



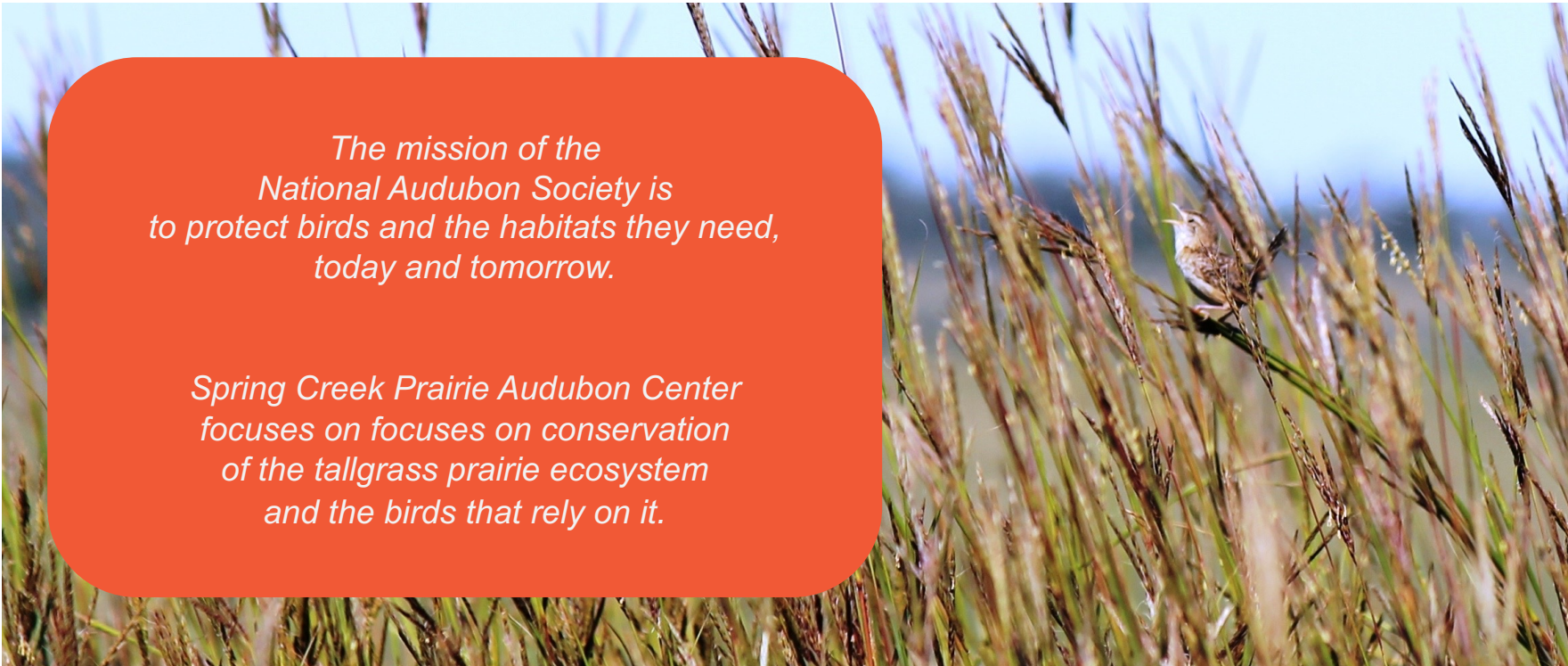
# WILDLIFE EXPLORERS!

*A HANDS-ON, EXPLORATORY  
CAREER/COMMUNITY ROLE CURRICULUM*



## Who We Are

**Where birds thrive, people prosper.**



*The mission of the  
National Audubon Society is  
to protect birds and the habitats they need,  
today and tomorrow.*

*Spring Creek Prairie Audubon Center  
focuses on focuses on conservation  
of the tallgrass prairie ecosystem  
and the birds that rely on it.*

An aerial photograph of a vast, flat landscape with a mix of green and brown vegetation, a winding river on the left, and a few buildings in the distance under a clear blue sky.

## Land Acknowledgment

We are not the first stewards.

We acknowledge these lands were cared for by peoples of the Pawnee, Otoe-Missouria, Kansa, and more.

A photograph of a man wearing a grey baseball cap with an Under Armour logo, glasses, and a grey and black long-sleeved shirt. He is smiling and looking down at a book or document he is holding. He has a backpack on his shoulders.

## Jason “the Birdnerd”

Over 20 years as an Educator

- Career in Music & Theatre
- Creator - “Let’s Go Birding Together”

The Wildlife Explorers logo, which consists of a magnifying glass icon with a green leaf inside the lens.

# Wildlife Explorers

Creating and nurturing the next generations of conservation leaders and STEM-trained students is an important mission of the National Audubon Society and Spring Creek Prairie Audubon Center.

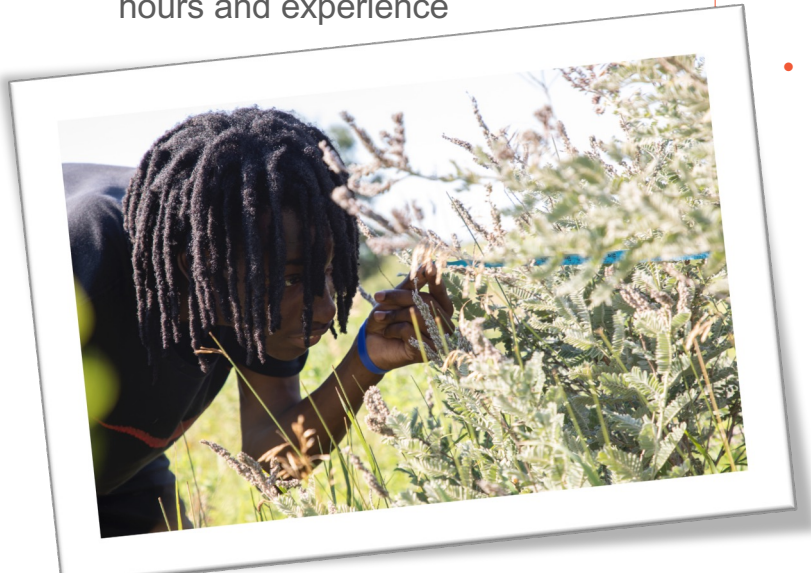


To achieve that mission of creating next generation of conservation leaders . . .

### Internships / Fellowships

Work with local universities

- Short-term opportunities
- Seasonal and/or Volunteer for hours and experience



### On-the-Job Training

Entry level positions from educators and habitat managers to admin/finance

- Early career development
- Mentorship with current career professional

### Hands-on Learning

This includes programming for late MS and early HS students

- STEM activities for schools
- After School career dev.



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# What would it be like . . . ?



The WILDLIFE EXPLORERS program considers the driving question,

*“What is it like  
and what skills  
would I need  
to be a  
conservation  
scientist, and can  
this  
knowledge  
help me and  
my community?”*





**Beyond School Bells**

nebraskachildren

## **Center of Excellence**

### **Introduce Careers/Community Roles**

Provide a possibly first exploration of several STEM-focused outdoor careers

- ORNITHOLOGIST
- ENTOMOLOGIST
- BOTANIST
- SOIL SCIENTIST
- AQUATIC SCIENTIST
- ZOOLOGIST

### **Provide Hands-On Outdoor Experience**

Participate in real-world science and surveys using tools and techniques of the trade

- Perform avian surveys and enter data
- Implement an insect biodiversity study
- Experience the multitude of life in our soils
- Evaluate local wetlands and hydrology
- Create community projects to improve habitat for wildlife, plants, AND PEOPLE!

# Let's Look Closer at the Curriculum!

So what's all up in there?



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# OVERVIEW

## Dig Deeper into an “-ologist”

The WILDLIFE EXPLORERS curriculum is set up with activities separated in 5 main sections:

- What’s the Problem?
- Delve into Details
- Consider the Characters
- Ready to Research
- React to Results

## Students see themselves in STEM

Each section will have activities from lab to outdoors, for students to explore and “become” the “-ologist.”



## Wildlife Explorers

Grades 6 - 10

### ACTIVITY DRAFT SCHEDULE(S)

#### WRAP-UP & ASSESSMENT

Each full activity may not have an individual wrap-up and assessment, but each section / career will end with several wrap-up ideas and opportunities to assess both the students’ participation with chances for further research (if needed or time allows), creation of communication materials about the topic like posters, brochures, social media content, and/or perhaps the creation and implementation of a community project to help solve them problem. An example would be creation of more bird habitat by building birdhouses or feeders, planting of a native plant pollinator and bird garden, or hosting a community bird count. These activities are built in to the final section of the program, “React to Results.” Many of the assessment and enrichment opportunities may take more time so plan ahead and remember to try and keep them student-led.

#### **ENRICHMENT Opportunities**

- Take a Field Trip to the Zoo, Banding Lap, etc
- Invite a local Ornithologist or Audubon Member to come talk

#### **FURTHER RESEARCH**

- Run surveys once more
- evaluate data (graph/chart)
- survey new locations to compare/contrast

#### SCHEDULING THE ACTIVITIES

Scheduling activities throughout the program is very flexible and should work with all types of after school programs. The full program is designed for activities to be from 20 minutes to no more than one hour. A group of students could go through a career/community role in one quick week using 45 minutes to 1 hour each day, Monday through Friday. Or, a student group formatted more like a club could do a section or activity once a week on a certain day for a month, quarter, or semester depending on the amount of time available. Using the ORNITHOLOGIST career, please see a couple of example schedules below to help in planning.

#### 1-week Schedule

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Problem Pages and Professional Profile	Delve into Details: look bird anatomy, feathers, beaks with games, activities, and tabs.	Characters: activity pages and outdoor exploration about 1 or 2 specific local important birds like Western Meadowlark	Research! Perform 1-3 surveys - Sound Map, Point Count, Feeder Watch, Transect, etc.	React: look at results of surveys and discuss. Plan projects, enrichment time, or wrap-up on findings.
30 - 45 min	45 min - 1.5 hr	45 min - 1 hr	1 - 2 hrs	45 min - 1 hr

#### Quarter/Semester “club” schedule

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Introduce problem and career with Problem Pages and Prof. Profile.	Start details: look at bird feathers/beaks with games/activity pages	More details: review and more activity pages about birds	Characters: look close at state bird W Meadowlark and school posters about Cardinal	Characters 2: outdoor search for cardinal, and school posters about Cardinals.	Research: Get outdoors and try 1 or 2 surveys, feeder watch & sound map	Research 2: more time to do more outdoor survey, point count	Research 3: bring in local expert or take field trip to compare survey	React: look at data, enter in database, discuss results, could do and plan projects	React/Wrap: ask students observations, what else they could do and plan
30 - 45 min.	45 min. - 1 hr	45 min. - 1 hr	45 min. - 1 hr	45 min. - 1 hr	1 - 2 hr	1 - 2 hr	1 - 2 hr	45 min. - 1 hr	45 min. - 1 hr

# The Sections



## Wildlife Explorers

### Professional Profiles

#### Who and What IS an Ornithologist?

##### Who you need to know *(continued)*!

**Stephen Brenner** is an avian biologist involved in all sorts of bird research projects in Nebraska for both Audubon and The Nebraska Game & Parks Commission. This includes counting birds and analyzing trends in the number of birds over time to monitor their population size. Other work involves tracking different species across their long migrations. This helps us (conservationists and everyone) understand where birds that live in Nebraska for only parts of the year will travel when they are not in the state, connecting the Great Plains to the rest of the continent, be it Central America or northern Canada.



Stephen Brenner

Can you see **YOURSELF** as an **ornithologist**? What more would you like to know about birds? Where would you go to study them? How could your work as an ornithologist help your family, community, state, or the world? Draw or put a picture of yourself studying birds in the box below and write some ideas of what you would be doing 5 or 10 years from now as an **ornithologist**!

**YOU!** Name: \_\_\_\_\_

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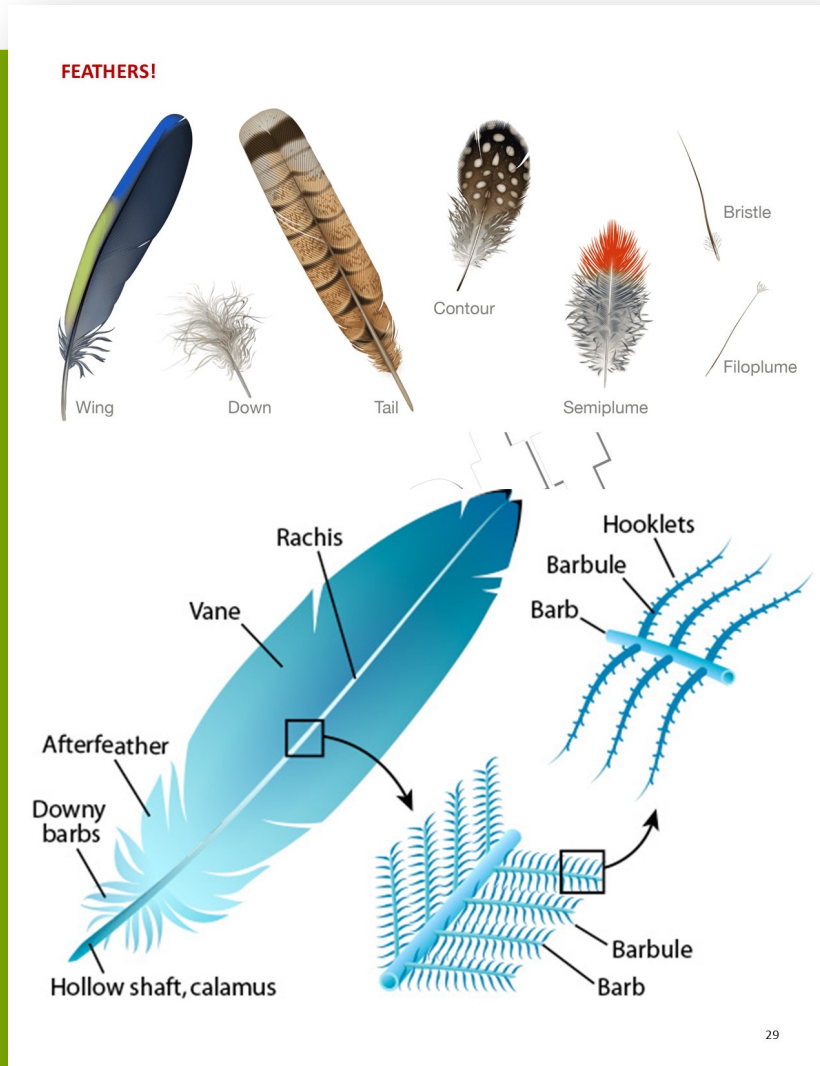
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1. What's the Problem?  
*Introduce students to a current issue or problem with the subject, be it birds, plants, water, etc.*

Each career / community role flows through the 5 sections:

# The Sections



## 2. Delve into Details

*Go a bit further into the basics of the subject . . .*

*anatomy, adaptations, life cycles, etc.*

# The Sections



## Wildlife Explorers



### Wildlife Explorers

#### Character Considerations

##### Western Meadowlark Activity Sheet

Now that you have explored Nebraska's state bird a bit more, let's see if you can answer the below questions and consider more about this important grassland bird.

Can you list 5 adaptations the Western Meadowlark has or exhibits that help it survive in Nebraska's prairie and grassland habitats? \_\_\_\_\_

Name 2 or 3 causes of this bird's populations declining? \_\_\_\_\_

Meadowlarks are not larks. They are in what bird group? \_\_\_\_\_

Meadowlarks have been known and had different names for thousands of years. The Winnebago/HoChunk peoples call them "Makzi" meaning yellow chest. If you were the first person to see this bird, by what you see and know of its behavior, what would you call it? \_\_\_\_\_

Can you think of any projects you and your classmates could do to help the Western Meadowlark? \_\_\_\_\_

If you were to improve the Western Meadowlark with a new adaptation or behavior, what would it be?

Draw the bird and label it with the new adaptation below.

3. Consider the  
**Characters**  
*Focus on two or three  
specific Nebraska  
important species,  
"characters" every "-  
ologist" should know  
about.*

*Provides pride  
in sense of place.*

# The Sections



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### AVIAN POINT COUNT SURVEY DATA SHEET

Route Name:  
 Date:  
 Observers:  
 Weather:

POINT #	START TIME	BIRD SPECIES	0 - 1 Min	1 - 2 Min	2 - 3 Min	3 - 4 Min	4 - 5 Min

NOTES:

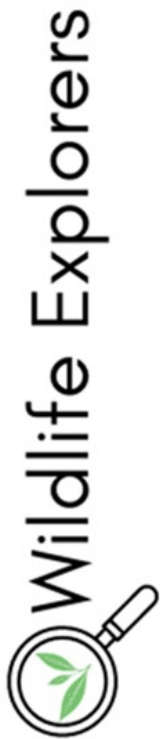
## 4. Ready to Research

*Time for the REAL FUN!*

*Students get outside and perform 1-3 biological surveys to try and solve the problem, using tools and techniques of the trade.*



# The Sections



## ENRICHMENT Opportunities:

- ⇒ Consider a field trip to practice bird identification or surveying techniques with the group. Compare habitat to local habitat at school/community with a local park, nature center. Try this with a guide and without—or have students guide.
- ⇒ Contact a local bird expert / Ornithologist to come and speak to students or perhaps provide a bird banding demonstration
- ⇒ Contact a local bird / wildlife rehabilitation center or zoo to see if students good get the opportunity to observe a live bird up close and learn more about techniques of bird banding, captive breeding, etc.
- ⇒ Consider having students participate in local bird community science projects like the Christmas Bird Count, Great Backyard Bird Count, or eBird.

## 5. React to Results

### Well, we hope that was fun! But now what?

There are several next steps to consider once surveys and research are completed and data has been entered. It is time to react to the results the data are showing us.

Let's start this with an activity that can be done indoor or outdoor (though we prefer outdoor, weather permitting). Gather the students into small groups for a "World Café" session. They will discuss in small groups and then rotate to new groups and provide their observations and answers to the following:

- What is your favorite or most interesting thing you have learned about birds in your time researching?
- What is something that concerns you about birds and bird populations in Nebraska or the U.S. currently?
- Is there anything that sticks out from the data or surveys that you notice?

After time to discuss in smaller groups, bring the full group of students back together and look at some data results. Perhaps ask the students to make a chart or graph of bird survey findings and compare to Nebraska or National historic data from eBird. Finally, to use both as a final project (if time allows) and as a form of assessment, ask the students to work together to identify projects they could plan and create to help bird populations in their community. Some options are listed below:

- ⇒ Students could work individually and create an informational poster about a bird species with information on how to help it and its habitat
- ⇒ Students could work all together to create habitat at the school or in their community by planting native plants, building and erecting bird boxes, etc.
- ⇒ Students decide as a group that there is not enough data yet to provide any answers, so more research is needed

### ASSESSMENT

Ask students to answer following questions or complete final tasks.

- What 3 things make a bird a BIRD?
- Name at least 3 reasons bird populations are declining and provide a possible solution
- Discuss how surveying bird both local and migratory birds and collecting this data helps conserve birds and bird habitat
- Create their own bird species with unique adaptations to survive 50 to 100 years from now in a changing climate
- Provide students time and venue for feedback on fellow student projects and posters

## 5. React to Results

*What did we find?*

*Students get a chance to discuss data recorded/entered, observations, and more.*

*As part of assessment and if enough data – students create project or do more research!*



## SUPPLIES & TOOLS

*Trunks to borrow with tons of survey tools – from sweep nets and magnifiers to feathers, water & soil testing kits, specimens, binoculars, and more!*



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Thank you!  
Questions?

