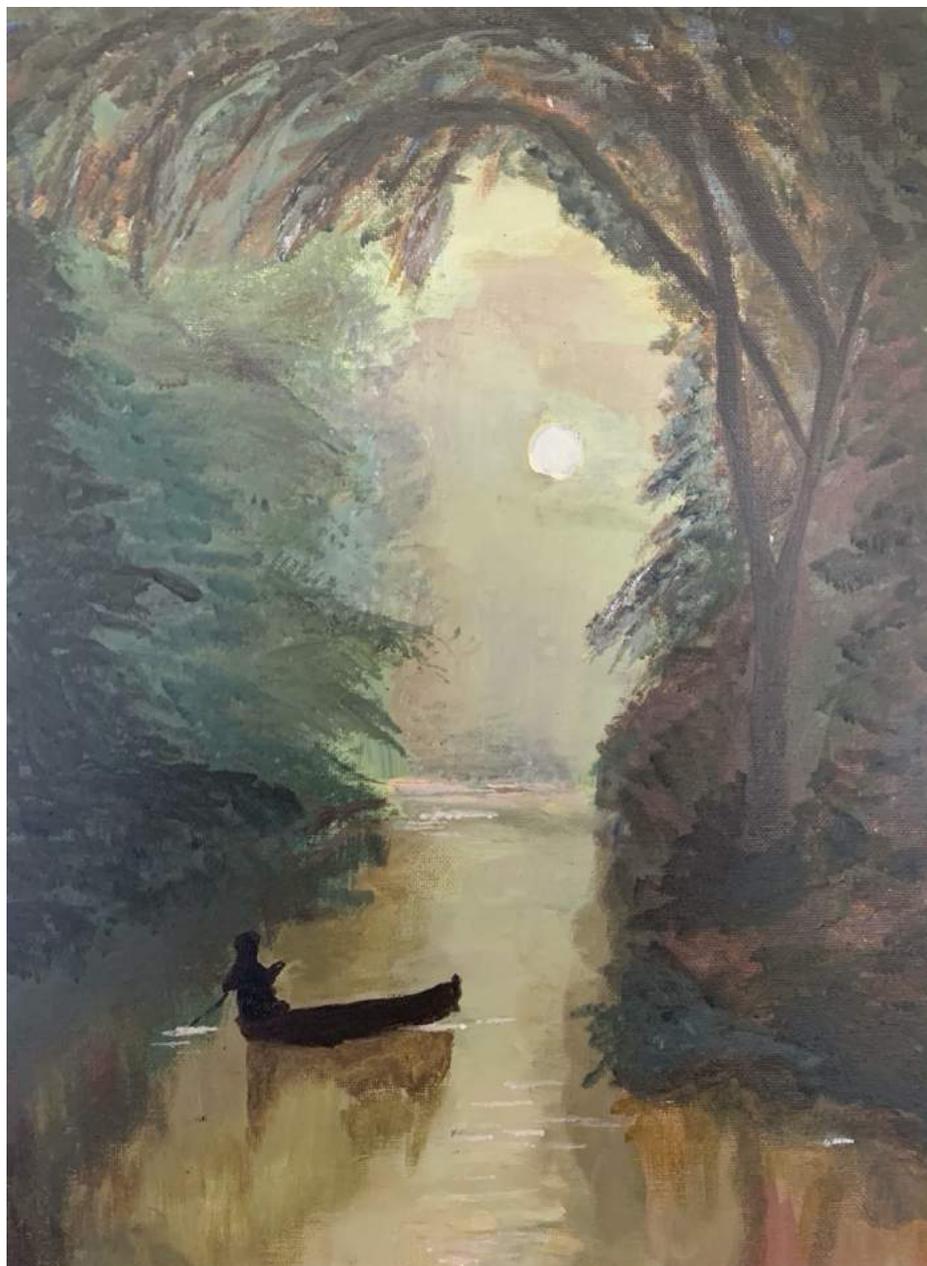




WINTER 2021 NEWSLETTER



A replica of Arthur Parton's - *Boating by Moonlight, 1878*
by Juliana Seedorf

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A Message From the Program Coordinator

We have a packed newsletter this season! It's full of wonderful talent from our student volunteers and I can't wait for you to read it.

We've had some new experiences offered at Avalon this winter! We bundled up to brace ourselves for the brisk weather on the beaches as we searched for cold stunned sea turtles - luckily we didn't find any which is a good sign because their heartbeats can go down to 1 bpm when this happens! We also hosted a virtual winter lecture series where we learned all about expeditions at sea around the world, the story of microplastics, crocodilians and using technology to locate nests, harmful algal blooms, how

oysters and clams serve as ecosystem engineers in restoring healthy water quality standards, and sharks! It was a fun and safe way to learn from a distance.

Eric Powers joined us at Avalon for a wilderness survival skills workshop in which we hiked through the woods and found a spot to build lean to's! We learned a lot of interesting skills and tactics including the rule of 3's! Eric was recently named 2020 Environmentalist of the Year by the Long Island Sierra Club- congratulations Eric!

Lastly, we had the opportunity to enjoy two night hikes in the snow! Yay! I've been admiring the beauty of the white snow blanketing the trees and the



quietness of walking the woods at night- it also posed a challenge to navigate through the elements as well!

Stay safe, build a snowman, have a snowball fight, hike through the snow and we'll see you soon at Avalon!

Warm Wishes,
Kayla

"Best Deer" by Max Cohn



Max has been working on developing his skills in Photoshop and took this picture the day before Christmas Eve!



Student Voice: Amanda on Her Research at Avalon Nature Preserve

As a youth climate activist and enthusiast, I have gotten involved in numerous activities to better my understanding of our climate and the detrimental as well as beneficial contributions people make to its health and future. One of these activities was a research study I conducted over this past summer at Avalon Nature Preserve in Stony Brook, New York.

This amazing and educational experience allowed me to conduct a study as well as write a research paper on my findings about the effects of plant browse by the white-tailed deer on the population, species richness, and species abundance of the native, non-native, and invasive plants of the preserve.

The overpopulation of *Odocoileus virginianus* or the white-tailed deer within many ecosystems has posed for various issues to arise pertaining to the availability of native plants, increased population of invasive plants, and lessened species richness.

The white-tailed deer heavily prefer to browse native plants over the invasive plants due to many of them being unpalatable, thus diversity and abundance of native plants has significantly lowered. Within this study, individual 20 feet by 20 feet quadrants in Avalon Nature Preserve were analyzed for plant species richness and deer browse between the native, non-native, and invasive plants. Data collected was also compared to a previous assessment from 2010 found within Avalon Park and Preserve's Plant and Habitat Guide in order to determine the effects the over populated white-tailed deer and their excessive browsing had on species richness in the present. The survey methods used to analyze each quadrant that was selected was done on a property that totals 187 acres. Evidence to support the claim that the white-tailed deer have caused great detriment to the native plant population and the species richness of the preserve was found in addition to evidence of evolution amongst the deer, as their resources became

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Alumni Spotlight: Caitlin Tucker Receives the 1st Robin Hopkins Amper Environmental Scholarship

The full article can be viewed in the Long Island Pine Barrens Society Newsletter:
<https://www.pinebarrens.org/the-pine-barrens-today-newsletter/>

Congratulations to Caitlin Tucker on receiving the first Robin Hopkins Amper Environmental Scholarship! This scholarship was open to those entering college this year planning on pursuing a course of study in environmental studies, sciences, ecology, sustainability, public policy or land and water protection- awarded by the Long Island Pine Barrens Society’s Board of Directors. We are so proud that one of our very own alumni earned the scholarship!



FUTURE STEWARD: The inaugural Robin Hopkins Amper Environmental Scholarship was awarded to Ms. Caitlin Tucker of Ronkonkoma

Student Voice (Continued)

depleted by over browsing and invasive plant influx. Various statistical analyses using Microsoft Excel were used to display the effects of the deer browse including calculating and comparing correlation coefficient, the Simpson Diversity Index, Species Richness using the COUNTIF function, as well as conducting a T-Test, and calculating average, standard deviation, and variance.

In addition to this, I was able to utilize many technological advances that have been made in recent years in order to better understand the data I collected. These technologies included camera traps and the DJI Inspire 1 drone with FLIR camera equipping capabilities and remote controls connected via iPads. I was able to “copilot” the drone with my research mentor, Kayla Serina, in order to better understand the deer’s browsing patterns as well as the terrain of the preserve. This addition to my environmental research experience was very beneficial because it allowed me to gain experience in how modern technology can aid environmental researchers in understanding the climate and what needs to be done to better the health of its ecosystems. Overall, the experience provided me with extensive knowledge of our changing ecosystem right here on Long Island and how the issue of white-tailed deer overpopulation as well as invasive species overpopulation has drastically caused significant impacts on the environment. Now that I have joined Students for Climate Action, I have learned about how I can connect the knowledge I have obtained from my research study as well as the knowledge I have obtained from our weekly meetings in order to advocate for policy changes and assistance from our government in battling this issue of ecological imbalance. As someone who possesses a strong passion for answering the unknown and advocating for positive change, my experience in environmental research has aided me in continuing to be the change our world desperately needs as well as continue to study our planet and how I can help better its health. I am beyond grateful for this experience as well as being a part of Students for Climate Action and I cannot wait to continue to better our climate through political advocacy and studying it through more projects.

Amanda Ferrante -S4CA St. Anthony's High School Chapter

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**Great Backyard
Bird Count**

February 12-15
birdcount.org



**Community Science
Opportunity!**

See how many birds you can document in your yard, neighborhood or nearby park in the **Great Backyard Bird Count 2021!!**

Results can be entered in the eBird app or online

New to bird ID? Download the free Merlin Bird ID app!

Email your best bird photos:
Kayla@avalonparkandpreserve.org



Local Beach Visits in the Winter

By Will McMullan



A few weekends back I visited Cupsogue Beach with my family. We parked in the lot closest to the trail. We had to walk down the trail to the entrance of the bay beach so we could try and spot some seals. Before this, I had visited Cupsogue and never seen any seals but to my surprise, there was one about 200 yards offshore. I managed to get some pictures on my phone but none of them were good. I would recommend going here with your family for some fun and very fresh air!

I also visited Long Beach in Smithtown with my family. There were only a few other people there and it made for a nice quiet walk along the beach. While I was there searching through the shells I found a dead seahorse and some beautiful shells. There were a lot of horseshoe crabs along with dead bunker fish that had been eaten by the bird population. Hopefully, once the weather warms up again I can return to find some more wildlife. I would recommend coming here with your family, since it is close to home and even though it was cold there were only a few other people making it a nice quiet walk.



Climate Extremes and Its Threat on the Arctic

By Ashley Liu

2020 was a year pervaded with uneasiness and unforeseen environmental changes: the devastating wildfires throughout Australia, California, Brazil and Siberia; the brutal natural disasters in India and Central America; the pernicious droughts in Zimbabwe and Madagascar. But most of all, we saw the extreme rise in climate change. In fact, the World Meteorological Organization confirmed 2020 as one of the warmest years on record- just another reminder of the relentless control of climate change.

Climate change includes the rising of sea levels, shrinking mountain glaciers, and accelerating ice melt, which are all results of global warming. With the global temperatures rising, the health of the Earth and its living organisms are imperiled. The Arctic has also seen immense changes in heat, in which a heatwave accelerated the melting of sea ice in the East Siberian and Laptev seas, while delaying the Arctic freeze by two months. This is critical, especially since the sea plays a huge role in climate change, by reflecting heat from the Sun; it acts as a jacket that is losing its cover over the ocean and fueling global warming.

The area near the Arctic (on the coasts of Alaska) is now at risk of being drilled. This act would damage the coast forever and bring the planet towards a direction that is irreversible. Climate change is interconnected with all other kinds of systems, such as wildlife and indigenous societies. Just this year, awareness was spread about the Arctic Refuge and its risk of being sold for energy development- this disregards the protection of the people, wildlife, and natural resources located

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there. Polar bears are especially susceptible to the harm from this energy development, as they are one of the endangered species that solely rely on the coastal plain for their survival.

However, it is not just the aftermath that affects these polar bears; their lives are jeopardized by the process of gas and oil exploration. This drilling also has a 75% chance of spilling- which can prevent polar bears from protecting themselves from the cold- and polar bears are exposed to the danger of consuming the oil.

That being said, it is crucial to be informed, as it lays out the basis of how to make a change concerning the Earth's global climate. Climate change has changed our lives drastically, but we must have faith that we are all capable of shifting our lifestyles and putting aside our differences to preserve life on Earth, whether it's modifying diets or gradually switching to renewable energy. If everybody were to contribute, then little by little, we'll be able to look back and see the progress we made.



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