



Volume #23 Issue #3
March 30, 2018

Current in the Creek

2018 Creek Camp Sessions:

I: June 24-29

II: July 8-13

Apply today!

[sites.allegheny.edu/
creekconnections/creek-camp/](https://sites.allegheny.edu/creekconnections/creek-camp/)

Historic French Creek Ice Jam

By Kala Mahen, Allegheny College student

On January 12, 2018, Meadville experienced the start of extreme flooding along the banks of French Creek. The flood came at the most inopportune time for students as they were traveling back to Allegheny's campus to start the spring semester. Many roads were closed, businesses were shut down, and even local parks where students often collect water samples were no longer accessible.

On that chilly day in January, French Creek was already ice covered, and warm rain fell in the afternoon, naturally causing water levels to rise and ice to breakup and move. Water rose to a staggering 16.45 feet, two feet above the normal flood stage. An ice jam initially formed near the Mercer Street Bridge. This blockage made water levels rise within city limits. Many Meadville residents did not realize how rapidly the water could rise, and many people had to be rescued after attempting to drive cars through the high waters.

Despite what many people expected the waters did not recede the next day. The water remained high over the weekend. There was a brief dip in water levels when the ice jam broke on its own and moved downstream, only to

reform again where French Creek S-curves just upstream of where it crosses Wilson Chutes Road.

The hydrograph, which is a graph showing the water level over time, was very interesting to watch. Usually water rises quickly, peaks, then drops slowly over time. This hydrograph had two peaks due to the ice jams.

Mother nature, as many of us have learned from water sampling, is very unpredictable! When the precipitation stopped, many expected the roads to be cleared from ice debris within hours. However, many local businesses on Park Avenue were closed for several days following the flooding. Large chunks of ice lined the streets, making it almost impossible to navigate through town.

Bicentennial Park, a common sampling site for local schools, was a few feet underwater during the flood. The replica of David Mead's log cabin that sits in the park was surrounded by ice and water. Bicentennial Park provides Meadville residents and students with a reminder of our founder and heritage. Minimal water damage will be assessed and repaired so the community treasure can be used for many years to come.

High flood waters can affect the creek and community in a variety of ways. Water chemistry, a popular activity done with Creek

French Creek Ice Jam

Continued from page 1

Connections students, can be significantly affected during flood waters. Runoff from large amounts of precipitation can cause an increase in both phosphates and nitrates if located near agricultural areas. Additionally, salt used on roads can enter the creek. Depending on what a municipality uses, it can greatly affect chemical levels. Runoff can also cause increases in flow and turbidity, or the cloudiness of the water from the increased sediment in the water. These sediments can also increase total dissolved solids and conductivity in the creek water. The quick-

flowing water and the cold temperature due to the ice and winter weather can increase dissolved oxygen levels.

Flooding can be dangerous for not only the people in the community, but also the creatures that live within the stream. French Creek is home to a biodiverse community that includes endangered species and our good friend, the hellbender. Creek Connections will continue to monitor French Creek after the flood to see if any significant changes occurred over the winter. We will be kicknetting before you know it!



Above: French Creek out of its banks into the floodplain. Photo credit: Greg Kedzierski.



Above: French Creek ice jam breaking. Photo credit: Greg Kedzierski.

Testing Tip

By Grace O'Malley, Allegheny College student

In case you haven't noticed, we've got a new pH test kit! We were grateful to receive a grant from Dominion Energy and the Western PA Conservancy to purchase these new kits. This test uses an indicator solution that changes colors when added to your sample. The sample is then placed in a color comparator, and much like the nitrate and phosphate kits, when the color matches, you know your pH!

Here's a tip! When comparing the color of your sample to the color comparator, hold it up to the light to make sure you are matching the colors correctly!



Feature Creature

By Grace O'Malley, Allegheny College student

I am a frog that likes to live near streams, ponds, lakes, or marshes. I live all throughout the northern United States and southern Canada. I am typically greenish-brown with dark spots, almost like a leopard or a cheetah. I like to lay my eggs in warm, shallow water where in a few days they will hatch into tadpoles. People like to consider me as an “opportunistic feeder,” which means I’ll eat anything I can fit in my mouth! Some of my favorite snacks include ants, beetles, and slugs. And if I can, I’ll even eat snakes! Who am I?

(see back page of newsletter for answer)



Photo credit: David Cappaert, Forestryimag-

Meet a Module

By Bri O'Neil-Hankle, Allegheny College student

Many educational activities come with the Water Pollution Module, including Riverfront Property. This activity lets students create a piece of riverfront property and consider the effects of that land use on water quality. Then students are asked to devise a plan to minimize the negative impacts of that land use on the waterway. Another activity is Pollution PI, where students determine the location of mystery collection stations on a map. Students are given clues about water quality and must use their knowledge about the connection of different land uses and water pollution. One of my personal favorite activities is Super Sleuths, in which students are “infected” with simulated unknown waterborne diseases. Students must find other students who have the same symptoms. Students can

use their knowledge to determine possible causes, transmission paths, and prevention methods. Another activity deals with abandoned mine drainage, with collecting and counting organisms from two simulated streams. One stream is healthy, and the other stream is affected by abandoned mine drainage. Students must use biomonitoring techniques to determine the health of each stream and explore the cause of the orange color in one of the streams. This module includes many more fun activities! To use this module, check its availability on the Creek Connections website and then complete the online request form.





Above: Three Creek Connections classes “visited” Antarctica by video conferencing with JOIDES Resolution research vessel scientists who were in the Ross Sea.

Connect with

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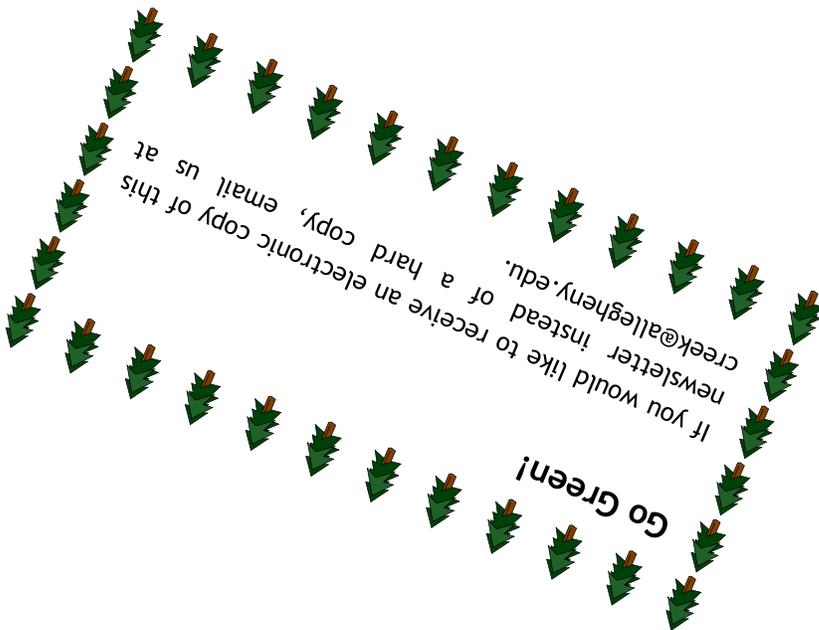
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Feature Creature Answer from page 3:

Northern Leopard Frog (*Lithobates pipiens*)



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