

Pharmaceuticals found in fish across U.S.

Residue of allergy, cholesterol, other meds were in fish near 5 major cities

The Associated Press

updated 11:07 a.m. ET, Wed., March. 25, 2009

Fish caught near wastewater treatment plants serving five major U.S. cities had residues of pharmaceuticals in them, including medicines used to treat high cholesterol, allergies, high blood pressure, bipolar disorder and depression, researchers reported Wednesday.

Findings from this first nationwide study of human drugs in fish tissue have prompted the Environmental Protection Agency to significantly expand similar ongoing research to more than 150 different locations.

"The average person hopefully will see this type of a study and see the importance of us thinking about water that we use every day, where does it come from, where does it go to? We need to understand this is a limited resource and we need to learn a lot more about our impacts on it," said study co-author Bryan Brooks, a Baylor University researcher and professor who has published more than a dozen studies related to pharmaceuticals in the environment.

A person would have to eat hundreds of thousands of fish dinners to get even a single therapeutic dose, Brooks said. But researchers including Brooks have found that even extremely diluted concentrations of pharmaceutical residues can harm fish, frogs and other aquatic species because of their constant exposure to contaminated water.

Brooks and his colleague Kevin Chambliss tested fish caught in rivers where wastewater treatment plants release treated sewage in Chicago, Dallas, Phoenix, Philadelphia and Orlando, Fla. For comparison, they also tested fish from New Mexico's pristine Gila River Wilderness Area, an area isolated from human sources of pollution.

Earlier research has confirmed that fish absorb medicines because the rivers they live in are contaminated with traces of drugs that are not removed in sewage treatment plants. Much of the contamination comes from the unmetabolized residues of pharmaceuticals that people have taken and excreted; unused medications dumped down the drain also contribute to the problem.

The researchers, whose work was funded by a \$150,000 EPA grant, tested fish for 24 different pharmaceuticals, as well as 12 chemicals found in personal care products.

Traces of meds found at all sites tested

They found trace concentrations of seven drugs and two soap scent chemicals in fish at all five of the urban river sites. The amounts varied, but some of the fish had combinations of many of the compounds in their livers.

The researchers didn't detect anything in the reference fish caught in rural New Mexico.

In an ongoing investigation, The Associated Press has reported trace concentrations of pharmaceuticals have been detected in drinking water provided to at least 46 million Americans.

The EPA has called for additional studies about the impact on humans of long-term consumption of minute amounts of medicines in their drinking water, especially in unknown combinations. Limited laboratory studies have shown that human cells failed to grow or took unusual shapes when exposed to combinations of some pharmaceuticals found in drinking water.

"This pilot study is one important way that EPA is increasing its scientific knowledge about the occurrence of pharmaceuticals and personal care products in the environment," said EPA spokeswoman Suzanne Rudzinski. She said the completed and expanded EPA sampling for pharmaceuticals and other compounds in fish and

surface water is part of the agency's National Rivers and Stream Assessment.

© 2009 The Associated Press. All rights reserved. This material may not be published, broadcast, rewritten or redistributed.

Name/Period/Date

Pharmaceuticals Found in Fish Across U.S.

1. What is the significance of where the contaminated fish were caught?
2. How does that play a role in the contamination process?
3. Why would amphibians and fish be at greater risk than humans?
4. What did early research indicate might occur to human cells when exposed to pharmaceutically contaminated water?
5. What protective measures could be put in place to help avoid this type of contamination?