



# Environmental STUDIES CENTER

## *Wild* **Adventures**

*Spring 2020*



Mobile County  
PUBLIC SCHOOLS

### *Critter Corner*

*Meet Kiva.....*

Kiva came to the Center on March 16, 2010 as a baby. Her parent was found dead, tangled in fishing line, hanging from the nest. Kiva and her sibling were found on the ground below. Unfortunately, both were starved, and Kiva had a broken wing tip. The sibling did not survive, and Kiva had to have her wing tip removed.

Great Blue Herons are the largest herons in North America reaching a height of 4 feet with a wingspan of 7 feet. They are carnivores with a varied diet of fish, amphibians, reptiles, insects, and small mammals. They catch their food by spearing it with their long-pointed beak. They are normally found near water in both freshwater and saltwater habitats.

Kiva is on exhibit on our Bird of Prey Boardwalk. She is very protective of her enclosure so don't get too close. She loves to be observed from afar though.



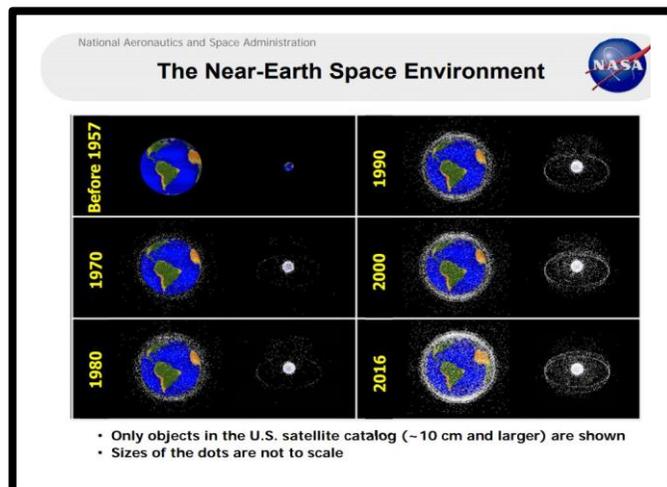
# Save the Date....

Newks Eatery Fundraiser	February 28	Airport Blvd	4 pm – 9 pm
Spring Open House	March 21	ESC Grounds	10 am – 3 pm
Raptor Road Show@ Celebrate the Gulf	April 4	Pass Christian, MS	11 am & 1 pm
Raptor Road Show@ Delta, Woods, & Water	April 25	5 Rivers Delta Center	10 & 11:30 am 1 & 2:30 pm
Rabies Clinic	May 30	Griggs Elementary	1 pm – 5 pm

## Out of this World News

### To Debris or not to Debris

The space race began October of 1957 when a Russian satellite, Sputnik, was launched to orbit around the planet with blinking lights studying the atmosphere. This led the way for more than 4700 launches that have occurred since then. It is no longer a race or competition between the Soviet Union and the United States. Countries all over the globe are collaborating in rocketry, satellites, telescopes, and experimentation in space. So many amazing discoveries have come to us through this exploration that has made our lives so much more convenient and comfortable. But, just like the debris issues we are facing on the surface of the planet and in our oceans, space debris is literally piling up around our planet. It is referred to as space junk.



In 2009, two satellites collided above Siberia. One of them was still in use while the other one was inactive. Obviously those two large satellites orbiting around our planet became many small fragments after the collision that are now orbiting around our planet. It is estimated that there are more than 23,000 man-made fragments that are larger than a golf ball orbiting around the Earth within 1250 miles from the surface. Those are the fragments that can be seen in order to be detected and recorded by the Space Surveillance Network, which is a group within the United States Department of Defense. There are more than a half of a million smaller pieces in the same area. This area is known as low Earth orbit and is the home of the International Space Station and lots of other satellites that we depend on in our everyday lives. With the fragments travelling at a speed over 22,300 mph, the collisions with satellites and telescopes leave marks and dings and chips much worse than the rocks that hit our windshields on the interstate. The ISS experienced a collision that chipped a window in 2006. Luckily it was heavily reinforced.

India and China have both boasted that they have destroyed satellites in anti-satellite missile tests which only added to the cloud of small debris fragments tremendously. Other countries are questioning and projecting the amount of space junk in the future due to the increasing need for satellites. Japan has developed an electronic space whip. Others have proposed giant magnets, harpoons, and even nets. It all sounds like science fiction, that is how Sputnik seemed in 1957.

# Wildlife Wish List

Clip-on clamp lamp	1 cc and 3cc syringes	Chicken vegetable baby food
Pine bark mulch	Pine shavings (for cages)	Dried whole corn
Cages	Baled hay	Frozen mixed vegetables
Heating pads	Ziploc freezer bags (gallon & quart)	Fresh fruits and vegetables
Liquid laundry soap	Bleach	Raw peanuts (in shell)
Liquid dishwasher soap	Paper towels	Nuts (in shell)
Wal-Mart gift cards	Newspaper	Dry dog food (small bites)
60-watt light bulbs	Plastic wrap	Unsalted sunflower seeds
Scrub brushes	Dawn dish soap	Canned sardines in water
Cash	Animal crackers	Canned dog and cat food
Wild Birdseed	Scratch Feed	Cheerios
Small frozen fish		

# Wildlife Adoptions

For a \$25 annual donation, you can help with the feeding, care, and shelter of one of the native wildlife housed here at the Environmental Studies Center. Not only can you adopt an animal for yourself but, you can give an adoption as a gift. Adoption benefits include: adoption certificate, photograph of your animal, fact sheet about the species, recognition of your adoption on the exhibit, and Environmental Studies Center e-Newsletter. Complete the information below and mail it to the Center with your payment. Make checks payable to the Environmental Studies Center.

## Animal Adoption

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

Zip Code: \_\_\_\_\_ Phone: \_\_\_\_\_

Email Address: \_\_\_\_\_

Please choose one:  Raccoon  Deer  Pelican  Seagull  Alligator

Barn Owl  Canada Goose  Black Vulture  Turkey  Coyote

Red-Tail Hawk  Bald Eagle  Skunk  Turkey Vulture  Screech Owl

Barred Owl  Great-Horned Owl  Great Blue Heron  Other: \_\_\_\_\_



# Microplastics in Our Local Waterways

This year in our high school Coastal Ecology program SEA ICE, which is an acronym for Special Enrichment Activities in Coastal Ecology, students are filtering and studying water samples from local waters in search of microplastics. Students are introduced to the different types of microplastics as well as their possible origins. For example, microfibers are plentiful in the water samples and can originate from washing our clothes that are made of dri fit or spandex or from cigarette filters. Single use plastics, such as drinking straws and Ziploc bags, are another source of microplastics in the form of fragments and film.

The introduction to microplastics and being able to find and observe them firsthand has been an eye opening experience for us and for the students involved in the SEA ICE program. Unfortunately, we have found plenty. During first semester, water samples from Weeks Bay, Dauphin Island, Mobile Bay, Dog River, Mobile River Delta, and Fowl River were collected and filtered. Stereoscopes were used to identify the number and the type of microplastic found from the sample. The results of the findings were recorded and kept on a chart throughout the semester.

We are excited to continue our research with the students this spring. We feel this has been a great addition to what has always been a great experience for our SEA ICE students. We have a dedicated lab with all of the necessary equipment at the ESC for sampling. We are grateful that Ingalls Shipbuilding has awarded the ESC a grant to further the program with more and improved filtration equipment and supplies.



Sample #	Collection location (GPS and description)	# of plastic FIBERS	# of plastic FRAGMENTS	# of plastic MICROBEADS	# of plastic FILMS	Total # of MICROPLASTICS
	Bon Secour River 30.47 N 87.73 W	21	2		12	35
	Pelican Reef	32	31	18	36	117
	East end of Dauphin Island	72	64	22	24	182
	Bayfront Park 30.21.26N 87.6.5 W	26	39	19	69	153
	Harbour on Dauphin Island 30.15.30 N 88.7.24 W	44	30	109	23	206
	Weeks Bay	26	51	10	24	111
	Live Oak 30.42.49 N 87.32.45 W	31	41	1	56	129
	PINK LAKE @ ESC	7	3	4	6	20

# Reflections from the ESC....

In September 2019, Greta Thunberg, 16, addressed the UN Climate Action Summit in New York. Her harsh assessment of the climate crisis generated international attention. Many debated the validity of the 16-year-old's arguments and her understanding of complex environmental issues. Despite those debates, one thing was made evident that day: students are paying attention and taking an interest in environmental concerns. It is up to environmental educators, who are often the most influential in educating children and teenagers on environmental issues and sustainability, to ensure students receive correct information.

In the same way a veterinarian cannot effectively diagnose and treat a sick horse without understanding the morphology and physiology of a healthy horse, students cannot understand environmental issues without a basic understanding of the environment. This starts with a good foundation in chemistry, physics, and biology. Because many states do not require complex issues such as climate change to be taught in the regular courses, it is imperative that education and outreach programs provide a place for teachers to bring their students to compensate for this missing information.

The Environmental Studies Center (ESC) is a part of the Mobile County Public School System and is one such outreach program. The ESC is partially funded by the Mississippi- Alabama Sea Grant and is designed to enhance a teacher's curriculum with environmental based activities. The ESC provides students an opportunity to connect and experience what nature has to offer through various programs focusing on reptiles, space, coastal ecology, and pollinators to name a few.

We avoid political controversies and focus on science such as data collection and data interpretation. After all, that is what real scientists do. We want students to be able to use information gathered to separate fact from fiction in any environmental debate. In addition, the ESC, along with our partner Sea Grant education and outreach programs, afford students a safe and appropriate way to get outside and connect with nature. This is essential. Students must experience nature in order to enhance their desire to protect it.

A quick internet search will prove that there is a youth movement building with regards to environmental issues. It is imperative that education and outreach programs, such as those provided by the ESC, support our youth and lead them in the appropriate direction with the skills needed to make a difference.

*Dr. Tracy H. Jay*



# 2019 Art Contest Winners

The annual art contest winners were announced at Fall Arts and Crafts Open House. The winners and honorable mention awards are as follows:



Director's Choice  
Makayla Ransom  
Dunbar Magnet

## K - 3<sup>rd</sup> Grade Division



1<sup>st</sup> Place  
Nate Truitt  
Meadowlake Elementary



2<sup>nd</sup> Place  
Jennifer Ulin-Sanchez  
Shepard Elementary



3<sup>rd</sup> Place  
Gage Thompson  
Dickson Elementary

## 4<sup>th</sup> - 5<sup>th</sup> Grade Division



1<sup>st</sup> Place  
Rae Beck  
Austin Elementary



2<sup>nd</sup> Place  
Ella Pritchett  
Dawes Intermediate



3<sup>rd</sup> Place  
Sophia Falkenberry  
Dawes Intermediate

## 6<sup>th</sup> - 8<sup>th</sup> Grade Division



1<sup>st</sup> Place  
Roselin Vittor  
Clark-Shaw Magnet



2<sup>nd</sup> Place  
Kaitlyn Kriner  
Causey Middle



3<sup>rd</sup> Place  
Gabriel Gomes  
Dunbar Magnet

## 9<sup>th</sup> - 12<sup>th</sup> Grade Division



1<sup>st</sup> Place  
Logan Gates  
Theodore High

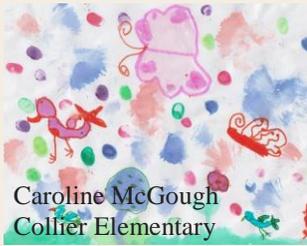


2<sup>nd</sup> Place  
Christian Russell  
Theodore High

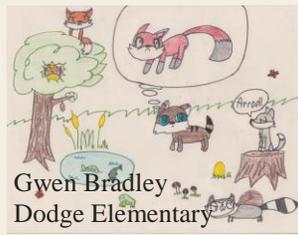


3<sup>rd</sup> Place  
Emma Daugherty  
Theodore High

# 2019 Art Contest Honorable Mention



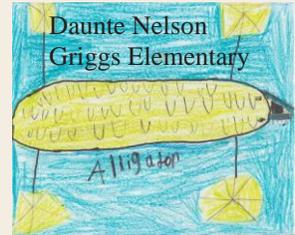
Caroline McGough  
Collier Elementary



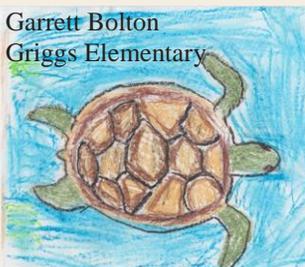
Gwen Bradley  
Dodge Elementary



Jaylin Russell  
Shepard Elementary



Daunte Nelson  
Griggs Elementary



Garrett Bolton  
Griggs Elementary



Kirby Jones  
Old Shell Rd Magnet



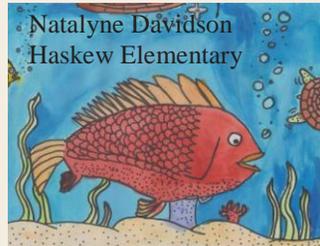
Kiera Lester  
Old Shell Rd Magnet



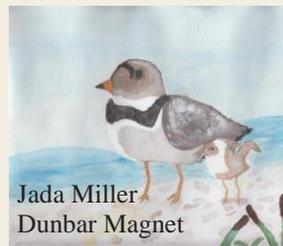
Ava Millwood  
Old Shell Rd Magnet



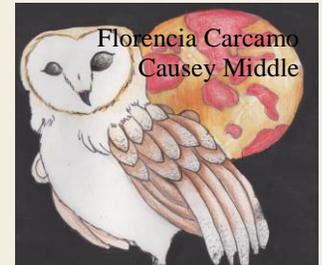
Corynne Swan  
Old Shell Rd Magnet



Natalyne Davidson  
Haskew Elementary



Jada Miller  
Dunbar Magnet



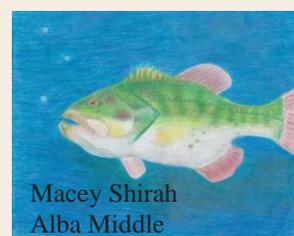
Florencia Carcamo  
Causey Middle



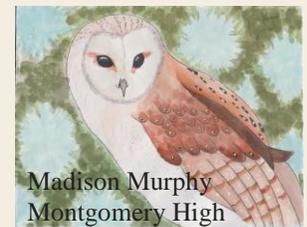
Osric Jackson  
Dunbar Magnet



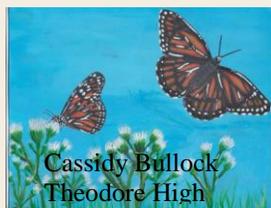
Victoria Tran  
Alba Middle



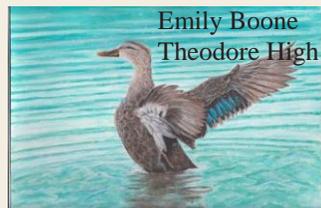
Macey Shirah  
Alba Middle



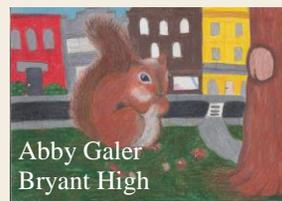
Madison Murphy  
Montgomery High



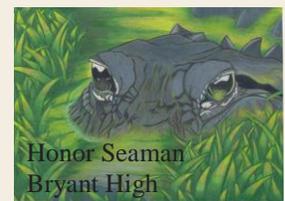
Cassidy Bullock  
Theodore High



Emily Boone  
Theodore High



Abby Galer  
Bryant High



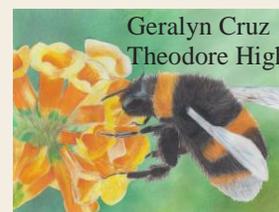
Honor Seaman  
Bryant High



Rikki Mingus  
Theodore High



Taylor Logan  
Theodore High



Geralyn Cruz  
Theodore High

## *In Honor of...*

Since 1974, the Environmental Studies Center has only had three people to sit in the Director's chair. Consistency throughout the years is what helps the ESC maintain its course and achieve the mission of environmental awareness.

Mr. Lloyd Scott was the Director from 1974 until he retired in 2011. The Center went through many changes and improvements under his supervision and would not be what it is without the sweat, determination, and vision he had throughout his career.

Upon Mr. Scott's retirement, Ms. Desiree Bishop assumed the helm. She faced new obstacles as the director but also made changes to the current programming and fulfilled the goals Mr. Scott had put into place. Ms. Bishop was a former marine biology teacher and resource teacher at the ESC for a combined total of 39 years. She retired from the ESC in 2018.

For their dedication and sacrifice to the Environmental Studies Center, the road leading onto the grounds was dedicated and named Lloyd Scott Loop and the turtle habitat was named Desi's Turtle Dwelling and dedicated to Ms. Bishop.

Thank you, Mr. Scott and Ms. Bishop, for all you have done for the students, the community, and the ESC.



# Recent Patients



## Brown-headed Nuthatch

The nuthatch came to the Center as an adult with a broken wing. The wing had a compound fracture with bone exposed and it was very infected. Amputation would have been the only way to fix it but under our wildlife rehabilitation permit we are not allowed to amputate above the elbow. Euthanasia was the only option. Quality of life is very important to us when dealing with the wildlife that we receive and unfortunately sometimes that requires euthanizing an animal.

## Pied-billed Grebe

The grebe was found in a wet parking lot which it probably mistook for water. Unfortunately, grebes can only fly from the water. They are not able to stand when on land and cannot take off from the land. Their legs are positioned at the back of their belly near their tail and are used for diving under water. Fortunately, there was nothing wrong with the grebe. After overnight observation, it was released.



## American Coot

After being hit by a car the coot was brought to the Center. After a full exam, it appeared to be in shock, but no injuries were found. After a night of rest, it was alert and active. It was released in the early afternoon.

## Bald Eagle

The bald eagle was caught on Dauphin Island after evading capture for several weeks. It was not able to fly during this time but kept getting away in the woods. It had a large wound on its wing that was full of maggots and it was severely emaciated. After a discussion with the vet and the US Fish and Wildlife the decision was made to euthanize the eagle because it was in such bad shape and could not recover. The only happy part to this case was that the eagle was no longer suffering and was finally at peace. Sometimes as a rehabber that is all that you can do.



# Patients Received in 2019

<b>BIRDS</b>			
<b>Common Name</b>	<b>Total # Received</b>	<b>Common Name</b>	<b>Total # Received</b>
American Coot	3	Northern Bobwhite	1
American Crow	2	Northern Cardinal	20
American Goldfinch	4	Northern Gannet	1
American Kestrel	1	Northern Mockingbird	17
American Robin	3	Osprey	7
American White Pelican	1	Painted Bunting	1
American Woodcock	3	Pied-billed Grebe	2
Barn Owl	1	Pine Warbler	1
Barred Owl	10	Purple Martin	2
Belted Kingfisher	2	Red-bellied Woodpecker	3
Black Skimmer	1	Red-shouldered Hawk	1
Black Vulture	1	Red-tailed Hawk	10
Blue Jay	12	Red-winged Blackbird	3
Blue-winged Teal	1	Rose-breasted Grosbeak	1
Broad-winged Hawk	2	Royal Tern	1
Brown Pelican	22	Ruby-throated Hummingbird	11
Brown Thrasher	8	Sanderling	3
Brown-headed Cowbird	1	Semipalmated Plover	2
Brown-headed Nuthatch	1	Sharp-shinned Hawk	1
Carolina Wren	36	Short-billed Dowitcher	1
Cattle Egret	2	Tufted Titmouse	2
Chimney Swift	16	Turkey Vulture	1
Chipping Sparrow	1	White-crowned Sparrow	1
Chuck-will's-widow	1	White Ibis	3
Common Grackle	1	White-winged Dove	1
Common Loon	3	Wood Duck	21
Common Yellowthroat	1	Wood Thrush	4
Cooper's Hawk	6	Yellow-billed Cuckoo	1
Double-crested Cormorant	1	Yellow-crowned Night Heron	2
Downy Woodpecker	2	Yellow-rumped Warbler	3
Eastern Bluebird	6	Non-Migratory Birds	12
Eastern Screech Owl	9	<b>Bird Total</b>	<b>373</b>
Gray Catbird	1		
Great Blue Heron	7	<b>MAMMALS</b>	
Great Crested Flycatcher	3	<b>Common Name</b>	<b>Total # Received</b>
Great Egret	3	Armadillo	1
Great Horned Owl	4	Cottontail Rabbit	17
Herring Gull	1	Opossum	203
Hooded Merganser	1	<b>Mammal Total</b>	<b>221</b>
House Finch	5		
Killdeer	1	<b>REPTILES</b>	
Laughing Gull	17	<b>Common Name</b>	<b>Total # Received</b>
Lesser Scaup	2	Aquatic Turtles	8
Mallard	5	Box Turtle	75
Mississippi Kite	3	Snakes	1
Mourning Dove	16	<b>Reptile Total</b>	<b>84</b>
		<b>GRAND TOTAL</b>	<b>678</b>

# Evolution of the Open House

For those of you that have faithfully attended our semi-annual open house events you may have noticed some changes over the past couple years. Traditionally, The ESC opened the grounds on the first Saturday in May and November. There would be a large tent with various educational tables for you to explore in one location. As visitors walked the grounds there would be opportunities to visit a wildlife talk or purchase snacks from the food tent and bake sale. Setting up an event such as this was a major undertaking for such a small staff.

Changes were made to be more accommodating to a larger group of visitors such as the return of parking on ESC grounds and the addition of arts and crafts vendors. The ESC also decided to add food trucks rather than recruit volunteers to spend the day over hot flames cooking hot dogs and hamburgers. This has worked quite well but now we feel it is time to make changes once again. Our Semi-annual open house for the spring will be held March 21<sup>st</sup>. Our focus will be to showcase all of the ways our community can promote and maintain healthy ecosystems. We hope to be joined by several environmental organizations across the area. There will be educational talks with some of the ESC wildlife and some family friendly fun. Open house parking will be at Burns Middle School with 2 shuttles running continuously back and forth for your comfort. Of course, if you have special needs you are more than welcome to utilize the parking on our campus.

Thank you for making each open house successful as we fine tune the events that best suits the public and staff of the ESC.



**JOIN US FOR SPRING  
OPEN HOUSE  
ON SATURDAY,  
MARCH 21<sup>ST</sup>!  
10 AM – 3 PM**

**WE WILL BE “LOVING  
OUR COAST THE MOST”  
WITH SOME AMAZING  
ENVIRONMENTAL  
ACTIVITIES.**

Contact us at 251-221-5000  
www.mcpsesc.com

# Come Visit Us...

Open Monday-Friday 8:00 am – 4:00 pm

Individual admission: \$3 per person

Group Tours: Reservations required – Call 251-221-5000 for pricing and availability



The Environmental Studies Center is a natural sciences education facility designed to provide unique learning experiences. In addition, wildlife rehabilitation plays a vital role each day here at the Center. With over 500 acres of rich woodlands, the Center affords teachers, students, and the general public an opportunity to experience firsthand the natural environment. Natural resources include pine and bay forests, swamps, freshwater streams, carnivorous plant bog, and a twenty-acre lake.

Man-made resources include numerous nature trails, covered pavilions, live animal exhibits, butterfly garden, and native plant garden. Indoor facilities include an auditorium, gift shop, and classroom containing live reptile exhibits, a saltwater aquarium, and numerous preserved specimens native to Alabama.

The Environmental Studies Center houses a wildlife rehabilitation program that is dedicated to the care and potential release of injured and orphaned native wildlife. The wildlife rehabilitation program receives around 800 wild patients a year. These animals all need food, care, and shelter to survive. The program relies upon donations from people like you for its operation and success.



**Environmental**  
STUDIES CENTER

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**Sea Grant**  
Mississippi-Alabama