



# Brevard County Libraries

We are shaking things up a bit with our  
Summer Reading Program 2021!

In this week's STEAM Packet, our theme is Wetlands! We're going to explore this environmentally important biome with several hands-on activities that you can do with your family.

STEAM Packets can be picked-up at any branch within Brevard County and are available for curbside service.

All STEAM Packets are developed to be take-home based projects. Most supplies will not be provided by the library and will be listed only as 'Supplies Needed.'



Connect with us at:  
[Brevard County Libraries](https://www.brevard.org)

[brev.org](https://www.brev.org)

[Brevard County Libraries on Facebook](https://www.facebook.com/BrevardCountyLibraries)  
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Storytime, STEAM, Craft, and Teen Packets developed by the Youth Services Department

# What are Wetlands?



Rich Grissom Memorial Wetlands at Viera

## Wetlands

Wetlands are biomes that are WET! Really, really wet! They are transitional areas between land and water including bogs, freshwater and saltwater marshes, swamps, meadows, and floodplains. They can be found near forests, oceans, rivers, ponds, lakes, and estuaries. They can also contain freshwater or salt water depending on where they are located. Wetlands are areas with shallow standing water during part or even all of the year. The soil in wetlands is often waterlogged- meaning it soaks up water like a sponge! This type of soil is called hydric soil. Water in wetlands is released very slowly back into surrounding areas and deeper into the ground. Wetlands are important parts of our environment as they help prevent flooding in other areas and they help to filter pollution and sediment from water.

Does that seem familiar? Florida is home to many wetlands including Everglades National Park. The Everglades is a roughly 4000 square mile freshwater marsh wetland!

What lives in a wetland? There is rich biodiversity in wetlands. This means that you can find many different species of plants, animals, insects, reptiles, and amphibians. In a Florida wetland, you may find eagles, egrets, alligators, foxes, bobcats, bats, snakes, turtles, butterflies, fish, and a wide variety of plants and trees! These plants and animals have adapted over time to live in areas that contain great amounts of water. That's why it is important to protect wetlands- it helps all of the creatures that live there! Visit the [Florida Everglades National Park website](#) to learn more about the plants and animals that call that wetland home. At this site you can also listen to recordings of some of the animals.

## Visit a Wetland

Have you ever visited a wetland? Florida is home to many wetlands including some you can explore in Brevard like the [Rich Grissom Memorial Wetlands at Viera](#). Try documenting what you see when you visit a wetland. You can use apps like [iNaturalist](#) and [Seek by iNaturalist](#) to identify plants and animals. If you share your findings through the iNaturalist app you can help scientists learn more about the biodiversity of your area. This is called participating in Citizen Science!

When you visit a wetland, you can take part in many activities including wildlife spotting, listening to the sounds of wildlife, journaling, photography, geocaching, hiking, and conservation. Perhaps you could create a piece of art or a drawing about animals you saw in the wetland? For inspiration research the artist and naturalist John James Audubon! While visiting a wetland can you think of ways to help protect them? Wetlands can be delicate and when we visit them we must make sure that our activities do not negatively impact them. When you are done, visit the library to research conservationists who have helped wetlands like Marjory Stoneman Douglas.

Wetlands are wild areas. Very wild! Make sure to prepare for your visit. Only visit with an adult and bring water, sunscreen, insect repellent, and sturdy shoes. Be careful during your visit and give all wildlife proper distance- for your safety and theirs.

### **Suggested Reads:** [Books available through your library!](#)

“Life in a Wetland” by Laura Hamilton Waxman

“Do You Really Want to Visit a Wetland?” by Bridget Heos

"Welcome to the River of Grass" by Jane Yolen

"Squishy, Misty, Damp, and Muddy. The In-between World of Wetlands" by Molly Cone

"Journey into a Wetland" by Rebecca L. Johnson

“Here is the Wetland” by Madeleine Dunphy

“Turtle Splash!” by Cathryn Falwell

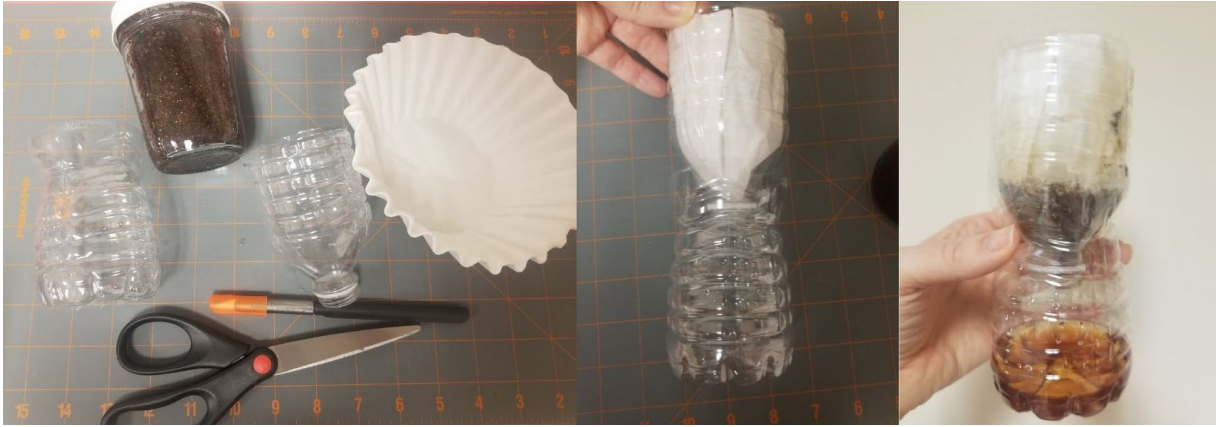
“Super Simple Wetland Critter Crafts” by Sammy Bosch

“Super Simple Wetland Projects” by Carolyn Bernhardt

“The Wetlands of Florida” by Peggy Lantz and Wendy Hale

“The Kids’ Guide to Birds of Florida” by Stan Tekiela

# Low-tech Water Filter



## Supplies Needed:

Plastic soda or water bottles, coffee filters, tea bags or used coffee grounds, and a craft knife or scissors. Have an adult help you cut the soda bottle in half.

## Optional Supplies:

Test other materials such as sand, gravel, grass, paper towels, nylons, fabrics, etc.

## Predictions:

Do you think you will be able to create something that filters pollution from water?

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What materials do you think will work best to filter your water?

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Do you think the water will be safe to drink?

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How do you think water is filtered in a wetland?

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## Directions:

This activity is intended for you to do at home with your family.

1. Remove the cap and label from your bottle.
2. With the help of a grown-up cut your bottle in half where the label was. You should now have one half that resembles a cup and one half that resembles a funnel.
3. Next, flip the funnel part of your bottle over (the part you would drink from) and place it inside of the other half of the bottle.
4. Place your coffee filter inside of the funnel part of the bottle now.
5. Test your filter! Mix a solution of water and the contents of a tea bag together. Pour that into your funnel. Did your filter work? Did any tea leaves end up in the bottom of your bottle?
6. Try different materials. Use combinations of gravel, soil, and grass to simulate how a wetland filters water.

## Reflection:

Did your filter remove the debris from the water?

**YES**

**NO**

Do you think this water is drinkable? Don't drink- just think!

**YES**

**NO**

How do you think a wetland helps to filter water?

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Where do you think that our drinking water comes from?

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Why do you think wetlands are important?

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What threats do wetlands face? What can you do to help protect wetlands?

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# Further Exploration

Scientists are seeking help from you- yes, you! - to research and document different projects. When the public helps scientists with projects this is called Citizen Science. NASA provides several projects that your family can participate in to help our environment through their [GLOBE Observer program](#). One of these projects can help you better understand our local environment especially. Scientists are seeking to learn about mosquito populations in different areas. You can [build a mosquito larvae trap with simple instructions from NASA](#). Then report your findings using the GLOBE Observer app.

## Resources

NOAA

<https://oceanservice.noaa.gov/facts/wetland.html>

Florida Museum

<http://www.floridamuseum.ufl.edu/southflorida/regions/everglades/>

Florida Everglades

<http://www.nps.gov/ever/learn/nature/animals.htm>

Brevard County Environmentally Endangered Lands Program

<http://www.brevardfl.gov/NaturalResources/EnvironmentalResources/VieraWetlands>

GLOBE Observer Mosquito Mapper

<https://observer.globe.gov/do-globe-observer/mosquito-habitats>

Florida Birding and Butterfly Spotting

<https://floridabirdingtrail.com/birding-101/>

Habitats

<https://floridabirdingtrail.com/habitat-sort-page/>

iNaturalist

<http://www.inaturalist.org/>

Seek by iNaturalist

[http://www.inaturalist.org/pages/seek\\_app](http://www.inaturalist.org/pages/seek_app)

GLOBE Observer

<https://observer.globe.gov>

Build a Mosquito Larvae Trap

[https://www.inaturalist.org/pages/seek\\_app](https://www.inaturalist.org/pages/seek_app)

Make a Water Filter from National Geographic Kids

<https://kids.nationalgeographic.com/books/article/water-wonders>

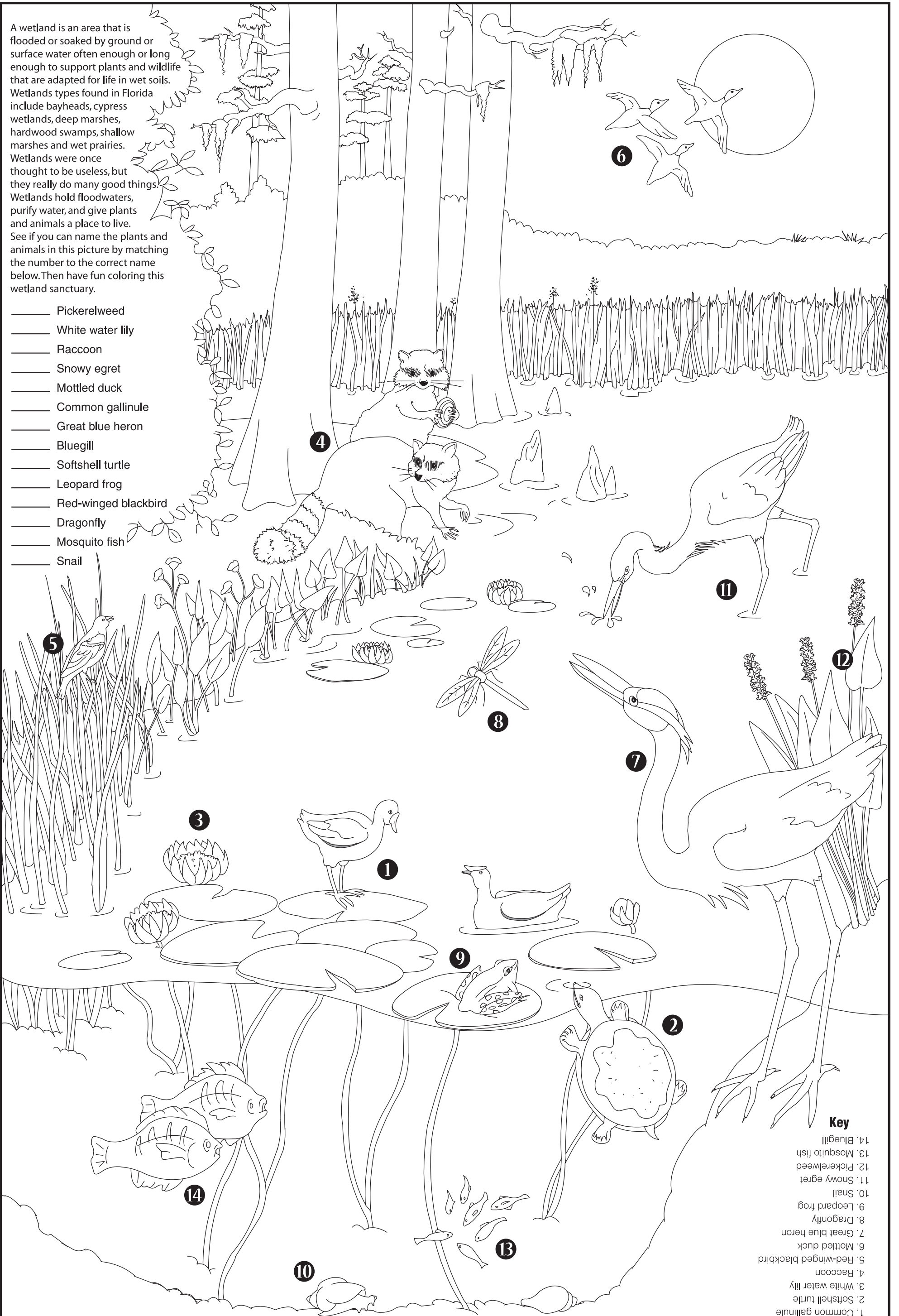
Project Learning Tree "Watch on Wetlands" # 71

<http://www.plt.org/stem-strategies/watch-on-wetlands/>



A wetland is an area that is flooded or soaked by ground or surface water often enough or long enough to support plants and wildlife that are adapted for life in wet soils. Wetlands types found in Florida include bayheads, cypress wetlands, deep marshes, hardwood swamps, shallow marshes and wet prairies. Wetlands were once thought to be useless, but they really do many good things. Wetlands hold floodwaters, purify water, and give plants and animals a place to live. See if you can name the plants and animals in this picture by matching the number to the correct name below. Then have fun coloring this wetland sanctuary.

- \_\_\_\_\_ Pickerelweed
- \_\_\_\_\_ White water lily
- \_\_\_\_\_ Raccoon
- \_\_\_\_\_ Snowy egret
- \_\_\_\_\_ Mottled duck
- \_\_\_\_\_ Common gallinule
- \_\_\_\_\_ Great blue heron
- \_\_\_\_\_ Bluegill
- \_\_\_\_\_ Softshell turtle
- \_\_\_\_\_ Leopard frog
- \_\_\_\_\_ Red-winged blackbird
- \_\_\_\_\_ Dragonfly
- \_\_\_\_\_ Mosquito fish
- \_\_\_\_\_ Snail



- Key**
- 14. Bluegill
  - 13. Mosquito fish
  - 12. Pickerelweed
  - 11. Snowy egret
  - 10. Snail
  - 9. Leopard frog
  - 8. Dragonfly
  - 7. Great blue heron
  - 6. Mottled duck
  - 5. Red-winged blackbird
  - 4. Raccoon
  - 3. White water lily
  - 2. Softshell turtle
  - 1. Common gallinule



# Who Lives in a Wetland?