water matters

Cobb County Water System
Summer 2020

Photo Source: https://tinyurl.com/y8d7r8t4

Volume 17 Issue 3

**Cobb County
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New Flowers and New Voices...

"I grow plants for many reasons: to please my eye or to please my soul, to challenge the elements or to challenge my patience, for novelty or for nostalgia, but mostly for the joy in seeing them grow." – David Hobson

Everyone has their own reasons for starting a garden. Some garden because it brings them closer to nature, others garden for food or profit. For many people, gardening can even be a source of physical and mental relief. Regardless of your reason, the act of bringing yourself down to the earth, digging through soil, pulling weeds, and cultivating life from seed to flower can have profound effects on your life.

At Cobb Water our focus is on improving water quality and that focus led to the creation of our Wildlife and Rain Garden. In 2004, the Rain Garden was begun as an educational project to demonstrate storm water pollution prevention, and its plantings were designed to provide food and habitat for local pollinators and urban wildlife. Bit by bit, through the help of dedicated volunteers and staff, our Rain Garden has grown and flourished throughout these last 16 years and become a valuable resource for Cobb County residents. To assist those of you who were unable to see the rain garden in person, we also created a blog so you could have the knowledge and inspiration to successfully create and manage your own rain garden. Just as new seasons pass and new flowers bloom within our garden, new staff and volunteers also join our team. New faces and voices are eager to explore the world of rain gardening and share their experiences. As our blog finds new life, these new voices will be featured more often. They'll revisit the basics, disentangle the complexities of rain gardening, share interesting stories, and continue the legacy started by previous stewards. And for those of you who are longtime subscribers of the blog, don't worry, many of those old faces are still here, and will continue to share their knowledge and wisdom with you as well.

We look forward to having you join us as we dive deeper into the world of Rain Gardening. Until our next post, feel free to check out previous articles on our blog and subscribe to receive notifications of new postings at https://cobbraingarden.wpcomstaging.com/.

Shifting Our Neighborhood from Gray to Blue Green: Making the Case for Green Infrastructure

This past spring, Cobb County residents have been following social distancing recommendations and have spent more and more time at home and in their neighborhood. With the upcoming warmer and drier weather of summer, many will find themselves taking more strolls through their neighborhood than ever before. Time spent in nature has been proven to reduce stress, taking in the sights, sounds, and smells of the gardens and lawns around your block can be an easy way to de-stress. We all appreciate the care that our surrounding neighbors take in caring for their lawns and gardens. The sight of our fellow home gardeners outside is also a visual reminder that it takes both time and money to build and maintain a thriving green space for ourselves and for neighbors. The EPA estimates that outdoor residential water use, mostly for irrigating our lawns and gardens, accounts for 9 billion gallons of water being used each day (EPA, 2017). It is a common perception that a lush lawn or garden takes heaps of money to maintain due to the cost of watering. This is not always the case. Green infrastructure projects that collect and clean water are an affordable way for families to get a healthy dose of nature. Green infrastructure, put in everyday terms, is the smart management of rainwater by restoring water's natural flow through a landscape.

Typically, rainwater falls onto rooftops, through gutters and downspouts, and travels over impervious surfaces like driveways, streets, and sidewalks, often picking up pollutants along the way. Because it is not being absorbed into the ground, rainwater (also called stormwater or runoff) picks up speed and winds up traveling into storm drains where it becomes part of a local steam or creek. This source of rainwater can be tapped into and utilized for our flowerbeds and turfgrasses. We can curb our usage of treated water from the tap if we take measures to slow the flow of this water, redirect it to stay in our soil, and preserve leftover for later use. Rain gardens, rain barrels, tree canopies, xeriscaping, bioswales, composting, and mulch are just some examples of green infrastructure. With some planning and research, you can find a suitable project. And, we are here to help. Cobb County Water System's Water Efficiency Program offers a Rain Barrel Make-&-Take workshop during the summer and fall season which is free for Cobb County residents. The UGA Extension also publishes guides to xeriscaping and water smart landscaping techniques that can be found online.

Photo Credit: Devon D'Ewart
https://tinyurl.com/yaxjwojo

Photo Source: https://tinyurl.com/y82mb2lu

When it comes to green infrastructure, think about your health, the health of your kids, and the overall health of your community. Green infrastructure is a thoughtful and cost-effective approach to increasing the availability of natural spaces to our neighborhoods. There is an exciting and ever-growing field of scientific research seeking to determine the pathways in which green infrastructure influences our health and wellbeing. Evidence supports a positive relationship between contact with nature and health benefits like reduced stress, increased physical activity, lower blood pressure, greater feelings of social connectedness, reduced obesity, better eyesight, and improved air quality. Trees, for instance, provide us shade in the hot weather, help improve air quality, and prevent moisture in our soil from evaporating. They can be a great addition to rain gardens and xeriscapes, providing a wonderfully biodiverse setting for human physical activity. Adding native, disease-resistant, or drought-tolerant trees and plantings also have the added benefit of restoring habitats for native critters like bees and butterflies.

Being outdoors for a few minutes every day, in a greener space, can be a welcome retreat from the gloom of cabin fever. Here in Cobb County, we recognize that we do not all live in equally healthy places and we understand that we have a limited amount of time and resources. In order to build a resilient community with better access to green spaces, we need affordable ways that work for both the health of our people and the health of our waterways. Identifying and implementing water-saving solutions that serve as year-round investments in our communal health and wellbeing is an ongoing priority, not just seasonally during times of scarcity and drought. Green infrastructure is health infrastructure. We hope you consider tackling a green infrastructure project for the health of your home and neighborhood today.

Sources: International Journal of Environmental Research and Public Health, https://www.ncbi.nlm.nih.gov/pubmed/26295249
Green Infrastructure & Health Guide, https://www.healthandoutdoors.org/tools
Water Efficiency Management Guide: Landscaping and Irrigation, https://tinyurl.com/yb3mperq

COBB'S CLIMATE UPDATE

Declared Water Restrictions Status:
Non-Drought Status
Outdoor water use: Irrigation permitted daily before 10 AM and after 4 PM.

No restrictions on other outdoor water uses: car washing, pressure washing, and hand watering.

U.S. Drought Monitor: None
Rainfall Level: Above Normal
- 2020 Total: 36.29 inches
- Jan-May Historical Average: 20.71 inches

Rainfall March - May 2020:
- March: 8.44 inches
- April: 7.49 inches
- May: 1.88 inches

Allatoona's current level:
840.46 feet, above full pool

Chattahoochee River and tributaries:
At or above normal ranges

Lake Lanier:
1071.42 feet, above full pool

OBSERVATIONS

Summer is here and like many of us, turtles enjoy these warm and sometimes hot months! Have you ever gone for a hike or taken a stroll near a pond? You might remember seeing turtles either swimming or just relaxing on a log.

Turtles are reptiles, and reptiles are cold-blooded animals. They love to sunbathe to warm up their bodies, but similar to the way we jump into a pool, river, lake, or ocean to cool ourselves down, turtles also spend time near water to regulate their body temperature. If it's too hot outside you might also find them under leaves, in the shade, or muddy areas.

One common turtle you can find close to, but not living in, a pond or stream, is the Eastern Box Turtle. Box turtles are not fully aquatic, they like to live on land close to shallow water. Scientifically known as *Terrapene Carolina*, the box turtle can be sighted all along the east coast of the United States and Mexico. They get their name from the unique hinged lower shell that allows it to completely enclose to protect itself, thus turning into a "box".

Photo Credit: Jim Lynch, NPS
https://tinyurl.com/y78yt5lp

Box turtles also have a high dark shell with yellow or orange markings that make it possible for them to camouflage among the damp earth, leaves, and debris on the floor of humid wooded areas. These secretive reptiles form an essential part of our ecosystems. Box turtles mostly feed off mushrooms, berries, grapes, flowers, worms or other insects, and some dead animals. They are also great at dispersing seeds every time they eat fruits, especially berries.

Box turtles are not considered endangered in Georgia, but it is illegal to keep one without a permit or license. Some states like Tennessee and North Carolina have declared them their official reptiles. Nonetheless, their population in the wild, where they can usually live for up to 25 to 35 years, is in decline due to pet trade, road mortality, and habitat loss.

When we take care of our waterways, we take care of our wildlife, including box turtles. Next time you are out enjoying the sunny weather near Cobb's lakes, rivers, ponds, and streams, take a look around you. You might be able to spot a box turtle keeping you company. Just remember: don't take it home. Observe it, take pictures, and enjoy the moment!

CONSERVATION TIP

Only move turtles if they are in immediate danger, otherwise leave them alone. If they are in immediate danger, remember these tips from the Georgia Department of Natural Resources:

Safety first! Before you pull your car off the road to make your daring rescue, make sure it's safe! Never stop in the middle of the road.

Move them in the direction they were heading. First, when you pick up the turtle make sure you have a firm grip on either side of the shell. Move them low to the ground to prevent them from being injured in the chance you drop them. Always move the turtle to the other side of the road in the direction it was going – they are on a mission!

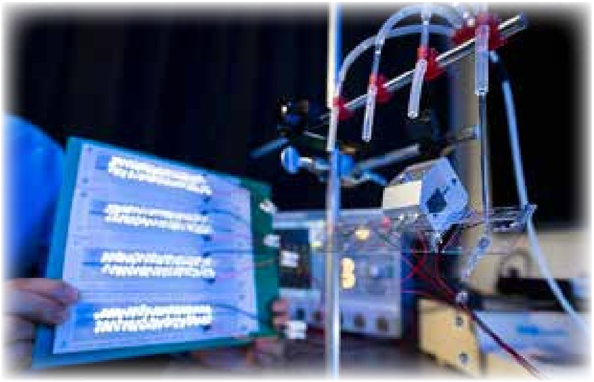
Do not drive the turtle to a "better location". Most turtles have small home ranges and will ultimately try to wander back to where you moved them from. This will only increase the chances of them being hit by a car. You may think that the area you found the turtle isn't safe or doesn't have what the turtle needs but the turtle knows better!

Do not take the turtle home. You may think you've just found the perfect pet but it's best to keep wildlife wild. It is also never a good idea to release pet turtles into the wild, even if they are a native species.

For more information visit: *https://www.awarewildlife.org/how-to-help-an-injured-animal*
https://georgiawildlife.blog/2018/03/15/6-things-to-remember-when-pulling-over-for-turtles/
https://www.amphibianfoundation.org/

New Technology Can Generate Electricity From Raindrops

If you subscribe to our newsletter, you probably already know about rain barrels. But, have you ever heard of Rain Generators? Yes, that's right, generating electricity from rain drops! Recently, a team of engineers and scientists from the City University of Hong Kong (CityU) successfully developed a method of generating electricity from rain. Through this method, a single droplet of water released from a height of 6 inches could generate 140V of electricity. That's enough to light up 100 LED bulbs (if only for a short time)! Considering that 1 gallon of rainwater consists of roughly 100,000 raindrops, that's a ton of electricity when it rains!



City University of Hong Kong

Generating power from water is not a new idea. About 70% of the earth's surface is water, so of course we would try to use it to our advantage. From historical inventions like the water wheel, to more modern advancements like dams and hydroplants, humans have always tried to harness the power of water to generate power. However, there are significant obstacles that prevent us from using hydropower to its fullest extent. You need a lot of flowing water to construct a hydroplant, and there aren't many places in the world that have enough standing or flowing water to fulfill that need. If we were to build a hydroplant in the few optimal places that do exist, we would be causing enormous ecological damage and forcing millions of people out of their homes. Due to these challenges, hydropower currently accounts for only 7% of the total electricity generated in the United States (with fossil fuels accounting for 63%).

In these modern times, the challenge for scientists has been to find a way to use water in its other forms to generate electricity. Have you ever been in a car on a rainy day and stuck your hand out the window? If so, then you've probably realized that raindrops can pack a lot of force. That same force is what researchers at CityU were able to convert into electricity using their new technology. They hope that the same approach can eventually be used anywhere that water hits, such as an umbrella, the roof of a building, or the hull of a boat. Needless to say, the science behind how they accomplished this task is very complex. If you're interested in those details, the link to the research is in the references at the end of this section. However, for you engineering enthusiasts and DIY'ers interested in attempting something similar to this at home, then this next part of the article is for you.

DIY Innovator Builds Rain Generator at Home

An engineering YouTuber from Oregon, Quint BUILDs, made exciting news recently when he decided to build his own rain generator using his gutter. His design was fairly elegant (as far as DIY projects go), and afterwards his Rain Gutter Generator was able to charge his cellphone. He documented this whole process in a four-part video series on his YouTube channel.

The first thing Quint had to do was calculate how much electricity his roof could "potentially" generate. This was important because he needed a reference point. Could his roof generate 1 Watt or 1000 Watts of electricity? Quint does an excellent job of bringing the whole mathematical process down to a high school level. He explains how the height and size of his home, the density and flow rate of rainwater, and physical forces such as gravity and resistance interact to influence how much power his gutter can generate. Ultimately, Quint found that the maximum amount of power he could generate was about 2 Volts, which he himself admits was extremely low. But, since that's just enough power to put a charge on a cellphone, Quint moved forward with his project. The next step was to maximize how much of that 2 Volts actually gets converted into electricity. To do that, Quint had to modify his gutter spout so that the rainwater came out as a streamlined jet. Similar to the first step, Quint walks you through the whole process, from the materials he chooses and why, to mistakes he makes along the way. The entire video series follows this same pattern, until finally, Quint successfully puts a charge on his cellphone with his newly built rain gutter generator.

Quint's YouTube channel is family friendly, so any DIY enthusiasts, science fans, or generally curious people are highly encouraged to check out his video series. It's great inspiration, and shows you that you don't have to be University Scientist to find creative ways to efficiently use water.

Sources: https://www.sciencedaily.com/releases/2020/02/200205132354.htm
https://www.sciencealert.com/we-re-getting-closer-to-generating-electricity-from-raindrops
Xu, Wanghuai, et al. 2020. "A droplet-based electricity generator with high instantaneous power density." Nature 578 (7795), 392-396.

RECOMMENDED RESOURCES

Four Science & Environmental Board Games for Families

Are you stuck indoors? Running out of movies and TV shows to watch? Tired of the amount of time you and your children have spent on electronics? Try changing things up with a board game! For years, board games have been a staple of family entertainment. Classics like Monopoly, Battleship, and Scrabble can often still be found hidden deep in many of our basements and coat closets. These games often offer many benefits to families by strengthening relationships, helping reduce stress, and even increasing our brain function. The board game industry has seen a massive resurgence over the last decade, and one area that has seen particularly large growth is the science genre. Scientists from a variety of fields have teamed up with artists, game designers, and teachers to produce some truly unique board games that would impress even the harshest of game critics. These board games are not only highly educational, but they require gamers to employ complex strategy, problem-solving skills, and in some cases even hand-eye coordination. If you're looking to change up your family entertainment, here's a list of science board games to check out.

Oceans

Number of players: 2 – 6 Ages: 12+ Play time: 60 – 90 Minutes

Oceans was designed to showcase the beauty, complexity, ferocity, and mysteries of the oceanic ecosystem. The objective of Oceans is simple, survive in an ever-changing ecosystem where predators lurk and food is scarce. Each player commands a group of fish, and their goal is to adapt their fish to the environment by giving them helpful combinations of defensive and offensive traits. Thousands of different trait combinations are available to players, but some familiar examples of traits include inking (defensive), filter-feeding (offensive), and tentacles (offensive & defensive). However, the oceanic ecosystem is always changing. Food sources go extinct, new types of predators arise, and players may have to work together (or turn on each other) to survive. The game becomes increasingly deadly and complex over time until you reach The Deep, where only the most mysterious and fantastical creatures exist. The game ends when only one player's fish species is alive. To win, individuals must as employ both strategy and multi-systems thinking as they contend with the diverse challenges posed by the environment and other players.

Wingspan

Number of players: 1 – 5 Ages: 10+ Play time: 40 – 70 Minutes

Wingspan is a more relaxed strategy game geared towards bird enthusiasts. You assume the role of Ornithologists seeking to discover and attract the best birds to your network of wildlife preserves. You earn points each round if you build a more effective preserve, and the player with the most points at the end of the game is the winner. Wingspan features 170 beautifully illustrated bird species commonly found in grasslands, mountains, and even aquatic habitats. Each bird also has a unique ability that reflects that bird's behavior in nature. Player's must strategically utilize these bird abilities, and manage environmental resources, to build successful preserves. Wingspan successfully takes birdwatching (a hobby perceived as having limited appeal) and turns it into a fun and competitive activity for everyone.

Photosynthesis

Number of players: 2-4 Ages: 8+ Play time: 40-70 Minutes

Unless you have an interest in Botany, the title "Photosynthesis" may not seem the most exciting. However, this environmental strategy board game brings justice to plants everywhere by showing players just how difficult it can be for plants to thrive in a forest ecosystem. The ultimate goal of Photosynthesis is to earn the most points by completing the life cycles of your trees. The game is played over a series of rounds, each of which has two phases: the Life Cycle Phase (where you use light points to buy, plant, grow, and harvest trees) and the Photosynthesis Phase (where your surviving trees provide you with more light points to use in the following rounds). Players compete with each other as they try to find the most optimal spots to grow their trees. Players can also hinder each other by strategically using tall trees to block sunlight from reaching surrounding smaller trees. Compared to the games listed previously Photosynthesis is definitely one of the easiest to learn. And that makes it a perfect entry-level game for younger audiences.

Hive

Number of players: 2 Ages: 9+ Play time: 20+ Minutes

Most people describe Hive as "chess but with insects". Instead of queens, knights, and bishops as game pieces, Hive uses bees, beetles, and spiders. Don't let its simplicity fool you though, Hive is a highly addictive strategy game. The goal of this game is to surround your opponent's Queen Bee. To accomplish this task you will need to use your other 12 game pieces which consist of spiders, beetles, grasshoppers, and soldier ants. Similar to chess, each insect can only move a specific direction. For example, beetles can crawl over and immobilize opposing insects, while grasshoppers can leap over large spaces. Players must balance offense and defense as they attempt to surround their opponent's queen without being surrounded themselves. This two-player game offers hours of entertainment as no two games are ever the same.

In an effort to reduce our use of paper, we are encouraging our paper newsletter subscribers to register for our electronic version. If you currently receive a copy of the printed Water Matters newsletter and wish to receive the newsletter electronically, please visit our website, cobbstreams.org, scroll to the bottom of the page, and click on "Sign up for our Newsletter." Your information will not be used for any purposes other than receiving Water Matters and the occasional notification of upcoming programs. If you would like to continue to receive a paper copy, you do not need to take any action.

Welcome to Virma Vélez

We are excited to announce that Virma Vélez recently joined our team as the new Administrative Specialist. She has been working at Cobb Water for the past two years in the Director's office and brings forth knowledge about the different areas that make up Cobb Water. Virma holds a BA and MA, both in Communications, and has previous experience in various children and youth programs and events, both outdoors and in classroom settings. She will be in charge of administrative duties, keeping Cobb Water's new Spanish Facebook page "Cobb Agua" up to date, as well as helping and assisting our different environmental education programs. We are excited to have Virma join our team!

Congratulations to the winners of our 1st annual waterSmart photography contest! This photography contest, in partnership with the Cobb County-Marietta Water Authority, is designed for Cobb County high school students who have a passion for both photography and our environment. Students were asked to submit images, taken in Cobb County, in one of six categories. Over 50 entries were submitted from 9 participating schools and winning entries were turned into notecards that will be distributed throughout the county. To view all winning entries, visit our website cobbstreams.org.

Spencer Cline	Harrison High School
Kaylin Ebener	Kennesaw Mtn High School
Cameron Lester	Harrison High School
Brayden Lyngard	Allatoona High School
Cullen Marcus	Kell High School
Elizabeth Rountree	Lassiter High School
Kendyll Payne	Lassiter High School
Diego Sanchez-Mejias	Kell High School
Merry Schriver	Inspire Homeschool Co-op
Hayden Sears	Lassiter High School
Rachel Tomsche	Harrison High School
Kaitlyn Towns	Harrison High School

Find out what we've been up to!

Our 2019-20 Annual Report is now available online. Visit *www.cobbstreams.org*, under "About."

Stewardship Stars
Excellence in Data Collection

The following volunteers have submitted data each month during the March, April, and May quarter:

Angie's Northwest Cobb Streams – Chemical Monitoring in Noonday Watershed
Beving on Lake Allatoona – Chemical & Bacterial Monitoring on Lake Allatoona
Bishop Lakes – Chemical Monitoring in Willeo Watershed
Bushart – Chemical Monitoring in Sewell Mill Watershed
Cobb Progressives – Chemical & Bacterial Monitoring in Noonday, Proctor, Lake Acworth Watersheds
Connie Ghosh – Chemical & Bacterial Monitoring on Rubes Creek
Dominion Christian School Science Department – Chemical Monitoring on Allatoona Creek
Friday – Chemical & Bacterial Monitoring on Poplar Creek
Grams Collins Gals – Chemical Monitoring in Willeo Watershed
Lakewood Colony – Chemical & Bacterial Monitoring in Rubes Watershed
Loch Highland – Chemical Monitoring in Willeo Watershed
Richard's Creek – Chemical Monitoring in Allatoona Watershed
Rosco Peters – Chemical & Bacterial Monitoring on Rottenwood Creek
Sierra Club Centennial Group – Chemical, Bacterial, & Macro Monitoring in Rottenwood Watershed
Simon Locke – Chemical, Habitat, & Bacterial Monitoring on Butler Creek
Team Salty – Chemical Monitoring on Sope Creek

Thank you for your hard work and dedication!

welcome

Incognito – Chemical & Bacterial Monitoring on Allatoona & Butler Creeks

Congratulations to Beverly Sheng, KSU graphic design student and winning artist in our contest to select the design for our 2020 Volunteer T-shirt.

Recognizing the diversity of Cobb County citizens and Cobb County Water System customers, we would like to introduce our new Spanish language Facebook page, Cobb Agua. Cobb Agua posts will be translated posts from the Cobb County Water System's main Facebook page and posted on Cobb Agua, helping us better reach Hispanic communities in Cobb County. Cobb Agua will also be monitored for private messages, but just like the English version, Cobb Agua will not be monitored outside of normal business hours.

Reconociendo la diversidad de los ciudadanos del condado de Cobb y de los clientes de Cobb County Water System, nos gustaría presentar nuestra nueva página de Facebook en español, Cobb Agua. Las publicaciones de Cobb Agua serán traducidas de la página principal de Facebook de Cobb County Water System y colocadas en Cobb Agua, ayudándonos a alcanzar mejor a las comunidades hispanas en el condado de Cobb. Cobb Agua también será monitoreado para los mensajes privados, pero al igual que la versión en inglés, Cobb Agua no será monitoreado fuera del horario regular de trabajo.

SEASONAL HAPPENINGS

Each and every one of us has experienced tremendous changes to our normal over the last few months. Our programs, service projects, and community events were no exception. The middle of March came and we halted our daily activities, canceled all community events and programs, and began trying to navigate this new "normal." We are hoping July will bring a return to our programming, but these programs may not look the same as you are used to. There will be smaller group numbers, increased sanitation, and even some online classes. We ask for your patience and understanding, as some of these changes may not work as planned and may need to be adjusted. While we are making plans for programs, we know it may be necessary to shift, adjust, or cancel programs due to the ever changing Covid-19 situation. Our commitment to protecting our environment and water resources will continue, with the added commitment of protecting the health of our staff and program participants. Thank you for your patience, understanding, and continued support.

Rain Barrel Workshops

July 24 • Water Quality Lab's Wildlife & Rain Garden • 9:30am - 10:30am and 11:30am - 12:pm
August 19 • Water Quality Lab's Wildlife & Rain Garden • 9:00am - 10:00am and 11:00am - 12:00pm

All workshops last one hour and are open to Cobb County residents only, allowing one barrel per household. The workshop includes information about installing and utilizing rain barrels, all the needed materials, and step-by-step instruction on how to build and assemble your barrel. Making the barrel is simple, and no experience is necessary. At the end of the workshop, you will drive away with a ready-to-use 35-55 gallon rain barrel. In order to practice social distancing and limit contact between participants, please bring an adult helper with you to participate in the workshop. Please register each person attending the workshop.

Fairy House Making Workshops

July 18 • Water Quality Lab's Wildlife & Rain Garden • 10:00am - 11:30am
August 8 • Water Quality Lab's Wildlife & Rain Garden • 10:00am - 11:30am

Our youngest environmental stewards also fulfill a very important role in Cobb County. Participants in this workshop will learn what is necessary to create a habitat for small creatures, then practice their new knowledge by building a fairy house in our Wildlife & Rain Garden. Designed to foster a foundation of service, an appreciation for being outdoors, and a sense of wonder for the natural world, Fairy Habitat Workshops strive to ensure all creatures have a healthy and secure home place. Every person attending, regardless of age, must be registered for the program. There will be a maximum of three registrations per person, those not registered for the program will not be allowed to participate or remain on site. In order to ensure this program is available to as many participants as possible, please do not register and/or bring children who will not be actively participating in the workshop. Additional Fairy House Making Workshops are planned for October and November.

Lunch & Learn Series

July 31 • Smart Irrigation
August 28 • Household Hazardous Waste, Reading Labels, and How to Make Non-toxic Cleaning Solution

In response to common questions and concerns about various topics related to water quality, pollution prevention, water conservation, and other issues that the Water System can help with, these Lunch & Learns will be presented virtually, with time consideration for the typical lunch break. Cobb residents will better understand the ins and outs of our water supply, how to protect it, and how the system works for everyone. July and August Lunch & Learns are held from **12:00-12:45pm** and presented online.

Amphibian Monitoring Program

Amphibian Monitoring Workshops	**Amphibian Hikes**
July 18 • 4:30pm - 6:30pm • Cobb County Water Quality Laboratory	**July 18 • 7:30pm - 9:00pm • Hyde Park**
August 8 • 4:30pm - 6:30pm • Cobb County Water Quality Laboratory	**August 8 • 7:30pm - 9:00pm • Heritage Park**

The Cobb County Amphibian Monitoring Program aims to connect Cobb County residents with environmental professionals in hopes of developing a community of "Citizen Herpetologists," who are able to collect data on Cobb's resident amphibians. Due to their unique ecology, amphibians not only play a key role in our ecosystem, but they also serve as excellent bioindicators of water quality and overall environmental health. Ultimately, the program could provide valuable information on the health of Cobb's many wetland ecosystems, as well as the overall status of amphibian communities within this region of Georgia.

More information can be found on our calendar at www.cobbstreams.org.
Social distancing mandatory. Participant number limited.
Programs are subject to cancelation based on public health conditions.
Registrants will receive confirmations for all programs.

Cobb County Water System
662 South Cobb Drive
Marietta, Georgia 30060

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

Calendar of Events

July

8 Adopt-A-Stream Chemical Monitoring Workshop • 6:30pm - 9:00pm • Cobb County Water Quality Laboratory
9 Rain Garden Work Day • 8:30am - 10:30am • Cobb County Water Quality Laboratory Wildlife & Rain Garden
16 Rain Garden Work Day • 8:30am - 10:30am • Cobb County Water Quality Laboratory Wildlife & Rain Garden
18 Fairy House Workshop • 10:00am - 11:30am • Cobb County Water Quality Laboratory Wildlife & Rain Garden
18 Amphibian Monitoring Workshop • 4:30pm - 6:30pm • Cobb County Water Quality Laboratory
18 Amphibian Hike • 7:30pm - 9:00pm • Hyde Park
22 Adopt-A-Stream Bacterial Monitoring Workshop • 6:30pm - 9:00pm • Cobb County Water Quality Laboratory
23 Rain Garden Work Day • 8:30am - 10:30am • Cobb County Water Quality Laboratory Wildlife & Rain Garden
24 Rain Barrel Make & Take • 9:30am - 10:30am & 11:00am - 12:00pm • Cobb County Water Quality Laboratory Wildlife & Rain Garden
25 Noonday Habitat Demonstration Site Workday • 10:00am - 12:00pm • Noonday Creek Bells Ferry Trailhead
30 Rain Garden Work Day • 8:30am - 10:30am • Cobb County Water Quality Laboratory Wildlife & Rain Garden
31 Lunch & Learn: Smart Irrigation • 12:00pm - 12:45pm • Virtual Presentation

August

6 Rain Garden Work Day • 8:30am - 10:30am • Cobb County Water Quality Laboratory Wildlife & Rain Garden
8 Fairy House Workshop • 10:00am - 11:30am • Cobb County Water Quality Laboratory Wildlife & Rain Garden
8 Amphibian Monitoring Workshop • 4:30pm - 6:30pm • Cobb County Water Quality Laboratory
8 Amphibian Hike • 7:30pm - 9:00pm • Heritage Park
13 Rain Garden Work Day • 8:30am - 10:30am • Cobb County Water Quality Laboratory Wildlife & Rain Garden
19 Rain Barrel Make & Take • 9:00am - 10:00am & 11:00am - 12:00pm • Cobb County Water Quality Laboratory Wildlife & Rain Garden
19 Adopt-A-Stream Chemical Monitoring Workshop • 6:30pm - 9:00pm • Cobb County Water Quality Laboratory
20 Rain Garden Work Day • 8:30am - 10:30am • Cobb County Water Quality Laboratory Wildlife & Rain Garden
21 Great GA Pollinator Census & BioBlitz Day 1 • Digital Event beginning at 12:00pm
22 Great GA Pollinator Census & BioBlitz Day 2 • 10:00am - 12:30pm • Water Quality Laboratory's Wildlife & Rain Garden
26 Adopt-A-Stream Bacterial Monitoring Workshop • 6:30pm - 9:00pm • Cobb County Water Quality Laboratory
27 Rain Garden Work Day • 8:30am - 10:30am • Cobb County Water Quality Laboratory Wildlife & Rain Garden
28 Lunch & Learn: Household Hazardous Waste, Reading Labels, How to Make Non-toxic Cleaning Solution • 12:00pm - 12:45pm • Virtual Presentation

More information can be found on our calendar at www.cobbstreams.org.
Participant number limited. Social distancing mandatory.
Programs are subject to cancelation based on public health conditions.
Registrants will receive confirmations for all programs.