Letter from the President

Dear SENEME Members,

I am not sure how to start this letter. So much has happened between now and when I last wrote to you all! I’m sure you would all agree that things are very different, and I could talk about how “unprecedented” these times are, but I’m sure you’ve all heard that numerous times by now, so I’ll not say it. I will let you know that SENEME is using this time to start something new.

At our last Board meeting, we discussed why SENEME does what we do. The idea of an organization knowing why they do things before they decide how and what they do was developed by Simon Sinek. If you have a chance to watch his TED Talk, I highly recommend it. He mentions in the video that “people don’t buy what you do; people buy why you do it.” While SENEME does not sell a product, we do have a mission, but has that mission changed over the years?

We, as a Board, will be going through this process of developing SENEME’s why. I feel this is a perfect time to discuss this because we all know things are constantly changing, so why not change with them?

You, our members, will be essential in this process as well. Once we have determined our why, we will need to hear from you on what we can offer that will be the most helpful.

I hope you and your families are healthy and that we can continue this journey together towards something great!

Thanks!

Megan Strand
SENEME President

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SENEME LIFE MEMBERS

2003 Mickey Weiss
2004 Thaxter Tewksbury
2005 Ralph Yulo
2006 Elizabeth Gibbs
2010 Katrina Barrett

MARINE EDUCATOR OF THE YEAR

2005 Lance Arnold
2006 Matt Schardt
2010 Vicky Sawyer
2011 Joseph Hage
2012 MaryEllen Mateleska
2012 David Bednarz
2014 Michael O’Connor

Nauplius Notations
By Donna Dione, Editor

Like many of you, I find myself undertaking a whole new alternate reality of job responsibilities this spring which has suddenly included becoming a tech guru and “YouTube Star.” When it soon hit home that our Children’s Museum would be shut down indefinitely, the marketing director and I scrambled to keep the Museum on people’s radar. Reluctantly, social media became our “friend,” and we were creating daily blogs with crafts and experiments for families to do at home with materials they wouldn’t have to go to the store to buy (needless to say, we have pretty much exhausted those no-shopping ideas 2.5 months later). Since I live in a log cabin in the woods with an odd array of nature happenings occurring quite regularly, one day I pitched the idea of doing a video series in my yard and neighboring nature preserves. Thus was born, “Miss Donna’s Woodland Adventures!” Being tech-challenged (both in knowledge and equipment), we soon scrapped most attempts to make anything of “professional quality,” and it has worked out splendidly well. We are having a blast making the videos, we have a following that looks for our videos, and we even have had other organizations asking us for advice (our secret: wing it and have fun!) Of course, it does not hurt to have a random fox skull and deer poop story thrown into the mix!
As a result of the COVID-19 pandemic, the NMEA 2020 Annual Conference has been postponed until July 12–16, 2021. Stay tuned for a potential virtual conference this summer!

OCEANIA invites you to Honolulu, Hawai‘i for the NMEA Annual Conference! Come and learn about the people, the culture, and the marine organisms of Hawai‘i! Workshops and kick-off event will take place July 12, 2021. Conference sessions will take place July 13–15, 2021, and field trips will take place on July 16, 2021.

NOMINATIONS SOUGHT FOR SENEME AWARDS

Would you like to recognize a fellow SENEME member for their contribution to marine and aquatic science education? Nominations are being accepted for the awards below. Further information can be found at: SENEME.org > Grants & Awards. Submission Deadline for both categories is September 1, 2020.

SENEME Marine Educator of the Year: For effective and innovative teaching, and/or distinguished performance by either a classroom teacher or professionals who are not classroom teachers. This nomination requires completion of a nomination form and a letter of recommendation from at least one active SENEME member. Recipient receives one-year membership to SENEME and registration to the annual Fall Conference.

SENEME Life Member: Life membership is the highest recognition the Association offers and is reserved for those individuals who have demonstrated a distinguished career in teaching, research or service in marine education. This nomination requires completion of a nomination form and letters of recommendation from at least three active SENEME members. The Awards Committee will present its recommendation to the SENEME Board for consideration. Upon endorsement by the majority of the Board, the successful nominee shall be declared a Life Member and will receive lifetime membership in SENEME.
The Nauplius

WINNERS OF SENEME SCIENCE FAIR AWARDS

This spring, SENEME presented awards to students at the Connecticut Science & Engineering Fair (Due to COVID-19, there were no special awards at the Rhode Island Science & Engineering Fair). Each winner received a prize of $100, a SENEME T-shirt and a one-year SENEME membership for them and their science teachers. The SENEME Board thanks Julie Ainsworth for judging! The winners and the abstracts of their projects are as follows:

**Junior Award**

Concentration of Microplastics In Four Farmington River Locations  
Lauren Marze, Grade 8, Canton Middle School

Plastic has become a universally used material with impacts spanning the entire globe. Our riverways have become inundated with plastic pollution that will stay in our ecosystems for centuries. My project studied this plastic problem in Connecticut’s Farmington River, a waterway with great economic and geological significance. My research strived to find the region of the Farmington River most concentrated with microplastics. I predicted that the lower section of the Farmington River would be the most inundated with microplastics due to movement of particles downstream and retention of microplastics from the preceding river sections. I collected data from four sections of the river: the beginning section above Colebrook Reservoir, the upper section below Colebrook Reservoir, the middle section, and the lower section. I took 12 total 1 liter water samples and filtered them onto 47mm, 0.45um gridded filters using a vacuum chamber. I analyzed the filters and counted the microplastics under the microscope. As predicted by my hypothesis, the location on the lower section of the Farmington River contained the greatest amount of microplastics. This location totaled 13 microplastics across my three samples in October, November, and February, respectively. The upper sections of the Farmington River contained a lower amount of 9-10 microplastics. The high amount of microplastics in my lower location was influenced by the retention of microplastics from waste water treatment plants (WWTP), the high recreational use of the location, and the proceeding volume of water that released accumulated microplastics from the banks of the river.

**Senior Award:**

Automated Collection of Aquatic Surface Level Polyethylene (PET)  
Kelly Weng, Grade 11, Joel Barlow High School

With the growing plastic epidemic, about 22 million pounds of plastic is entering the Great Lakes and about 12.7 million tons of plastic is entering our oceans every year. While clean up is happening, collection is slow. This is due to only passive methods of collection being implemented, like nets and “bins” in the water. This is not only manually exhausting and inefficient, but time consuming as well. In order to clean up past build ups effectively, this project is an automated way for surface level plastic collection. That way, the robot will autonomously travel to the plastic instead of depending on plastics to travel to it. The robot has a mounted net and uses propellers to travel in the water, collecting pieces of plastic of surface level plastics through the use of a joystick powered by Arduino. For the sake of time and money, the robot is only a 3D prototype of the larger scale robot that would be put into the oceans. The robot is printed in PLA, which is a form of recyclable plastic. The electronic components are in a sealed, watertight box to ensure that they don’t short circuit if water splashes onto it. If used in conjunction with passive methods of collection, this robot could bring us one step closer to complete plastic removal in our waterways.

Congratulations Lauren & Kelly!!
The fire snapped and a burst of sparks rose up, twisting with the flames and smoke lofting into the night air. As I sat in my lawn chair during the second week of the “shutdown,” I contemplated the new life foisted upon us. Another snap and shower of sparks swirled with the flames. The echo reverberated from the trees in the secluded glen of my backyard. I gently twirled the single malt scotch in the heavy crystal glass. It seemed fitting to break out the good stuff. I sat alone, my gaze following the tiny glowing embers up into the dark night sky. The sparks seemed to join the stars—no longer twinkling, but piercing the cold, steady and bright. With no polluting lights nor noises, the night sky was as it appeared and sounded hundreds of years ago: No glow from the distant tree-shrouded horizon (everything was shut down, even the casino); no planes flying overhead, twinkling red and white; no cars on the roads, humming as they passed by. There was no grinding of man-made machines being generated anywhere near me, deep in the woods.

Yet it was far from silent.

The hiss of wet wood, the occasional whistle of hot gasses, all echoing from the surrounding trees. The light of the flames cast dancing shadows surrounding me with undulating ghost-like figures. The faint smell of cedar burning from a log buried within the bonfire wafted with the smoke.

I poured another scotch and watched as Mother Nature pushed the reset button. Ironically, the earth instantly began to heal itself even as its people suffered and died from an infinitesimally small agent. Viruses have been barely classified as life, yet these tiny particles have brought the human race to our collective knees. This short snippet of viral genetic material encased in a protein coat has had the ability to strike terror in the hearts of nearly everyone who was cognizant of it. All of modern man’s technology, our professed collective intelligence, even the almighty Google, could not stop the ravages of this simplest form of life. And as we scramble to adapt, Nature has been healing herself. The air has been cleaner, the streams and rivers have been clearer, and animals are slowly encroaching back into our neighborhoods.

While death has always been part of life, it has always been a grief-stricken process. Preventable death will always be tragic. To attempt to think of this as an opportunity in the throes of such tragedy would seem callous—especially to those who have lost someone or suffered the ravages of the illness. However, we have been presented with an example of Nature’s wrath. The current predicament, it could be argued, we may have provoked, or could have predicted, or even prevented. Regardless, we should make changes. Possibly, to alter the course of our historically coarse treatment of the natural world around us. Possibly, to enact less consumptive practices, less casual treatment of our natural capital. Possibly, to allow for more progressive funding of alternative energy sources and less corporate welfare in the form of subsidies for extractive businesses. There are possibilities to consider.

Natural scourges have always existed. However, our practices have been accelerating and exacerbating the effects and have been reducing our ability to respond. Viruses will continue to exist, but our natural pharmacopoeia of potential cures has diminished as we have destroyed the biodiversity of the world.

It has been relatively easy for me to pontificate as a non-essential, sitting by my bonfire sipping single malt scotch. I did my time, and I will continue to do my part and try to stay healthy, to not become a burden, to care for my family, and to vote. I hope that we will take heed of the punk-slap that Nature has provided on our collective human faces, and use this tragedy to enact positive changes in our behaviors, attitudes and care for the people and the planet that we hope to survive.
An Introduction to the Fishers Island Seagrass Management (FISM) Coalition

By Connor Jones

Seagrasses are under intense pressure globally, and this pressure is particularly acute in Long Island Sound. Historically, eelgrass (Zostera marina) - the predominant species of seagrass found in the Sound - was so abundant, it was harvested for insulation and fertilizer; but today, fewer than 1500 acres remain. A number of threats have caused this decline in the extent of eelgrass beds. The meadows that persist are threatened by eutrophication processes when excess nitrogen - from wastewater and fertilizers - flows into the Sound, fueling the growth of harmful algae that kill fish, threaten human health and block the sunlight seagrasses need to photosynthesize. Sediment that washes into the water from coastal construction and erosion can bury eelgrass and create turbidity that also blocks sunlight, further hampering their survival. Climate change is also a threat, both in rising water temperatures and in extreme weather events that can produce damaging wave energy to the beds. Finally, boating and dredging activity can rip eelgrass from the sediment.

Since the 1930’s, the extent of eelgrass in Long Island Sound has declined by 90%. One quarter of the remaining eelgrass (350 acres) is located in the waters around Fishers Island. These meadows comprise 98% of the eelgrass remaining in the New York waters of the Sound. While it may seem prevalent here, Fishers Island’s eelgrass meadows are also at risk - the most recent survey indicates a 14% decline occurred between 2012 and 2017.

Eelgrass meadows provide a number of ecosystem services and as a result are one of the planet’s most valuable ecosystems. A species of flowering plant, eelgrasses oxygenate the water as they carry out photosynthesis. Meadows provide habitat for numerous ecologically and economically important fish and shellfish species such as lobster, striped bass, summer flounder, bay scallops and sea turtles. Eelgrass meadows dampen wave energy, which in turn prevents beach erosion. Protecting eelgrass is an important part of mitigating the effects of climate change - eelgrasses are very efficient (even more so than tropical forests) at capturing and storing carbon. Along with carbon, eelgrasses also trap sediments within their root systems, thus improving water quality. Given that Fishers Island’s eelgrass ecosystem supports healthy marine systems, protects our coastal shorelines, and helps sustain our community’s connection between the environment and our quality of life, this current decline is cause for concern.

To address these issues, the Fishers Island Seagrass Management (FISM) Coalition was formed in 2017, bringing together a variety of stakeholders with direct or indirect interactions with Fishers Island’s seagrass habitats. The FISM Coalition’s mission is to promote community learning about eelgrass meadows and how to protect, sustain and care for them; strengthen productive collaborative relationships among stakeholders, both within and outside the community; and foster the protection and effective management of this important resource and the benefits it provides Fishers Island and the region. The goal of the coalition is to establish a co-management process for the island’s seagrass meadows, one in which the island community, the town of Southold and the state would share seagrass management authority and responsibility.

The FISM Coalition has partnered with MPA Watch, a community science program started in California, and Watershed Watch, led by the University of Rhode Island, to conduct community-based monitoring projects that gather human use and water quality data. These data will be used to help identify areas around the island that are best suited for the establishment of Seagrass Management Areas (SMAs). If you would like to learn more, please visit the FISM website at fiseagrass.org or reach out to the FISM Project Coordinator, Connor Jones, at fishersislandseagrass@gmail.com.
Currently, the FISM Coalition is beginning a planning stage to identify locations around the island that would be best suited for SMAs. We are seeking broad input on the siting of these areas from off-island visitors and stakeholders, as well as the island community. We will be holding webinars for interested stakeholders throughout this summer and would like to meet with you, your organization, and its members to tell you more about the Coalition’s history and goals and the importance of preserving eelgrass. We would also like to learn more about you and your usage of Fishers Island. If you are interested in attending a webinar or scheduling one for your organization, please contact Connor Jones, at the email on Page 6 for more details.
WHAT IS IT?
The mission of the NESS Recycle Regatta is to engage the community in fun, experiential learning and stewardship by engineering a boat out of recycled materials. This event will include virtual learning and assistance from NESS staff on how to engineer a model boat and be crowned champion of the NESS Recycle Regatta! Participating mariners will need to master buoyancy, construction, and physics to race their boat to victory! Are you ready to take on the challenge?

WHEN IS IT?
Engineering of NESS Recycle Regatta boats can happen at any time! We encourage you to repurpose items at home to create your boat. Keep us updated with photos and videos to let us know how you’re doing. You can even time your boat on a set course to continue to improve it! Send photos and progress reports either to the NESS Recycle Regatta Facebook Page or by emailing adventure@nessf.org! Our NESS Educators are looking forward to watching you engineer and will be posting helpful videos of tips and tricks on topics like buoyancy, recycling, how sailboats sail, and more!

The deadline for Images, Videos, and Speed Tests of Vessels is July 1, 2020.

Visit http://nessf.org/recycle-regatta/ for more details!

The Maritime Aquarium has revised its regular STEM-based, standards-fulfilling educational programming into a selection of online offerings that teachers can use as they adapt to distance learning. We also have virtual programs for families and individuals! Check out our current offerings and schedule at: http://www.maritimeaquarium.org/.
The Office of Marine Programs at URI’s Graduate School of Oceanography (GSO) has started Ocean Classroom (Live!). During these 30-minute Facebook and YouTube LIVE episodes, viewers will participate in conversations about a wide range of ocean topics from polar regions to Narragansett Bay and horseshoe crabs to whales! Follow GSO on Facebook and YouTube to learn more about upcoming episodes! If you missed watching live, each episode is archived on Facebook and YouTube.

• Summer Camps at Mystic Aquarium - With health and safety as our number one priority, we are happy to be providing unique and memorable camp experiences for children entering grades 1-6, as well as family programs for an adult/child pair, this summer! Mystic Aquarium offers the perfect environment to enjoy and explore animals while having outdoor adventures in nature. Visit https://www.mysticaquarium.org/learn-2020/summer-camps-2020/ for more information on our summer programs as well as updates on our safety guidelines.

• Cheers to Conservation - Join different Aquarium staff for at-home cocktails (or mocktails!) and conversations on conservation. From mudslides to beergarita’s and more, each Ocean Ambassador’s Cocktails with Conservationists event features a delicious drink you can concoct in the comfort of your own home. Visit https://www.mysticaquarium.org/events/ for a listing of our upcoming guests!

• Virtual Programs - Have a camp or scout group that can’t visit Mystic Aquarium? Let us stream our exhibits to you! From Up Close experiences with the Penguins to Aquarium tours, these 30 minutes programs provide your group with your own private Aquarium experience. Email educationinfo@mysticaquarium.org for more information on programs and pricing.
WE CAN ALL SAVE ENERGY AND HELP THE ENVIRONMENT

Show your eesmarts by answering the prompt for your grade level. Prizes awarded to the winners in each grade level. The eesmarts student contest is open to all Connecticut students in kindergarten through high school. Contest details and guidelines are available at: EnergizeCT.com/eesmarts-submissions.

Deadline: June 12, 2020.

Kindergarten, Grade 1 & Grade 2 – Saving Energy Poster Contest

Design a poster that shows how you can save energy around the house or at school. Be creative and show your (e)smarts in saving energy (e.g., turning off lights, using ENERGY STAR® appliances and LED lights, unplugging electronics when they are not in use).

Grade 3 – Narrative

Write a short story (250 words or less) about saving energy at home or school by recycling, think reduce, reuse, recycle. Explain what your main character is doing to conserve Earth’s limited resources by recycling.

Grade 4 – Letter to Principal

Write a letter (250 words or less) to the principal explaining the importance of saving energy at school. Your letter should include facts about energy, energy efficiency, and specific ideas how energy can be conserved. Remember to use a strong lead and supporting detail for your letter.

Grade 5 – Book Review

Write a book review (250 words or less) for The Lorax by Dr. Seuss or Just A Dream by Chris Van Allsburg that includes:
• What the book is about.
• The book’s theme or message.
• Your understanding and opinion about the book.
• How this book helps children understand the importance of conserving our natural resources and conserving energy.

Note: If your school library does not have a copy of these books, teachers, please email eesmarts@EnergizeCT.com to request one book at no charge.

Grade 6 – Persuasive Speech

Write a persuasive speech (300 words or less) to the Connecticut Energy and Technology Committee about how our State can become more energy efficient. Include your recommendations for energy conservation, energy-efficient technologies and clean, renewable energy sources. Make sure to consider both sides of the argument (e.g., clean energy is good for the environment; but, it often costs more than fossil fuels).

Grade 7 – Persuasive Poem or Cartoon

Write a short poem (125 words) or draw a cartoon strip (8-12 cells) on energy conservation, an alternate energy source, or environmental concern. Use your poem or cartoon to try to convince the public that your opinion is scientifically valid.

Grade 8 – Script for a Public Service Announcement

Prepare a public service announcement (3-30 seconds) explaining what weatherization means and why it’s important at home. Make sure the information is accurate and that the message is clear and persuasive.


Learn more.

HIGH SCHOOL GRADES 9-11 – Community Based Project

Create a plan for a project that will help to address energy-related issues in your community. The plan should focus on energy conservation behaviors. The plan must include background information, data (e.g., projected energy savings and monetary savings), a draft timeline and an estimated project budget. The project must be able to be completed in one year’s time.

Plans will be evaluated on feasibility, detail and impact, use of energy-saving technologies, cost-effectiveness, and scalability. For projects to be implemented at your school or a town building be sure to work with the facilities personnel, administration, etc. Submissions must include the 2020 Grades 9-11 Student Contest Project Cover Sheet, which can be downloaded from EnergizeCT.com/eesmarts-submissions.

Project can be an individual or group of 3 members or less. First Place winners will be awarded funding up to $1,200 toward implementation of their project.

HIGH SCHOOL GRADE 12 – Persuasive Image

Produce a “Persuasive Image” in words, pictures, or video that advocates for an energy topic. Write a short poem (125 words), draw a cartoon strip (12 cells or less), or make a video (30 seconds) on energy conservation, an alternate energy source, or environmental concern. Picture yourself meeting with a friend whose attitude on the issue you wish to change to match your opinion.

Entries will be evaluated based on scientific validity and concise and convincing imagery. Every word counts; remember that a picture is worth a thousand words. Video formats must be compatible with Windows® Media Player. Entries may be shared via Google Docs to eesmarts@EnergizeCT.com or mailed to eesmarts contest, c/o CREC, attn: Gio Koch/CRG, 111 Charter Oak Ave, Hartford, CT 06106.

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Call for Nominations

The SENEME Nominating Committee is seeking candidates for the following SENEME Board positions: President, Vice President and Treasurer. The Nominating Committee invites SENEME members to submit qualified names for consideration. All positions are for 2-year terms beginning in October 2020.

Please contact Andrea Gingras, Nominating Committee Chair, at agingras@uri.edu for more detailed information about each position and to submit nominations.

SENEME Dates to Remember

Due to the current unpredictability of the COVID-19 situation, SENEME is currently holding Board meetings via Zoom on an as needed basis. In person SENEME events will most likely need to be cancelled for the remainder of 2020.

If you would like to participate in upcoming Zoom meetings, please contact SENEME President, Megan Strand, at mstrand@nessf.org or Vice President, Donna Dione, at donnadione@comcast.net to be added to the email list to receive the log-in information. Board meetings are open to all SENEME members at any time.

THANK YOU TO OUR SENEME ORGANIZATIONAL MEMBERS FOR THEIR SUPPORT!!

The Nauplius is the newsletter of the Southeastern New England Marine Educators Association Inc. (SENEME). Submissions including (but not limited to) articles, activities to share, student projects, pictures of SENEME members in action, recipes, and other organization’s announcements are welcome for all issues. The opinions expressed by authors published in this newsletter do not necessarily reflect the views of SENEME and all its Board members. SENEME is not responsible for any typographical errors that may occur within this publication. Permission is granted by SENEME for readers to make copies of newsletter items for their own, non-commercial use.