

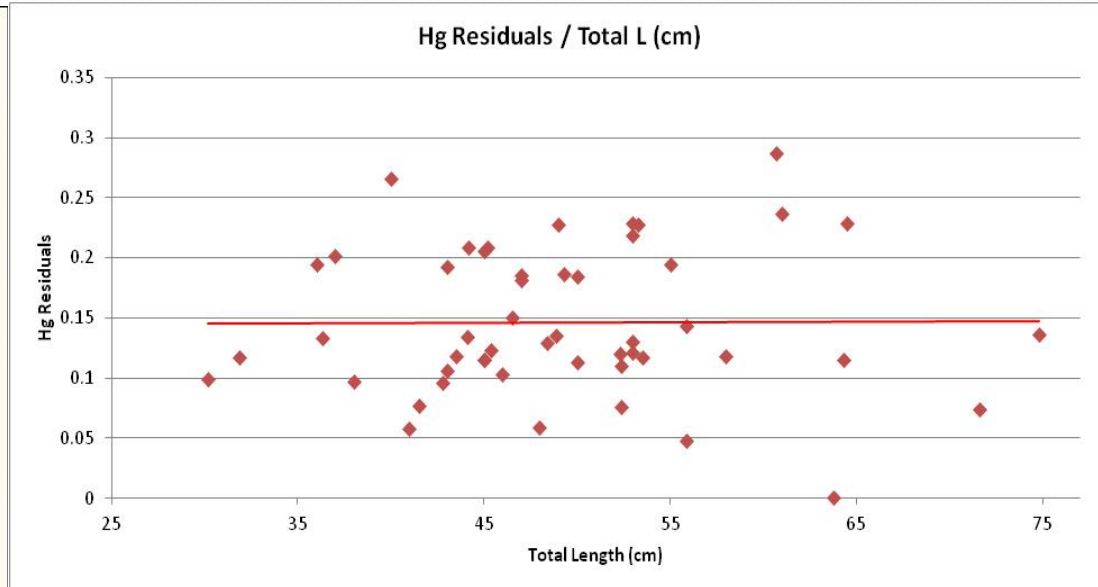
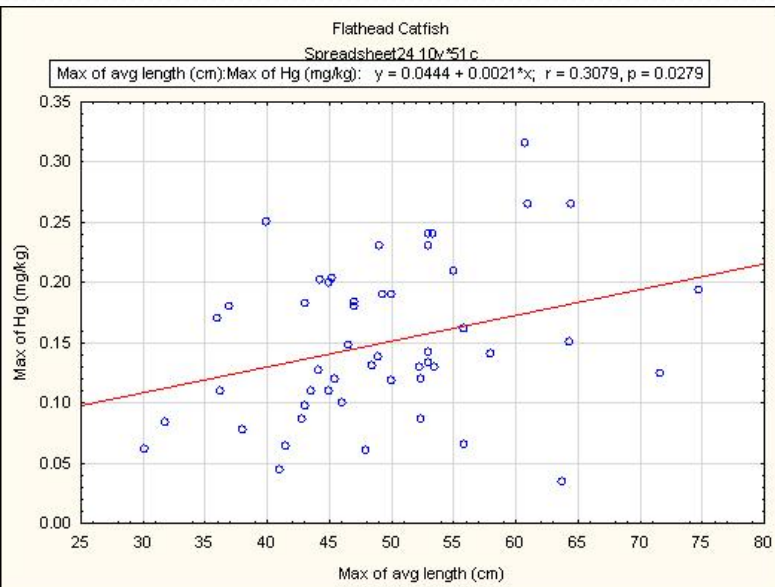


Fish Tissue Contaminants 2015



Hg Study Conclusions

- Standardizing for total fish length (total L) was critical. We tested geometric means per year of:
 - Total Hg/cm
 - Using only samples with average total L within 10% of the median L
 - Calculated and analyzed residuals of total L v.s total Hg concentration to remove all total L effects



Hg Study Conclusions

All three methods showed some significantly increasing or decreasing trends, but only White Bass was shown to be significantly increasing across all methods.

Spearman Rank; Geometric Means per Year			
Species	Residuals	Hg/cm	10% of median L
Channel Catfish	-0.076	-0.201	-0.02
Flathead Catfish	0.263	0.531	0.189
Black basses	0.188	0.187	0.188
Crappie sp.	0.403	0.543	0.399
White Bass	0.291	0.664	0.327
Hybrid / Striped Bass	0.410	0.417	0.267
Sauger	0.216	-0.189	0.06
Common Carp	-0.239	-0.32	-0.247
Smallmouth Buffalo	-0.060	-0.214	0.03
Freshwater Drum	-0.048	0.275	-0.245

Next Step

The background, approach, results and conclusions of this study are being finalized in a comprehensive 2015 report on total Hg trends in Ohio River fish.



Follow-up

- Based on these findings:
 - Investigate why these trends are present in some taxa and not others (bioaccumulation rates?)
 - Incorporate water column and sediment Hg concentrations
 - Determine post-2010 trends with 2 more years of data

305(b) Fish Tissue Collection Approach

- A panel discussion exercise was initiated to clearly define fish tissue collection guidelines for 305(b) fish consumption use for Hg.
- Representatives from all six main stem states provided comments on the following questions:
 - How do you determine which species you target and how those species are prioritized (What's encountered? Expected contaminant levels?)
 - How do you determine which size ranges you target?
 - Do you target known 'hot spots'? Random stations / locations? Both?

Fish Tissue Collection Approaches

- **The goal:** to develop *a specific 305(b) sample collection protocol*, refine techniques, target taxa and size ranges to best fulfill 305(b) assessment data requirements.
- ORSANCO's proposed approach is similar to those employed by the main stem states.
 - We target TL3 and TL4 taxa only (mainly sportfish-within regulation sizes).
 - We prioritize taxa by potential highest Hg concentration and the largest individuals encountered (USEPA 2000).
 - Collections default to what is harvestable at a given location.
 - We target known hot spots in addition to random locations.
 - We collect at least two TL3 and two TL4 samples of different species from each navigational pool within the cyclic five-year 305(b) reporting period.

Fish Tissue Collection Approaches

- Notable Differences:
 - With the exception of IN, all states utilize fish consumption advisory data to fulfill 305(b) reporting requirements.
 - All states collect samples at known “hot spot” locations with the exception of OH, as the majority of their samples are taken from smaller water bodies to achieve “regular coverage”.
- Pending approval and comment, we will move forward with our proposed approach in 2015.
 - We will collect samples for FCAs and 305(b) purposes in our targeted pools fixed station locations, and targeted locations as directed.

Questions?

