

# Seminole County Water Atlas Learning Kit

## Explore a River and Two Lakes *Handout*

Part 2 of 4 in the "Exploring the Water Atlas" Series

Water Atlas Curriculum Lesson 12

**INSTRUCTIONS:** Go to the website: [seminole.wateratlas.org](http://seminole.wateratlas.org)

1. From the dropdown menu, choose Explore > Water Resources. Type "Mills Branch" in the "Resource Name" box and click "Search." Click on "Mills Branch" and wait for the page to load.
  - a. Under "Water Resource Characteristics," find the headwaters and the mouth of Mills Branch. Enter the names below.
  - b. Compare the headwaters and the mouth of Mills Branch: Go to Search at the top of the screen. Enter each lake and fill in the table below and type in the.

		<i>Headwaters</i>	<i>Mouth</i>
	<b><i>Name of Waterbody</i></b>		
<b><i>Overview/ Current Conditions</i></b>	<b>Latitude: Degrees, Minutes, Seconds</b>		
	<b>Longitude: Degrees, Minutes, Seconds</b>		
	<b>Surface Area in Acres</b>		
	<b>Volume in Gallons, Approximate</b>		
	<b>Mean Depth</b>		
	<b>Maximum Depth</b>		
<b><i>Water Quality</i></b>	<b>Trophic State Index</b>		
	<b>Limiting Nutrient</b>		
	<b>Total Nitrogen</b>		
	<b>Phosphorus</b>		
	<b>Chlorophyll</b>		

2. From the Topics drop-down menu, choose Water Quality. Click the "Learn More" link for **Overall Trophic State Index**. Read the selection.
3. From the Topics drop-down menu, choose Water Quality. Click the "Learn More" link for **Nutrient Chemistry**. Read the selection.

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4. Examine the table you completed for the two lakes above. Compare the two lakes, explaining the importance of the information you have gathered about Trophic State Index and Nutrient Chemistry to the two water bodies. (Use the back of this sheet, if necessary.)

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5. Click the Water Levels & Flows tab to complete the table for each lake below.

		<i>Headwaters</i>	<i>Mouth</i>
		Lake Pickett	Lake Mills
<b>Water Levels &amp; Flows Tab</b>	<b>Water Level in Feet above Mean Sea Level, Latest Value (Date)</b>		
	<b>Water Level in Feet above Mean Sea Level, Historic Range</b>		
	<b>Spread of the Two-Year Water Level Graph and Date of Last Entry</b>		
	<b>Data has been recorded since the year:</b>		

6. Examine the hydrology data from both lakes. Which lake is upstream? Which lake is downstream? Which has a higher elevation, generally? Does that make sense? Why? Compare the changes in water level for the two lakes during the same period of time.

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7. For each lake, choose the Habitats/Ecology Tab and then click on the link to review the List of Plant Species. Use the data to complete the table below.

		<i>Headwaters</i>	<i>Mouth</i>
		Lake Pickett	Lake Mills
<b>Habitats/ Ecology Tab</b>	<b>List up to three exotic plants found in the latest survey.</b>  <b>Underline the names of those that are pests, and note whether they are Category I or II.</b>	1.  2.  3.	1.  2.  3.
	<b>Total Number of Plant Species</b>		
	<b>Number of Exotic (Not Native) Species</b>		
	<b>Percent of Exotic Plant Species</b>		

8. Visit the websites for the Center for Aquatic and Invasive Plants, <http://plants.ifas.ufl.edu/> and the Central Florida Cooperative Invasive Species Management Area <http://www.floridainvasives.org/Central/> to find information about the invasive species in your list. Why are these exotic invasive plants a concern?

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