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Canada

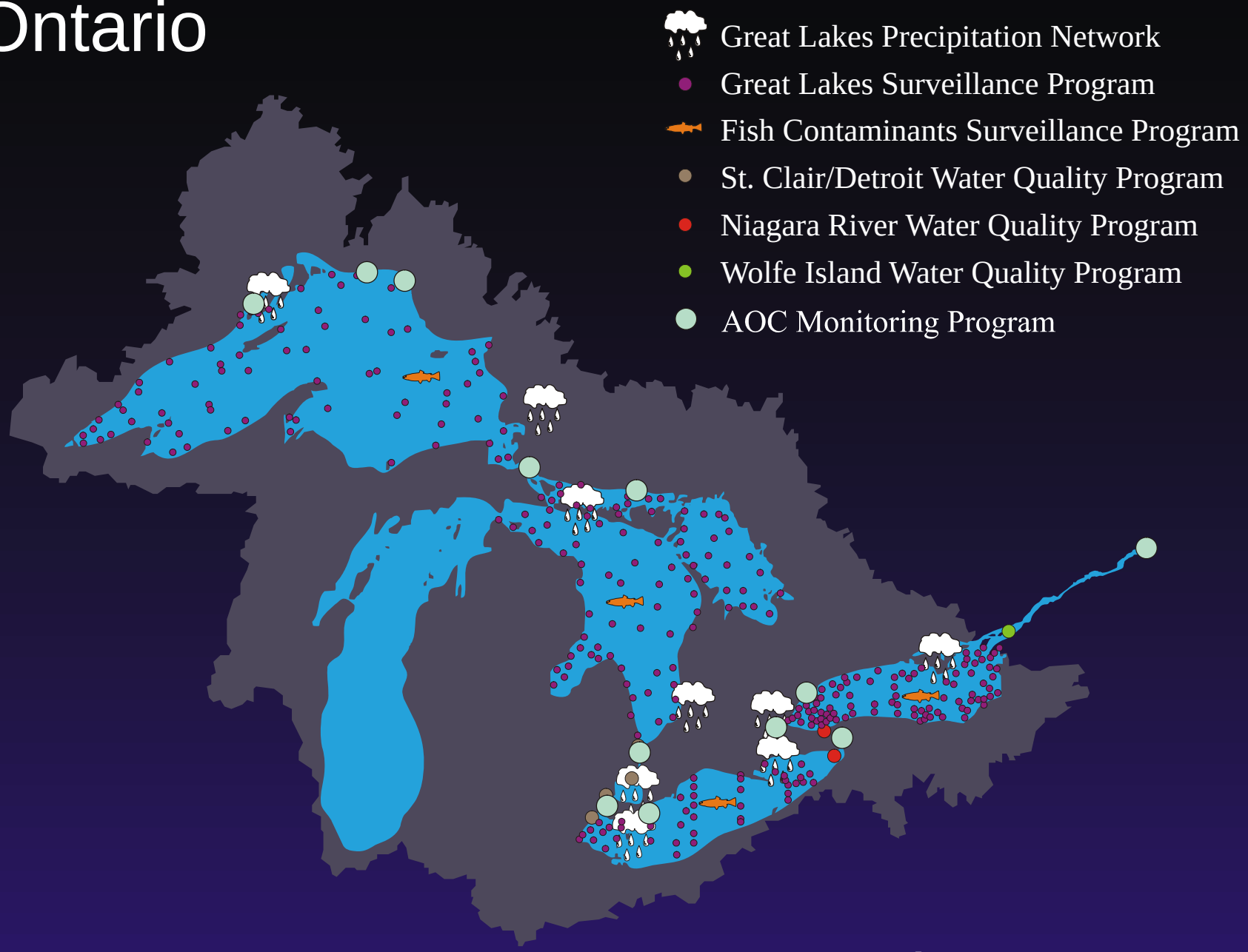
Status Update of HCB/BaP Monitoring Information in the Great Lakes

BTS – HCB/BaP Workgroup

Alice Dove and Brad Hill
Water Quality Monitoring & Surveillance

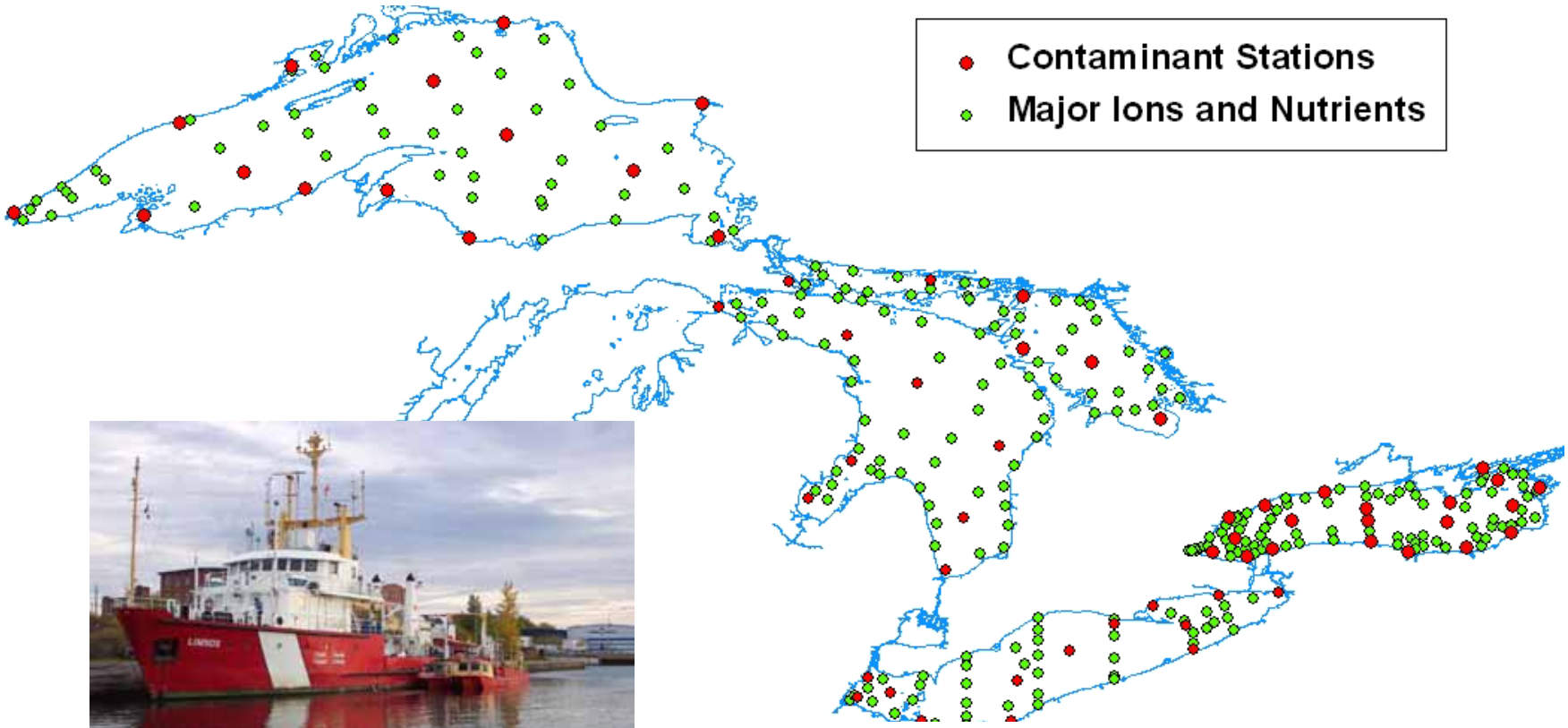
June 3, 2008

Ontario

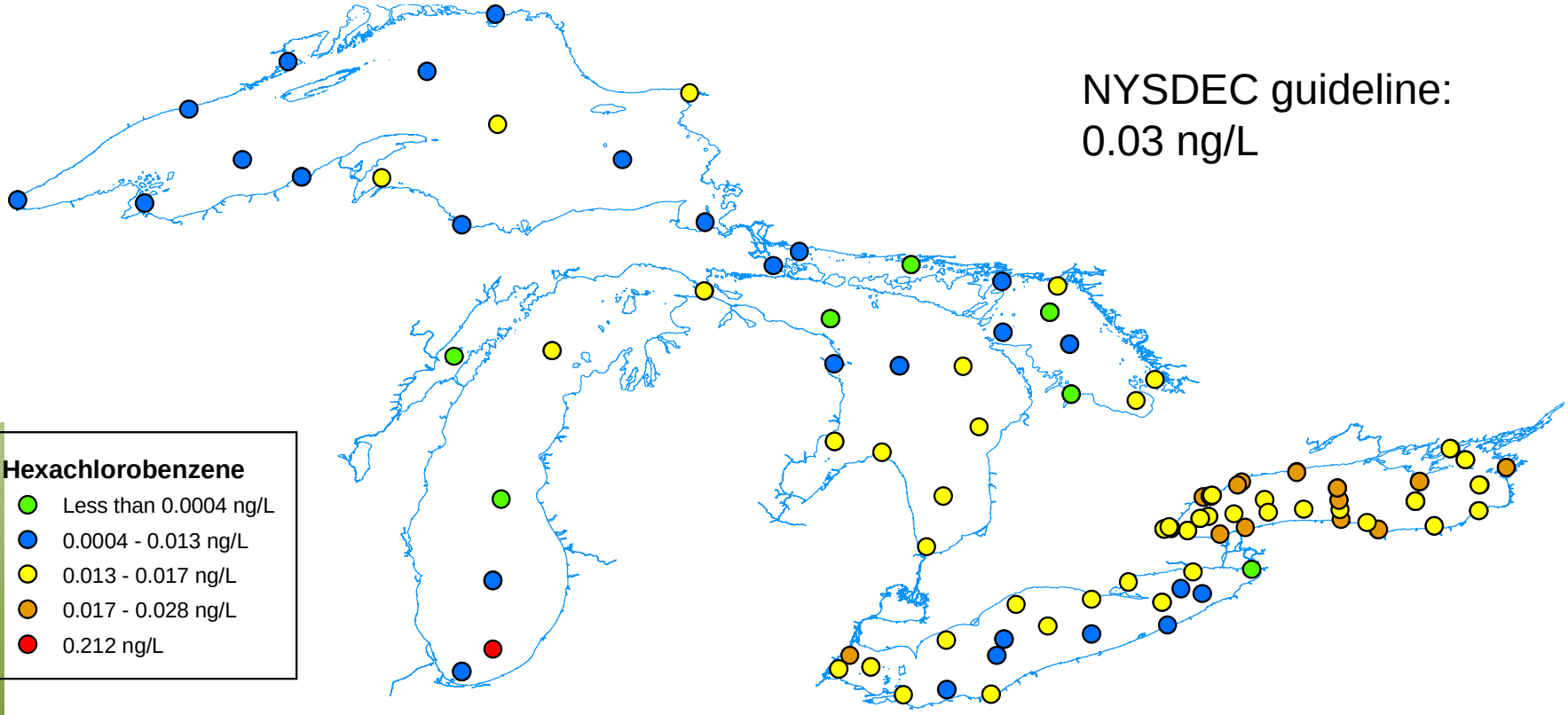


Monitoring Programs, Environment Canada
Water Quality Monitoring and Surveillance, Ontario

Great Lakes Surveillance Program

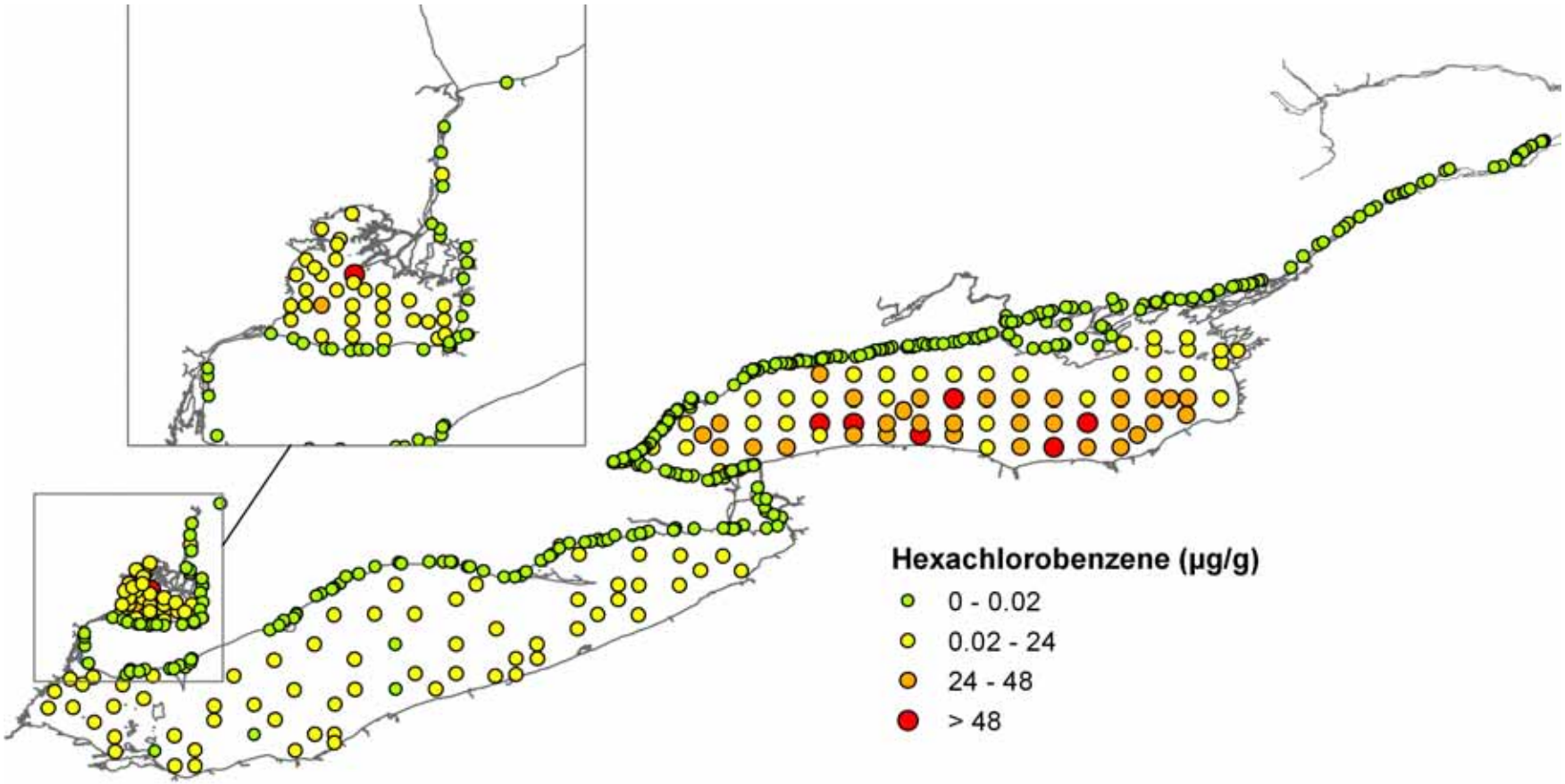


HCB in Great Lakes Water



NYSDEC guideline:
0.03 ng/L

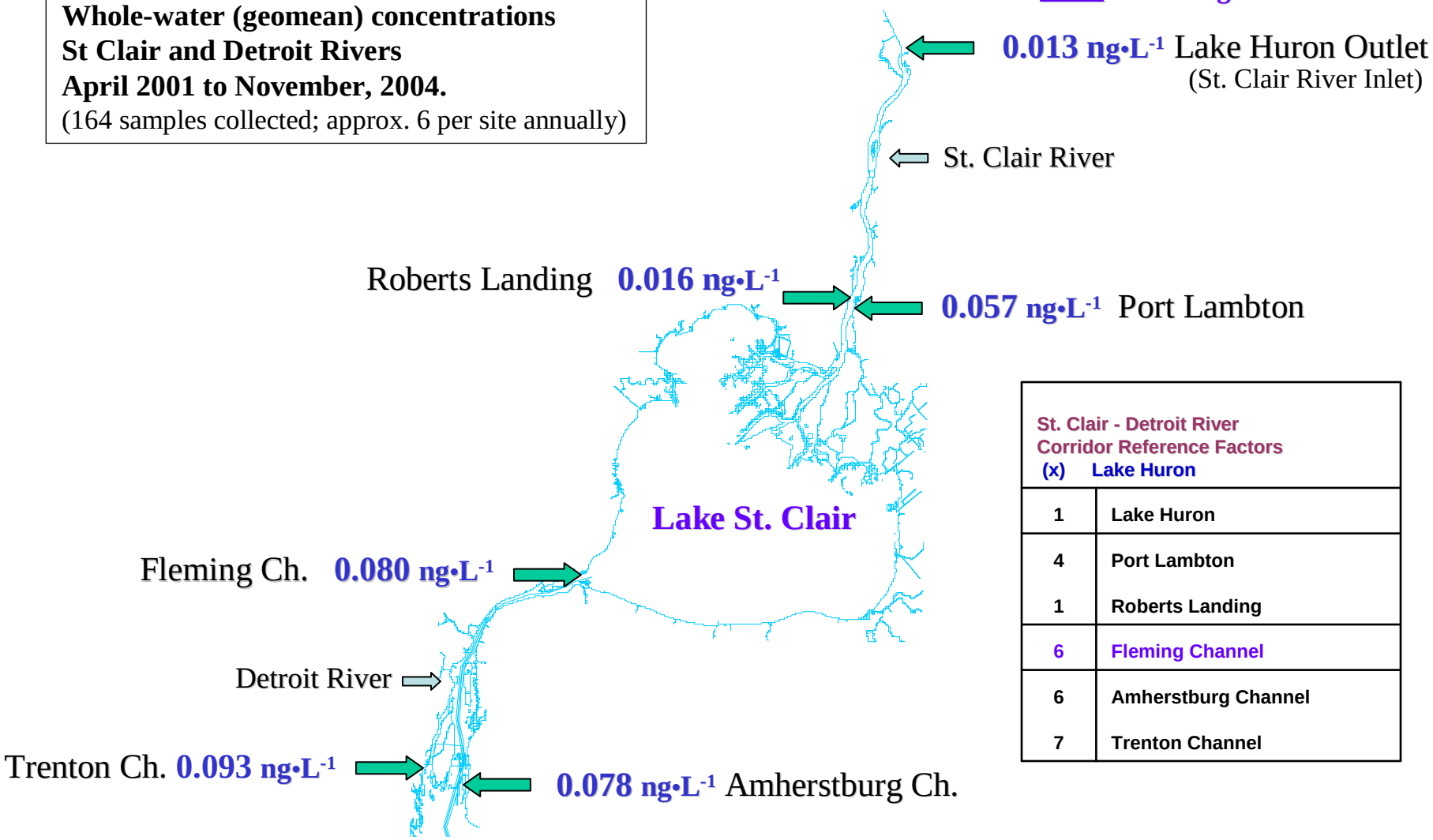
HCB in Bottom Sediment



Hexachlorobenzene (HCB)

Whole-water (geomean) concentrations
St Clair and Detroit Rivers
April 2001 to November, 2004.
(164 samples collected; approx. 6 per site annually)

Analyses : AXYS Analytical
MRL = 0.011 ng•L^{-1}



St. Clair - Detroit River Corridor Reference Factors (x)	Lake Huron
1	Lake Huron
4	Port Lambton
1	Roberts Landing
6	Fleming Channel
6	Amherstburg Channel
7	Trenton Channel

MDEQ, Wildlife Value: 0.3 ng•L^{-1} Human Cancer Value (Drink) 0.45 ng•L^{-1}

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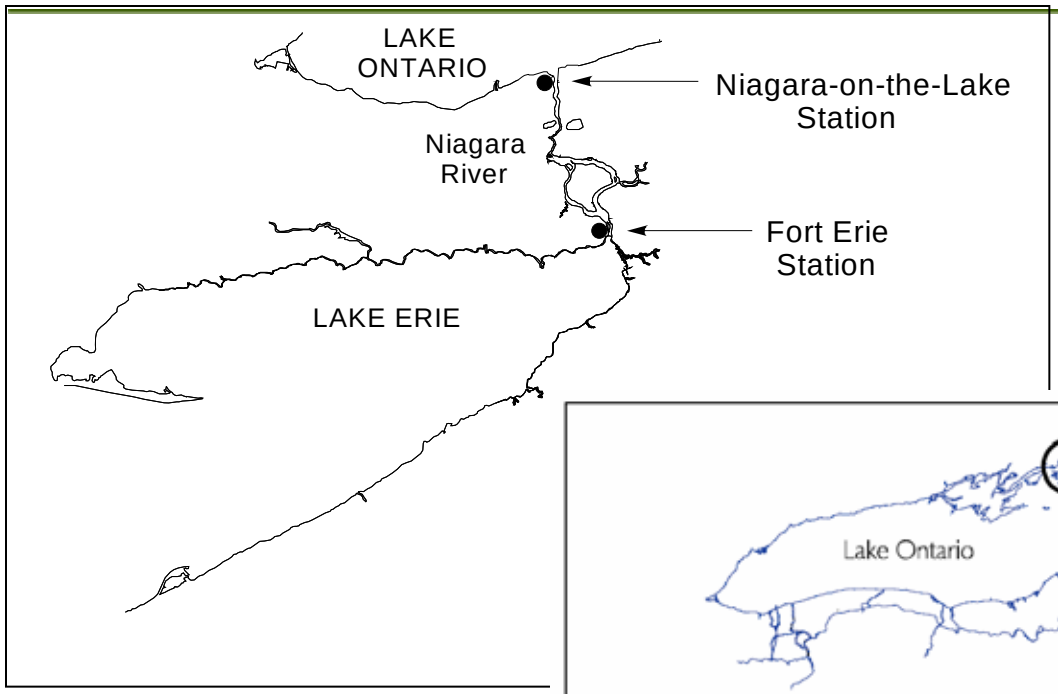
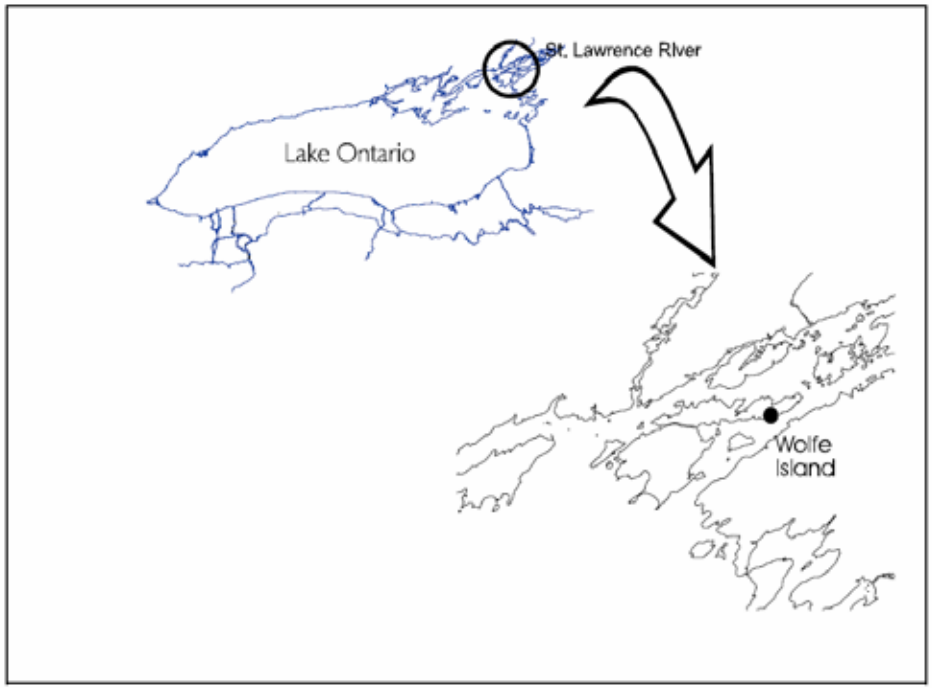
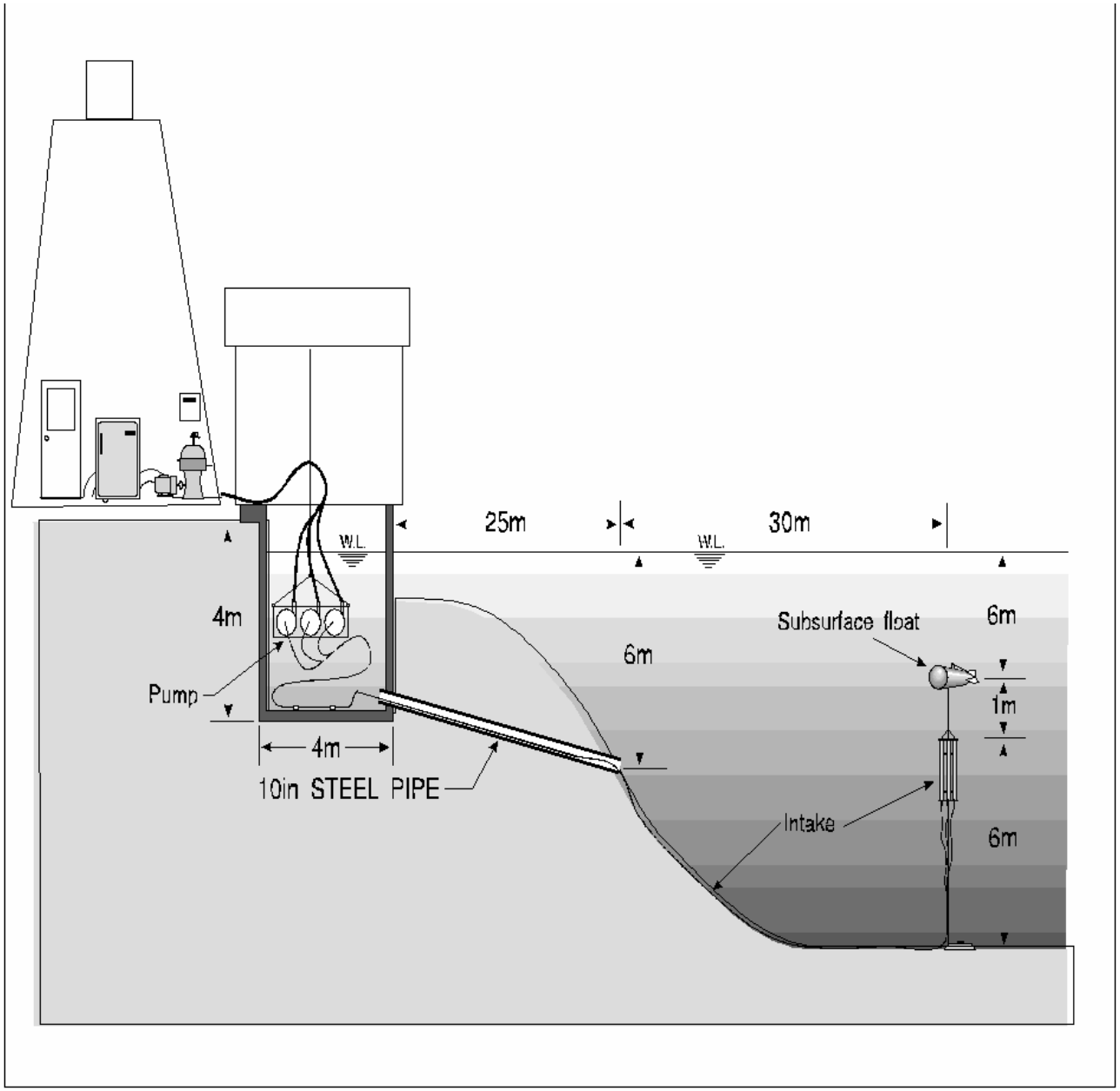
Niagara River and Wolfe Island







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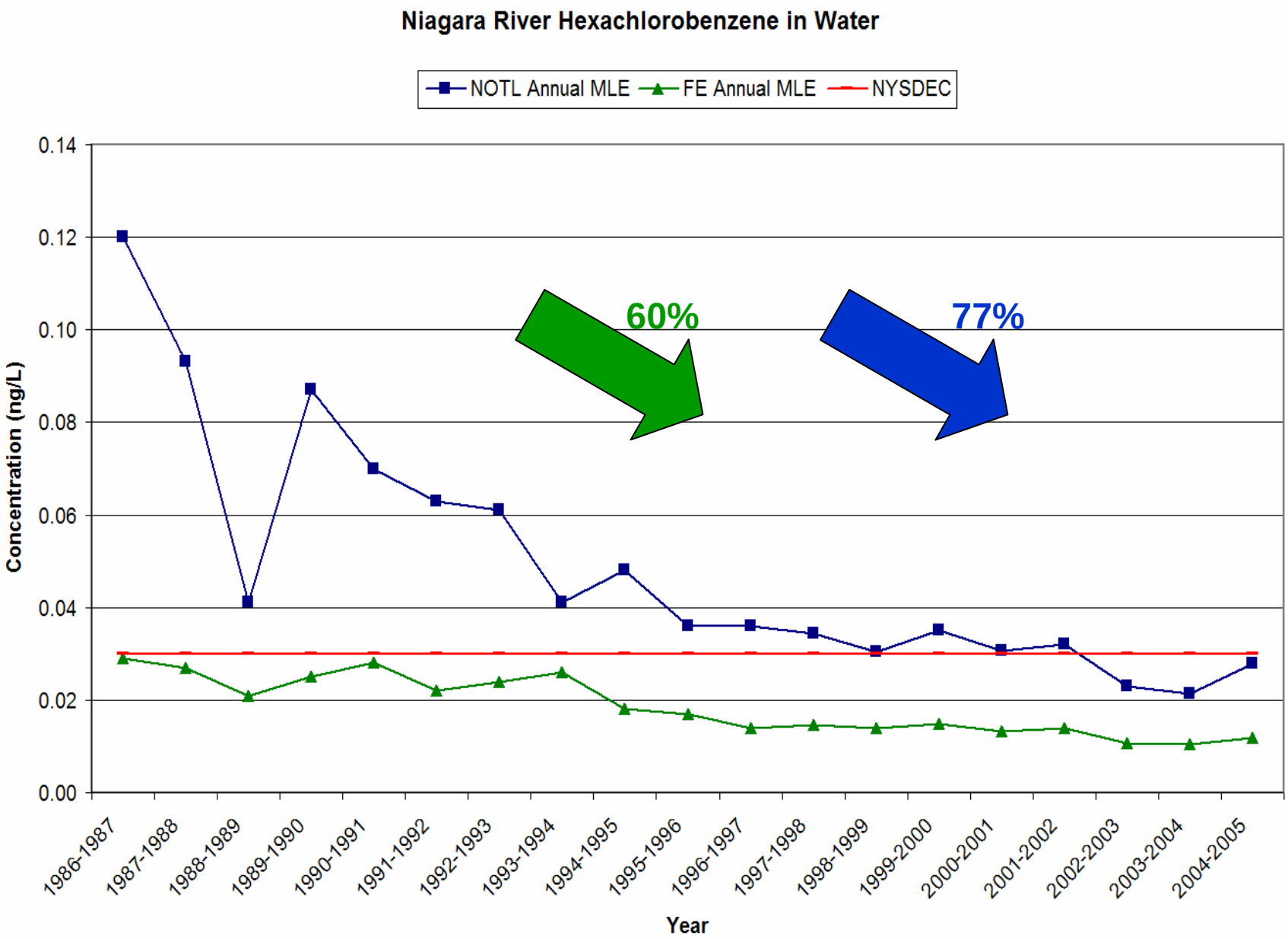

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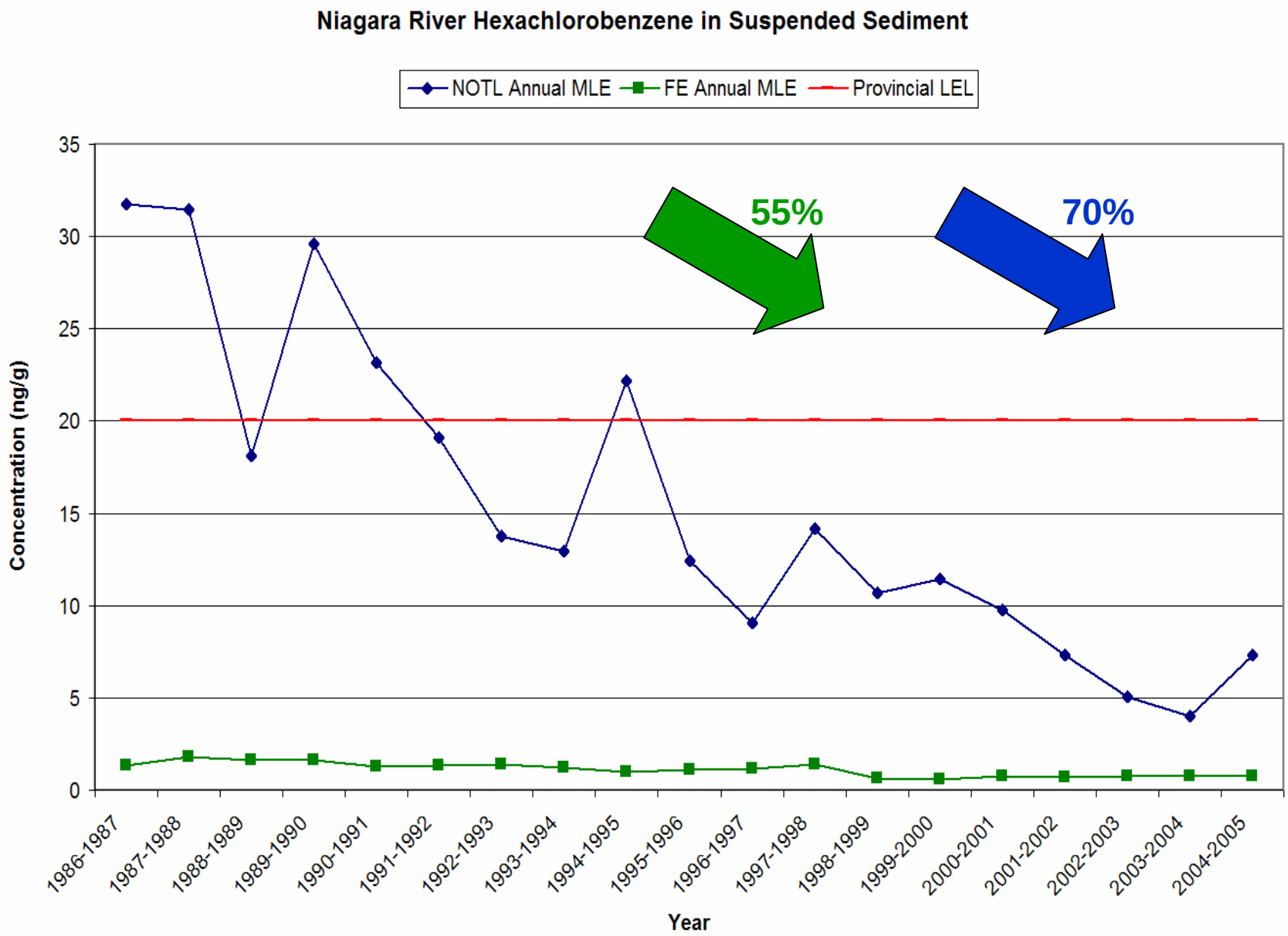

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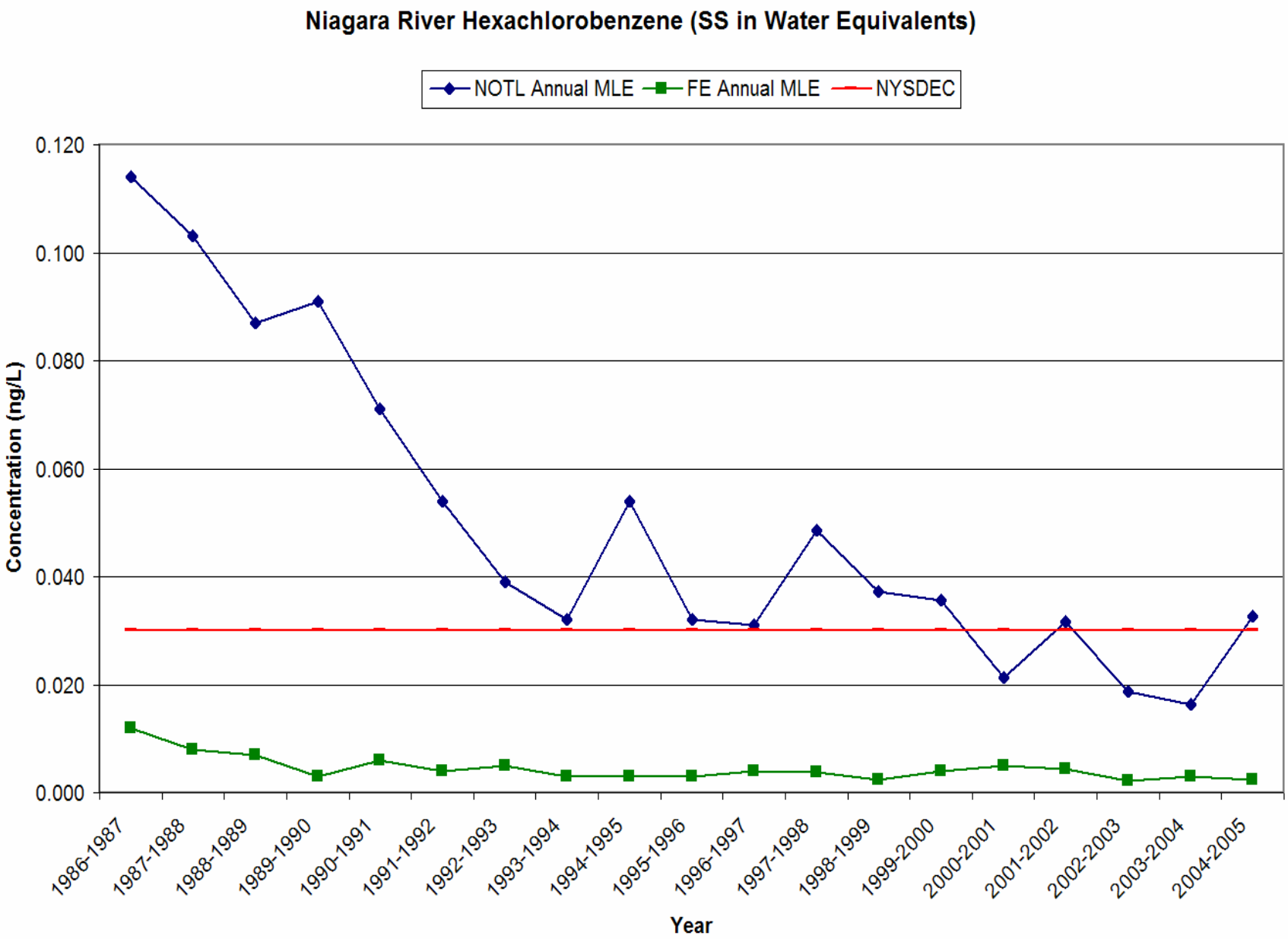
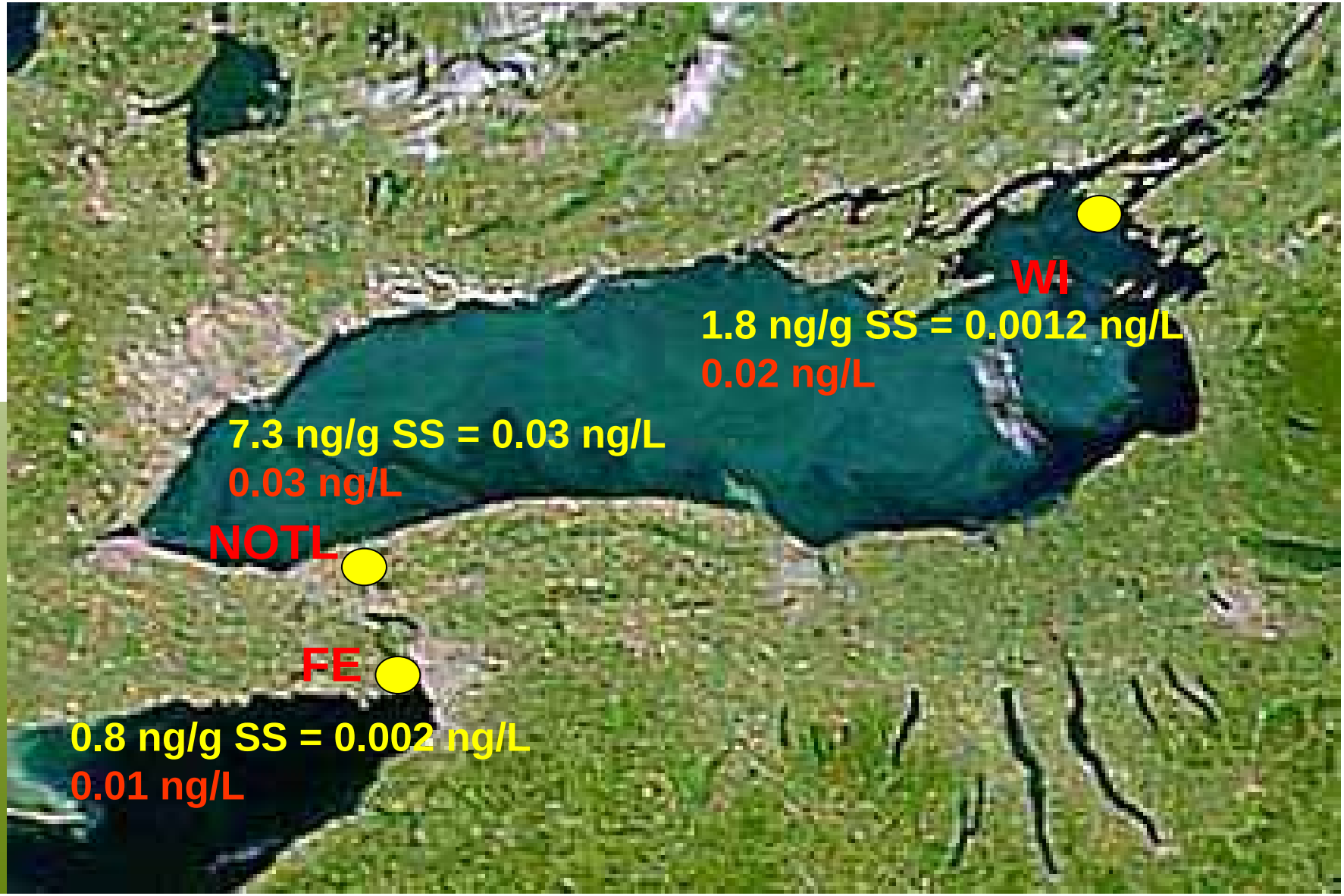
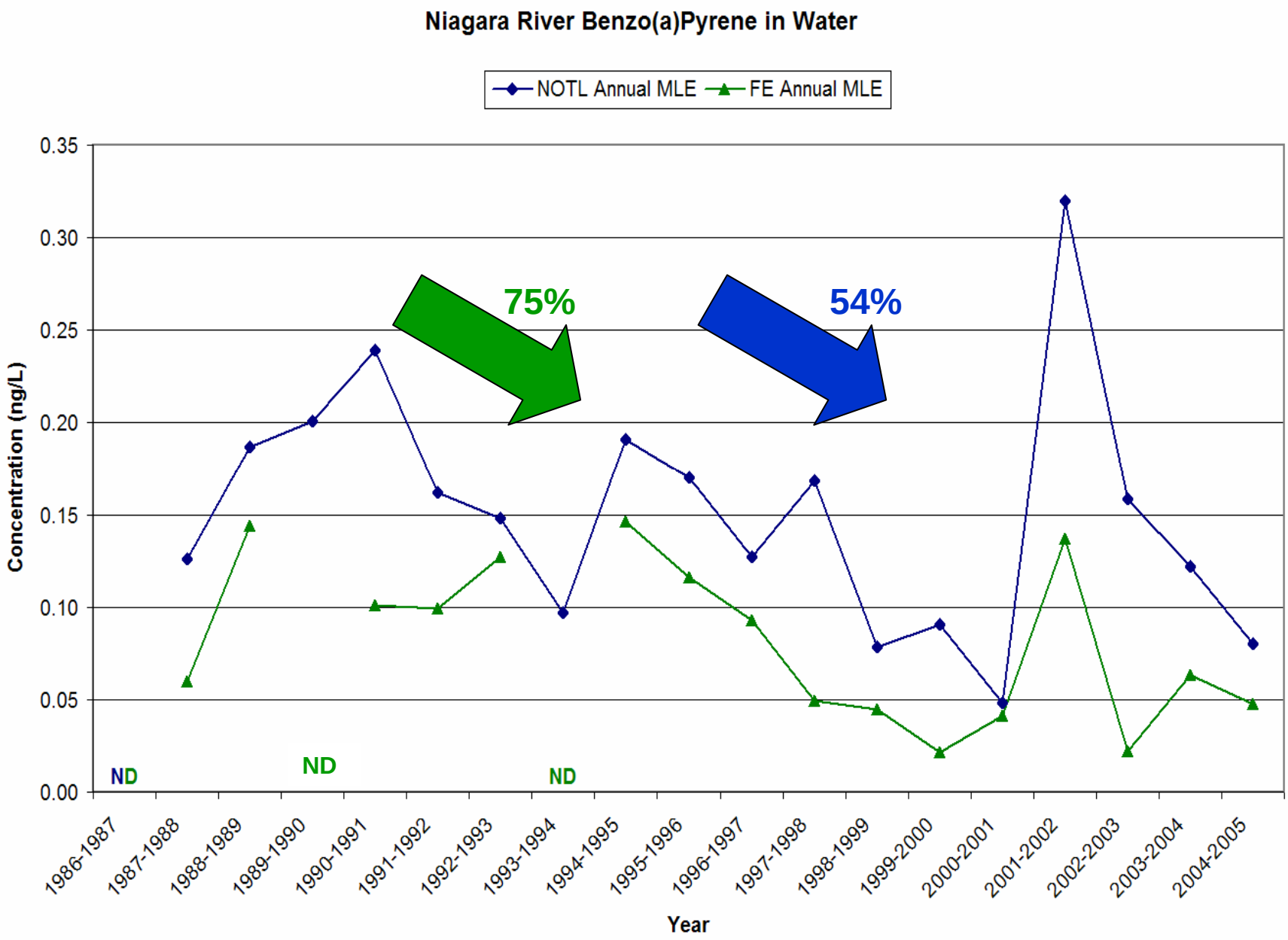

Niagara River Hexachlorobenzene (SS in Water Equivalents)
NOTL Annual MLE
FE Annual MLE
NYSDEC
Concentration (ng/L)
0.120
0.100
0.080
0.060
0.040
0.020
0.000
1986-1987
1987-1988
1988-1989
1989-1990
1990-1991
1991-1992
1992-1993
1993-1994
1994-1995
1995-1996
1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
Year

HCB in Suspended Sediments and Dissolved Phase





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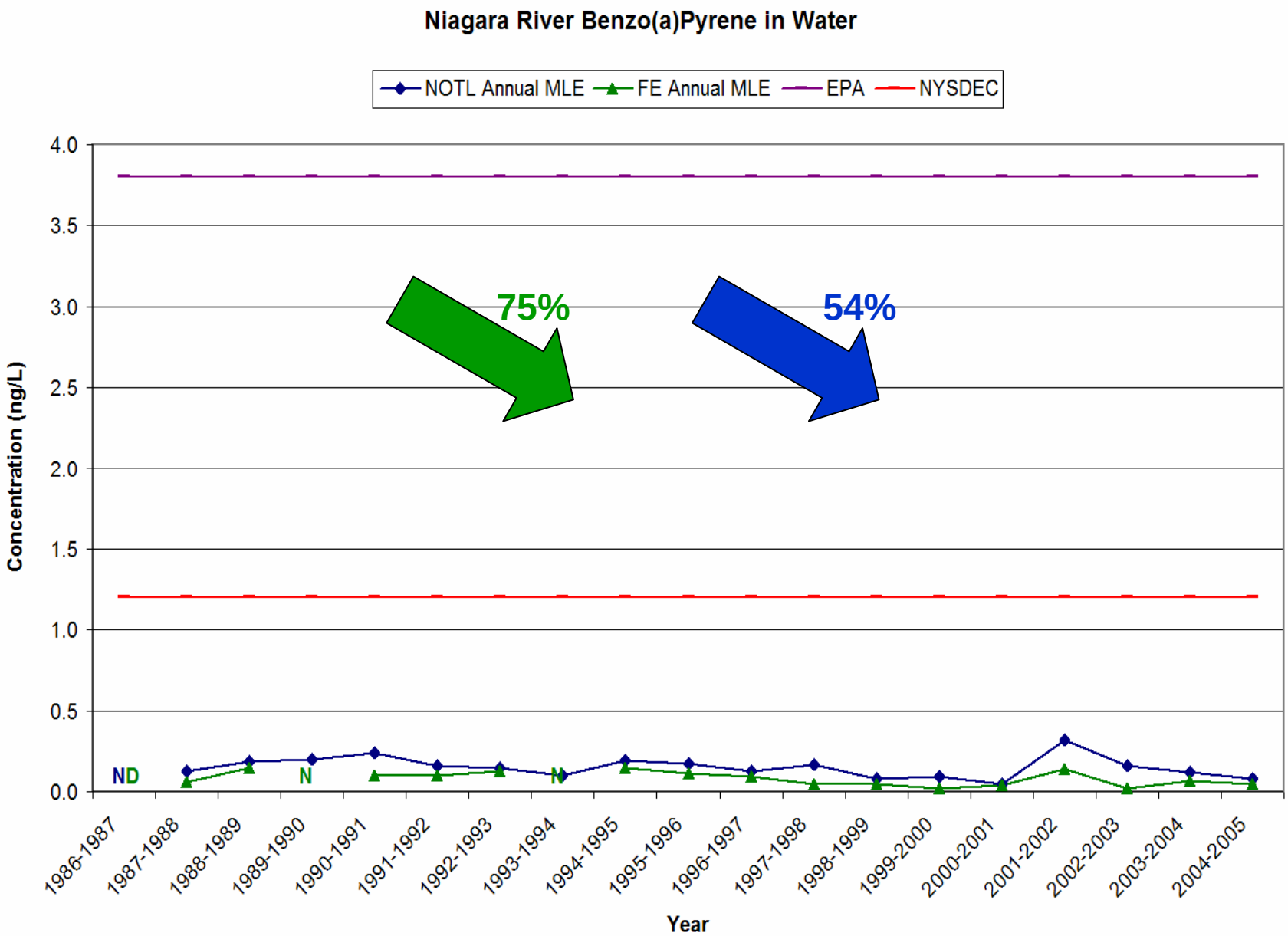

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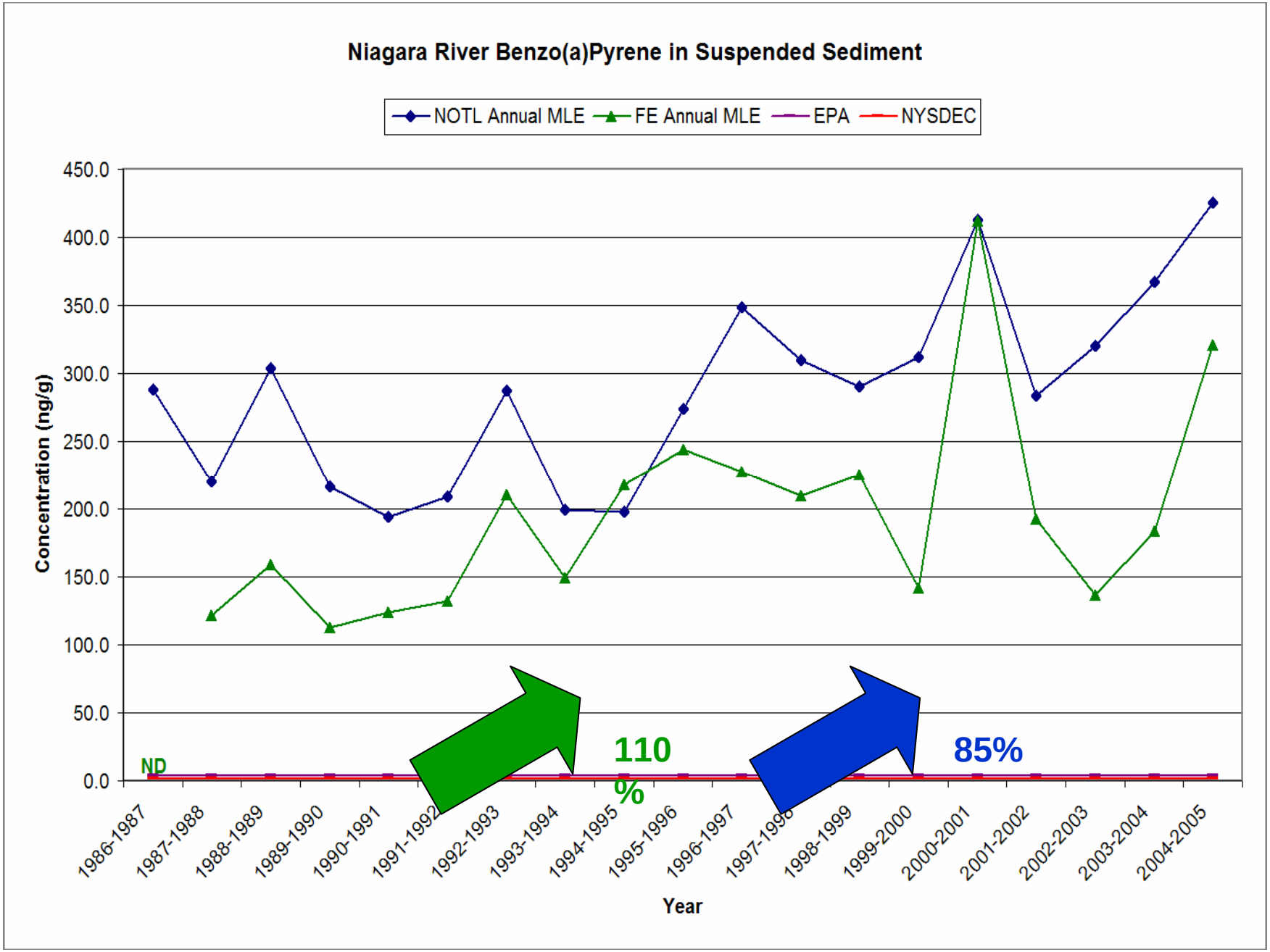

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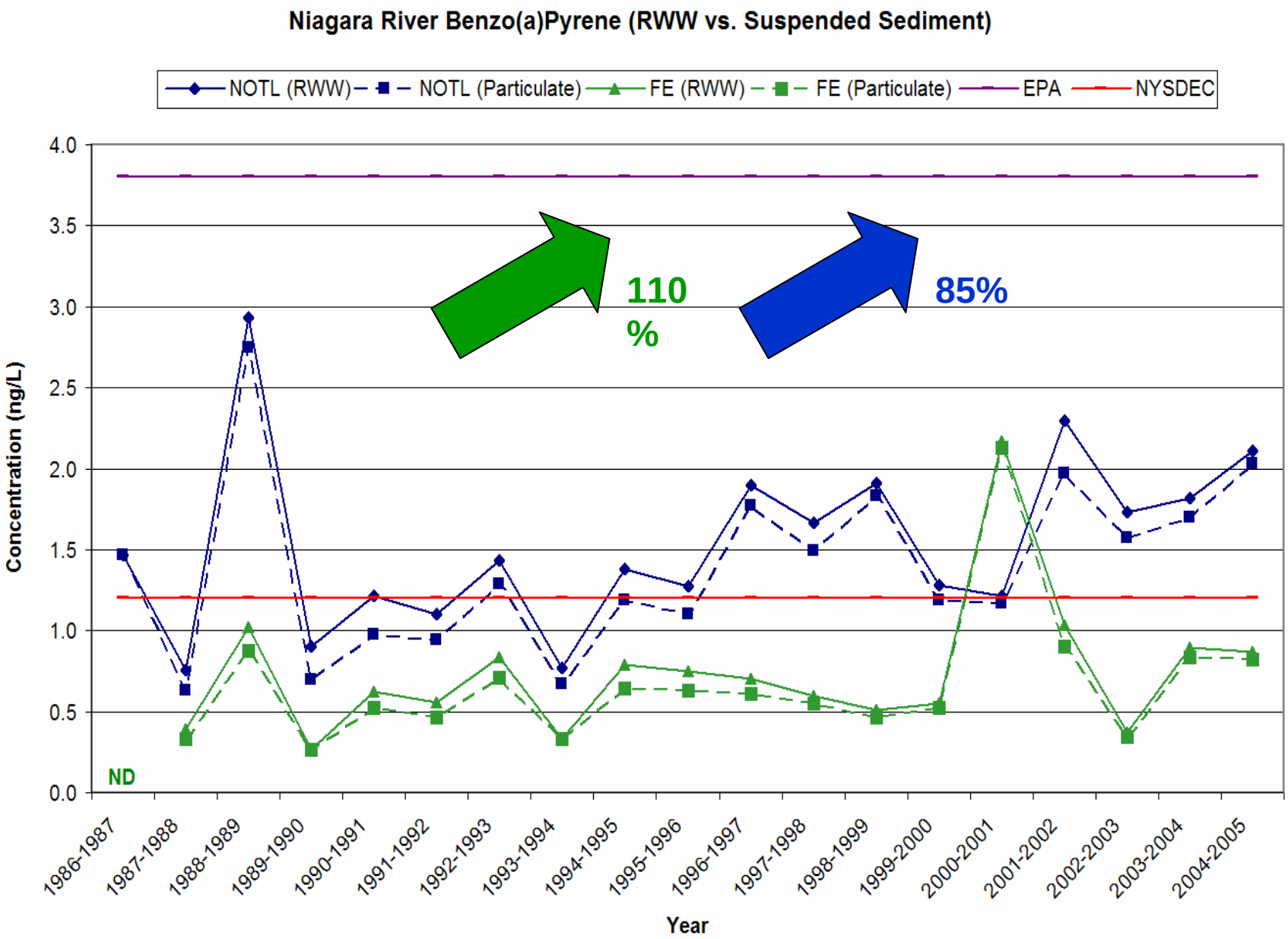

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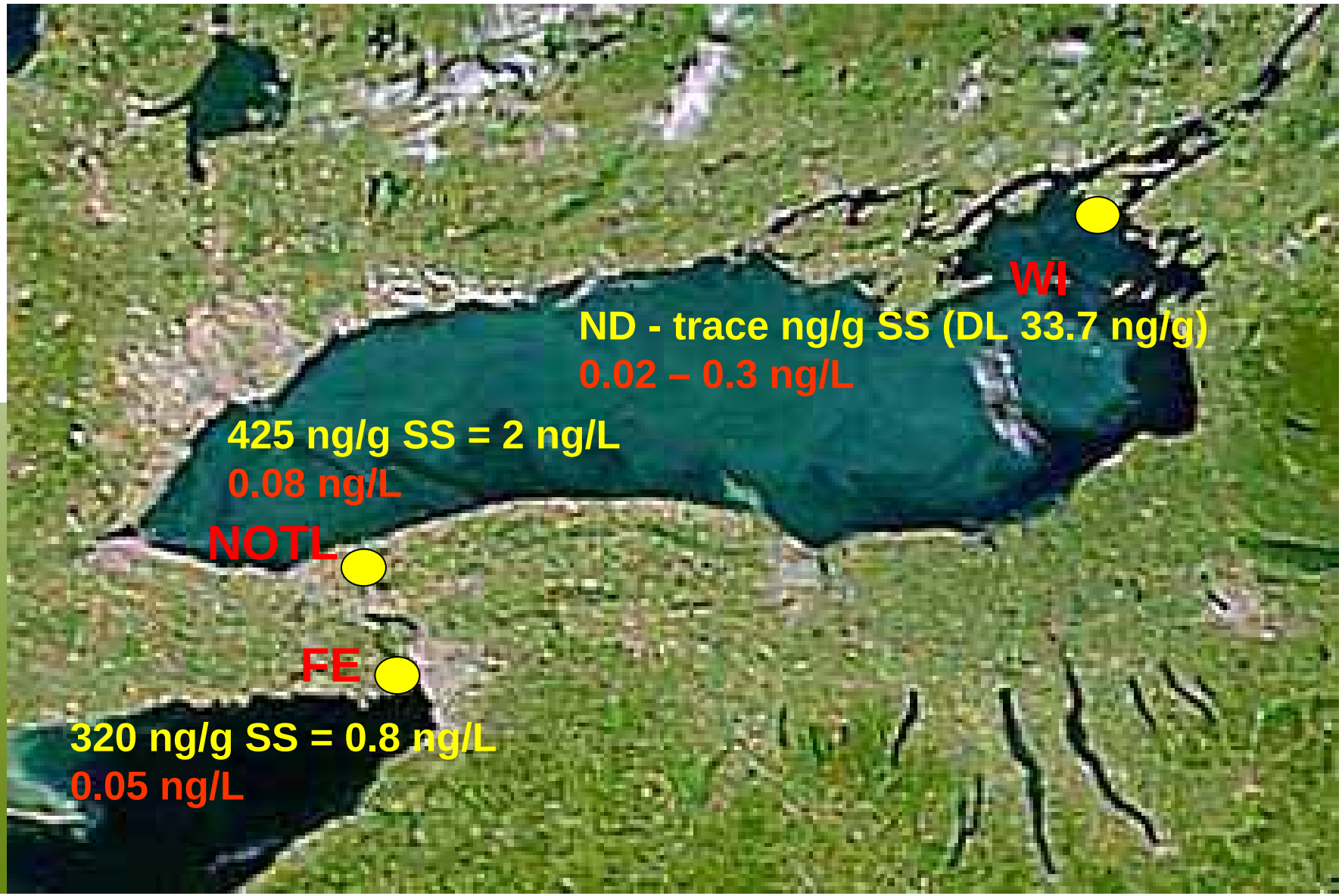
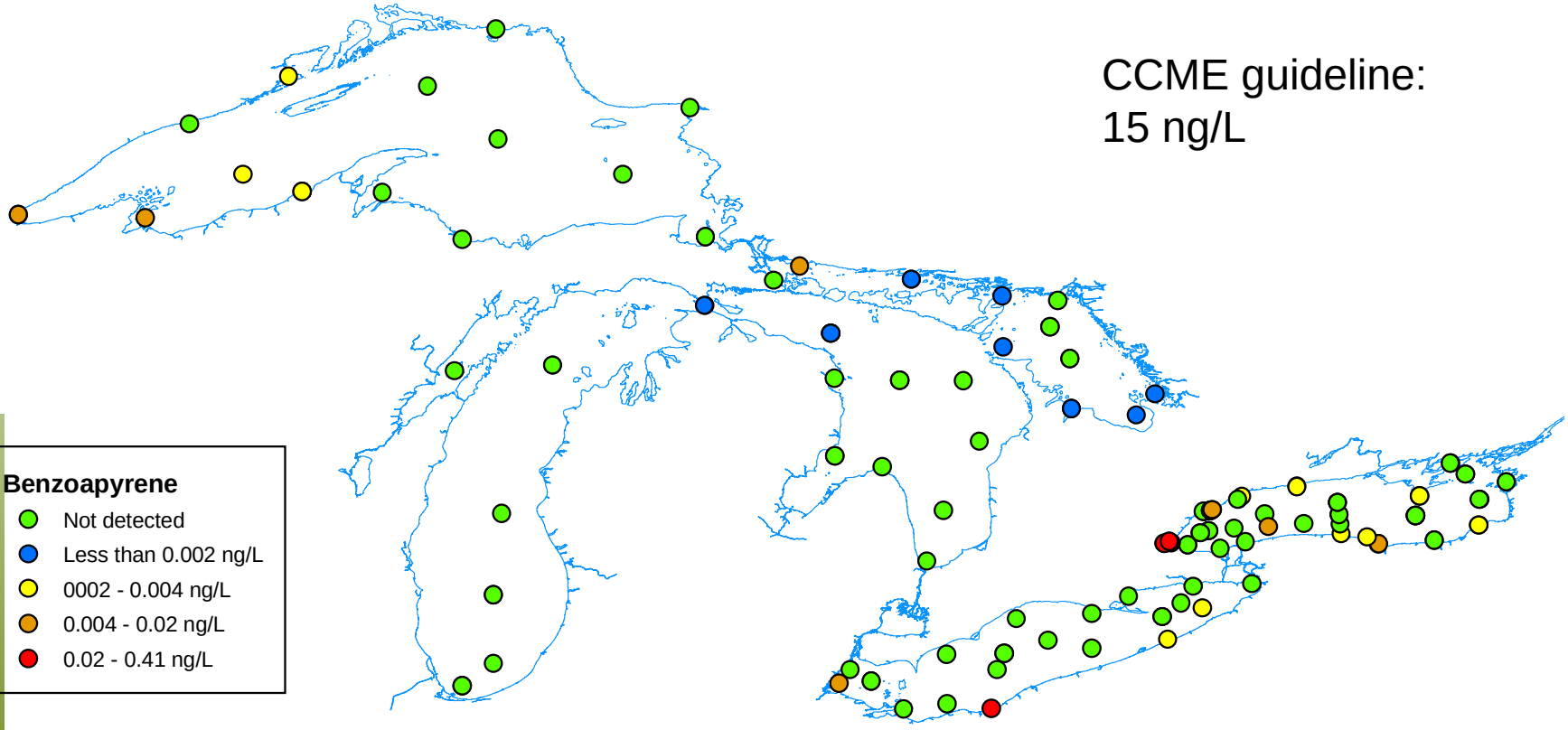
BaP in Suspended Sediments and Dissolved Phase

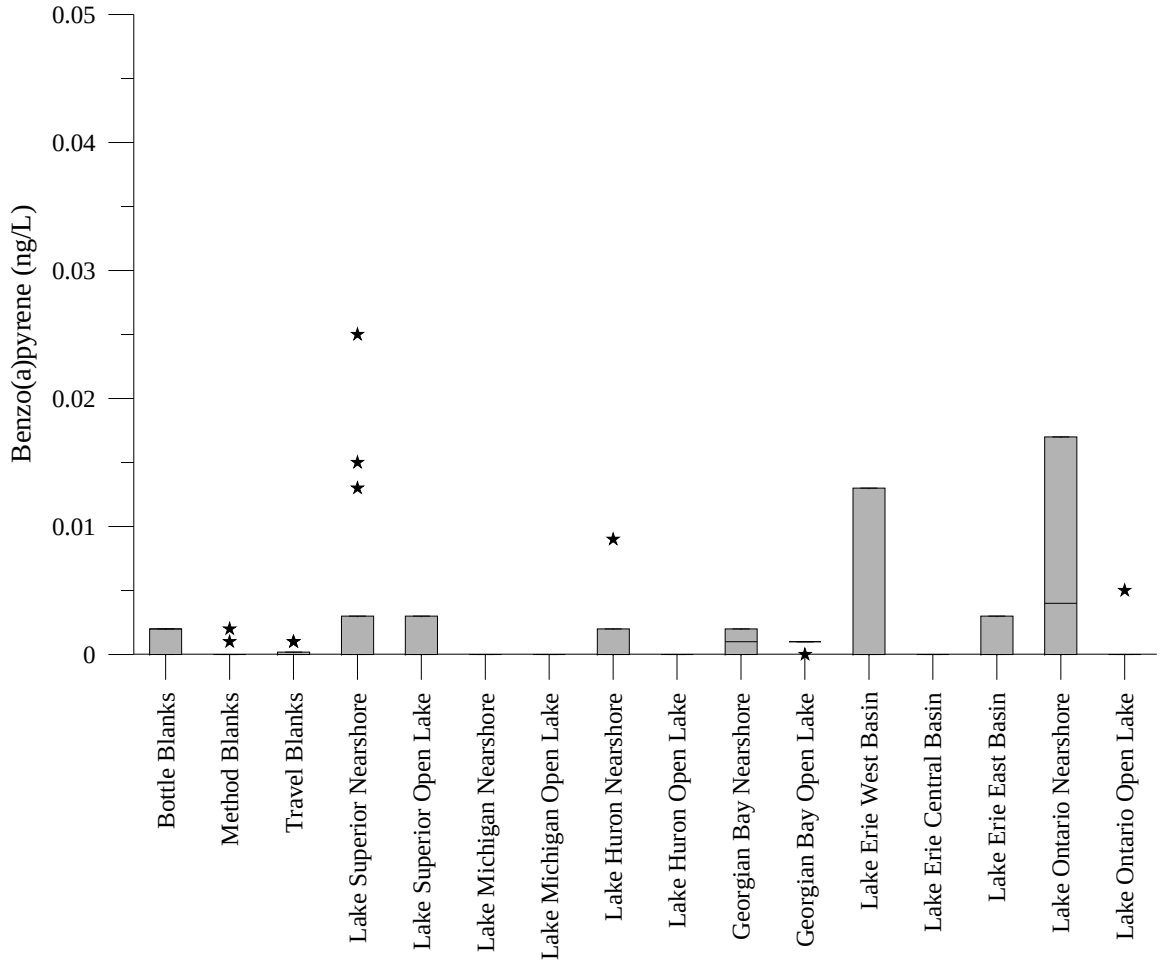


BaP in Great Lakes Water

CCME guideline:
15 ng/L



Benzo(a)pyrene in the Great Lakes



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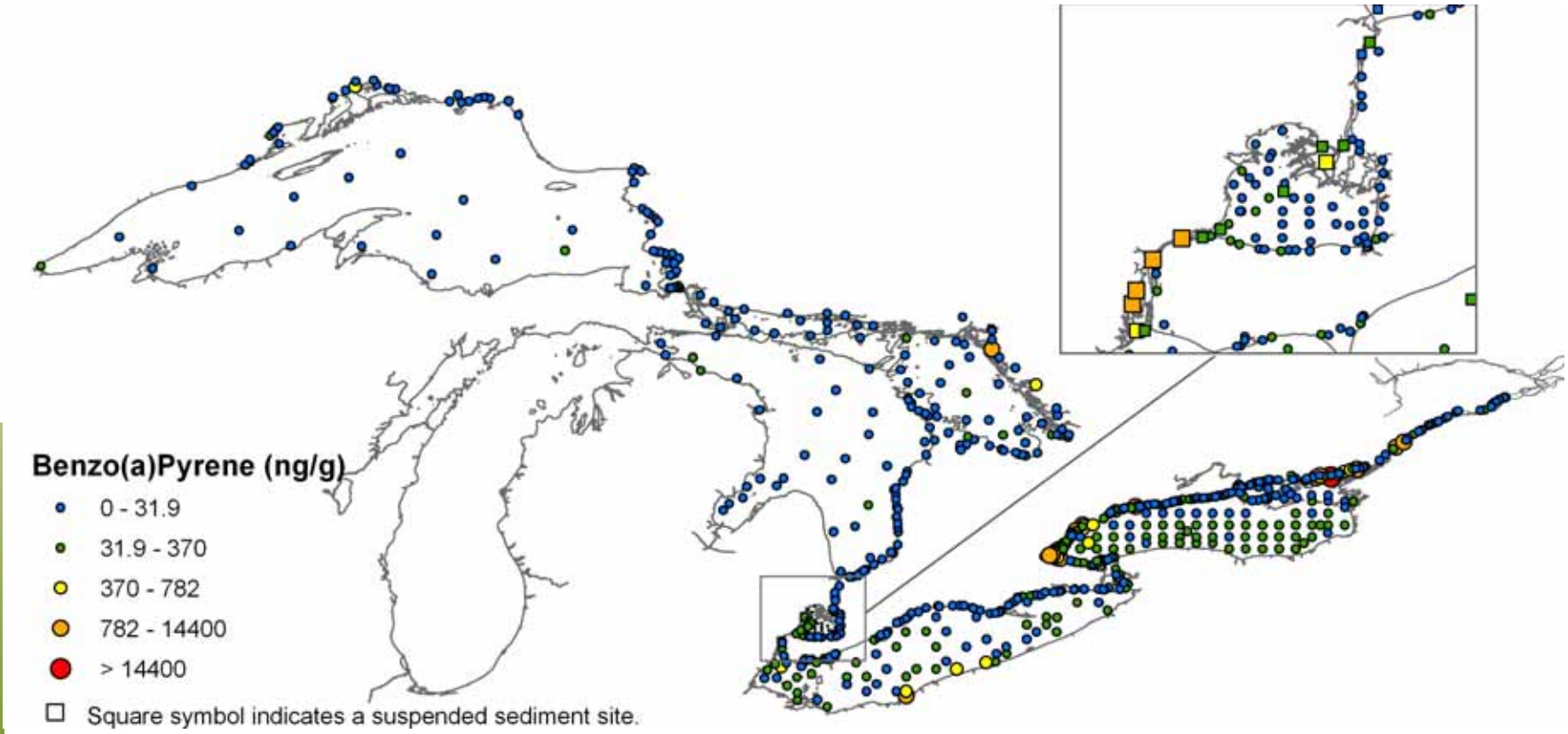
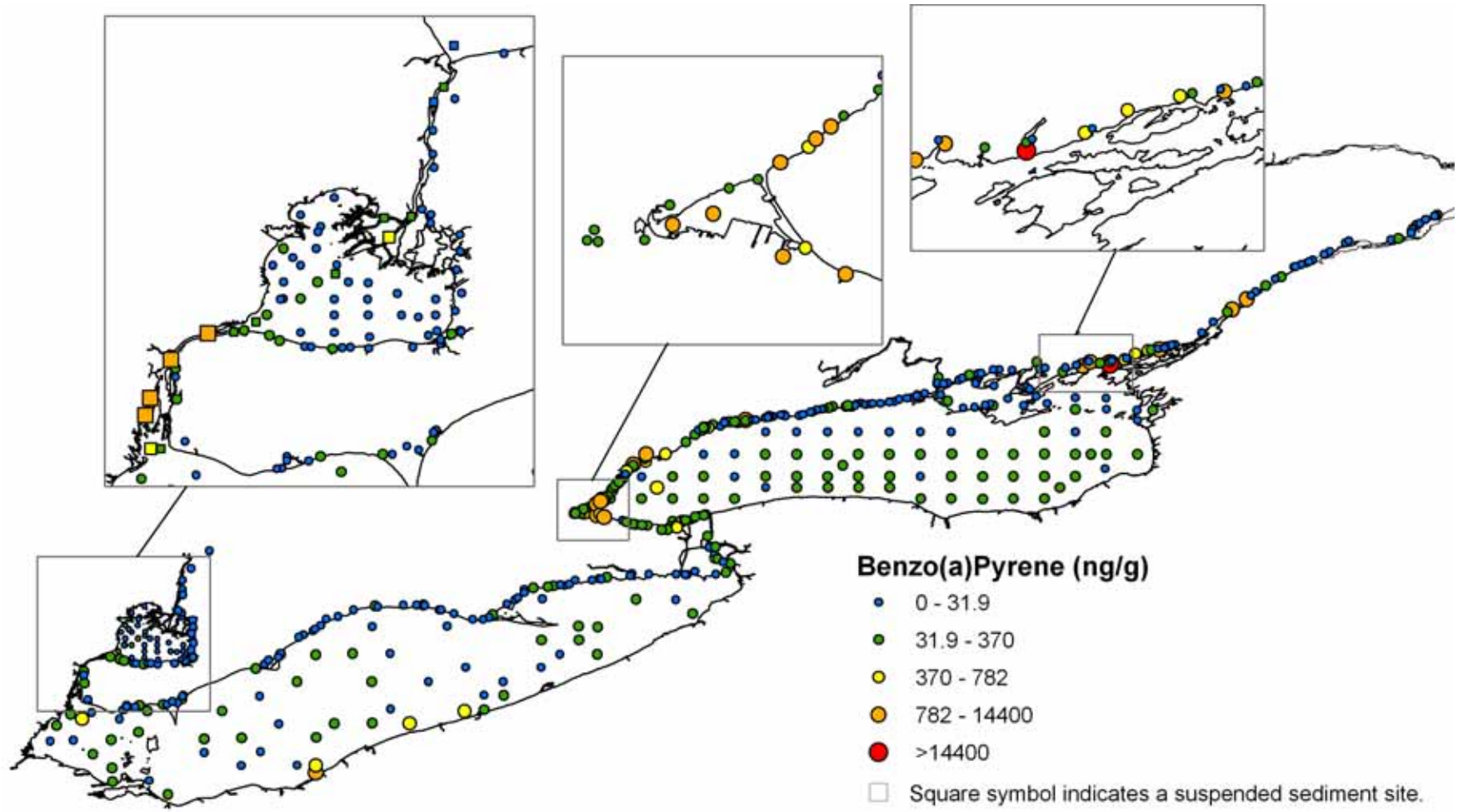
Sediment BaP in the Great Lakes



Sediment BaP in the Great Lakes