

# 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](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!



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## 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?**

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Email: [uwcomplianceoffice@wisc.edu](mailto:uwcomplianceoffice@wisc.edu).



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

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## **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.)?**

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### **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?**

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### **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.



**Stonefly  
Larva**

What do you think  
of the Stonefly



**Amphipod or Scud**

What does this scud  
remind you of?



**Pouch Snail  
(left side opening)**

What makes this  
snail unique from the  
other  
macroinvertebrates?



**Backswimmer**

Why do you think  
this beetle is called  
a 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](mailto: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?**

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**What observations did they make?**

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### **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](mailto: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?**

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### **Threats to River Life**

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

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**Brainstorm some ways we can help.**

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### **\*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



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

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### **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**

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UNIVERSITY OF WISCONSIN-MADISON

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(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**

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