

BIRD BASICS & THE GREAT BIRD MIGRATION



**RIVER
CENTER**

Explore | Experience | Connect

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RIVER CENTER

The River Center is a program of the Loxahatchee River District. The Loxahatchee River District, an award-winning wastewater treatment facility established in 1971 to protect the Loxahatchee River from pollutants, is the leading authority on the Loxahatchee River. Its physical plant can treat up to 11 million gallons of wastewater from northern Palm Beach and southern Martin Counties each day, preventing those pollutants from entering our watershed. This special district also provides both scientific and educational programs for the Loxahatchee River and serves as an advisory agency for the many diverse efforts under way.



PREVISIT INFORMATION

We are delighted that you have chosen to bring your campers to the Loxahatchee River District's River Center for an educational field trip experience. The River Center staff would like for your visit to be as fun and educational as possible. The goal of this field experience is to instill the campers with an understanding and appreciation of the Loxahatchee River watershed through its unique plant and animal habitats as well as a new perspective on water resources and conservation. To make this an enjoyable field trip for teachers, campers, and our program presenters, please follow these guidelines.

PLEASE READ

Please contact the River Center if you will be *more than 15 minutes late* or for any questions, concerns, or changes at 561-743-7123 ext. 4200 or Education@LRECD.org.

SCHEDULE

**10 A.M. - 11:30 A.M. OR
1 P.M. - 3 P.M.**

You may wish to provide a snack before or during the bus ride to the River Center. Groups are welcome to use the small pavilions in the park and visit the playground after their program.

RECOMMENDATIONS FOR A GOOD TRIP

- Campers should wear name tags with their first name.
- Chaperones: 1:6 ratio for younger groups (ages 5-9) or 1:10 ratio for older groups (ages 10+).

EXPECTATIONS

- Camp Directors and chaperones will be responsible for discipline of the children. ***All adults will be active participants in the activities with the children.***
- Campers are expected to be good listeners, respectful to our program presenters, listen carefully and follow directions.
- There are live animals on site and in aquaria, so please do not tap or bang on the aquariums or exhibits in order to avoid stressing the animals.
- Campers should practice classroom behaviors including keeping their hands to themselves, not talking out of turn, and watching for attention clues.
- To minimize distractions for campers, ***please remind all chaperones and teachers to switch cell phones to silent.***

ADDRESS AND DIRECTIONS

Address: 805 U.S. Highway 1 Jupiter, FL 33477

Directions:

- I-95: Exit 87A (Jupiter Exit) East Indiantown Road (Turnpike: Exit 116 Indiantown Road)
- Indiantown Road: Travel EAST until you reach U.S. Highway 1
- Turn Left (NORTH) onto U.S. Highway 1
- Travel NORTH through one stoplight, turn right (EAST) at the flashing light into Burt Reynolds Park.
- The River Center is the light blue building located by the fire station.



WHAT TO BRING

Certain portions of your program may take place outdoors. Please have your campers dressed appropriately for Florida weather.

- Closed toe shoes
- Sunscreen
- Hat
- Refillable water bottle

BACKGROUND

Students get an introduction into bird adaptations such as feeding techniques, behavior, nesting locations, and migration. Students will participate in an activity to learn about the difficulties, influences, and unique characteristics of the great bird migration. Students can practice their birding skills in our migratory bird garden.

EXPLORE

VISIT TO THE RIVER CENTER

1. Welcome, introduction to the River Center, overview of today's field trip, and safety/rules talk
2. Divide the campers into 2 groups to rotate through 3 different activities
 - a. Lovin' the Loxahatchee River Tour – focusing on fish species, anatomy, adaptations, and habitats
 - b. Bird Basics & The Great Bird Migration Activity
 - c. Water resources discussion – Where our water comes from, how we use water, where it goes once it is down the drain, water conservation
3. Touch Tank Demonstration

EXPERIENCE

BIRD BASICS AND HABITATS

Jeop-Birdy: Students will state interesting facts and basic concepts about birds and define associated key terms using Jeop-Birdy as an introduction to bird basics.

Bird Basics: What are birds? Students will learn about the anatomy, adaptations, behaviors and habitats of birds.

Binoculars 101 - Students practice using binoculars and then go on a scavenger hunt in the garden and make observations about bird behavior.

Design Your Own Habitat - If time allows, students can design their own migratory bird garden.

CONNECT

POST VISIT ACTIVITY

LEARNING OBJECTIVES

Create your own food web. When you consider how birds interact with their habitats on so many levels, you discover how important birds are to sustaining ecosystems everywhere. Students will model how various species are interconnected through food webs and describe the many roles birds play in nature.

BACKGROUND

A food web is a combination of many interconnected food chains. In a food web, all plants and animals are in some way connected to each other, and the removal of any part of the web can affect the entire ecosystem. Birds are important components of most food webs and can be found at various levels within them. Most of the birds you see at feeders are herbivores that feed on seeds of plants. Birds that are carnivores can feed on insects, small reptiles, and mammals. Some birds are omnivores where they eat both plants and animals. Scavengers, such as crows or

vultures, may serve as the community cleanup crew, eating dead animals by the side of the road. Some birds serve as food for other animal. For example, many hawks eat small birds.

FOOD WEB DESIGNS

Students can build a three-dimensional food web using different objects to represent various species in a “model” food web. Have individual students pick a species and develop a way to represent it using illustrations, clay model, or junk sculptures.

1. Gather materials before you begin, or allow students to meet and discuss their plans, at which time they can request materials they need.
2. To begin constructing food webs, each child picks a bird, any bird, but preferably one they have seen and know a little about. Have them write the bird’s name or draw its picture on a big piece of paper.
3. Next, ask them to name one thing that the birds eat and draw or list that thing on the page. Then have them draw an arrow pointing from the food (the prey) to the bird (the consumer or predator). The arrow’s direction represents the flow of energy. Students should brainstorm all the things they think their bird eats and include those items in their food web diagram.
4. Have students think about what animals may eat their bird. They can brainstorm a list of possible predators, for examples, fox or hawk, and draw these species, with arrows, into their food web diagrams. They need to make certain that the web contains representatives from different layers of a food web: consumers, producers, the sun, decomposers, etc. Point out to your student that a single food web may contain several food chains.
5. Using the diagram that they have mapped out, students can create their food web models.
6. Have students determine the most realistic way to link the components into a food web, using connective materials such as string, wooden doweling, or rubber bands.

Make certain that students realize that the model points out an important perspective: Any single species may seem to have only a few other species in its food chain, yet it is indirectly dependent on many more species. Also, certain species may play key roles that have a disproportionately larger effect on others.

QUESTIONS:

- How many birds are in their food webs?
- How many vertebrate classes are represented in their webs?
- How many invertebrates are in their webs?
- How many plants are in their webs?
- Is there more of one kind of organism than the others in their webs? Why?
- How many fungi are in their webs? How many bacteria?

The answer to the last questions is important. Students probably forgot to include invertebrates, fungi, and bacteria. Many students have never heard much about these most-common groups of living things. You may want to ask students to go back to their food webs and modify them to include these essential, but often over-looked, links in the chains of life.

INQUIRY INTO EXTINCTION

When students have a sense of how the disappearance of a species may affect not only that species, but others in its food web and the ecosystem at large, they are ready to investigate a real-world example of extinction (the complete eradication of a species from the earth).

1. Have your students choose an extinct species (such as the Passenger Pigeon) or an endangered species (such as the Northern Spotted Owl) to investigate in the library.
2. Ask them to write a short life history of the animals, including a species description, habitat requirements, food preferences, the animal's relationship with humans, and the causes for the decline or disappearance of the species.
3. Ask students to do an oral report on their species.
4. To look more closely at what's been done, consider having the students also write a report focused on success stories.
 - a. The passage of the Endangered Species Act in 1973 led some U.S. lawmakers to work hard to protect endangered species.
 - b. For example, Bald Eagles and Peregrine Falcons have made significant comebacks from low population numbers just a decade ago. The U.S. Department of Interior recently removed them from the Endangered Species List.
 - c. The Eastern Bluebird also made a comeback when conservationists erected thousands of nest boxes across the east so the bluebird could continue to reproduce.

RIVER CENTER EXHIBITS

Connecting the tour and the activity



WILD AND SCENIC

Invite the children to see if they can spot any birds in the background of the aquarium. Why might these birds be here in the cypress swamp? [Wading birds can find fish, frogs and other small animals along the river's edge or in the swamp in the wet season. Barred owls (a.k.a. swamp owls) can find frogs, crabs, and fish as well the lizards, insects and small rodents in this habitat. They also camouflage with the cypress trees.]



OYSTER AQUARIUM

An interesting bird that can be found around oyster reefs is the Oyster Catcher. You can often find wading birds like Great Blue Heron and Egrets along the oyster reefs trying to catch small fish and crabs.



MANGROVE TANK

Many birds use mangroves as rookeries at night as well as for nesting. Imagine the mommy wading bird needs to find food for her babies that are nesting in the mangroves. Food is close by! Mom can just drop down into the water near the mangrove roots and find plenty to eat for her babies!

LOXAHATCHEE RIVER DISTRICT

FOCUS AREA CONNECTIONS



STORMWATER

Stormwater can carry plastics and pollution through the stormdrains directly to the river and estuary. Wading birds may encounter those plastics and ingest them thinking they are fish, or they may eat fish that have been swimming in polluted water. The Loxahatchee River District works to educate our community about the importance of protecting our waterways by avoiding putting harmful chemicals and garbage down the drains and securing our garbage for pick up.



SOLID WASTE

Securing our garbage on pick up day (or any day) is an easy way to keep garbage, especially plastics, out of our local waterways.



POST FIELD TRIP LESSON

Thank you for participating in a field trip at the River Center. We hope your campers enjoyed their experience learning about the Loxahatchee River ecosystems as well as the different hands-on activities and animal encounters.

We are always looking for feedback and ways to improve our programs at the River Center. Please take a couple of minutes to complete the River Center's field trip survey. We would really appreciate it!

<https://www.surveymonkey.com/r/RCcamp>

Attended a Virtual Field Trip? Use this survey: <https://www.surveymonkey.com/r/rcvirtual>

Please refer to the "Connect" section as a post-lesson activity. This is for you to utilize back at camp or to send home with campers as a continuation of your experience at the River Center. They are an educational, fun, and creative way to gain more knowledge.

We appreciate your support and interest in the River Center and our programs. Please contact us with any questions or concerns. We look forward to seeing you and your campers at the River Center in the future!

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