Robot captures life, litter in the Gowanus with the help of citizen scientists

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As NYU-Poly associate professor of mechanical engineering Maurizio Porfiri and assistant professor of technology management Oded Nov launched their submersible robot, Brooklyn Atlantis 1, into the polluted Gowanus Canal, the two professors and their four students also launched a rare collaboration—underwater robotics and public participation.

Brooklyn Atlantis is a custom-built, remote-controlled robotic vessel that will monitor the underwater environment in the Gowanus Canal. Equipped with two cameras—one at the water's surface and one below—as well as sensors to check water temperature, conductivity, pH, and [oxygen levels](#), the 60-pound vehicle has onboard broadband service to transmit real-time findings to the project's website every 30 seconds.

Analyzing even a fraction of the more than 20,000 images Brooklyn Atlantis will snap each week would be impossible without hundreds of extra pairs of eyes provided by [citizen scientists](#), including high school students and teachers the professors hope to engage in marine biology and environmental science.

Over time, the researchers hope to construct a history of changing conditions in the Gowanus as the cleanup progresses. This includes tracking the appearance or disappearance of wildlife, amounts and types of litter and debris, and changes in water quality. Porfiri and Nov plan to make their data and analyses available to the [Environmental Protection Agency](#).

By 2014, Porfiri and Nov expect to add three more vehicles to the fleet, along with video streaming capabilities and additional sensors for salinity and air quality.

Brooklyn Atlantis is funded by a three-year, $560,000 grant from the National Science Foundation through its Cyber-Enabled Discovery and [Innovation program](#).

A [ringed seal](#) outfitted with a transmitter, which causes no harm. When the animal naturally sheds its outer coat, the transmitter simply falls off.

Provided by New York University