Bacterial Monitoring

Learning Module #12

**Opening Activity**

Question 1:

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***E. coli* in the Chattahoochee**

Access the Chattahoochee River BacteriALERT page by following these directions:

* Go to Google
* Type in “Chattahoochee RiverKeeper” to the search box.
* Click on Chattahoochee RiverKeeper website (Chattahoochee.org)
* Along the top panel on the main page, scroll over “Our Work”
* Under “Our Work”, click “Water Quality Monitoring”
* Scroll to the bottom of the page. Click on “View BacteriALERT Data”

Once you are on the website, explore the website by following the guided directions/questions on this worksheet. Answer each question in the space provided.

Guided directions/questions:

1. Read the paragraph at the top of the page, and then answer questions 2-5.
2. What is the purpose of the BacteriALERT page?
3. How often are water samples collected from the Chattahoochee River?
4. How many stations are the *E. coli* samples collected from? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. The BacteriALERT network has been active since the year 2000. What have these data been used to develop? How is it done?
6. Look at the map on the top right hand side of the page. Explore the map by zooming in and out, and then answer question 7.
7. Imagine you lived in Alpharetta and wanted to go swim in the Chattahoochee River. Which station location would you check for *E. coli* levels? Why?
8. Scroll down to the middle of the page to the table labeled, “BacteriALERT Sampling and Gage Sites.” Answer questions 9-11.
9. Which station has the highest current estimated *E. coli*?
10. Which station has the lowest current estimated *E. coli*?
11. Are any of the stations currently at “high risk”? If so, which ones?
12. Scroll down to the bottom of the page to the graph that is entitled “Chattahoochee River near Norcross (Medlock Bridge) *E. coli”.* Read the information below the graph title, then answer questions 13-16.
13. What is shown on the x-axis of the graph?

The y-axis?

1. What does the shaded area above and below the Estimated *E. coli* data represent?
2. What is the EPA risk level for *E. coli*? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. In the past 7 days, has this station exceeded the EPA risk level? If so, which day(s)?
4. Now, go to the bottom and find the bar that reads, “Plot data since – 7 days”. Scroll the green button all the way to the RIGHT so that the bar now reads, “Plot data since – 120 days”. (Note: make sure to click the blue “Update” button, or the graph will not change.) Answer question 18.
5. Over the past 120 days, have there been “spikes” in *E. coli* concentrations? If so, list the dates of those spikes. You can either list dates as relative (early September) or as exact (September 1st). Note that the dates on the graph list the date as YEAR/MONTH/DAY.
6. Now find the box that reads, “Plot with additional parameter.” Click on the blue button that reads, “Precipitation”. Do you notice a trend between *E. coli* concentrations and precipitation? If so, what is the trend? Why might this trend occur?
7. Now find the box that reads, “Plot with additional parameter.” Click on the green button that reads, “Turbidity”. Do you notice a trend between *E. coli* concentrations and turbidity? If so, what is the trend? Why might this trend occur?
8. If time remains, feel free to explore trends in other sample sites to see how they differ or are similar to the Medlock Bridge Site!

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**Closing Activity**

Question 1:

Question 2: