Pollution controls increase beach attendance, study shows

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This is Santa Monica Beach after the installation of the storm drain diversion system. Santa Monica Beach North increased its attendance by roughly seven percent within a year of installing the system. Credit: Linwood Pendleton, Duke University

Southern California beaches with storm drain diversion systems attract millions more people annually, a new study in the journal *Marine*

Pollution Bulletin shows.

The study looked at whether improving the environmental quality of coastal areas through policy intervention had an effect on the way people use coastal areas. Researchers found a direct correlation between increased attendance and the installation of storm drain diversions at 26 beaches in Santa Monica Bay and Malibu.

"Cost has many municipalities opposed to installing storm drain diversion systems, but the data showed these investments pay off," said Linwood Pendleton, co-author and director of the Ocean and Coastal Policy Program at Duke University's Nicholas Institute for Environmental Policy Solutions. "Beyond their effectiveness as a tool for managing pollution in coastal waters, storm drain diversions increased attendance at individual beaches in the region by 350,000 to 860,000 annually."

Roughly 80 percent of beach closures in Santa Monica Bay are due to storm drains directing polluted runoff onto the beach and in the surf zone. Using statistical analysis, researchers looked at data on beach attendance, environmental conditions and other variables before and after storm drain diversions were installed at these beaches.

This is Santa Monica Beach in winter 2008 before the installation of the storm drain diversion system. Credit: Linwood Pendleton, Duke University

The data—which spanned 10 years—found increases in attendance at many locations within one year of the storm drain diversions installation. Will Rogers North and Avenue C saw the biggest spikes in attendance—roughly 37 and 42 percent, respectively—while Dockweiler North and Santa Monica North saw the lowest impact in overall attendance.

"This study is the first to conclusively show beach visitation increased following a storm drain diversion," said Ryan Vaughn, visiting scholar with the Ziman Center for Real Estate at the University of California, Los Angeles. "This highlights that coastal improvements can have significant and measurable impacts on our enjoyment of these

resources."

More information: "Measuring the Effects of Stormwater Mitigation on Beach Attendance," Perla Atiyah, Linwood Pendleton, Ryan Vaughn and Neil Lessem. Marine Pollution Bulletin, May, 24, 2013. DOI: 10.1016/j.marpolbul.2013.04.017

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