

Human Health Exposure Factor Estimates Based Upon A Creel/Angler Survey of the Lower Passaic River (Part 3)

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The results of an analysis of site-specific creel and angler information collected for the lower 6 miles of the Passaic River in Newark, NJ (Study Area), demonstrate that performing a site-specific creel/angler survey was essential to capture the unique characteristics of the anglers using the Study Area. The results presented were developed using a unique methodology for calculating site-specific, human exposure estimates from data collected in this unique urban/industrial setting. The site-specific human exposure factors calculated and presented include (1) size of angler population and fish-consuming population, (2) annual fish consumption rate, (3) duration of anglers' fishing careers, (4) cooking methods for the fish consumed, and (5) demographic information. Sensitivity and validation analyses were performed, and results were found to be useful for performing a site-specific, human health risk assessment. It was also concluded that site-specific exposure factor values are preferable to less representative "default values." The results of the analysis showed that the size of the angling population at the Study Area is estimated to range from 154 to 385 anglers, based on different methods of matching intercepts with anglers. Thirty-four anglers were estimated to have consumed fish; 37 people consumed fish from the river. The fish consumption rate for anglers using this area was best represented as 0.42 g/day for the central tendency and 1.8 g/day for the 95th percentile estimates. Anglers fishing at the river have relatively short fishing careers with a median of 0.9 yr, an average of 1.5 yr, and a 95th percentile of 4.8 yr. Consuming anglers tend to fry the fish they caught. The demographics of anglers who consume fish do not appear to differ substantially from those who do not, with no indication of a subsistence angling population.