

AUDUBON CENTER AT RIVERLANDS

**RIVERVISION
LEADERSHIP
PROJECT**

Program Guide



Audubon | Audubon Center
at Riverlands



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Audubon

Audubon Center
at Riverlands

THE RIVERVISION LEADERSHIP PROJECT

The Audubon Center at Riverlands offers middle and high school students a one-of-a-kind learning experience through our RiverVision Leadership Project. RiverVision is more than an environmental education program or an episodic field trip. RiverVision is a unique experiential, interdisciplinary approach to learning about our Great Rivers and conservation. RiverVision students develop STEM, critical thinking, collaboration, and leadership skills as they consider and encounter issues about stewardship, sustainability, and policy that affect the Mississippi and Missouri rivers and their watersheds.

Through hands-on learning in nature at the 3,700-acre Riverlands Migratory Bird Sanctuary, and in the classroom, we challenge RiverVision students to arrive at potential working solutions for conserving our Great Rivers for birds, other wildlife, and people.



RiverVision was launched in 2010 and serves schools throughout the St. Louis metro region, focusing on those in the northern part of St. Louis City and St. Louis County. Through funding from Metropolitan Sewer District, Phillips 66, and Boeing we are able to provide transportation to and from the center for schools that wouldn't normally be able to participate in programs like this.

PLANNING YOUR YEAR

In order to cultivate stewards of tomorrow, we highly encourage our RiverVision partners to participate in at least two different sessions during the school year. The different session types are described below. If you have ideas for something that does not fit within one of these session types please reach out to us and we can work with you to create an experience that best fits your school.

SESSION TYPES



Riverlands Field Experience

Field experiences at Riverlands allow your students to encounter environmental concepts hands-on. Often schools will spend a few hours at Riverlands and participate in multiple programs during that time.

Conservation Project

Conservation projects usually occur onsite at Riverlands and allow students to apply their knowledge of ecosystems and discover what scientists and environmentalists are doing to make the environment a healthier place for all species.

In-School Program

In-school programs are a great way to get an introduction to the Audubon Center at Riverlands. Audubon educators will bring materials to your class and lead an interactive environmental education lesson.

Conservation Campaign

Conservation campaigns allow students to delve deeper into an environmental topic and propose solutions to a real-world problem. Students work in small groups at school to create an informative, creative, and engaging campaign to encourage others to conserve our natural ecosystems.

Teambuilding

A variety of teambuilding initiatives and activities designed to improve teamwork, communication, decision making, and rapport. Teambuilding must be paired with another RiverVision session.

We are happy to work with you to make a plan that works best for your school!

RIVERLANDS FIELD EXPERIENCE

A field experience at the Audubon Center at Riverlands is an integral part of the RiverVision Leadership Project. Field experiences allow your students to encounter environmental concepts through hands-on activities. Often schools will spend a few hours at Riverlands and participate in multiple programs during that time. Some of these programs can also be adapted for an in-school program. These programs are marked with an asterisk *.

Pond Ecology

FALL & SPRING

Using dip nets and observation skills, your students will explore pond habitats to discover an amazing underwater web of life. Students will have the chance to catch invertebrates, such as crawfish and dragonfly nymphs. Discussion topics may include invertebrate life cycles, identification, and the ways pollution affects these creatures. *Program length 1-2 hours*



Mississippi Watershed

ALL SEASONS*

The Mississippi Watershed is the largest drainage basin in North America. Using a watershed model, students will learn what a watershed is, how pollution moves through a watershed, and how this affects water quality. Students will discuss treatment and prevention methods and will be challenged to come up with their own class recommendations for positive change. *Program length 1-2 hours*

Seining

FALL & SPRING

Students will discover some of the unique adaptations of fish in Ellis Bay and the importance of clean water for their survival and the survival of the organisms that rely on fish as a source of food. Cannot be guaranteed due to fluctuating river levels. *Program length 1.5-2 hours*



Water Quality

ALL SEASONS*

One way to determine the health of an aquatic ecosystem is to test the abiotic components of the water. In this program, students will conduct chemical and physical tests on water samples from Riverlands. Students will also discuss species that can be used as biotic indicators of water quality. *Program length 1-2 hours*

* In-school option available

Birding 101

ALL SEASONS

Birding is an excellent way for students to exercise their observational skills while building a connection to nature. During this program, students will be given a crash course on basic bird ID and learn how to use field guides and binoculars. On a nature hike, we'll practice identifying birds that we see.

Program length 1-2 hours



Migration Along the Mississippi

ALL SEASONS*

Our region is home to the largest bird migration route in North America, the Mississippi Flyway.

Through hands-on activities students will "become" a bird themselves and discover why birds migrate, learn challenges of their migration, and discuss ways to create a healthier planet for migrating birds. *Program length 1-2 hours*

Bird Survival Tools

ALL SEASONS*

Students will discover the various tools birds have to help them survive, including structural and behavioral adaptations. Through hands-on exploration of feathers, skulls, and more, students will better understand the great diversity of birds in our region. While on a bird hike, students will identify birds while viewing their adaptations first-hand.

Program length 1-2 hours



Nature Journaling

ALL SEASONS

Nature journaling can help hone your students' observational skills. Your students will learn what nature journaling is, why it's helpful, and about some famous nature journals from history.

Students will challenge their senses and their observation skills through various activities. Then students will be given time to use the skills they learned to make a journal entry. *Program length*

1-2 hours



Owl Pellet Investigation

ALL SEASONS

Students will learn about the life history of owls and discover how an owl fits into food chains by dissecting an owl pellet. By dissecting owl pellets we can learn more about how these fascinating birds survive and thrive in our environment.

Amazing Eagles

FALL & WINTER

The Riverlands Migratory Bird Sanctuary is one of the best places in the area to view Bald Eagles. Students will learn about the natural history of the Bald Eagle, eagle adaptations, and conservation issues all through interactive and outdoor elements. Students will view Bald Eagles from inside the center and on our trails.

Program length: 1-2 hours

Prairie Ecology

FALL & SPRING

Prairies, which used to cover one-third of Missouri, are now one of the most endangered ecosystems in the world. Students will learn about the characteristics and importance of prairies as well as the adaptations prairie plants have to survive fire, wind, and drought. Using sweep nets, students will survey the prairie for insects and use field guides to identify them.

Program length 1-2 hours

Prairie Quadrat Study

FALL & SPRING

Students will survey the prairie for plant species in two different locations to determine the effects of prescribed burns on plant biodiversity.

This program is a great addition to Prairie Ecology. *Program length 1-2 hours*



Swans of the Confluence

FALL & WINTER

Riverlands is home to the largest inland wintering population of Trumpeter Swans in the world! Students will discover the natural history of the Trumpeter Swan, Swan adaptations, and conservation efforts through hands-on activities and outdoor viewing. Program length 1-2 hours



Birds of Winter

FALL & WINTER

This program focuses on two of our most charismatic winter migrants: the Trumpeter Swan and the Bald Eagle. Students will take a comparative look at the two species' adaptations and also explore their natural histories. Students will have the opportunity to view these birds through scopes and binoculars as we hike around the Sanctuary to get a closer look at both these beautiful species. *Program length 1-2 hours*

Geocache Dash

ALL SEASONS

Using Global Positioning System (GPS) units, students explore the sanctuary through a high-tech treasure hunt. At each station they find, they will learn about the natural wonders of this area and be challenged to work together with classmates to answer questions.

Program length 1-2 hours

Forest Ecology

FALL & SPRING

Forest ecosystems are composed of various biotic and abiotic elements. In this program, students will explore these components and how they are connected. Using a dichotomous key, students will learn to ID native trees and discover how animals and humans rely on them for survival. *Program length 1-2 hours*



Plants for Birds

FALL & SPRING

Plants are vital in our daily lives, whether through the food we eat, the air we breathe, or the clothes on our backs. Plants also play a key role in the health of birds and other wildlife. Through plant identification, students will learn how birds and other pollinators utilize the plants all around us for survival and the critical role they play in keeping our ecosystems healthy. *Program length 1-2 hours*



Mammal Investigations

ALL SEASONS*

Mammals have many characteristics that allow them to live in a variety of habitats. By making careful observations of our surroundings, we can learn what mammals live near us as well as their adaptations for survival. Students will develop observation skills necessary to recognize and interpret signs of mammals in an ecosystem. *Program length 1-2 hours*

CONSERVATION PROJECTS

Conservation projects usually occur onsite at Riverlands and allow students to apply their knowledge of ecosystems and discover what scientists and environmentalists are doing to make the environment a healthier place for all species. Below are conservation projects that schools have completed in the past, but we are happy to work with you to create a project that best fits your school.

Native Seed Harvest

FALL

Students will help harvest native seeds from the Riverlands Migratory Bird Sanctuary's restored prairie. These seeds will be used to restore more of the sanctuary to native prairie. This project is a great addition to Prairie Ecology or Prairie Quadrat Study.

Native Seed Bomb Creation

FALL

Students will learn about native plants and the relationship between native plants and birds and other pollinators. After that, students will get their hands dirty making native "seed bombs" that will be distributed for free at the Center.

Trash Pickup

ALL SEASONS

As the rivers flood, the waters bring all kinds of debris to the sanctuary. Students will help pick up trash across the Riverlands Migratory Bird Sanctuary.

Bird/Bat House Construction

FEBRUARY/MARCH

Students will help sanctuary staff build bird and bat houses to provide safe resting places for these important populations. Birds may include: bluebird, tree swallow, prothonotary warbler, and wood duck.

Habitat Restoration

ALL SEASONS

Students work alongside sanctuary conservationists to restore and rehabilitate habitat for a variety of native and, often endangered, wildlife, including turtles and birds.



Least Tern

APRIL/MAY

Students will help sanctuary staff prepare the tern island nesting habitat to be ready for least tern breeding. Students may also help build or rehabilitate tern chick shelters.

CONSERVATION CAMPAIGNS

Conservation campaigns allow students to delve deeper into an environmental topic and propose solutions to real-world problems. Students work in small groups at school to create an informative, creative, and engaging campaign to encourage others to conserve our natural ecosystems. Below are some examples of conservation campaigns that schools have done in the past, however we are happy to work with you to create a campaign idea that fits the educational interests of your students.

Pollinator Podcast

Students will work as a small group to create an informative, creative, and engaging podcast about Missouri native pollinators or a native plant beneficial to pollinators. Audubon staff will create awards for some of the most successful podcasts.

Storm Drain Mural

Students will work as a small group to research stormwater pollution, design a mural depicting how pollution affects different organisms, different types of pollution that enter stormwater drains and/or actions people can take to keep pollution from entering stormwater drains, and write an artist statement that describes the message of their mural. The winning design can be displayed at the Audubon Center.

Softshell Turtle Campaign

Students will work as a small group to create an informative, creative, and engaging campaign to promote awareness of the conservation concerns surrounding softshell turtles in our region.



Threatened Grassland Birds

Students will work as a small group to create an informative, creative, and engaging campaign to encourage other people to conserve one of Missouri's threatened or endangered grassland birds.

Sustainable Resource Project

As a group, students will research and ultimately present on a natural space in need of recognition and/or protection as a sustainable resource. Outputs may include an original piece of writing, a symbol of the natural space, a photo essay, and more.

Least Tern Awareness

Students will work as small groups to create an original, creative campaign to educate others about the conservation concerns surrounding the least tern.



ALIGNMENT TO ACADEMIC STANDARDS

The RiverVision Leadership Project at the Audubon Center at Riverlands incorporates experiential, hands-on learning which naturally lends itself to meeting both STEM-based standards and the Next Generation Science Standards (NGSS). Below is a list of the NGSS corresponding to our programs. Please let us know if there are certain standards that you would like us to cover and we can work to develop a program to meet those needs.



| Middle School | |
|---------------|--|
| LS1 | Amazing Eagles, Swans of the Confluence, Birds of Winter, Plants for Birds, Geocache, Forest Ecology, Prairie Ecology, Prairie Quadrat Study, Owl Pellets, Water Quality |
| LS2 | Amazing Eagles, Swans of the Confluence, Birds of Winter, Birding 101, Migration Along the Mississippi, Nature Hikes, Mammal Investigations, Pond Ecology, Plants for Birds, Mississippi Watershed, Geocache, Water Quality, Forest Ecology, Prairie Ecology, Prairie Quadrat Study, Seining, Owl Pellet |
| LS4 | Bird Survival Tools |
| ESS2 | Mississippi Watershed |
| ESS3 | Amazing Eagles, Swans of the Confluence, Birds of Winter, Birding 101, Migration Along the Mississippi, Pond Ecology, Plants for Birds, Mississippi Watershed, Water Quality, Prairie Ecology, Prairie Quadrat Study, Seining |
| High School | |
| LS1 | Pond Ecology |
| LS2 | Amazing Eagles, Swans of the Confluence, Birds of Winter, Migration Along the Mississippi, Mammal Investigations, Pond Ecology, Plants for Birds, Mississippi Watershed, Water Quality, Prairie Ecology, Prairie Quadrat Study, Seining |
| LS4 | Amazing Eagles, Swans of the Confluence, Birds of Winter, Migration Along the Mississippi, Bird Survival Tools, Pond Ecology, Plants for Birds, Mississippi Watershed, Water Quality, Prairie Ecology, Prairie Quadrat Study, Seining |
| ESS2 | Mississippi Watershed |
| ESS3 | Migration Along the Mississippi, Mississippi Watershed |

PROGRAM POLICIES

Programs must be scheduled at least two weeks in advance. To schedule a program, contact our Education Manager, Emily Connor at **636-899-0090** or email **emily.connor@audubon.org**

Partner Expectations:

We really value the relationships that we develop with our RiverVision partner schools from year-to-year, so as a result RiverVision is really a multi-year commitment. This strong partnership that we develop with our schools helps to fulfill our mission of creating stewards of tomorrow. In addition, we require that all partner schools participate in at least two different sessions throughout the school year (see page 4 to learn about the different session types available). If you have ideas for something that does not fit within one of these session types please reach out to us and we can work with you to create an experience that best fits your school. We also require that our partners complete the annual Commitment Form which will be emailed to your school by the Education Manager.

Group Size:

We believe that small group sizes are beneficial to fulfilling the goals of the RiverVision Leadership Project. We recommend a **maximum group size of 75 students** for each Riverlands Field Experience. However, we have worked with schools who want to bring more students by having students come on multiple days or having teacher led activities on-site while half of the students are participating in the RiverVision program.

Transportation:

We are able to provide transportation to the Audubon Center at Riverlands for those schools who would not otherwise be able to make the trip. Please reach out to us if this applies to your school.

Cancellations:

Cancellations should be made at least two weeks before the date of the scheduled program.

*Weather related school cancellations not included.

Inclement Weather: Audubon holds the right to cancel a scheduled program if weather poses a threat. Programs will be rescheduled if possible.

Liability and Media Release:

Please note: participants assume all risk, loss, damages, liability and danger for injury or damage to person or property and all hazards arising from or related to admission to the Audubon Center at Riverlands. Participants grant permission to the Audubon Center at Riverlands and its designees to utilize Holder's image, likeness, or statements in any form taken during programs at the Audubon Center at Riverlands for the purpose of promoting in perpetuity.

MEET OUR EDUCATION TEAM

"WE CANNOT PROTECT SOMETHING WE DO NOT LOVE,
WE CANNOT LOVE WHAT WE DO NOT KNOW,
AND WE CANNOT KNOW WHAT WE DO NOT SEE.
OR HEAR. OR SENSE."

-Richard Louv



Ashley Lockwood
Educator

Emily Connor
Education Manager

The Mission of The Audubon Center at Riverlands...

...is to connect people to the beauty and significance of the Mississippi River and the Great Rivers confluence, to inspire conservation of the river's rich diversity in birds, wildlife and other natural resources, and to support healthy, vibrant communities.

LEARN MORE

(636) 899-0090

riverlands.audubon.org

emily.connor@Audubon.org

ABOUT THE FACILITIES



The Audubon Center at Riverlands

The Audubon Center at Riverlands is one of the best places in Saint Louis to connect with the Mississippi River and the Great Rivers Confluence. The Audubon Center at Riverlands, a project of the National Audubon Society, opened its doors in 2011. We are one of 41 Audubon centers across the United States, and serve the bi-state St. Louis metro region. Central to our work is education to help build the next generation of river stewards and conservation leaders. Experiential learning in nature, which is also STEM-based and aligned with Next Generation Science Standards (NGSS), is central to our Education programs.

The Riverlands Migratory Bird Sanctuary

The Audubon Center at Riverlands is nestled along the Mississippi River and located in the Riverlands Migratory Bird Sanctuary, a vital 3,700-acre stopover for 300+ bird species. Riverlands has been designated an "Important Bird Area" due to its rich, diverse habitats that provide food, shelter, and safe passage at the heart of the Mississippi River, one of the greatest flyways on the planet. Sixty percent of North America's birds use the Mississippi Flyway! Restored prairie, marsh, wetland, and bottomland forest habitats with miles of hiking trails provide great opportunity for nature study. Audubon and the U.S. Army Corps of Engineers work together to restore habitat and monitor species throughout the year.

DIRECTIONS TO THE CENTER



From Clayton: I-170 N to I-270 E. From I-270 E, Exit MO-367 toward Alton, IL. MO-367 becomes US-67 N. Before the Clark bridge and the Mississippi River, you will see signs for Riverlands Migratory Bird Sanctuary on Wise Rd. Turn right onto Wise Road/Riverlands Way and continue straight on Riverlands Way for about .8 miles. The Audubon Center will be on your left.

From downtown St. Louis: Take I-70 W to W Florissant Ave. Take exit 245B from I-70 W. Follow MO-367 N/Lewis and Clark Blvd. Continue on MO-367 to just before the Clark bridge, crossing into Illinois. Turn right onto Wise Road/Riverlands Way at the signs for the Riverlands Migratory Bird Sanctuary. Continue straight on Riverlands Way for about .8 miles. The Audubon Center will be on your left.

From Illinois: IL-3 N towards Alton, IL. Take a slight left onto IL-143 to Alton. Left on US-67 S over the Clark bridge, crossing into Missouri. Turn left onto Wise Road/ Riverlands Way just past the bridge at the signs for the Riverlands Migratory Bird Sanctuary. Continue straight on Riverlands Way for about .8 miles. The Audubon Center will be on your left.



Audubon Center
at Riverlands

**RiverVision is made
possible by the generous
support of our funders.**

THANK YOU!



Metropolitan
St. Louis
Sewer District

**WOOD RIVER
REFINERY**

