



2008 Surface Water Report

Adam London, RS, MPA

Environmental Health Manager

Ottawa County Health Department

Environmental Health Concerns

- Beach Water Quality
 - Wastewater Control
 - Well Construction
 - Hazardous Waste Management
- 

2002-2008 Results

Location	# of Events	Exceedances	Percent
GH City	113	5	4.42%
GH State P	101	2	1.98%
Holland SP	99	1	1.01%
Kirk Park	100	2	2.00%
Kouw Park	70	1	1.43%
North Beach	110	2	1.82%
Rosy Mound	80	2	2.50%
Tunnel Park	111	5	4.50%
Windsnest	71	2	2.82%

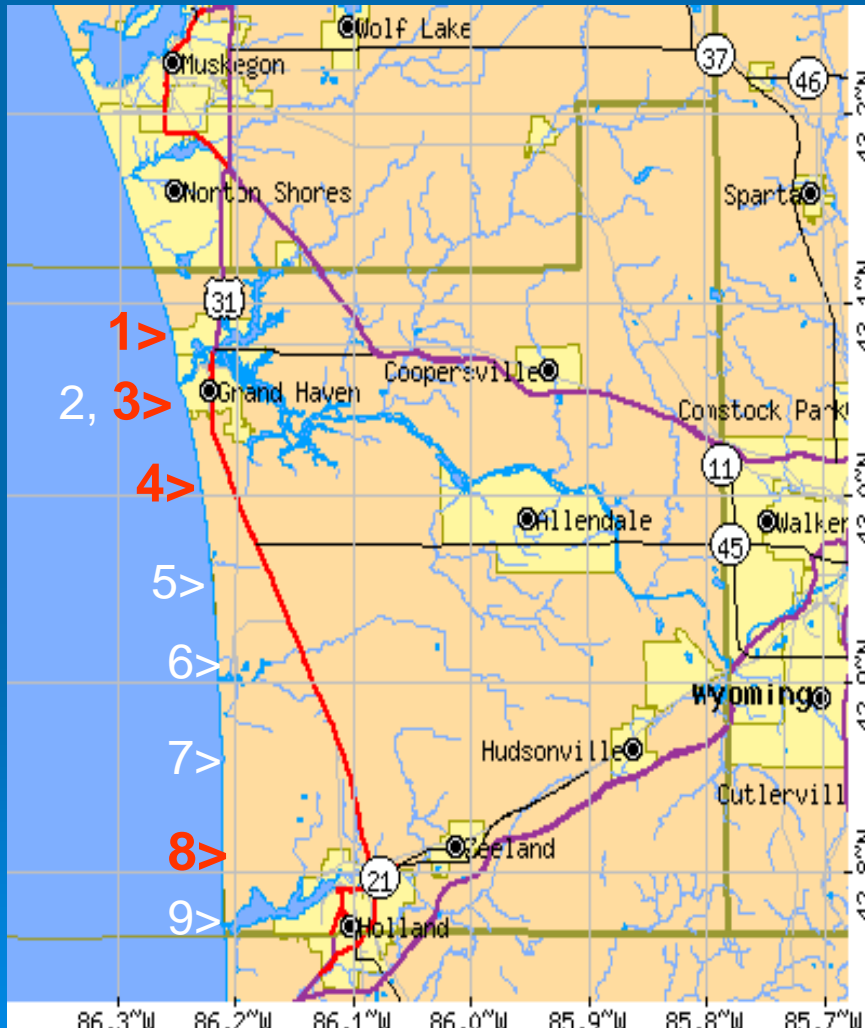
TOTALS

855

22

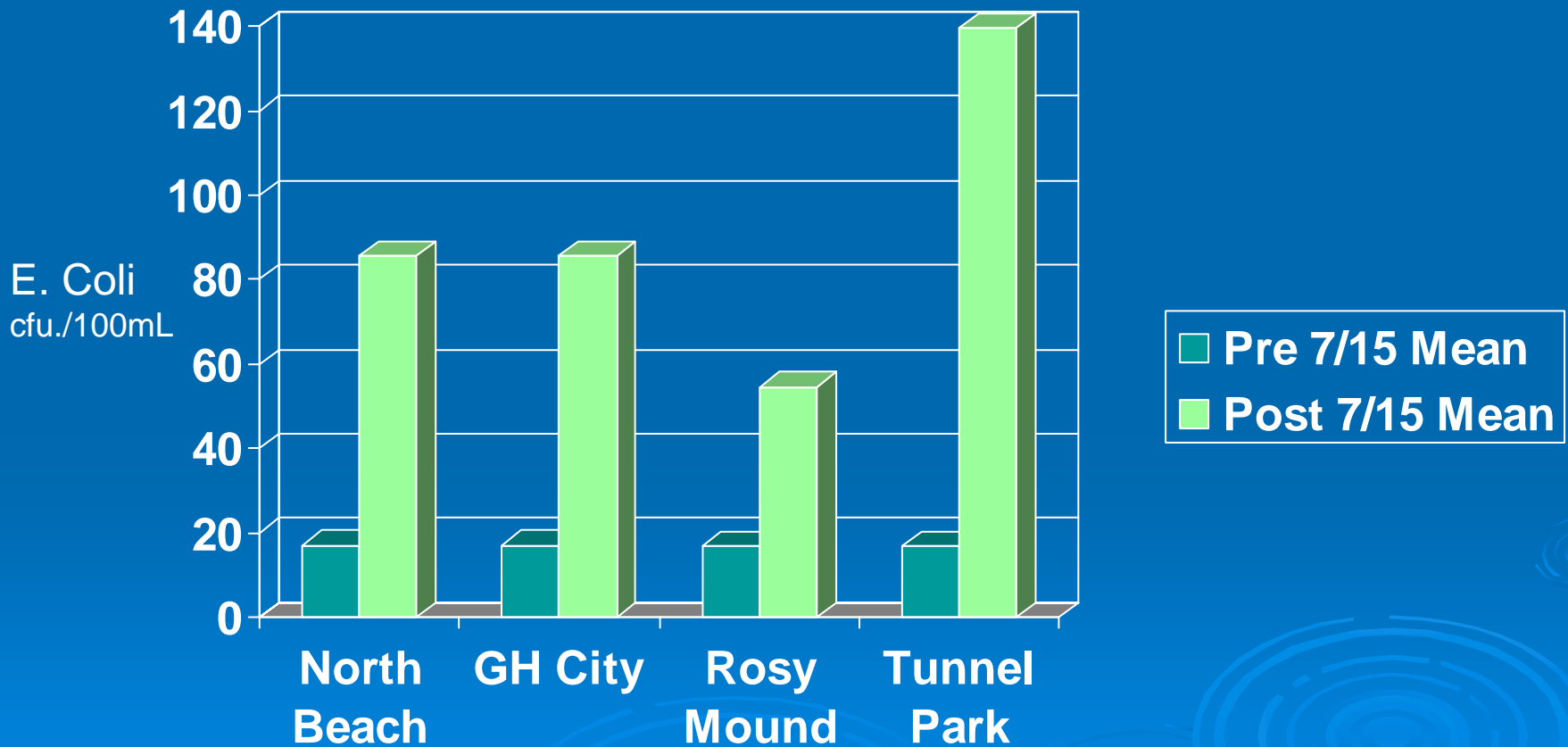
2.57%

Ottawa County's LM Beaches

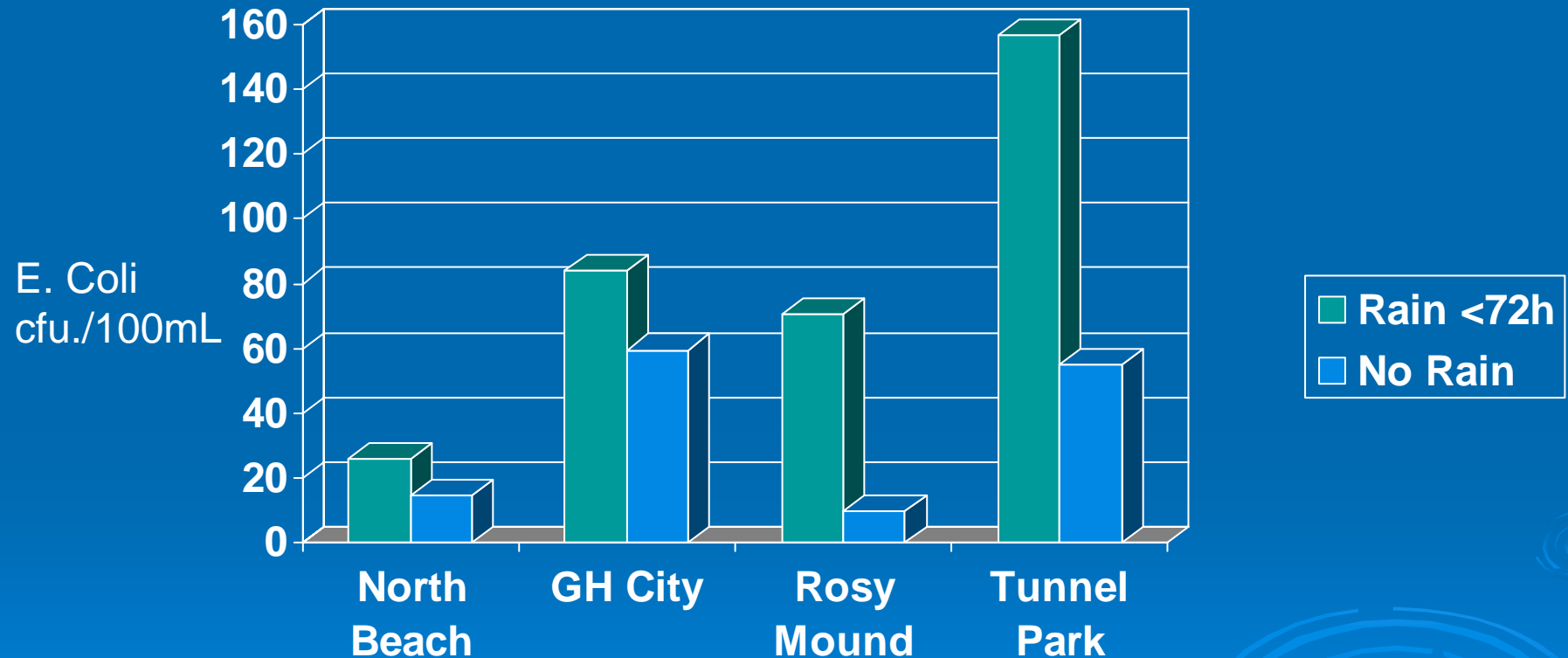


1. North Beach Park
2. GH State Park
3. GH City Beach
4. Rosy Mound
5. Kirk Park
6. Windsnest Park
7. Kouw Park
8. Tunnel Park
9. Holland State Park

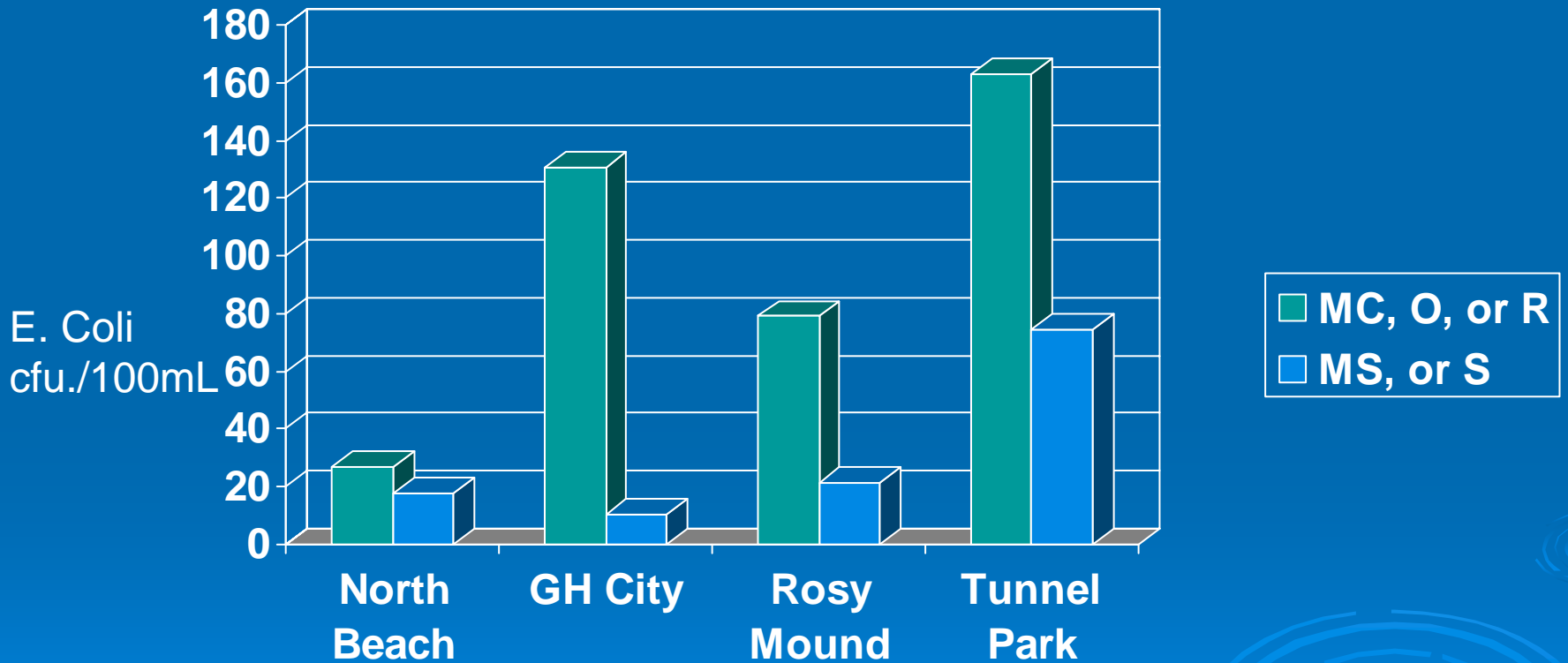
Time of Season Effect on E. coli



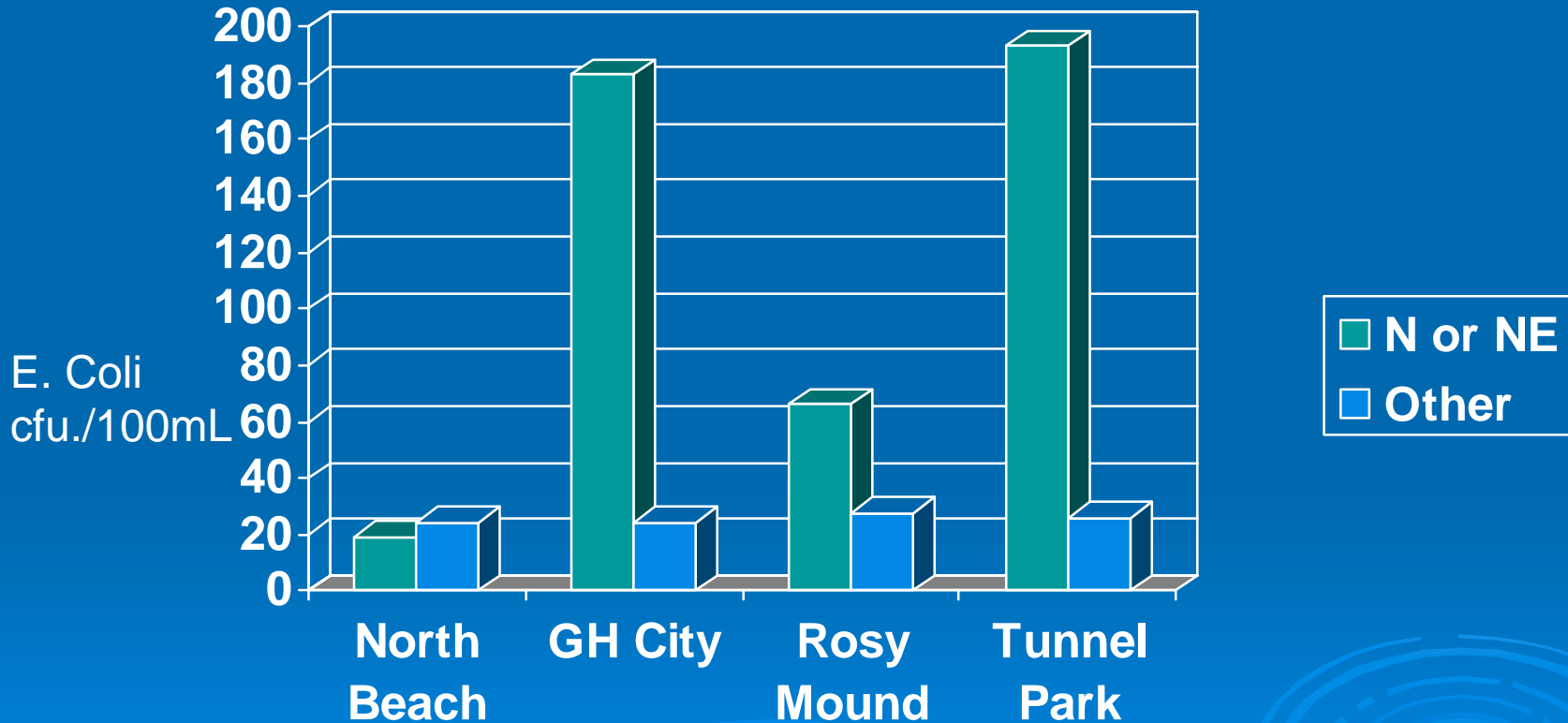
Rain's Effect on E. coli



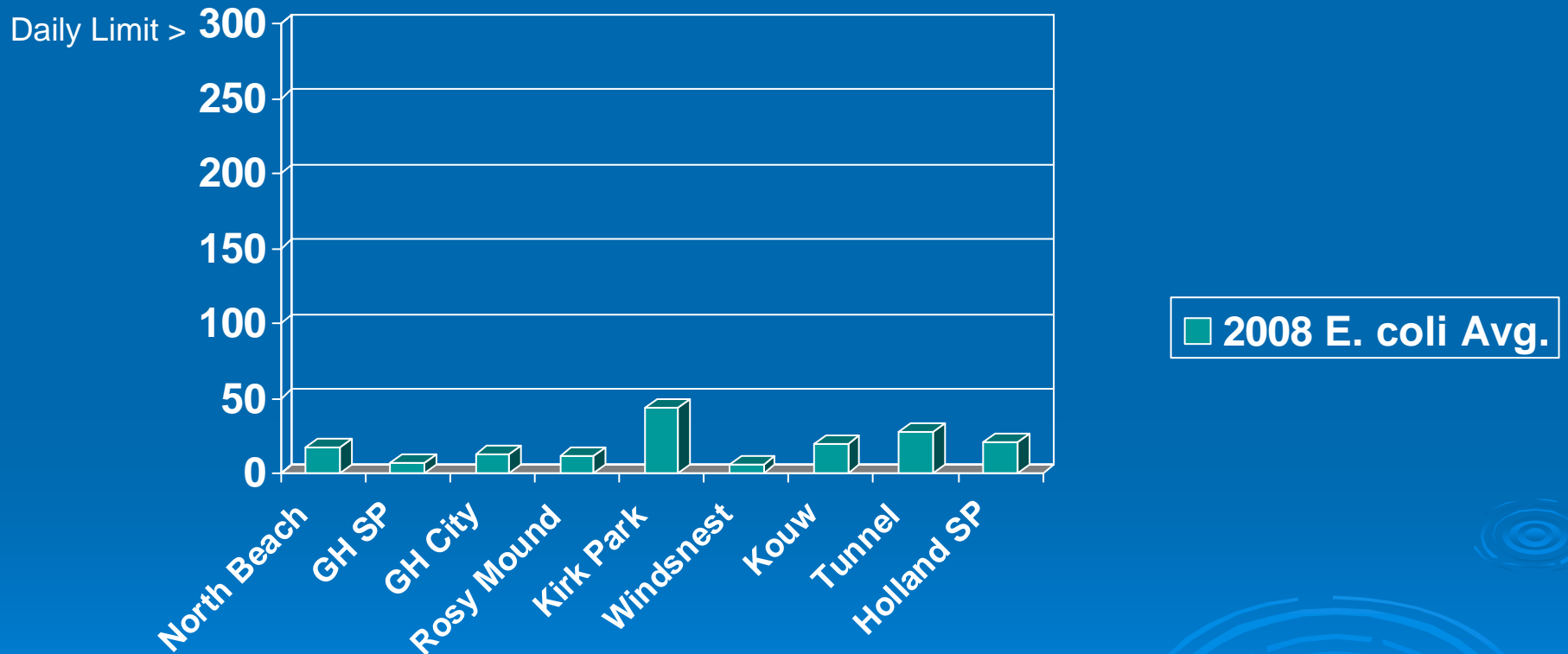
Ceiling's Effect on E. coli



Current's Effect on E. coli



2008 Lake Michigan Sampling



Lessons Learned at the Beach

1. Lake Michigan Beaches show acceptable water quality 97.4% of the time.
2. Beaches respond differently to variables.
3. Beaches with a pier to the South have fewer E. coli exceedances.
4. Water quality has been more susceptible later in the swimming season.
5. Precipitation and cloudy conditions coincide with higher levels of E. coli.
6. Northerly currents coincide with higher levels of E. coli at beaches not protected with a Southern pier.
7. North Park is susceptible to Northerly currents.
8. “Good beach days” are less likely to have WQ problems than rainy and/or cloudy days.

Wastewater Management

- 728 Septic Systems Evaluated for Real Estate transfers.
- 229 Failing Septic Systems replaced (14.6 million gallons/year)
- 234 New Septic Systems installed (14.9 million gallons/year)
- 75 Wastewater/pollution related complaints investigated.









04/29/200



Illicit Discharge

1:900
1 inch equals 75 feet

Well Construction

- 453 Wells evaluated for Real Estate transfers.
- 321 Wells installed.
- 191 Abandoned wells properly plugged.
- 5 Well construction related complaints investigated.

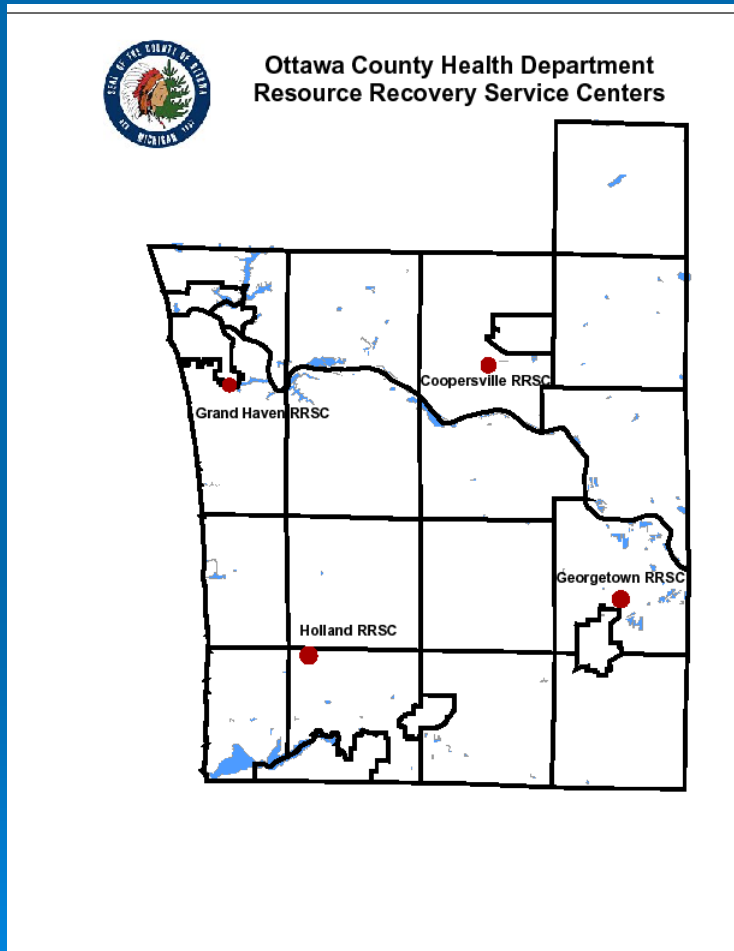








Waste Management



- Average US home has 100 lbs of hazardous waste.
- Ottawa County offers free disposal of these materials.
- Call (616)393-5645 or visit www.miottawa.org for further details.

Waste Management

- Car batteries: 877
- Fluorescent light bulbs: 942
- Antifreeze: 585
- Used Motor Oil: 11,475 gallons
- Pesticides: 13,012 lbs
- Mercury: 51.9 lbs elemental, and 442 Hg devices.
- Oil Based Paint: 2,800 gallons
- Participants in 2007: 8,545
- Pharmaceutical drop-off day in GH on 10/18/08:
 - 112 cars visited the site.
 - 215 lbs of non-controlled medications.
 - 35 lbs of controlled substances.
 - Future drop-offs days will be offered around the county.



Questions?

Thank You