

2012 Fish Tissue Mercury Monitoring Results

Calvin Jordan

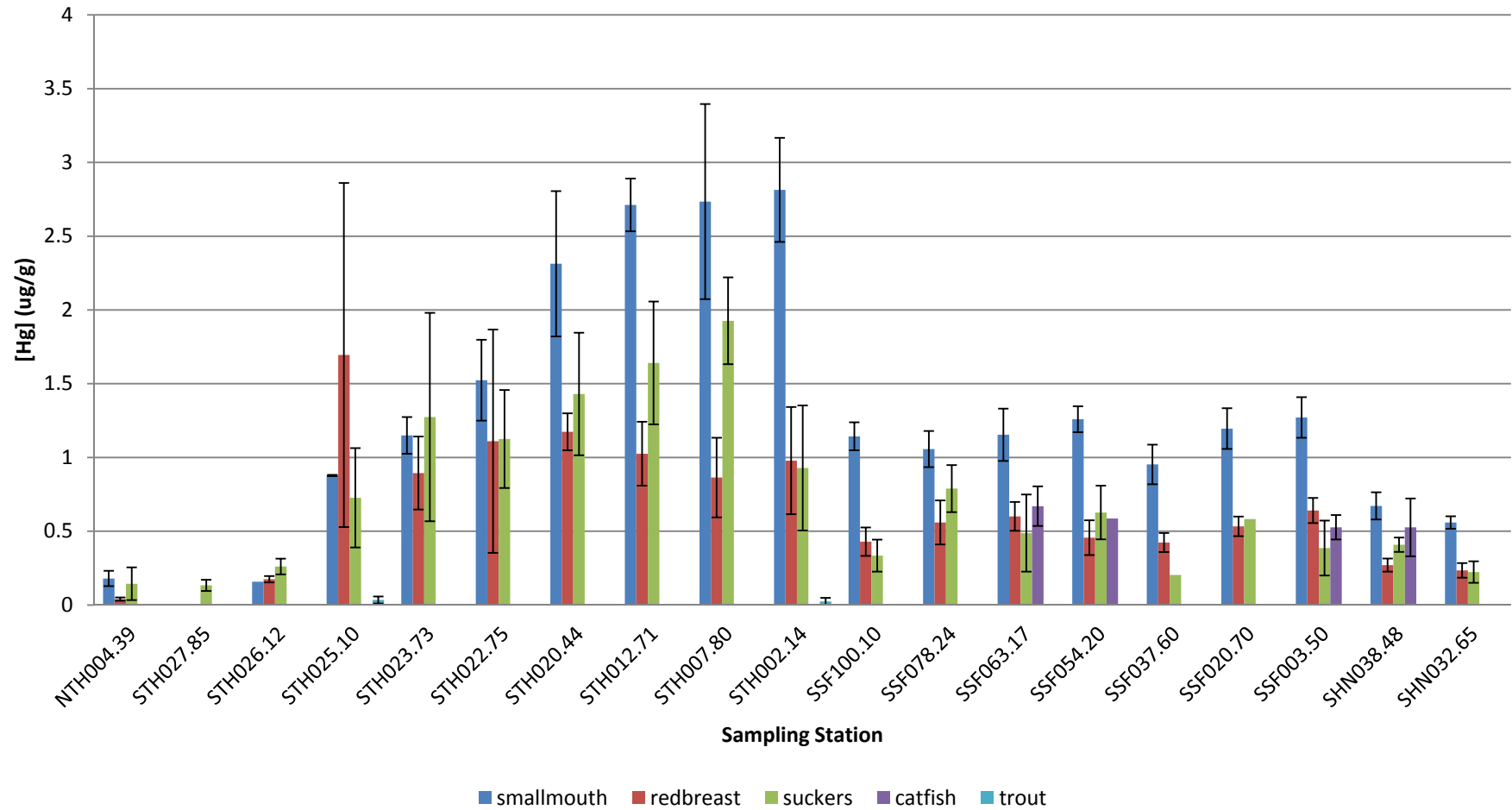


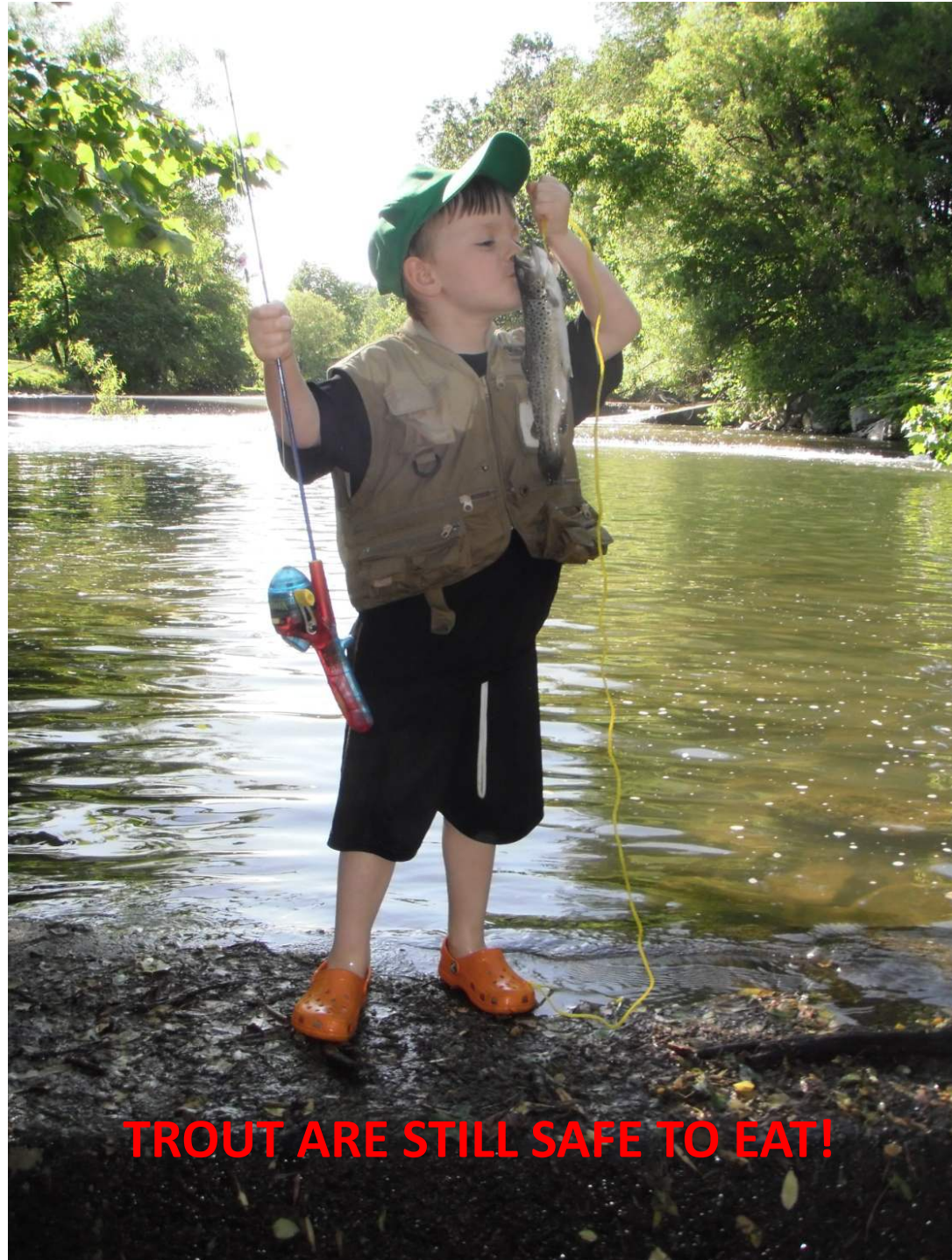


In 2012 we sampled 19 stations on the South River, South Fork Shenandoah, Shenandoah and North Rivers.

Targeted species included smallmouth bass, redbreast sunfish, white suckers (hog sucker and redhorse substituted at some sites), channel cats (down river sites) and trout (South River stocked locations).

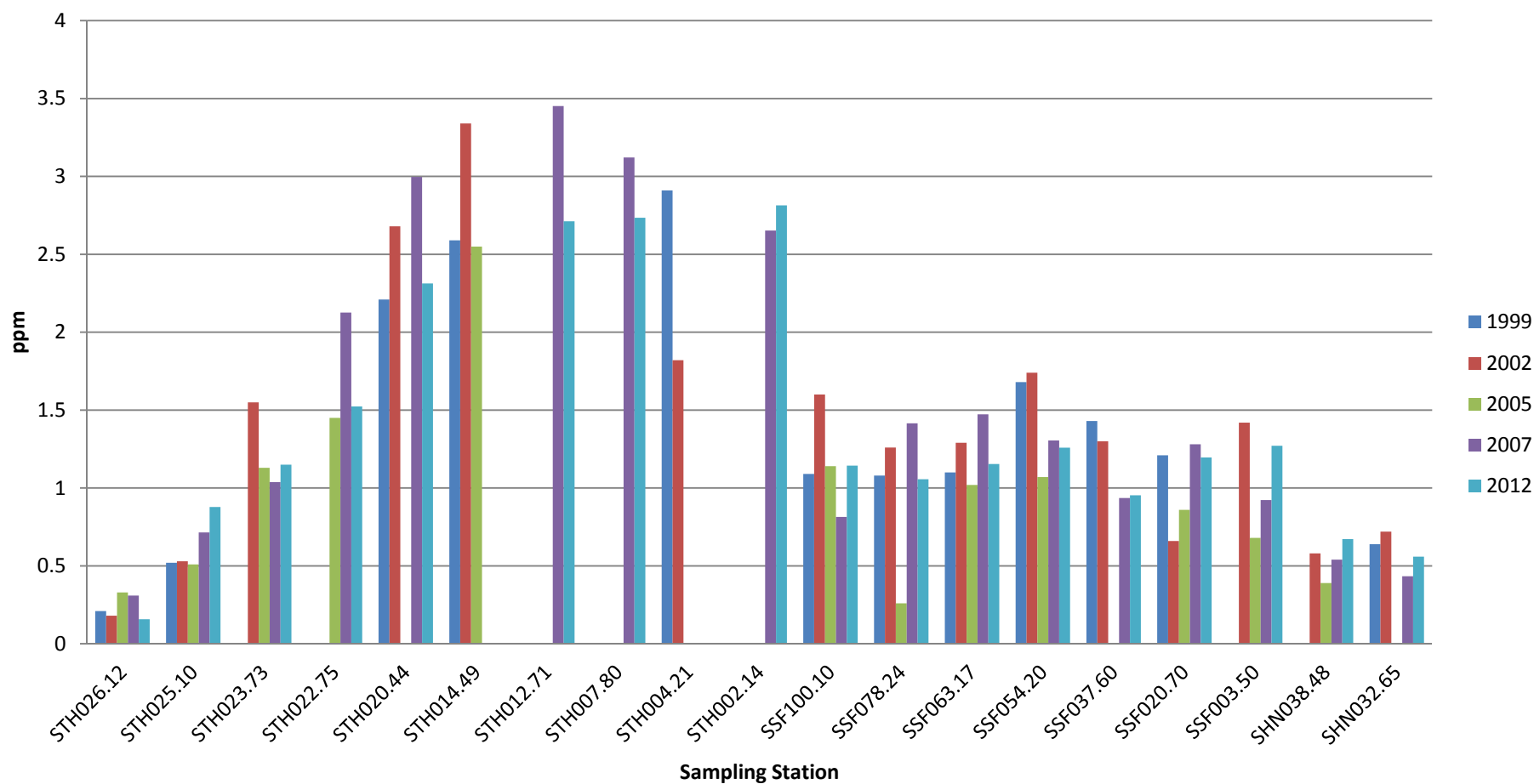
2012 Fish Tissue Mercury



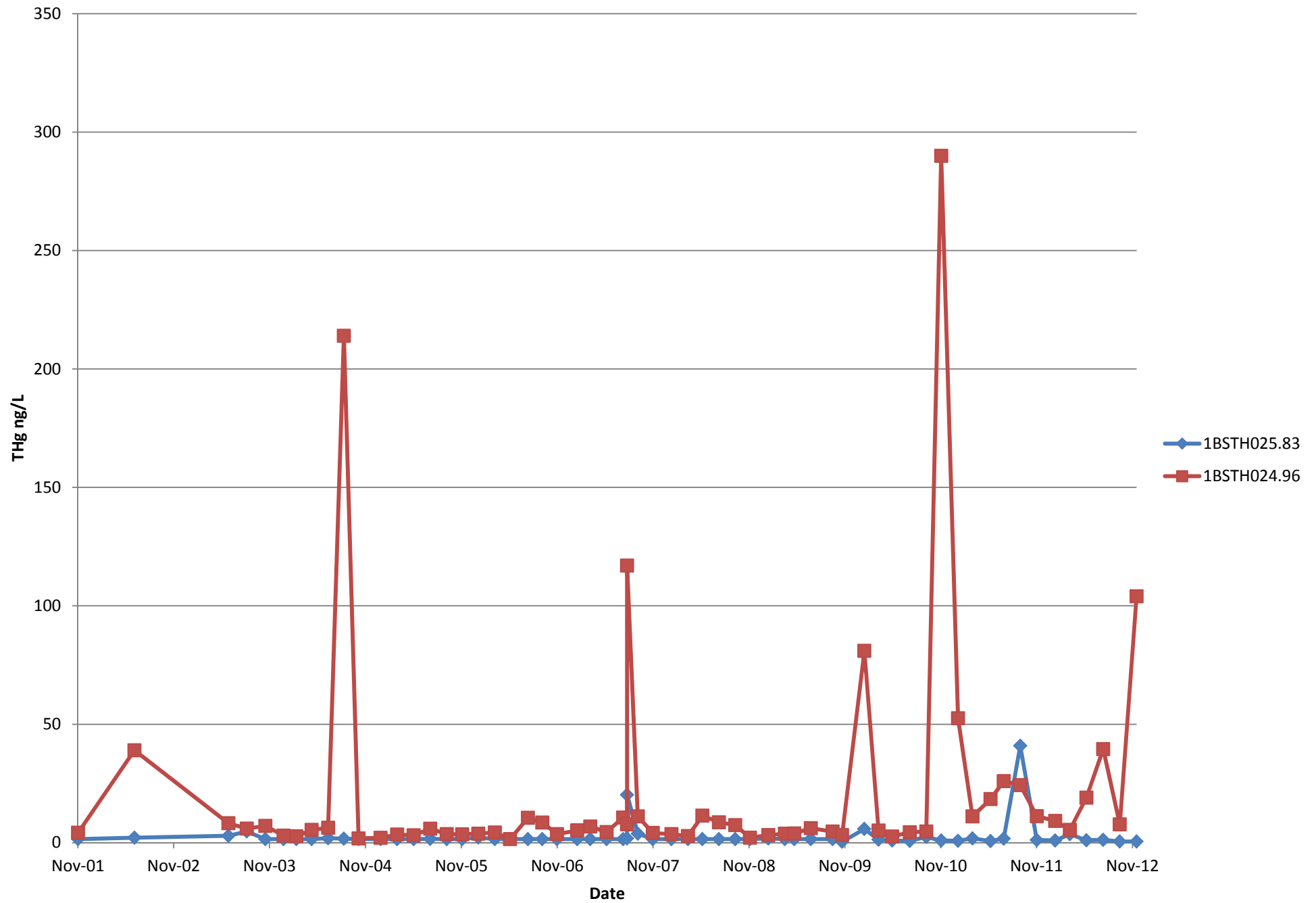


TROUT ARE STILL SAFE TO EAT!

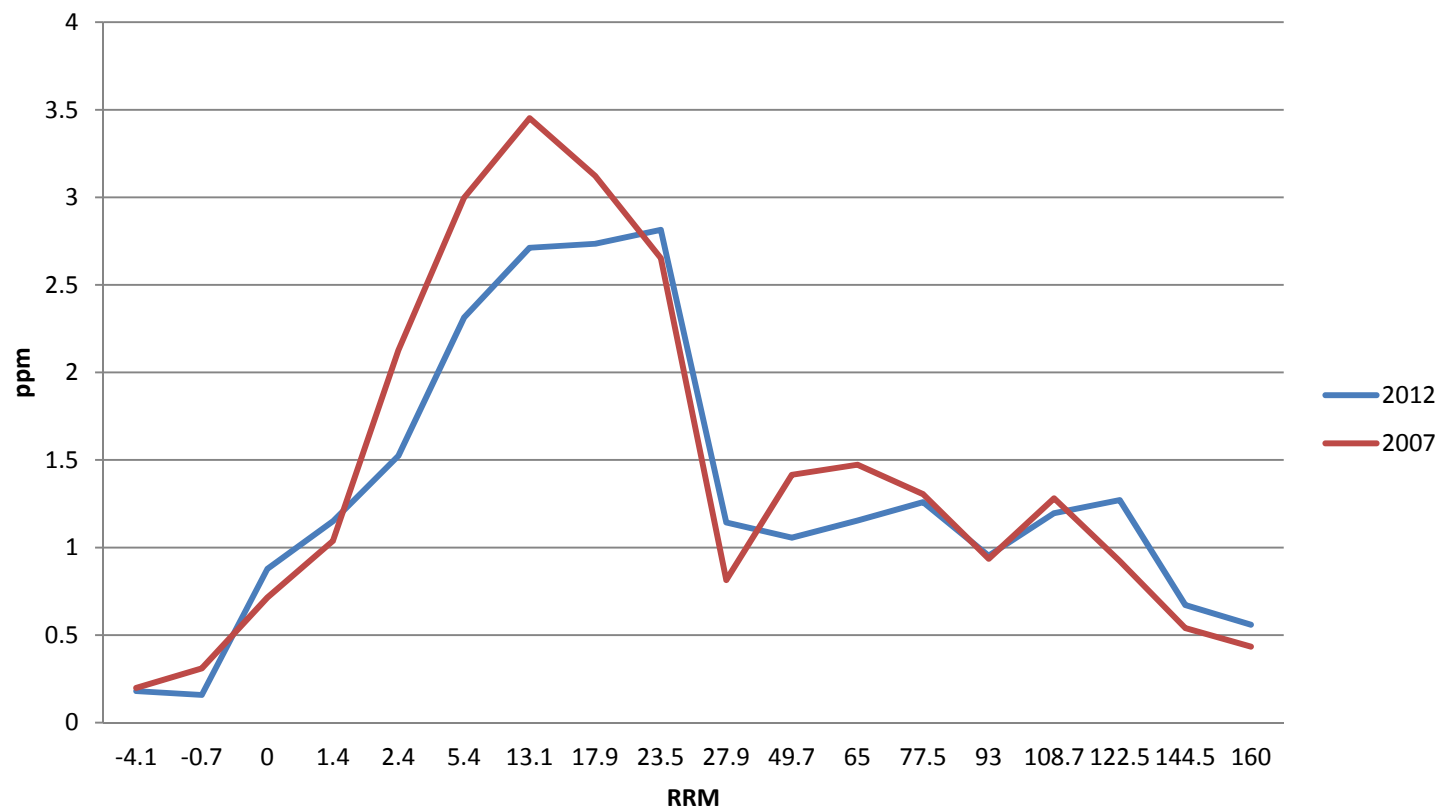
Smallmouth Bass Hg Concentrations



South River Water Column Data



Smallmouth Bass Hg Concentrations

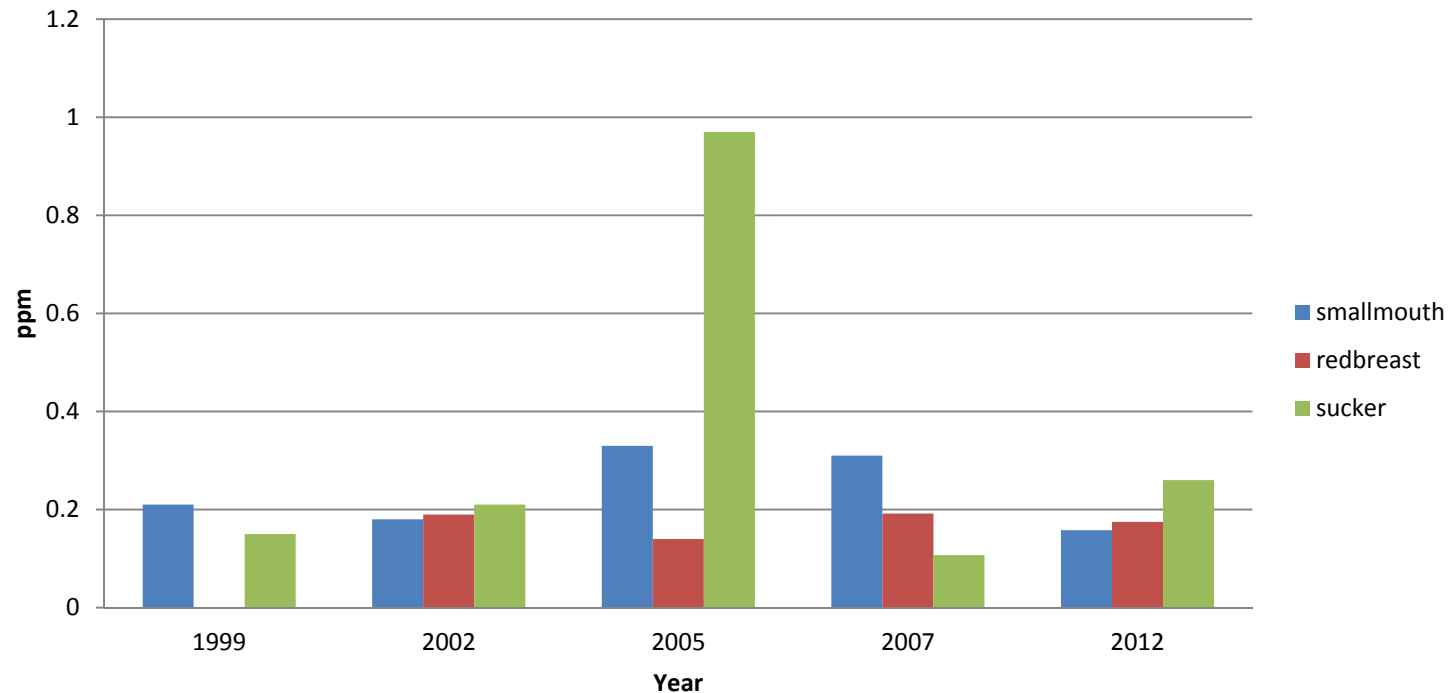




So How Did Dam Removal Affect Data?

	1999	2002	2005	2007	2012
Smallmouth	8	9	6	10	1
Redbreast		9	9	10	7
Sucker	10	10	10	10	10

Ridgeview Park Hg Concentrations



An Attempt at Non-Lethal Sampling Methods

To exam the possibility of moving our tissue program in the direction of non-lethal sampling techniques, we took biopsy plugs from 100 fish (mostly smallmouth) from several of our sampling sites. These plugs were to be compared to the whole fillet data also from the same fish. Our hope was that our state lab (DCLS) would be able to run these 100 mg samples using the same analytical machines they use for the whole fillets (CVAAS).



Biopsy Data?

- Biopsy data does not correlate at all to fillet data.
- Some results are higher, some are lower.
- Duplicate samples don't even correlate.
- DCLS is not able to do this analysis with current instrumentation.
- If this is the direction we want to go, samples will have to be shipped to outside lab (or we will have to buy DCLS new equipment).
- We have archived fillet data and may send to outside lab to confirm issues were analytical.

Conclusions

- Next sampling event will occur in 2017.
- Tissue concentrations so far look to be similar to previous years.
- Dam removal doesn't appear to have encouraged upstream migration of contaminated fish.
- Biopsy sample results unsatisfactory. Reason most likely analytical.

