

Clackamas360 Watershed Tour

Name:

**Activity:**

Type the following website into your browser: [mywaterway.epa.gov](http://mywaterway.epa.gov). Upon arrival, enter address (or local address of your choice, for instance, your school) into the search bar.

1. According to the "Overview" tab of the webpage, what is a watershed?

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2. Water quality is monitored for \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ factors. Give some examples for each type of factor:

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3. What is your local watershed at your address (or address of your choice)?

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4. What condition is the watershed?

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5. Which aspects are "good"?

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6. What impairment categories were identified for your waterbody?

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7. Use the blue tabs at the top, move from "Overview" to the "Identified Issues" tab. What percentage of assessed waters are impaired in your watershed?

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8. Move from the "Identified Issues" tab to the "Protect" tab and turn on the "Watershed Health Scores". What is the score of your watershed? (Highest is 1)

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9. Turn on the "Protected Areas". How many protected areas are listed in your watershed?

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10. What are three ways that you could help to protect water in your community? (Hint: Click on the "Tips" tab.

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11. Next, head back to the "Overview" tab, scroll down and click on "View Waterbody Report." A new window will open. Click on the "Fish and Aquatic Life."

What is the Impairment Parameter listed? \_\_\_\_\_ Is there a plan in place? \_\_\_\_\_

12. Click on the "Water Contact Recreation" tab.

What is the Impairment Parameter listed? \_\_\_\_\_ Is there a plan in place? \_\_\_\_\_

13. How do you think the following water quality impairment categories would impact aquatic life such as salmon?

a. High temperature:

\_\_\_\_\_

b. Acidity:

\_\_\_\_\_

c. Low oxygen:

\_\_\_\_\_

14. Next, instead of using your own address, type in "Estacada" into the address search bar. Look where the waterway turns from green to red. What do you think might be causing this transition from "good" to "impaired"?

\_\_\_\_\_  
\_\_\_\_\_

15. Lastly, zoom all the way out until you can see the Portland Metro area. Do you see any "good" waterbodies in the area? \_\_\_\_\_

Are you surprised by what you see? Explain:

\_\_\_\_\_  
\_\_\_\_\_

### Water Quality Impairment Categories

<b>TEMPERATURE</b>		
<p><b>What it means:</b></p> <p>Dissolved oxygen (DO) is a measure of how much oxygen is dissolved in the water - the amount of oxygen available to living aquatic organisms. The amount of dissolved oxygen in a stream or lake can tell us a lot about its water quality.</p> <p>Rapidly moving water, such as in a mountain stream or large river, tends to contain a lot of dissolved oxygen, whereas stagnant water contains less.</p>	<p><b>Problems when water temp is high:</b></p> <p>The single most important water quality measure is temperature. Many fish and other aquatic animals are sensitive to changes in water temperature and require a certain temperature range to survive. If water temperature goes outside that range for too long, they can become sick or die. In addition, when water temps rise, algal blooms, bacteria, and other problems are more likely. Dissolved oxygen also decreases with warmer water.</p>	<p><b>What you can do:</b></p> <p>You can help avoid low dissolved oxygen problems in their local waters by practicing appropriate disposal of plant and animal waste and avoiding disposal in waterways, applying the correct amount of fertilizer on lawns and avoiding application before wet weather events, disposing of pet waste in the trash, pumping-out septic tanks regularly.</p>
<b>DISSOLVED OXYGEN (DO)</b>		
<p><b>What it means:</b></p> <p>Dissolved oxygen (DO) is a measure of how much oxygen is dissolved in the water - the amount of oxygen available to living aquatic organisms. The amount of dissolved oxygen in a stream or lake can tell us a lot about its water quality.</p> <p>Rapidly moving water, such as in a mountain stream or large river, tends to contain a lot of dissolved oxygen, whereas stagnant water contains less.</p>	<p><b>Problems when oxygen level is low:</b></p> <p>When low oxygen levels are extreme or long-lasting, they can sicken and kill fish and other aquatic life. When DO concentrations are less than 2 mg/L, water lacks the oxygen needed to sustain most aquatic life. Sewage wastewater, leaking septic tanks, algal blooms, agriculture runoff, and stormwater runoff contain organic materials that decompose and use up oxygen in water. Higher water temperatures can lead to lower oxygen levels.</p>	<p><b>What you can do:</b></p> <p>You can help avoid low dissolved oxygen problems in local waters by practicing appropriate disposal of plant and animal waste and avoiding disposal in waterways, applying the correct amount of fertilizer on lawns and avoiding application before wet weather events, disposing of pet waste in the trash, pumping-out septic tanks regularly.</p>
<b>ACIDITY</b>		
<p><b>What it means:</b></p> <p>Acidity (pH) can range from 0-14 and is a measurement of how acidic or alkaline (basic) the water is. The pH of pure</p>	<p><b>Problems when pH is out of whack:</b></p> <p>Acidity (pH) outside a certain range (below 6.5 or above 8.5) can sicken or kill fish and other aquatic life.</p>	<p><b>What you can do:</b></p> <p>People can help reduce pH problems by applying the correct amount of fertilizer on lawns (and avoiding</p>

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<p>water is 7, and the normal range for pH in fresh water systems is approximately 6.5 to 8.5. In general, water with a pH lower than 7 is considered acidic, and with a pH greater than 7 is considered alkaline (or basic).</p>	<p>Highly acidic or alkaline water can also release pollutants from sediments that can further harm aquatic life. Acidity in waterways is influenced by rock and soils, as well as human sources such as industrial and car emissions, mining, and agricultural runoff.</p>	<p>application before wet weather events), properly disposing of chemicals such as household cleaners, and disposing any of the above to avoid ditches, waterways and storm drains.</p>
<p><b>Mercury</b></p>		
<p><b>What it means:</b></p> <p>Mercury is a naturally-occurring chemical element found in rock in the earth's crust, including in deposits of coal. Spills and improper treatment and disposal of mercury containing products or wastes are among other top sources of mercury in water.</p>	<p><b>Problems when water temp is high:</b></p> <p>Airborne mercury is converted in water by bacteria into a toxic form called methyl-mercury which accumulates in the food-chain. Mercury can build up in fish, which then poses health risks to people and animals that eat fish.</p>	<p><b>What you can do:</b></p> <p>People can help reduce mercury in the air and water by purchasing mercury-free products and correctly disposing of products that contain mercury. Fish consumption warnings for specific waters concerning mercury are also compiled by EPA</p>