



Land Cover Changes in the Buffalo River Watershed

Time: 1-2 40-minute class periods

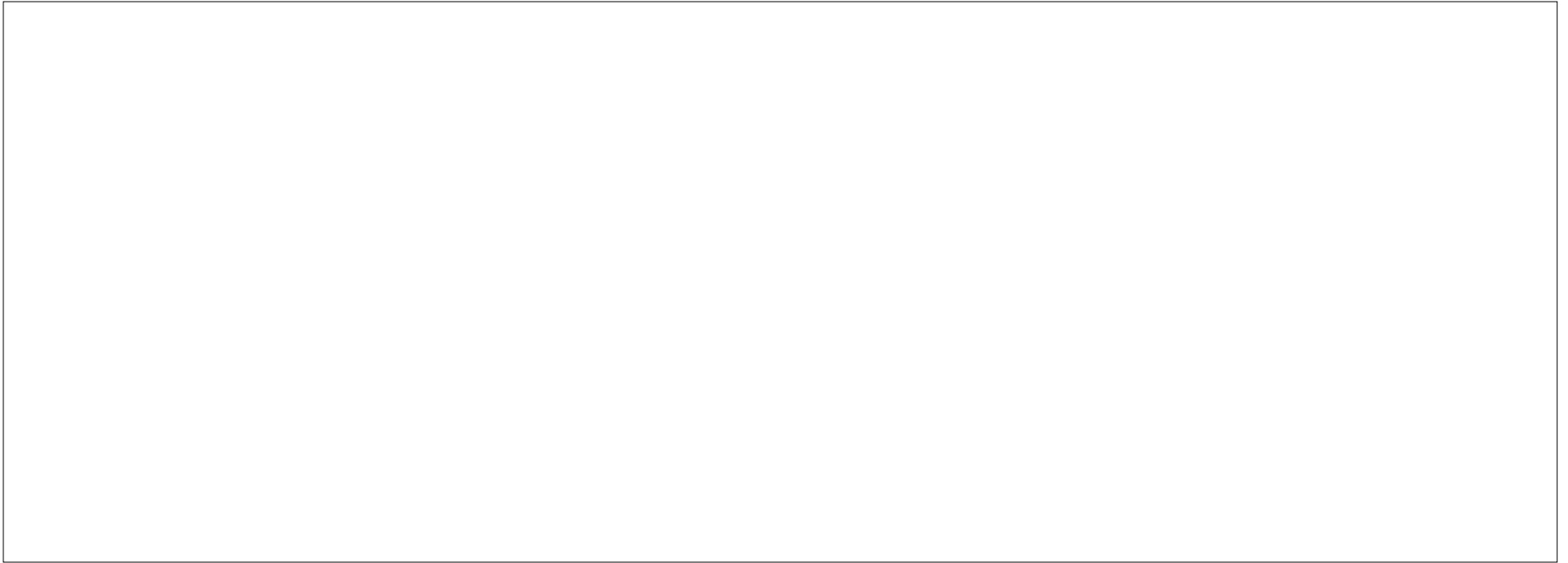
Grades: Middle and High School

1. Choose one sampling site set of “Land Cover Changes in the Buffalo River Watershed Images.”
2. Visit the EPA’s How’s My Waterway? (<https://watersgeo.epa.gov/mywaterway/mywaterway.html>) and enter the address of the site. This is located at the bottom of the image.
3. **What pollution categories are listed for the waterway?**

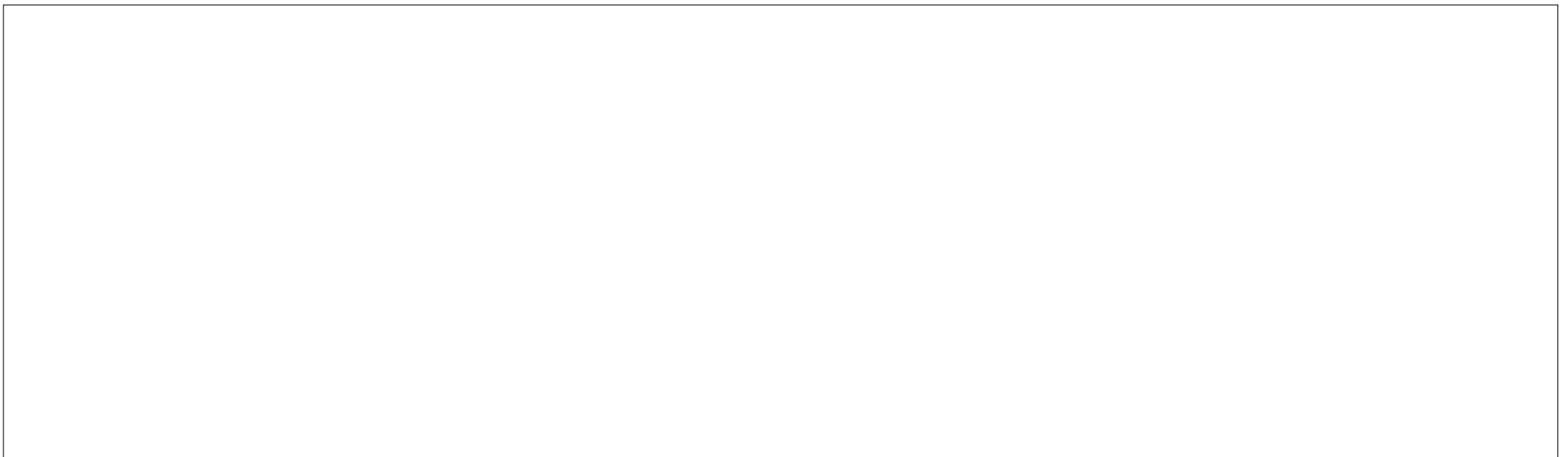
4. Click on "Plain English" for each category. **Fill in the chart to reflect the cause(s), effect(s), and possible solutions to each category.**

Cause	Effect	Possible Solutions

9. How has the land cover changed over time? What other changes do you notice?



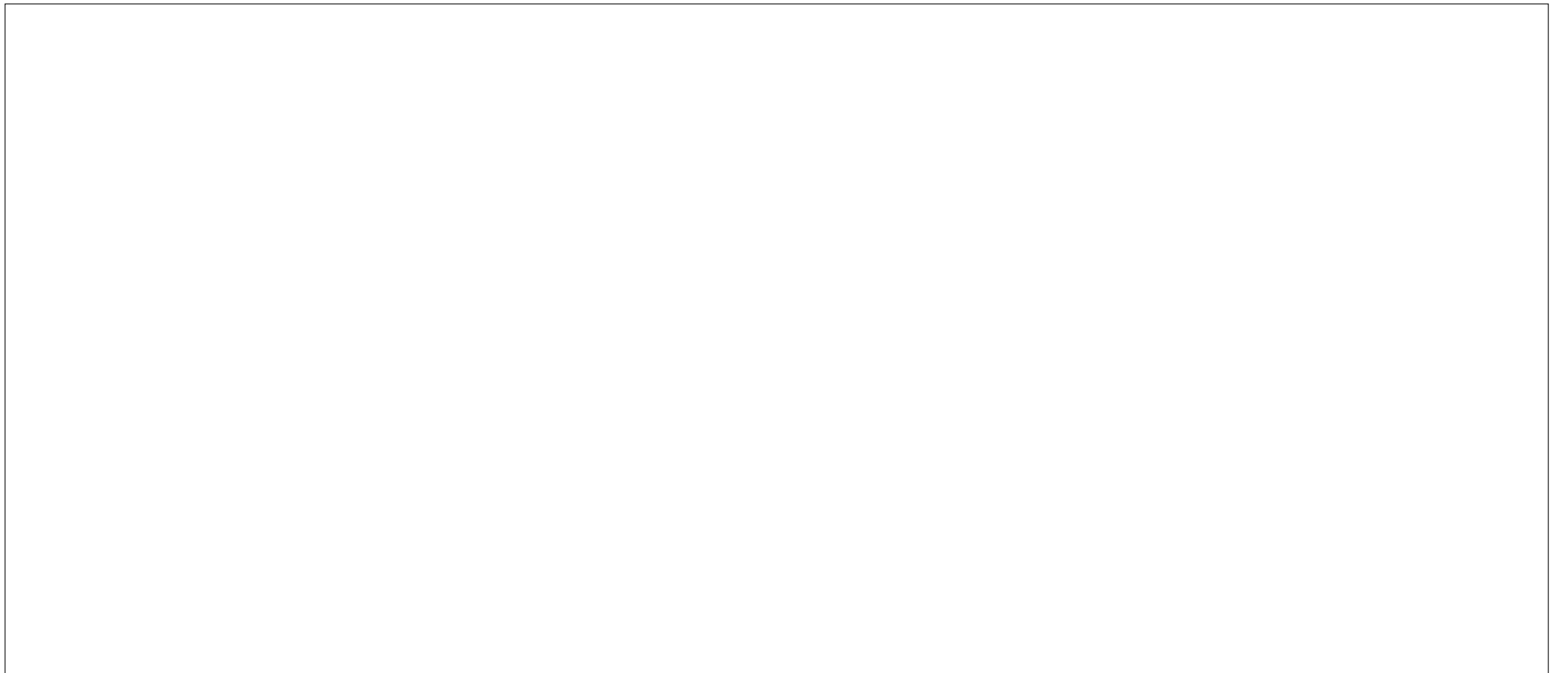
10. How may the land cover of the area affect water quality? Use your chart from step 4 to help generate ideas.



11. Would you expect the water quality in the past to differ from current levels? Why or why not?



12. Sketch or explain how you could improve green infrastructure around the sample site to improve water quality.



Alternative Activities and Extensions:

- “Understanding Land Use and Land Cover using ArcGIS Online” from University of California, Davis at http://cstars.metro.ucdavis.edu/files/2914/7276/3988/EOD_Lesson_Plan__ArcGIS.pdf
- Have students find the health of the waterway closest to their home or school and redesign their neighborhood using green infrastructure ideas.
 - Post student-designed informative posters in the neighborhood to encourage watershed stewardship. Implement a student-led green infrastructure project on school property.
 - Invite community members to help with the project.