

## Highland Park Renaissance Academy Students Conduct Research in Wildlife Refuge



Developing young minds in the field of STEM requires experiences outside of the classroom. On Tuesday, December 2, 2014, student scientists Jamari Savage (7<sup>th</sup> grader), Terrez Womack (8<sup>th</sup> grader), and Terris Murray (8<sup>th</sup> grader) took the next step in the development of a promising future in science. The trio spent the day conducting fieldwork in the Detroit River International Wildlife Refuge. They were accompanied by staff from the U.S. Fish and Wildlife Service.

The Detroit River International Wildlife Refuge is located along the lower Detroit River and western shoreline of Lake Erie. It was established in 2001 as the first International Wildlife Refuge in North America. The authorized refuge boundary includes islands, coastal wetlands, marshes, shoals, and waterfront lands along 48 miles of shoreline.

The fieldwork included a number of activities, ranging from developing a hydrochemical profile of Gibraltar Bay to observing and classifying biotic factors within the wetland habitat to testing advanced technologies to determine their value for doing ecological investigations. The team worked well together. Terris oversaw the preparation and inventory of all data collection equipment. Jamari piloted the remotely operated vehicle (ROV) that was used to collect water samples in the Bay, while Terrez oversaw the identification of biotic factors in the wetland habitat and the collection and analysis of animal vocalizations using the bioacoustics monitoring equipment.

The students visited three islands within the refuge: Grosse Ile Island, Hickory Island, and Meso Island. While exploring the islands the students were able to observe birds of prey (red tail hawk) as well as migrating waterfowl. The majority of the team's time was spent collecting and testing water samples. The parameters that were analyzed included dissolved oxygen levels, total dissolved solids and probable hydrogen. The students used the results to better understand the impact of human populations on natural resources.

The quality of work done by Terrez, Terris and Jamari at the Detroit River International Wildlife Refuge did not only benefit them, but it created a pathway for other students at HPRA to participate in fieldwork activities with the Ecotek Lab Program.



Students gathering data using bioacoustic monitoring device



Students preparing to launch ROV at water collection site



Student scientist doing follow-up testing of water taken from Gibraltar Bay

### About the Ecotek Science Program

Ecotek is a science research lab program for young inventors and researchers in grades 4 thru 12. Student scientists work on projects aligned with the issues being addressed by world leaders at the United Nations. To learn more about Ecotek Lab go to <http://www.ecotek-us.com>