

Junior Refuge Manager

Theodore Roosevelt National Wildlife Refuge Complex

Hillside, Holt Collier, Mathews Brake,
Morgan Brake, Panther Swamp, Theodore Roosevelt,
and Yazoo National Wildlife Refuges



Two bear cubs playing, credit Michael Kelly

This Activity Book Belongs To:



How Do I Become a Junior Refuge Manager?

You've already completed the first step – picking up a Junior Refuge Manager Activity Book! The next step is reading through your book and completing the activities inside. The number of activities you will need to complete in order to earn the Junior Refuge Manager badge depends on how old you are:

If you are **5-7 years old**, complete three activity pages.

If you are **8-10 years old**, complete five activity pages.

If you are **11+ years old**, complete eight activity pages.

Checklist

- Activity #1: Visitor Center Discovery**
- Activity #2: Take a Hike**
- Activity #3: Wetland Scavenger Hunt**
- Activity #4: Habitat Detective**
- Activity #5: Wildlife Observation**
- Activity #6: Stewardship Project**
- Activity #7: Waterfowl Management**
- Activity #8: Migratory Waterfowl Routes**

A Junior Refuge Manager is a person who...

- Cares about the conservation of native wildlife and its habitat

- Is knowledgeable about the wildlife and plants that the refuge is protecting

- Recognizes the importance of refuges for both wildlife and the community

- Is environmentally conscious—does “green” things

- Always follows the **Carry in, carry out, leave no trace** guidelines

- Is ready to share this information with others to make a difference

The United States Fish and Wildlife Service: “working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people.”



Great egret nest, credit Michael Kelly

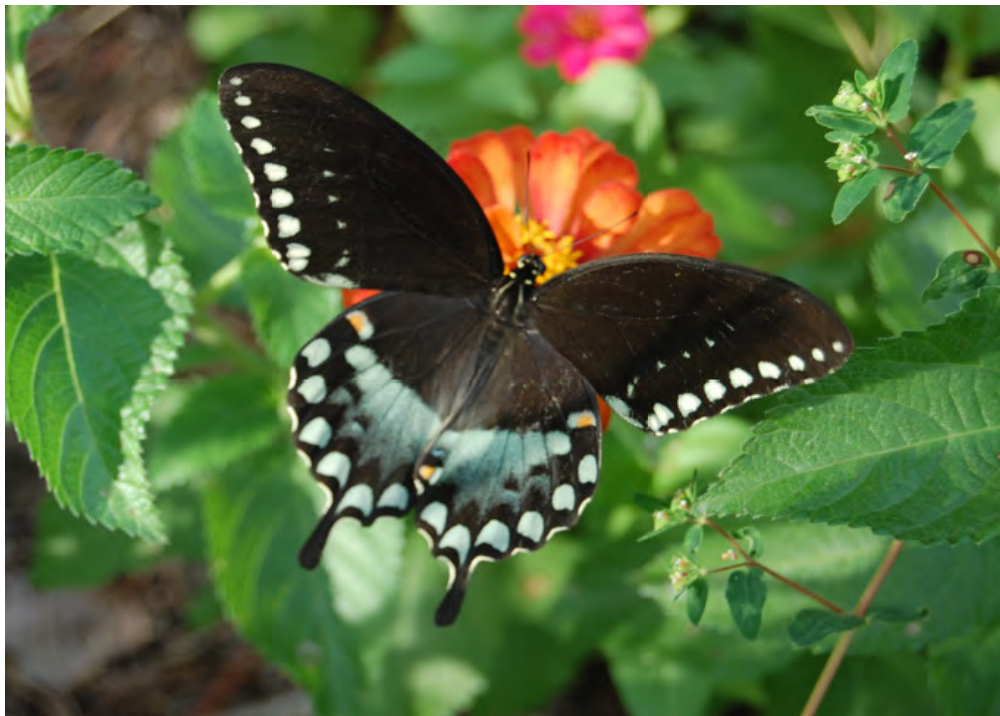
Can you imagine going on a trip from Canada to Louisiana, or from Alaska to Mexico, without eating? Many birds migrate a long way between their summer and winter homes. Hillside, Holt Collier, Mathews Brake, Morgan Brake, Panther Swamp, Theodore Roosevelt, and Yazoo National Wildlife Refuges were all created for the purpose of providing migratory birds and waterfowl much needed places to feed and rest.



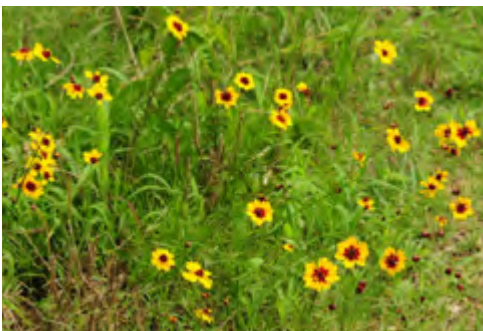
Wetlands like the one pictured above are among the most productive habitats in the world, credit USFWS/William Powell

What is a National Wildlife Refuge?

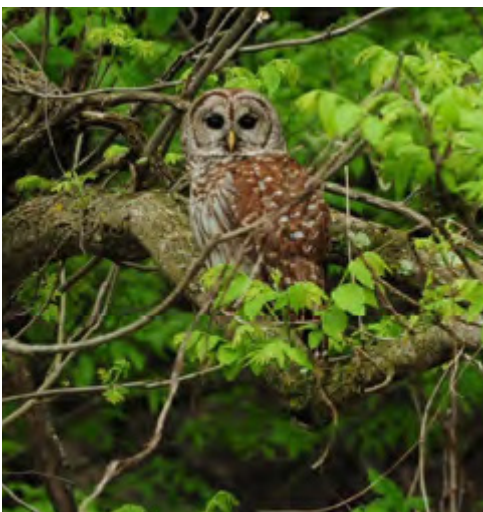
The Theodore Roosevelt National Wildlife Refuge Complex consists of Hillside, Holt Collier, Mathews Brake, Morgan Brake, Panther Swamp, Theodore Roosevelt, and Yazoo National Wildlife Refuges and is a part of the National Wildlife Refuge System which includes more than 560 refuges throughout the United States and its territories. This network of lands and waters is the largest in the world that is set aside for fish, wildlife, and plants.



Spicebush Swallowtail, credit USFWS/Dove Barnes



Wildflowers, credit Renee Tressler



Barred owl, credit Renee Tressler



Young girl catches fish, credit USFWS

What does a refuge manager do?

He or she, along with his/her staff, maintain and protect refuges for plants, wildlife, and people.

Would you like to work at a national wildlife refuge?

There are many jobs to do, such as biologists, wild-land firefighters, environmental educators, law enforcement officers, visitor center specialists, maintenance workers, and refuge managers. The first step is to learn about wildlife, their habitat, and how we can protect them. Start by becoming a Junior Refuge Manager!

Carry In, Carry Out! Leave No Trace!

The Theodore Roosevelt National Wildlife Refuge Complex is home to many different species of animals. Please help do your part by always following the Carry In, Carry Out guidelines. Thank you for helping keep all of your refuges beautiful and clean!

How To Make Sure You Leave No Trace:

- Plan ahead, know rules, and check for area closures before you head out
- Leave what you find: take only pictures and leave only footprints
- Carry your trash out with you when you leave
- Respect wildlife and do not feed or touch them

What else can you do to make sure you Leave No Trace?

Did you know?

Pelican Island in Florida was designated as the first National Wildlife Refuge in 1903 by President Theodore Roosevelt. The Refuge system protects over 150 million acres and is continually expanding.

That's more than Mississippi, Alabama and Tennessee combined!

Activity #1: Visitor Center Discovery

What Can You Learn at the Visitor Center?

The Theodore Roosevelt National Wildlife Refuge Complex has many things to see and do, including exploration of the Theodore Roosevelt Visitor Center which offers a variety of interpretive exhibits and videos where you can learn more about the refuges, wetlands, birds, alligators, bears, and the history of President Theodore Roosevelt. Tell us what you discovered today!

Watch a Video!

I watched the video about:

I learned that:

Explore the Exhibits!

One exhibit I liked was:

I learned that:



For more info on the Junior Duck Stamp Program and contest guidelines, follow the link below:

<https://www.fws.gov/birds/education/junior-duck-stamp-conservation-program.php>

Like to draw or paint?
Want to help with the conservation effort?
Your artwork could appear on the next Junior Duck Stamp!

Activity #2: Take a Hike or a Drive!

The best way to learn more about refuges is to head out on the trails! Grab a brochure with a map at the Theodore Roosevelt Visitor Center, or any of our refuges. Remember we have seven you can visit!



Eastern cottontail, credit Michael Kelly



Google Earth Image 2020

Which refuge did you visit?

Tell us where you went on the refuge(s) and what you did.

Example: I visited Yazoo National Wildlife Refuge and spotted 10 snowy egrets and one huge alligator.

Draw or write about something you saw on one of the refuges:



Panther Swamp NWR Headquarters, credit USFWS/ Kayla Feist

Bird Identification

New to the refuges? Here's a quick introduction to some of the migratory birds you can find on the refuges at various times of year.



Black Necked Stilt - These birds are thriving more recently because of well managed wetlands. They migrate to the Southeast Region and could breed here as well, credit USFWS/ Tom Koerner.



Northern Pintail - They migrate in flocks and will migrate south in the fall and north in the spring. Many will cross the Bering Strait in the winter to come to North America, credit USFWS/ Dave Menke.



White Ibises - These are one of the most common wading birds around our complex, and are often seen everywhere else in the southeast. Some White Ibises from the US have ended up in Cuba and Mexico after migrating, credit USFWS/ Allie Stewart.



Indigo Bunting - These birds are very abundant in the summer on our complex, and the males sing quite often. They migrate at night and use the stars to navigate, credit USFWS/ Michael Schramm.

Key Vocabulary

biologist - A scientist who studies living things.

carnivore - An animal that feeds on other animals.

conservation plan - A written plan that describes actions that may be taken to manage, protect, and preserve ecosystems.

drake - A male duck.

ecological threat - Something that can harm ecosystems like drought, cutting down trees, pollution, invasive plants and animals, and human development.

ecosystem - All of the living and non living things found in a certain area.

flyway - A route regularly used by large numbers of migrating birds.

habitat - The natural home of a

plant or animal. Waterfowl live in wetland habitats.

hen - A female duck.

invasive organism - In an ecosystem, an invasive organism is any living thing (plant or animal) that causes harm to a habitat where it is not normally found.

levee - A natural or man made raised area of earth along side a canal or river.

migration - The movement of animals from one place to another.



Would you like to become a Biologist or a Refuge Manager? You can start by studying biology and/or conservation and volunteering on a refuge near you, credit USFWS/Stephanie Allison

predator - An animal that eats or “preys,” on other animals. For example, wolves are predators of deer.

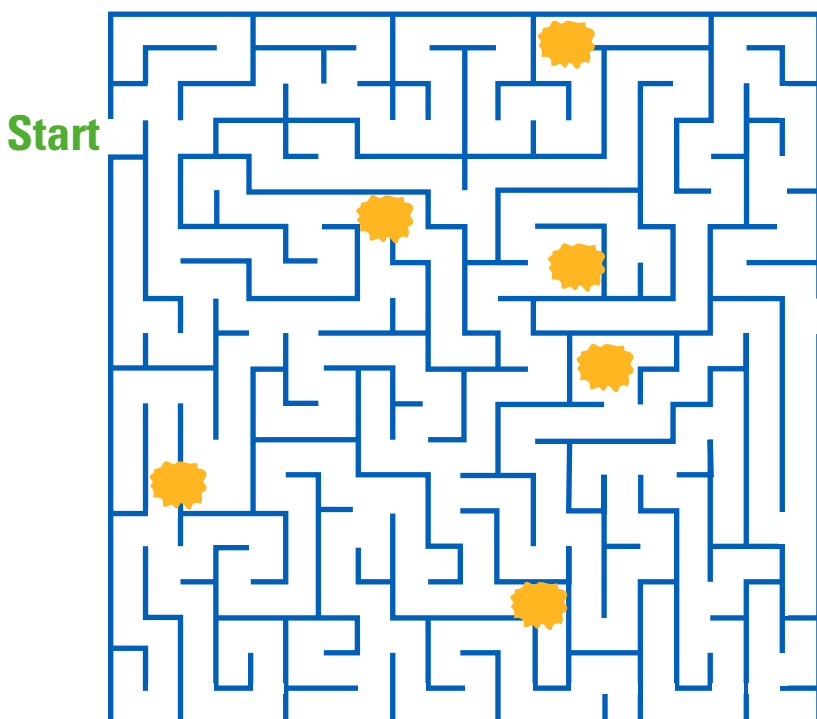
prey - An animal that is hunted or killed by another animal. For example, mice are prey for snakes.

raptor - Medium to large sized carnivorous bird with very sharp claws (talons) and curved or hooked beak. Examples include owls, hawks, falcons, eagles, and kestrels, among others. Also called “birds of prey.”

waterfowl - Birds that spend most or all of their time in and around water. Most people consider ducks, geese and swans to be “waterfowl.” They have webbed feet, waterproof feathers, and are very strong swimmers!

wetland - Land that is usually covered with shallow water and is home to many types of plants and animals that are found in or near water.

Native species are looking for room to expand throughout refuge habitats. Help them find their way while avoiding invasive species, which can crowd them out and/or use their food.



invasive species

Safe habitat
Nice job!
Native species will thrive here.

Activity # 3: Wetland Scavenger Hunt

Have you seen any of the creatures or features below on the refuge(s) today? _____
On the line beneath each photo, label each with the word or words that you think best describes them.



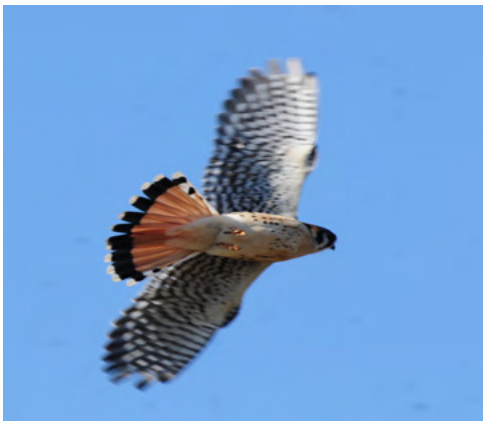
Credit: Harold Wagle



Credit: USFWS/Erin Cox



Credit: Michael Kelly



Credit: Renee Tressler



Credit: Michael Kelly



Credit: Renee Tressler



Credit: Michael Kelly



Credit: USFWS/Erin Cox



Credit: Margaret & Raymond Harden

Answer key (left to right): Roseate Spoonbill, Lotus Flower, Wood Ducks, Black-winged Hawk, Alligator, Alligator Slough Boardwalk, Gadwall, Bottomland Hardwoods, Invasive Hog

Activity #4: Habitat Detective

Refuge managers maintain and protect the habitat that plants and animals use. What is a habitat? A **habitat** contains all the resources that an animal or plant needs to survive: food, water, shelter, and space. Habitats come in different types depending on where they are. Some of the habitat types on the refuges include fresh, intermediate and brackish marshes, prairie grasslands and ridges, swamps, mudflats, woodlands, bayous, lakes and ponds. Choose a habitat type to investigate and write down what you learn. Remember to **Carry in, carry out, and leave no trace!**

Hint: You can view many different habitats at each refuge. Stop by Yazoo NWR to visit the Alligator Observation Tower!

What does the habitat look like?

Draw an animal that you see in the habitat.



Draw a plant that you see in the habitat.



Bottomland Hardwoods, credit USFWS/Erin Cow

Do you think that all the plants and animals in the habitat have enough space? If not, how do you think we could help them get more space? What do you think animals eat in the habitat?

Activity #5: Wildlife Observation

You can learn more about wildlife by observing them in their natural habitat! The types of animals you see will depend on what season it is. A list of animals you might see while visiting one of our refuges is on page 12.



White-tailed fawn, credit Michael Kelly

Biologists working on wildlife refuges watch animals to learn where they live, what they eat, when they migrate, and how they raise their young. All this information can help a refuge manager make decisions about how to run the refuge.

Head out on the trails and find an animal to observe and see what you can learn.

Rules for Habitat Observation

- Remember, you are a visitor in the animal’s home. Be respectful of their habitat!
- Don’t make loud noises or yell when you see an animal.
- Don’t get too close to animals—always stay on the trails and boardwalks.
- Remember to **Carry in, carry out and leave no trace!**

Location: _____

Date: _____ Time: _____

Length of observation (5 minutes? 10?): _____

Type of animal or plant: _____

Was the animal moving?

If so, how did it move, and where was it going?

Was the animal with other animals?

If so, were they the same kind of animal (such as a flock of birds) or different kinds of animals?

Was the animal eating? Could you tell what it was eating?

Some Animals You Could See While Visiting the Refuges

Birds

- Red-Bellied Woodpecker
- Barred Owl
- Great Blue Heron
- Snowy Egret
- White Ibis
- Wood Duck
- Canada Goose
- Turkey Vulture
- Red-Tailed Hawk
- Prothonotary Warbler



Prothonotary Warbler; credit Michael Kelly

Bonus: Rare & Uncommon Birds

- Purple Gallinule
- Prairie Warbler
- American Bittern
- Red-shouldered Hawk

Parents

Struggling to recognize what you and your child/children saw?

You can download plenty of apps to help or purchase a Field Guide in the **Visitor Center gift shop!**

Mammals

- Virginia Opossum
- Big Brown Bat
- Nine-banded Armadillo
- Swamp Rabbit
- Fox Squirrel
- Louisiana Black Bear
- Coyotes
- Raccoons
- River Otters
- Bobcats
- Deer



White-tailed Deer; credit Michael Kelly

Fun Facts

- Opossums do not carry rabies, and they are immune to most snake venoms. They have even contributed to creating most anti-venoms, how cool!
- Coyotes can live up to ten years in the wild, almost as long as your household dog!
- Otters can hold their breath underwater for eight minutes, that's longer than most humans can!

Reptiles and Amphibians

- American Alligator
- Alligator Snapping Turtle
- Red-eared Slider
- Banded Water Snake
- Copperhead
- Cottonmouth
- Canebrake Rattlesnake
- Spotted Salamander
- American Toad
- Bull Frog



Copperhead; credit Renee Tressler

Remember

- Exercise caution when around any snake, venomous or not.
- Be mindful of nesting season for alligators and watch where you step during this time. They usually nest in June.
- Do not provoke or feed any animal you may come across.
- As always, stay safe, have fun and don't forget to stop in at any of your refuges to say hello and ask questions!

Activity #6: Stewardship Project

Now that you have learned about the Theodore Roosevelt National Wildlife Refuge Complex and what it means to the plants and animals that live here, you have an important project to complete! Being a steward of something means that you take care of it and protect it. We want you to do something to make the refuge a better place for the plants, animals, and future visitors who come here.

Project ideas:

- Pick up and throw away five pieces of trash.
- Give a short manager program for your family or friends.
- Remind someone (kindly!) about the **Carry in, carry out** rules if they have forgotten.
- Or get creative and think of your own project!

Write down what you did at right. What was your project, and how did it help plants, animals, and/or people at the wildlife refuge?

The Teddy Bear Story and Why it is Still Important Today

What is the Teddy Bear story?

Have you ever wondered why former President Theodore Roosevelt is nicknamed “Teddy”? It is quite an interesting story! He got this nickname in November of 1902 during his now infamous bear hunt in Onward, Mississippi. He chose former slave, Holt Collier, as his bear guide.

Holt and his colleagues planned to chase a bear into Roosevelt’s camp, but Roosevelt had left for lunch! Collier then decided to tie a bear to a tree and wait for the President’s return. When Roosevelt came to the tied-up bear, he refused to shoot it. Like any good hunter, he did not think it was honest to shoot

a restrained animal. Story of his refusal spread like wildfire to news outlets. Soon, newspapers gave Theodore Roosevelt the nickname “Teddy” and hailed him for his integrity. Toy companies began to make “Teddy Bears” to mark this historical event. Without Holt Collier, teddy bears may have never existed!



Holt Collier, credit Willa Johnson

Collier because of his exceptional skills. Collier soon joined the 9th Texas Calvary Regiment and stayed with Company I until the end of the war.

After the war, Collier became a

Texas cowboy for about a year, but returned to Mississippi after the death of Howell Hinds. Collier achieved many great things throughout his life, the most notable being his famous bear hunt with Roosevelt. He died in 1936, at 90 years old. He is buried in Live Oak Cemetery in Greenville, MS. He is an important part of Mississippi’s history and we are so proud to have Holt Collier NWR in our Complex.

Who is Holt Collier?

Holt Collier was born a slave in 1846 to General Thomas Hinds. At the young age of ten he killed his first bear. Soon after, it became his responsibility to provide meat of all kinds for the Hinds family. With the outbreak of the American Civil War, Howell Hinds and his son Tom joined the Confederacy’s effort in the war. Holt Collier stowed away on a riverboat and joined Hinds and Tom in Memphis, Tennessee. Hinds was shocked to see the young teen, but let him stay and fight with the Confederacy. At the time, it was illegal for slaves to serve in a Confederate uniform, but an exception was made for

Did you know?

- Holt Collier could shoot from both his right and left shoulder.
- He killed over 3000 bears in his lifetime, more than Davy Crockett and Daniel Boone combined!
- He was gifted a Winchester Rifle by Theodore Roosevelt and even joined the President on another bear hunt in 1907.



Clive Metcalfe and Holt Collier, courtesy of Leila Wynn (granddaughter of Clive)

Activity #7: Waterfowl Management

This is it! You are almost there!

This timeline shows the history of waterfowl and migratory bird management enacted by the Federal Government and the U.S. Fish and Wildlife Service. Review the information below and then complete the last activity on the following page.

1913

The Federal Migratory Bird Law gives federal government authority over hunting of migratory birds and the first migratory bird hunting regulations were adopted.

1916

Treaty signed between U.S. and Great Britain (representing Canada) to protect migratory birds.

1920s

U.S. Geological Survey (USGS) Bird Banding Laboratory was established.

1934

Congress passes the Migratory Bird Hunting and Conservation Stamp Act (Duck Stamp Act) providing a source of funding for the acquisition and management of waterfowl habitat.

1935

The Waterfowl Flyways of North America were established relying on data from waterfowl banding. Frederick Lincoln developed the Flyways concept. The concept gained widespread credence and is still applied in an administrative context with the annual development of migratory bird hunting regulations.

Quick Quiz

In what year did Congress pass the North American Wetlands Conservation Act?

- A. 1986
- B. 1989
- C. 1940
- D. 1934



Mallard hen and her brood, credit Tom Koerner

1936

Convention between the U.S. and Mexico for the protection of migratory birds and game mammals is signed.

1940

Fish and Wildlife Service is created by combining the Bureau of Fisheries and the Bureau of Biological Survey within the Department of Interior. Ira Gabrielson was named the first Director of Fish and Wildlife Service.

1951

Administrative Flyway system for waterfowl management adopted.

1986

North American Waterfowl Management Plan signed. Recognizing the importance of waterfowl and wetlands to North Americans and the need for international cooperation to help in the recovery of a shared resource, the U.S. and Canadian governments developed a strategy to restore waterfowl populations through habitat protection, restoration, and enhancement.

The strategy was documented in the North American Waterfowl Management Plan signed in 1986 by the Canadian Minister of the Environment and the U.S. Secretary of the Interior, the foundation partnership upon which hundreds of others would be built. With its update in 1994, Mexico became a signatory to the Plan.

1989

Congress passes the North American Wetlands Conservation Act. The North American Wetlands Conservation Act was passed, in part, to support activities under the North American Waterfowl Management Plan, an international agreement that provides a strategy for the long-term protection of wetlands and associated uplands habitats needed by waterfowl and other migratory birds in North America.

The Act provides matching grants to organizations and individuals who have developed partnerships to carry out wetlands conservation projects in the United States, Canada, and Mexico for the benefit of wetlands-associated migratory birds and other wildlife.

Activity #8: Migratory Waterfowl Routes



It's all about location, location, location! The map above shows the different routes taken by migratory waterfowl. All three of our refuges are located where two major flyways converge. Can you list them below?

_____ and _____ flyways

**Theodore Roosevelt National
Wildlife Refuge Visitor Center
5068 Highway 61 North
Rolling Fork, MS 39159**

**For questions about the Junior
Refuge Manager program call:
662-527-1997**

**Bring your completed Activity
Book to the Theodore Roosevelt
NWR Visitor Center to receive
your badge! Or mail a copy of
your completed activity page to
the Visitor Center address listed
above.**

**Be sure to give us a return
address so we can mail your
badge and certificate to you!**

