

## **Assessing Changes to Organic Contaminant Fluxes from Contaminated Sediments Following Dam Removal in an Urbanized River**

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Restoration of rivers and their associated ecosystems is a growing priority for government agencies (e.g., NOAA, USDA), as well as conservation organizations. Dam removal is a major component of many restoration projects credited with reintroducing fish species, improving water and habitat quality, and increasing recreation potential. Many proposed locations for restoration, however, have been impacted by past discharges of chemical pollutants resulting in contaminated sediments. As a result, the potential exists for release of sequestered contaminants following dam removal or other restoration activities. Few, if any, dam removal projects have studied the release of contaminants from the sediments following removal. In this study, we measured dissolved and particulate concentrations of polynuclear aromatic hydrocarbon (PAHs) before and after removal of an existing low head dam at several sites in the Pawtuxet River, an urbanized river in Cranston, RI. Preliminary results indicate that dissolved concentrations of PAHs decreased at one site above the dam location following removal, while concentrations remained unchanged below the dam at the mouth of the river which discharges to Narragansett Bay. Particulate concentrations of PAHs collected in sediment traps showed a decrease following dam removal at all sites within the river and at the river mouth. Results from this study will be used to evaluate methods under development to assess the short and long-term impact of ecological restoration activities such as dam removal.

**Keywords:** Dam removal; Contaminated Sediment; resuspension; Habitat restoration

## **PURPOSE STATEMENT**

Dam removal is becoming a regular activity in the effort to restore riverine habitats and ecosystems. Many locations with dams have contaminated sediments that may be susceptible to release during removal and restoration activities. This presentation presents preliminary results on the release and remobilization of previously sequestered contaminants from the Pawtuxet River, an urbanized river in Rhode Island, during dam removal and ecosystem restoration activities.