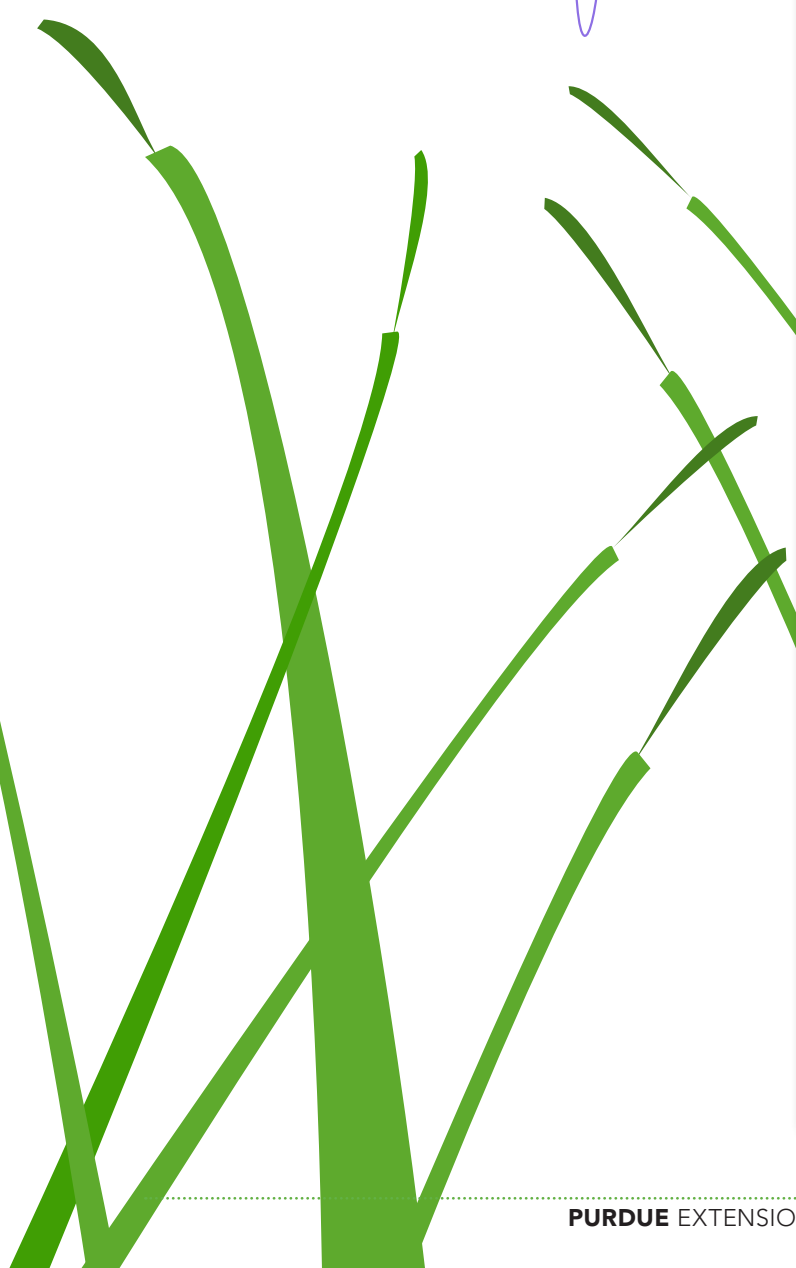
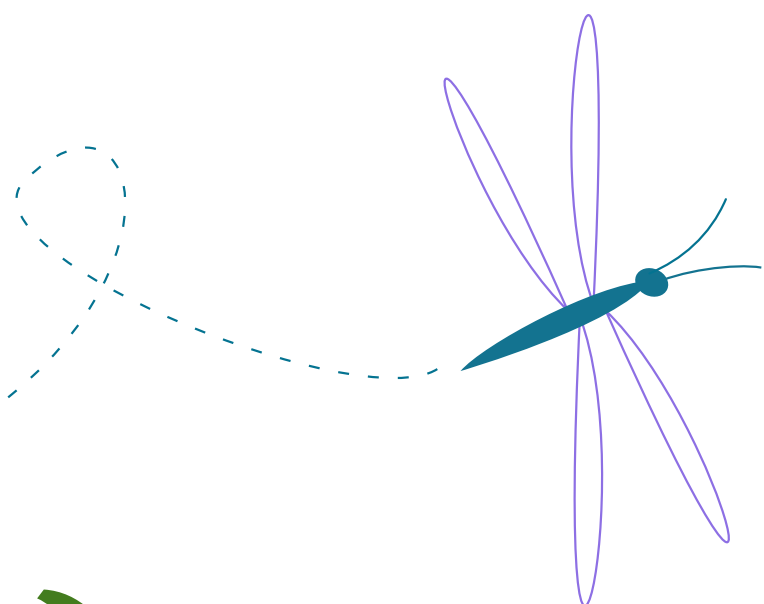


SOIL and WATER SCIENCE





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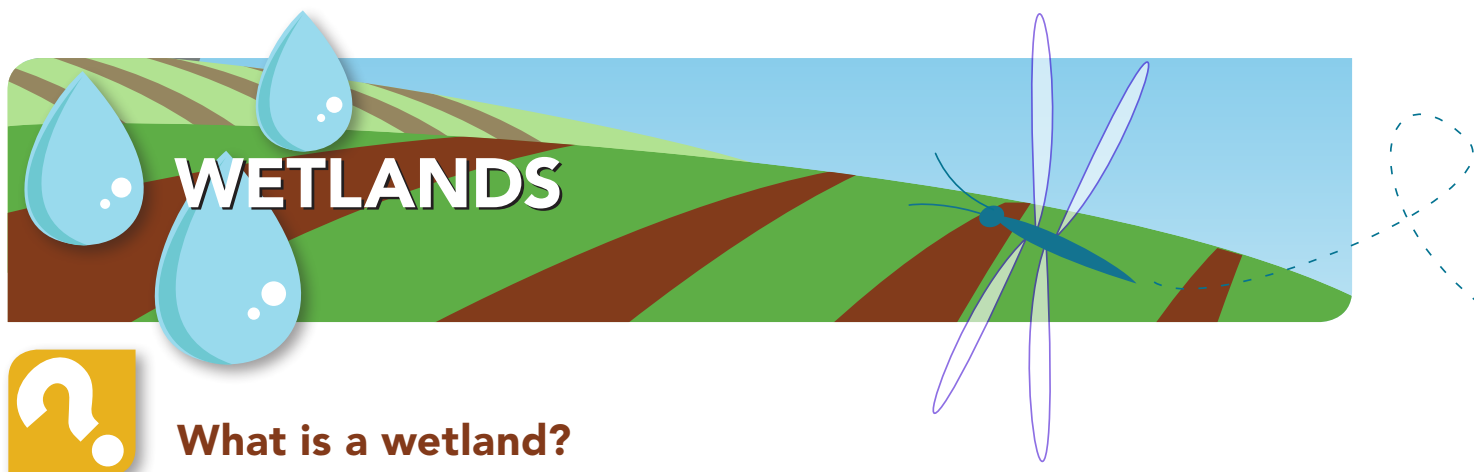
Challenges
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Glossary

Photo and Graphic Credits

*Words that are defined in the glossary are in bold the first time they appear in the text.

Additional educational resources for many topics are available from Purdue Extension's Education Store, www.edustore.purdue.edu.



What is a wetland?

INTRODUCTION

What did the question, “What is a **wetland**?” make you think about? Mud and bugs? Lily pads and frogs? Do you think of areas that should be drained and converted to farm fields? Or a valuable natural resource? Different things come to mind based on what we have heard. In this activity you will choose one of five options to help you learn more about wetlands.

Are wetlands a part of your community? Perhaps you have seen a stormwater wetland in a new housing development, a wetland in a park, or a constructed wetland for processing animal waste. People are realizing the value of wetlands as communities adopt “green” (low-impact) development practices, and farms strive to keep animal wastes out of surface water.

“Nationally, since the late 1600s we have lost roughly 50% of the wetlands in the lower 48 states. Indiana has lost a large number of its wetlands. In the 1800s and 1900s we converted millions of acres of wetlands into farms, cities, and roads, and we converted wetlands to protect our health. Before we began converting wetlands, there were over 5.6 million acres of wetlands in the state, wetlands such as bogs, fens, wet prairies, dune and swales, cypress swamps, marshes, and swamps. In the early 1700s, wetlands covered 25% of the total area of Indiana. That number has been greatly reduced. By the late 1980s over 4.7 million acres of wetlands had been lost — wetlands now cover less than 4% of Indiana.”

IDEM website, www.in.gov/idem/4402.htm, May 2013

Choose one or more of the Do It activities to learn more about wetlands.

Collaborator: Sarah Wright, Wetlands Expert, Christopher B. Burke Engineering, LLC

TOOL KIT #1:

- ☐ Yardstick
- ☐ T-post or piece of lumber, 2 inch x 2 inch x 5-6 feet
- ☐ Post driver or sledgehammer



Creating a Hydrograph

- Locate a wetland in your area. Contact your local Soil and Water Conservation District (SWCD) office for help as needed.
- Explain to the landowner or park manager that you are doing a research project, and get permission to monitor the water height in their wetland.
- Make a monitoring stick by driving the T-post or 2x2 into the water at the edge of the wetland where it will be easy to record the water height.
- Attach the yardstick to the T-post or 2x2, aligning the bottom of the yardstick with the soil level if the wetland were dry, if possible.
- Record the current height of the water in the wetland each week for at least eight weeks. 📅 March–July is generally best.

Record your data in your record book. 📖

Include a general comment about the temperature and amount of rainfall during the previous week. For example, "The weather has been very hot. It rained slightly."

- Create a **hydrograph**.

Graph the dates of data collection on the x-axis and the height of the water on the y-axis.

Plot the water height for each week you took measurements.

- Analysis

Write a description of how the water level changed over time. Include some of your general observations and comments that explain the type of weather that occurred while you were recording data.

TOOL KIT #2:

☐ Internet access

☐ Your state map



Watersheds and Wetlands

- Find your watershed by entering your zip code in the EPA watershed locator, <http://water.epa.gov/type/watersheds/>; click Go.
- Sketch your watershed on your state map and add the title: My Watershed
- You do not need to sketch portions that are outside of your state. Use a map or the Internet to identify and draw the major rivers in your watershed.

Contact your local Extension Educator, or SWCD or Natural Resource Conservation Service employee to ask the location of any wetlands in your county.

Include natural wetland features and artificial wetlands such as detention ponds and constructed wetlands.

Add any wetlands to your watershed.

- Read about wetlands on the EPA wetland websites.

Wetlands: Where water meets land, <http://water.epa.gov/type/wetlands/> and <http://water.epa.gov/type/wetlands/basic.cfm>

What is the value of a wetland in an agricultural landscape?

What is the value of a wetland in an urban landscape?

TOOL KIT #3:

☐ Record book



Wetlands Survey

- Develop a wetland survey to determine what others think about wetlands. You can include any or all of the following questions, or add questions as you wish.

What is a wetland?

What are the benefits of a wetland?

What are the concerns about wetlands?

What wetlands exist in our community?

- Survey 10 people in your community to learn more about local wetlands.

Try to get a cross-section of respondents that includes farmers, business owners, public officials, teachers, and youth.

- Create a document that lists each question and all the answers that you received.

Attribute each answer to the respondent; for example, farmer, business owner, etc., without using names.

Example: What is a wetland?

Farmer: A wetland is . . .

Extension Educator: A wetland is . . .

Summarize the responses from the people you surveyed.




Wetlands Water Quality

Compare the amount of contamination of a stream and a wetland in your county using Insects as Bioindicators of Water Quality, at www.four-h.purdue.edu/Natural_resources/Resources/BioindicatorWQ/.



Wetland Diversity

Complete the Wetland Diversity worksheet ( – [WetlandDiversity.pdf](#))

For two different wetlands; or

At two different times of year.

LIFE SKILLS

- Acquiring knowledge
- Communicating with others

- Completing a project
- Interacting with others
- Managing yourself



Share What Happened: Which Do It option did you choose? Why?

Apply: What did you learn about wetlands?

Generalize to Your Life: Would your community benefit from having more wetlands?



DIG DEEPER

- Learn about biocontrol of purple loosestrife (www.four-h.purdue.edu/purple/), an invasive wetland plant, and consider helping to decrease purple loosestrife populations in your area.

NOTES:
