

Ambient Toxicity Workgroup

April 29, 2010

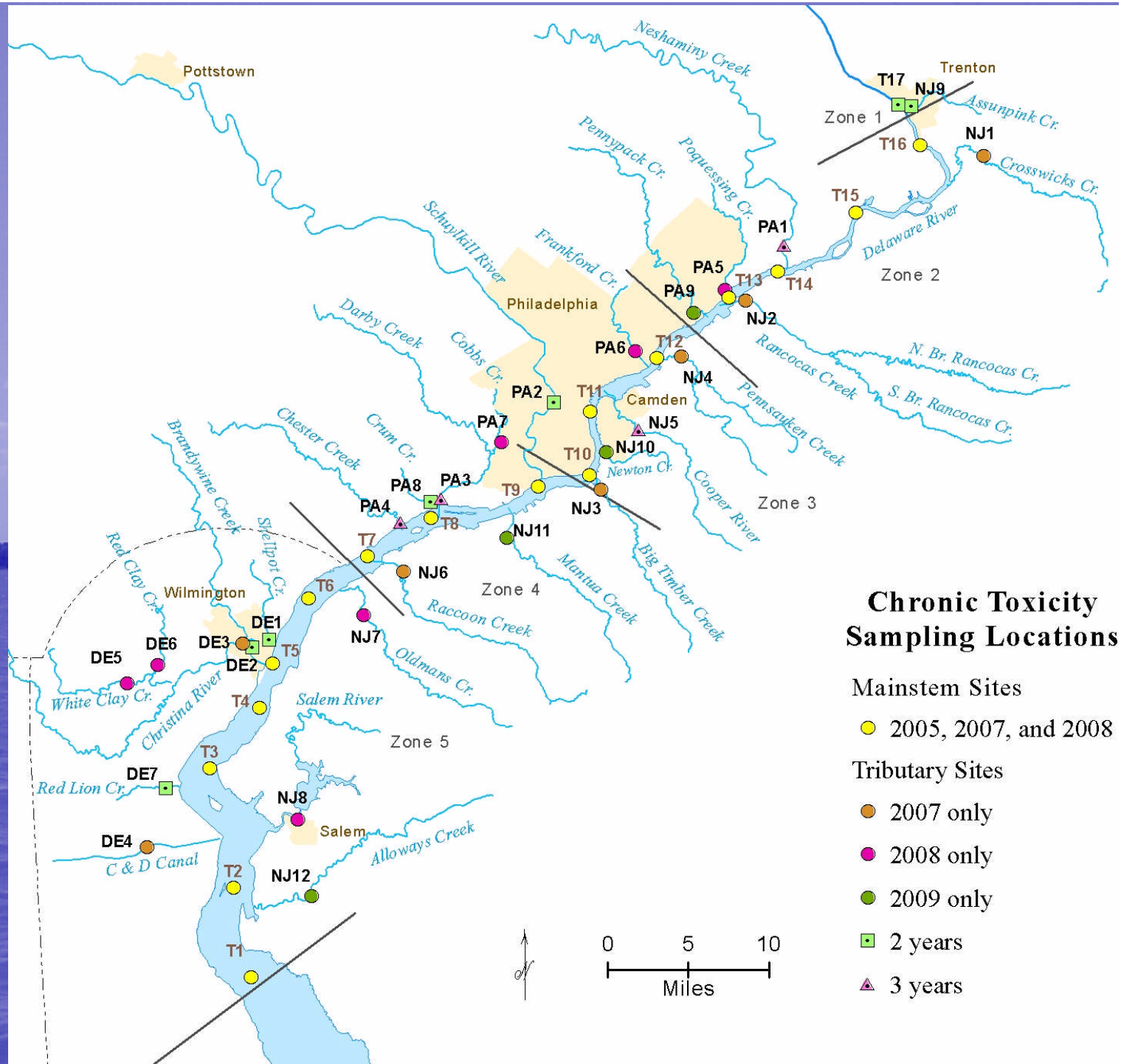
Update on Monitoring Ambient Toxicity

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DRBC

- Programs: DRBC Criteria and Aquatic Life
- Goals: collect ambient water data for use in
 - integrated assessments
 - protection of human health and aquatic life
- Participants: DRBC, American Aquatic Testing Laboratory



Ambient Chronic Toxicity Surveys



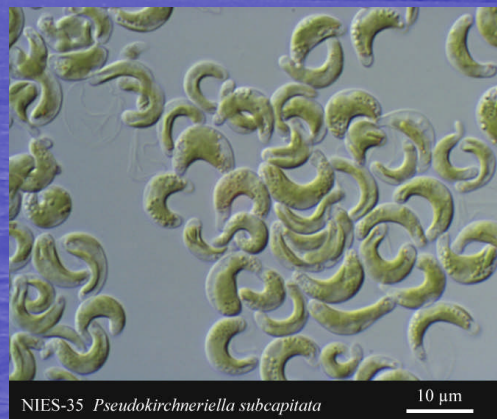
Freshwater Test Species



Pimephales promelas
fathead minnow



Ceriodaphnia dubia
water flea



Pseudokirchneriella subcapitata
green algae

Salinity Tolerant Test Species



Menidia beryllina

inland silverside (5 to 32 ppt)



Americamysis bahia

mysid shrimp (10 to 30 ppt)



Hyalella azteca

amphipod (0 to 15 ppt)

DRBC Chronic Toxicity Tributary Surveys

Site Tributary Zone 2007 2008 2009

Site	Tributary	Zone	2007	2008	2009
T17	Delaware	2	~		~
PA1	Neshaminy	2	*	*	~
NJ2	Rancocas	2	~		
NJ1	Crosswicks	2	~		
NJ9	Assunpink	2		+	#
PA9	Pennypack	2			~
PA5	Poquessing	2		~	
NJ3	Big Timber	3	~		
NJ4	Pennsauken	3	~		
NJ5	Cooper	3	*	~	+
PA6	Frankford	3		~	
NJ10	Newton	3			~
PA2	Schuylkill	4	~		~
PA3	Darby	4	*	~	~
PA4	Chester	4	*	~	*
NJ11	Mantua	4			~
NJ6	Raccoon	4	~		
PA8	Crum	4		~	~
PA7	Cobbs	4		~	
DE2	Brandywine	5	~		~
NJ8	Salem	5		~	
DE5	White Clay	5		~	*
NJ12	Alloways	5			~
DE6	Red Clay	5		~	
DE3	Christina	5	~		
NJ7	Oldman's	5		~	
DE7	Red Lion	5		+	#
DE1	Shellpot	5	~		~
DE4	C & D Canal	5	~		

~ Chronic toxicity was not indicated at the site on dates sampled.

*Chronic toxicity was indicated in screening test but not in confirmatory test

+ Chronic toxicity was indicated in screening test and in confirmatory test for one test species

Chronic toxicity was indicated in a confirmatory test for one test species and repeated in a second year

Monitoring Ambient Toxicity Summary

- water collected from 16 mainstem sites and 29 tributary sites in the tidal Delaware River Basin
 - over four years
 - in different seasons
 - under a variety of flow conditions
- caused no adverse effects for the endpoints measured in any of the mainstem samples
 - sampling was not designed to characterize any potential near-field toxicity issues immediately surrounding point source discharges or other contaminated sources.
- surveys identified a limited number of tributaries that warrant further assessment .
- test methods and sampling schedule used provide a cost effective approach for prioritization of monitoring for surface water quality in a large watershed.

Next Steps

- Mainstem – periodic assessment for IA
- Tribs - increased temporal coverage (four tests) with dilution series short-term chronic toxicity tests in limited number of tribs
- Tribs - repeat screening of identified tribs or screening of additional tribs
- Other suggestions
 - other bioassays

WET Strategy

- DRBC is developing a Whole Effluent Acute and Chronic Toxicity Strategy
- Docket application and NPDES permit requirements for point source discharges
 - Monitoring data
 - Reporting requirements
 - WLA development
- Increased coordination with basin states

WET Strategy - *Key Updates*

- *Separate testing for acute and chronic toxicity*
- *Inclusion of Menidia beryllina as a estuarine test species (salinity tolerance 5 to 32 ppt)*
- *Inclusion of the mysid species, Americamysis (Mysidopsis) bahia as a estuarine test species*

WET Strategy - *Key Updates*

- *Greater coordination with basin states on:*
 - *consistent methodology*
 - *data management*
 - *data sharing including efforts to convert WET reporting to electronic data deliverable format.*
 - *DRBC and basin state coordinate WET limits in NPDES permits*
 - *Inclusion of accelerated monitoring and Toxicity Reduction Implementation Requirement language*