Class summary

Name Summer Caleb
Environmental Science
: E.S. Honors

Luray High School Water Testing
Water Source: Hawskbill Creek
Location: Ruffner Plaza, Luray VA
Date 4/12/2019

Part I. Record Your Results

Saturated Dissolved Oxygen (%)	Dissolved Oxygen (ppm)	Nitrate (ppm)	Phosphate (ppm)	pH	Coliform (positive or negative)	Water Temperature (°C)	Turbidity (JTU)
39	2	5	4	7	+	14	0

Part II. Rate the following parameter concentrations Below on a scale 1-4

DO (Dissolved Oxygen)

(1) (poor) 2 (fair) 3 (good) 4 (excellent) <50% saturation is not healthy.

Nitrate
1 (poor) (2) (fair) 3 (good) 4 (excellent) Excess nutrients (Nitrate? Phosphorus) can cause problems in our water.

Phosphorus
1 (poor) 2 (fair) (3) (good) 4 (excellent)

pH
1 (poor) 2 (fair) 3 (good) (4) (excellent) pH is excellent.

Turbidity
1 (poor) 2 (fair) 3 (good) (4) (excellent) Turbidity is excellent.

Fecal Coliform *(check which one applies)*

_____positive ✓ _____negative

The Water Is Safe (check all that apply):
_____for drinking
✓ for swimming

Part III. Using your data, summarize the overall health of the Hawksbill Creek.

The overall health of Hawksbill Creek is decent. There are some concerns with slightly elevated levels of phosphorus and nitrates which can come from runoff on the surface. Too many of these nutrients can deplet the oxygen in the water and make it impossible for life to thrive.

Our major concern is the amount of dissolved oxygen. We would like to see saturation above 50%. The Hawksbill Creek has low levels of dissolved oxygen.

Turbidity was excellent meaning there is no pollution from sedimentation or urbanization.

our coliform test came back positive, meaning there is some colonies of coliform bacteria present in the water (fecal matter). More detailed test would need to be done. Coliform should <u>not</u> be in drinking water or wells.