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Mercury, Arsenic and Selenium in White Bass fillet caught in the Allegheny and Monongahela Rivers near Pittsburgh PA; Comparisons with store-bought fish from Canadian Lake Erie

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Fisher focus groups indicate that White Bass (WB), *Morone chrysops*, are caught on the Allegheny and Monongahela Rivers (AlleMon) and are consumed by semi-subsistence fishers and recreational anglers; they are also purchased in local markets. The AlleMon near Pittsburgh is high in legacy metallotoxin waste and has the largest number of combined sewer overflows in the Ohio River drainage. We sought to determine if WB caught in different locations on the AlleMon differed in Mercury (Hg), Arsenic (As), and/or Selenium (Se) concentrations. Additionally, we sought to determine if WB caught in the AlleMon Pool differed in Hg, As and/or Se from WB, sold as Canadian WB from Lake Erie, bought in a fish-market. There was no difference in the median concentration of Hg, As and Se in WB caught near an integrated steel mill and those caught in a non-industrial area, downstream from city water intakes, both within the AlleMon Pool. Significantly higher levels of As, Hg and Se were found in store-bought fish as compared to WB caught at both the Allegheny and Monongahela River sites in the AlleMon Pool. Surprisingly, the 95% confidence interval of the median of Hg in store-bought WB was 2.27 to 4.83 times that of WB caught near the steel works on the Monongahela River. Length was significant in explaining differences in Hg but not As or Se concentrations. We conclude that purchasing

WB from a market cannot guarantee food safety; the general public should receive contaminant, location and species alerts in the marketplace.

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Program Selection: Environment

Topic: Food and the Environment (ex: food safety, foodborne illness, food contamination in production or distribution, pesticides)

Keywords: Food Safety, International Reproductive Health

Learning Objectives:

- To recognize the importance of catch location in the quantity of a contaminant in fish flesh.
- To alert participants that fish from markets can have higher contaminant levels than fish even caught near legacy industrial sites.
- To initiate discussion of regulatory action relative to location specific warnings for fish sold in markets.

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Target Audiences: hazard assessors, risk assessors, toxicologists, regulators (EPA), exposure assessors, environmental public health tracking network participants