

Only Impact of Bans on Refined  
Tar-Based Sealer in Northern  
Illinois Would be to Hurt Small  
Businesses, Resulting in Lost Jobs  
and Tax Revenue

Presentation by  
Pavement Coatings Technology  
Council

May 10, 2011

# Four Questions & a Conclusion

1. What Does the Science Say: Are Refined Tar-Based Pavement Sealers (RTS) an important Source of PAHs in Waterbodies?
  2. Is There a Polycyclic Aromatic Hydrocarbon (PAH) Problem in Northern Illinois Waterbodies?
  3. Are Government Resources Adequate to Address Actual Problems Already Identified in Northern Illinois Waterbodies?
  4. What about the Future? Are PAHs Likely to become a Priority?
- The Only Impact of a Ban on Would be to Harm Small Businesses, Lose Jobs and Reduce Tax Revenues

1.

What Does the Science Say:  
Are Refined Tar-Based  
Pavement Sealers (RTS) an  
important Source of PAHs in  
Waterbodies?

# What Does Science Say about RTS as an Important Source of PAHs?

- Federal and city government scientists based in Austin, TX say that RTS is the dominant source of PAHs in the environment, and have developed mathematical models to try to prove their point.
- However, actual data do not support the claim. Here's what the data show:
  - Samples taken before and 2.5 yrs after the ban in Austin, TX show no discernable change in amount or sources of PAHs entering sediments – if sealers were an important source of PAHs, some change would have been expected especially in the intermittent and engineered streams of Austin, TX;
  - Studies indicate that particles of refined tar-based sealer are not very mobile in the environment and are not very available to aquatic organisms;
  - An evaluation of PAH fingerprints (“environmental forensics”) shows that refined tar-based sealers are not an important source of PAHs in sediments in general
  - The forensics evaluation of actual data demonstrates clearly that refined tar-based sealers are not a source at all of PAHs in many of the localities identified by the USGS’ mathematical models.

# Northern Illinois Water Bodies Are Not the Same as in Austin, TX

- Northern Illinois
  - Temperate climate
  - Permanent streams (stream beds are rarely dry, only in drought conditions)
  - Continuous sediment deposition in many water body segments
  - “The average farm [in Illinois] sees rain one day in three, for a total of 36 in (91 cm) of precipitation a year.” (<http://www.city-data.com/states/Illinois-Climate.html> )
- Austin, Texas
  - Semi-arid climate, with rainy and dry seasons
  - Intermittent streams (intermittently dry segments annually)
  - Limited pools and deposition areas
  - Flash-flood type flows are common
  - “On average, Austin receives 33.6 inches (853.4 mm) of rain per year, with most of the precipitation in the spring, and a secondary maximum in the fall” ([http://en.wikipedia.org/wiki/Austin,\\_Texas#Climate](http://en.wikipedia.org/wiki/Austin,_Texas#Climate) )



**Asphalt Road  
Material**

**Parking Lot  
Breakdown**

**Drainage Ditch Below Barton Springs Apartments**



**Austin Ban**  
**Before And After Sediment Monitoring**



# Stream Characteristics



- Semi-arid, intermittently dry streambed segments
- Pools and depositional areas limited
- Flash-flood type flows common





# Scoured Streambeds Key to “Snapshot” Study Design



• Shoal Creek, urban edge

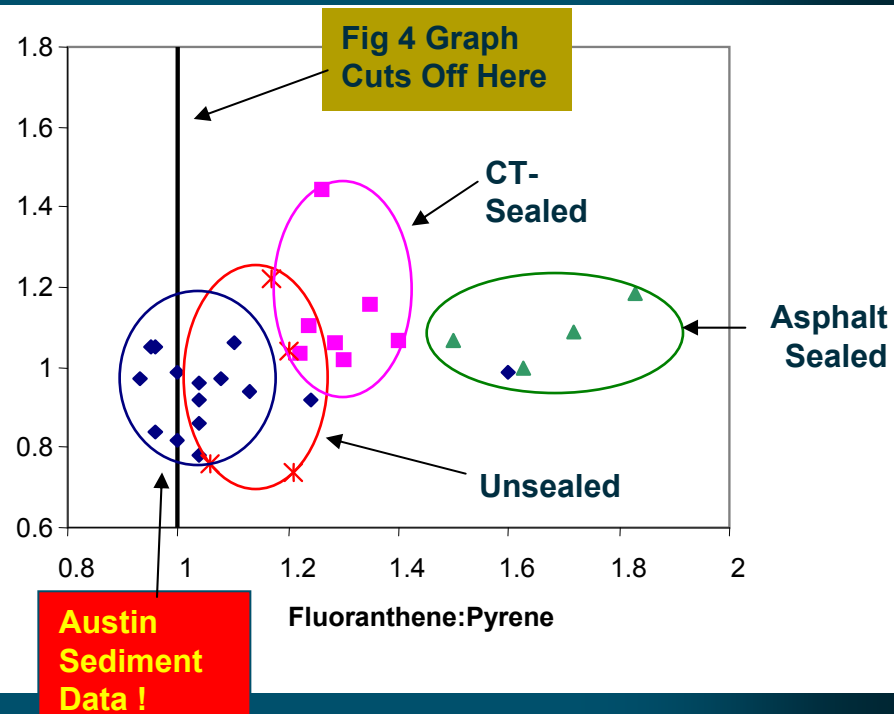
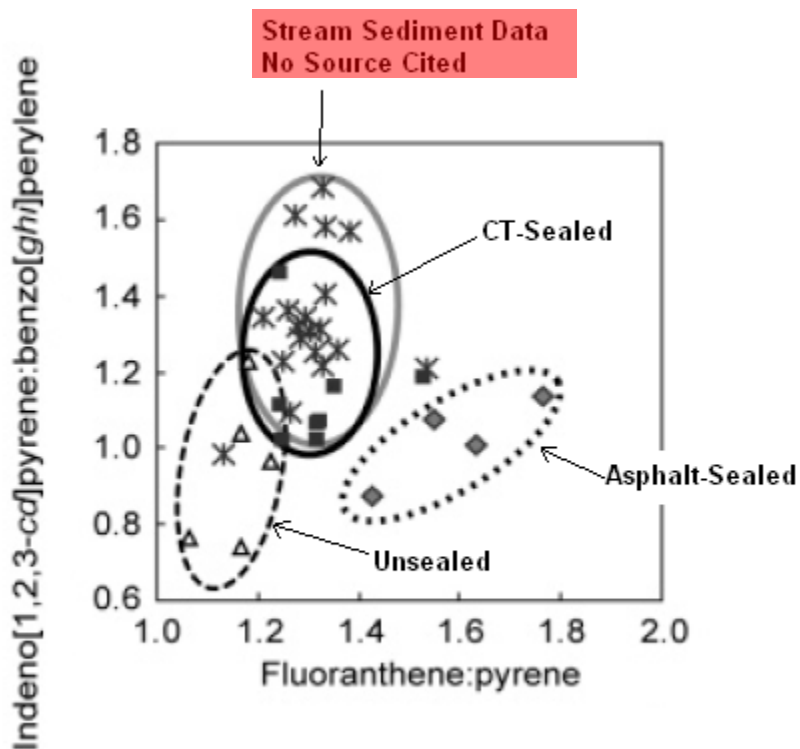
• Waller Creek, near downtown

# No Evidence Links RTS to PAHs in Sediment Except Adjacent to Sealed Surfaces

- Mahler et al. (2005) used Double Ratio plots to suggest a link
  - The source of the values for stream sediment samples has yet to be identified
  - Sediment values available at the time from the City of Austin do not support the interpretation that RTS is the source of PAHs
- Van Metre & Mahler (2010) appear to abandon proven forensic methods in favor of a novel & unvalidated use of EPA's CMB air pollutant model
  - Even though data used in model appear to be “cherry picked,” model results are inconsistent with the authors' previous results and with results using accepted forensic methods
- Forensic evaluation suggests that there is insufficient chemical evidence to support claims regarding the relative role of RTS or to distinguish their contribution from other environmental inputs.



# Selective Data Interpretation



ES&T Article – Figure 4

Re-Plot with Austin Sediments

# Comment & Response 2006

- **Comment (DeMott and Gauthier, 2006)**

1. With regard to the PAH ratio analysis, we could not identify the source of the values presented for stream sediment samples, and the values that we could identify from the City of Austin appear to contradict the interpretation developed by the authors [*i.e.*, Mahler *et al.* (2005)]. And
2. With regard to the mass balance analysis, we could not identify the source for values from one watershed, the values presented for the other watersheds do not appear to match those from the cited sources, and the previously published values suggest the relative contribution of PAHs from parking lot sources is substantially less than the “majority” source suggested by the authors [*i.e.*, Mahler *et al.* (2005)].

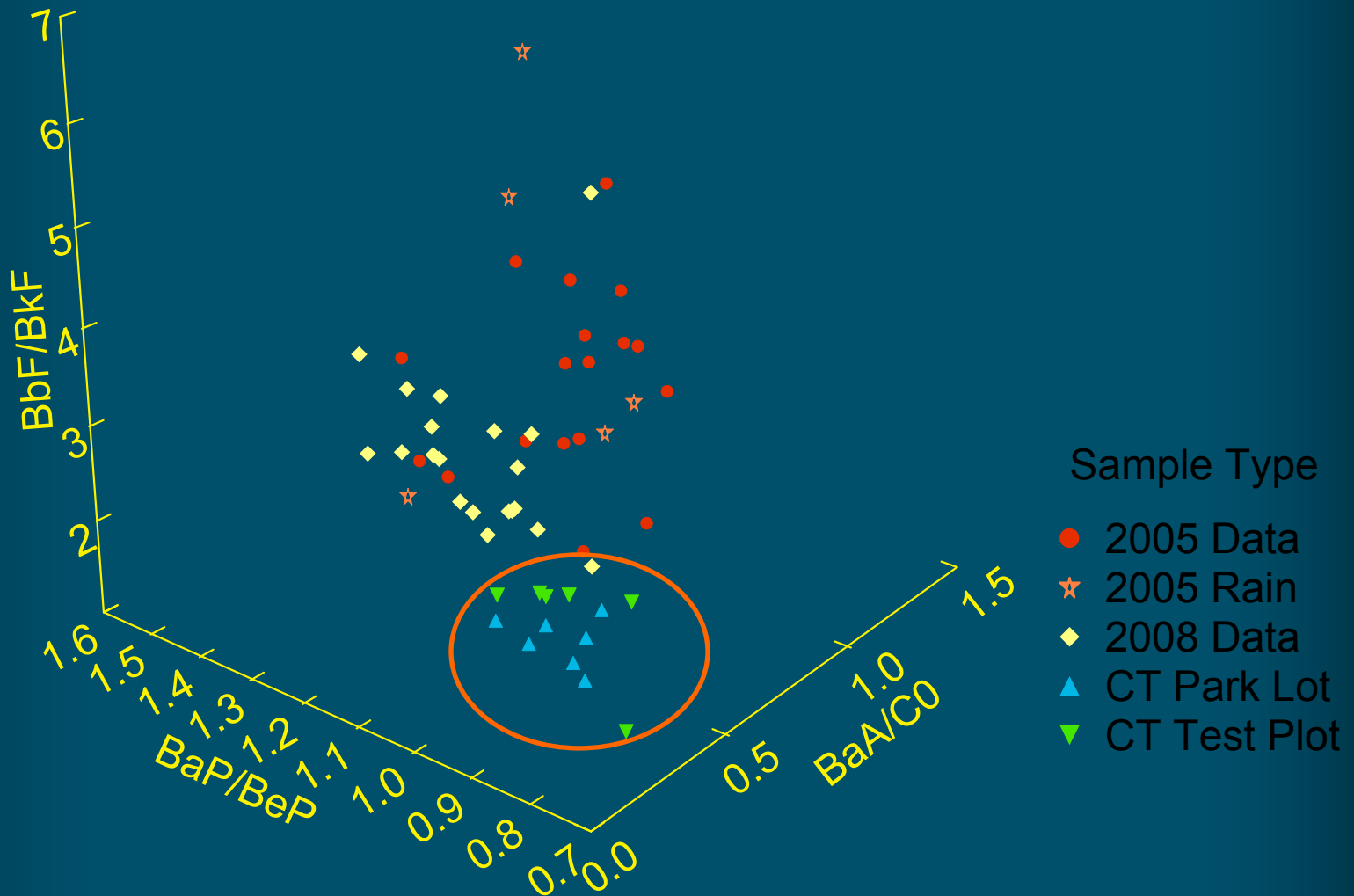
# Comment & Response 2006

- **Response (Mahler *et al.*, 2006)**

1. A discussion of the use of specific PAH double-ratio plots, with highly arguable representations about impacts concentrations may have on ratios (ratios are used for the very reason they are not concentration dependent);
2. A discussion of the comparability of data collected and analyzed using different methods, with the comment that data used in the DeMott and Gauthier plot may not be comparable to the Mahler *et al.* (2005) data, but with no indication of what the source of the Mahler *et al.* data was if it was not the Geismar (2000) data;
3. A discussion of possible overestimation versus underestimation in mass balance calculations;
4. A discussion of comparability of load calculations made for Fort Worth, TX to the Austin, TX calculations;
5. A correction of errors in storm load calculations made in Mahler *et al.* (2005);
6. A discussion of yield calculations, with the contention that the results of such calculations support the conclusions of Mahler *et al.* (2005); and
7. An unreferenced statement that sealing parking lots is a fairly common practice, so the sealer must be a “major contributor of PAHs to the urban watersheds studied.”



# PAH Fingerprinting Shows Austin Sediments Do Not Match Coal Tar Signature





**'Nuff Said.**

# Van Metre & Mahler 2010

- Used one of EPA's air pollutant models (CMB Model) in an attempt to define percentages of PAHs in sediments derived from refined tar-based sealer
  - Preselected potential sources
  - Eliminated data that did not fit profile
  - Model results are inconsistent with authors' own previous results (but the conclusions remain the same!)



# Ahrens & Depree (2010)

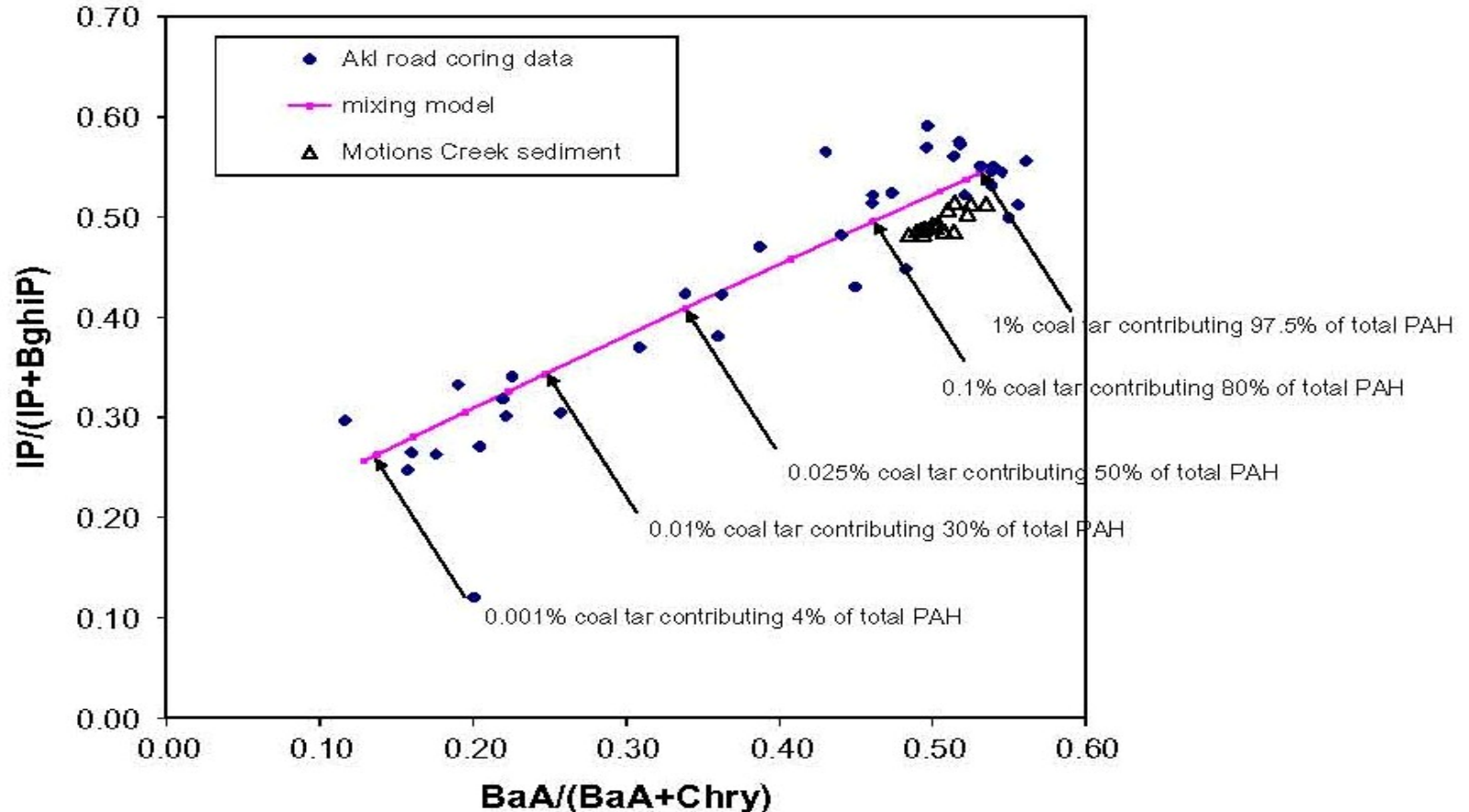


Fig. 5. Scatter plot of  $IP/(IP + BghiP)$  versus  $BaA/(BaA + Chry)$  for Auckland pavements and adjacent stream sediments (Motions Creek). Line represents curve fit from mixing model. Arrows indicate estimated coal tar content (%) in binder material.

# O'Reilly et al, 2011 Fig. 1A

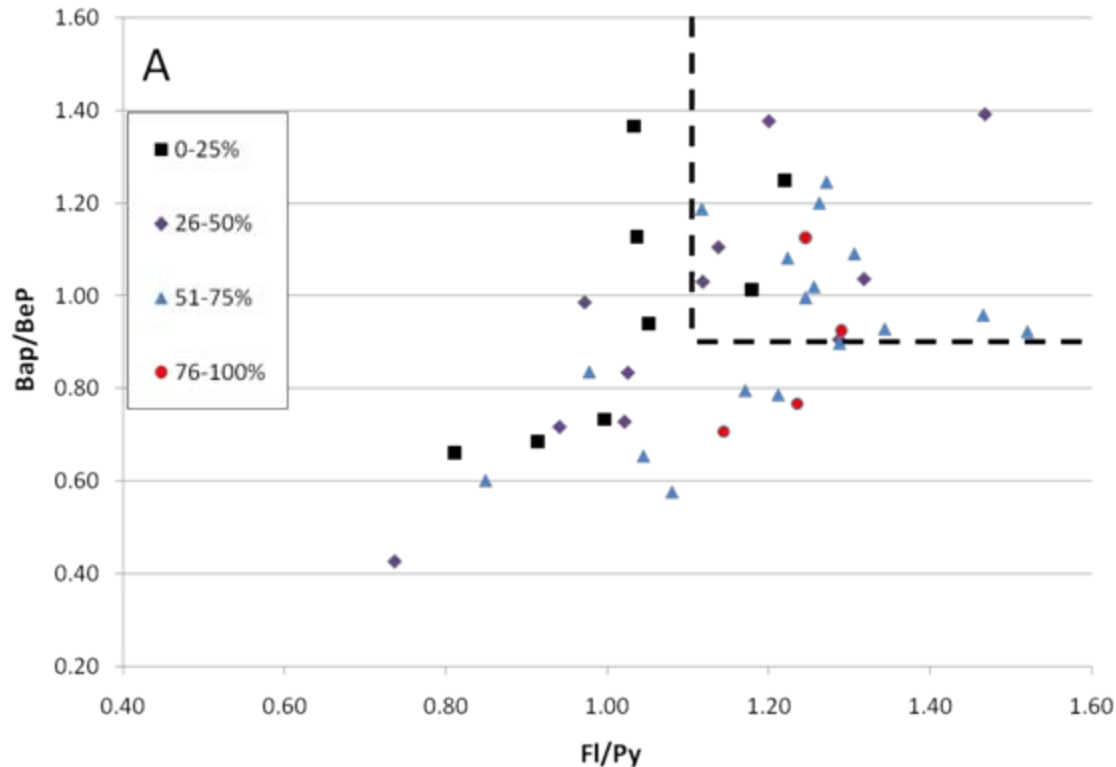


Figure 1. Two methods for plotting the FI / Py and BaP / BeP ratios as a function of the estimated sealant contribution (% PAHs) for the 40 lakes in Van Metre and Mahler (2010). **A:** Separation of groups of samples with similar calculated CT-sealant contribution would have supported the hypothesis presented in Van Metre et al. (2009). The dotted lines are used in Van Metre et al. (2009) to separate samples claimed to be influenced by coal tar sealants (above and to the right).

# O'Reilly et al, 2011 Fig. 1B

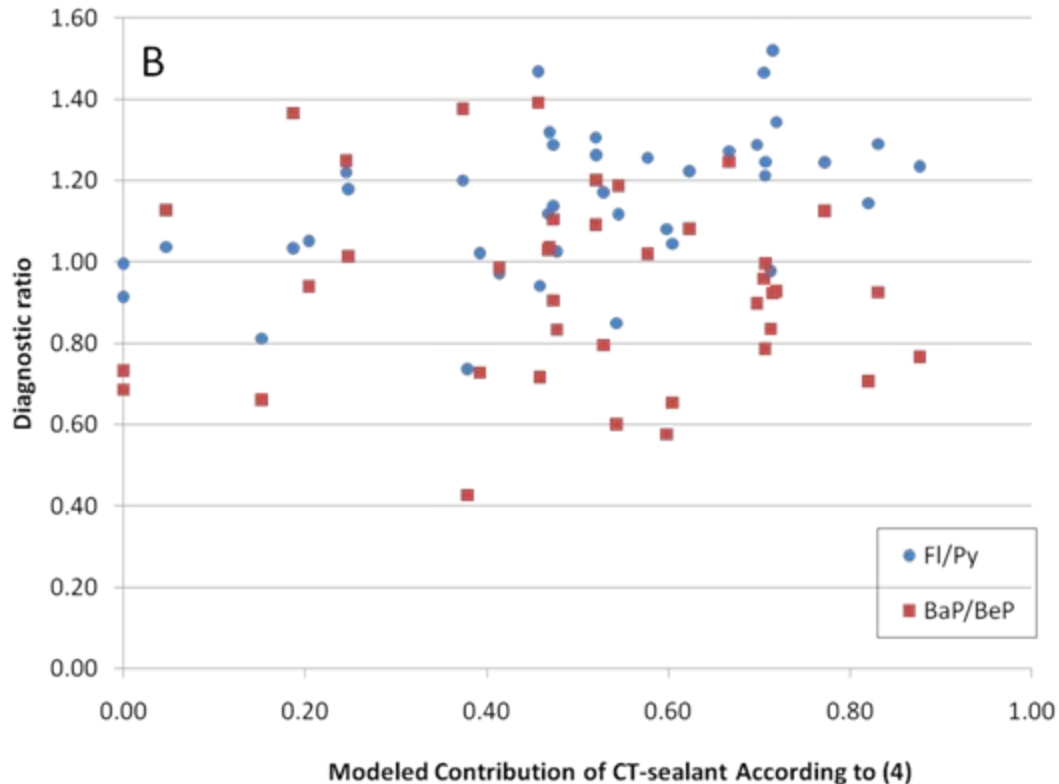


Figure 1. Two methods for plotting the FI / Py and BaP / BeP ratios as a function of the estimated sealant contribution (% PAHs) for the 40 lakes in Van Metre et al. (2010). **B:** An increase in these PAH ratios with sealant contribution (Ahrens & Depree (2010)) would suggest consistency in the source characterization methods used in Van Metre and Mahler (2009) and Van Metre et al. (2010).

# Comment & Response 2011 (1)

- Comment (O'Reilly et al. 2011)
  1. The results for individual samples are not consistent between papers.
  2. To validate results, run and compare multiple methods in one study to determine if results are consistent.
  3. Cited Stout & Graan (2010) as an example of a multi-forensic method investigation, and the types of expected results.
  4. There is a poor correlation between the result of ratio plot analysis and the CMB model.
  5. Cited Ahrens & Depree (2010) as an example of the expected relationship between PAH ratios and % contribution.
- Response (Van Metre & Mahler 2011)
  1. Stated that overall conclusions are consistent between the papers.
  2. Stated that different methods used with different data in separate studies to reach the same conclusion.
  3. Ignored the point that Stout & Gaan is an example of internal consistency within a multi-method forensic analysis, and claimed that Stout might have shown the role of sealers if they were considered.
  4. Restated the data a different way and claims it shows they are right. But, note that only about 50% of the sample they modeled >75% sealer contribution have ratio claimed to be diagnostic for sealer impacts.
  5. Dismissed Ahrens & Depree result as hypothetical and not expected for environmental samples. Did not comment on why there is no relationship even for samples claimed to be almost all sealer.

# Comment & Response 2011 (2)

- Comment (O'Reilly et al. 2011)
  6. Explained concerns with application of the CMB model because of issues with source sufficiency and stability. Couldn't go into a lot of detail because of word limits, but cited Galarneau (2008) as paper that highlights the potential pitfalls of applying receptor modeling to PAH.
  7. Combustion emissions were used as the CMB sources, but reactions that change PAH profiles were not taken into account.
  8. Suggested application of multivariate methods such as PCA that do not require pre-identification of sources.
- Response (Van Metre & Mahler 2011)
  6. Stated that comment on "sufficiency and stability" was too vague to respond. Claimed it does not matter as Galarneau was focused on atmospheric modeling not sediment. Among other things, this response ignores that emissions were used as an alternative sources, and emissions are subject to atmospheric processes.
  7. Ignored the differences between fresh emission sources and post atmospheric reaction depositional particles.
  8. Stated that multivariate methods do require that sources be identified. Ignoring the difference between methods where sources are identified upfront and those that use the results of analysis to identify sources. Claimed that Watts et al (2010) use of PCA supported their conclusions. But, Watts only looked at samples taken from within a limited test area and considered sealers as the only source.

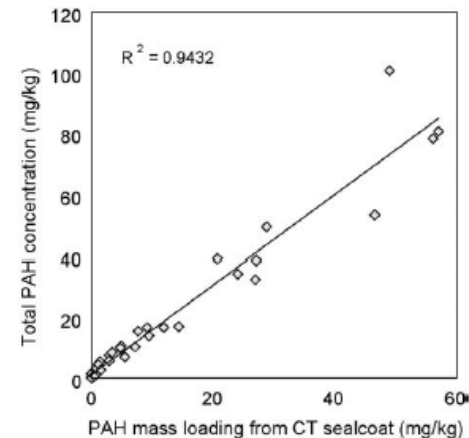
# Comment & Response 2011 (3)

- Comment (O'Reilly et al. 2011)

9. The null hypothesis was not tested, so atmospheric deposition as a primary source was not eliminated.

- Response (Van Metre & Mahler 2011)

9. Restated claims from previous papers where same authors concluded sealers were an important source. Provided a circular argument referring to figure below from the CMB paper in which sample concentration is used to calculate both the X and Y axis:



# UNH Study

- Demonstrated limited mobility of particles of refined tar-based sealer
- Mass balance & time course evaluations of little value because of failed sealer application (sealer did not cure)
- Questions about identity of materials applied to the sealed lots

**EPA Surface Water Quality Criteria for total PAHs = 300ug/l**



COAL TAR

5,890 µg/L

ASPHALT

642 µg/L

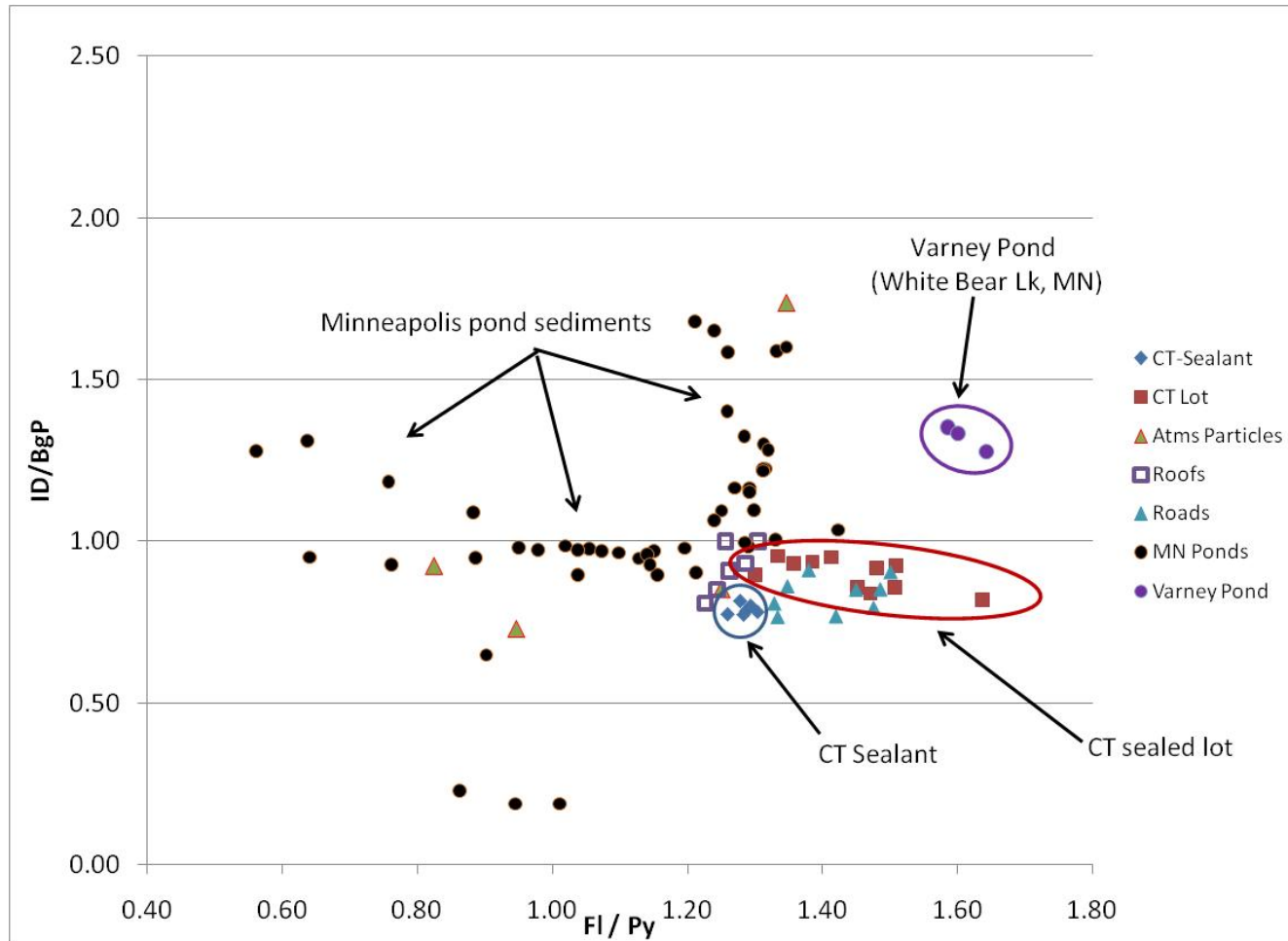
CONTROL

4.39 µg/L





# Minnesota Data

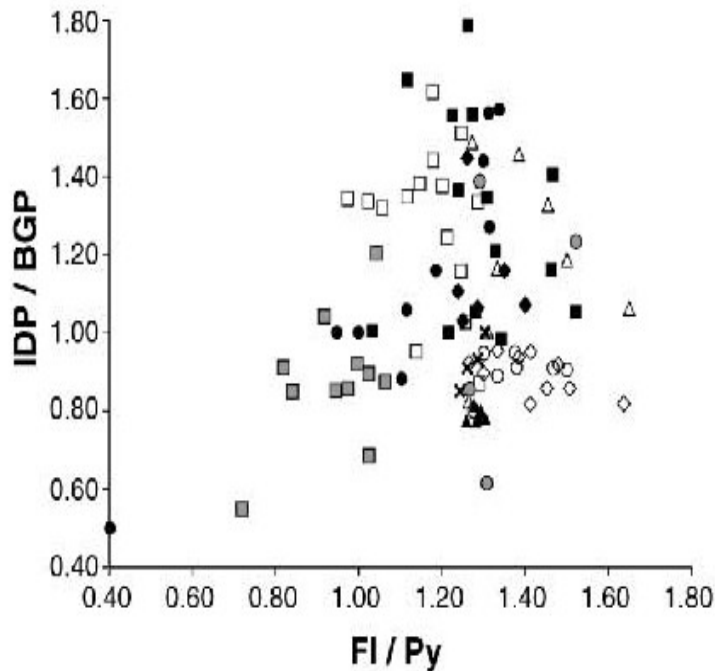


The PAH source ratios of sediments collected from Varney Pond in White Bear Lake and ten ponds in Minneapolis are inconsistent with RTBS or particles from RTBS-sealed parking lots.

# MN Data Resemble Nationwide Data (but not sealer)\*

Figure 2

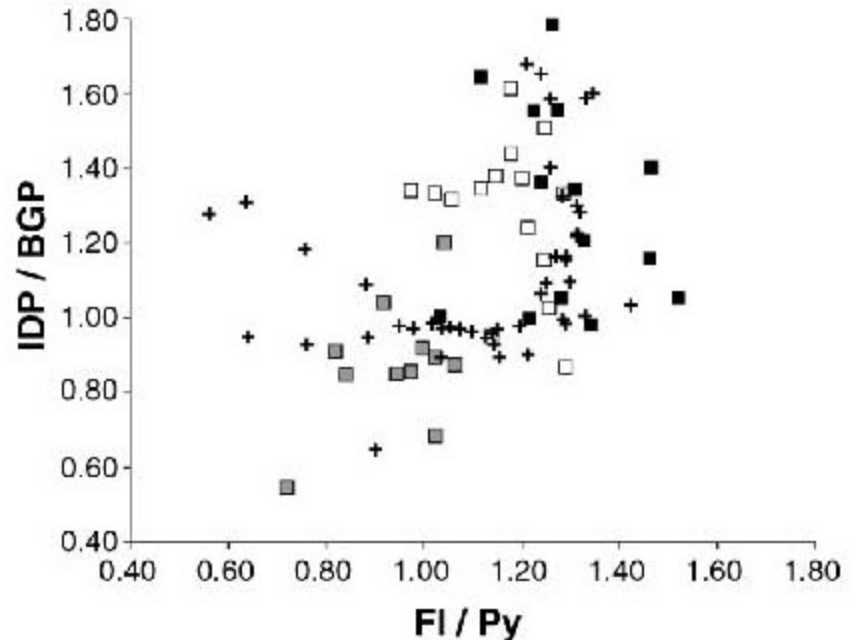
\* Is “geographic distribution” of data real or an artifact?



**LEGEND**

- |           |               |               |             |
|-----------|---------------|---------------|-------------|
| ■ Central | ▲ RT sealant  | ◇ RT lot (WI) | ○ Highway   |
| □ Eastern | △ Test plot   | × Roof dust   | ● Road dirt |
| ■ Western | ◆ RT lot (TX) | ● Soil        |             |

Figure 3



**LEGEND**

- |           |            |
|-----------|------------|
| ■ Central | ■ Western  |
| □ Eastern | + MN ponds |

# What Does the Science Say?

- Forensic evaluations based on data (e.g., double ratio plots, PCA, statistical analysis) agree that RTS is not an important source of PAHs in the environment (except adjacent to sealed lots)
- Results of CMB model, as applied, are not consistent with author's previous results (but we are asked to believe results are the same because the authors reach the same conclusion)

2.

Is There a Polycyclic Aromatic Hydrocarbon (PAH) Problem in Northern Illinois Waterbodies?

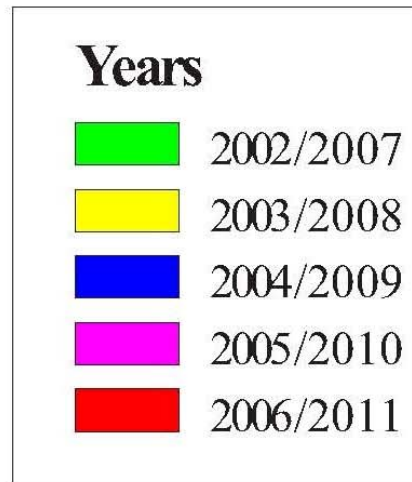
# US Clean Water Act

- Under section 303(d) of the Clean Water Act, states, territories, and authorized tribes are required to develop lists of impaired waters. **These are waters that are too polluted or otherwise degraded to meet the water quality standards set by states, territories, or authorized tribes.** The law requires that these jurisdictions establish priority rankings for waters on the lists and develop TMDLs for these waters. A Total Maximum Daily Load, or TMDL, is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards.

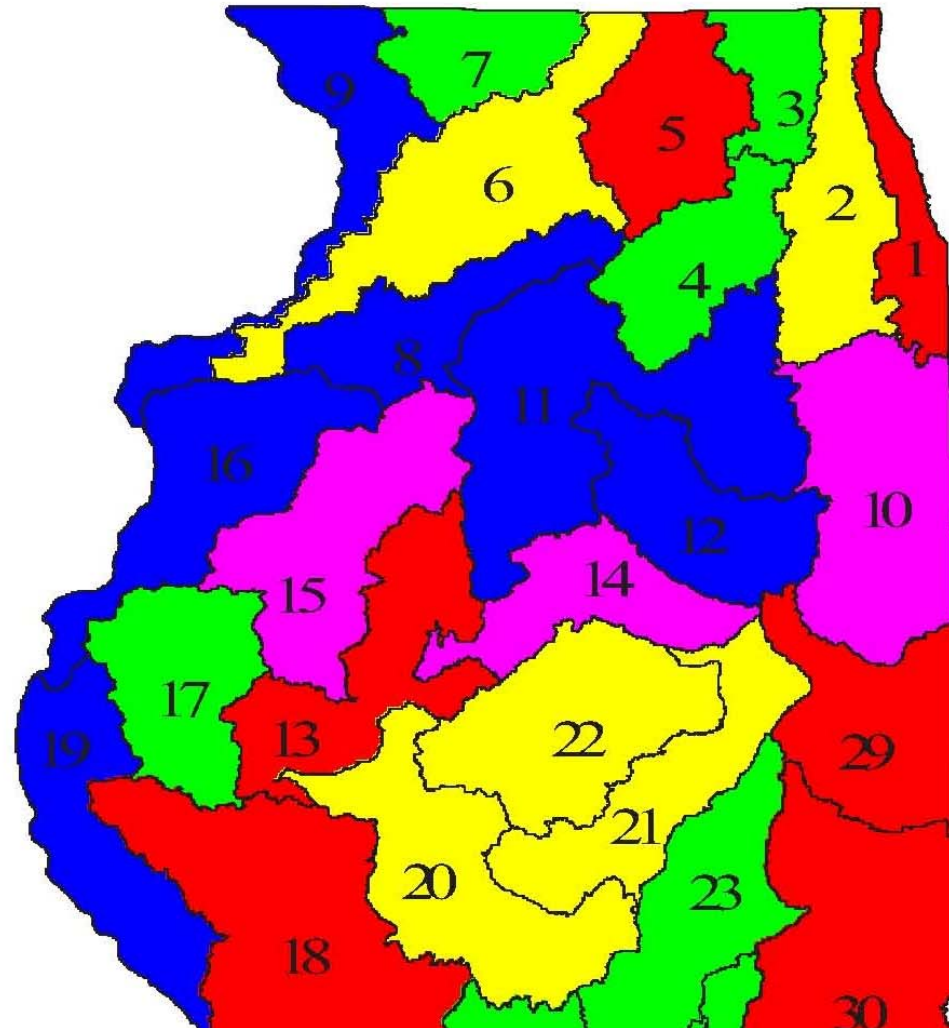
# Reports

- US EPA Clean Water Act
- Illinois EPA Bureau of Water
  - ILLINOIS INTEGRATED WATER QUALITY REPORT AND SECTION 303(d) LIST - 2010
  - <http://www.epa.state.il.us/water/tmdl/303-appendix/2010/2010-ir-volume-i-surfacewater-draft-3-26-10.pdf>
  - <http://www.epa.state.il.us/water/tmdl/303-appendix/2010/2010-ir-volume-ii-groundwater-draft.pdf>

ILLINOIS INTEGRATED WATER QUALITY REPORT AND SECTION 303(d) LIST - 2010  
 Clean Water Act Sections 303(d), 305(b) and 314  
 Water Resource Assessment Information and Listing of Impaired Waters  
 Volume I: Surface Water April 2010



- 1 Great Lakes/Calumet River Basin
- 2 Des Plaines River Basin
- 3 Upper Fox River Basin
- 4 Lower Fox River Basin
- 5 Kishwaukee River Basin
- 6 Rock River Basin
- 7 Pecatonica River Basin
- 8 Green River Basin
- 9 Mississippi River North Basin
- 10 Kankakee/Iroquois River Basin
- 11 Upper Illinois/Mazon River Basin
- 12 Vermilion (Illinois) River Basin
- 13 ...
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- 30 ...





# State of Illinois

- ILLINOIS INTEGRATED WATER QUALITY REPORT AND SECTION 303(d) LIST - 2010  
Clean Water Act Sections 303(d), 305(b) and 314  
Water Resource Assessment Information and Listing of Impaired Waters  
Volume I: Surface Water April 2010
- Category 5 water bodies (or segments of water bodies) = 303(d) list

**Table C-28. Size of Surface Waters Assigned to Reporting Categories<sup>(1)</sup>.**

Water Body Type	Category							Total in State	Total Assessed
	1	2	3	4a	4b	4c	5		
Streams: miles	0	7,399	102,234	350	0	592	8,669	119,244	17,010
Inland Lakes: acres	0	3,788	170,463	1,134	0	0	143,093	318,477	148,014
Lake Michigan Bays and Harbors: sq. miles	0	0	0	0	0	0	2.50	2.50	2.50
Lake Michigan Open Waters: sq. miles	0	0	1375	0	0	0	151	1526	151
Lake Michigan Shoreline: miles	0	0	0	0	0	0	63	63	63

1. Categories are mutually exclusive. Illinois does not report water bodies in more than one category.

# State of Illinois

- ILLINOIS INTEGRATED WATER QUALITY REPORT AND SECTION 303(d) LIST - 2010
  - Clean Water Act Sections 303(d), 305(b) and 314
  - Water Resource Assessment Information and Listing of Impaired Waters
  - Volume I: Surface Water April 2010
- Category 5 water bodies (or segments of water bodies) = 303(d) list
- Number of Water Bodies on Illinois 303(d) List with PAHs as a Cause of Impairment (PAHs analyzed for “*Public and Food Processing Water Supply*” use) = 0

## Percent of Illinois Lakes Assessed as Good, Fair and Poor in 2010

Designated Use	Acres Assessed	Percent of Statewide Acres Assessed	Percent of Assessed Acres as Fully Supporting (Good)		Percent of Assessed Acres as Not Supporting (Fair)		Percent of Assessed Acres as Not Supporting (Poor)		Percent of Statewide Acres Not Assessed		Percent of Statewide Acres as Insufficient Information	
			2010	2008	2010	2008	2010	2008	2010	2008	2010	2008
<b>Year:</b>	<b>2010</b>	<b>2010</b>	<b>2010</b>	<b>2008</b>	<b>2010</b>	<b>2008</b>	<b>2010</b>	<b>2008</b>	<b>2010</b>	<b>2008</b>	<b>2010</b>	<b>2008</b>
Aesthetic Quality	142,553	45.0	9.8	6.8	82.6	66.9	7.6	26.3	52.4	52.5	2.6	2.7
Aquatic Life	142,571	45.0	91.3	69.4	8.7	30.6	0.0	0.00	52.4	52.5	2.6	2.7
Fish Consumption	92,280	29.0	7.4	7.9	92.0	92.1	0.6	0.0	71.0	72.7	0.0	0.0
Indigenous Aquatic Life	1,600	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Primary Contact	1,814	0.6	60.2	60.2	39.8	39.8	0.0	0.0	99.4	99.4	0.0	0.0
Public and Food Processing Water Supply	75,655	99.7	20.5	6.3	79.3	93.7	0.0	0.0	0.3	0.2	0.0	0.0
Secondary Contact	1,092	0.3	100.0	100.0	0.0	0.0	0.0	0.0	99.7	99.7	0.0	0.0
Designated Use	Number of Lakes Assessed	Percent of Statewide Lakes Assessed <sup>(1)</sup>	Percent of Assessed Lakes Fully Supporting (Good)		Percent of Assessed Lakes Not Supporting (Fair)		Percent of Assessed Lakes Not Supporting (Poor)		Percent of Statewide Lakes Not Assessed		Percent of Statewide Lakes as Insufficient Information	
			2010	2008	2010	2008	2010	2008	2010	2008	2010	2008
<b>Year:</b>	<b>2010</b>	<b>2010</b>	<b>2010</b>	<b>2008</b>	<b>2010</b>	<b>2008</b>	<b>2010</b>	<b>2008</b>	<b>2010</b>	<b>2008</b>	<b>2010</b>	<b>2008</b>
Aesthetic Quality	352	0.4	13.4	13.3	74.7	72.5	11.9	14.2	99.6	99.5	0.1	0.1
Aquatic Life	353	0.4	90.4	89.0	9.3	10.7	0.3	0.3	99.6	99.5	0.1	0.1
Fish Consumption	124	0.1	1.6	2.1	96.8	96.8	1.6	1.1	99.9	99.9	0.0	0.0
Indigenous Aquatic Life	1	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Primary Contact	15	0.02	46.7	46.7	53.3	53.3	0.0	0.0	99.98	99.98	0.0	0.0
Public and Food Processing Water Supply	74	93.7	24.3	23.7	75.7	76.3	0.0	0.0	6.3	5.0	0.0	0.0
Secondary Contact <sup>(2)</sup>	7	0.01	100.0		0.0		0.0		99.99	99.99	0.0	0.0

Note: Numbers and percentages may not add up due to slight rounding errors.

1. Statewide, in the time period covered by this summary, Illinois had 91,456 lakes and ponds designated for general uses, one lake designated for Indigenous Aquatic Life Use, and 79 lakes designated for Public and Food Processing Water Supply Use.

2. By definition, Secondary Contact Use is "Fully Supporting" in all waters in which Primary Contact Use is "Fully Supporting."

The major potential causes of impairment based on number of lake acres affected are total suspended solids, phosphorus (total) and aquatic algae, impairing *aquatic life* and *aesthetic quality* uses, and, mercury and polychlorinated biphenyls (PCBs) in fish tissue impairing *fish consumption* use (Table C-34). The major potential sources of impairment are crop production (crop land or dry land), atmospheric deposition of toxics, littoral/shore area modifications (nonriverine), other recreational pollution sources, runoff from forest/grassland/parkland, contaminated sediments, urban runoff/storm sewers, municipal point source discharges, and on-site treatment systems (septic systems and similar decentralized systems)(Table C-35).

## Illinois 2006 Causes of Impairment for 303(d) Listed Waters

<u>Cause of Impairment Group Name</u>	<u>Number of Causes of Impairment Reported</u>
<a href="#">Nutrients</a>	673
<a href="#">Metals (other than Mercury)</a>	318
<a href="#">Turbidity</a>	306
<a href="#">Organic Enrichment/Oxygen Depletion</a>	281
<a href="#">Polychlorinated Biphenyls (PCBs)</a>	264
<a href="#">Pathogens</a>	243
<a href="#">Sediment</a>	219
<a href="#">Salinity/Total Dissolved Solids/Chlorides/Sulfates</a>	155
<a href="#">Pesticides</a>	146
<a href="#">Cause Unknown</a>	110
<a href="#">pH/Acidity/Caustic Conditions</a>	84
<a href="#">Mercury</a>	78
<a href="#">Ammonia</a>	23
<a href="#">Toxic Inorganics</a>	17
<a href="#">Radiation</a>	7
<a href="#">Oil and Grease</a>	4
<a href="#">Dioxins</a>	1
<a href="#">Chlorine</a>	1

Total: 2,930 Causes of Impairment

## Illinois Cumulative TMDLs by Pollutant (2006)

This chart includes TMDLs since October 1, 1995.

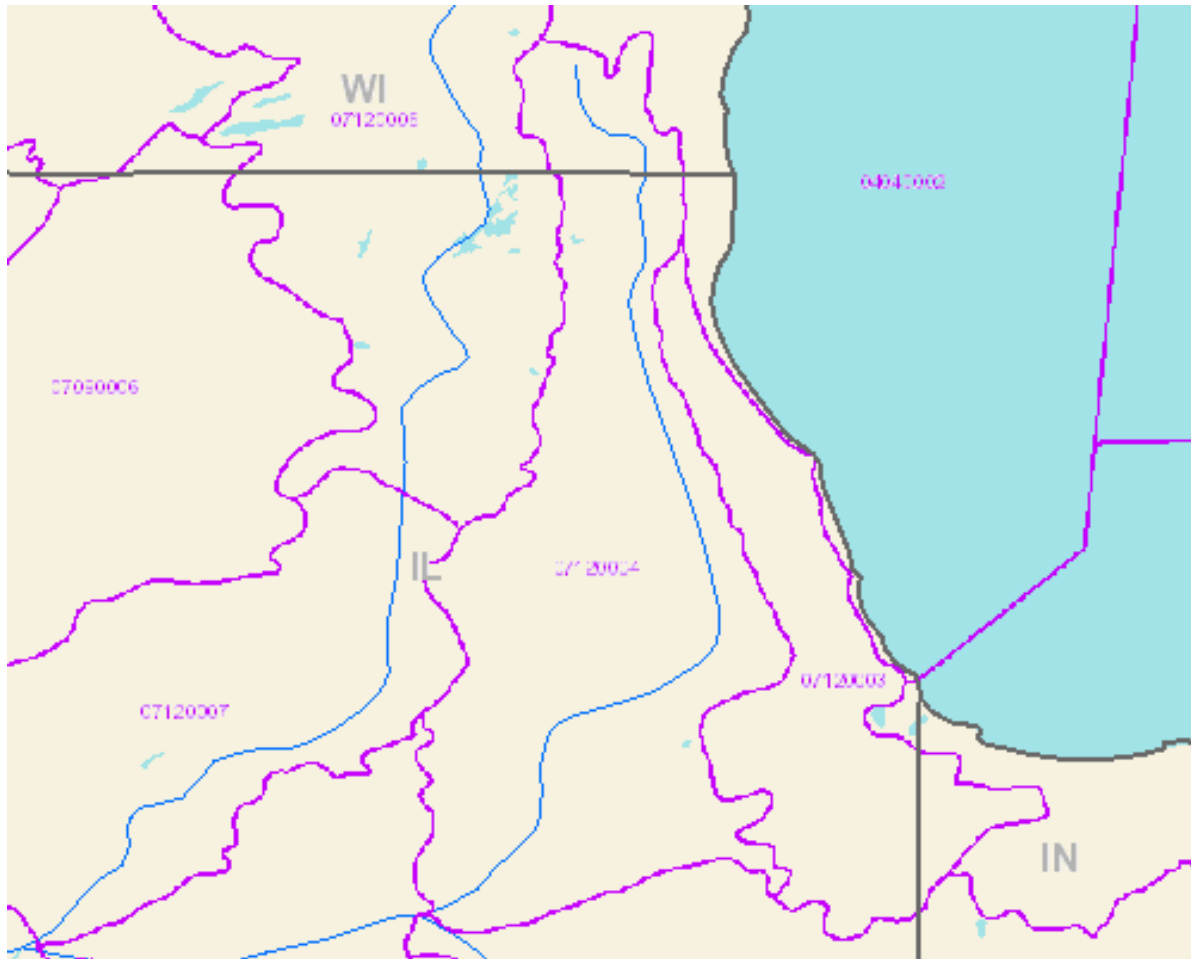
<u>Pollutant</u>	<u>Number of TMDLs</u>	<u>Number of Causes of Impairment Addressed</u>
<a href="#">Fecal Coliform</a>	55	56
<a href="#">Manganese</a>	52	76
<a href="#">Phosphorus, Total</a>	43	90
<a href="#">Phosphorus</a>	26	85
<a href="#">Chloride</a>	12	15
<a href="#">Biochemical Oxygen Demand (BOD)</a>	11	11
<a href="#">Total Dissolved Solids (TDS)</a>	11	11
<a href="#">Sulfates</a>	9	11
<a href="#">Ammonia Nitrogen</a>	8	15
<a href="#">Carbonaceous Bod</a>	8	8
<a href="#">Ammonia</a>	7	7
<a href="#">Atrazine</a>	7	7
<a href="#">Iron</a>	7	7
<a href="#">pH</a>	7	7
<a href="#">Total Suspended Solids (TSS)</a>	6	8
<a href="#">Nitrates</a>	5	9
<a href="#">Sulfate</a>	4	5
<a href="#">Silver</a>	3	3
<a href="#">Total Ammonia</a>	3	3
<a href="#">Cadmium</a>	2	2

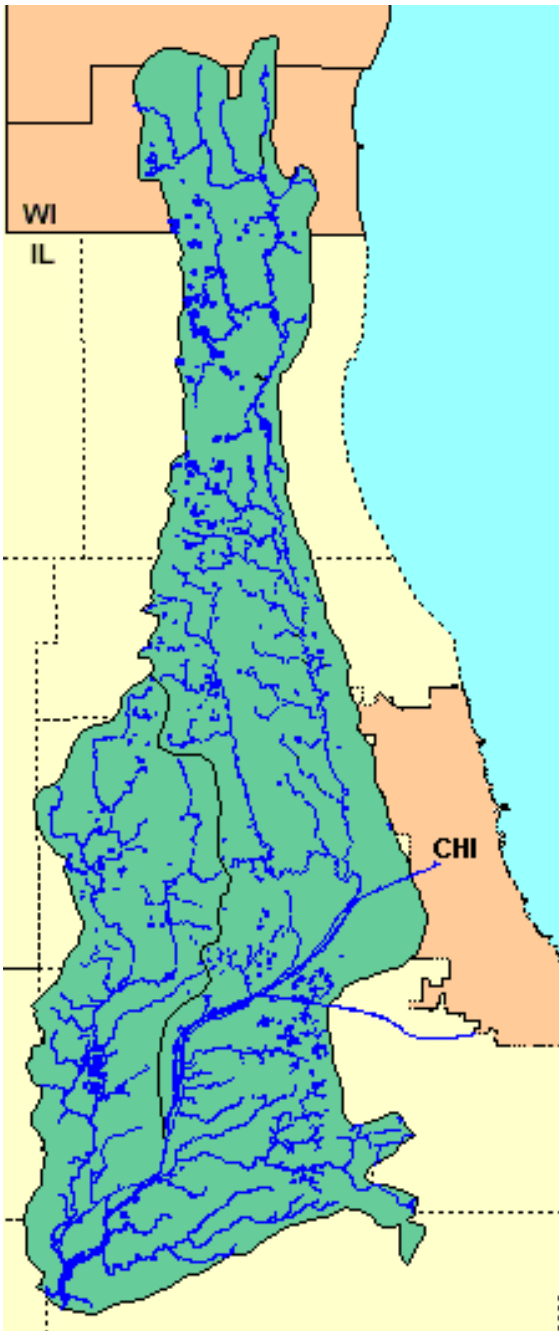
## Illinois Cumulative TMDLs by Pollutant (2006)

<u>Pollutant</u>	<u>Number of TMDLs</u>	<u>Number of Causes of Impairment Addressed</u>
<a href="#">Copper</a>	2	2
<a href="#">Nitrate</a>	2	3
<a href="#">Nitrogen, Total</a>	2	2
<a href="#">Nutrients</a>	2	2
<a href="#">Sediment</a>	2	2
<a href="#">Siltation</a>	2	2
<a href="#">Suspended Solids</a>	2	2
<a href="#">Inorganic Phosphorus</a>	1	1
<a href="#">Nickel</a>	1	1
<a href="#">Nitrogen</a>	1	2
<a href="#">Organic Phosphorus</a>	1	1
<a href="#">Zinc</a>	1	1

Total: 305 TMDLs; 457 Causes of Impairment Addressed

# Illinois, Des Plaines Watershed





# Des Plaines River Watershed



**Listed Waters for Reporting Year 2006  
Illinois, Des Plaines Watershed**

[Description of this table](#)

<a href="#">Waterbody Name</a>	<a href="#">Waterbody ID</a>	<a href="#">Location</a>	<a href="#">Waterbody Type</a>	<a href="#">Size</a>	<a href="#">Units</a>	<a href="#">State TMDL Development Status</a>
<a href="#">Addison Cr.</a>	ILGLA01_GLA 02		Rivers and Streams	6.64	miles	TMDL needed
<a href="#">Addison Cr.</a>	ILGLA01_GLA 04		Rivers and Streams	3.87	miles	TMDL needed
<a href="#">Albert Lake (Outlet)</a>	IL_VGG		Lakes, Reservoirs, and Ponds	18	acres	TMDL needed
<a href="#">Beck</a>	IL_RGE		Lakes, Reservoirs, and Ponds	38	acres	TMDL needed
<a href="#">Big Bear</a>	ILGU02_WGZU		Lakes, Reservoirs, and Ponds	25.6	acres	
<a href="#">Big Bend</a>	ILG30_RGL		Lakes, Reservoirs, and Ponds	22	acres	
<a href="#">Bresen Lake</a>	IL_UGN		Lakes, Reservoirs, and Ponds	24	acres	TMDL needed
<a href="#">Buffalo Creek</a>	IL_SGC		Lakes, Reservoirs, and Ponds	35	acres	TMDL needed
<a href="#">Buffalo Creek</a>	IL_GST		Rivers and Streams	8.82	miles	TMDL needed
<a href="#">Bullfrog</a>	IL_RHZF		Lakes, Reservoirs, and Ponds	16	acres	TMDL needed
<a href="#">Busse Woods</a>	ILGL09_RGZX		Lakes, Reservoirs, and Ponds	590	acres	
<a href="#">Butler</a>	IL_RGJ		Lakes, Reservoirs, and Ponds	55	acres	TMDL needed
<a href="#">Butterfield Creek</a>	IL_HBDB03		Rivers and Streams	14.65	miles	TMDL needed
<a href="#">Calumet-Sag Channel</a>	ILH01_H 01		Rivers and Streams	5.8	miles	TMDL needed
<a href="#">Chic. San. &amp; Ship Canal</a>	ILGI02_GI 02		Canal	15.26	miles	TMDL needed
<a href="#">Chic. San. &amp; Ship Canal</a>	ILGI03_GI 03		Canal	4.85	miles	TMDL needed
<a href="#">Chic. San. &amp; Ship Canal</a>	ILGI02_GI 06		Canal	4.52	miles	TMDL needed
<a href="#">Chic. San. &amp; Ship Canal</a>	ILGI02_GI 02		Rivers and Streams	12.28	miles	TMDL needed
<a href="#">Chic. San. &amp; Ship Canal</a>	ILGI02_GI 06		Rivers and Streams	12.34	miles	TMDL needed

**Listed Waters for Reporting Year 2006  
Illinois, Des Plaines Watershed**

<u>Waterbody Name</u>	<u>Waterbody ID</u>	<u>Location</u>	<u>Waterbody Type</u>	<u>Size</u>	<u>Units</u>	<u>State TMDL Development Status</u>
<a href="#">Chic. San. &amp; Ship Canal</a>	ILGI03 _GI 03		Rivers and Streams	5.92	miles	TMDL needed
<a href="#">Churchill Lagoon</a>	IL_RGG		Lakes, Reservoirs, and Ponds	21	acres	TMDL needed
<a href="#">Columbus Park Lag.</a>	IL_RHT		Lakes, Reservoirs, and Ponds	5.8	acres	TMDL needed
<a href="#">Countryside Lake</a>	IL_RGQ		Lakes, Reservoirs, and Ponds	142	acres	TMDL needed
<a href="#">Crooked</a>	IL_RGZA		Lakes, Reservoirs, and Ponds	140	acres	TMDL needed
<a href="#">Deep (Lake)</a>	IL_VTD		Lakes, Reservoirs, and Ponds	225.5	acres	TMDL needed
<a href="#">Deer Lake</a>	IL_WGZF		Lakes, Reservoirs, and Ponds	59	acres	TMDL needed
<a href="#">Desplaines River</a>	ILG30 _G 32		Rivers and Streams	6.13	miles	TMDL needed
<a href="#">Desplaines River</a>	ILG30 _G 36		Rivers and Streams	6.95	miles	TMDL needed
<a href="#">Desplaines River</a>	ILG30 _G 30		Rivers and Streams	5.05	miles	TMDL needed
<a href="#">Desplaines River</a>	ILG08 _G 08		Rivers and Streams	.99	miles	TMDL needed
<a href="#">Desplaines River</a>	ILG30 _G 26		Rivers and Streams	5.93	miles	TMDL needed
<a href="#">Desplaines River</a>	ILG01 _G 24		Rivers and Streams	4.19	miles	TMDL needed
<a href="#">Desplaines River</a>	ILG11 _G 03		Rivers and Streams	8.56	miles	TMDL needed
<a href="#">Desplaines River</a>	ILG11 _G 39		Rivers and Streams	15.96	miles	TMDL needed
<a href="#">Desplaines River</a>	ILG30 _G 15		Rivers and Streams	3.49	miles	TMDL needed
<a href="#">Desplaines River</a>	ILG30 _G 28		Rivers and Streams	8.84	miles	TMDL needed
<a href="#">Desplaines River</a>	ILG30 _G 35		Rivers and Streams	5.1	miles	TMDL needed
<a href="#">Desplaines River</a>	ILG01 _G 01		Rivers and Streams	2.4	miles	TMDL needed
<a href="#">Desplaines River</a>	ILG01 _G 12		Rivers and Streams	9.4	miles	TMDL needed
<a href="#">Desplaines River</a>	ILG08 _G 25		Rivers and Streams	6.92	miles	TMDL needed
<a href="#">Desplaines River</a>	ILG11 _G 11		Rivers and Streams	3.17	miles	TMDL needed

**Listed Waters for Reporting Year 2006  
Illinois, Des Plaines Watershed**

<u>Waterbody Name</u>	<u>Waterbody ID</u>	<u>Location</u>	<u>Waterbody Type</u>	<u>Size</u>	<u>Units</u>	<u>State TMDL Development Status</u>
<a href="#">Desplaines River</a>	ILG23 _G 23		Rivers and Streams	3.16	miles	TMDL needed
<a href="#">Desplaines River</a>	ILG30 _G 07		Rivers and Streams	10.28	miles	TMDL needed
<a href="#">Desplaines River</a>	ILG30 _G 22		Rivers and Streams	4.12	miles	TMDL needed
<a href="#">Diamond</a>	ILGU02 _RGB		Lakes, Reservoirs, and Ponds	154	acres	
<a href="#">Druce</a>	IL_RGV		Lakes, Reservoirs, and Ponds	87	acres	TMDL needed
<a href="#">Dupage River</a>	IL_GB 11		Rivers and Streams	9.81	miles	
<a href="#">Dupage River</a>	IL_GB 16		Rivers and Streams	10.39	miles	
<a href="#">Dupage River</a>	ILGB11 _GB 03		Rivers and Streams	5.57	miles	
<a href="#">E. Br. Dupage R.</a>	IL_GBL-02		Rivers and Streams	8.3	miles	TMDL needed
<a href="#">E. Br. Dupage River</a>	ILGBL10_GBL 08		Rivers and Streams	5.57	miles	TMDL needed
<a href="#">E. Br. Dupage River</a>	ILGBL10_GBL 11		Rivers and Streams	3.57	miles	TMDL needed
<a href="#">E. Br. Dupage River</a>	ILGBL10_GBL 05		Rivers and Streams	3.16	miles	TMDL needed
<a href="#">E. Br. Dupage River</a>	ILGBL10_GBL 10		Rivers and Streams	4.63	miles	TMDL needed
<a href="#">Fiddymnt Cr.</a>	IL_GHC		Rivers and Streams	4.86	miles	TMDL needed
<a href="#">Flag Creek</a>	ILGK03 _GK 03		Rivers and Streams	7.75	miles	TMDL needed
<a href="#">Forest</a>	IL_RGZG		Lakes, Reservoirs, and Ponds	40	acres	TMDL needed
<a href="#">Fourth Lake</a>	IL_RGZC		Lakes, Reservoirs, and Ponds	306	acres	TMDL needed
<a href="#">Frankfort Trib.</a>	ILGG02 _GGF		Rivers and Streams	4.09	miles	TMDL needed
<a href="#">Gages</a>	IL_RGI		Lakes, Reservoirs, and Ponds	139	acres	TMDL needed
<a href="#">Grandwood Park Lake</a>	IL_UGC		Lakes, Reservoirs, and Ponds	8.9	acres	TMDL needed
<a href="#">Grant Cr.</a>	IL_GA-01		Rivers and Streams	8.92	miles	TMDL needed
<a href="#">Halfday Pit</a>	IL_UGB		Lakes, Reservoirs, and Ponds	12.82	acres	TMDL needed

**Listed Waters for Reporting Year 2006  
Illinois, Des Plaines Watershed**

<u>Waterbody Name</u>	<u>Waterbody ID</u>	<u>Location</u>	<u>Waterbody Type</u>	<u>Size</u>	<u>Units</u>	<u>State TMDL Development Status</u>
<a href="#">Harvey Lake</a>	IL_VGJ		Lakes, Reservoirs, and Ponds	15	acres	TMDL needed
<a href="#">Hastings</a>	IL_RGZB		Lakes, Reservoirs, and Ponds	76	acres	TMDL needed
<a href="#">Hastings Creek</a>	ILGWAA01_GWAA		Rivers and Streams	4.72	miles	TMDL needed
<a href="#">Herrick</a>	ILGBK05_WGM		Lakes, Reservoirs, and Ponds	20.5	acres	
<a href="#">Hickory Cr.</a>	IL_GG-06		Rivers and Streams	12.15	miles	TMDL needed
<a href="#">Hickory Creek</a>	ILGG02 _GG 02		Rivers and Streams	9.93	miles	TMDL needed
<a href="#">Hidden</a>	IL_WGZR		Lakes, Reservoirs, and Ponds	10	acres	TMDL needed
<a href="#">Higgins Creek</a>	IL_GOA 01		Rivers and Streams	1	miles	
<a href="#">Higgins Creek</a>	IL_GOA 02		Rivers and Streams	1	miles	
<a href="#">Horsetail</a>	IL_RHQB		Lakes, Reservoirs, and Ponds	11	acres	TMDL needed
<a href="#">Independence Grove</a>	IL_SGH		Lakes, Reservoirs, and Ponds	115	acres	TMDL needed
<a href="#">Indian</a>	ILGL09 _WGZY		Lakes, Reservoirs, and Ponds	13	acres	
<a href="#">Indian Creek</a>	ILGU02 _GU 02		Rivers and Streams	10.51	miles	TMDL needed
<a href="#">International Mining And Chemical</a>	IL_VGF		Lakes, Reservoirs, and Ponds	6.7	acres	TMDL needed
<a href="#">Jackson Br.</a>	IL_GCB		Rivers and Streams	8.93	miles	TMDL needed
<a href="#">Jackson Cr.</a>	IL_GC-03		Rivers and Streams	14.34	miles	TMDL needed
<a href="#">Lake Charles</a>	IL_RGZJ		Lakes, Reservoirs, and Ponds	39	acres	TMDL needed
<a href="#">Lake Leo</a>	IL_UGL		Lakes, Reservoirs, and Ponds	15	acres	TMDL needed
<a href="#">Lake Naomi</a>	IL_UGM		Lakes, Reservoirs, and Ponds	13	acres	TMDL needed

**Listed Waters for Reporting Year 2006  
Illinois, Des Plaines Watershed**

<u>Waterbody Name</u>	<u>Waterbody ID</u>	<u>Location</u>	<u>Waterbody Type</u>	<u>Size</u>	<u>Units</u>	<u>State TMDL Development Status</u>
<a href="#">Liberty</a>	IL_RGT		Lakes, Reservoirs, and Ponds	31	acres	TMDL needed
<a href="#">Lily Cache Creek</a>	ILGBE01_GBE 02		Rivers and Streams	9.55	miles	TMDL needed
<a href="#">Linden</a>	IL_RGC		Lakes, Reservoirs, and Ponds	31	acres	TMDL needed
<a href="#">Little Bear</a>	ILGU02_WGZV		Lakes, Reservoirs, and Ponds	26	acres	
<a href="#">Loch Lomond</a>	IL_RGU		Lakes, Reservoirs, and Ponds	75	acres	TMDL needed
<a href="#">Manhattan Cr.</a>	IL_GCA-01		Rivers and Streams	8.3	miles	TMDL needed
<a href="#">Maple</a>	ILGI02_RHD		Lakes, Reservoirs, and Ponds	58.4	acres	
<a href="#">Marmo</a>	ILGBL10_WGB		Lakes, Reservoirs, and Ponds	3.7	acres	
<a href="#">Meadow</a>	ILGBL10_WGA		Lakes, Reservoirs, and Ponds	4.9	acres	
<a href="#">Omaha</a>	IL_RAS		Lakes, Reservoirs, and Ponds	22	acres	TMDL needed
<a href="#">Opeka</a>	ILG30_RGF		Lakes, Reservoirs, and Ponds	40.5	acres	
<a href="#">Peterson Pond</a>	IL_UGI		Lakes, Reservoirs, and Ponds	9	acres	TMDL needed
<a href="#">Pickerel</a>	ILD38_WGZL		Lakes, Reservoirs, and Ponds	22	acres	
<a href="#">Pond-A-Rudy</a>	IL_UGP		Lakes, Reservoirs, and Ponds	14	acres	TMDL needed
<a href="#">Potomac Lake</a>	IL_RGZK		Rivers and Streams	12	miles	TMDL needed
<a href="#">Ramussen Lake</a>	IL_UGY		Lakes, Reservoirs, and Ponds	55	acres	TMDL needed
<a href="#">Rice (Dupage)</a>	ILGBL10_WGZW		Lakes, Reservoirs, and Ponds	38	acres	

**Listed Waters for Reporting Year 2006  
Illinois, Des Plaines Watershed**

<u>Waterbody Name</u>	<u>Waterbody ID</u>	<u>Location</u>	<u>Waterbody Type</u>	<u>Size</u>	<u>Units</u>	<u>State TMDL Development Status</u>
<a href="#">Rock Run</a>	IL_GBAA-01		Rivers and Streams	9.63	miles	TMDL needed
<a href="#">S. Br. Chicago River</a>	ILHC01 _HC 01		Rivers and Streams	4.94	miles	TMDL needed
<a href="#">Saganashkee</a>	ILH01 _RHH		Lakes, Reservoirs, and Ponds	325.4	acres	
<a href="#">Salem-Reed</a>	IL_WGK		Lakes, Reservoirs, and Ponds	41	acres	TMDL needed
<a href="#">Salt Creek</a>	ILGL09 _GL		Rivers and Streams	11.19	miles	TMDL needed
<a href="#">Salt Creek</a>	ILGL09 _GL 03		Rivers and Streams	10.43	miles	TMDL needed
<a href="#">Salt Creek</a>	ILGL09 _GL 19		Rivers and Streams	3.09	miles	TMDL needed
<a href="#">Salt Creek</a>	ILGL09 _GL 10		Rivers and Streams	3.68	miles	TMDL needed
<a href="#">Salt Creek</a>	ILGL09 _GL 09		Rivers and Streams	11.79	miles	TMDL needed
<a href="#">Schiller Pond</a>	ILG30 _SGF		Lakes, Reservoirs, and Ponds	6	acres	
<a href="#">Sedgewick</a>	ILGG02 _RGZZ		Lakes, Reservoirs, and Ponds	75	acres	
<a href="#">Silver (Dupage)</a>	ILGBK05_RGD		Lakes, Reservoirs, and Ponds	56.9	acres	
<a href="#">Slough</a>	IL_RGZE		Lakes, Reservoirs, and Ponds	38	acres	TMDL needed
<a href="#">Spring Brook</a>	IL_GBKA-01		Rivers and Streams	3.55	miles	TMDL needed
<a href="#">Spring Brook</a>	IL_GBKA		Rivers and Streams	1.87	miles	TMDL needed
<a href="#">Spring Brook</a>	ILGL09 _GLB 01		Rivers and Streams	3.14	miles	TMDL needed
<a href="#">Spring Cr.</a>	IL_GGA-02		Rivers and Streams	15.26	miles	TMDL needed
<a href="#">St. Joseph Creek</a>	ILGBL10_GBLB01		Rivers and Streams	4.28	miles	TMDL needed
<a href="#">St. Mary'S Lake</a>	IL_UGF		Lakes, Reservoirs, and Ponds	105	acres	TMDL needed
<a href="#">Sterling Pond</a>	ILGBL10_WGC		Lakes, Reservoirs, and Ponds	2.1	acres	
<a href="#">Sugar Run</a>	IL_GF-01		Rivers and Streams	6.75	miles	TMDL needed

**Listed Waters for Reporting Year 2006  
Illinois, Des Plaines Watershed**

<u>Waterbody Name</u>	<u>Waterbody ID</u>	<u>Location</u>	<u>Waterbody Type</u>	<u>Size</u>	<u>Units</u>	<u>State TMDL Development Status</u>
<a href="#">Sylvan</a>	IL_RGZF		Lakes, Reservoirs, and Ponds	32	acres	TMDL needed
<a href="#">Tampier Lake</a>	IL_RGZO		Lakes, Reservoirs, and Ponds	161.6	acres	TMDL needed
<a href="#">Third</a>	IL_RGW		Lakes, Reservoirs, and Ponds	162	acres	TMDL needed
<a href="#">Union Ditch</a>	ILGG02 _GGC-FN-C1		Rivers and Streams	1.42	miles	TMDL needed
<a href="#">Union Ditch</a>	IL_GGC-FN-A1		Rivers and Streams	4.39	miles	TMDL needed
<a href="#">Valley</a>	IL_RGZM		Lakes, Reservoirs, and Ponds	15	acres	TMDL needed
<a href="#">W. Br. Dupage R.</a>	IL_GBK-02		Rivers and Streams	3.78	miles	TMDL needed
<a href="#">W. Br. Dupage River</a>	ILGBK05_GBK 11		Rivers and Streams	9	miles	TMDL needed
<a href="#">W. Br. Dupage River</a>	ILGBK05_GBK 09		Rivers and Streams	4.41	miles	TMDL needed
<a href="#">W. Br. Dupage River</a>	ILGBK05_GBK 07		Rivers and Streams	6.32	miles	TMDL needed
<a href="#">W. Br. Dupage River</a>	ILGBK05_GBK 05		Rivers and Streams	2.86	miles	TMDL needed
<a href="#">W. Br. Dupage River</a>	ILGBK05_GBK 12		Rivers and Streams	3.81	miles	TMDL needed
<a href="#">Waterford (Walden)</a>	IL_WGS		Lakes, Reservoirs, and Ponds	67	acres	TMDL needed
<a href="#">Werhane Lake</a>	IL_VGH		Lakes, Reservoirs, and Ponds	15	acres	TMDL needed
<a href="#">White Lake</a>	IL_UGX		Lakes, Reservoirs, and Ponds	42	acres	TMDL needed
<a href="#">Willow</a>	IL_UGT		Lakes, Reservoirs, and Ponds	8.9	acres	TMDL needed
<a href="#">Willow Cr.</a>	IL_GO-01		Rivers and Streams	7.66	miles	TMDL needed

**Causes of Impairment for Reporting Year 2006**  
**Illinois, Des Plaines**

<u>Cause of Impairment</u>	<u>Number of Causes Reported</u>
Phosphorus, Total	94
Total Suspended Solids (TSS)	54
Nitrogen, Total	42
Dissolved Oxygen	33
Polychlorinated Biphenyls (PCBs)	33
Fecal Coliform	31
Sedimentation/Siltation	27
Mercury	25
Cause Unknown	20
Total Dissolved Solids (TDS)	19
Chlorides	13
DDT	13
Silver	12
Hexachlorobenzene	11
pH	8
Nickel	7
Zinc	7
Aldrin	3
Copper	3
Manganese	3
Endrin	2
Iron	2
Methoxychlor	2
Oil and Grease	2
vTotal Ammonia	2
Alpha-BHC	1
Ammonia, Un-ionized	1
Arsenic	1



**Causes of Impairment for Reporting Year 2006**  
**Illinois, Des Plaines**

<u>Cause of Impairment</u>	<u>Number of Causes Reported</u>
Cadmium	1
Chromium	1
Fluoride	1
Heptachlor	1
Lindane	1
Sulfates	1

## Cumulative TMDLs by Pollutant Illinois, Des Plaines Watershed

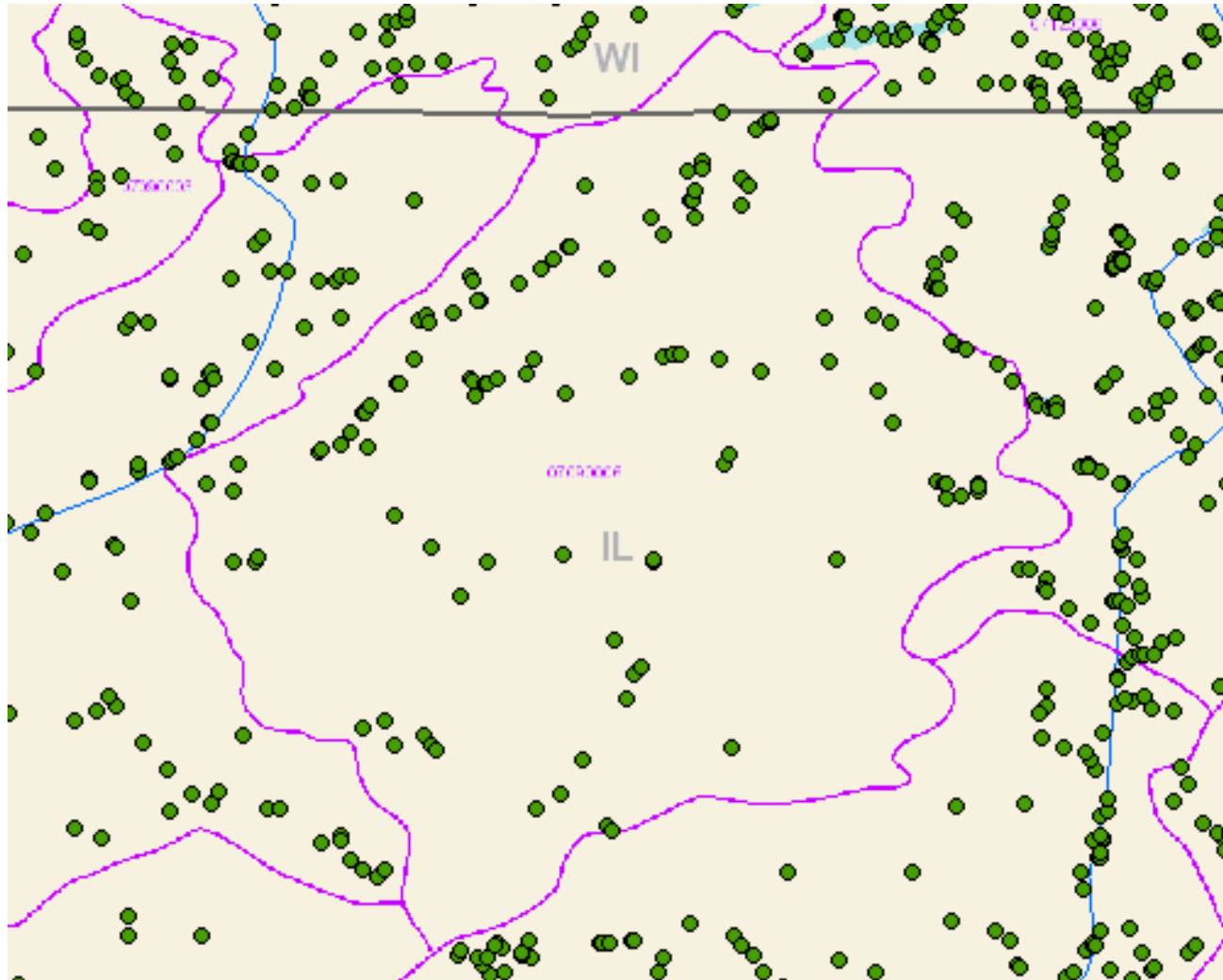
This chart includes TMDLs since October 1, 1995.

<u>Pollutant</u>	<u>Number of TMDLs Completed</u>	<u>Number of Causes of Impairment Addressed</u>
<a href="#">Chloride</a>	13	15
<a href="#">Biochemical Oxygen Demand (BOD)</a>	9	9
<a href="#">Ammonia Nitrogen</a>	7	9
<a href="#">Total Suspended Solids (TSS)</a>	3	4
<a href="#">Phosphorus, Total</a>	2	3
<a href="#">Suspended Solids</a>	2	2

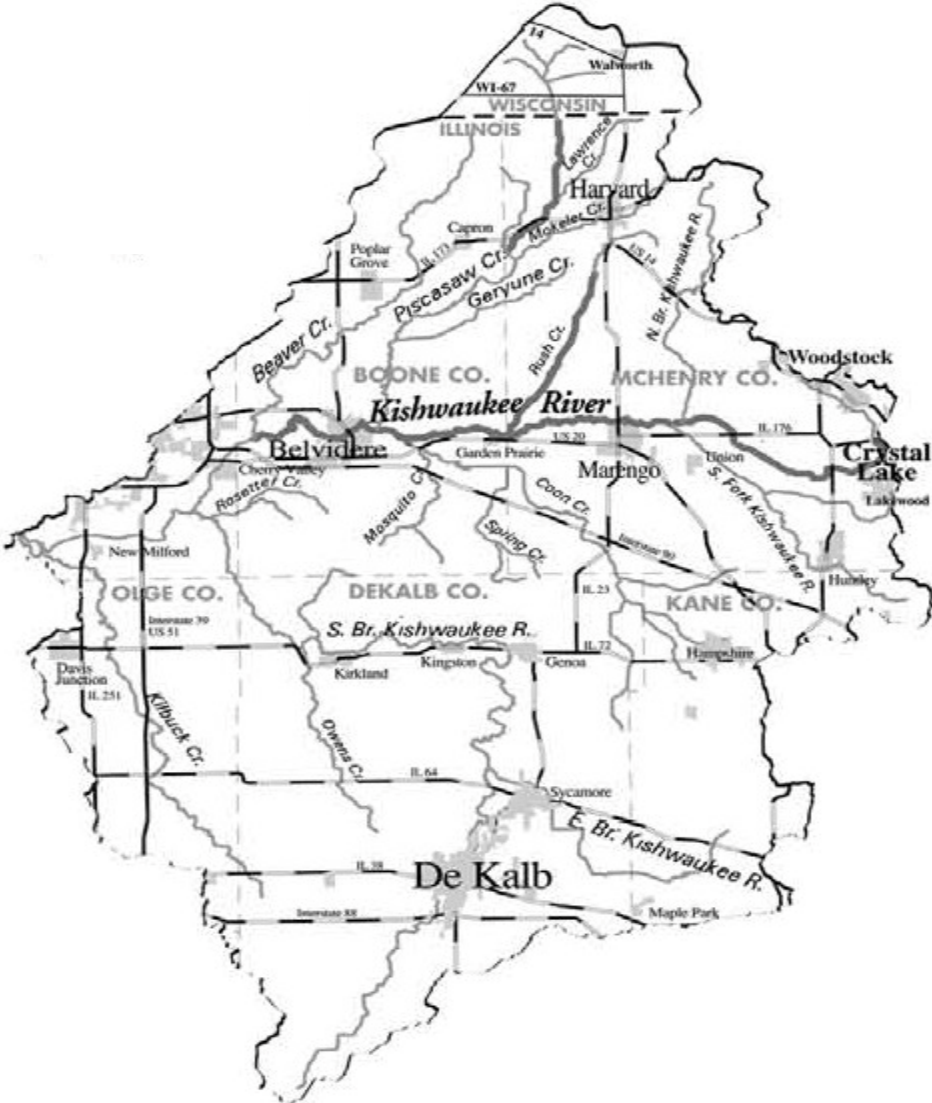
# Des Plaines, Illinois Watershed 303(d) Impaired Waters – Summary (2006)

- Number of Listed Waterbodies = 137
- Number of Listed Bodies for which TMDL Documents are Needed = 114
- Number of Des Plaines Watershed 303(d) Impaired Waterbodies with PAHs as Cause of Impairment = 0

# Illinois, Kishwaukee Watershed



# Illinois, Kishwaukee Watershed



**Listed Waters for Reporting Year 2006  
Illinois, Kishwaukee Watershed**

<u>Waterbody Name</u>	<u>Waterbody ID</u>	<u>Location</u>	<u>Waterbody Type</u>	<u>Size</u>	<u>Units</u>	<u>State TMDL Development Status</u>
<a href="#">Coon Creek</a>	ILPOF06 _PQF 07		Rivers and Streams	21.99	miles	TMDL needed
<a href="#">Deer Cr.</a>	IL_POCE		Rivers and Streams	9.05	miles	TMDL needed
<a href="#">E. Br. Killbuck Cr.</a>	IL_POBA		Rivers and Streams	14.17	miles	TMDL needed
<a href="#">Hampshire Cr.</a>	IL_POFD-H-C1		Rivers and Streams	3.41	miles	TMDL needed
<a href="#">Huntley Ditch</a>	IL_POIB-H-C1		Rivers and Streams	.54	miles	TMDL needed
<a href="#">Killbuck Creek</a>	ILPOB02 _PQB 02		Rivers and Streams	6.2	miles	TMDL needed
<a href="#">Kishwaukee River</a>	ILPQ10 _PQ 10		Rivers and Streams	11.56	miles	TMDL needed
<a href="#">Kishwaukee River</a>	ILPQ10 _PQ 13		Rivers and Streams	18.31	miles	TMDL needed
<a href="#">Kishwaukee River</a>	ILPQ02 _PQ 02		Rivers and Streams	4.56	miles	TMDL needed
<a href="#">Kishwaukee River</a>	ILPQ12 _PQ 12		Rivers and Streams	10.83	miles	TMDL needed
<a href="#">Kishwaukee River</a>	ILPQ10 _PQ 07		Rivers and Streams	4.53	miles	TMDL needed
<a href="#">Kishwaukee River</a>	ILPQ14 _PQ 14		Rivers and Streams	10.59	miles	TMDL needed
<a href="#">Lawrence Cr.</a>	IL_POEC-C		Rivers and Streams	3.59	miles	TMDL needed
<a href="#">Lawrence Cr.</a>	ILPOEC01_POEC-A		Rivers and Streams	4.32	miles	TMDL needed
<a href="#">Mokeler Creek</a>	IL_POEA-H-C1		Rivers and Streams	1.17	miles	TMDL needed
<a href="#">S. Br. E. Kishwaukee River</a>	IL_POI 10		Rivers and Streams	5.81	miles	
<a href="#">S. Br. Kishwaukee River</a>	IL_POI-H-D1		Rivers and Streams	5.72	miles	TMDL needed
<a href="#">S. Br. Kishwaukee River</a>	ILPQC06 _PQC 11		Rivers and Streams	6.92	miles	TMDL needed
<a href="#">S. Br. Kishwaukee River</a>	ILPQC06 _PQC 06		Rivers and Streams	5.36	miles	TMDL needed
<a href="#">S. Br. Kishwaukee River</a>	ILPQC06 _PQC 09		Rivers and Streams	9.1	miles	TMDL needed
<a href="#">S. Br. Kishwaukee River</a>	ILPQC06 _PQC 02		Rivers and Streams	12.44	miles	TMDL needed
<a href="#">S. Br. Kishwaukee River</a>	ILPQC07_PQC 13		Rivers and Streams	14.06	miles	TMDL needed
<a href="#">S. Br. Kishwaukee River</a>	ILPQC06 _PQC 05		Rivers and Streams	15.59	miles	TMDL needed
<a href="#">S. Br. Kishwaukee River (East)</a>	IL_POI-H-C3		Rivers and Streams	2.65	miles	TMDL needed
<a href="#">S. Br. Kishwaukee River (East)</a>	IL_POI-H-C5		Rivers and Streams	4.03	miles	TMDL needed
<a href="#">Sycamore Lake</a>	ILPOCL01_RPZG		Lakes, Reservoirs, and Ponds	7.5	acres	

## Causes of Impairment for Reporting Year 2006

### Illinois, Kishwaukee

<u>Cause of Impairment</u>	<u>Number of Causes Reported</u>
Polychlorinated Biphenyls (PCBs)	13
Phosphorus, Total	7
Fecal Coliform	6
Sedimentation/Siltation	6
Cause Unknown	4
Nitrogen, Total	3
Barium	2
Copper	2
Total Dissolved Solids (TDS)	2
Chlorides	1
Hexachlorobenzene	1
Nickel	1
Zinc	1

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### Cumulative TMDLs by Pollutant

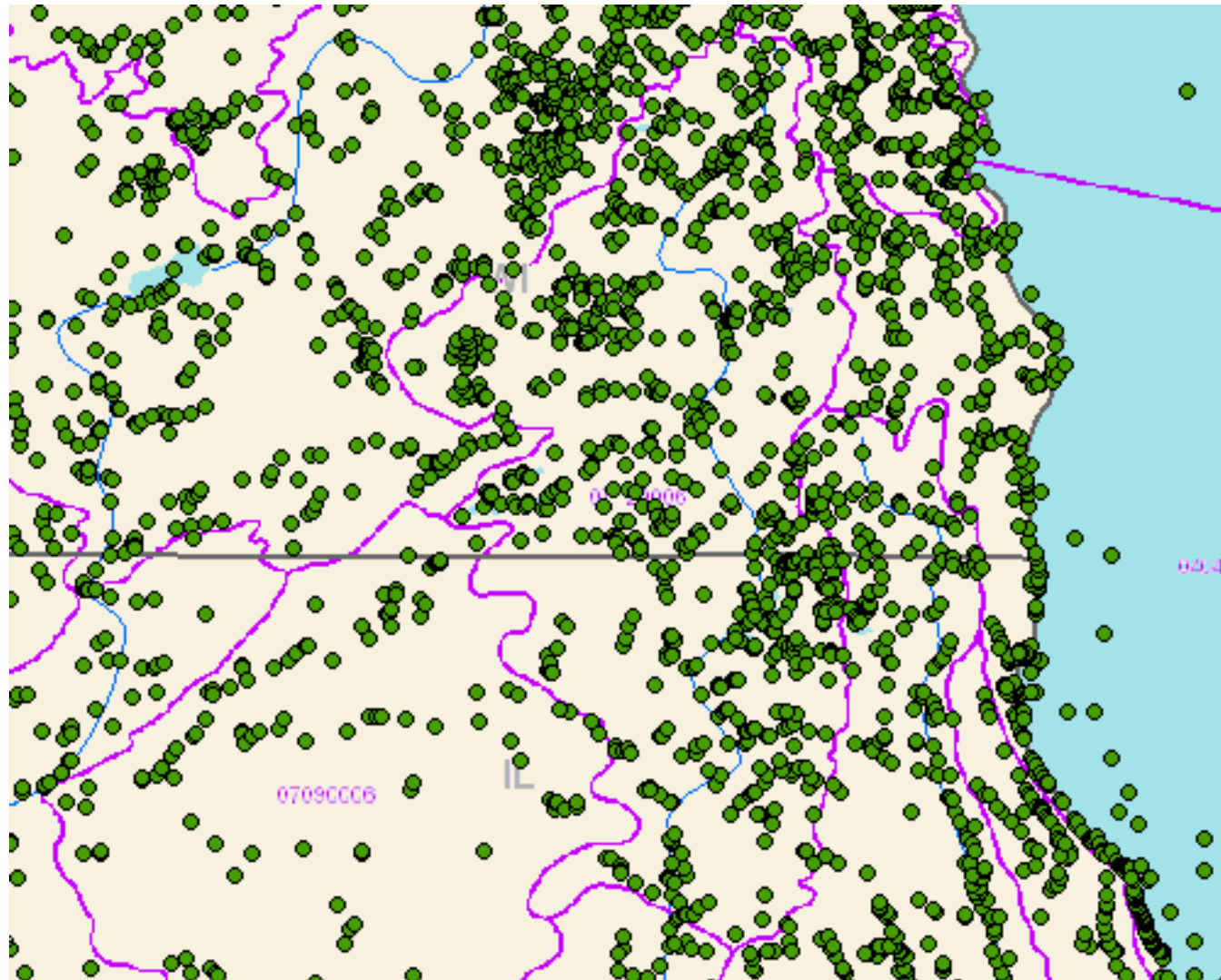
*No TMDL data have been reported to EPA for this watershed.*

# Kishwaukee, Illinois Watershed 303(d) Impaired Waters – Summary (2006)

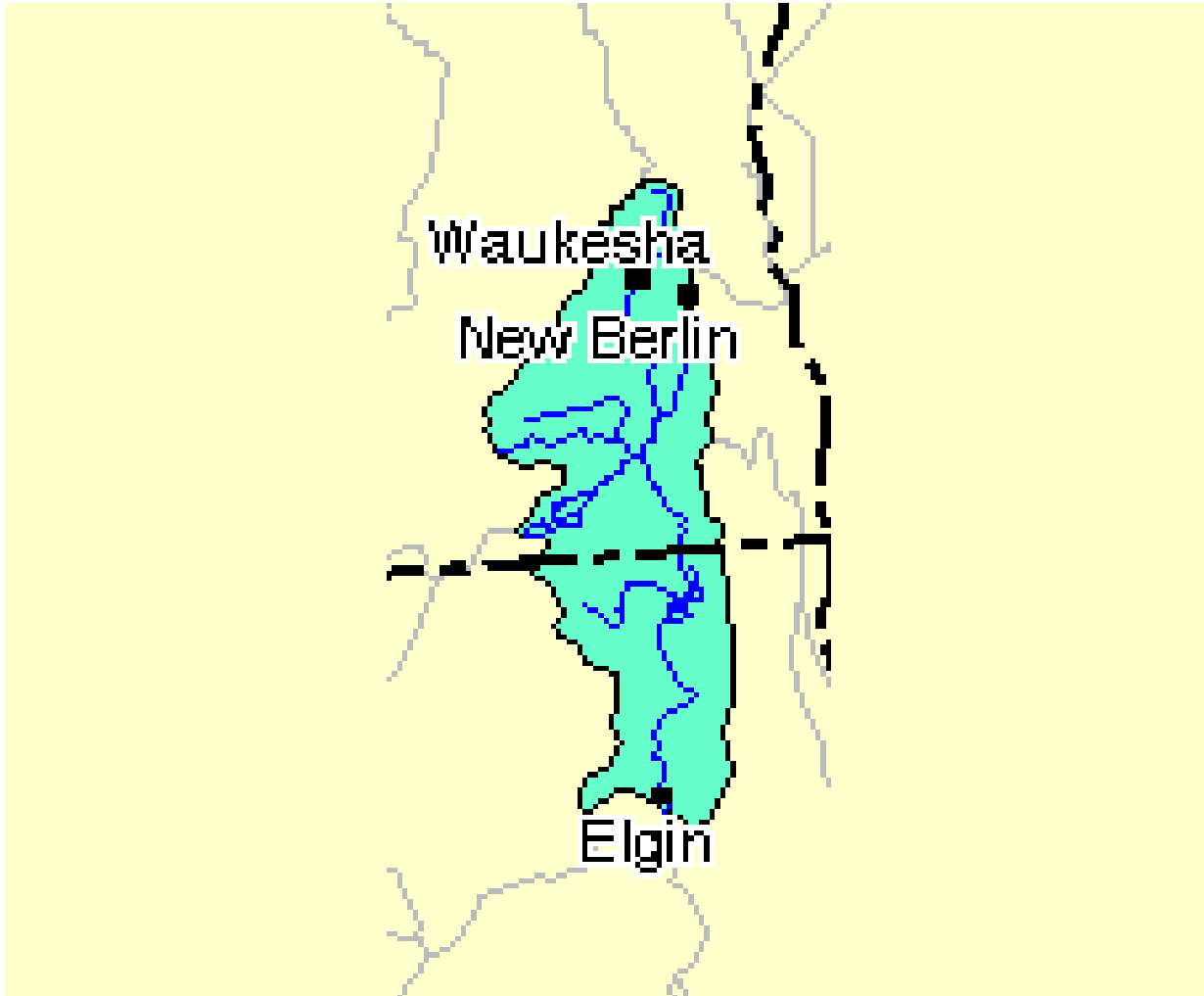
- Number of Listed Waterbodies = 26
- Number of Listed Bodies for which TMDL Documents are Needed = 24
- Number of Kishwaukee Watershed 303(d) Impaired Waterbodies with PAHs as Cause of Impairment = 0



# Illinois, Upper Fox Watershed



# Illinois, Upper Fox Watershed



**Listed Waters for Reporting Year 2006  
Illinois, Upper Fox Watershed**

<a href="#">Waterbody Name</a>	<a href="#">Waterbody ID</a>	<a href="#">Location</a>	<a href="#">Waterbody Type</a>	<a href="#">Size</a>	<a href="#">Units</a>	<a href="#">State TMDL Development Status</a>
<a href="#">Antioch</a>	IL_RTT		Lakes, Reservoirs, and Ponds	88	acres	TMDL needed
<a href="#">Bangs</a>	ILDT22_RTG		Lakes, Reservoirs, and Ponds	309	acres	
<a href="#">Barrington</a>	IL_RTZT		Lakes, Reservoirs, and Ponds	91	acres	TMDL needed
<a href="#">Bluff</a>	ILRTF_VTJ		Lakes, Reservoirs, and Ponds	86	acres	
<a href="#">Broberg Marsh</a>	IL_STN		Lakes, Reservoirs, and Ponds	77	acres	TMDL needed
<a href="#">Catherine</a>	ILRTF_RTD		Lakes, Reservoirs, and Ponds	147	acres	
<a href="#">Cedar (Lake)</a>	ILRTF_RTK		Lakes, Reservoirs, and Ponds	285	acres	
<a href="#">Channel</a>	ILRTF_RTI		Lakes, Reservoirs, and Ponds	318	acres	
<a href="#">Channel</a>	ILRTF_RTI		Rivers and Streams	318	miles	
<a href="#">Columbus Park Lake</a>	IL_UTP		Lakes, Reservoirs, and Ponds	7	acres	TMDL needed
<a href="#">Cross</a>	IL_UTV		Lakes, Reservoirs, and Ponds	88.91	acres	TMDL needed
<a href="#">Crystal Lake Outlet</a>	IL_DTZR-01		Rivers and Streams	5.67	miles	TMDL needed
<a href="#">Davis Lake</a>	IL_STQ		Lakes, Reservoirs, and Ponds	36	acres	TMDL needed
<a href="#">Drummond Lake</a>	IL_UTI		Lakes, Reservoirs, and Ponds	21	acres	TMDL needed
<a href="#">Duck</a>	ILRTF_RTZG		Lakes, Reservoirs, and Ponds	110	acres	
<a href="#">Dunns</a>	IL_VTH		Lakes, Reservoirs, and Ponds	68	acres	TMDL needed
<a href="#">East Loon</a>	IL_RTM		Lakes, Reservoirs, and Ponds	170	acres	TMDL needed
<a href="#">Echo</a>	IL_RTZR		Lakes, Reservoirs, and Ponds	25	acres	TMDL needed
<a href="#">Fischer Lake</a>	IL_VTT		Lakes, Reservoirs, and Ponds	23	acres	TMDL needed
<a href="#">Fish-Duncan</a>	IL_VTK		Lakes, Reservoirs, and Ponds	96	acres	TMDL needed
<a href="#">Flint Cr.</a>	IL_DTZS01		Rivers and Streams	10.13	miles	TMDL needed
<a href="#">Fox</a>	ILRTF_RTF		Lakes, Reservoirs, and Ponds	1709	acres	TMDL needed
<a href="#">Fox River</a>	ILDT22_DT 20		Rivers and Streams	5.62	miles	TMDL needed
<a href="#">Fox River</a>	ILDT22_DT 06		Rivers and Streams	11.96	miles	TMDL needed
<a href="#">Fox River</a>	ILDT22_DT 23		Rivers and Streams	28.83	miles	TMDL needed
<a href="#">Fox River</a>	ILDT35_DT 35		Rivers and Streams	3.21	miles	TMDL needed

**Listed Waters for Reporting Year 2006  
Illinois, Upper Fox Watershed**

<a href="#">Waterbody Name</a>	<a href="#">Waterbody ID</a>	<a href="#">Location</a>	<a href="#">Waterbody Type</a>	<a href="#">Size</a>	<a href="#">Units</a>	<a href="#">State TMDL Development Status</a>
<a href="#">Fox River</a>	ILDT22_DT 22		Rivers and Streams	8.15	miles	TMDL needed
<a href="#">Fox River</a>	ILDT22_DT 18		Rivers and Streams	7.53	miles	TMDL needed
<a href="#">Grass</a>	ILRTF_RTQ		Lakes, Reservoirs, and Ponds	1478	acres	
<a href="#">Grassy (Lake)</a>	IL_VTI		Lakes, Reservoirs, and Ponds	41	acres	TMDL needed
<a href="#">Grays</a>	IL_RGK		Lakes, Reservoirs, and Ponds	80	acres	TMDL needed
<a href="#">Hidden Lake</a>	IL_UTM		Lakes, Reservoirs, and Ponds	19	acres	TMDL needed
<a href="#">Honey</a>	IL_RTZU		Lakes, Reservoirs, and Ponds	66	acres	TMDL needed
<a href="#">Island</a>	IL_RTZI		Lakes, Reservoirs, and Ponds	78.2	acres	TMDL needed
<a href="#">Lake Fairview</a>	IL_STK		Lakes, Reservoirs, and Ponds	20	acres	TMDL needed
<a href="#">Lake Holloway</a>	IL_UTK		Lakes, Reservoirs, and Ponds	13	acres	TMDL needed
<a href="#">Lake Lakeland Estates</a>	IL_UTS		Lakes, Reservoirs, and Ponds	14	acres	TMDL needed
<a href="#">Lake Matthews</a>	IL_UTA		Lakes, Reservoirs, and Ponds	9	acres	TMDL needed
<a href="#">Lake Napa Suwe</a>	IL_STO		Lakes, Reservoirs, and Ponds	61	acres	TMDL needed
<a href="#">Lake Tranquility</a>	IL_UTW		Lakes, Reservoirs, and Ponds	26	acres	TMDL needed
<a href="#">Lake-In-The-Hills 1w</a>	IL_RTZZ		Lakes, Reservoirs, and Ponds	54	acres	TMDL needed
<a href="#">Lake-Of-The-Hollow</a>	IL_UTZ		Lakes, Reservoirs, and Ponds	75	acres	TMDL needed
<a href="#">Langan Creek</a>	ILFLE01_FLE 02		Rivers and Streams	.77	miles	TMDL needed
<a href="#">Leisure</a>	IL_STG		Lakes, Reservoirs, and Ponds	12	acres	TMDL needed
<a href="#">Lily</a>	ILRTF_RTZJ		Lakes, Reservoirs, and Ponds	89	acres	
<a href="#">Little Silver</a>	IL_STC		Lakes, Reservoirs, and Ponds	41	acres	TMDL needed
<a href="#">Long (Lake)</a>	ILRTF_RTJ		Lakes, Reservoirs, and Ponds	335	acres	
<a href="#">Louise</a>	IL_VTZJ		Lakes, Reservoirs, and Ponds	38	acres	TMDL needed
<a href="#">Marie (Lake)</a>	ILRTF_RTR		Lakes, Reservoirs, and Ponds	516	acres	
<a href="#">Mccullom</a>	ILDZT02_RTZD		Lakes, Reservoirs, and Ponds	245	acres	
<a href="#">Mcgreal Lake</a>	IL_UTX		Lakes, Reservoirs, and Ponds	24	acres	TMDL needed
<a href="#">Nippersink</a>	ILRTF_RTUA		Lakes, Reservoirs, and Ponds	592	acres	
<a href="#">Nippersink Creek</a>	ILDTK04_DTK 04		Rivers and Streams	14.9	miles	TMDL needed

**Listed Waters for Reporting Year 2006  
Illinois, Upper Fox Watershed**

<u>Waterbody Name</u>	<u>Waterbody ID</u>	<u>Location</u>	<u>Waterbody Type</u>	<u>Size</u>	<u>Units</u>	<u>State TMDL Development Status</u>
<a href="#">North Churchill</a>	IL_STR		Lakes, Reservoirs, and Ponds	62.4	acres	TMDL needed
<a href="#">North Tower Lake</a>	IL_UTT		Lakes, Reservoirs, and Ponds	7	acres	TMDL needed
<a href="#">Owens</a>	IL_VTZX		Lakes, Reservoirs, and Ponds	5	acres	TMDL needed
<a href="#">Petite</a>	ILRTF _VTW		Lakes, Reservoirs, and Ponds	165	acres	
<a href="#">Pistakee</a>	ILRTF _RTU		Lakes, Reservoirs, and Ponds	2048	acres	
<a href="#">Poplar Creek</a>	ILDGTG02 _DTG 02		Rivers and Streams	14.82	miles	TMDL needed
<a href="#">Redhead</a>	IL_RTV		Lakes, Reservoirs, and Ponds	50	acres	TMDL needed
<a href="#">Redwing Slough</a>	IL_VGD		Lakes, Reservoirs, and Ponds	203	acres	TMDL needed
<a href="#">Round</a>	ILRTF _RTH		Lakes, Reservoirs, and Ponds	228.6	acres	
<a href="#">Seven Acre</a>	IL_STT		Lakes, Reservoirs, and Ponds	6.5	acres	TMDL needed
<a href="#">Slocum</a>	IL_RTP		Lakes, Reservoirs, and Ponds	211	acres	TMDL needed
<a href="#">South Churchill</a>	IL_STS		Lakes, Reservoirs, and Ponds	24.81	acres	TMDL needed
<a href="#">Spring (Lake)</a>	ILRTF _RGZT		Lakes, Reservoirs, and Ponds	1.5	acres	
<a href="#">Sullivan Lake</a>	IL_RTZL		Lakes, Reservoirs, and Ponds	58	acres	TMDL needed
<a href="#">Sun</a>	IL_RTC		Lakes, Reservoirs, and Ponds	24	acres	TMDL needed
<a href="#">Taylor</a>	IL_VTZY		Lakes, Reservoirs, and Ponds	8.3	acres	TMDL needed
<a href="#">Timber Lake (South)</a>	IL_RTZQ		Lakes, Reservoirs, and Ponds	33	acres	TMDL needed
<a href="#">Tower (Lake)</a>	IL_RTZF		Lakes, Reservoirs, and Ponds	69	acres	TMDL needed
<a href="#">Turner</a>	ILRTF _VTZA		Lakes, Reservoirs, and Ponds	43	acres	
<a href="#">Tyler Cr.</a>	IL_DTZP-02		Rivers and Streams	13.17	miles	TMDL needed
<a href="#">Wooster</a>	IL_RTZH		Lakes, Reservoirs, and Ponds	100.3	acres	TMDL needed
<a href="#">Zurich</a>	IL_RTS		Lakes, Reservoirs, and Ponds	228	acres	TMDL needed

## Causes of Impairment for Reporting Year 2006

### Illinois, Upper Fox

<u>Cause of Impairment</u>	<u>Number of Causes Reported</u>
Phosphorus, Total	51
Total Suspended Solids (TSS)	47
Cause Unknown	12
Polychlorinated Biphenyls (PCBs)	12
Fecal Coliform	10
Dissolved Oxygen	9
Sedimentation/Siltation	7
Total Dissolved Solids (TDS)	4
Hexachlorobenzene	2
Nitrogen, Total	2
Total Ammonia	2
pH	2
Barium	1
Boron	1
Chlorides	1
Heptachlor	1
Mercury	1
Silver	1

### Cumulative TMDLs by Pollutant

*No TMDL data have been reported to EPA for this watershed.*

# Upper Fox, Illinois Watershed 303(d) Impaired Waters – Summary (2006)

- Number of Listed Waterbodies = 75
- Number of Listed Bodies for which TMDL Documents are Needed = 57
- Number of Upper Fox Watershed 303(d) Impaired Waterbodies with PAHs as Cause of Impairment = 0

# Is There a PAH Problem in Northern Illinois Water Bodies?

- None in the Des Plaines Watershed
- None in the Upper Fox Watershed
- None in the Kishwaukee Watershed
- None in groundwater (see Volume ii of Illinois 2010 report)



3.

Are Government Resources  
Adequate to Address Problems  
Actually Identified in Northern  
Illinois Waterbodies?

# Adequate Government Resources?

- PCTC asks whether resources available to local jurisdictions are adequate to waste on addressing a problem that doesn't seem to exist
  - Watersheds in Northern Illinois do not have a PAH problem. Would funds be diverted from addressing known problems to enforce needless restrictions? Or would new money be required?
  - How would restrictions be enforced?
  - How would the people doing enforcement be trained? And how would the training be paid for?
  - Would new employees be hired to enforce restrictions? If not, what functions would be forgone in order to enforce restrictions?

3.

What about the Future? Are  
PAHs Likely to become a  
Priority?

# Recent Prioritization Exercises

- Recent prioritization of substances in the environment by:
  - USEPA at the national level
  - State of Minnesota
  - Proposed for Great Lakes Binational (US & Canada) Toxics Program
- No PAHs included on any of these priority lists

# Recent Prioritization Exercises

## US EPA

- President Obama's EPA: Identification of Priority Substances & Development of Chemical Action Plans
  - Bisphenol A (BPA)
  - Butyl benzyl phthalate (BBP)
  - Dibutyl phthalate (DBP)
  - Di (2-ethylhexyl) phthalate (DEHP)
  - Diisobutyl phthalate (DIBP)
  - Di-n-pentyl phthalate (DnPP)
  - Di-n-octyl phthalate (DnOP)
  - Diisononyl phthalate (DINP)
  - Diisodecyl phthalate (DIDP)
  - Hexabromocyclododecane (HBCD)
  - Nonylphenol (NP) and nonylphenol ethoxylates (NPEs)
  - Perfluorinated chemicals (PFCs)
  - Short-chain chlorinated paraffins (SCCPs)
  - Diisocyanates
  - Siloxanes
  - 48 dyes derived from benzidine and its congeners, 3,3'-dichlorobenzidine, 3,3'-dimethylbenzidine, and 3,3'-dimethoxybenzidine

# Recent Prioritization Exercises

## Minnesota

- [Minnesota Priority Chemicals](#) - as required by Minnesota Statute 2010 116.9403
  - Bisphenol A (BPA; 80-05-7)
  - Butyl benzyl phthalate (BBP; 85-68-7)
  - Dibutyl phthalate (DBP; 84-74-2)
  - Di (2-ethyhexyl) phthalate (DEHP; 117-81-7)
  - Decabromodiphenyl ether (decaBDE; 1163-19-5)
  - Hexabromocyclododecane (HBCD; 3194-55-6)
  - Formaldehyde (50-00-0)
  - Lead (7439-92-1)
  - Cadmium (7440-43-9)

# Recent Prioritization Exercises

## Great Lakes Binational Toxics Strategy

- PROPOSED Priority (Level II) Substances
  - Cadmium and cadmium compounds
  - 1,4-dichlorobenzene
  - 3,3'-dichlorobenzidine
  - Dinitropyrene
  - Endrin
  - Heptachlor (+Heptachlor epoxide)
  - Hexachlorobutadiene (+Hexachloro-1,3-butadiene)
  - Hexachlorocyclohexane
  - 4,4'-methylenebis(2-chloroaniline)
  - Pentachlorobenzene
  - Pentachlorophenol
  - Tetrachlorobenzene (1,2,3,4- and 1,2,4,5-)
  - Tributyl tin

## Conclusion:

The Only Impact of a Ban on  
Would be to Harm Small  
Businesses, Lose Jobs and  
Reduce Tax Revenues



# Proposed Ban on Refined Tar-Based Sealers

- Science says refined tar-based sealers have little impact on PAHs in Northern Illinois sediments
- No PAH problem has been identified in Des Plaines, Upper Fox or Kishwaukee Waterbodies
- Do governments have the resources to address non-existent problems?
- Recently developed lists of priority substances include No PAHs
- Only effect would be to harm dozens of small businesses, resulting in job loss and reduction in tax revenue in Northern Illinois

Thank you for your time and attention

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