UNIVERSITY OF DELAWARE

UDAILY

The University of Delaware and Delaware Sea Grant (DESG) welcomed students from the City of Wilmington Green Jobs program back to UD's Lewes campus this summer. The 2-megawatt wind turbine located on UD's Hugh R. Sharp Campus in Lewes was part of the program designed to help high school students learn about environmentally friendly jobs.

GREEN JOB OPPORTUNITIES

Article by Adam Thomas | Photo by Evan Krape | September 03, 2021

UD hosts Wilmington Green Jobs program to educate on environmental jobs

The University of Delaware and Delaware Sea Grant (http://deseagrant.org/) (DESG) welcomed students from the City of Wilmington Green Jobs program back to UD's Lewes campus this summer to educate the students about potential career opportunities, have them participate in several hands-on activities and learn about environmental issues.

This year had a few added opportunities as DESG also hosted the participants at Delaware State University (DSU) for a tour of the Aquaculture Research and Demonstration Facility.

The Green Jobs Program (http://www.wrc.udel.edu/education/outreach/green-jobs-program/) is coordinated by Martha Narvaez, a policy scientist in UD's Water Resources Center (https://www.wrc.udel.edu/), and led by the City of Wilmington's Department of Parks and Recreation.

The students work 25 hours a week in the program, earning minimum wage while accomplishing projects or learning about the work being performed by the non-profits, non-government, private and government entities that host the students throughout the summer.

"The Green Jobs program is a successful example of how organizations can work together to provide meaningful environmental experiences to the next generation," said Narvaez. "Many of us have been working together for over a decade to bring this program to City of Wilmington youth and it's extremely valuable to have organizations like DESG participate in the program. For many of the youth this is their first exposure to environmental topics and issues and it is our hope that these experiences will have a lasting impact."

Tsombawi Knibye Jr., a career counselor who works with the Green Jobs Program and oversaw the trip to Lewes, said that it has been a great experience for the students to get exposed to careers and environments that they might not ordinarily see.

"We're supporting and training inner city teens and it gives them the opportunity to see that they too can make a difference by participating or even working in environmental industries, and it allows them to expand their horizons," said Knibye Jr. "This is a great group of teens and some of them already have career aspirations. If you ask them what they want to do when they become adults, some of them want to be electricians, carpenters, dentists or some other occupation. A number of places we go, something will pique their interest and they'll realize that something in that particular field correlates with everything that they're learning about now."

Lewes Campus experience

While at UD's Hugh R. Sharp Campus in Lewes, the students learned from DESG professionals about green energy and toured the 2-megawatt wind turbine. They also participated in a hands-on activity where they broke out in teams and constructed miniature turbines themselves using KindWind turbine kits. The goal was to construct a small turbine that would use wind energy to turn on a light bulb when its propellers spun.

The activity, discussion and tour of the turbine were led by David Christopher, DESG's Marine Education Specialist, and Christopher Petrone, director of DESG's Marine Advisory Service.

"The activity is an engineering and design challenge that introduces students to wind turbines, and the students have to work together to figure out how to build a model turbine from the parts provided. There are a variety of different ways I have seen groups put them together," said Christopher. "Problem solving is an essential skill in any job and Wind Turbine Technician is a fast-growing job in the United States."

In addition to learning about wind energy, students also had a tour of the demonstration oyster farm in the UD Boat Basin, led by Ed Hale, DESG marine advisory service specialist and assistant professor in UD's School of Marine Science and Policy.

The students were then broken up into two groups. One group helped rinse bags of oyster shells of debris and stacked them alongside tanks in which the bags will later be used to provide a base for young oysters to attach and grow as part of ongoing oyster remote setting activities at the Lewes campus.

The second group received a lesson on the different types of oyster gear commercial shellfish farmers use to hold oysters in containerized aquaculture operations. They then helped clean oyster gear that was covered with biofouling including marine algae and invertebrates, while sorting live oysters from their shells.

"The process helped the students observe how aquaculture systems help support positive ecosystem services through the rearing of oysters," said Hale. "The overall goal was to get the students immersed in marine science through hands-on experience."

Because some of the students had an interest in a career in electrical contracting, two of the facilities professionals took time out of their day to talk with the students about their careers.

DSU Aquaculture Research

Earlier in the summer, the students travelled to DSU and visited the DSU Aquaculture Research and Demonstration Facility. Dennis McIntosh, an aquaculture specialist for DESG and professor in the DSU Department of Agriculture and Natural Resources, led the students through different activities as well as a tour of the facility.

"The tour included the aquaponics greenhouse, ponds, and the recirculating aquaculture system (RAS)," said McIntosh. "During the tour, I tried to weave in information on water quality management and monitoring throughout. I used the various production technologies – ponds, aquaponics, and RAS – to highlight the different ways that we could manage water quality, while all the technologies shared the same goal: to produce fish for food and/or stocking."

The students had the opportunity to net samples of bluegill fish, two strains of which are being raised to see how their growth and survival rates compare when grown in an aquaponics system. The interns helped McIntosh collect multiple sub-samples of fish from each of the two production systems to weigh and count, then used this data to calculate feed requirements for the fish.

They ended their day by doing some limited water quality testing, measuring iron levels in the aquaponics systems, which is the first limiting nutrient in terms of plant production.