

Overview of Water Quality Research and Development

Water Reuse Research



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Waterways Video about R&D

- <https://www.youtube.com/watch?v=4y6Yw1Joj0w>

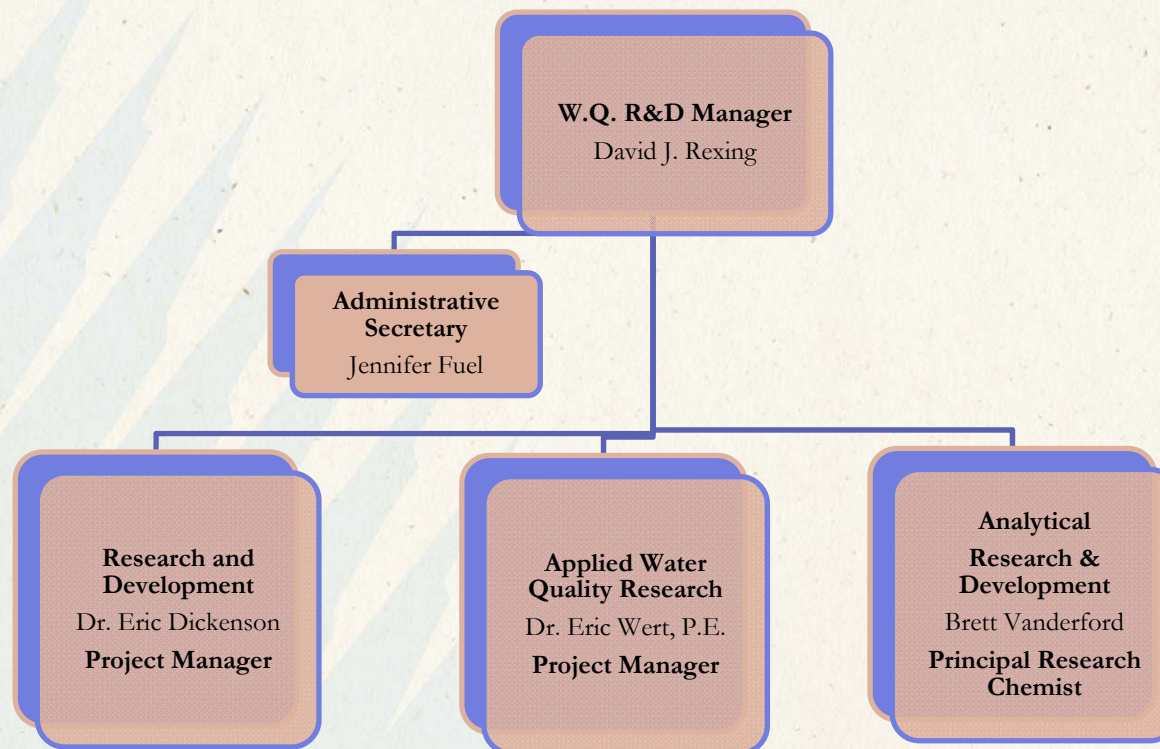
You Tube



Applied Research and Development Center

Water Quality Research and Development

- Program initiated in 2000 to address emerging water quality and treatment issues facing the SNWA



Externally Funded Research Projects



Removal of EDCs and Pharmaceuticals in Drinking and Reuse Treatment Processes

Subject Area:
High-Quality Water



Tailored Collaboration

Release of Intracellular Metabolites from Cyanobacteria During Oxidation Processes

Web Report #4406

Subject Area: Water Quality



Tailored Collaboration

Role of Bromamines on DBP Formation and Impact on Chloramination and Ozonation

Subject Area: Water Quality



Tailored Collaboration

Localized Treatment for Disinfection By-products

Subject Area: Water Quality



Optimization of Advanced Oxidation Processes for Water Reuse

Effect of Effluent Organic Matter on Organic Contaminant Removal



Development of Indicators and Surrogates for Chemical Contaminant Removal during Wastewater Treatment and Reclamation



Tailored Collaboration

Toxicological Relevance of EDCs and Pharmaceuticals in Drinking Water

Subject Area:
Environmental Leadership



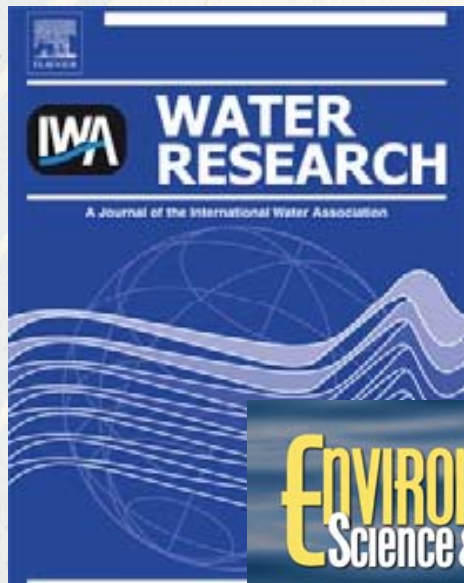
Wastewater Treatment & Reuse



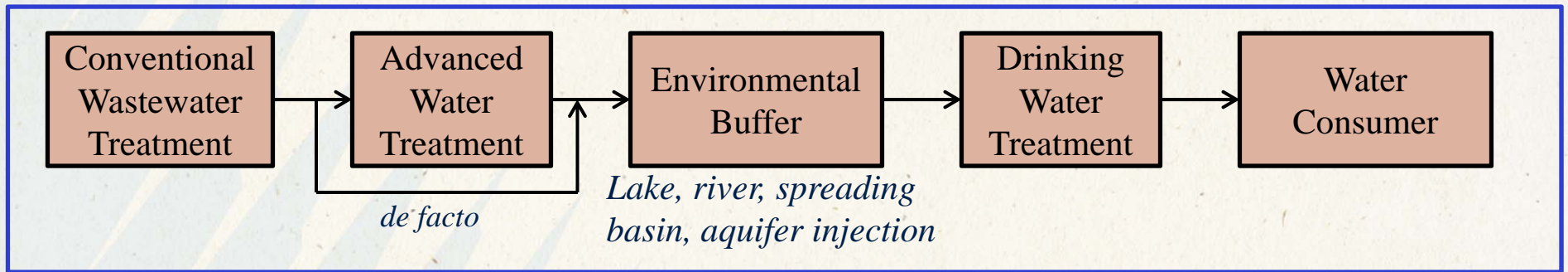
Contributions of Household Chemicals to Sewage and Their Relevance to Municipal Wastewater Systems and the Environment



International Peer Reviewed Journal Publications



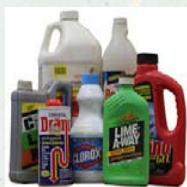
Potable Water Reuse



Evaluation of Analytical Methods for EDCs and PPCPs via Interlaboratory Comparison

Subject Area: Water Quality





Wastewater Treatment & Reuse



**FINAL
REPORT**



Contributions of Household Chemicals to Sewage and Their Relevance to Municipal Wastewater Systems and the Environment





Water Environment Research Foundation
Collaboration. Innovation. Results.

Trace Organics



**FINAL
REPORT**

Trace Organic Compound Indicator Removal During Conventional Wastewater Treatment

Co-published by



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**FINAL
REPORT**

Evaluation of QSPR Techniques for Wastewater Treatment Processes

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Indicator compounds for assessment of wastewater effluent contributions to flow and water quality

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Removal of EDCs and Pharmaceuticals in Drinking and Reuse Treatment Processes



State of Knowledge of Endocrine Disruptors and Pharmaceuticals in Drinking Water

Subject Area:
High-Quality Water



Optimization of Advanced Oxidation Processes for Water Reuse

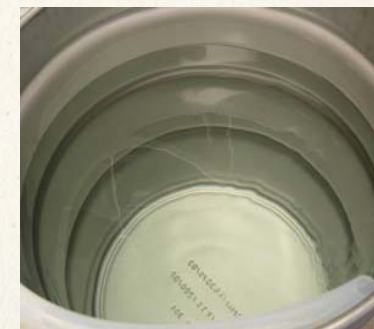
Effect of Effluent Organic Matter on
Organic Contaminant Removal

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Use of Ozone in Water Reclamation for Contaminant Oxidation

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**Formation of Nitrosamines and
Perfluoroalkyl Acids During Ozonation
in Water Reuse Applications**



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Treatment Mitigation Strategies for Poly- and Perfluoroalkyl Substances

Web Report #4322

Subject Area: Water Quality





Comparison of Chemical Composition of Reclaimed and Conventional Waters

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Development of Indicators and Surrogates for Chemical Contaminant Removal during Wastewater Treatment and Reclamation

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Use of UV and Fluorescence Spectra as Surrogate Measures for Contaminant Oxidation and Disinfection in the Ozone/H₂O₂ Advanced Oxidation Process

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“...IPR systems will produce water that is of similar quality and superior to that of ambient drinking water...”

Applying Surrogates and Indicators to Assess Removal Efficiency of Trace Organic Chemicals during Chemical Oxidation of Wastewaters

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compounds, it is difficult to assess human health or ecological risks because little information is available on their potential impacts at the relatively low concentrations encountered in wastewater effluents. In response to uncertainties associated with risk posed by these compounds, some scientists and regulators support the adoption of treatment technologies to minimize exposure of humans and aquatic ecosystems to wastewater-derived chemical contaminants until more data on potential risks are collected. Because a consensus on the risks posed by wastewater-derived contaminants is unlikely to be reached in the near future, and the effectiveness of

more than
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Development of surrogate correlation models to predict trace organic contaminant oxidation and microbial inactivation during ozonation

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**Identifying Hormonally Active
Compounds, Pharmaceuticals, and
Personal Care Product Ingredients of
Health Concern from Potential
Presence in Water Intended for
Indirect Potable Reuse**

WaterReuse Research Foundation

“Using the approach developed in this report, it is possible to rapidly establish conservative health risk-based screening level values.”



Tailored Collaboration

**Toxicological Relevance
of EDCs and Pharmaceuticals
in Drinking Water**

**Subject Area:
Environmental Leadership**

“The evaluation of toxicological relevance indicates that, although some pharmaceuticals and potential EDCs were detected in U.S. drinking waters, there is no evidence of human health risk from consumption of these waters.”

For more information:
www.waterqualitysnwa.com

