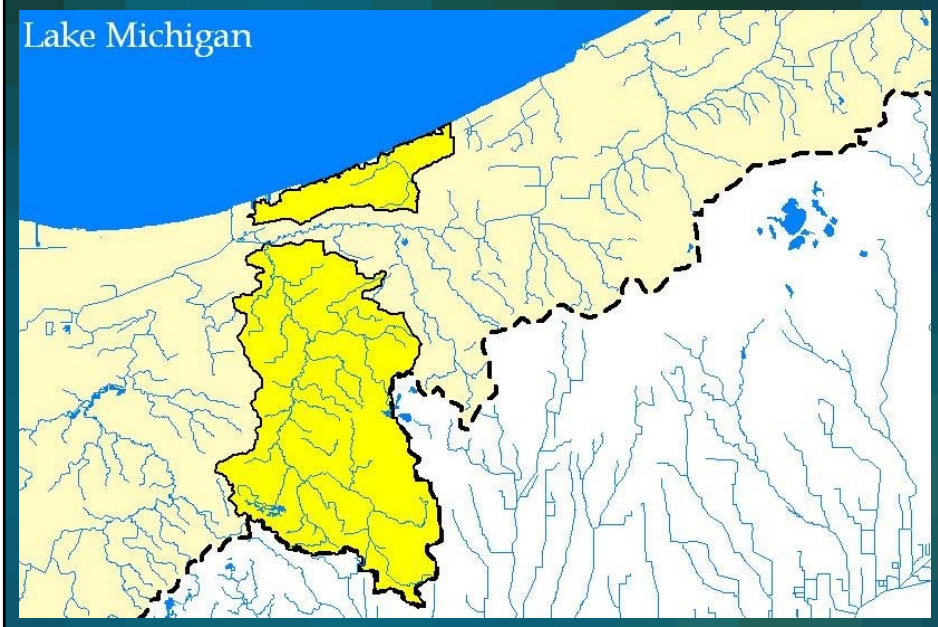
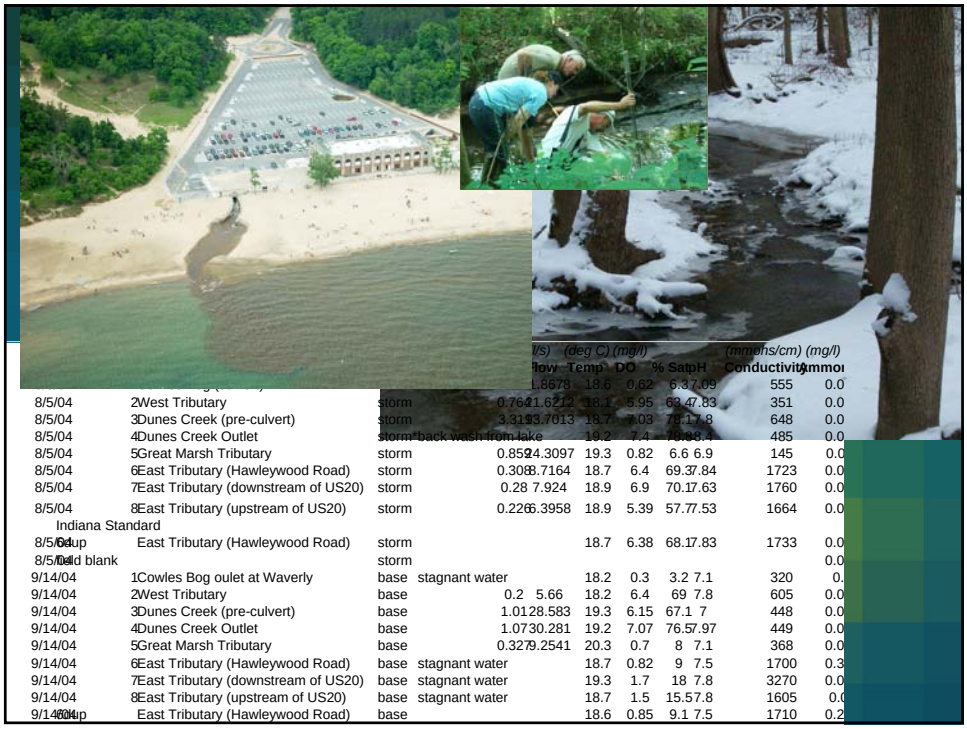
Data to Maps (D2M)

Also known as:

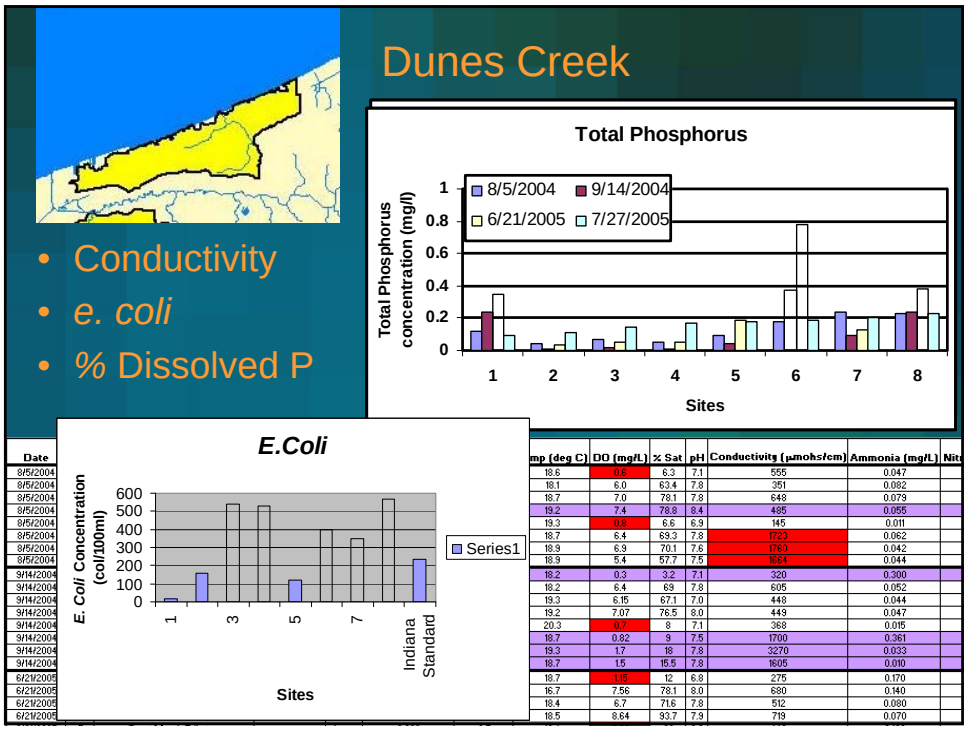
Can Excel really do that?

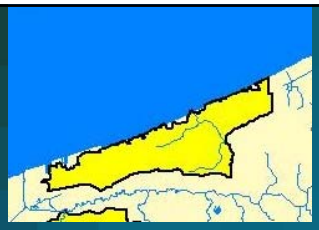
Cynthia Curtis, EPA Region 5
Janice Huang, EPA Region 5
Thomas Davenport, EPA Region 5
May 13, 2009





					/S)	(deg C)	(mg/l)				(mmohs/cm)	(mg/l)
					low	Temp	DO	% Sat	pH		Conductivity	Ammo
					1.8678	18.6	0.62	6.3	7.09		555	0.0
8/5/04	2	West Tributary	storm	0.764	21.6212	18.1	5.95	63.4	7.83		351	0.0
8/5/04	3	Dunes Creek (pre-culvert)	storm	3.31	13.7013	18.7	7.03	78.1	7.8		648	0.0
8/5/04	4	Dunes Creek Outlet	storm	back wash from lake		19.2	7.4	78.8	8.4		485	0.0
8/5/04	5	Great Marsh Tributary	storm	0.859	24.3097	19.3	0.82	6.6	6.9		145	0.0
8/5/04	6	East Tributary (Hawleywood Road)	storm	0.308	8.7164	18.7	6.4	69.3	7.84		1723	0.0
8/5/04	7	East Tributary (downstream of US20)	storm	0.28	7.924	18.9	6.9	70.1	7.63		1760	0.0
8/5/04	8	East Tributary (upstream of US20)	storm	0.226	6.3958	18.9	5.39	57.7	7.53		1664	0.0
Indiana Standard												
8/5/04	64	dup East Tributary (Hawleywood Road)	storm			18.7	6.38	68.1	7.83		1733	0.0
8/5/04	64	field blank	storm									0.0
9/14/04	1	Cowles Bog oulet at Waverly	base	stagnant water		18.2	0.3	3.2	7.1		320	0.
9/14/04	2	West Tributary	base	0.2	5.66	18.2	6.4	69	7.8		605	0.0
9/14/04	3	Dunes Creek (pre-culvert)	base	1.01	28.583	19.3	6.15	67.1	7		448	0.0
9/14/04	4	Dunes Creek Outlet	base	1.07	30.281	19.2	7.07	76.5	7.97		449	0.0
9/14/04	5	Great Marsh Tributary	base	0.327	9.2541	20.3	0.7	8	7.1		368	0.0
9/14/04	6	East Tributary (Hawleywood Road)	base	stagnant water		18.7	0.82	9	7.5		1700	0.3
9/14/04	7	East Tributary (downstream of US20)	base	stagnant water		19.3	1.7	18	7.8		3270	0.0
9/14/04	8	East Tributary (upstream of US20)	base	stagnant water		18.7	1.5	15.5	7.8		1605	0.0
9/14/04	64	dup East Tributary (Hawleywood Road)	base			18.6	0.85	9.1	7.5		1710	0.2



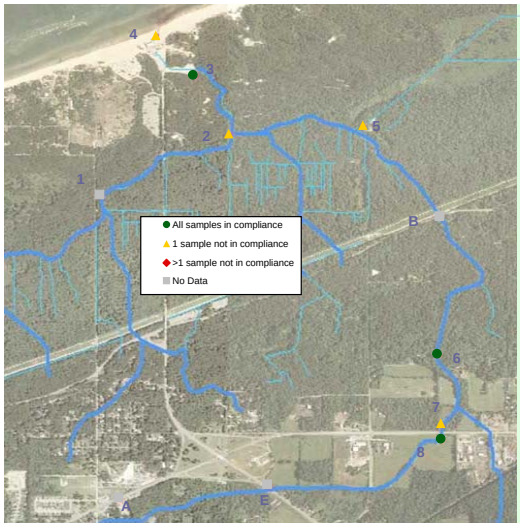


Dunes Creek

- Conductivity
- *e. coli*
- % Dissolved P

PARAMETER: % Dissolved P
THRESHOLD: 51 %
last updated: January 30, 2007 10:04 AM

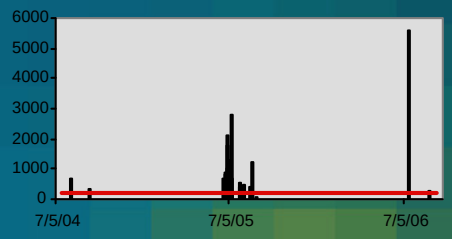
SHOW MAP | SHOW IMAGE



Site	Date	E. coli
2	8/5/04	680
2	9/14/04	360
2	6/21/05	700
2	6/22/05	0
2	6/23/05	600
2	6/24/05	400
2	6/25/05	900
2	6/26/05	800
2	6/27/05	400
2	6/28/05	1800
2	6/29/05	600
2	6/30/05	1000
2	7/1/05	2100
2	7/2/05	600
2	7/3/05	1100
2	7/4/05	1300
2	7/5/05	300
2	7/6/05	700
2	7/7/05	2800
2	7/9/05	200
2	7/27/05	400
2	7/27/05	550
2	8/5/05	500
2	8/14/05	400
2	8/19/05	1200
2	8/29/05	100
2	7/14/06	5600
2	8/26/06	300

Focus in on site 2

Standard - 235cfu /100 ml



Basic Use and Benefits

Steering Committee Meetings

Prioritization

Watershed management plan

Public meetings and Outreach

Sampling plan for future projects

Cost savings of 25-30%

Fire up your computers!

A Data to Maps Guided Tour.

"and we're walking…."

Building on the Basics:

All Sampling Data for DO (2006,2007)

Standard: 4 mg/l

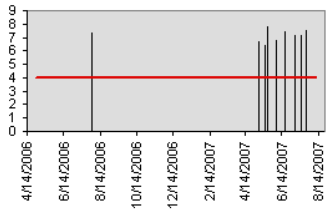
last updated: July 31, 2007 3:28 PM

Y-axis units: mg/l

crit1

Site	Year	DO
=1	<>NA	<>NA

All samples in compliance



n: 9
avg: 7.13
st dev: 0.43
% exceed: 0%

data pts < 4 mg/l
0

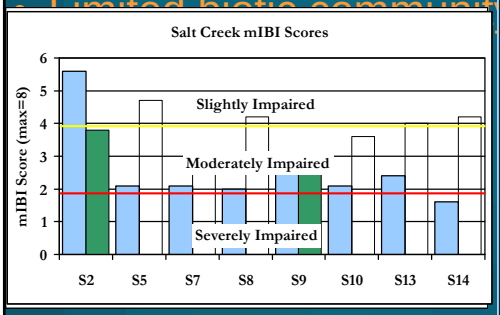
Site	Year	Date	DO
1	2006	8/1/2006	7.35
1	2007	5/7/2007	6.7
1	2007	5/16/2007	6.42
1	2007	5/22/2007	7.76
1	2007	6/5/2007	6.81
1	2007	6/19/2007	7.41
1	2007	7/5/2007	7.1
1	2007	7/17/2007	7.13
1	2007	7/24/2007	7.53

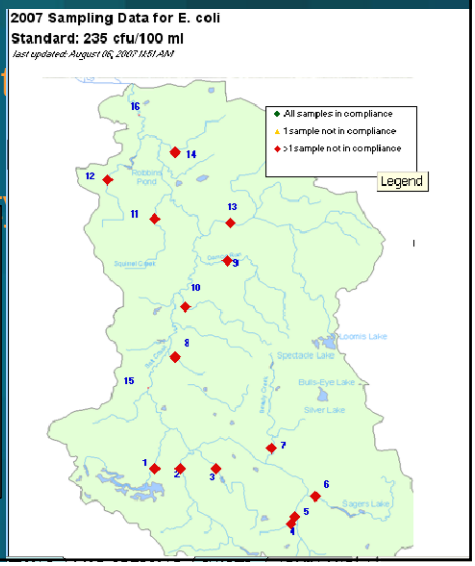
Future Monitoring

- Determining future monitoring
  - Level of significance
  - Parameters
  - Locations
  - Frequency

Water Quality Summary

- Elevated total phosphorus concentrations
- Elevated *E. coli* concent
- Poor habitat
- Limited biotic communit

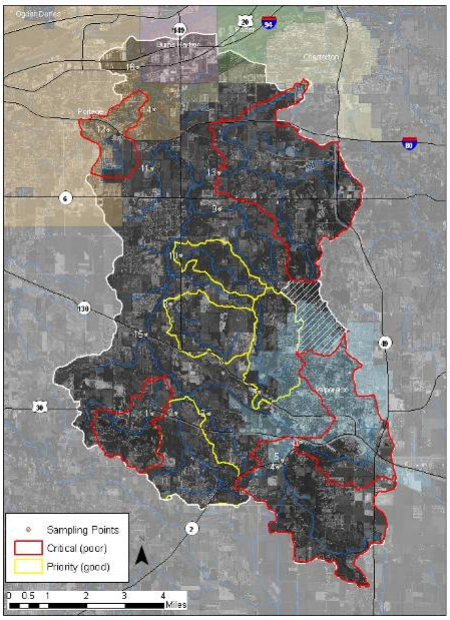




Decision Making

- Protection vs restoration
- BMP approaches

The Salt Creek Watershed



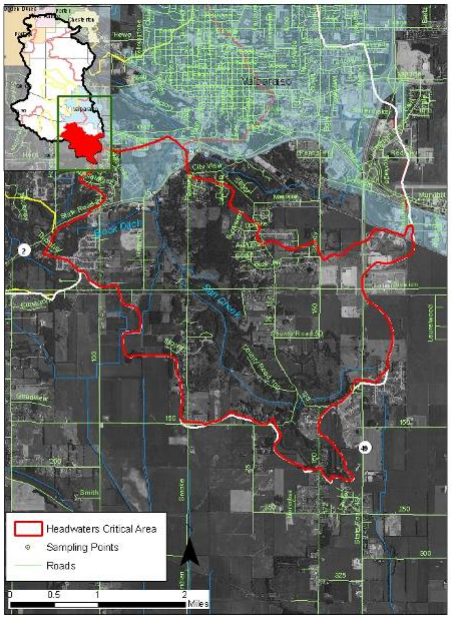
Critical and Priority Areas

Critical Areas (Red)
•Need treatment to improve existing poor water quality

Priority Areas (Yellow)
•Need protection to protect relatively good water quality

Based upon:
- •historic water quality data,
- •current water quality data,
- •confirmed sources,
- •projected future development,
- •and causes of impairment.

Headwaters Critical Area



Salt Creek Headwaters

•Highest average *E. coli* concentration

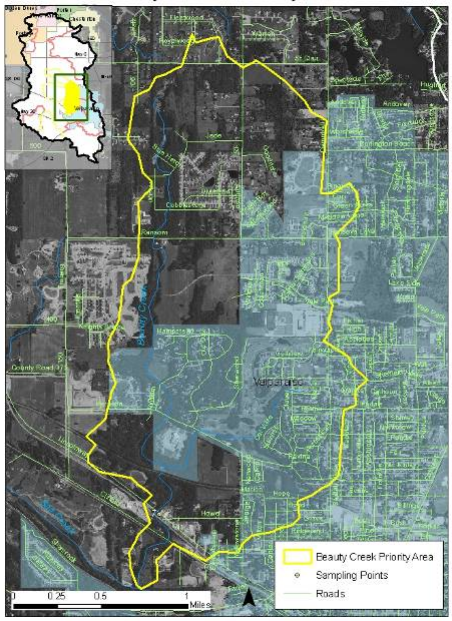
•Highest average TSS concentration and loading rate

•High nutrient loading rates

•Low DO

•Poor habitat rating

Beauty Creek Priority Area



Beauty Creek

- Lowest average *E. coli* concentration
- Lowest average TSS concentration and areal loading rate
- Relatively low nutrient concentrations
- Highest habitat rating

What is going on now

D2M available –

Prairie River Network Workshop
Illinois summer 2009

Future work:
guide for analyses, Work in GIS

Thank you!

http://groups.google.com/group/data2maps

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