



Charleston County News Release

Release Number: 2881

Date: May 6, 2008

Students Awarded for Science Fair Projects with Hazard-Related and Environmental Themes

Students will be presented with Charleston County's Project Impact Science Fair Awards during May 6 County Council Meeting

Charleston County's Project Impact program sponsored awards for the 2008 Lowcountry Science Fair for students with the best projects for the themes of hazard-related and environmental quality.

The winning students will be recognized by Charleston County Council during their regular meeting at 7 p.m. on Tuesday, May 6, at 4045 Bridge View Drive in N. Charleston, S.C. All of the winning students will have their projects on display outside of Council Chambers beginning at 6:30 p.m.

This year is the first year Project Impact has offered the environmental quality awards, but the County's program has been awarding hazard-related theme projects since 2000. Project Impact selects up to three projects in each category for the awards.

"Since the year 2000, projects selected to receive our awards have focused on earthquakes, hurricanes, flooding, tornadoes, fire resistance, hazardous materials and terrorism," said Joni Rennhack, Charleston County's Project Impact Coordinator.

The hazard-related theme projects for the 2008 Project Impact science fair awards are on earthquakes and coastal flooding.

The projects for the environmental quality awards are on wildlife preservation and climate change.

"Project Impact was excited to expand our science fair award offerings into the environmental quality area this year, since as a part of our mission to make our community more disaster resistant, we also strive to enhance the quality of our environment and to preserve the natural resources that make Charleston County such a unique and inviting place to live," Rennhack said.

Science Fair awards are projects of the Charleston County Area -- SC Project Impact Preventive Activities and Structural Projects Committees.

"We are pleased to offer these awards to encourage students to study about hazard events and preserving our environmental resources, and to recognize students for their academic achievements," Rennhack said. "Each year our judges, who are members of our Project Impact committees, are impressed with the creativity and intellect of the young people selected to receive our awards."

The winners are as follows:

Hazard-Theme Projects Awards

First Place (Tie):

The judges determined these projects were equally good, so they awarded both of these projects with a tie for first place and did not select second or third place winners.

Hugh Camp; The Mitigation of Liquefaction; 10th Grade student, Academic Magnet High School; \$300 savings bond: The student tested a method of reducing the liquefaction potential of soil in an earthquake. He injected moist sand with compressed air, which caused the water in the sand to rise to the surface, and then siphoned off the water. He constructed a shake table and subjected his samples (with and without the compressed air treatment) to a simulated earthquake, and the treated sample did not exhibit liquefaction characteristics to the same extent as the untreated sample exhibited. He concluded that injecting soil in areas subject to liquefaction with compressed air would reduce the liquefaction potential of the soil, thereby reducing property damage associated with earthquake-induced liquefaction.

Patrick Hampton; Windy Situation; seventh grade student, First Baptist Church School; \$300 savings bond: *This student is the first repeat winner of a Project Impact Science Fair award (he won a 2nd place award in 2006 and was the program's youngest winner at that time).* This year, he tested to see if sand fencing that catches sand to create new dune systems/reduce erosion is better than having no sand fencing, or sand fencing with sea oats. He used a lawn blower to blow sand at his test models and weighed sand that went through the model to determine if sand fencing is useful for creating new dune systems, thereby reducing erosion. He concluded that there was a 75 percent reduction in erosion when there was sand fencing installed, and sea oats enhanced the sand retention of the sand fencing.

Environmental Quality Projects Awards

First Place (Team Project): Russell Jordan Akers, Eden Couch and Jeremy Suggs; Are Your Crabs Excluded?; 11th and 12th grade students, West Ashley High School, \$300 savings bond (\$100 savings bond per student). The students tested a crab excluder device by videotaping crabs going through a crab trap that contained the device. They concluded that crab excluder devices are successful at catching adult crabs but allowing juvenile crabs to escape, which allows the crab population to remain sustainable.

Second Place: William Ginn; The Carbon Footprint of the Porter-Gaud Carpool; seventh grade student, Porter Gaud School; \$200 savings bond. The student conducted two surveys of the Porter Gaud students (one online survey and one at the library) to determine the make/model of the vehicles their parents use to drive them to/from school and the miles they drive each day. There is no established carpool or bus service for the students who attend this school, and most of the cars transporting students to/from the school have only two people in them. Ginn used U.S. Environmental Protection Agency (EPA) data on the carbon emissions of the vehicle types to estimate the amount of carbon dioxide generated per day by Porter Gaud students. He concluded that the amount of carbon dioxide emitted in transporting the students to the school would need 1,428 acres of trees to create a comparable carbon offset. He recommended that the school encourage carpooling by families with students at the school living in close proximity to each other, so that there are fewer vehicles being driven to the school to drop off and pick up students.

Third Place: Abigail Fleming; What Kind of Material Produces the Largest Amount of Oyster Spat?; 10th grade student, Academic Magnet High School; \$100 savings bond. This student tested two potential substrates (fossilized shells from limestone quarries in Louisiana and Gulf Coast oyster shells) for oyster beds to determine which

one would be the best one for the S.C. Department of Natural Resources (DNR) to use for local oyster beds, since there is a shortage of local substrate (hard surface) for oyster larvae, or spat, on which to attach and grow. Fleming placed samples of the substrates in the Folly River and counted the oyster spat growth on the samples over time. She concluded that the fossilized oyster shells from Louisiana formed the better substrate for local oyster growth. *(This substrate is also the less expensive substrate of those she tested, so Fleming recommended to DNR that they purchase fossilized oyster shells for their oyster bed development needs.)*

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