

Bringing it Back to Ranger Mac



10K Conservation Challenge

Upham's 10K Conservation Challenge aims to put 10,000 hours of conservation projects into the land by the end of 2020. As of March 2020, we are at 2,134 hours. Join us remotely to continue this mission! We want to measure your success!

Report any hours of conservation you do by calling Upham Woods 608-254-6461 or completing this survey:

https://uwmadison.co1.qualtrics.com/jfe/form/SV_cPepiSpnSDzhPSZ

Complete 10 hours or more on any conservation project or combination of projects and get an Upham Woods camp t-shirt!



Wacky Water Critters

When you turn on your faucet, where does your water come from? You will need to know your zip code to plug into this website. <https://www.ewg.org/tapwater/> Click on the first water utility company that comes up. **List some of the contaminants that may be in your water and brainstorm reasons why they might be there.**

Water comes from:

What's in it:

Why it might be there:

About 70% of the Earth is covered in water, but only about 3% of that water is fresh water. **Why is it important to have clean water? Who is using it besides humans?**

The University of Wisconsin-Madison does not discriminate in its employment practices and programs and activities on a variety of bases including but not limited to: age, color, disability, national origin, race, or sex. For information on all covered bases, the names of the Title IX and Americans with Disabilities Act Coordinators, and the processes for how to file a complaint alleging discrimination, please contact the [Office of Compliance](#), 361 Bascom Hall, 500 Lincoln Drive, Madison WI 53706, Voice 608-265-6018, (relay calls accepted);

Email: uwcomplianceoffice@wisc.edu.



What do you think can make this water harmful to humans, plants, and animals?

Let's do it! - Inquiry Activities

Part 1

Do you know the closest body of fresh water from your house? If not, check out [google maps](#) and type in your address and find the closest color blue. Blue represents water! (You may have to zoom way in, sometimes creeks are small.) **What type of body of water is it (river, creek, lake, pond, etc.)?**

Part 2

At Upham we collect “macroinvertebrates”.

Macro = “large enough to see with the naked eye” Invertebrate = “without a backbone”

Macro + Invertebrate = **Macroinvertebrate**

These insects are often considered to be towards the bottom of a food web. **Why might the presence of these critters be important for an aquatic ecosystem?**

Part 3

Here are some examples of macroinvertebrates that we find in the Wisconsin River at Upham Woods. Circle any that look familiar to you. Please answer the questions for each one below.



What do you think of the Stonefly

**Stonefly
Larva**



What does this scud remind you of?

Amphipod or Scud



What makes this snail unique from the other macroinvertebrates?

**Pouch Snail
(left side opening)**



Why do you think this beetle is called a backswimmer?

Backswimmer




Scientific Stories

When students come to Upham Woods they participate in several classes. At the end of the class they write scientific stories to creatively share what they learned and did during the class.


Here is a scientific story. Please read it and answer the prompts.



Scientific Story
Team Members: Glacier Creek
Date: October 18, 2019
Location: Mainland Slough
Group Summary: We searched Upham's slough to find as many macroinvertebrates as we could. It was hard work, but it was tons of fun! We learned that the macroinvertebrates found in water systems can actually clue us in to determine if water is healthy or unhealthy. The area we were testing in turned out to be in poor quality. The water there doesn't move a lot, and has a lot of agricultural run off, so it makes sense it's not great.







Navigator Report:
Latitude: 43°38'52" N
Longitude: -89°47'48" W



Weather Report:
Air Temp: 53.2 °F
Wind Speed: 1.6 mph
Humidity: 70.4 %
Cloud Cover: 100 %

Water Quality Report:
Water Temp: 60
Dissolved Oxygen: 0 ppm
D.O. % Saturation: 0 %
TDS: 175
pH: 7.6
Nitrates: 5 ppm
Phosphates: 4 ppm


For more information, contact Justin Hougham, or check out our website:
justin.hougham@wisc.edu • (608) 254-6461 • <http://fyi.uwex.edu/environmentaleducation/>

Quantitative data is represented by numbers and measurements. Qualitative data is represented by our 5 senses and observations. What type of data did they collect?

What observations did they make?

Background information on brook trout

Brook trout stop growing when the temperature reaches 66°F and cannot survive in 75 °F.
Brook trout prefer a pH range between 6.5 to 8.0.
Dissolved Oxygen should be greater than 7 mg/l (ppm) at temperatures less than 59°F and greater than 9 mg/l (ppm) at temperatures greater than 59°F.
Concentrations of nitrate over 10 mg/L (ppm) will have an effect on the freshwater fish.

All materials used to create the scientific stories were developed by Upham Woods participants and assembled into a digital format by staff. For questions about scientific stories and the process to create one contact Dr. Justin Hougham at justin.hougham@wisc.edu



Phosphate concentrations over 0.05 will likely have an impact on trout while concentrations greater than 0.1 mg/L (ppm) will certainly have impact.

Could a brook trout survive in the water at Upham Woods? Why or why not?

Threats to River Life

What do you think are the biggest threats to Wisconsin's river habitats?

Brainstorm some ways we can help.

***Bonus Activity**

Remember the body of water you identified earlier near your house? Take an adult with you and explore this water! You may have to figure out if access to this water is public. **DO NOT** go onto private property. What do you notice about the water? Are there plants growing? Are there



Extension
UNIVERSITY OF WISCONSIN-MADISON

Upham Woods Outdoor Learning Center
N194 County Road N, Wisconsin Dells, WI 53965
(608) 254-6461 •



<https://fyi.extension.wisc.edu/uphamwoods/>

animals? Can you see any macroinvertebrates? Write down or draw as many observations as you can.

This could be part of your career!

There are many different career opportunities in natural resources including conservation warden, land steward, wildlife biologist, and much more.

Next Generation Science Standards

All materials used to create the scientific stories were developed by Upham Woods participants and assembled into a digital format by staff. For questions about scientific stories and the process to create one contact Dr. Justin Hougham at justin.hougham@wisc.edu



Extension
UNIVERSITY OF WISCONSIN-MADISON

Upham Woods Outdoor Learning Center

N194 County Road N, Wisconsin Dells, WI 53965

(608) 254-6461 •



<https://fyi.extension.wisc.edu/uphamwoods/>

MS-LS2-5

MS-LS2-4

3-LS4-4

MS-LS2-1

3-LS4-3

3-LS4-4

All materials used to create the scientific stories were developed by Upham Woods participants and assembled into a digital format by staff. For questions about scientific stories and the process to create one contact Dr. Justin Hougham at justin.hougham@wisc.edu