

Dissolved Oxygen Levels in Alewife Brook and the Mystic River

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Importance of Dissolved Oxygen

- Critical for animals and plants
- Indicator of ecosystem health
- State water quality standard is 5 mg/L

SOURCES:



mechanisms that introduce DO

- Atmosphere by mixing
- Photosynthesis

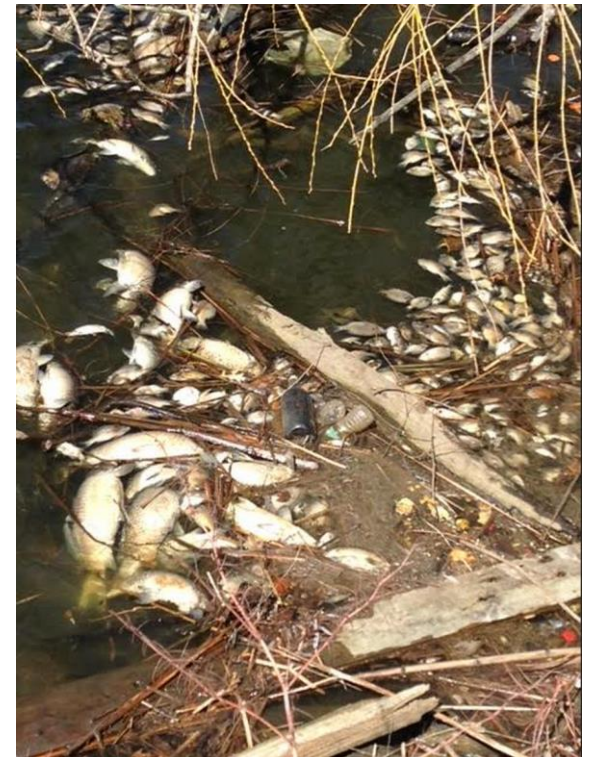


SINKS:



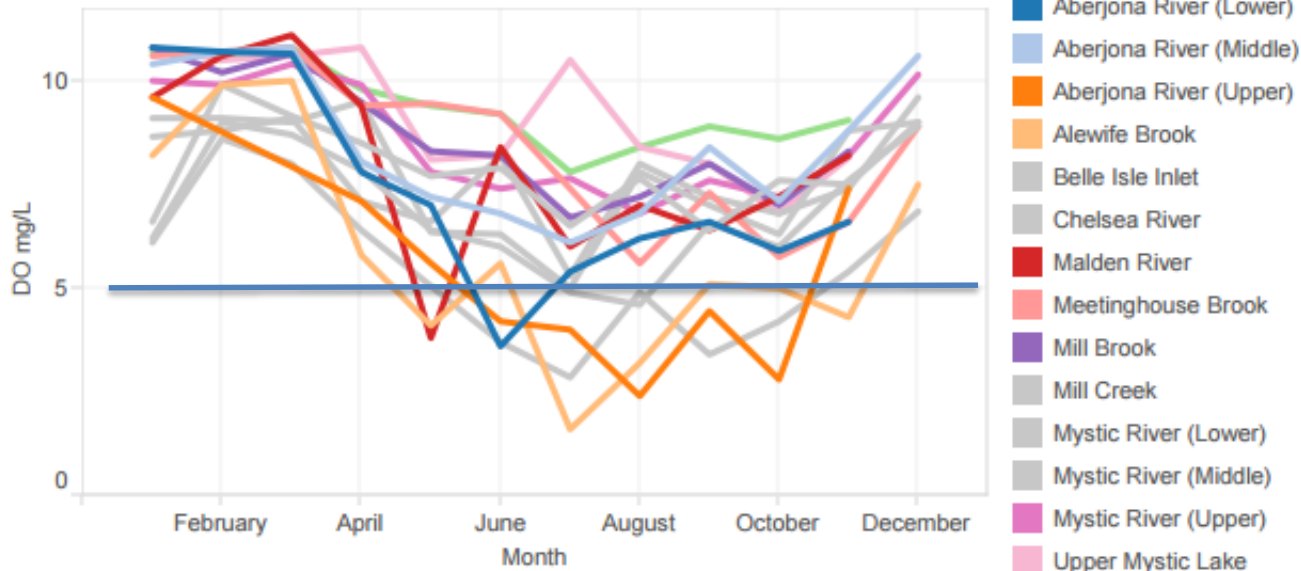
processes that consume DO

- Plant and animal respiration
- Decay of organic material

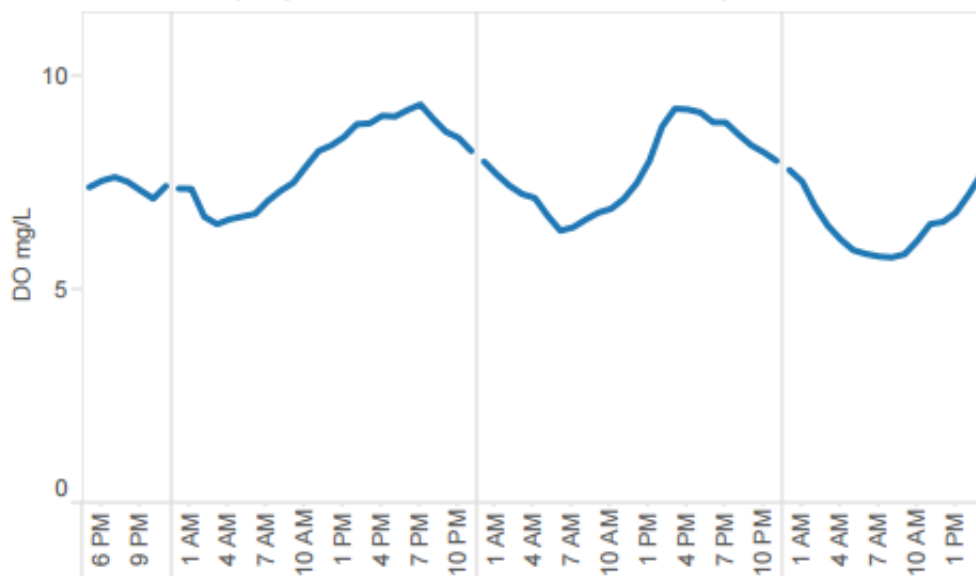


Two Views of Dissolved Oxygen

The Annual Cycle: 2013 Baseline Dissolved Oxygen

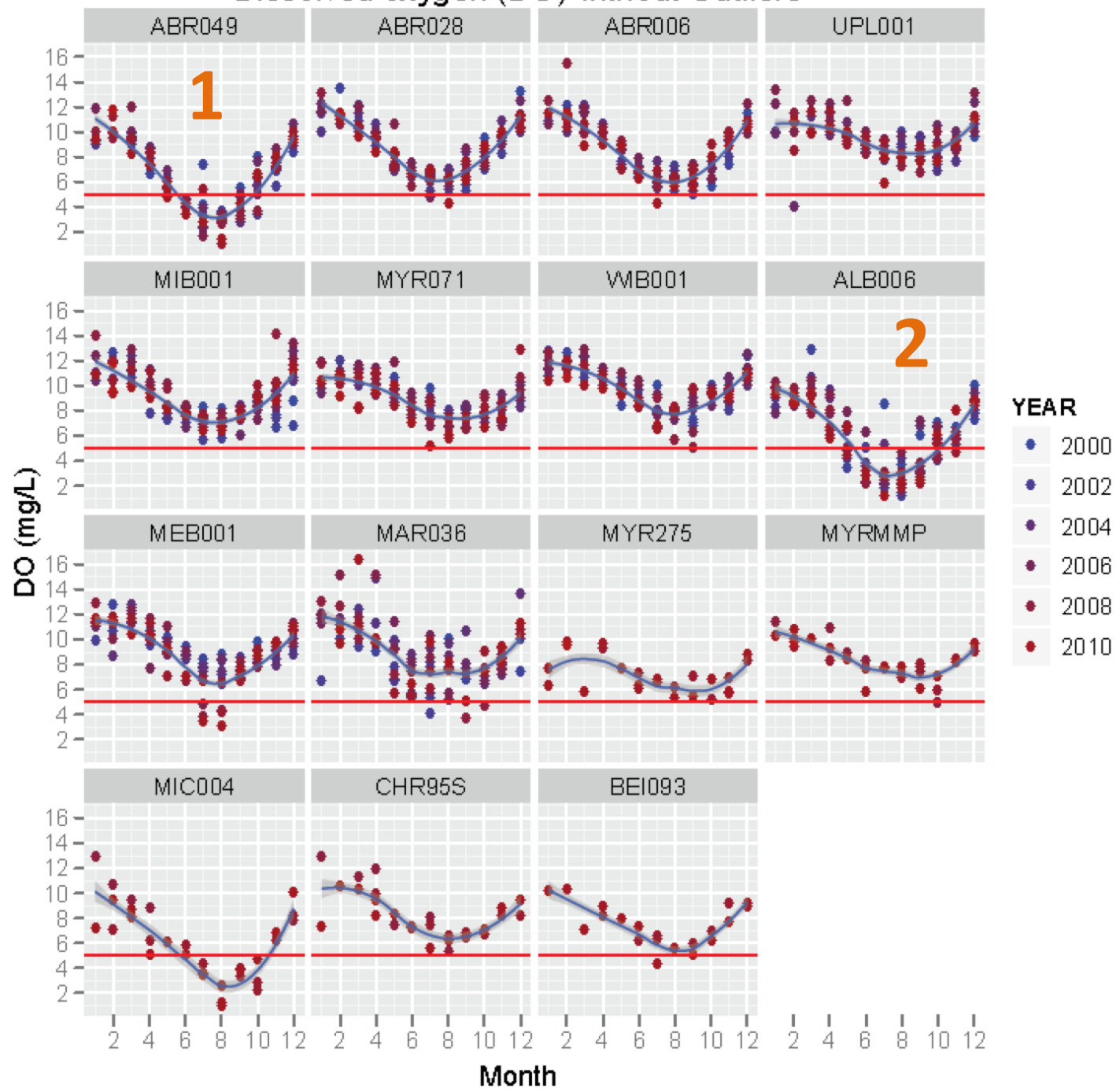


The Daily Cycle: DO June 6-9, 2014, Mystic River



Click on a site name above to show only that site's graph

Dissolved oxygen (DO) without Outliers



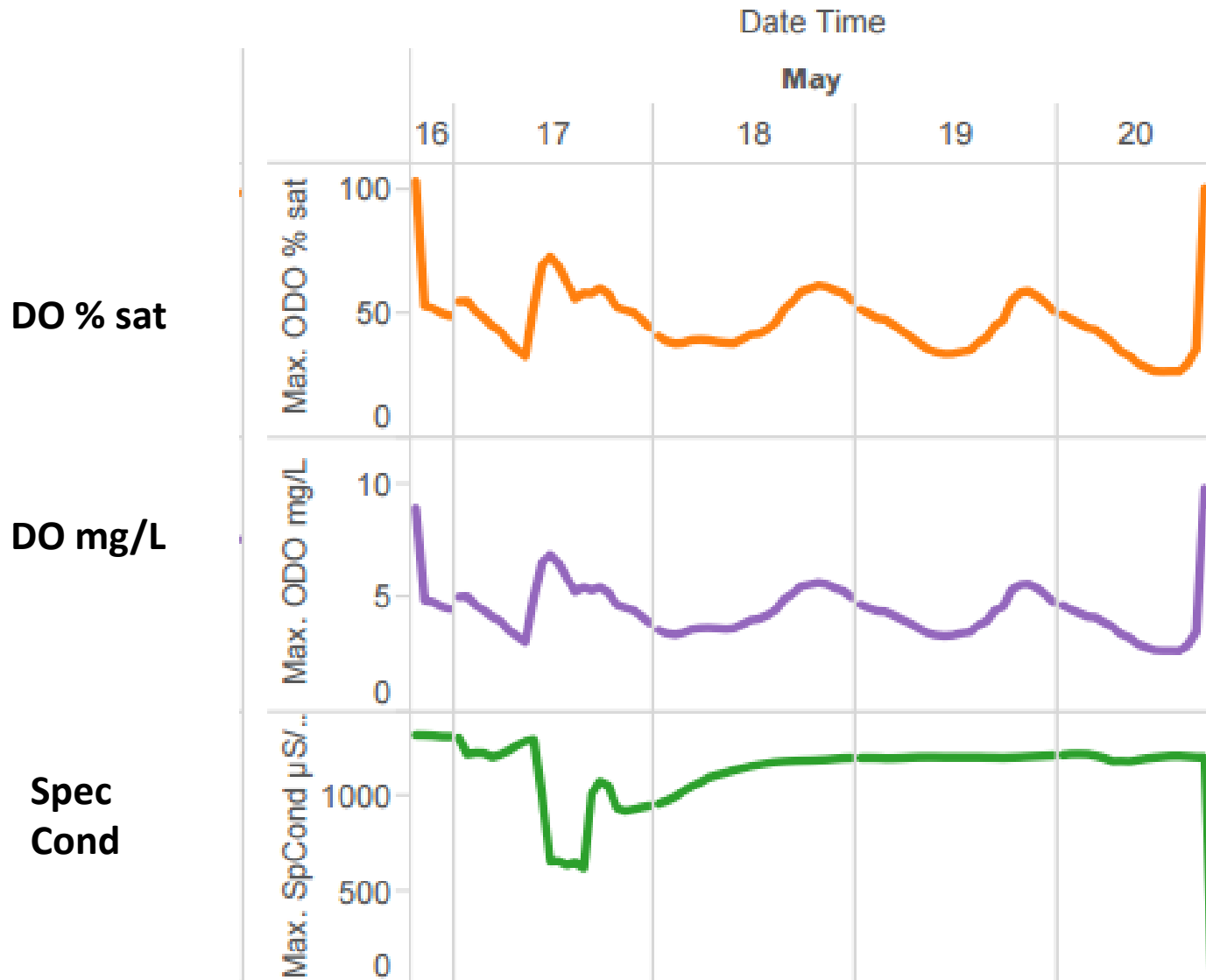
Storm Sampling, Summer 2014

Sonde deployed
next to
autosampler



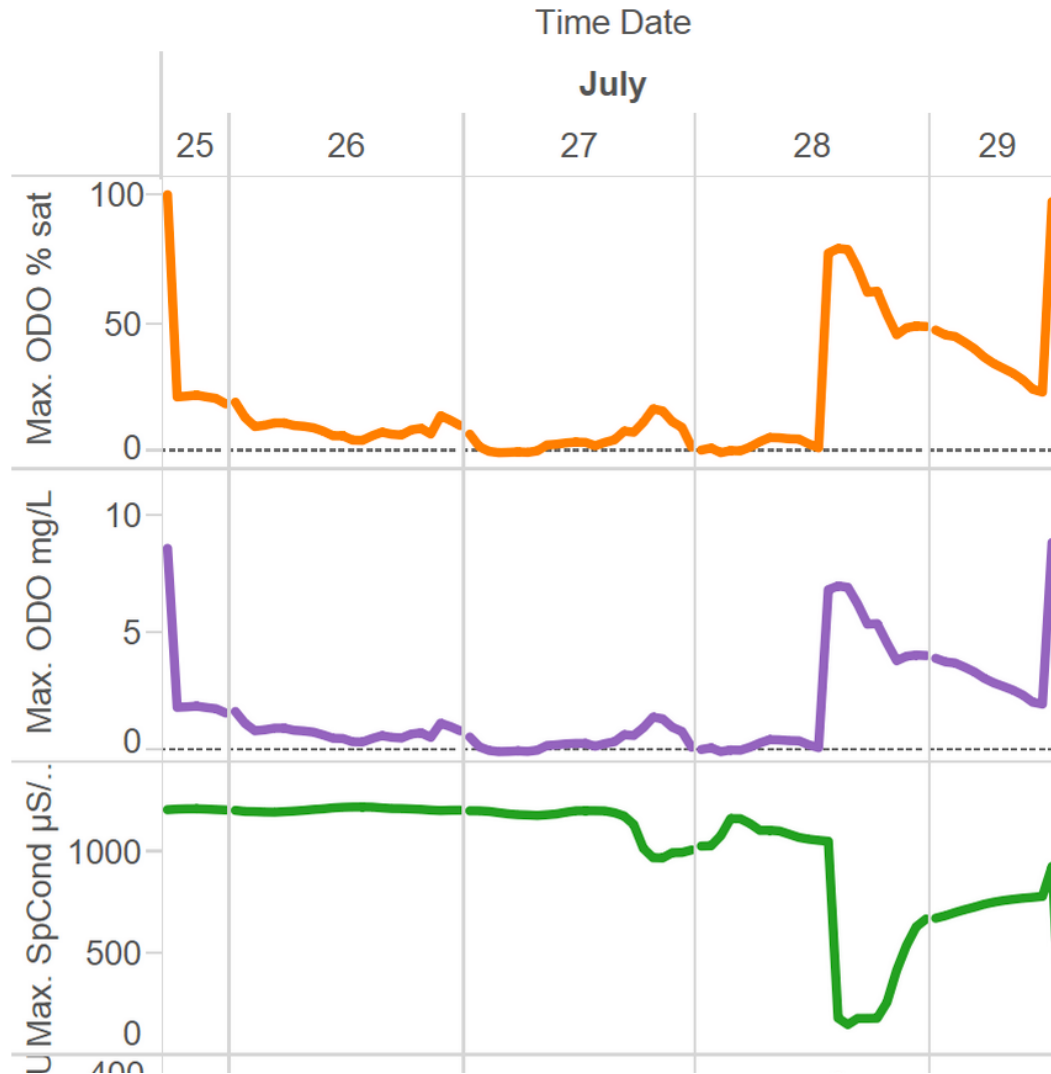
Alewife storm sampling: Signal of storm event

May 17



Alewwife late July: Very low DO values

July 27

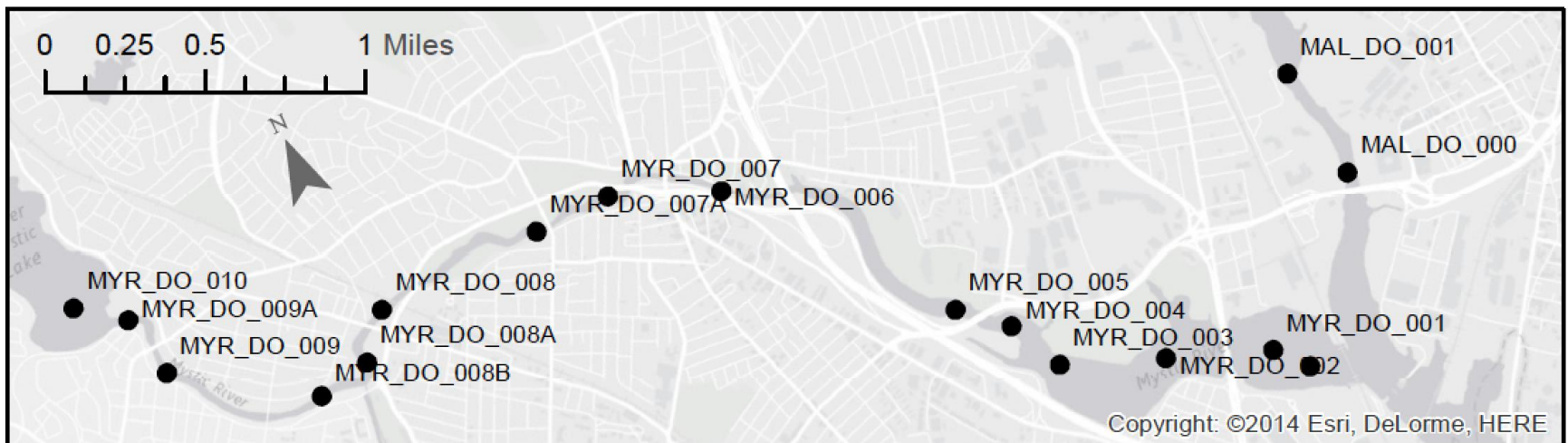
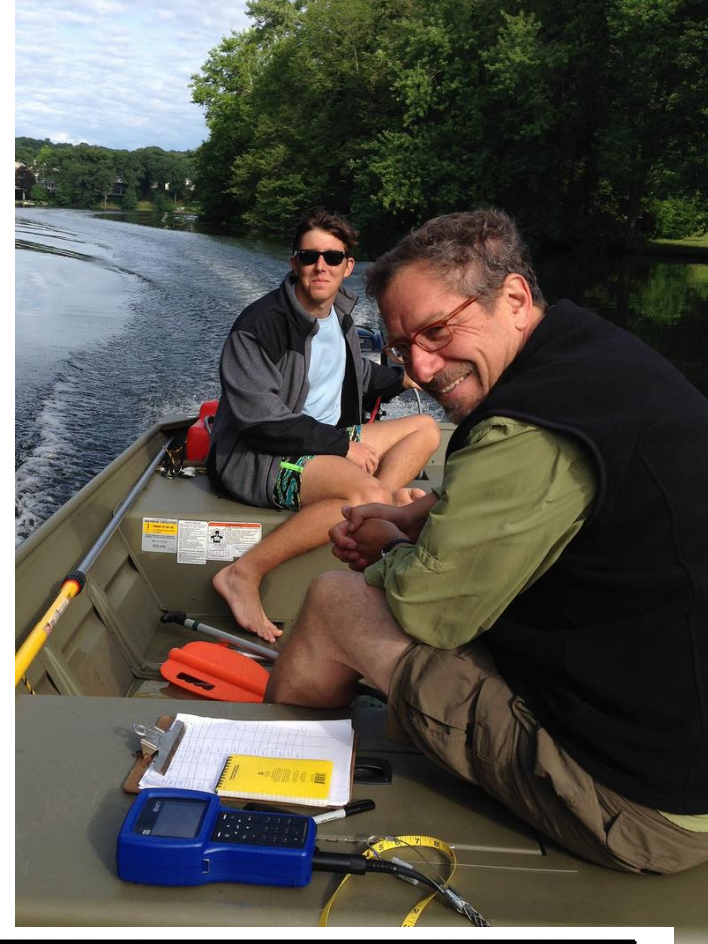


Low DO in Alewife Brook

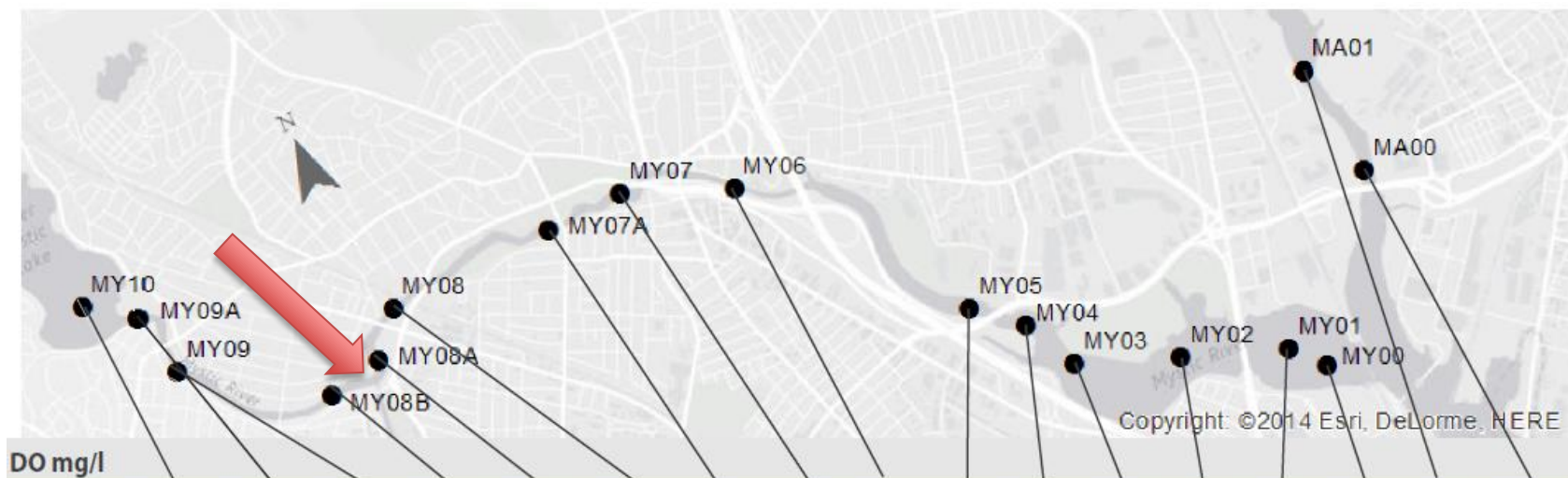
- 2 lines of evidence in the summer
- Why? Organic material in sediments? CSO material?

DO surveys of Mystic River Summer 2014

Exploratory part of a
larger P modeling
project



Mystic River DO surveys, Summer 2014

[illegible]

DO mg/l

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[illegible]

Summary

- Very low DO in Alewife Brook
- Alewife Brook affects the Mystic River

and questions:

- What explains conditions at Alewife?
- What can be done?