



HOME VALUES AFFECTED BY NARRAGANSETT BAY WATER QUALITY

by **Tingting Liu, James Opaluch** and **Emi Uchida**

As water quality deteriorates, area real estate values may decline, according to our research on the impact of Narragansett Bay water quality on home prices in Rhode Island coastal municipalities.

The study, which looked at data from 1992 through 2013, evaluated water quality based on the amount of chlorophyll in the water, which can affect color and odor and, at high concentrations, can lead to algal blooms. The study compiled data on readings from 13 monitoring sites on Narragansett Bay and matched it to detailed data on housing transactions. It also controlled for other factors that are known to affect home prices.

As expected, we found a price premium for homes located within a mile of Narragansett Bay. The study found that poor water quality in the bay reduces the price of such homes, with the greatest impact on houses closest to the shoreline. The study also found that homebuyers are influenced most by extreme water quality problems such as algal blooms, odors, and fish kills.

The study also analyzed a scenario involving current efforts to reduce nitrogen in Narragansett Bay by requiring developments to be low-impact; upgrading independent sewage disposal systems; and reducing input from air pollution, livestock production, and agricultural fertilizer. Based on the scenario simulations, the study found that a 25 percent reduction in extreme chlorophyll concentration events would increase the aggregate value of homes in the study area by about \$51 million over the study period.

TINGTING LIU is a postdoctoral fellow at the Environmental Protection Agency. JAMES OPALUCH and EMI UCHIDA are faculty in the University of Rhode Island College of the Environment and Life Sciences.

Extreme water quality problems can lower selling prices of nearby homes.