

Water matters

Cobb County Water System

Winter 2021

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Join Cobb County's Biodiversity Project on iNaturalist

Cobb County community scientists and nature enthusiasts are needed to help observe and record data on wild organisms (plants, animals, and fungi) throughout our county. We would like to invite you to join the Cobb County Biodiversity Project on iNaturalist! Recently launched in Fall of 2020, the Cobb County Biodiversity Project is one of our newer initiatives to increase environmental literacy and engagement across Cobb County. Whether you're new to the outdoors, or a nature veteran, this project is an exciting and simple way for you to increase your knowledge of our natural world and make your outdoor experiences much more enjoyable. The best part is, all you need is a smartphone.



Your everyday observations, such as that weird fish behavior you noticed during your fishing trip, that oddly shaped insect you noticed during your lunch break, those colorful moths that seem to love your porch light, all may seem irrelevant to us, but for scientists those observations could provide valuable information and lead to significant biological breakthroughs. If you've ever thought "WOW, I wonder what type of organism that is," or "I've never seen that behavior before," the iNaturalist app can be an excellent resource. iNaturalist is a community science app developed by the California



Academy of Sciences and National Geographic. Think of it as a digital nature journal/logbook on your smartphone. With the app you can identify and record observations of wild organisms you encounter throughout your time outdoors. When you take a photo on iNaturalist, the artificial intelligence (AI) will take into account the shape, color, season, and location of your organism to determine what species it is. This is a very helpful feature when you want to learn more about the plants and animals in your community. Each

observation you make is uploaded to the iNaturalist database, where it becomes readily available for scientists all over the world to see and use. If you are unable to identify what species you recorded on iNaturalist, there are thousands of scientists and naturalists on the app who can identify the organism for you. Dozens of new species of animals have already been discovered on iNaturalist, and who knows, maybe you could make the next big discovery.

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Simple Ways to Reduce Your Ecological Footprint in 2021



2021 is quickly approaching, and as many of us begin to prepare for the new year, we'd like to revisit the concept of our ecological footprint and leave our readers with some hope and motivation for the upcoming year. There's no doubt, throughout 2020 many of us have experienced first-hand how devastating nature can be. Fires, disease, hurricanes, droughts, deep-freezes, we've seen it all. As hard it is to accept, many of these environmental catastrophes are the direct results of our behaviors and actions from the past. As we come to grips with that reality, it can be very easy to sink into despair, but as we discussed in the previous issue of *Water Matters*, there is a huge case for hope! By making just minor lifestyle changes, we can achieve a healthier coexistence with our natural world. A coexistence where our air is fresher, our water is cleaner, and our local wildlife flourish.

What is an "Ecological Footprint"

Every person on Earth consumes their share of our planet's resources: what we eat, what we wear, what we purchase from the store, how we travel, what we do in our workplaces, the structures we live in, and the products we use. All of these actions require that we remove a certain amount of resources from the earth. Take water for instance, we don't only use water for drinking. We also use it for cleaning, for manufacturing, and for growing crops. If we want to understand how much water we truly use in a day, we can't just look at the water we directly use. We also have to look at the amount of water used to grow and make the food we eat each day, and to create the clothing and electronics we use. In a typical day, we use much more water than we think we do. The average American lifestyle can use as much as 2,000 gallons of water per day, and water isn't the only resource we rely on either. There's natural gas, animals, soil and land, and many other natural resources that we need to sustain our lives as well. If we were to combine all of those resources together (air, water, land, animals, etc.), and calculate the total amount needed to sustain our lifestyle in a typical day, that result would be our ecological footprint. In simple terms, an ecological footprint is the impact of an individual (or community) on the natural world. This is a very important concept, because our natural resources are not infinite. If we go back to the water example, our world only has a set amount of water. If it takes 2,000 gallons of water to fulfill your daily activities, then that means every day there will be 2,000 gallons of water missing from the natural environment. Multiply that times every person in Georgia, and you can see that we are removing a massive amount of water from the environment every day.

Linking Ecological Footprints to Sustainable Habits

Now that you understand what an ecological footprint is, let's look at the term "biocapacity." Biocapacity refers to the ability of an ecosystem to produce useful biological materials (in the form of natural resources) and to absorb waste materials generated by humans. In short, we want our ecosystems to have as much biocapacity as possible, so that we may continue to benefit from the natural resources that our world produces while minimizing pollution. Unfortunately, an ecosystem's biocapacity is directly related to the amount of natural resources it holds. Meaning, the more resources we remove from the environment, the less biocapacity our ecosystems have. It's just like a savings account. If we remove more money from the savings account than we invest, then eventually we will run out of money. That is the problem we are faced with today.



According to the World Wildlife Fund, it currently takes 1.5 years for the earth to regenerate what we use in just one year. We are running a negative balance with our natural world. The goal we must have is to reduce the amount of resources we use throughout our daily lives. Fortunately, it can be easier than you think. Continue reading our Conservation Tips for habits that you can adopt to help reduce your ecological footprint in 2021.

CONSERVATION TIP



Food: Try to buy locally grown food on a regular basis. Locally grown foods require less fuel for their transportation from farm to your local grocery store. The fuel used to power ships and trucks is the major contributor to the ecological footprint created by foods. If you eliminate the need to transport these items across the country (and world), then you will help cut down the use of fossil fuels and natural gas.

Goods: Be an “environmentally conscious” consumer. Most consumer products (batteries, cleaning supplies, pesticides, fertilizers, etc.) have green alternatives. These green products are typically more environmentally friendly and are created using sustainable practices. Try to evaluate your future purchases and choose goods and services that benefit the environment as well. Just be on the lookout for “Greenwashed” products which falsely advertise that they are environmentally-friendly. You can also support reusable or recyclable products. Using a reusable grocery bag instead of plastic bags at the grocery store is a great example.

Housing: Try to save electricity and other energies by using energy-saving appliances. Check out the water conservation section of our website for free resources to help you start saving water immediately. For your yard, try your hand at sustainable landscaping and help support the growth of native plants.

Transportation: One of our more difficult habits to change, because we tend to have the least amount of flexibility in our traveling capabilities. If you are able, try carpooling or using public transportation. For short distances, you may be able to walk or cycle to your destination, helping improve the environmental health and your personal health as well.

Waste: If you generate a lot of organic waste, a compost bin would be a valuable tool for you to use. For other types of waste, use different waste bins for recyclable and non-recyclable items. This helps decrease the amount of trash disposed of in landfills. Also, take proper care of any Household Hazardous Waste (HHW) that you generate. HHW are products used around the house that contain chemicals hazardous to the health of humans, animals, and the environment. Examples include cleaners, polishes, antifreeze, used motor oil, pesticides, batteries, paints, paint thinners, furniture strippers, and some personal grooming products.

For more information on how you can live more sustainably, or if you want to take a more active role in conserving and protecting our natural world, we encourage you to check out our Events Calendar and attend one of our community workshops or service events. You can also explore our website, cobbstreams.org, for a variety of conservation resources.

BIODIVERSITY PROJECT CONTINUED

That brings us to the Cobb County Biodiversity Project on iNaturalist. Projects are a feature in iNaturalist where users can come together to record and share observations to reach a common goal. The goal of our project is to develop a robust record of Cobb County’s wild plants, animals, and fungi. After joining the project, any observation you make within Cobb County’s boundaries will be added to our records. It’s as simple as snapping a picture when you encounter a neat organism on your nature walks.



To get started using iNaturalist, just follow these steps:

1. Search your phone’s app store for the iNaturalist app to download. Or, sign up on iNaturalist.org.
2. Search for and join the Cobb County Biodiversity Project.
3. Have fun exploring your local environment and start recording observations using the app.

If you need help using iNaturalist, you can check out our iNaturalist tutorial on our Cobb County Water System YouTube channel. To create an iNaturalist account users must be 13 years of age or older. For younger enthusiasts, there is an additional app called “Seek” by iNaturalist which is catered towards younger naturalists. No matter what age you are, there’s plenty of things to discover outside. With the iNaturalist app, you will be able to gain a deeper understanding and appreciation of Cobb County’s natural resources.

Starting in 2021, Cobb County’s Watershed Stewardship Program is planning to host seasonal BioBlitz events using iNaturalist. If you would like to get more directly involved in the Cobb County Biodiversity Project, and learn more about the various organisms which call Cobb County their home, we invite you to attend one of those events. For more information, please refer to our calendar of events.

Benefits of Water Conservation

Why We Should Care About Saving Water

Written By: Marni Evans
<https://tinyurl.com/y64d3q7m>

Since 71% of the earth is covered in water, some people can't help but wonder: Why should we conserve?

Here are a few important facts about water on this planet from the U.S. Department of Interior's Bureau of Reclamation:

- Ninety-seven percent of all water on the earth is salt water, which is not suitable for drinking.
- Only 3% of water on Earth is fresh water, and only 0.5% is available for drinking.
- The other 2.5% of fresh water is locked in ice caps, glaciers, the atmosphere, soil, or under the earth's surface, or is too polluted for consumption.

With growing population rates and such a small percentage of all the water on Earth fit for consumption, it only makes sense that we must preserve and conserve this precious resource.

Water conservation means using our limited water supply wisely and caring for it properly. Since each of us depends on water to sustain life, it is our responsibility to learn more about water conservation and how we can help keep our sources pure and safe for generations to come. In other words, water conservation is not a job that is reserved for scientists, hydrologists, foresters, wildlife managers, city planners, farmers, or mine owners. Instead, it is up to each and every one of us to conserve water.

Reasons to Conserve Water

Below are some of the main reasons it is important to conserve water.

- **It minimizes the effects of drought and water shortages.** Even though our need for fresh water sources is always increasing because of population and industry growth, the supply we have stays constant. Even though water eventually returns to Earth through the water cycle, it's not always returned to the same spot, or in the same quantity and quality. By reducing the amount of water we use, we can better protect against future drought years.
- **It guards against rising costs and political conflict.** Failing to conserve water can eventually lead to a lack of an adequate water supply, which can have drastic consequences. These include rising costs, reduced food supplies, health hazards, and political conflict.
- **It helps to preserve our environment.** Reducing our water usages reduces the energy required to process and deliver it to homes, businesses, farms, and communities, which, in turn, helps to reduce pollution and conserve fuel resources.
- **It makes water available for recreational purposes.** It's not just swimming pools, spas, and golf courses that we have to think about. Much of our freshwater resources are also used for beautifying our surroundings—watering lawns, trees, flowers, and vegetable gardens, as well as washing cars and filling public fountains at parks. Failing to conserve water now can mean losing out on such uses later on.
- **It builds safe and beautiful communities:** Firefighters, hospitals, gas stations, street cleaners, health clubs, gyms, and restaurants all require large amounts of water to provide services to the community. Reducing our usage of water now means that these services can continue to be provided.



Water conservation requires forethought and effort, but every little bit helps. Don't think that what you do does not matter. We can all make changes in our lifestyles to reduce our water usage. The trick is making water conservation a way of life—not just something we think about once in a while.

Declared Water Restrictions Status:
No restrictions

Outdoor water use: Irrigation permitted daily before 10 AM and after 4 PM.

No restrictions on other outdoor water uses. Cobb Water encourages our customers to conserve water year round.

U.S. Drought Monitor: None

Rainfall Level: Above Normal

- 2020 Total: 68.96 inches
- Jan-November Historical Average: 45.81 inches

Rainfall September - November 2020:

- September: 9.12 inches
- October: 7.43 inches
- November: 1.22 inches

Allatoona's current level:
836.38 feet, below normal

Chattahoochee River and tributaries:
At or above normal ranges

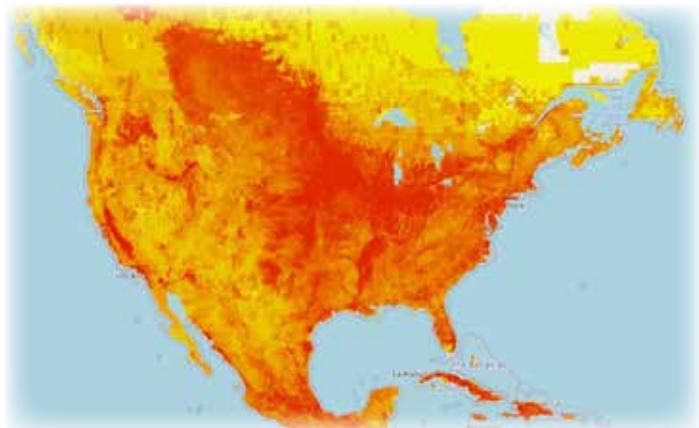
Lake Lanier:
At normal level

RECOMMENDED RESOURCE

Do you know your water story? The routines of our daily lives, from the coffee that we drink in the morning, to the water we use to nourish our burgeoning houseplant hobby, are part of our personal water story. Despite having this dependent relationship, our water story rarely comes into our conscience. After all, through years of human development, many streams and tributaries have been driven underground. They are tucked away onto private property or simply forgotten, hidden away from the traffic of daily life.

You might be surprised to know that where you live and work in Cobb County is probably close to a stream or other body of water. So close in fact, that your neighborhood and its activities directly contribute to the stream's health and future viability. If we lined up all the streams in Cobb County end to end, that line would be around 3,200 miles long. Today, we don't have to simply wonder where that elusive waterway is and how our lifestyle affects it. You can easily learn more using two online tools, the recently updated EPA's **How's My Waterway?** app (mywaterway.epa.gov), and the Water Footprint website (waterfootprint.org), both of which are free and available to the public.

The EPA's **How's My Waterway?** app allows you to look up general information about the condition of your local waterway. The information is taken from federal, regional, and local data submitted to the EPA. You can enter an address, a zip code or your current location, and conduct the search through a range of topics such as aquatic life, drinking water, swimming and fish edibility. After you've entered that information, the website will give you a map and a general overview of your local waters. It will indicate to you the location of your local waterway and its condition. The conditions are color-coded based on water quality monitoring data with green for good and red for impaired. Though the tool is not exhaustive nor designed to give the latest, rapid-fire data, it is an excellent starting point. The website also has a simple interface which makes it easy to use and navigate.



The second tool is the Water Footprint Network website, a collaborative platform based in the Netherlands which publishes research and tools based on the late Arjen Hoekstra's water footprint concept. Like the carbon footprint, a water footprint accounts for the total direct and indirect water usage of an object like a product, a person, or even a country. It's separated into three key types: a blue, green, and gray water footprint. The blue water footprint measures the amount of surface or ground water that is consumed. The green water footprint measures the amount of rainwater that is used, and the gray water footprint totals the amount of water that is polluted. While much less local than the EPA tool, the resources located on this website such as the product gallery, and the global Water Footprint Assessment Tool, can provide us insight into our indirect connection with water, whether on a consumer level or on a national scale.

Many of you may realize through EPA's "How's My Waterway?" app that your local stream or creek is impaired in some way. What can you do with that information? You can act, of course! Visit www.cobbstreams.org/events/ to find local community service and citizen science opportunities in and around the county. Many of our programs have been modified to help prevent the spread of COVID-19, featuring smaller groups, mask requirements, and a requirement of at least 6 feet of physical distancing. Some of our volunteering programs can even be done alone and in your own time. A neighborhood storm drain marking event or participating in Cobb Water's *Adopt-A-Stream* monitoring program are two fun ways to make a difference in your community. You can also explore cobbstreams.org's educational tabs to learn more about water conservation and protecting your local water resources.



Thank You to our Fall Interns!

We would like to thank our fall semester high school senior interns Annabelle Stultz and Rachel Toole. Both students are certified *Adopt-A-Stream* volunteers who monitored streams as part of a comparison study they conducted as part of their Internship and Research class. Annabelle has adopted sites on Allatoona Creek and Rachel has adopted sites on Sope Creek. Between the two, Rachel and Annabelle recorded over 200 monitoring hours while completing 109 monitoring events. Thanks for all your hard work during the fall semester and best wishes for the remainder of your senior year!



**Stewardship Stars
Excellence in Data Collection**

The following volunteers have submitted data each month during the August, September, and October quarter:

- A Stultz** - Chemical & Bacterial Monitoring on Allatoona Creek
- Bishop Lakes** - Chemical Monitoring in the Willeo Watershed
- Cobb Progressives** - Chemical & Bacterial Monitoring in the Noonday, Proctor Creek, Lake Acworth Watershed
- Concord Woolen Mill** - Chemical Monitoring on Nickajack Creek
- Dominion Christian Science Department** - Chemical Monitoring on Allatoona Creek
- Friday** - Chemical & Bacterial Monitoring on Poplar Creek
- Georgia Lake Monitoring** - Chemical Monitoring on Lake Acworth
- Grams Collins Gals** - Chemical Monitoring in the Willeo Watershed
- Heather Glazebrook** - Chemical Monitoring in the Sewell Mill Watershed
- Heidi Stephens** - Chemical Monitoring in the Willeo Watershed
- Keep Smyrna Beautiful** - Chemical Monitoring in the Nickajack Watershed
- Lakewood Colony** - Chemical & Bacterial Monitoring in the Rubes Watershed
- Ledbetter** - Chemical & Bacterial Monitoring on Poplar Creek
- M Marshall** - Chemical & Bacterial Monitoring on Allatoona Creek
- Mar Doyle** - Chemical Monitoring on Nickajack Creek
- Mud Creek Troccoli** - Chemical & Bacterial Monitoring on Mud Creek
- Pic** - Chemical Monitoring on Noses and Ward Creek
- Pope High School** - Chemical Monitoring in the Sewell Mill Watershed
- Richard's Creek** - Chemical Monitoring in the Allatoona Watershed
- Rosco Peters** - Chemical & Bacterial Monitoring on Rottenwood Creek
- R Toole** - Chemical & Bacterial Monitoring on Sope Creek
- Sierra Club Centennial Group** - Chemical, Bacterial, & Macro Monitoring in the Rottenwood Watershed
- Simon Locke** - Chemical, Habitat, & Bacterial Monitoring on Butler Creek
- Team Salty** - Chemical Monitoring on Sope Creek
- Village North Highlands** - Chemical & Bacterial Monitoring in the Willeo Watershed

Thank you for your hard work and dedication!

w e l c o m e

- Annabelle Stultz** - Chemical & Bacterial Monitoring in the Willeo Watershed
- Camryn Hughes** - Chemical on Olley Creek
- Rachel Toole** - Chemical & Bacterial Monitoring in the Sope Creek Watershed
- The Ticos** - Chemical, Bacterial, & Macroinvertebrate Monitoring on Piney Grove Creek
- Whitefield Academy** - Chemical & Bacterial Monitoring in the Nickajack Watershed

Congratulations to the 2021 waterSmart waterArt Calendar Winners!

Cobb County middle school students were invited to use their talent and create a 2-D work of art that answered the question, "How is water important to me?" In a year unlike any other, and many students completing their submissions from home, the submissions we received from 7 schools provided excellent artwork to select our 12 winners. All artwork was displayed in a virtual gallery, culminating with a virtual reception for the winners and unveiling of the 2021 calendar cover winner. Congratulations to Aanshi P., from Dickerson Middle School on being selected as our cover winner! We would like to thank Barber Middle School, Dickerson Middle School, East Cobb Middle School, Floyd Middle School, Lost Mountain Middle School, Lovinggood Middle School, and Simpson Middle School for their entries! To view all submitted artwork, visit <https://tinyurl.com/y4ppqnd4>.



SEASONAL HAPPENINGS



Privet Pull

December 5, 2020 • 11:00am - 1:00pm • Heritage Park, 60 Fontaine Road SW, Mableton
Privet is a non-native, invasive plant that out-competes native species. We'll be removing privet from the landscape. Join us to help restore habitat and native plant species. We will provide clippers and tools that pull the privet right out of the ground by its roots.

Noonday Habitat Demonstration Site Workday

January 23, 2020 • 11:00am - 1:00pm • Noonday Trailhead, 3015 Bells Ferry Road, Marietta
Join us at Noonday Creek to remove invasive plants from our ongoing streambank improvement site. This is a great opportunity to see and participate in an active stabilization project.

iNaturalist BioBlitz

January 30, 2021 • 11:00am - 1:00pm • Cobb Wildlife & Rain Garden, 662 South Cobb Drive, Marietta

February 27, 2021 • 11:00am - 1:00pm • Leone Hall Price Park, 4715 Stilesboro Road, Kennesaw

Help discover and document wild organisms across Cobb County. During our winter BioBlitz sessions, we will visit various nature sites across Cobb County and use the iNaturalist mobile app to log wild plants, animals, and fungi. Each BioBlitz session will focus on a specific habitat or group of organisms.

Stream Cleanup

February 20, 2021 • 11:00am - 1:00pm • East Cobb Park, 3322 Roswell Road, Marietta

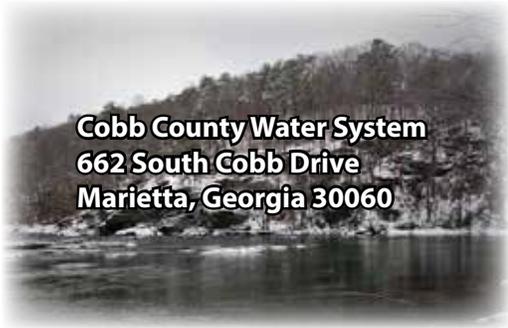
We will provide you with trash bags, grabbers (litter sticks), safety vests, blue latex gloves, and data cards to record the debris we collect.

To register for a space in these upcoming service projects, visit our website, www.cobbstreams.org, under Calendar.

Land planarians are commonly called a variety of names: hammerhead worms, shovel-headed worms, or flat head worms. These invasive worms are a voracious, top-level predator, feeding primarily on native earthworms. Like common earthworms, when cut in half both sides remain alive and continue to grow. While they are not a threat to humans or pets, experts aren't sure what effects they have on soil fertility and nutrient cycling. The hammerhead worms have a "half-moon shaped head" that gives them their name, similar to a hammerhead shark, and they can grow up to about a foot in length. They are attracted to hot, humid environments and are mostly active at night.

OBSERVATIONS





Cobb County Water System
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This is an official publication of the Cobb County Water System, an agency of the Cobb County Board of Commissioners.

Calendar of Events

December

- 3 Wildlife & Rain Garden Workday • 9:00am - 11:00am • Cobb County Water Quality Laboratory
- 5 Privet Pull • 11:00am - 1:00pm • Heritage Park South
- 10 Wildlife & Rain Garden Workday • 9:00am - 11:00am • Cobb County Water Quality Laboratory
- 12 Adopt-A-Stream Visual Monitoring Workshop • 10:00am - 1:00pm • Cobb County Water Quality Laboratory
- 17 Wildlife & Rain Garden Workday • 9:00am - 11:00am • Cobb County Water Quality Laboratory
- 18 Lunch & Learn: Winterizing Irrigation • 12:00pm - 12:45pm • Webinar

January

- 7 Wildlife & Rain Garden Workday • 9:00am - 11:00am • Cobb County Water Quality Laboratory
- 13 Adopt-A-Stream Chemical Monitoring Workshop • 6:00pm - 8:30pm • Cobb County Water Quality Laboratory
- 14 Wildlife & Rain Garden Workday • 9:00am - 11:00am • Cobb County Water Quality Laboratory
- 21 Wildlife & Rain Garden Workday • 9:00am - 11:00am • Cobb County Water Quality Laboratory
- 23 Noontday Habitat Demonstration Site Workday • 11:00am - 1:00pm • Noontday Creek Trailhead
- 28 Wildlife & Rain Garden Workday • 9:00am - 11:00am • Cobb County Water Quality Laboratory
- 29 Lunch & Learn: Stormwater Management BMP's • 12:00pm - 12:45pm • Webinar
- 30 Winter iNaturalist BioBlitz • 11:00am - 1:00pm • Cobb County Water Quality Laboratory Wildlife & Rain Garden

February

- 4 Wildlife & Rain Garden Workday • 9:00am - 11:00am • Cobb County Water Quality Laboratory
- 10 Adopt-A-Stream Bacterial Monitoring Workshop • 6:00pm - 8:30pm • Cobb County Water Quality Laboratory
- 11 Wildlife & Rain Garden Workday • 9:00am - 11:00am • Cobb County Water Quality Laboratory
- 18 Wildlife & Rain Garden Workday • 9:00am - 11:00am • Cobb County Water Quality Laboratory
- 20 Stream Cleanup • 11:00am - 1:00pm • East Cobb Park
- 25 Wildlife & Rain Garden Workday • 9:00am - 11:00am • Cobb County Water Quality Laboratory
- 26 Lunch & Learn: Amphibians of Cobb County • 12:00pm - 12:45pm • Webinar
- 27 Winter iNaturalist BioBlitz-Stream Invertebrates • 11:00am - 1:00pm • Leone Hall Price Park

More information can be found on our Calendar at www.cobbstreams.org.