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THE CONSORTIUM FOR RESEARCH AND EDUCATION ON EMERGING CONTAMINANTS (CREEC)

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ABSTRACT:

Analytical capabilities now allow scientists to identify previously unmonitored chemicals present in the environment in trace concentrations. Recent publications of scientific findings coupled with provocative news headlines related to contaminants of emerging concern (emerging contaminants) measured at environmentally-relevant concentrations in surface and ground water, sediment, and aquatic biota in Colorado and across the nation have led to increased public interest and individual concerns about exposure and health. We use emerging contaminants every day in our homes, farms, businesses, and industry. Emerging contaminants include detergents, fragrances, cosmetics, prescription and non-prescription drugs, disinfectants, and pesticides. The occurrence of some emerging contaminants correlates with ecological effects including sexual abnormalities in fish and amphibians and histological and immunological alterations in aquatic biota, although cause-and-effect relationships are still being established. These previously unmonitored chemicals have been identified in our environment and may have potential for ecological or human health risks, yet we lack adequate data and need to refine methodologies to quantify these risks.

The complexity of emerging contaminants research requires a coordinated, multidisciplinary approach to provide the level of understanding needed to make informed source control and management decisions. Proactive scientists and stakeholders in the Rocky Mountain region formed the Consortium for Research and Education on Emerging Contaminants (CREEC). This regional network of distinguished scientists, representing multiple levels of government and academia, are applying their expertise in hydrology, biology, environmental geochemistry, analytical chemistry, wastewater- and drinking-water treatment technology, and wildlife toxicology to inform stakeholders and the public on this issue. Regional stakeholders include regulators, policy makers, municipalities, and wastewater-treatment plant owners and operators. CREEC participants are cooperating to take advantage of the unique regional gradient of water-quality, land-use, and demographic conditions where the source, fate, transport, and effects of emerging contaminants might be observed easily. The consortium provides a forum to share ideas, resources, and expertise and a place to discuss study results and collaborate to communicate those results to policy makers and the public in a way that will enhance understanding without unwarranted alarm.

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