

# 'Emerging contaminants of concern' detected throughout Narragansett Bay watershed

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A group of hazardous chemical compounds that are common in industrial processes and personal care products but which are not typically monitored by the Environmental Protection Agency have been detected throughout the Narragansett Bay watershed, according to a URI researcher.

Rainer Lohmann, associate professor of chemical oceanography, and graduate student Victoria Sacks, with the help of 40 volunteers, tested for the presence of the chemicals in 27 locations. The compounds were found at every site.

"Being exposed to these compounds is the hidden cost of our lifestyle," said Lohmann. "It's frustrating that as we ban the use of some [chemical compounds](#), industry is adding new ones that we don't know are any better."

Lohmann said the good news is that the chemicals were detected at extremely low levels.

"By themselves, none of these results makes me think that we shouldn't be swimming in the bay or eating fish caught there," he said. "But we only tested for three compounds that might be of concern, and we know there are hundreds more out there. The totality of all those compounds together is what may be worrisome."

The three compounds the researchers measured, which scientists refer to

as "emerging contaminants of concern," are: triclosans, antibacterial agents found in many [personal care products](#) and which have been identified as posing risks to humans and the environment; alkylphenols, widely used as detergents and known to disrupt the [reproductive system](#); and PBDEs, industrial products used as [flame retardants](#) on a wide variety of consumer products. PBDEs have been banned because they cause long-term adverse effects in humans and wildlife.

PBDEs, methyltriclosan and [triclosan](#) were found in highest concentrations in the Blackstone River, Woonasquatucket River and in upper Narragansett Bay, while some [detergents](#) were detected at similar levels at nearly every site.

"Many of the trends in society – from early puberty changes to some diseases – may be caused by chemical exposures," said Lohmann. "They trigger hormones and disrupt the normal functioning of the body. We have no resistance against them."

The chemical compounds were detected using polyethelene passive samplers, thin pieces of plastic that absorb chemicals that are dissolved in water. The volunteers placed the samplers in various rivers and coves in the Narragansett Bay watershed in the fall of 2009 and retrieved them two to three weeks later. The chemical compounds were then extracted from the samplers in a lab at the URI Graduate School of Oceanography.

"We couldn't have done this work without the volunteers," Lohmann said. "They have helped us find potential sources for some of these chemicals."

"Unfortunately, no matter how you choose your lifestyle, you can't avoid exposure to these compounds," he added. "You just can't escape."

Provided by University of Rhode Island

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