship projects. The teacher’s guide is [here](#).

#### Overview

In this exercise, students will review examples of stewardship actions and carry out one or more stewardship activities.

#### Time Required

Several 45-minute class sessions or after-school meetings

Review the student reading “What is stewardship?” included below.

See the Estuaries 101 guide [“Score one for the estuaries”](#) or use the questions below to guide students to discuss and plan a stewardship project.

### Procedure:

1. Discuss with students the concept of stewardship. You may wish to have them read “What is Stewardship?” or have a few copies available for reference.

Remind students that wetland Protection laws in the US protect most wetlands from building development, though they do not always work effectively to prevent nutrient enrichment or damage from recreational use. Many other countries around the world don’t have strict wetland protection laws, so Blue Carbon markets are especially important outside the US.

2. Use the questions and suggestions below to help students brainstorm possible stewardship actions or projects. Have them devise a plan with specific actions and a realistic timeline. It is best for them to choose a simple project at first, and they can build on their success as time goes on!

**Guiding questions for adopting a wetland** from EPA’s “A World in Your Backyard.”

- What is unique about your wetland?
- Why is your wetland valuable?
- What do you think people in your community should know about



your wetland?

- What activities may threaten your wetland?
- Who regulates the use of wetland areas in your state and in the local community?
- How can you play a role in protecting your wetland?

### **Stewardship project suggestions:**

- Make a commitment to monitor and/or clean up a local wetland area. Instructions and resources for carrying out monitoring or a shoreline survey are posted on the wiki.
- Produce a photo or video documentation of a local wetland or develop web-based or display materials and use them to teach others in the community what they have learned about the economic value of wetlands for carbon storage, and about the importance of keeping them intact and functioning. This could take the form of a video for local cable access TV or a Public Service Announcement for local radio stations. Student projects may be posted on the web to share with other students. Contact the Education Coordinator at your nearest NERR for information.
- Make a field guide to a local wetland.
- Have students participate in the carbon market by raising money to offset their carbon emissions for something- transportation for a field trip, a week of bus transportation, or the class prom. Several web sites sell carbon offsets; two that are student friendly are listed here. Be sure to visit the sites yourself before allowing students to use them.



<https://carbonfund.org/Myclimate>

- Have students develop a Wetland Protection Directory of local, state, and federal officials who make land use decisions affecting your local wetlands (idea from A World in Your Backyard)
- Interview local officials about your community's wetlands. The student interviewers could find out if there are wetlands that are candidates for protection and ask the officials questions that help the class rate the community's wetland protection capability.

3. One way to get students thinking about opportunities for stewardship of coastal wetlands is to hold a mock town meeting where students take the roles of neighbors, developers, town officials, and environmentalists to discuss the options involved in a proposed development project that would increase nitrogen inputs that would have a negative impact on the ability of local wetlands to take up and store carbon.

**Additional resources**

As additional resources, you can refer to Youth Changing the World (<http://ysa.org/>)

for detailed guidelines for projects and actions for students.

Here is a good model for how teachers can guide their students in service learning (<https://www.plt.org/educator-tips/6-steps-for-successful-service-learning/>).

## Reading: What is Stewardship?

Stewardship includes taking care of natural systems and ensuring their functioning in the future. Here are some notes on coastal stewardship from UNESCO:

- Coastal stewardship is characterized by efforts to ensure the sound and sustainable use of coastal resources.
- The complex issue of promoting stewardship should be seen as a challenge to inform, educate, empower and motivate people towards becoming managers and custodians of their coastal environment.
- Coastal stewardship should focus on conservation and sustainable use of coastal and marine environments so that future generations will be able to benefit from coastal and marine environments.
- Coastal stewardship incorporates tourism, recreation, and commercial uses of coastal areas.
- Stewardship activities may stimulate students to participate in decision-making that can improve and reverse the abuse of coastal resources.

Stewardship projects can include education, monitoring, restoration, or many other activities. An effective way to guide students to conduct a stewardship project is to use the format of NOAA's ["Meaningful Watershed Educational Experience"](#)



First there is a preparation phase which involves students in discussions about a question, problem or issue. The action phase is next and includes an outdoor experience and making observations and collecting data. This phase could include helping with projects that result in positive impacts to the environment. Finally, there is a reflection phase which includes evaluating the activity, analyzing conclusions and sharing the results. The stewardship project could be incorporated into the action phase or could be designed by the students during the reflection stage as a culminating follow up activity.

Ideally, stewardship projects should:

- Address a resource management need in the students' own area.
- Be student driven.
- Include outreach to a broader community (beyond their own class).
- Utilize knowledge or practice skills learned in class.
- Be an integral part of the instructional program.
- Include collaboration with a community organization or volunteer expert in the community if possible.

For stewardship projects related to Bringing Wetlands to Market, it can be very powerful for students to "adopt" the wetland they have studied in this project. They could work to quantify and communicate the value of protecting or restoring their wetland. Students would learn all they can about their wetland, including the history of its use, area, species, and pressures on it. Students could teach the community about the ecological roles of their wetland and also about its aesthetic value, and they can emphasize the economic value it has as for its ecological services and as a carbon sink.



A restored wetland in New Bedford, MA