APPENDIX D:
Original Public Comment Letters

ST. TAMMANY PARISH
DEPARTMENT OF ENGINEERING
21490 KOOP DRIVE
P.O. BOX 628
COVINGTON, LA 70434
PHONE: (985) 898-2552 FAX: (985) 898-5205
DR. E. DEETTE SMYTHE/REGULATORY MANAGER
edsmythe@stpgov.org

Pat Brister
Parish President

December 28, 2011

Diane Smith
Environmental Protection Specialist
Water Quality Protection Division
U.S. Environmental Protection Agency Region 6
1445 Ross Ave.
Dallas, TX 75202-2733
smith.diane@epa.gov

RE: *TMDLs for waters located within Louisiana (St Tammany Parish Subsegments 040801, 040905, 040906 for Mercury)*

Dear Ms. Smith,

St Tammany Parish appreciates the opportunity to comment on the above-referenced proposed mercury ("Hg") total maximum daily loads ("TMDLs") for Louisiana (Subsegments 040801, 040905 and 040906). There are a large number of Parish dischargers in the three subsegments that are subject to the NPDES program, as delegated to the State of Louisiana.

St Tammany Parish ("the Parish") requests that these comments be placed into the administrative record for the Proposed TMDLs. The Parish is submitting these comments protectively as the U.S. Environmental Protection Agency ("EPA") has not yet acted on the Parish's request for an extension of the public comment period, filed on November 17, 2011. The Parish reserves the right to supplement these comments should the comment period be extended. The Parish believes that additional information that is critical to the establishment of the Proposed TMDLs can be developed and submitted within a short period of time should the comment period be extended, as requested.

It is understandable that due to time and economic constraints, EPA's contractor had to make many assumptions to simplify this calculation process, in order to utilize available databases and minimize data collection. However, the assumptions used in the calculations for the Pontchartrain Basin Mercury TMDL are too broad-sweeping and will impose unachievable and unimplementable Mercury load reductions. The TMDL will result in draconian water limits being imposed on many industries in the Basin, when in fact, the source is from atmospheric deposition from approximately 41 of the 48 contiguous states of the US. In general, the proposed draft TMDL does not present any compelling science for the mercury sources or loadings, much less the recommended reductions throughout the watersheds of subsegments 040801, 040905 and 040906. St Tammany Parish's initial comments on the Proposed Mercury TMDLs follow.

St Tammany Parish welcomes further review and dialogue with EPA in light of the significant impact the proposed TMDLs may have on our residents and businesses. Please do not hesitate to contact me with any questions or comments regarding the Parish's comments.

Sincerely,

E. deEtte Smythe, PhD
Regulatory Manager

Comment No.1 – Section 1. Introduction (page 1-2)

Table ES-1. Section 303(d) listing for subsegments included in this report

Subsegment	Subsegment name	Subsegment description	Designated use				303 (d)-listed suspected impairment sources	
			PCR	SCR	FWP	DNR	Source unknown	Atmospheric deposition
040801	Tchefuncte River	Tchefuncte River- From headwaters to Bogue Falaya River; includes tributaries	F	F	N	F	X	X
040905	Bayou Liberty	Bayou Liberty-From headwaters to LA-433	F	F	N		X	X
040906	Bayou Liberty	Bayou Liberty-From LA-433 to Bayou Bonfouca	F	F	N		X	X

Note: F = fully supporting, N = not supporting, X = suspected impairment source.

Table ES-2. Summary of mercury TMDLs, WLAs, and LAs for Lake Pontchartrain Basin

Subsegment	Existing load	Total allowable loading	∑ WLAs	∑ LAs
	lb/yr	lb/day		
040801	6.01	9.9E-03	4.0E+04	9.5E-03
040905	0.49	8.3E-04	0.0E+00	8.3E-04
040906	0.59	9.9E-04	0.0E+00	9.9E-04

Subsegment	Waterbody	Segment	Existing Load (lbs/yr)	Total Allowable Loading (lbs/yr)	0.4% (lbs/yr)	
40801	Tchefuncte River		6.01	9.9E-03	3.96E-05	0.0000396
40905	Bayou Liberty	HW to Hwy 433	0.49	8.30E-04	3.32E-06	0.0000033
40906	Bayou Liberty	Hwy 433 to LakeBayou Bonfouca	0.59	9.90E-04	3.96E-06	0.0000040

Subsegments 040801, 040905 and 040906 are listed on EPA's 2008 303(d) List (page 1-1) for mercury (Hg). St Tammany Parish is aware of the necessity for the TMDL due to the impairment (with the Consent Decree as a driver); however, with 99.6% of the Hg load due to atmospheric deposition (page ii and page 2-5) the Parish questions the feasibility of implementing the TMDL for the remaining 0.4%, which provides an INSIGNIFICANT amount of loading into the subsegments - 0.0000396 lbs/yr. 0.0000033 lbs/yr and 0.0000040 lbs/yr for subsegments 090801, 090905 and 090906, respectively. This appears to be within potential calibration error, especially considering that an implicit MOS provided for an additional 10% error in ALL values.

- St Tammany Reviewers question the ability of LDEQ to implement a TMDL based upon such tiny incremental values, which in fact, may be calibration or analytical error.

Comment No.2 – Section 4.1.1 Nonpoint Source Loading Estimates (page 4-1)

The TMDL Report states that 'atmospheric deposition makes up more than 99.6 % of the current [mercury] load' and "for each subsegment, the sum of open water and wetland land use areas were used.' St Tammany Parish reviewers object to this. Methylation of mercury occurs primarily in sediments and wetland areas.

- Please provide documentation that open water areas result in mercury methylation and quantify the methyl mercury contributions from the open water areas for each subsegment.

Comment No.3 – Section 4.1.2 Point Source Load Estimates (page 4-1)

Table 2-4. Point source discharge information for the Lake Pontchartrain Basin

Agency interest (AI) #	Permit number	Facility name	Sub-segment	Outfall	Flow (gpd)	Receiving water
18460	LA0084336	Covington, City of – WWTP	040801	001	2,630,000	Tchefuncte River
19208	LA0066567	Utilities of LA Inc - Green Brier Oxidation Pond	040801	001	640,000	Tchefuncte River
31222	LA0105520	Artesian Utility Co Inc - Lake Ramsey Subdivision	040801	001	120,000	Tchefuncte River
51671	LA0122645	Southeastern LA Water & Sewer Co LLC - Timber Branch II Subdivision	040801	001	300,000	Tchefuncte River
111355	LAR10C283	H2O Systems Inc - Penn Mill Lakes STF	040801	001	190,000	Tchefuncte River
115894	LA0117927	Southeastern LA Water & Sewer Co LLC-Tallow Cr STP	040801	001	146,000	Tchefuncte River

The TMDL report states that 'the water quality criterion maximum of 12 ng/L was assumed for the facility discharges in Table 2-4 and it was multiplied by the available flow to obtain a load.' "This methodology is consistent with the methodology in other EPA-approved TMDLs, such as, *"TMDL for Mercury in Fish Tissue for Coastal Bays and Gulf Waters in Louisiana (USEPA 2005)."*

- There is NO reason to assume the dischargers have 12 ng/L in their respective discharges. In fact, in the EPA-approved TMDL cited above, EPA's contractor used permit limits in calculating the loads from WWTPs, even when (they admitted) actual DMRs are available and indicate much lower discharges and Hg concentrations[1].

- St Tammany Parish reviewers believe it is ludicrous to subject NPDES dischargers to "mercury minimization measures," or other form of regulation, on the basis of NO DATA or worse, ignoring the data that are available.

- St Tammany Parish requests documentation (citation of literature sources) for the assumption of 12 ng/L in facility discharges in subsegments 040801, 040905 and 040906 and quantify their contributions to the WLA.

[1] Two in particular, Jefferson Parish (15.66 MGD limits Hg 0.23 lbs/day) and St. Bernard Parish (5.913 MGD limits Hg 0.18 lbs/day), were estimated to contribute 38,159 g/yr and 9,864 g/yr, respectively. Compare these values with the City of New Orleans, which has NO permit limit listed. Because there are no assigned limits, City of New Orleans (discharges 104.4 MGD) is estimated to contribute 1,734 g-Hg/yr. This inconsistency, at the very least, should be eliminated for the WWTPs. EPA should use the DMRs to calculate attributable Mercury loads.

Comment No.4 – Section 4.1.3 Load Reduction Estimates (page 4-1)

The TMDL reduction estimates relied upon several assumptions:

> **'1)** Point sources discharged at constant rate AND at a constant Hg concentration of 12 ng/L,
> **2)** atmospheric deposition was significant when applied to water or wetlands, and
> **3)** a linear relationship was assumed between fish tissue concentrations and methyl mercury reductions…consistent with bioaccumulation factors and steady state assumptions.'

Assumptions #1 & #2 were addressed in Comments No.2 & 3 above. Assumption #3 is equally flawed. The Mercury TMDL for the Pontchartrain basin resulted from fish tissue samples by LDHH, LDEQ and LDWF. *"There are two types of mercury present in the environment, inorganic and organic. The organic or methyl mercury form is the primary species of concern. Methyl mercury bioaccumulates in the proteins of fish and other organisms, resulting in increases through the various trophic levels. For example, young fish typically have lower concentrations than older fish."*

Further, assuming 100% of the mercury that is deposited in open water and wetlands is methylated AND that 100% of this is bioavailable is not defensible. In-stream water quality is NOT necessarily directly related to fish tissue mercury. Fish tissue concentrations are related to forage locations and fish size. The older and heavier fish will have greater concentrations in their flesh. Further, Hg may be acquired in any location in which the fish have fed. Additionally, St Tammany Parish does NOT agree that there is a linear relationship between fish tissue concentrations and methyl mercury reductions. Further, applying the assumption to Louisiana waterways on the basis of one study in the Everglades is inappropriate.

Inorganic mercury in streams results overwhelmingly from air deposition..St Tammany has NO local air permits for mercury; thus, 99.6% comes from outside of the Parish. St Tammany Parish reviewers would like to point out that inorganic mercury in the waterbodies comes from many other sources from which no documentation was provided or included in the TMDL calculation/allocations:

- Background soil concentrations (NOT provided in the TMDL)
- Background water concentrations(NOT provided in the TMDL)
- Headwater and Lake Pontchartrain concentrations
- Dredging operations (Not mentioned in the TMDL)
- NPDES Dischargers (Empirical data is available in a cited EPA-approved TMDL, but NOT applied in this TMDL)

LDEQ Surface water quality standards for the State of LA limit brackish water acute and chronic criteria for dissolved Mercury to be 2.0 ug/L (200 ng/L) and 0.012 ug/L (12 ng/L).

Table 1A
Numerical Criteria for Metals and Inorganics
(In micrograms per liter (µg/L) or parts per billion (ppb))

Toxic Substance	Aquatic Life Protection						Human Health Protection Drinking Water Supply[a]
	Freshwater		Marine Water		Brackish Water[f]		
	Acute	Chronic	Acute	Chronic	Acute	Chronic	
Mercury[c]	2.04[d]	0.012[e]	2[d]	0.025[e]	2[d]	0.012[e]	2.0

Tables 3-1, 3-2 and 3-3 from the TMDL report show the available Mercury data in the three subsegments of St Tammany Parish for water and sediment.

Table 3-1. Summary of water column data in the Lake Pontchartrain Basin

Subsegment	Station	Station name	Period of record	No. of obs.	Mercury minimum (µg/L)	Mercury maximum (µg/L)	Mercury average (µg/L)
040801	0107	Tchefuncte River west of Covington, LA	4/13/81–5/11/98	100	0.05	0.9	0.196
	0409	Tchefuncte River near Covington, LA	8/30/94–7/26/04	5	0.05	0.2	0.08
040905	0503	Bayou Liberty near Slidell, LA	8/24/95–4/19/99	3	0.05	0.05	0.05
	1077	Bayou Liberty at Hwy. 433 Bridge	7/24/01–9/13/04	1	0.05	0.05	0.05
	0422	Bayou Liberty west of Slidell, LA	7/23/07	2	0.01	0.01	0.01
040906	1076	Bayou Liberty at Bayou Paquet	9/19/01–12/19/01	No data			

Table 3-2. Available inorganic mercury sediment data for the Lake Pontchartrain Basin

Subsegment	Station	Station name	Period of record	No. of obs.	Hg minimum (mg/kg)	Hg maximum (mg/kg)	Hg average (mg/kg)
040801	0409	Tchefuncte River near Covington, LA	8/30/1994–7/26/2004	5	0.000	0.098	0.057
040905	0422	Bayou Liberty west of Slidell, LA	7/23/2007	1	0.245	0.245	0.245
040905	0503	Bayou Liberty near Slidell, LA	8/24/1995–4/19/1999	3	0.030	0.820	0.297
040403	0538	Blind River near Gramercy, LA	7/24/1996–2/2/2009	3	0.000	0.520	0.327
040905	1077	Bayou Liberty at Hwy. 433 Bridge	7/24/2001–9/13/2004	3	0.047	0.151	0.096

Table 3-3. Available organic mercury sediment data for the Lake Pontchartrain Basin

Subsegment	Station	Station name	Period of record	No. of obs.	Methyl Hg minimum (µg/kg)	Methyl Hg maximum (µg/kg)	Methyl Hg average (µg/kg)
040801	0409	Tchefuncte River near Covington, LA	5/21/2002–7/26/2004	3	0.45	1.77	1.00
040905	0422	Bayou Liberty west of Slidell, LA	7/23/2007	1	0.38	0.38	0.38
040905	1077	Bayou Liberty at Hwy. 433 Bridge	7/29/2002–9/13/2004	2	0.10	0.19	0.15

Water column mercury exceeded the chronic criteria in the majority of samples. This is certainly a result of allochthonous loading from the abundant adjacent wetlands. Additionally, sediment samples reveal that a greater potential source of organic Hg (methyl mercury) may be from the autocthonous loading of Hg-laden sediment) from the stream bottoms (resuspension).

- Thus, methyl mercury loading in the St Tammany Parish subsegments appears to be from both allochthonous loading from adjacent wetlands as well as from autochthonous internal loading from stream bottom sediments. This is not unexpected since methylation readily occurs in wetland-dominated, coastal plains streams in which atmospheric mercury deposition is documented. Again, the way to reduce methyl mercury from waterbodies, sediments, wetlands and fish flesh is to control Hg emissions at their ATMOSPHERIC SOURCES.

- St Tammany Parish requests that EPA provide documentation for the analytical detection limits for the mercury in sediment, water column and fish tissue analyses.

Comment No.5 – Section 2.1 General Description (page 2-1)

Table 2-1. Parish and drainage area for each listed subsegment in the Lake Pontchartrain Basin

Subsegment	Subsegment name	Parish	Drainage area (acres)	Tidally influenced?[a]
040801	Tchefuncte River	St. Tammany	139,139,810	Yes
040905	Bayou Liberty	St. Tammany	19,122	Yes
040906	Bayou Liberty	St. Tammany	7,335	Yes

The Subsegments listed in the Hg TMDL for St Tammany Parish are tidally influenced; yet EPA's consultant did not use an unsteady state modeling tool. Flow is one of the most critical simulations in any model, it influences all fate-and-transport phenomena within the waterbody, including: transformations, dilution, dispersion, resuspension and reaeration. In fact, NO flows were used in the calibration or projections to formulate load reductions in the TMDL.

- St Tammany Parish objects strenuously to this. Without flow data, the proposed draft TMDL is only a Wasteload Allocation (WLA), or LA as in this case of 99.6% atmospheric source Hg.

Comment No.6 – NO Boundary Conditions are Listed

The lower boundary condition should be in Lake Pontchartrain. Due to tidal action, water quality at lower monitoring sites at waterbody mouths should be similar to Lake samples. However, without Hg values available for the Lake, it is unknown how much is discharged from the Northshore waterways – Tchefuncte River (040801) and Bayou Liberty (040905 and 040806).

Comment No.7 – Section 4.2 TMDLs, WLAs and Las

Table 4-1 presents the TMDL allocations in the St Tammany Parish subsegments. Of the approximately 40% mercury reductions, most of the mercury is allocated to nonpoint sources (presumable air deposition + autochthonous resuspension).

Table 4-1. Summary of TMDLs, WLAs, and LAs for Lake Pontchartrain Basin

Subsegment	Existing load	Percent reduction	Total allowable loading	∑ WLAs	∑ LAs
	lb/yr		lb/day		
040801	6.01	40%	9.9E-03	4.0E-04	9.5E-03
040905	0.49	38%	8.3E-04	0.0E+00	8.3E-04
040906	0.59	38%	9.9E-04	0.0E+00	9.9E-04

SUMMARY

To impose allocations on the dischargers named in the TMDL on the basis of: Flawed assumptions, An approach that is too conservative with respect to calculation of actual loads, and No consideration of ubiquitous background Mercury found in ALL soils, is simply unthinkable.

Admittedly, to draw a parallel between Mercury content in fish flesh and environmental sources has some validity. But it is NOT proven that there is a linear relationship between mercury reductions, and fish flesh reductions, or that 100% of the mercury loading is bioavailable (page 4-2). In summary, to assume that 40% of the Mercury can be eliminated by eliminating 40% of the sources is not scientifically defensible.