

Overview:

Jim Page, International Yachting Fellowship of Rotarians (IYFR), describes Ohio watersheds testing, technologies, and goals in a series of lectures for the Lake Erie Waterkeeper Conference, hosted by the W.W. Knight Nature Preserve.

Summary:

In “Testing Watersheds and the Goals of Rotaries,” Jim Page explains Rotary Clubs’ involvement in testing Ohio watersheds that contribute to Lake Erie’s water quality. Page gives examples of sampling water sources that have regular yearly flow such as creeks, ditches, rivers, and streams for levels of ammonia, nitrate and phosphorus that may be at levels harmful to humans or the environment. He shares the clubs’ collection protocols, data analysis, test kits, and app and software. Page encourages student groups and individuals to contribute to water testing processes.

ODE 9-12 STANDARD 1: Science; Course, Environmental Science; Section, Earth’s Resources; Topic 1, ENV.ER3 Water and Water Pollution; Topic 2, ENV.GP.2: Potable Water Quality, Use and Availability

ODE 9-12 STANDARD 2: Science; Course, Physical Geology; Section, PG.ER: Earth’s Resources, Topic 1, PG.ER.3: Water (Potable water and water quality)

Discussion Questions:

1. When are optimal water collection times?
2. Can the data from water tests be used for other studies? Which ones and why would the water data prove useful in these other test?
3. Do you think high levels of the chemicals can contribute to algal blooms? Where do you think the chemicals in the water originate from– what are the sources of the chemicals? How can we prevent these chemicals from entering the waterways?

Activity:

Watch a water testing lesson and then conduct the experiment with your students.

<https://wbgu.pbslearningmedia.org/resource/7a46c09c-b836-4947-8586-e94a7701827e/how-much-is-too-much-water-testing-lesson/#.WzE2S6dKjIU>

After students have conducted their own experiment, ask them to answer the following questions in small lab groups:

1. Which well was the most concentrated? Which well was the least concentrated?
2. If red dye is a dangerous chemical, is water testing necessary to help identify and eliminate it?
3. What does this lab reveal about water testing? Or, how is water testing helpful?

Resources:

Lake Erie Waterkeepers: <http://www.lakeeriewaterkeeper.org/lake-erie/facts/>

International Yachting Fellowship of Rotarians: <http://www.iyfr.net/new/>

U.S. Geological Survey’s Water Science School: <https://water.usgs.gov/edu/waterquality.html>

