"Currents"
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Pharmaceuticals and Our Water

A category of substances called pharmaceuticals and personal care products (PPCPs) is routinely detected in our nation's waterways and is a prevalent topic during discussions of water quality and contaminants present in water sources. These materials include a wide range of products like human and veterinary drugs, fragrances, lotions, and cosmetics. As a result of more sophisticated testing, these compounds have been detected in trace amounts in surface water, drinking water, and wastewater effluent. The primary concerns surrounding the presence of PPCPs in water are the unknown effects these substances may have on aquatic life, the environment, and human health.

PPCPs enter the environment primarily through the use of these products by individuals. Small amounts of medicines can pass through the human body without being metabolized completely. Once eliminated from the body, these non metabolized medicines make their way into septic systems and sewers. In addition, residue from lotion, cosmetics, and soap can be washed away while bathing. Also, in the past it was common practice to dispose of unused or expired medications by flushing them down the toilet or pouring them down the drain.

Approximately 83% of Americans are serviced by municipal sewer collection and PPCPs can be transported from their homes to wastewater treatment plants. Although, the treatment plants are very effective at eliminating many contaminants from wastewater before it is released, some PPCPs are not among the compounds that wastewater treatment plants are designed to detect and remove. As a result, new technology capable of detecting low concentrations of chemical wastes has identified small amounts of PPCPs in some of our nation's water bodies.

Fish populations downstream from wastewater effluent outfalls have been studied to determine the impacts of PPCPs on the environment. These studies indicate that some fish have exhibited impaired reproduction and changes in physical characteristics. More research is needed to determine the extent of ecological harm and potential human health effects. Studies so far indicate that PPCPs pose a greater threat to aquatic organisms than humans. However, efforts should still be made to keep these substances out of our surface water and groundwater.

Individuals can help prevent pollution from PPCPs through proper disposal of over-the-counter and prescription drugs. Proper disposal will also protect children and pets from accidental ingestion of unused medication and decrease the chance of the medication being abused. You can participate in this effort by taking advantage of the Kerrville Police Department's "Drug Take Back" on April 26th from 10 AM – 2 PM at the Police Department building on Sidney Baker. Citizens can take their unused, unwanted, and over-the-counter medications to the Kerrville Police Department for safe disposal. Citizens may dispose of medication in the original container, but the individual is encouraged to remove any identifying information from the prescription label. No syringes or intravenous solutions will be accepted and please remove batteries from vapes. Contact Jonathan Lamb for more information at jonathan.lamb@kerrvilletx.gov.

Pharmaceuticals and personal care products have probably been present in water and the environment for as long as humans have been using them. Properly disposing of unused medications by NOT flushing them or NOT pouring them down the drain is one small step we can take to keep our waterways clean and our community safe.

Let's Keep *Our* River Clean

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