Delaware River Basin Commission Toxics Advisory Committee

Ambient Toxicity Survey

Ron MacGillivray, Ph.D.

* Goals:
  * effects based monitoring
  * integrated assessments
  * protection of human health and aquatic life

* 2018 Participants:
  DRBC
  Temple U. WET Center
  America Aquatic Testing Lab

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Ambient Toxicity Survey

Tidal Main Stem River

2018 Sites

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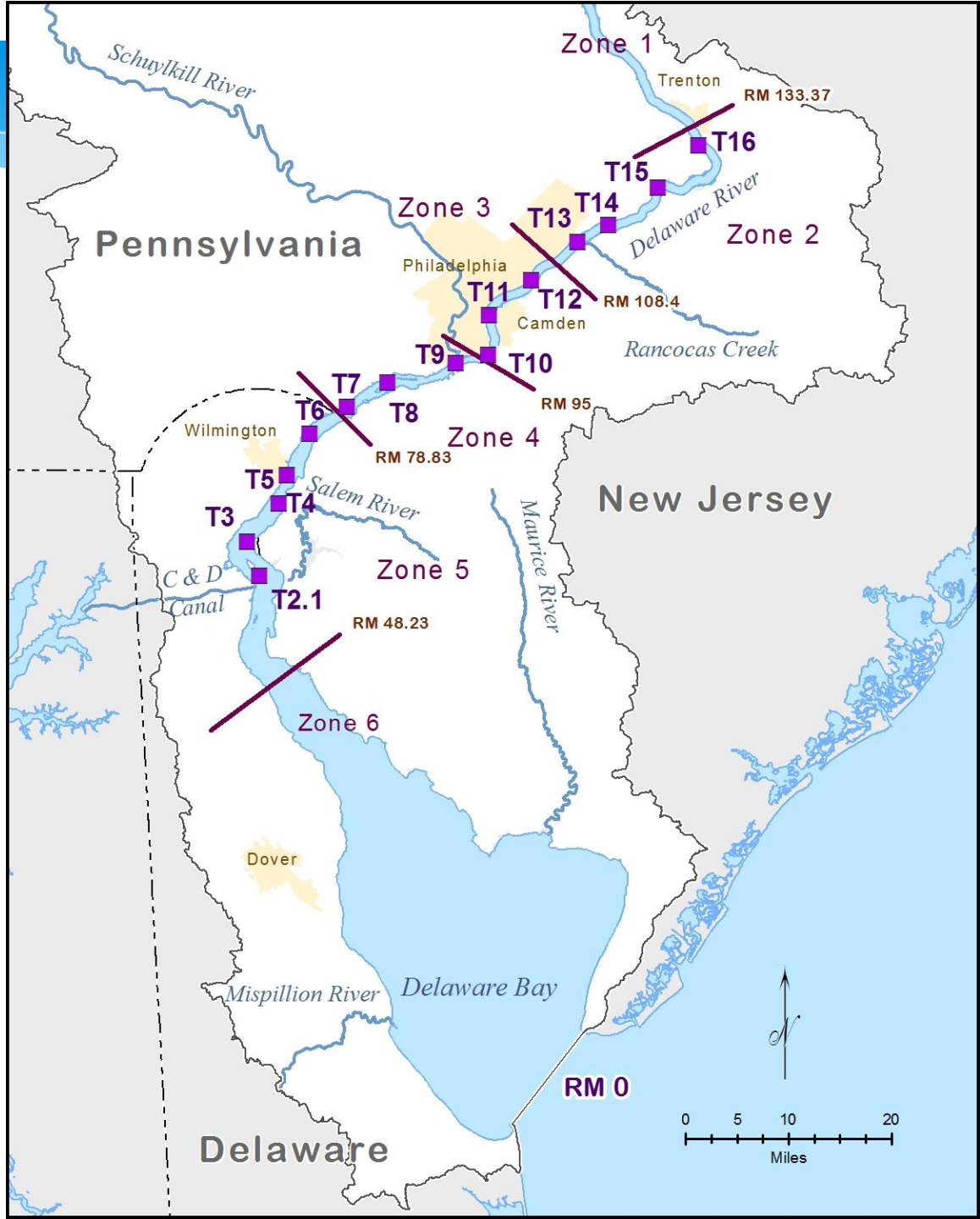

In Vivo - Short-term Chronic Tests - Freshwater Species

Pimephales promelas
fathead minnow

Ceriodaphnia dubia

water flea

Test endpoints are survival, growth, and reproduction

Pseudokirchneriella subcapitata

green algae

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In Vivo - Short-term Chronic Tests - Salinity Tolerant Species

Menidia beryllina

inland silverside (5 to 32 ppt)

Americamysis bahia

mysid shrimp (10 to 30 ppt)

Test endpoints are survival and growth

Hyalella azteca

amphipod (0 to 15 ppt)

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In Vitro - Yeast Estrogen Screen (YES)

* Subset of FW sites
* Temple U. WET Center
* Genetically modified yeast cells
* Contain the gene for the human estrogen receptor coupled to a reporter gene
* Test detects numerous natural and synthetic hormonally active substances
* Suitable for monitoring environmental matrices

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