

Trace Pharmaceutical Contaminants In Wastewater

Where do they come from and what should be done about them?

Ambiguities and challenges

- ❖ Mutant or inter-sex fish
 - Found in the Potomac River and Boulder Creek.
- ❖ Suspected Sources: Endocrine-disrupting and –mimicking chemicals in pharmaceutical and personal care products (PPCPs).
 - The link has not been definitively established.
- ❖ Lack of research = lack of evidence
 - Environmental and health impacts on ecosystems and humans are uncertain.
- ❖ Linking trace contaminants to their sources: point or non-point
 - Challenge to determine sources and relative contributions
 - Improving analytical capabilities are making detection of more trace contaminants possible.
- ❖ Treatment options
 - Effective economic alternatives are not currently available.
 - Need to determine what works now; what can be improved



Pollution prevention!

- ❖ Diversity of points of discovery suggests trace contamination is a pervasive condition.
- ❖ Pollution prevention:
Win-win approach; economical and effective
- ❖ Effective pollution prevention depends on objective of project and source of contaminants.



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Existing treatment options or regulations to address trace contaminants in wastewater?

- ❖ Current wastewater treatment methods remove some trace contamination.
 - Which process is it that removes trace contamination?
- ❖ No effective treatment method that specifically addresses trace contaminants
- ❖ Regulations, treatment standards, and analytical methods: challenges to effective pollution control



Institute for Environmental Solutions - Proposed Strategy and Involvement

- ❖ Create an accessible database of scientific research along with regulatory information.
- ❖ Convene an independent forum of stakeholders to develop effective pollution prevention strategies.
 - Apply same methods to determine effective testing treatment, methods, and standards.
- ❖ Provide educational outreach to concerned citizens and organizations.
- ❖ Collaborate with public, private, and non-profit organizations to discover new approaches to the study of this issue.
 - Use collaboration to develop mitigation methods.

IES welcomes your support and participation!

- ❖ **Stakeholder involvement**
- ❖ **Funding and resources**
- ❖ **Graduate and student intern positions**
- ❖ **Professional associate opportunities**

