

## **Aquatic Resources Education Center (AREC) – School Programs**

DOEE Aquatic Resources Education Center 1900 Anacostia Dr. SE Washington, DC 20020

[www.doe.dc.gov/arec](http://www.doe.dc.gov/arec)

### **Pre-K & Kindergarten**

**River Discoveries (1 hour)\*** – What animals visit the river throughout the day? Students will discover the diversity of life that lives in and around the Anacostia River. *Typically used in combination with a boat tour.*

**Story Time (1 hour)\*** – Students will explore the AREC on a guided tour and learn about the aquatic animals in the District of Columbia through a story, craft, and meet and greet of one of AREC's resident animals. Below is a list of the story time topics:

- Amphibians
- Fishes
- Invertebrates
- Reptiles

### **Lower Elementary School (1<sup>st</sup> – 2<sup>nd</sup>)**

**Curious Comparisons (1-1.5 hours)\*** – Ever wonder what makes a bird different from a mammal? Or what makes reptiles and amphibians alike? Students will investigate the differences and similarities between groups of aquatic and semi-aquatic vertebrates.

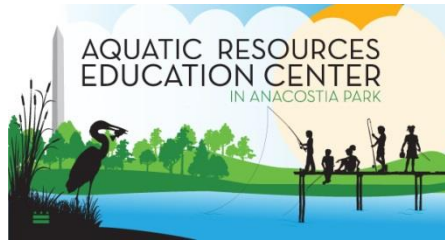
**Frog Symphony (1-1.5 hours)\*** – Did you know that not every frog goes “Rib-bit”? Students will engage in a sensory experience to learn why frogs and toads call and to receive an introduction to identifying individual species by recreating the sounds of a pond at night.

**River Discoveries (1 hour)\*** – What animals visit the river throughout the day? Students will discover the diversity of life that lives in and around the Anacostia River. *Typically used in combination with a boat tour.*

**Sensational Skin (1.5 hours)\*\$@** – Amphibian skin holds a world of wonders, from possessing anti-microbial properties to allowing some salamanders to live without lungs! Students will practice science inquiry and investigate why amphibians can serve as indicators of environmental health.

**Story Time (1 hour)\*** – Students will explore the AREC on a guided tour and learn about the aquatic animals in the District of Columbia through a story, craft, and meet and greet of one of AREC's resident animals. See the list of story time topics under the Pre-K & Kindergarten section above.

**Who Am I? (1-1.5 hours)\*** – Fins for swimming and shells for safety – learn to recognize some of the District's aquatic animals and how they are born and grow. Students will investigate life cycles using fish, frogs, and turtles as models.



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### **Upper Elementary School (3<sup>rd</sup> – 5<sup>th</sup>)**

**Amazing Adaptations (1-1.5 hours)\*** – What is an adaptation? How are aquatic animals able to survive? Students will explore the adaptations of aquatic animals found in Washington, DC and use what they learn to create their very own aquatic animal. *You can choose a general adaptation lesson or an amphibian or fish specific adaptation lesson.*

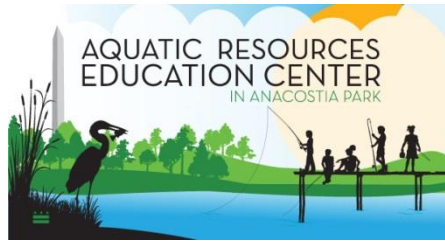
**Curious Comparisons (1-1.5 hours)\*\$** – Ever wonder about the similarities between turtles and frogs? Or what makes a crayfish different from a sunfish? Students will dive into taxonomic classification by investigating the differences and similarities between vertebrate and invertebrate species, body forms, and functions.

**Fabulous Food Webs (1-1.5 hours)\*\$@** – What does a long nose gar eat? Or a crab? Find out! Students will explore the food webs and ecological relationships found in the Chesapeake Bay watershed.

**Frog Symphony (1 hour)\*** – Did you know that not every frog goes “Rib-bit”? Students will engage in a sensory experience to learn why frogs and toads call and to receive an introduction to identifying individual species by recreating the sounds of a pond at night. *Can be combined with the amphibian version of Amazing Adaptations.*

**River Explorers (1 hour)\*** – What’s the big deal with watersheds? Why should I care about them? Students will investigate the Anacostia River watershed and learn about its importance in our environment and our role in its protection. *Typically used in combination with a boat tour.*

**Sensational Skin (1.5 hours)\*\$@** – Amphibian skin holds a world of wonders, from possessing anti-microbial properties to allowing some salamanders to live without lungs! Students will practice science inquiry and investigate why amphibians can serve as indicators of environmental health.



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### **Middle School**

**Amazing Amphibian Adaptations (1-1.5 hours)\*** – Amphibians can be thought of as animal action heroes — able to shift shapes (through a process called metamorphosis) and sporting “special powers” that allow them to live in and around water. Students will explore the unique adaptations and important roles of amphibians in the environment and their potential applications in bioengineering.

**Bugs Don’t Bug Me: Clues to Stream Health (1.5 hours)\*** – Did you know there are aquatic bugs called macroinvertebrates? And that they can be used as an indicator for stream health? Students will learn about aquatic benthic macroinvertebrates and will calculate an index to determine stream health.

**CSI: Anacostia (1-1.5 hours)\*** – Forget Las Vegas, Miami and New York, we have a mystery in our own backyard: Where have all the fish gone? Students will put their STEM skills to the test as they investigate the fishing regulations in DC.

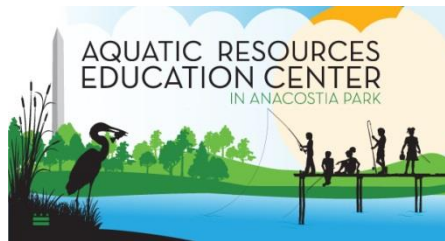
**Fabulous Food Webs (1-1.5 hours)\*** – What does a longnose gar eat? Or a crab? Find out! Students will explore the food webs and ecological relationships found in the Chesapeake Bay watershed.

**Fishable Waters (1-1.5 hours)\*** – Do you enjoy fishing? Are there any regulations on fishing in your area? Discover how human activities impact fish populations. *Can be combined with River Explorers and CSI: Anacostia.*

**Intriguing Invasives (1.5 hours)\*** – Humans are often responsible for introducing new species to the environment on purpose or by accident. Students will model the spread of an introduced species through an active simulation and investigate the influences of invasive species on aquatic environments in the District of Columbia.

**River Explorers (1 hour)\*\$** – What’s the big deal with watersheds? Why should I care about them? Students will investigate the Anacostia River watershed and learn about its importance in our environment and our role in its protection. *Typically used in combination with a boat tour.*

**Talking Trash (1-1.5 hours)\*\$** – Ever wonder how trash gets into our waterways? Do you know what the most common aquatic debris item is? How long does it actually take for different trash items to decompose? Students will investigate the impacts of trash in our local waterways and determine solutions to the trash problem.



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### **High School**

**Alien Invaders (1.5 hours)\*** – Many science fiction stories feature otherworldly beings coming to Earth to harvest food, steal resources, exterminate life, and destroy the planet. But what happens when the horror is real and happening to native species right here in the waters of the District? Students will conduct a STEM investigation of two aquatic alien species and explore solutions for combating the invasion.

**Amphibian Advanced Inquiry (1.5 hours)\*** – Students are guided through a STEM-based investigation using local amphibian and wetland data in order to examine ecological impacts, mitigation, and conservation.

**Bugs Don't Bug Me: Clues to Stream Health (1.5 hours)\*** – Did you know there are aquatic bugs called macroinvertebrates? And that they can be used as an indicator for stream health? Students will learn about aquatic benthic macroinvertebrates and their value in determining the health of a stream.

**CSI: Anacostia River (1-1.5 hours)\*** – Forget Las Vegas, Miami and New York, we have a mystery in our own backyard: Where have all the fish gone? Students will put their STEM skills to the test as they investigate the fishing regulations in DC.

**Fishable Waters (1-1.5 hours)\*** – Do you enjoy fishing? Are there any regulations on fishing in your area? Discover how human activities impact fish populations. *Can be combined with River Explorers and CSI: Anacostia.*

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**Working for Wildlife (1-1.5 hours)\*** – Are you interested in a career working with wildlife? Did you know that wildlife careers aren't just for scientists? They also include jobs like law enforcement officers and communication specialists. To find out more about these careers and to learn important job skills for any job, join us for our Working for Wildlife activity.