Stream ReLEAF®

Student Booklet

Introduction

The governor of Maryland is concerned with the future of land, water, fish and wildlife resources of the Chesapeake Bay Watershed. He has announced a special riparian forest buffer program called Maryland Stream ReLeaf that is targeted toward reforesting 600 miles of stream and shoreline by the year 2010. "Riparian areas" is a term that refers to the land adjacent to a body of water, stream, river, marsh, or shoreline. These waterway forests have declined throughout the Chesapeake Bay Watershed because they have been cleared of trees to make room for agriculture, home sites and urban activities. Trees in these "riparian areas" contribute to more than a beautiful landscape; they improve water quality, prevent soil erosion and provide habitat for many animals.

All Maryland students must complete a requirement in service learning for high school graduation. One way to begin meeting your service learning requirement is to assist the State of Maryland in reaching the 600 mile riparian buffer goal by replanting a riparian forest buffer in your community. This task will help you prepare for such a project. It will also provide some "next steps" for those who want to complete the action and reflection phases of the project.

You will read about riparian forest buffers. You will use the information to create a checklist and to evaluate a potential planting site in your community. You will then decide to replant or not to replant the proposed riparian forest buffer site, and write a letter to your local forester informing him/her about the results of your evaluation and about your decision.

Activity 1.

The Maryland Department of Natural Resources Forestry Service produced a brochure called "Maryland Stream ReLeaf" to let citizens know about this riparian forest buffer program and how they can get involved. Your teacher has given you information taken from that brochure. Read this material, and then complete Steps A through E that follow.

Step A. Use information from the Stream ReLeaf resource to describe ways the local environment will improve as a result of a riparian forest buffer planting.

_____

_____

_____

_____

_____

Step B. List two Bay-related businesses that would be affected by the restoration of a riparian forest buffer in your community.

1. _____   **2.** _____

For each Bay-related business listed above, explain how it would be affected as a result of a restored riparian forest buffer.

1. _____

_____

_____

2. _____

_____

_____

Step C. List two reasons you might contact the businesses listed in Step B regarding your riparian forest buffer project.

1. _____

_____

_____

2. _____

_____

_____

Step D. Scientific information/data could be included in the next publication of the Maryland Stream ReLeaf brochure by the Department of Natural Resources. Scientific information should help the readers of the next Stream ReLeaf brochure better understand the importance of riparian forest buffers.

Look at the diagrams found at the following three Internet sites.

1. *http://www.dnr.state.md.us/Forest/Publications/Healthrpt/waterwaysg.htm*

2. *http://www.dnr.state.md.us/Forest/Publications/Healthrpt/acrossgph.htm*

3. *http://www.dnr.state.md.us/Forest/Publications/Healthrpt/nitrogen.htm*

These diagrams present scientific information about riparian forest buffers. Choose the diagram that you think provides the best scientific support for riparian forest buffers and which should be included in the next Maryland Stream ReLeaf brochure. Circle the number of the diagram you chose.

1   **2**   **3**

In the space below, explain why you think this diagram should be included in the next Stream ReLeaf brochure.

_____

_____

_____

_____

_____

Step E. List 3 questions you would ask a forester or other expert on riparian forest buffers that could give you additional information you would need to know before beginning a riparian forest buffer planting project.

1. _____

_____

_____

2. _____

_____

_____

3. _____

_____

_____

Activity 2.

The Maryland Department of Natural Resources has an Internet site where you may find answers to questions about riparian forest buffers or additional information about a planting project. Visit this web page at the following Internet address:

http://www.dnr.state.md.us/forests/publications/buffers.html

Also review the information in the Maryland Forest Health Report at:

http://www.dnr.state.md.us/forests/foresthealth.html

After you have researched these web sites, complete Steps A, B and C.

Step A. In the space below, summarize the new information you have learned.

Step B. Other students may be interested in using the Internet to find out more about riparian forest buffers. List the address of the Internet site you think provided the best information about riparian forest buffers. Then, use information from the web site to explain why you would recommend it to another student.

Internet Address: _____

Explanation: _____

_____

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Step C. Now that you know more about riparian forest buffers from the Internet, reread Activity 1 and your answers to questions A-E. Are there any answers you would like to modify because of the new information you have learned on the Internet? Revise those answers in the space below.

Activity 3.

You have read about riparian forest buffers from several different sources. Now you will use this information to create a riparian forest buffer checklist. This checklist will help you evaluate a potential planting site. The information that you learn from completing the checklist will also help you make a decision about whether you will or will not do a riparian forest buffer service learning project.

A checklist asks questions that have a "yes" or "no" answer. A checklist question contains key information that will guide your evaluation of a specific topic. Below are examples of questions that could be used in a Riparian Forest Buffer Planting Checklist.

	Yes	No
1. Does the site border a body of water, stream, river marsh or shoreline?	_____	_____
2. Does the site extend 50 feet from the water's edge?	_____	_____

Now, work with your group to complete the steps below.

Step A. Before you begin your checklist, discuss with your group what an effective riparian forest buffer site would look like. Based on what you learned and have read about riparian forest buffers, list, on the lines below, what your group believes are "key features of an effective riparian forest buffer" that should be included in the checklist questions.

Key Features of an Effective Riparian Forest Buffer

_____

_____

_____

_____

_____

_____

_____

_____

There are other characteristics to consider when visiting a potential site. One example of a key characteristic is how easy it is for a group of students to get to the site. Brainstorm with your group other characteristics that you would need to consider to successfully implement a riparian forest buffer project. List the ideas on the lines below.

Key Characteristics Necessary for Project Implementation

_____

_____

_____

_____

_____

Step B. Using the "Key Features of an Effective Riparian Forest Buffer" and the "Key Characteristics Necessary for Project Implementation," work with your group to create a Riparian Forest Buffer Checklist containing 10 questions. Write your checklist on another piece of paper.

As you create your checklist, think about the following questions:

● Are the checklist questions clear?

● Can the questions be answered with "yes" or "no?"

● Do the questions focus on the ability of your class/group to carry out a planting at the site?

● Can a student service riparian forest buffer planting be completed at this site?

Stop and wait for directions from your teacher STOP

Step C. Compare your checklist with the sample shown to the class by your teacher. Revise your group's list if you think it necessary.

Step D. Share your group's checklist with the class. Now review your checklist. Are there any changes that you would like to make? Are there any questions that need to be refined or modified? Follow the directions of your teacher to make changes to your checklist now.

Activity 4.

You are now going to visit an area in your community that is a potential riparian forest buffer restoration site. Your group will use its Riparian Forest Buffer Checklist to evaluate the site. You will then use the completed checklist to help you decide whether the site is an acceptable one for a student service riparian forest buffer planting project.

Activity 5.

Step A. You have returned from your visit to a potential site. Now, use your check list to complete the chart below to help you decide whether or not to replant this area as a student service project.

	Support for Planting	Support for Not Planting
Key Features of an Effective Riparian Forest Buffer		
Key Characteristics Necessary for Project Implementation		

Step B. Your group will now use this chart to help decide whether the site that you evaluated should be replanted. Your group will then share its decision with the class. Think about how to present your information clearly. On the lines below, state your decision and provide at least two scientific facts from your chart and checklist to support your decision.

_____

_____

_____

_____

Step C. After each group has presented its decision and supporting information, decide as a class whether or not this site should be replanted. Below, explain why your class made this decision. Be sure to use information from your readings, checklist, charts, site visit, and class discussion to support your explanation.

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Activity 6.

On your own, and based on what you know and the information gained from your site evaluation, write a letter to your local forester to inform him/her about your decision to replant or not to replant the potential riparian forest buffer site. Be sure to include specific information that you observed at the site or recorded in your checklist to support your decision.

Also, be sure to ask any questions you may have.

Address your letter to *Attention: Stream ReLeaf Planting* at your local forester's office. Addresses for local foresters in Maryland are available at the Forest Service Internet site you used earlier.