



Lesson Plan: Watersheds

I. Introduction

1. Start by showing the video to briefly define key terms: watershed, point source, nonpoint source and identify common impairments with very brief explanation. (5 min)
2. Teacher-led discussion (5 min)
 - a. Lead a brief discussion of stormwater discussion by asking these prompting questions: When it rains, where does your stormwater go? Gutters? Ditch? At home, other areas in town? (Older students, those in urban areas may get a chance to briefly discuss combined sewer systems).
 - b. Display a map of local area, showing the watershed and water bodies which are part of the local watershed. Points out the location of your school and a few other local landmarks. (Instructions on obtaining local map on document are described below under "How to find and download a copy of your local watershed map".)
 - c. Shows progression of water into larger watershed.
3. Using a poster or large sheet of paper, ask students to list any substances they know that should not get into our stormwater drainage system. After entering student suggestions, enter the four impairments they are about to analyze: 1.fertilizer (nutrients) from urban/suburban areas, 2.fertilizer (nutrients) from rural/agricultural area, 3. sediment, 4. E. coli) if they are not yet listed. As lesson progresses, ask students to be on the lookout for additional water impairments they encounter (from the brochures) and add additional impairments to the list.(5 min)
4. Students are divided into 4 groups. Each group is assigned one of the four impairment and given several brochures containing watershed protection information they should use as a reference. If the school is located in a non-agricultural area, mention that the headwaters (areas near waterway's origin) of the local, or regional watershed will most likely have some agriculture.

II. Complete the "Local Impairment Overview" Chart (10 Min)

- Define the Impairment
- Why is their impairment harmful?
- Possible local cause of such an impairment
- What kind of community action or local project could help reduce this impairment?

III. Students Share Out

Each group explains what they have found in report while the teacher summarizes on a whiteboard or paper chart. Students record each group's information & recommendation in a chart. (Up to 15 min)

IV. Introduce a New Impairment

Teacher introduces new impairment- trash. (All groups do this) Students are given 5 minutes (remaining time, homework?) in their groups to fill out same report topics as above about trash. (Impairment, Possible local cause, impairment harm, local project to reduce this impairment),

Use remaining class time to discuss each group's suggestions about how the local community can help reduce trash in their watershed.



How to Find and Download a Copy of Your Local Watershed Map

1. Follow this link to a map in databasin.org
<https://databasin.org/maps/0f4ca2f4f55d41c7acd55462f0a8a415>

(The map can also be found on this site by searching Illinois Watersheds) You do not need to sign in to use the site. You will be able to download your map (but not save your particular map) without a sign-in. Joining is free and easy if you wish to do so.

2. Use the location icon on the toolbar to type in your school name/address or other desired location.



3. Zoom in/out or use the rectangle zoom tool to get your area of interest optimized for your map. You may wish to explore different basemaps to see if the level of detail is more suitable for you.



4. Click the **i** button on the toolbar within your watershed to bring up some additional information, such as the HUC 12 name of your watershed. Click **i** again to turn off.
5. Use the download button on the left toolbar to export your map in PDF, PowerPoint or PNG file format. To save a map (for further access and modifications) you must sign in.



6. If you have any questions or difficulties, please contact daliazygas@gmail.com



Links to Brochures

These brochures are to be used for a hands-on exploration of information when students are completing their assigned impairment on the Local Impairment Overview Chart. The students in the groups should be given random (ideally individually different) brochures. They will need to search for the desired information; cooperation in the group should be encouraged. Students will need to critically compare information from different sources. While searching for their relevant facts, the students will also be exposed to additional new material.

If you print these brochures, they should be collected and re-used for the next class session.

<https://drive.google.com/drive/folders/0By0T8QBQYQEgWGFDSlpTdF9VWjg?usp=sharing>