

## SEPTEMBER 2016 SUSTAINABILITY HERO



### **NANCY YARD, ED.D.** **Principal and Green Team Coordinator** **Holland Township Elementary School (Hunterdon County)**

From her open water diver certification achieved at the Southern Belize reef system to her Earthwatch expedition to track the effects of climate change on caterpillars in Costa Rica to surveying horseshoe crabs at the Jersey shore, Dr. Nancy Yard definitively brings a unique perspective to school leadership. She has been integrating sustainability into her work while serving as an educator for the last 25 years. Dr. Yard just led her school green team to achieve silver-level [Sustainable Jersey for Schools](#) certification this summer with only one school in New Jersey receiving more certification points.

For eleven years, Dr. Yard has been the principal of [Holland Township School](#) which serves over 550 students in pre-kindergarten through eighth grade. A core focus of Dr. Yard's work is realizing the benefits of outdoor learning. In addition to her doctoral dissertation, she has presented at numerous forums on the subject of how to successfully support teachers while connecting students to the outdoors. Dr. Yard said, "It's important to open a student's eyes to a world around them. My ultimate goal is to infuse environmental education across the curriculum and empower students to realize their potential as not only leaders in sustainability in their own communities, but in their ability to impact the world on a global scale."

**Holland Township School Achieves Silver-Level Sustainable Jersey Certification:** Led by Dr. Yard, the Holland Township School Green Team formed in 2013 and meets regularly using the Sustainable Jersey for Schools actions as a guide. In June 2016, the school submitted an outstanding application for certification that was approved at the silver-level with an impressive 400 points earned. The green team's sustainability program includes: installing and funding a geodesic passive solar growing dome, expanding the staff wellness program, eliminating Styrofoam trays on Fridays, passing a strategic plan with sustainability initiatives included, maintaining a student garden, using and collecting water with rain barrels, integrating Education for Sustainability programs for all grades and creating kinesthetic classrooms to increase movement throughout the day for students. A solar field adjacent to the school provides renewable energy only to Holland Township School. It is currently providing up to 80 percent of the school's electricity usage.

Dr. Yard explained, "Achieving silver-level certification did not happen overnight. We started the green team before the Sustainable Jersey for Schools program was launched and we have been working to submit our certification application." She said, "The secret is to make sure you have a diverse green team. Include a representative from the Board of Education, a facilities manager, school administrators, teachers from different departments like science, social studies, physical education and the arts. We first had to work on our definition of sustainability to help us understand that teaching for sustainability encompasses many topics including conserving resources, health and nutrition, service to others and sustainable consumption. Our teachers are covering sustainability topics but did not realize it." For an overview of the full program, read the 2016 [Holland Township Elementary School Certification Report](#).

**Geodesic Passive Solar Greenhouse Dome:** Holland Township School has just added a greenhouse growing dome which will create a learning space to foster STEM and environmental education. The structure was funded through a \$10,000 Sustainable Jersey for Schools Small Grant provided by the New Jersey Education Association with additional funding from the Holland Parent Teacher Organization and Holland SEED Foundation. Students



will be able to harvest herbs and vegetables throughout the year from garden beds in the dome. The students will experiment with solar power, seasonal cycles and seed saving. In the winter, the geodesic dome greenhouse is designed to capture and store the heat of the sun during the day and slow down the heat loss overnight. The dome greenhouse is unique because it does not require supports in the middle, which allows extra space to grow plants.

**Sustainable Lunch for Students and Families:** Last November, the Holland Township School held a sustainable luncheon in the school garden for second grade students and a family member on Food and Heritage Day. Families brought their own plates, cups, utensils and a healthy family entree to share. At the event, the second grade students gave tours of the garden and harvested food to make a large salad.



A long family table was set up in the courtyard for everyone to set the table and eat together. Clean up consisted of rinsing dishes to take home and composting leftover fruits and vegetables. The students like to use the four R's: Reduce, Rot, Recycle and Reuse. A recipe book was created for all the participants. This event was a culmination of a second grade unit which ties together gardening, life cycles, healthy eating and sustainable practices. Dr. Yard said, "Our students have become accustomed to using their reusable water bottles and creating a sustainable lifestyle for our school. The sustainable lunch is a wonderful day that showcases our garden while bringing together our second grade students and their families to share food and model sustainable practices."

**Water and Source Reduction Tracking:** Holland Township School students are working hard to track and reduce waste. The school has reduced the amount of paper used. Dr. Yard has been able to eliminate almost all of the notices going home by using the virtual backpack system and sending out emails. The sixth grade math students calculated that during the 2014-2015 school year, the school saved approximately 15 cases of paper and \$400. This included savings from having all progress reports be paperless.



Holland Township School does an impressive job of reducing the amount of plastic bottles brought into the school. Over the last three years, four water bottle filling stations were installed. The first two were so successful that the teachers and students asked for two more to be installed to cover more hallways. Survey data from the students demonstrates that 70 percent of the students bring a reusable water bottle to school and over 50 percent of the students are using the water filling stations. As the students tracked water bottles brought in for grades kindergarten through fourth, they found that on the final day of counting there were no plastic water bottles brought to school.

The students are active participants in tracking waste and working to help reduce the use of these important resources. Dr. Yard said, "By reducing the amount of paper we send home, we are serving as a model for our families and community members. Our families are also saving money by not purchasing water and are learning to conserve by eliminating plastic water bottles." She added, "To achieve success in sustainability efforts, the students must be involved. It's hard to change habits, but kids can help lead the way for adults. This past year our students attended a Holland Township Council meeting to present on water conservation. They also presented to the Board of Education and gave each member a reusable water bottle to use at the meetings in the future." The students are working to reach 100 percent use of reusable water bottles with a slogan, 'Holland Township School can go from 70 percent to 100 percent through reusing, reducing plastic use and drinking water to be healthy.'

**Outdoor Learning and Education for Sustainability:** Dr. Yard said, "When I first arrived at the school, the outdoor learning areas were underused. With the help of a grant from Bristol Meyers Squibb, I was able to provide teacher training, with a coaching model, to implement 'active inquiry in the outdoors.' We are extremely fortunate to have several outdoor learning spaces to educate our students not only about the natural environment, but to educate them in a natural learning environment." Activities such as outdoor observations, nature scavenger hunts and using teachable moments in the natural world are used to create student excitement and a sense of responsibility for resource preservation. In addition, the staff include the students' families in activities to compare sustainability in the past to the present to create a generational

connection. Dr. Yard has presented at the New Jersey Science Convention and the Educational Resource Center on topics such as: “Developing, Supporting and Utilizing an Outdoor Learning Center,” “Hands on Investigations Connecting the Classroom with the Outdoors,” “Teaching and Learning with Monarchs” and “Reading and Interpreting Clues from Nature.”

Dr. Yard said, “At Holland Township School, we believe what is supported and adopted, is what is taught. We have made a commitment to outdoor education and education for sustainability and therefore require that each grade level has units that are part of our science curriculum and are adopted by the Board of Education.” The most recent map that has been completed is a fifth through eighth grade outdoor and sustainability education curriculum map. This map was completed during the summer of 2015 as the staff transitioned the middle school science to the Next Generation Science Standards (NGSS). Dr. Yard reported that curriculum units are now being rewritten or revised and they are currently mapping the kindergarten through fourth grade curriculum to provide alignment to the NGSS.

**Service Learning Project-Nets for Nets:** Holland Township School’s seventh grade service learning project is titled Nets for Nets. The project ties into the cross curricular thematic unit on diseases. Students raise funds to assist impoverished children in Uganda. Over the five years since the school has instituted the project, the donated funds have been used for mosquito nets, water harvesting systems, medical supplies, latrine building and classroom refurbishment. All of these ventures have greatly improved and impacted the daily lives of children in Uganda. In the Holland Township School community, the students and staff were able to provide awareness of the poverty of children in other countries. This was accomplished through web conferencing. The seventh grade students collected pledges from the community for their Nets for Nets event and hosted a middle school basketball shooting event at which money was raised.

**Get Moving and Everyday Heroes:** Dr. Yard has two initiatives that she is excited about for the new school year. The staff are planning to have a school assembly on the first day of school to present a new program that will demonstrate the connection between movement and learning. Dr. Yard said, “Our teachers have and will incorporate movement or brain breaks into their classrooms. The teachers have been researching the importance of movement and have developed “Get Moving” breaks into their instructional day.” Students take part in mini breaks to “wake up their brain” as they transition to the next learning activity. The second program, called ‘Everyday Heroes,’ will spotlight heroes in the classroom and school. It is a nice coincidence that Dr. Yard is being recognized as our sustainability hero at the same time that she launches the program in the school. She said that the students will be asked to examine the characteristics of heroes and think about how they can be a hero to someone else. Dr. Yard plans to wear a super hero cape on the first day of school to launch the program. She said, “I owe a huge debt to the teachers and staff at Holland Township School. All of our ideas are made better with our group discussions. I just try to keep our team moving forward.”

**Education and Path Before Arriving at Holland Township School:** Dr. Yard received her Ed.D. in Educational Leadership from Nova South Eastern University in Florida. Her dissertation was titled: “Preparing Elementary Teachers to Lead Inquiry Based Investigations in the Outdoors.” She has an M.A. in Administration and a M.A. in Curriculum, Instruction and Supervision from Rider University. She received her BS at Delaware Valley University. Before serving as principal at Holland Township School, Dr. Yard was a principal and child study team director in the Washington Borough School District.



**What You May Not Know about Dr. Yard:** Dr. Yard is a New Jersey native and has lived in Hunterdon County her entire life. When she was seven years old, her brother Billy bought her a rowboat that she used to explore the Delaware canal and gain her first appreciation of the world around her. Dr. Yard has two grown sons that have followed in her footsteps; her son Forrest is working in the solar industry and living in Hawaii and her son Clinton is a mechanical engineer and is studying green building. Her five-month old granddaughter Arie has given her new environmental goals. “I want Arie to have clean water to swim in and a healthy environment as she grows up in Hawaii.” In her spare time, Dr. Yard is an avid hiker and has backpacked sections of the Shenandoah Mountains and the Appalachian Trail. She explained, “I reduce my stress and am more centered through walking in nature.” Dr. Yard hopes that all children have the opportunity to spend time outside and know what is in their local woods. We are glad that the students at Holland Township School will be provided this opportunity.