

# Industrial Site Stage I Ecological Risk Screening

ECOLOGICAL RISK ASSESSMENT PROJECT

Site Location: Central Massachusetts  
Client: Confidential Client  
Date: 2008

This industrial site is bounded to the north by a river and is presently being used as a scrap metal yard; a use that has been in effect since the late 1950s/early 1960s. Chemicals of concern include polycyclic aromatic hydrocarbons (PAHs), metals, and polychlorinated biphenyls (PCBs). O'Reilly, Talbot & Okun (OTO) conducted an expanded Stage I ecological risk screening (Stage I ES) of potential environmental risk associated with these compounds. The



objective of the Stage I ES is to determine if contaminants attributable to site activities pose potentially adverse impacts to biota inhabiting the aquatic and riparian habitats of the river, and if additional ecological assessment and/or remediation are necessary.

An assessment of the potentially affected habitats and associated wildlife receptors was conducted. Habitats were characterized, exposure pathways were identified, a screening level analysis of hazardous chemicals was conducted using benchmarks and descriptive statistics, and toxicological profiles were provided. A focused statistical assessment of lead and cadmium between the site and the reference site was also conducted.

Sediments associated with the site exhibit concentrations above applicable ecological screening thresholds for several metals (lead, cadmium, chromium, arsenic, and mercury); extractable petroleum hydrocarbons (EPH); PAHs; and PCBs. Surface water adjacent to the site has been reported with lead at concentrations above ecological screening thresholds. These compounds are also present at elevated concentrations in surface soils and groundwater (lead only) at the site. Upstream sources of these contaminants in sediments have been identified and may have contributed to the concentrations in sediments at the site.

The Stage I ES identified a localized area of impact from the site that was mathematically and statistically distinguished from upstream sources. The Stage I ES also indicated that the current and potential future exposures associated with site-related OHM at this localized area have been characterized as “potentially significant exposures” for sediment and “readily apparent harm” for surface water. Given the presence of readily apparent harm, a “Condition of No Significant Risk” of harm to the environment can not be concluded.