Riparian Buffer Assessment

Learning Goals: Students will understand the importance of a riparian buffer. Students will assess riparian buffer and identify strategies to repair buffer. Students will understand the how buffers impact water quality.

Recommended Length of Duration: Two 45 minute class periods (one period to assess riparian buffer along streamside and one period to discuss plans to increase buffer.

Materials:

- Buffer Assessment Form
- Tape Measure
- Notepad
- Pen/Pencil

Optional items

- Tree Finder Guide
- Butterfly Guide

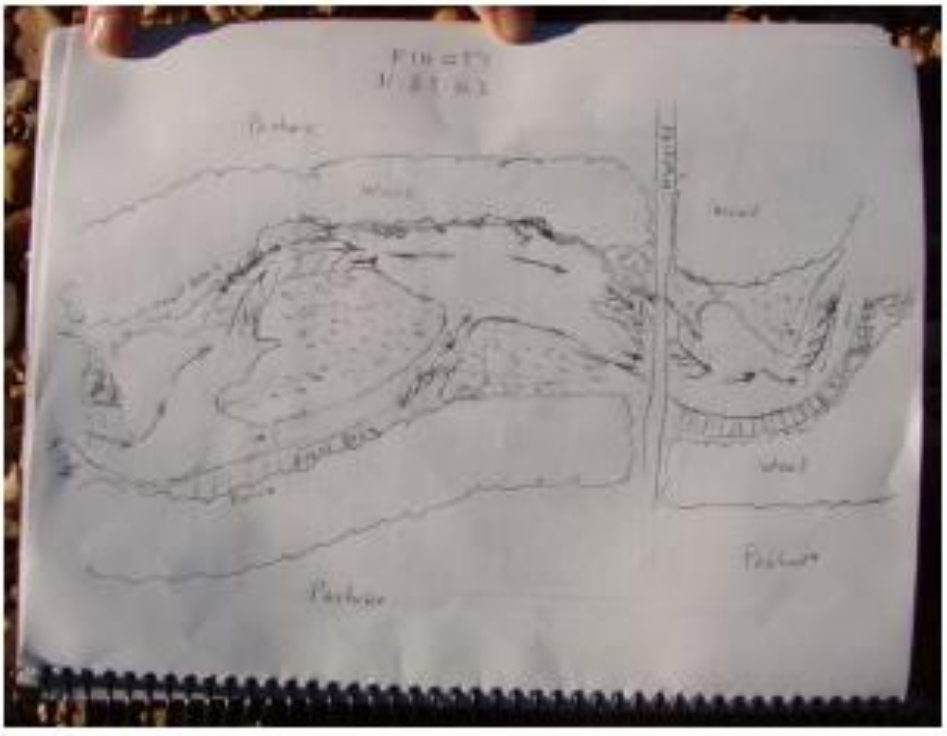
<u>Suggested Pre-Activities:</u>

- Explain the definition of a riparian buffer and the importance of its presence to our water quality.
- Describe appropriate buffer dimensions and types of buffer.
- Discuss what kinds of plants/trees make the best riparian buffer and why.
- Discuss the riparian buffer requirements/policies of County or State.
- Gather aerial maps if any of the stream or waterway.

Activity:

1. Ask students to walk along the stream and take note of any bends or curves it takes as it flows.
2. Have students each make a sketch that represents details of the stream as it flows. The stream sketch should include the surrounding land use on both sides of the stream and the location of pools, riffles, vertical banks, log jams, and surrounding gravel bars. It is also good to include banks and joining streams or inlets.
3. Have students compare sketches and make changes to their own as necessary.
4. Next ask the students to sketch plants and wildlife around and by the waterway.
5. Use the tape measure to measure plants and trees width and depth along the river.
6. Teachers can use the Riparian Buffer Assessment Form and ask students to answer questions or have students fill out the Riparian Buffer Assessment Form individually or in teams.

Example:



Assessment: Ask students if their sketches show an appropriate buffer along the waterway. Are there places that need trees or grasses? What is their assessment of the riparian buffer?

Riparian Buffer Assessment Form

	NO	YES
1. Are there ever any signs of pollution such as soap bubbles, oil sheen, unusual odors or trash in or along the stream?		
2. Is the water green or can you see green scum or thick, stringy clumps?		
3. Is there a brownish, slimy material coating rocks, logs or other objects in or around the waterway?		
4. Does the stream become muddy when it flows even though it hasn't rained?		
5. Does the stream become muddy during or after storms and then take a long time to clear up again?		
6. Is the stream water muddier or cloudier when it flows away from you?		
7. Are there any culverts, dams, other artificial structures?		
8. Is there woody debris that block fish or water passage?		
9. Are there any irrigation ditches or drainage ditches?		
10. Are there any waterways connected to the stream?		
11. Are gravel, sand or silt bars noticeably building?		
12. Are there vertical banks with limited or no vegetation?		
13. Is the streambank eroding in any areas?		
14. Do you see any trees along the creek falling into the stream?		
15. Are there areas of bare soil or limited vegetation along the stream?		
16. Has vegetation along the streambank been disturbed?		
17. Are there very few trees, shrubs and grasses along the streambank?		
18. Does bare soil or thin strands of grass dominate the area?		
19. Does the stream receive more sunlight than shade?		
20. Are there any roots or woody debris along the streambank missing?		

The furthest line of trees from the stream is _____ feet.

The width of the line of trees nearest to the stream is _____ feet.

There are _____ feet of grasses along the stream.

There are _____ feet of bushes along the stream.