



Dear Educator,

The Illinois River Watershed Partnership (IRWP) is delighted to offer **free**, fun, and memorable watershed education programs for schools in NW Arkansas. Our programs are designed to meet or exceed Arkansas education standards while fostering watershed stewardship and conservation principles among our students.

The Watershed Sanctuary and Learning Center in Cave Springs is a unique outdoor classroom that cultivates “a-ha!” moments through genuine nature experiences. Students will see classroom material come to life, reinforcing previously learned concepts and introducing new ones in an exciting, memorable way. Field trip programming is built to fit your class’s needs and time allowances. The school is responsible for arranging transportation to and from the Watershed Sanctuary.

We also have programs that can be brought to your classroom by our staff. 3D models, educational games, and hands-on service learning projects will engage students at any grade level and will leave a lasting impression.

Using our location within the Illinois River Watershed to make classroom topics applicable, the IRWP can provide resources and invaluable learning experiences for you and your students. Join us in our efforts to preserve, protect, and restore the Illinois River Watershed!

Included in this packet is more information about the Watershed Sanctuary and the educational programs offered by the Illinois River Watershed Partnership. If you’re interested in learning more, please don’t hesitate to contact me!

Chas McCoy  
Education Outreach Coordinator  
Illinois River Watershed Partnership  
221 S. Main St.  
Cave Springs, AR 72718  
[chas@irwp.org](mailto:chas@irwp.org)  
[contact@irwp.org](mailto:contact@irwp.org)  
479-256-9278



## **Watershed Sanctuary Guide**

*This guide was designed to inform educators and the public about the variety of programs offered at the Illinois River Watershed Sanctuary. We are excited to have you visit the site, but we also are willing to come to you. For each program we offer, you will find a short description and estimated time of duration. An IRWP staff member is also able to offer watershed education programs not listed in this handbook. If you are interested in a special topic, give us a call and we can develop a program to fit your needs.*

### **IRWP Mission Statement**

The Illinois River Watershed Partnership's Watershed Sanctuary in Cave Springs is an opportunity for a hands-on education experience. Centered on the natural elements and ecosystems within the Watershed Sanctuary and throughout the Illinois River Watershed, this site is part classroom, part museum, and part playground. It is our mission at the Watershed Sanctuary to help people of all ages to better understand their natural surroundings and the role each of us plays in protecting them. Education outreach is critical to improving and preserving the water quality in the Illinois River Watershed. Understanding the significance of the watershed and its impact on all species and habitats by educating and motivating stakeholders to take positive personal actions and work together for greater impact is our mission.

### **Illinois River Watershed Sanctuary**

The Watershed Sanctuary is a significant ecological location in Cave Springs, in the heart of the headwaters of the Illinois River Watershed. Not only does the site contain a beautiful spring-fed lake, but it is also home to two endangered species—the gray bat and the Ozark cavefish—that call the cave their home. The lake, the cave, and the beautiful urban forest provide opportunity to step into a rich conservation experience right in the heart of the Northwest Arkansas metroplex.

#### *What Does the Sanctuary Offer?*

The Watershed Sanctuary is a great place for students to apply what they have been learning in the classroom. All of the programs are aligned to Arkansas state education standards to meet your needs. We take pride in offering varied programs for school groups as well as support and services for teachers. With advance notice and curriculum guidelines from the teacher, our staff will plan educational experiences that are not only exciting and memorable but which will reinforce your classroom goals.

## IRWP Education Programs

1. **Clean Water Raingers-** Watch your students' eyes light up as Captain Marshall Mitchell sings songs about our watershed...LIVE! These catchy tunes will educate students about local wildlife, water conservation, erosion, riparian buffers, and environmental stewardship. Every participant will receive an original, award winning, Clean Water Raingers song book and audio CD. This program works best in a school assembly setting with multiple classes and/or grades present.  
(K – 5<sup>th</sup>; 30 minute to 1 hour program)
2. **Watershed Enviroscape-** This watershed model allows an interactive, hands-on approach to watershed hydrology and how it affects people, plants, and wildlife both locally and globally. Perfect for environmental science, earth science, geography, geology, and biology classes! Maximum: 30 students per session. (age adapted for 2<sup>nd</sup> – 12<sup>th</sup>; 30-45 minutes)
3. **Illinois River Watershed Quest-** This activity uses watershed maps to trace the flow of our local waterways. Students will learn and discuss implications for downstream neighbors and ways to make a positive impact on the watershed. Great activity for geography, geology, environmental science, and/or hydrology. (6<sup>th</sup> – 12<sup>th</sup>; 30 minutes)
4. **Earth Ball Toss-** Using a beach ball globe, students will learn about our planet's water and land resources and distinguish among waters available for human use. Ties very well with geography, earth science, and environmental science. (K – 6<sup>th</sup>; 15 – 20 minutes)
5. **Water Cycle Bracelets-** Evaporation, condensation, precipitation...you know the drill! Students will associate different colored beads with each step in the water cycle to create a memory bracelet. (age appropriate for K – 6<sup>th</sup>; 20-30 minutes)
6. **Bug Kicking/Macroinvertebrate Survey-** Perhaps the most fun way to measure water quality of our creeks and streams! Using nets and bug ID sheets, students will catch and identify aquatic bugs while learning about stream ecology, habitat, and aquatic wildlife. (K – 8<sup>th</sup>; 45 minutes)
7. **Water Quality Monitoring-** Using World Water Monitoring Day testing kits, students will measure water temperature, turbidity, dissolved oxygen, and pH, analyze the findings, and learn the implications of each factor on local ecosystems. Monitoring results will be added to worldwide database online. (age appropriate for 5<sup>th</sup> – 12<sup>th</sup>; 45 minutes)
8. **Cave Springs Time Machine-** A brief history of Cave Springs, Arkansas, and the cultural significance of the cave, underground spring, and lake. Includes a walking tour of the Watershed Sanctuary, including a stop at the cave. Works best on-site, but can be altered for classroom setting. (age adapted for 2<sup>nd</sup> – 12<sup>th</sup>; 45 minutes)
9. **Bat Echolocation Tag-** A great addition to biology, ecology, or geology lessons, this game of tag has an educational twist that demonstrates how cave critters adapt to their surroundings in order to survive. Students will learn about echolocation, predator-prey relationships, adaptation, karst topography, and the endangered gray bat. (age adapted for K – 8<sup>th</sup>; 30 minutes)
10. **Strange Neighbors-** To learn about the unique habitat needs of cave creatures, students will think like a cave creature to respond to a dinner party invitation sent by a non-cave dweller.  
(3<sup>rd</sup> – 6<sup>th</sup>; 45 minutes)
11. **Thirsty Plants-** Students will experience the process of transpiration by observing plants right outside their school or at the Watershed Sanctuary! Using the scientific method, students can hypothesize which plants will lose the most water, how much water a given plant may lose in one day, etc..  
(4<sup>th</sup> – 7<sup>th</sup>; 1 hour)
12. **Tree ID Hike-** The Watershed Sanctuary boasts a variety of native flora and fauna that can be observed from our lakeside trails. On this particular hike, we encourage participants to walk

slowly and quietly in order to concentrate on watching and listening. Students will use a tree identification tool to assist them in their observations. (age adapted K-5<sup>th</sup>; 6<sup>th</sup> – 12<sup>th</sup>; 45 minutes)

13. **Habitat Hike-** Before taking to the trail, students will learn about native wildlife and their unique habitats. Students will then hike our Habitat Hollow Trail, which showcases several of these natural habitats. (age adapted K – 5<sup>th</sup>; 6<sup>th</sup> - 12<sup>th</sup>; 1 hour)
14. **Global Water Sustainability-** Participate in a local conservation project while learning about worldwide water facts! Fill buckets with lake water and carry them 100 feet to our rain garden to help us water plants. This gives students an idea of what millions of people around the world must go through to gather clean water every day for their families. (2<sup>nd</sup> – 12<sup>th</sup>; 20-30 minutes)
15. **Endangered Species of the Watershed Sanctuary-** Significant populations of the Ozark cavefish and gray bats live in the cave at the Watershed Sanctuary. Students will learn about each species' adaptations and interdependency upon one another. (2<sup>nd</sup> – 10<sup>th</sup>; 20-30 minutes)
16. **Art and Nature-** Using watercolor paints, students will develop an understanding of stormwater runoff, downstream flow, and aquatic habitat. Can also include nature sketching, journaling, 3-D art projects, and other artistic mediums at the discretion of the teachers/chaperones. (K – 5<sup>th</sup>; 20-30 minutes)
17. **Incredible Soils-** A spin on the playground game “Red Rover” will demonstrate the differences in water infiltration through different types of soils (loamy, sandy, clay, etc.) and surfaces (pervious and impervious). (3<sup>rd</sup> – 10<sup>th</sup>; 30-45 minutes)
18. **Only Rain Down the Drain (Service Learning)-** Storm drains lead directly to our local waterways, which means that it is important to be proactive and clean up litter and pollutants before they reach the drains! Help us to pick up litter and dispose of it properly as a service-learning project. (age adapted K – 8<sup>th</sup>; 20-30 minutes)
19. **Invasive Plant Species Removal (Service Learning)-** Invasive plant species are unfavorable in our gardens and yards because they can outcompete plants that are better suited for our local area. Learn how to recognize and carefully remove invasive species by participating in this service project. (6<sup>th</sup> – 12<sup>th</sup>; 1 – 3 hours)
20. **Planting Trees for Clean Water (Service Learning)-** Planting trees at your school, along a creek, or at a park can improve water quality for our entire watershed! Learn about healthy riparian buffer zones and how they stabilize soil, prevent erosion, and prevent stream contamination while planting trees. (6<sup>th</sup> – 12<sup>th</sup>; 1 – 3 hours)
21. **Growing Conservation (Service Learning)-** Plant and grow native switchgrass and little bluestem in your classroom to learn about the life cycle of plants and the ways in which native plants benefit our watershed! Once mature, grasses will be used in conservation projects like rain gardens and streambank re-vegetation. (5 – 12<sup>th</sup>; minimum 6 week commitment)
22. **Rain Gardens (Service Learning)-** Planting a rain garden is a wonderful way to teach students about native plants, the rain cycle, pollination, and stormwater erosion. Plus, rain gardens will beautify your school grounds, help improve water quality in our watershed, and provide a learning tool that can be used for years to come! (4<sup>th</sup> – 12<sup>th</sup>; 1 – 3 hours to plant, long-term commitment)
23. **Rain Gauges (Service Learning)-** Did you know that the Illinois River Watershed averages about 48 inches of rainfall annually? Participate in a project to log local rainfall data for a national weather database. (6<sup>th</sup> – 12<sup>th</sup>; 10 minutes per day for 14 days)
24. **Environmental and Spatial Technology (EAST) Projects-** Students can design and implement a project that meets a specific goal or solution at the Watershed Sanctuary. EAST students have designed and installed rain gardens and floating wetlands to improve water

quality and to reduce algal growth on the lake at the Watershed Sanctuary. (6<sup>th</sup> – 12<sup>th</sup>; time varies)

## **Watershed Sanctuary Tour Options**

### **Testing the Waters: A Headwaters Study**

#### **9:00 AM to 12:00 PM (3 hour program plus breaks)**

*Put on your water shoes because you won't be dry when you complete this program! Includes overview of Illinois River Watershed and its tributaries, nature hike to Cave Springs Cave, water quality testing of the cave spring, and macro-invertebrate (bug) survey of the cave spring. Suitable and adaptable for K-12.*

### **Watershed Conservation: Preserving and Restoring Green Space**

#### **9:00 AM to 12:00 PM (3 hour program plus breaks)**

*Upon completion of the Watershed Learning Center and Watershed Sanctuary renovations, this tour will exhibit low-impact development features as demonstrations of stormwater management, water quality improvement, and watershed conservation. LID features include: rain garden, native landscaping, urban forest, bioswale, green roof, vegetated wall, tree wells, rainwater harvesting, porous paving, and wetland restoration. This tour is geared toward educators, city planners, local government agencies, agricultural producers, and other watershed stakeholders.*

### **7 Billion and Counting: Global Water Sustainability**

#### **9:00 AM to 11:00 AM (2 hour program)**

*The world's population will soon reach 8 billion, yet the amount of available water resources will always remain the same. Find out what millions of people around the world must do to acquire water for daily tasks, and learn how you can help preserve and protect our water resources here in the Illinois River Watershed. Adaptable for all ages.*

### **Humans and Water: The Urban Water Cycle**

#### **8:30 AM to 2:00 PM (5.50 hour program plus lunch, breaks, and travel time)**

*Linking water use and consumption to the natural water cycle, this full-day program includes an overview of water acquisition, drinking water treatment, water uses (for agriculture, for the home, etc.), wastewater treatment, and effluent discharge. Includes tour of Beaver Water District Drinking Water Treatment Plant, Illinois River Watershed Sanctuary, and NACA Wastewater Treatment Plant. Suitable for 6<sup>th</sup> – 12<sup>th</sup> grade, college/university students, and adults.*

## **Watershed Sanctuary Basic Guided Tour**

**9:00 AM to 10:30 AM (1.5 hour program)**

*Our most basic tour of the Watershed Sanctuary includes an introduction to the Illinois River Watershed, the IRWP, and the story of our partners and stakeholders who came together to help us purchase this special property and put it into conservation in 2012. Guided tour of low-impact development elements, a nature hike to Cave Springs Cave, and discussion of the significance of urban headwaters in the Illinois River Watershed. Best-suited for high school, college/university students, and adults.*

## **Art and Nature: If I Were A Fish**

**9:00 AM to 12:00 PM (3 hour program plus breaks)**

*Dive into an underwater world where crayfish crawl, stones sparkle, turtles plunge, and aquatic plants sway. Explore water quality from the perspective of a fish, and learn the importance of watershed protection for all living things through the arts! Includes overview of Illinois River Watershed and its tributaries, nature hike to Cave Springs Cave, watercolor painting, drawing/color projects, and nature journaling. Suitable for K-4<sup>th</sup>.*

## **Watershed Sanctuary Grand Tour**

**9:00 AM to 2:00 PM (5 hour program plus lunch and breaks)**

*Combines components of each tour listed above for a full-day, interactive program adaptable for all ages.*

## ***Scheduling Your Visit***

To schedule a visit please contact Lauren Ray, IRWP Education Outreach Coordinator, at [laurenray@irwp.org](mailto:laurenray@irwp.org). You may also email your request to [contact@irwp.org](mailto:contact@irwp.org). We are open six days a week from 8 AM to 4:30 PM. Please contact us at least two weeks in advance to schedule a visit. If you are planning a visit for a specific date during April, May or June please call as soon as possible to schedule as these are our busiest months. If you must cancel a scheduled visit please contact us as soon as possible. This ensures that students or groups on a waiting list can fill a vacancy. Please be prepared to provide the following information during the scheduling conversation.

- School name and address
- Contact person address, phone number and email
- Number of students and grade level
- Preferred and alternative trip dates
- Arrival and departure time

- Type of program or educational goal of the visit
- Any accommodations for students with disabilities

Upon arrival to the site, please check in at the Watershed Learning Center. The physical address is: 221 S. Main Street, Cave Springs, AR 72718.

### ***Preview Visit Option***

If you have never been to the Watershed Sanctuary, we recommend that you visit the site prior to your scheduled visit. This is a great opportunity to speak with IRWP staff and familiarize yourself with the available facilities.

### ***Prepare Yourself***

- Visit the facility before your trip with colleagues and/or chaperones.
- Identify parking, lunch and restroom locations.
- Consider attending one of our teacher workshops offered throughout the year. These workshops are a great opportunity to discover what the Watershed Sanctuary at Cave Springs has to offer as well as earn 6 to 12 hours of Arkansas Department of Education Professional Development credits.
- Explore the outdoor area you plan to visit.
- Meet with a Sanctuary interpreter to select activities relevant to your curriculum.

### ***Educational Programming***

The staff at the Watershed Sanctuary has developed a variety of programs aimed at meeting the educational goals of teachers, scout leaders, and civic organizations. By providing different programs aimed at various age levels, we ensure groups get a new and exciting experience with each visit to the facility.

### ***Programs for Schools***

The Watershed Sanctuary is proud to present programs that meet or exceed the standards of the Arkansas Department of Education's curriculum frameworks. For a list of the curriculum frameworks that each program meets, please contact Lauren Ray, Education Outreach Coordinator, at [laurenray@irwp.org](mailto:laurenray@irwp.org).

### ***Prepare Your Students***

Studies have shown that students learn more when they know what to expect. Be sure your students know where they will be, what will be expected of them and when they will return. Lack of this basic information often causes worry about what happens next, and keeps them from concentrating on the educational mission.

Once you have explained the details of the trip, prepare your students with classroom activities related to what they will be doing at the site. The staff can help you design appropriate pre- and post-visit activities. Some of these activities will be available at the site depending on the program topic you have chosen.

Be sure your students know:

- The date, time and place of departure
- Educational objective of the visit
- Necessary and any optional expenses related to group expense
- Lunch
- Appropriate dress – long pants and old shoes preferred
- Rules (teacher's and Sanctuary's)
- Available free time
- Parental permission forms as required by the school
- Necessary supplies (camera, notebook, pencils, etc...)
- Special assignments/worksheets
- Time they will return to school

### **Chaperones**

It is important that all students have proper supervision. We require one chaperone for every fifteen students; bus drivers qualify. All chaperones should clearly understand their disciplinary duties and stay with their assigned students during the field trip.

### **Discipline**

Class discipline is the teacher's responsibility. Please explain to all students that appropriate, orderly behavior is expected during their visit. Please respect Sanctuary resources and show courtesy to others, keeping in mind that other visitors may be at the here during your visit. As a Sanctuary all plants, minerals, animals, fossils and artifacts are protected and may not be disturbed or removed.

### **Accessibility for people with disabilities**

We are committed to providing program access to people with disabilities to ensure full participation. This is accomplished by providing auxiliary aids and services when necessary. If you are aware of any auxiliary aids and services that would ensure full participation of any of your group members, staff, or chaperones please let us know when you call to make your reservations or as soon as you are aware of a need.

### **Inclement Weather**

The Watershed Sanctuary has designated safe spaces. Under normal rainfall forecasts, our policy is "Rain or Shine!" However, a storm forecast may require rescheduling or modifying your planned activities. Depending on the size of your group, indoor activities may be required. Please notify the staff immediately if circumstances require you to cancel your visit.

### **Directions:**

From Interstate 49, take the Hwy. 264/Monroe Ave. exit in Lowell and head West toward Cave Springs. At the intersection of Hwy. 264 and Hwy. 112, turn North (right) onto Hwy. 112, and

you will see the Watershed Learning Center almost immediately on the West side of the highway.

**Parking:**

Construction of a North Shore Pavilion and Learning Center parking lot is underway so we have to be flexible with parking and access. In the meantime, the gravel parking lot at the south shore of the Lake and some parking in front of the Watershed Learning Center can be used.