



## Time Needed

One class period

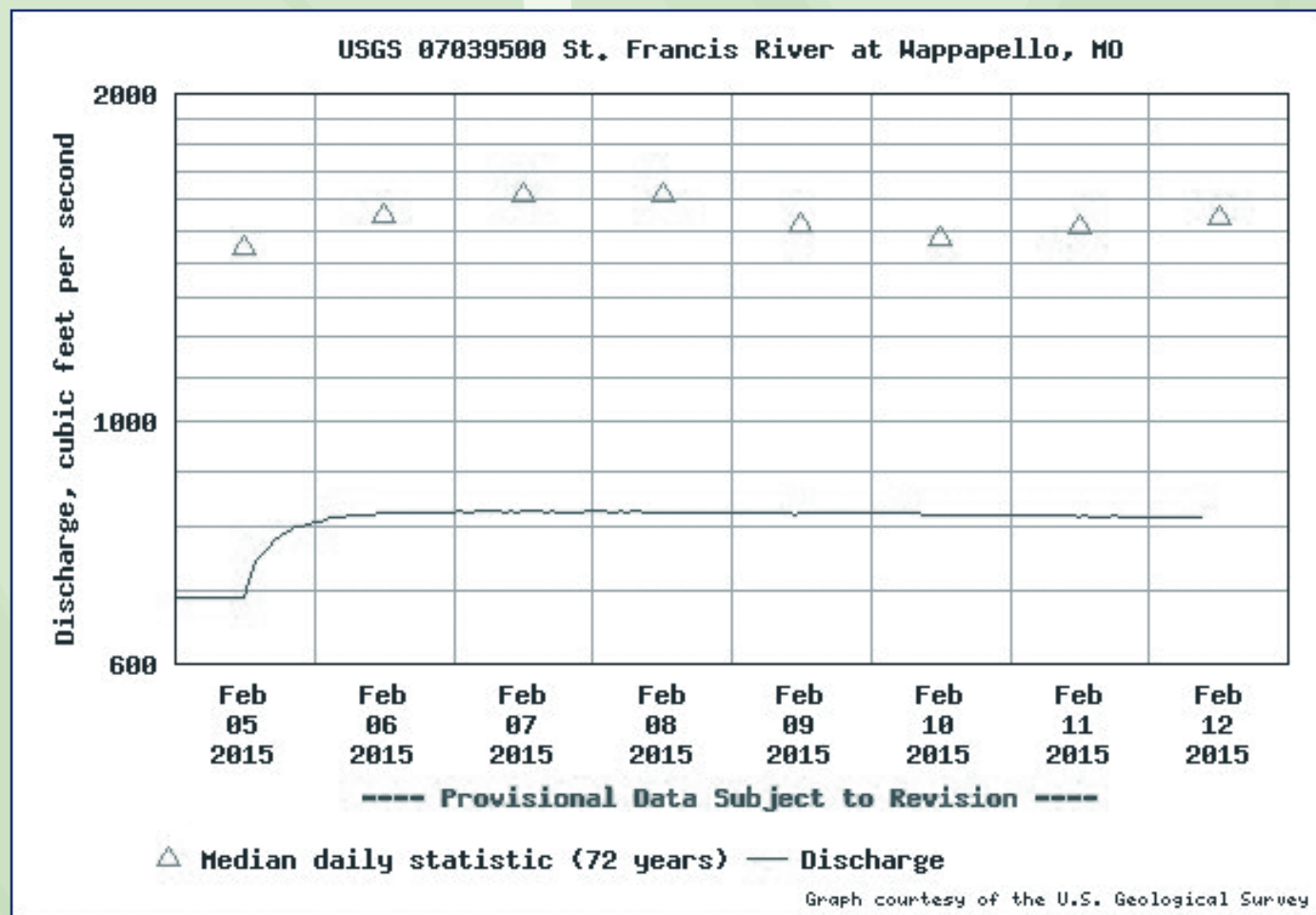
**Materials** (Materials for each student or group of students)

- Three graphs on pages 86 and 87.
- Pencils

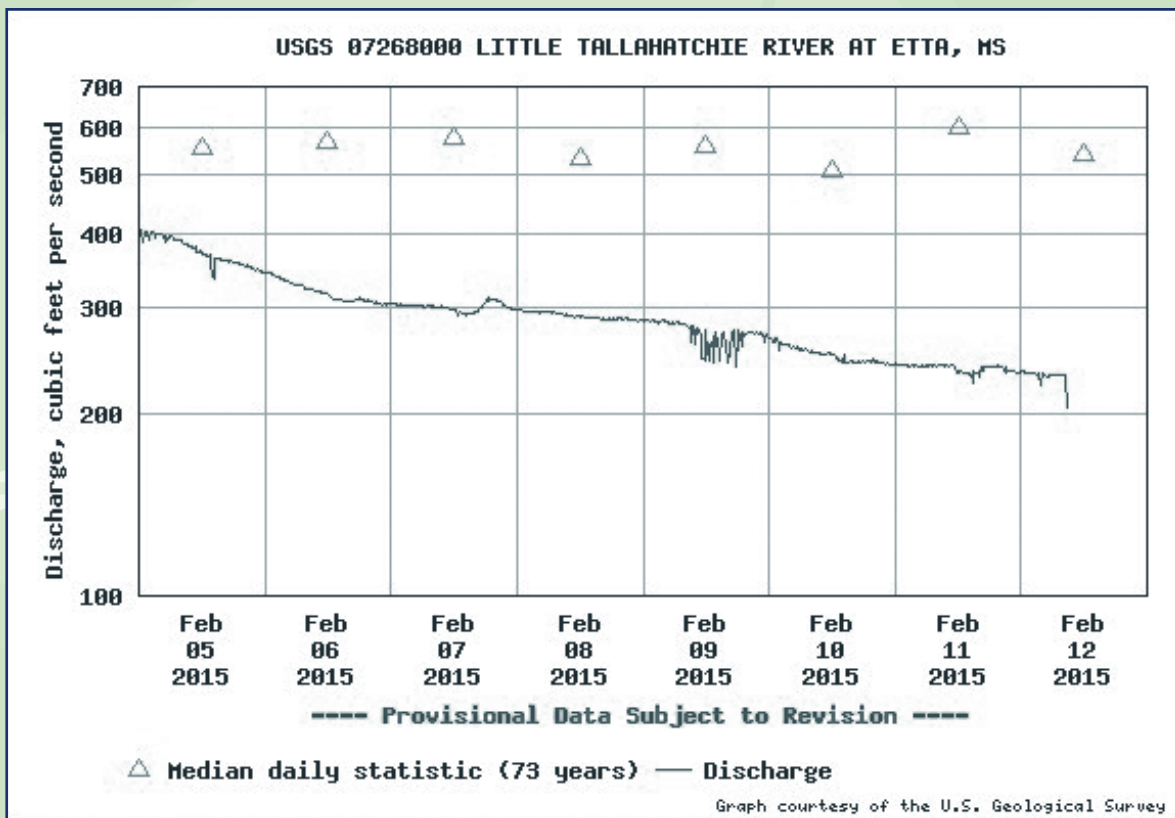
In this article, you learned about freshwater mussels and how they respond to streamflow. In this FACTivity, you will be the scientist and analyze real-time streamflow data from the three rivers that the scientists in this study studied.

The question you will answer in this FACTivity is: How do the three graphs of data from the rivers studied by the scientists compare with each other?

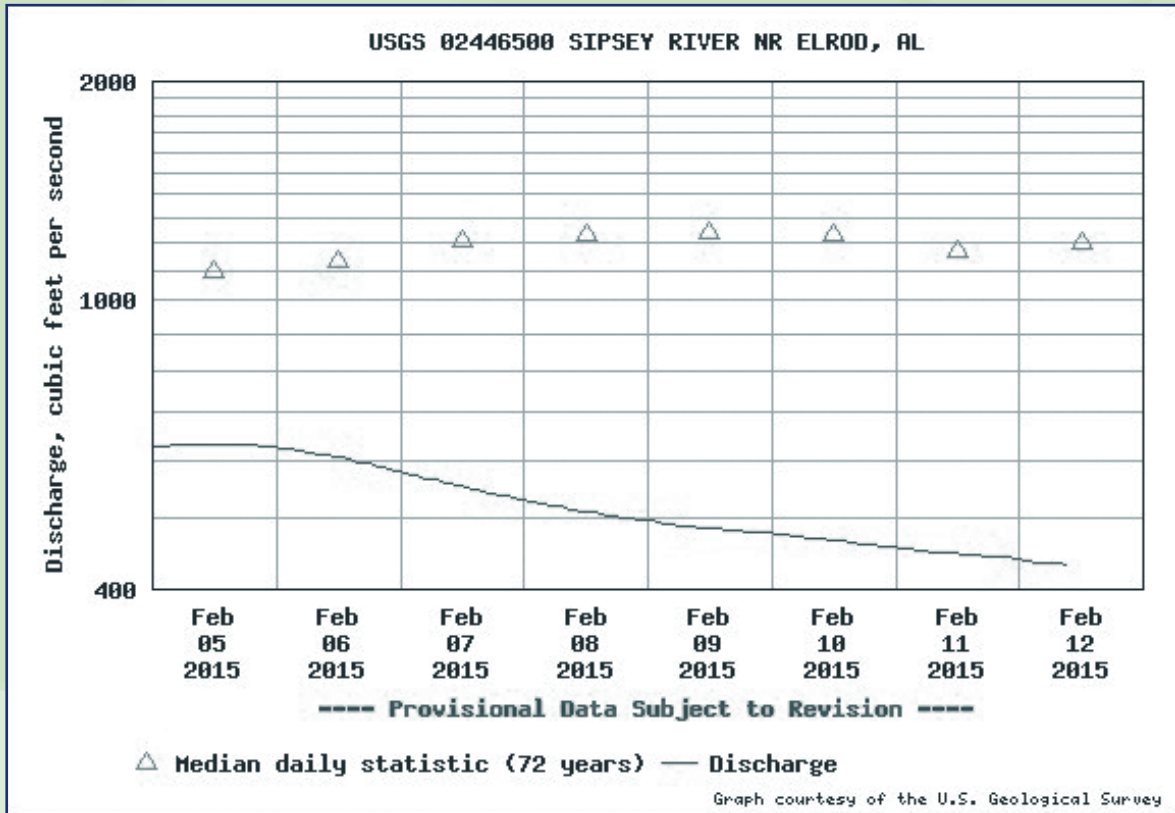
Look at the three graphs provided (figures 18, 19, and 20). Each graph represents the streamflow for each river during the same 8-day period. What is similar and different between the graphs? Look back at the findings about mussel growth and streamflow. Now, look at the three graphs. In which river or rivers do you think the mussels may grow the best during the 8-day period? Why? Do you think an 8-day period provides enough information about the streamflow in a river? Why or why not?



**Figure 18.** Graph of stream discharge for the St. Francis River at Wappapello, MO. Graph courtesy of the U.S. Geological Survey.



**Figure 19.** Graph of stream discharge for the Little Tallahatchie River at Etta, MS. Graph courtesy of the U.S. Geological Survey.



**Figure 20.** Graph of stream discharge for the Sipsey River near Elrod, AL. Graph courtesy of the U.S. Geological Survey.

# Alternate FACtivity

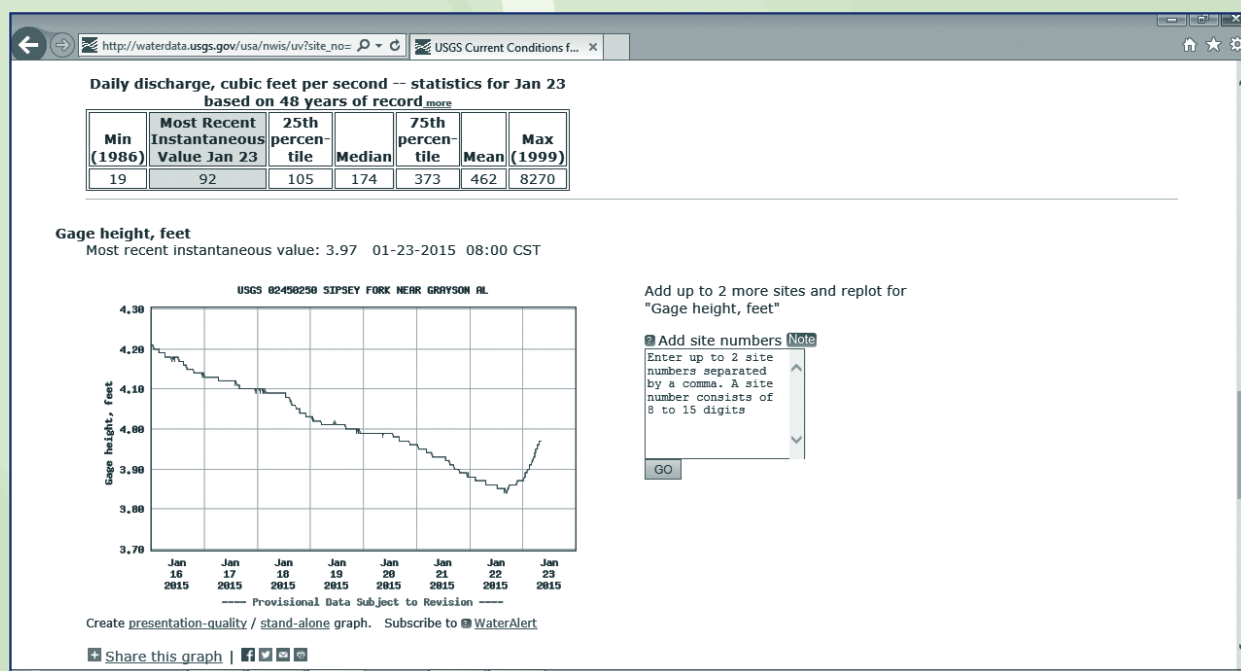


First, you will need access to a computer to visit <http://waterdata.usgs.gov/nwis/rt>. This Web site is the U.S. Geological Survey's Web site for daily streamflow conditions across the United States (**figure 21**).

The three rivers that the scientists studied were the St. Francis, the Little Tallahatchie, and the Sipsey. Each of these rivers has a streamflow gage in it that records daily streamflow as well as other data.

1. Use the dropdown menu in the upper right hand corner to select a State. For each river, you will need to select the State. For example, for the St. Francis River, you would select Missouri (see bulleted list that follows).
2. After the Missouri Current Water Data page is displayed, then click on "Statewide Streamflow Table."
3. After the "Statewide Streamflow Table" is displayed, select the specific locations provided in the following list.
  - St. Francis at Wappapello, Missouri is 07039500

- Little Tallahatchie at Etta, Mississippi is 07268000
  - Sipsey River at Erod, Alabama is 02446500
4. Compare the data between the three rivers during different time periods and seasons. You might want to create graphs or charts to help you make your comparisons. What similarities and differences do you notice?
  5. Now, go back to the main page and click on your State. Explore some of the rivers around where you live. How do the data from these rivers compare to the three rivers in the study?
  6. Share what you found with your classmates. If you have time, create a poster about a river in your area. These posters can be hung up in the classroom or in the school to help others learn about streams and rivers in your area.



**Figure 21.** The U.S. Geological Survey Web site for daily streamflow conditions provides information about streams and rivers across the United States.

## What's in a Word?

One of the many questions that people have asked from time to time is the spelling of the word “streamgage” versus spelling it with a “u” as in “streamgauge.” Page 50 of the U.S. Geological Survey report, *A History of the Water Resources Branch, U.S. Geological Survey: Volume I, From Predecessor Surveys to June 30, 1919* (<http://on.doi.gov/USGSWaterHistory>) includes a reference giving credit to the change in spelling to F.H. Newell around 1892. The author wrote:

At about this time, F.H. Newell adopted the spelling “gage” instead of “gauge.” As he informed the writer, “gage” was the Saxon spelling before the “u” was inserted as a result of Norman influence on the language.

Ever since then, the U.S. Geological Survey has spelled the word without the “u.”

## Natural Inquirer Connections

You may want to reference these *Natural Inquirer* articles for additional information and FACTivities:

- For more on turbidity, sediment, and pollution in water, read “What’s the Nonpoint?” on page 25 or “Sedimental Journey” on page 58 in this *Natural Inquirer* edition.
- To learn about another impact of regulated streams, see the sidebar on page 100 of “Timed Travel” in this *Natural Inquirer* edition.
- For more on the connectivity of stream habitats, read “Swimming Upstream Without a Ladder” in the Tropical edition of *Natural Inquirer*.

These articles, along with others, can be found at: <http://www.naturalinquirer.org/all-issues.html>.

## Web Resources

U.S. Geological Survey Water Data  
<http://waterdata.usgs.gov/nwis/rt>

Bottomland Hardwood Forests  
<http://water.epa.gov/type/wetlands/bottomland.cfm>

Fun With Freshwater Mussels!  
<http://www.uvm.edu/~pass/tignor/mussels/>

America’s Mussels: Silent Sentinels  
<http://www.fws.gov/midwest/endangered/clams/mussels.html>

Florida Museum of Natural History: Sclerochronology  
<http://www.flmnh.ufl.edu/envarch/sclerochronology.htm>

Freshwater Mussel YouTube Video from Virginia Department of Game and Inland Fisheries  
<https://www.youtube.com/watch?v=URHTrAAkpr0>