Tonawanda Community Air Quality Study

Division of Air Resources
Community Presentation

March 1, 2008

Sheridan Parkside Community Center

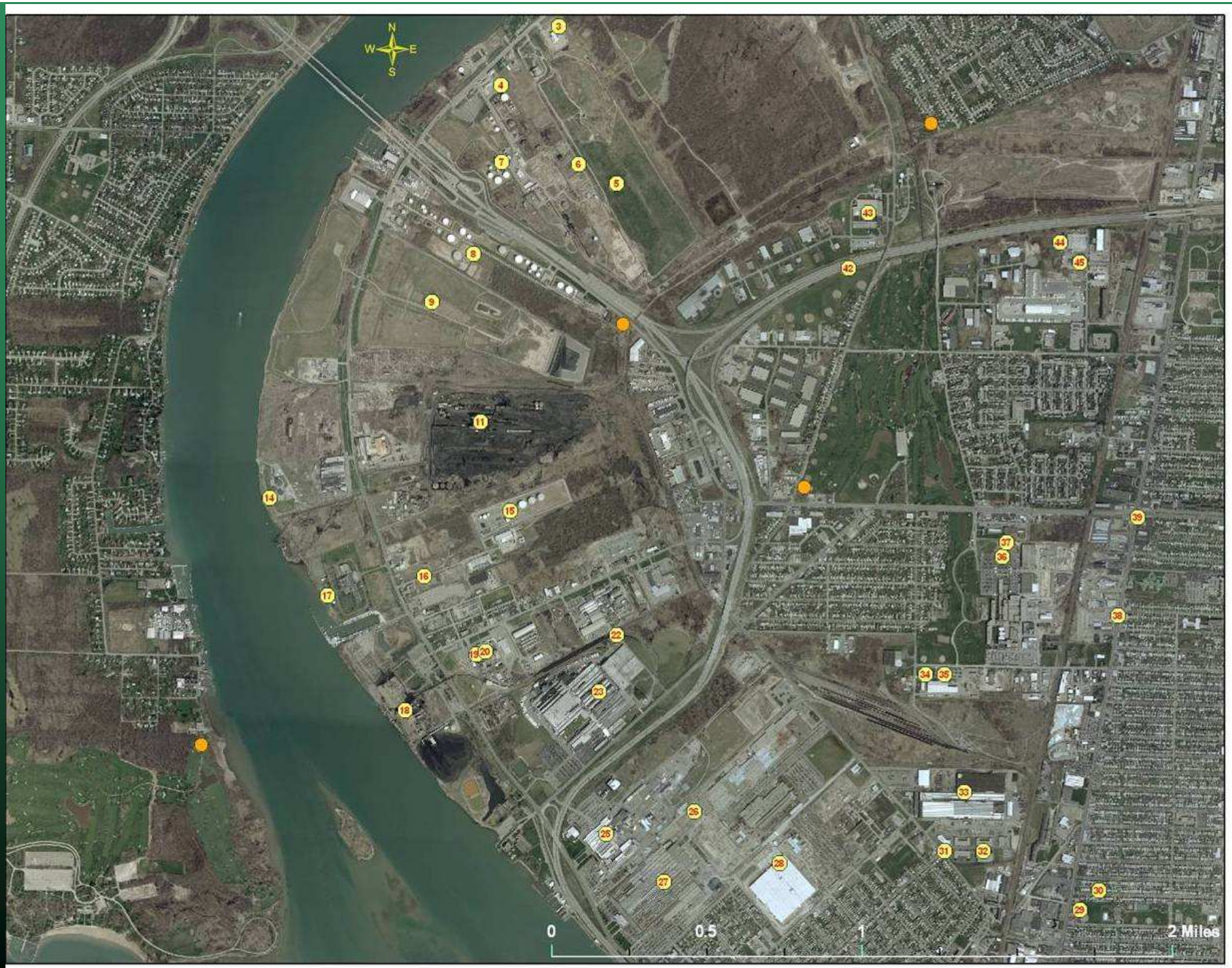
Tonawanda, NY

Why Was Tonawanda Selected ?

- Community concerns about ambient concentrations of benzene;
- EPA's 1999 National-scale Air Toxics Assessment (NATA) results for Erie County;
- Coke Oven Residual Risk Assessment prepared by EPA

Study Progress Report

- Air monitors/meteorological station installed and operating;
- Data capture (87 – 100%);
- Model ready inventory for major sources under development.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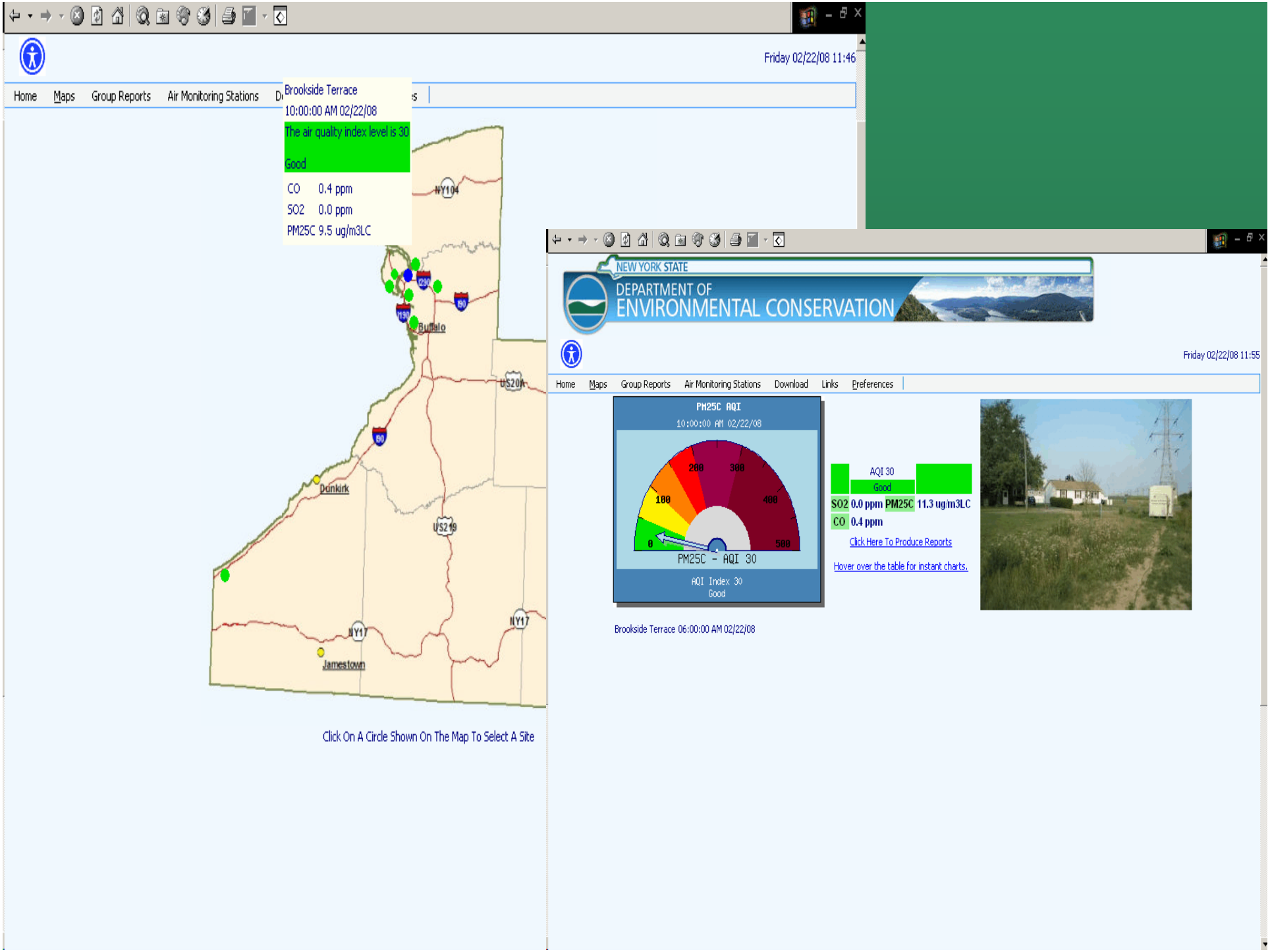
Friday 02/22/08 11:46
Home
Maps
Group Reports
Air Monitoring Stations
Brookside Terrace
10:00:00 AM 02/22/08
The air quality index level is 30
Good
CO 0.4 ppm
SO2 0.0 ppm
PM25C 9.5 ug/m3LC
NY104
290
90
190
Buffalo
US20A
90
Dunkirk
US219
NY17
NY17
Jamestown
Click On A Circle Shown On The Map To Select A Site
NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
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Links
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PM25C AQI
10:00:00 AM 02/22/08
0
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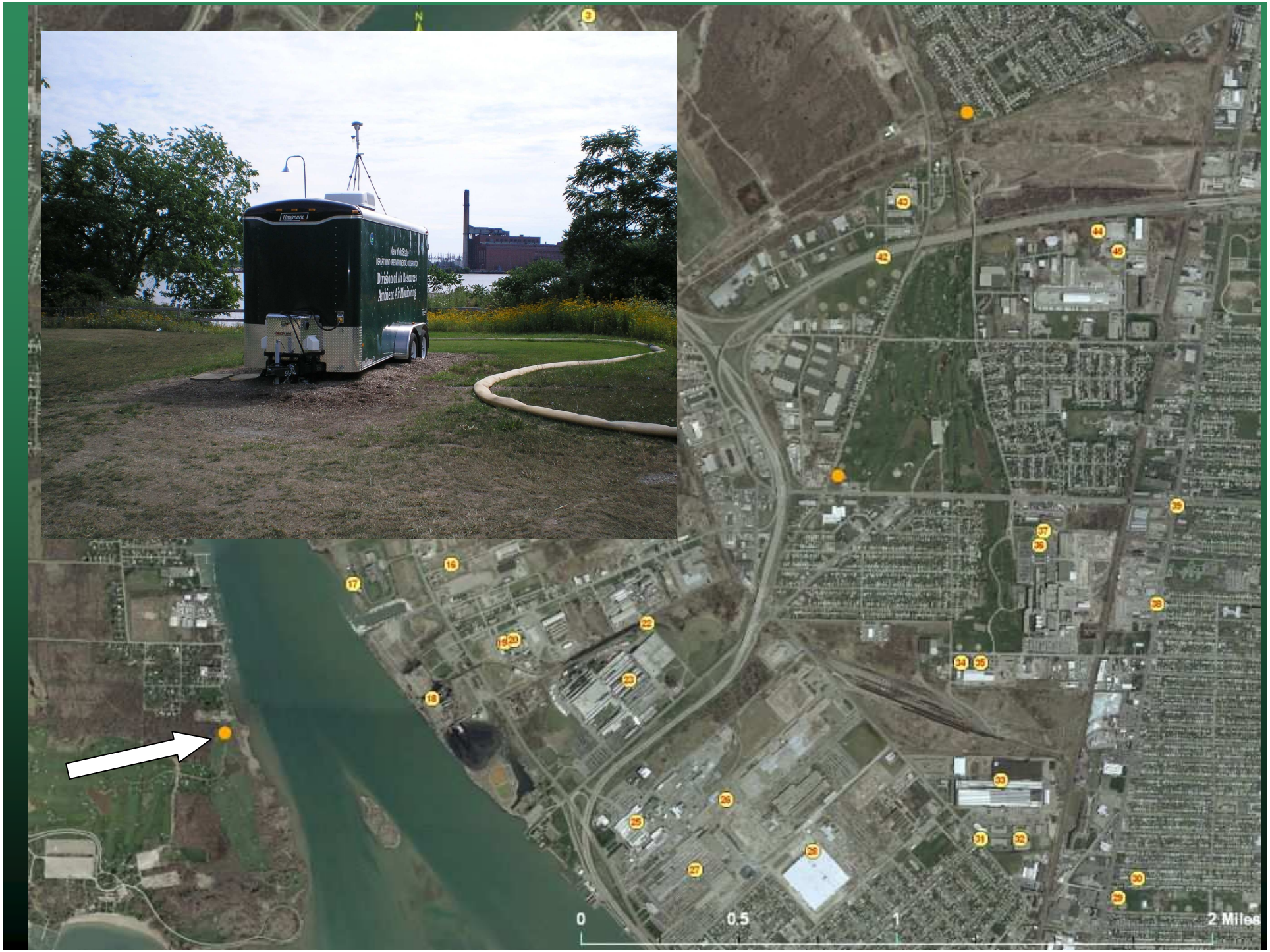
PM25C - AQI 30
AQI Index 30
Good
AQI 30
Good
SO2 0.0 ppm PM25C 11.3 ug/m3LC
CO 0.4 ppm
Click Here To Produce Reports
Hover over the table for instant charts.
Brookside Terrace 06:00:00 AM 02/22/08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Division of Air Resources
Ambient Air Monitoring
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ENVIRONMENTAL CONSERVATION
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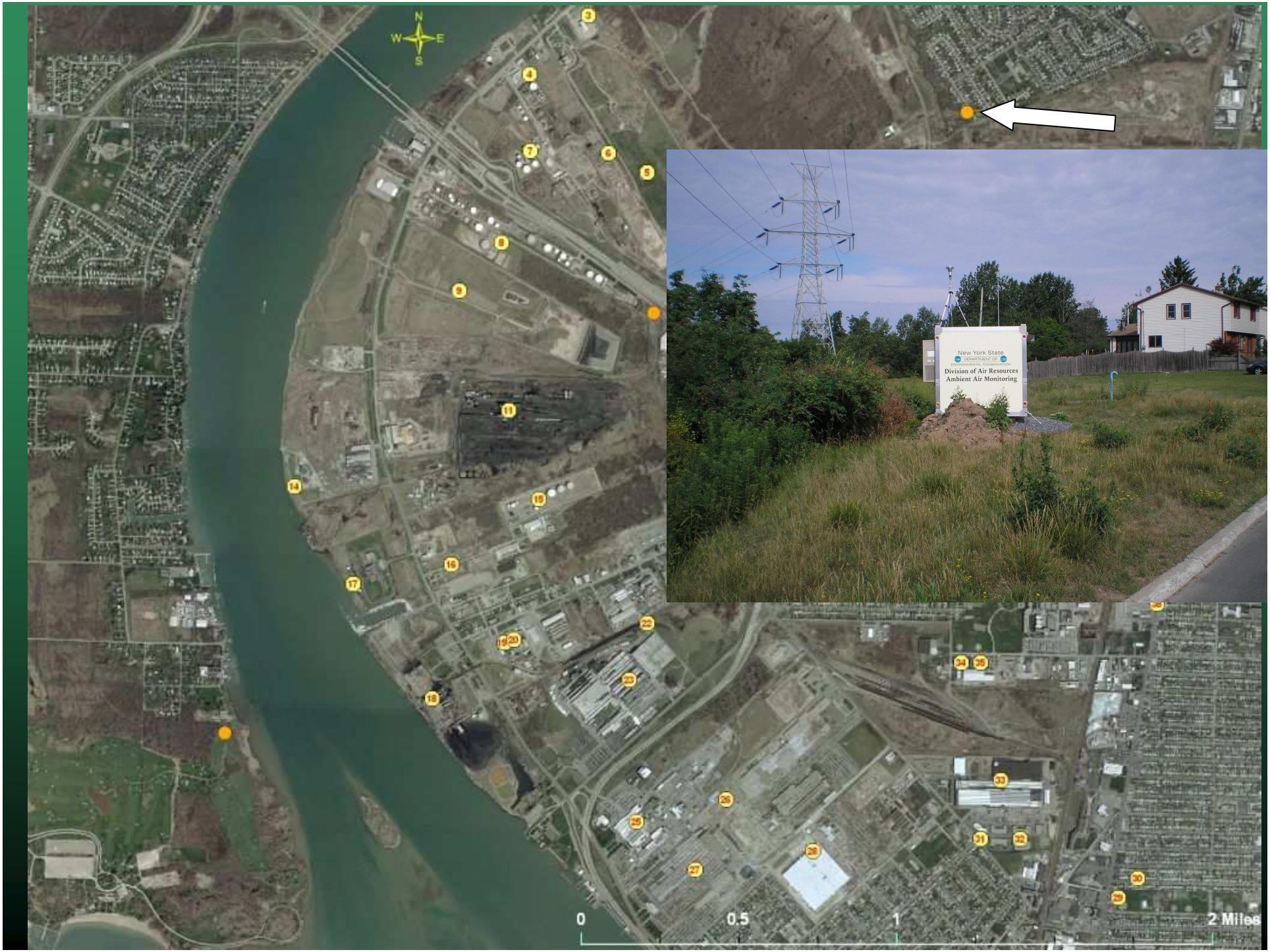
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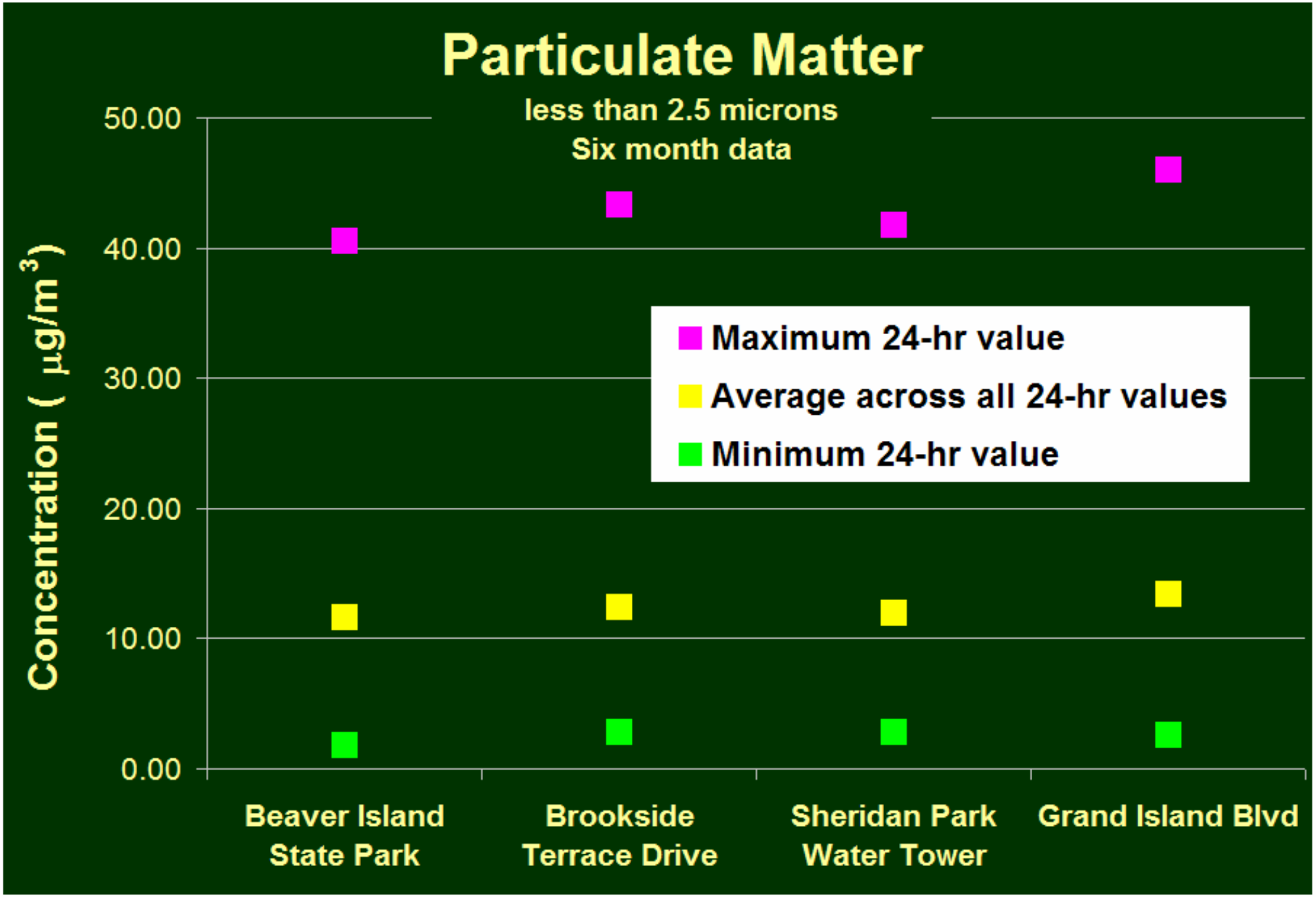
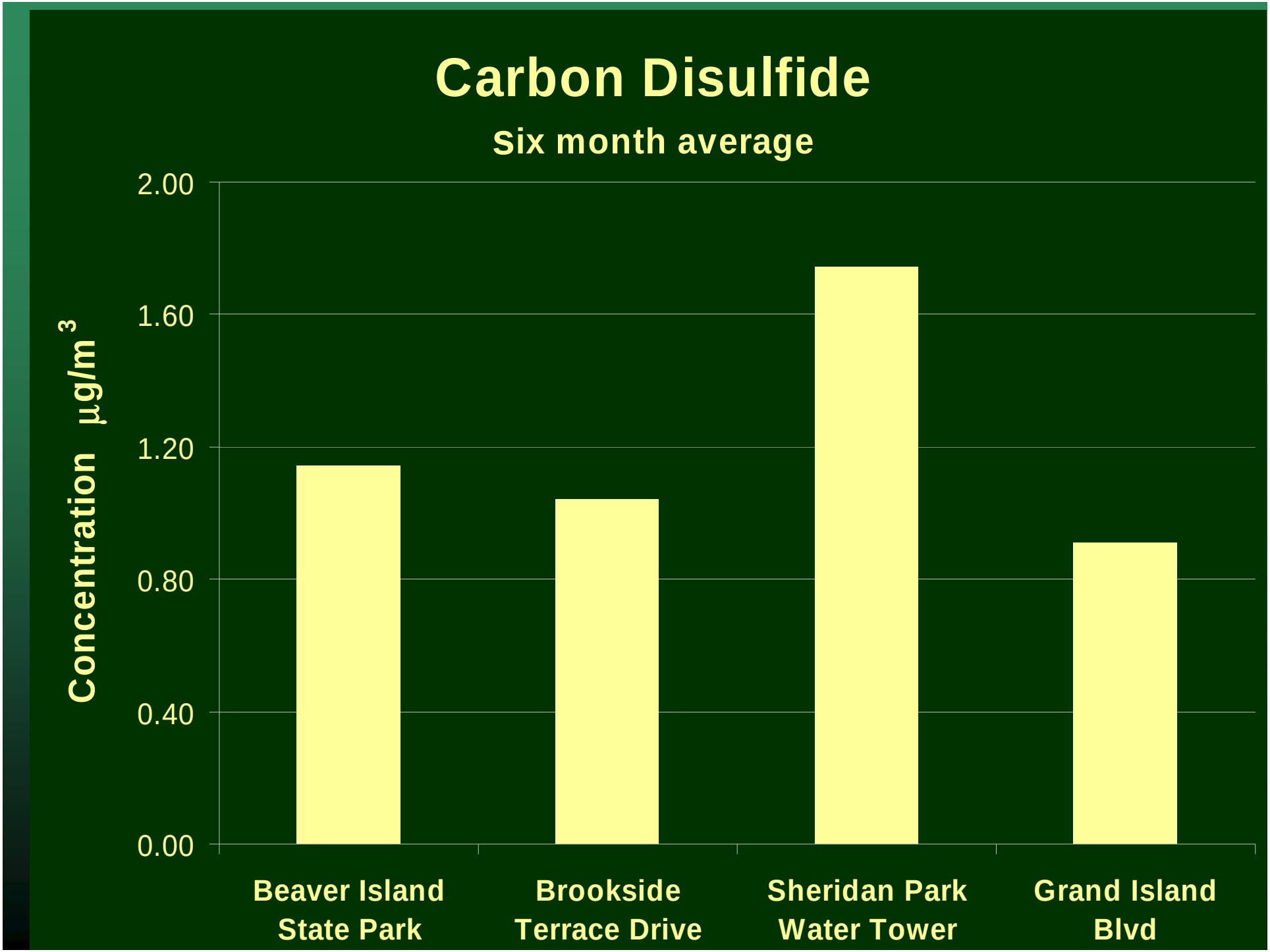
Air Toxics Measured

- 42 Volatile Organic Compounds (VOCs) and 10 Carbonyls;
- 1 in 6 day sampling schedule (24 hour sample);
- 15 of the chemicals are high priority urban air toxics targeted for reductions by the 1990 Clean Air Act.


Particulate Matter
less than 2.5 microns
Six month data
Concentration (µg/m3)
50.00
40.00
30.00
20.00
10.00
0.00
Maximum 24-hr value
Average across all 24-hr values
Minimum 24-hr value
Beaver Island State Park
Brookside Terrace Drive
Sheridan Park Water Tower
Grand Island Blvd

Carbon Disulfide Sources

- Manmade sources include:
  - industrial sources manufacturing rayon, cellulose, and carbon tetrachloride
  - industrial sources producing rubber chemicals and pesticides
  - biological degradation and incineration of wastes
- Natural sources include emissions from marshes and wetlands; specific crop plants and trees


Carbon Disulfide
Six month average
Concentration µg/m3
2.00
1.60
1.20
0.80
0.40
0.00
Beaver Island State Park
Brookside Terrace Drive
Sheridan Park Water Tower
Grand Island Blvd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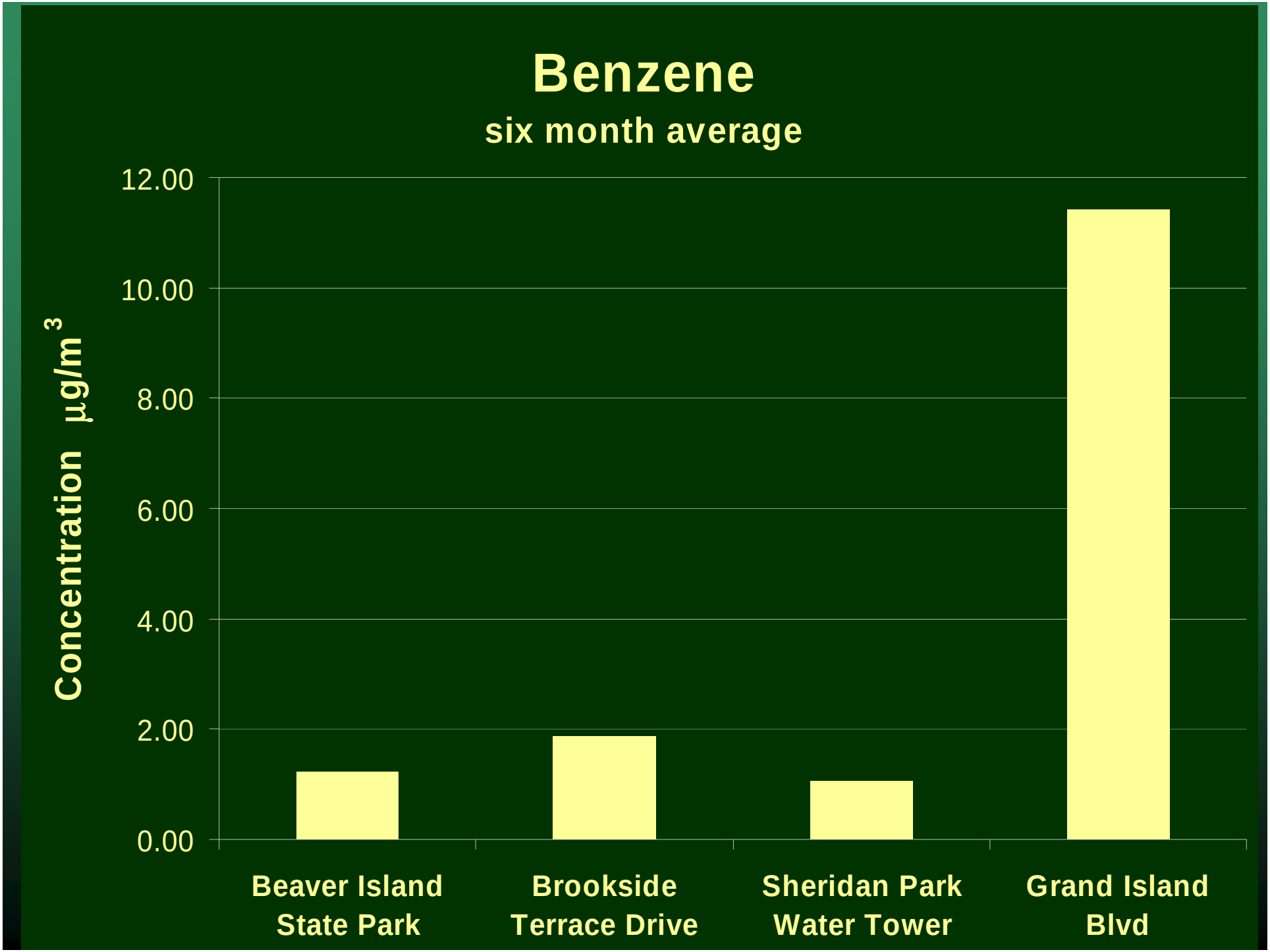
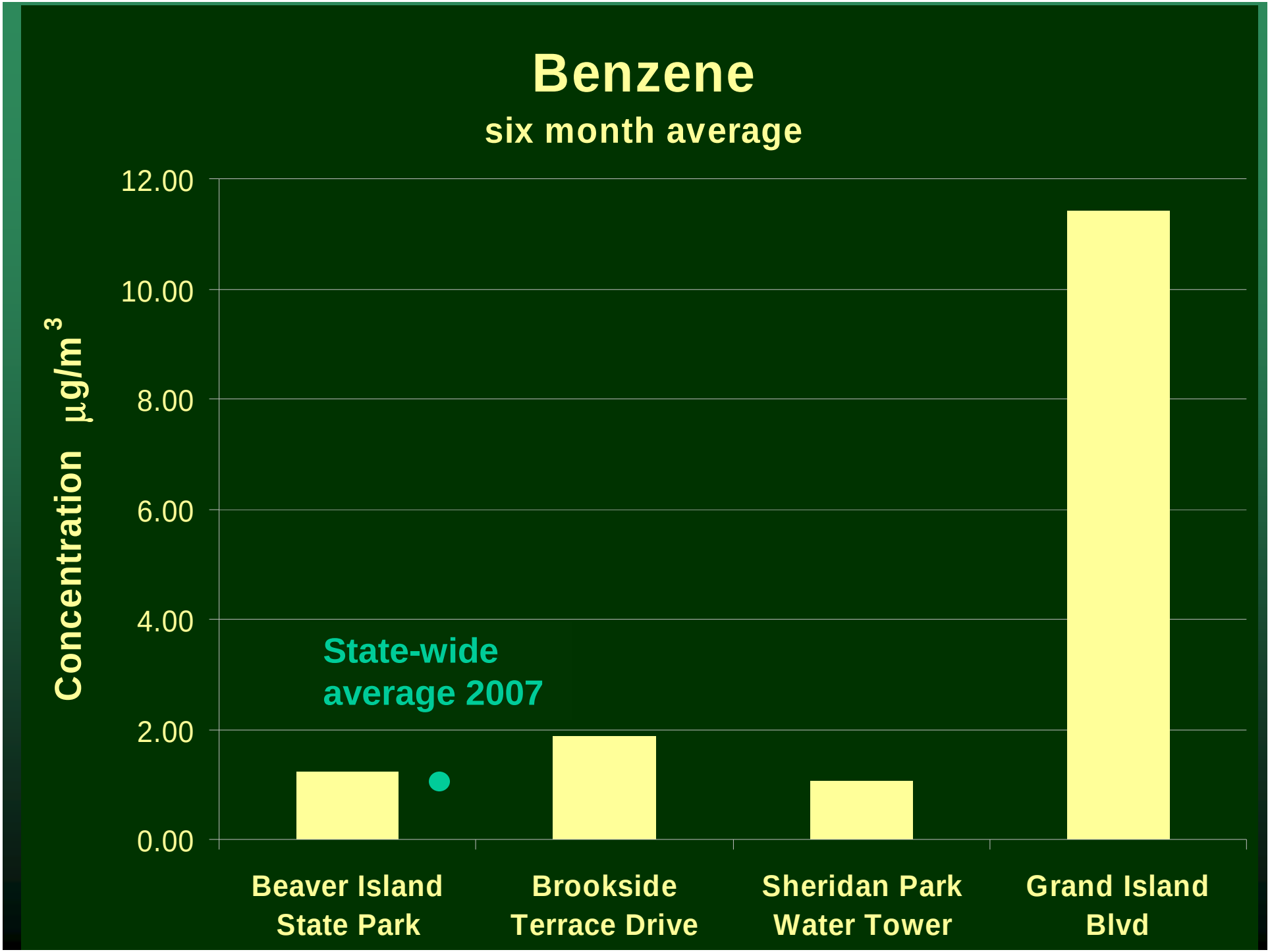
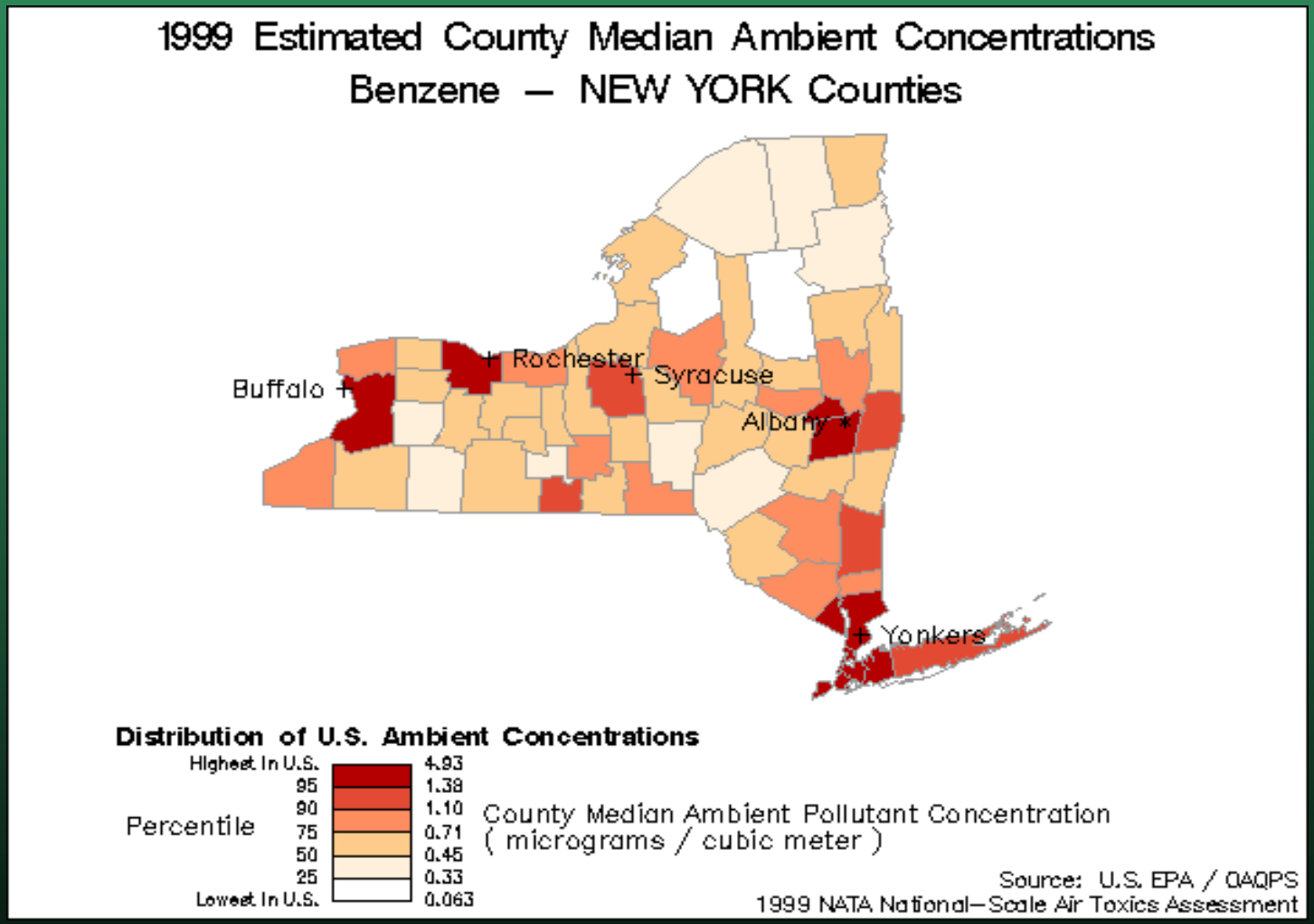
Benzene Sources

- Manmade sources include:
  - tobacco smoke
  - motor vehicle
  - oil and natural gas production
  - petroleum refining & distribution
  - burning coal, oil and gas
  - gasoline service stations
  - coke ovens and coal chemical manufacturing
  - rubber tire manufacturing
  - storage or transport of benzene
- Natural sources include emissions from forest fires


Benzene
six month average
Concentration µg/m3
12.00
10.00
8.00
6.00
4.00
2.00
0.00
Beaver Island State Park
Brookside Terrace Drive
Sheridan Park Water Tower
Grand Island Blvd


Benzene
six month average
Concentration µg/m3
12.00
10.00
8.00
6.00
4.00
2.00
0.00
State-wide
average 2007
Beaver Island
State Park
Brookside
Terrace Drive
Sheridan Park
Water Tower
Grand Island
Blvd

1999 NATA Results

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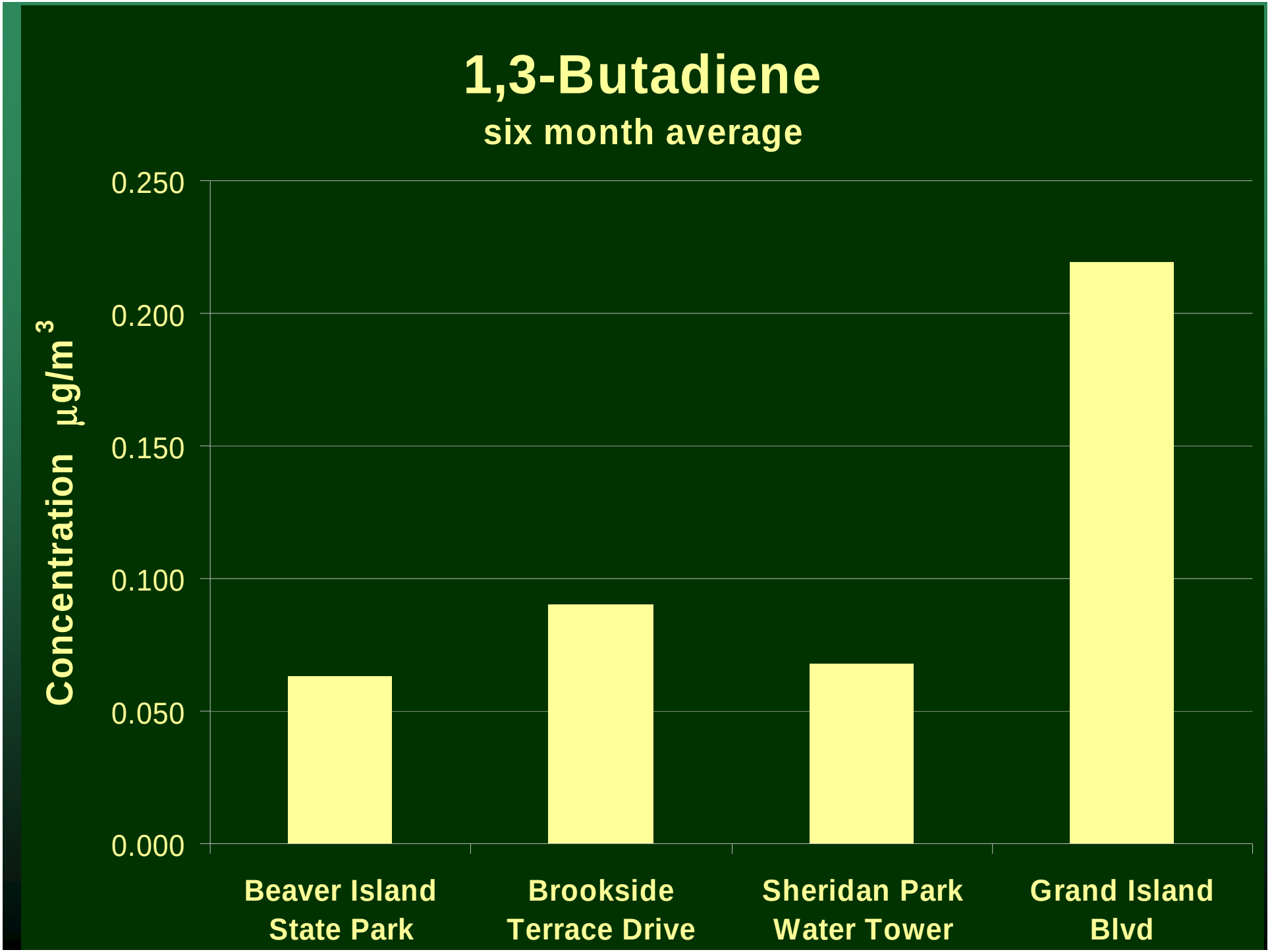
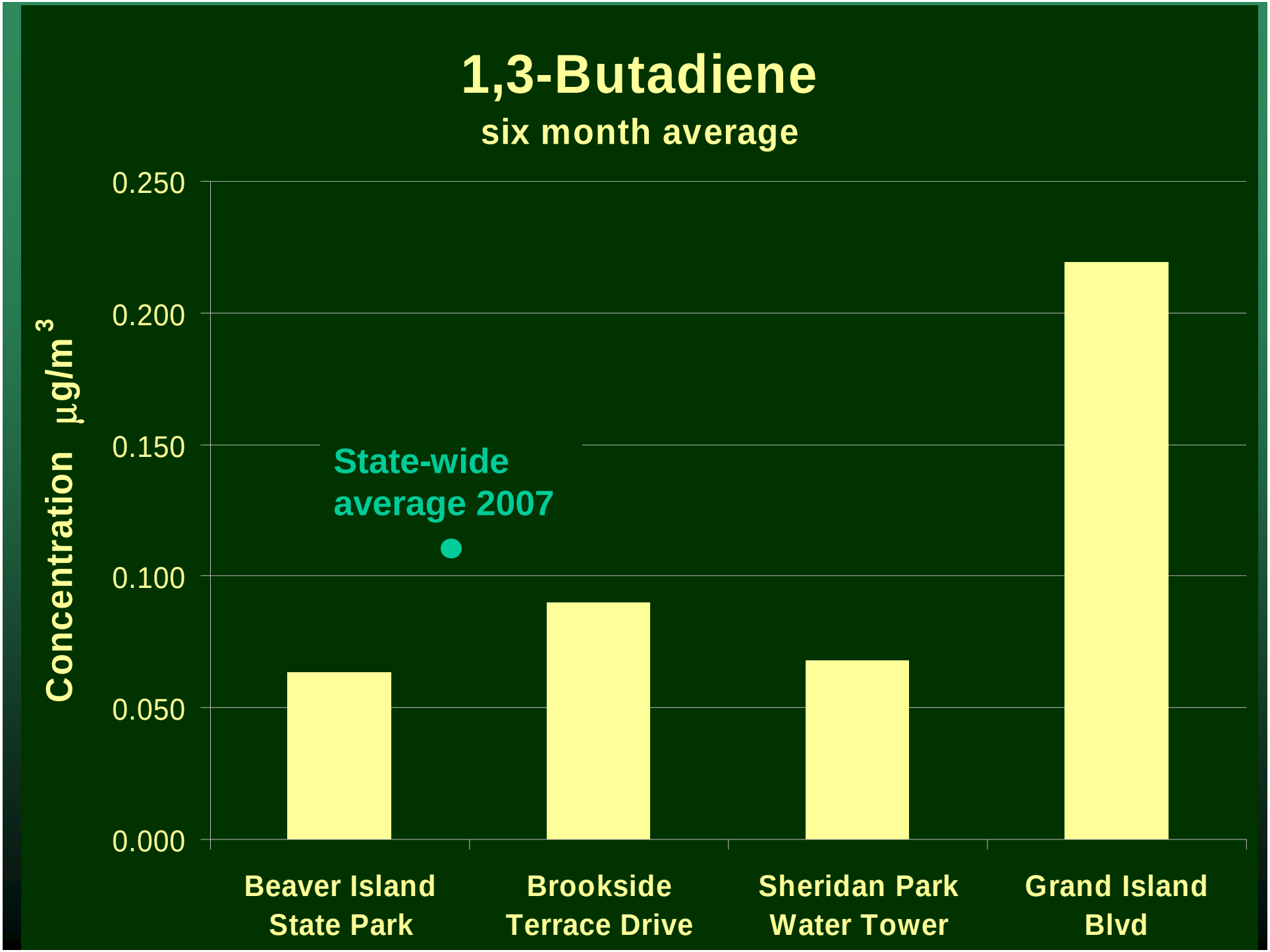
1,3-Butadiene

- Manmade sources
  - tobacco smoke
  - oil refineries
  - chemical manufacturing
  - commercial plastic and rubber factories
  - gasoline service stations
  - motor vehicle
- Natural sources include emissions from forest fires and biomass burning


1,3-Butadiene
six month average
Concentration µg/m3
0.250
0.200
0.150
0.100
0.050
0.000
Beaver Island State Park
Brookside Terrace Drive
Sheridan Park Water Tower
Grand Island Blvd


1,3-Butadiene
six month average
Concentration µg/m3
0.250
0.200
0.150
0.100
0.050
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State-wide
average 2007
Beaver Island
State Park
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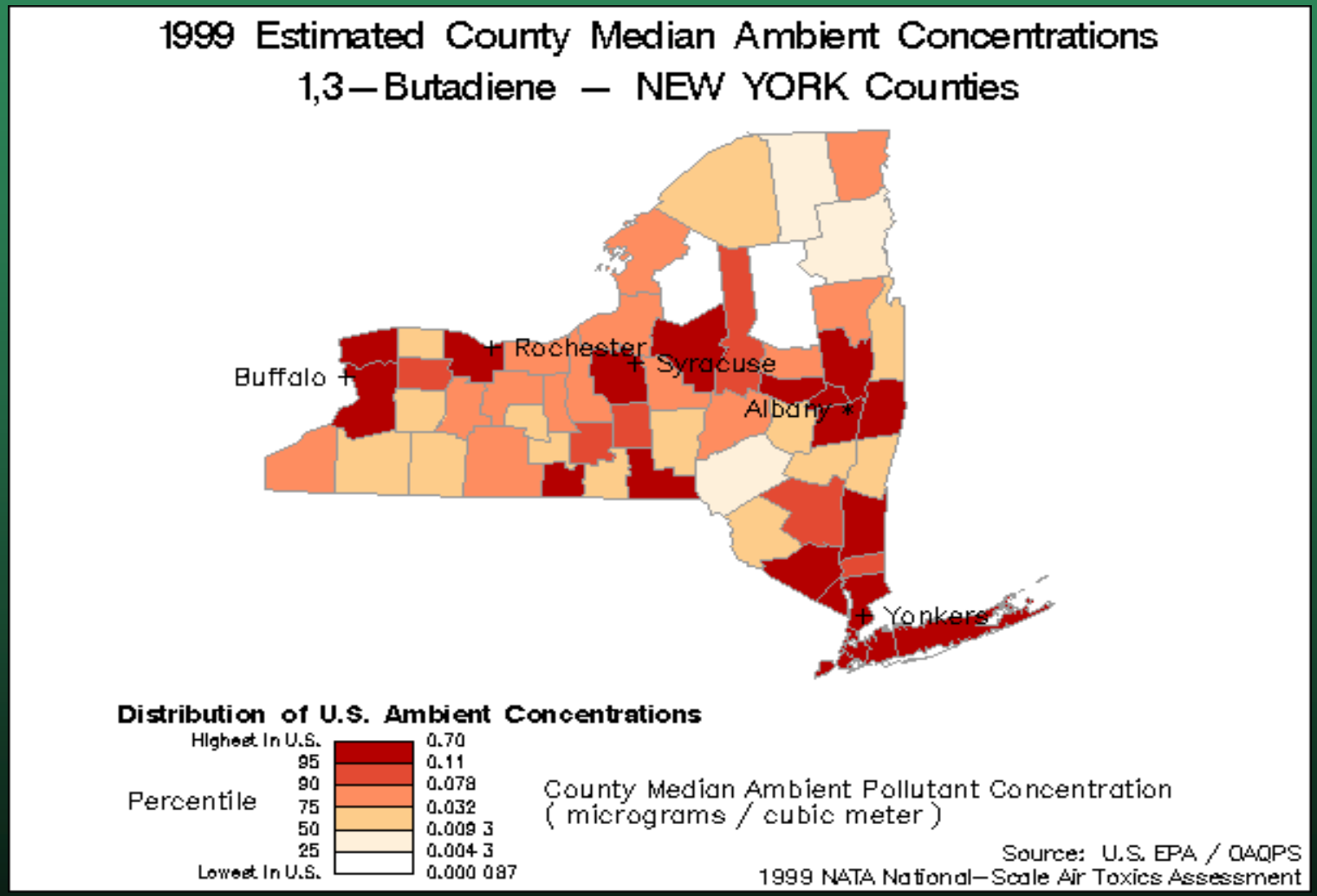
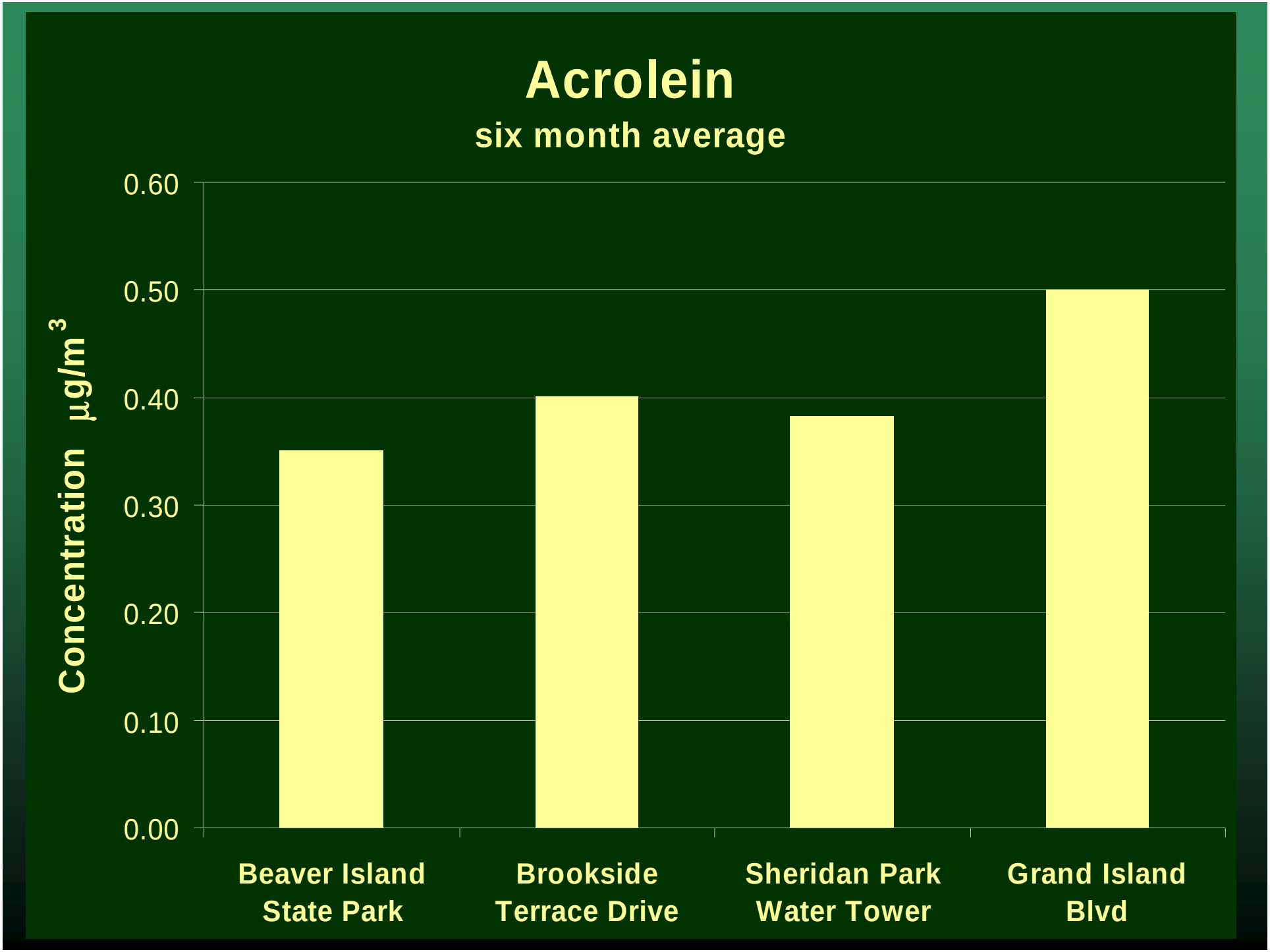
1999 NATA Results



Acrolein

- Manmade sources
  - tobacco smoke
  - chemical manufacturing (acrylic acid)
  - combustion of petrochemical fuels and coal
  - mobile source exhaust (cars, trucks, airplanes)
  - formed when cooking fats are overheated
  - breakdown by sunlight of various hydrocarbon pollutants (such as 1,3-butadiene)
  - used as an herbicide and algicide
- Natural sources
  - product of fermentation and ripening processes
  - released when organic matter such as trees and other plants, including tobacco, are burned


Acrolein
six month average
Concentration µg/m3
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Beaver Island State Park
Brookside Terrace Drive
Sheridan Park Water Tower
Grand Island Blvd

1999 NATA Results