SUSTAINABILITY HERO
March 2021

Michael Miller

Supervisor of Science, Raritan High School
Member, Raritan High School Green Team
Hazlet Township Public School District (Monmouth County)

Mike Miller has served as an assistant principal/supervisor of science in the Hazlet Township Public School District for twelve years and as the full-time supervisor of science for five years. Prior to these positions, he taught Earth Science at Raritan High School for six years. Under his guidance, Raritan High School received the 2020 Sustainability Champion Award that recognizes the schools that have scored the most points in the Sustainable Jersey for Schools certification program at the elementary, middle and high school levels.

Although his first-grade ambition was to be a TV weatherman, Mike is happy to be leading the science curriculum for the district. As a lifelong lover of nature, science and outer space, he understands the importance of preparing the next generation for the challenges they will face. By making science interesting with hands-on experiences, Mike hopes his students' talents are discovered and passions lit.

Mike's dedication and strong work ethic have helped move his school and district toward sustainability excellence. He has been a member of the Raritan High School's Green Team since the 2016-2017 school year when the district registered with Sustainable Jersey for Schools. Mike emphasized that the work is a team effort. He said, "Our sustainability accomplishments are made possible thanks to the support of the Hazlet Township Board of Education, our Superintendent of Schools Dr. Scott Ridley and central office staff, Raritan High School's Principal Dr. Andrew Piotrowski, Sustainable Jersey for Schools, the Raritan High School Green Team members, and the students of Raritan High School." Mike has also secured $22,500 in grants to fund sustainability projects at the high school.

"Sustainable Jersey for Schools has been challenging in a good way. It provided structure and helped us create a comprehensive sustainability program," Mike explained. "We also have a healthy competition between the schools in our district. The schools are working to attain silver certification."

Raritan High School-Silver Certified: Raritan High School created a school-based green team to implement sustainable practices. The team is comprised of two administrators and three teachers. The Raritan High School Environmental Club works with the green team on initiatives. Raritan High School achieved bronze-level certification in 2017 and 2018 and was certified at the silver-level in 2019 and 2020. In 2020, the school received an impressive 360 points which secured the school the 2020 Sustainability Champion Award. The staff created an outstanding acceptance video for the awards ceremony that was held virtually in October 2020. To learn more about the sustainability actions completed, review the Sustainable Jersey for Schools 2020 Certification Report for Raritan High School**.** The Raritan

High School Green Team Initiatives are also listed on the school's website and through he Twitter account: @HazletSciSup.

Outdoor Environmental Learning Center and Courtyard Gardens: Raritan High School converted an underused courtyard into an outdoor environmental learning center with a $10,000 grant from New Jersey American Water. The outdoor space features a greenhouse, two outdoor raised garden beds, a pollinator garden with a waterfall feature, a paver patio, compost bins and two picnic tables for teachers to hold outdoor classes.

A $2,000 grant from Sustainable Jersey for Schools, funded by the New Jersey Education Association, helped support the first planting of the gardens when they opened. The environmental science, yoga and biology classes use the space regularly. Mike proudly listed, "Seventy-two tomatoes, six pumpkins, forty parsley bundles, fifty-five basil bunches—the list goes on, but you get the idea of our typical yield from the courtyard gardens. We use the herbs and vegetables for our culinary arts classes and in the school cafeteria."

Reusable Plastic Lunch Cafeteria Trays: Spearheaded by members of the Raritan High School Environmental Science Club, the high school cafeteria has switched from using disposable Styrofoam lunch trays for the hot lunch to a plastic tray that is washed and reused. This change reduced the amount of waste sent to landfills.

Mike said, "Lunches are served on cafeteria trays and are cleaned in our dishwasher operated by a Raritan High School alumnus. The switch has been a cost saving in the long run because we don't need to buy the Styrofoam trays or pay for their removal in the trash." After the students presented the idea, the school leadership including the Board of Education, Superintendent of Schools and principal supported the switch. This project was made possible through a $10,000 Sustainable Jersey for Schools grant funded by the PSEG Foundation. What's next? Mike said he is investigating additional options to reduce solid waste at Raritan High School.

Cafeteria Food Scrap Composting: The Raritan High School Green Team composts food scraps from the cafeteria and the culinary art classes. "Every Friday, a student from the Environmental Club and a staff member picks up the bins of food scraps from the cafeteria and the culinary art classroom to deposit them into the two compost bins located in the outdoor environmental learning center. These walks usually spur some of my best conversations with students about sustainability ideas," Mike explained. "I'm composting at home now. I learned a lot from the school program." The compost bins are washed, rinsed and returned to the cafeteria and culinary arts classroom. The compost produced from the bins is used in the two outdoor planting beds and in the greenhouse. Raritan High School partnered with Maschio's Food Services to compost the food scraps from the cafeteria. The composting program satisfied the requirements of the Food Waste Management action and added 15 certification points to the high school's Sustainable Jersey for Schools certification application.

Trex Film and Keurig Pod Collection and Recycling: The Raritan High School Green Team participates in the Trex Film Recycling Challenge. This program, sponsored by the Trex Company, uses recycled plastic film to create environmentally responsible outdoor products while keeping thousands of pounds of waste out of landfills. Schools that collect the most plastic film are eligible to win a Trex bench. As of April 2020, Raritan High School collected 420

pounds of plastic film. “We’ve participated in the Trex Challenge for the last three years and tied for first place in our division,” Mike noted. The Raritan High School Environmental Club collects about 40 Keurig cups per month. The students empty the coffee grounds into the compost bins and then recycle the plastic cups. The collection and recycling of these items satisfied the requirements of the Recycling Non-Mandated Materials action and added 15 certification points to the Raritan High School certification application.

Energy Efficiency Measures: As part of a $43 million referendum passed by the taxpayers, Raritan High School replaced all of its windows with new energy efficient windows, replaced all lighting fixtures in the classroom with new energy efficient fixtures and replaced the original boiler from 1962 with a new energy efficient boiler and cooling system. The district hired an energy specialist to monitor the high school's energy usage and ensure that the systems operate at peak efficiency. Mike said, “Since undertaking these energy measures, our Energy Use Intensity (EUI) score has decreased by 13.36 percent from baseline data. The EUI is an indicator of the energy efficiency of our buildings’ operations, so this was a positive result.” With these improvements, Raritan High School satisfied the requirements of the Energy Efficiency for School Facilities action and received 30 certification points.

Rooftop and Parking Canopy Solar: The Hazlet Township School District entered into a Power Purchase Agreement to construct an 809,000-kilowatt solar array at Raritan High School in 2012. Over a 12-month period, the array supplies an average of 52 percent of the total power consumed at the site. The Raritan High School solar systems satisfied the requirements of the Onsite Renewable Generation System–Solar action and received 30 certification points.

Energy Tracking & Management: To reduce energy use and save money, the Hazlet Township School District partnered with Cenergistic, an energy consultant, to monitor and track energy consumption. Following the energy guidelines developed by the school district, Cenergistic implements an energy conservation program through an energy management team that is led by an energy specialist. The energy specialist makes recommendations for reducing energy consumption based on energy usage data and cost. The usage data collected provides verifiable performance results on the goals and progress of the energy conservation program. With this work, Raritan High School satisfied the requirements of the Energy Tracking and Management action and received 20 certification points. Also, the students lead a Classroom Energy Monitoring Program to help in the day-to-day reduction of energy use. Mike manages the students and the monitoring program. “After participating in the monitoring program, the students understand the importance of energy conservation, not only in our school but in the community.” Mike added, “Students tell me they are trying to turn off things at home and unplug things they are not using.”

More about Mike: Mike is a New Jersey boy, born and raised. He grew up in Milltown (Middlesex County), with his sister and parents. His father was a project manager at a French chemical company and they share a love of science. Mike has a Bachelor of Science degree in environmental science and a Master’s degree in education administration from Rutgers University. He lives in Ocean Township with his wife and two children, Jack, age 13, and Tessa, age 10. In his free time, he enjoys working on his model trains that have taken over the basement. When asked if he had any advice for people thinking about sustainability, he said, “My advice is to shop less and live more. When you buy things, you are taking from the Earth; it’s important to balance our purchases by giving back. Producing stuff generates climate-changing greenhouse gas emissions and uses resources. I do my best to use resources responsibly to support the planet for future generations.”