

County Administrator's Digest

July 31, 2013

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2013 MLGMA SUMMER WORKSHOP

The Michigan Local Government Management Association (MLGMA) held its annual Summer Workshop at the Spring Lake Holiday Inn last week. This marked the first time that the MLGMA has held one of its two annual conferences in Ottawa County. The Winter Institute is occasionally held in Kent County. The Summer Conference Committee was ably chaired by Chris Burns, Village Manager of Spring Lake and area managers joining her on the committee included Craig Bessinger, City Manager of Ferrysburg; Bill Cargo, Grand Haven Township Manager; Ryan Cotton, Holland City Manager; Gordon Gallagher, Spring Lake Village Manager; Mark Meyers, Norton Shores City Administrator; Patrick McGinnis, Grand Haven City Manager; Patrick Waterman, Hudsonville City Manager; and Keith Van Beek, Assistant County Administrator; Ottawa County. Other local managers in attendance included Tim Klunder, Zeeland City Manager; Karen Doyle, Assistant City Manager/Finance Director, City of Zeeland; and Greg Robinson, Assistant City Manager, City of Holland. It was also good to see a couple of other Ottawa County "products" at the conference: Curtis Holt, originally from Spring Lake and City Manager of Wyoming and Michael Young, originally from Grand Haven and City Manager of Rockford were also in attendance.

The early bird reception was held Tuesday evening at the Tri-Cities Historical Museum. The title, or theme of the conference was *50 Ways to Collaborate*. Young Grand Rapids promoter Rob Bliss was the keynote speaker and talked about his experience creating fun, free, inclusive community events that have helped with downtown revitalization. I moderated a session on One Kent with Attorney Nyal Deems, former Grand Rapids City Manager Kurt Kimble, and Kent County Administrator/Controller Daryl Delabbio. One Kent was of course the plan to combine the City of Grand Rapids and Kent County and became instantly controversial when the elite business interests that hatched the plan in secret tried to get the plan implemented through a legislative end-around all of the elected local leaders who would be impacted by the plan. Keith and other area managers discussed local unique collaborative efforts along the lakeshore in one luncheon session. Jim Storey presented on the proposed combination of Saugatuck and Douglas as well. The group also had time to reconnect and network and discuss items of interest from their various communities during some of the social times. Overall, it was a great conference and excellent to have in Ottawa County!



DETROIT BANKRUPTCY REACTION

I was interviewed by Michigan Radio on expected impact of the Detroit bankruptcy on Ottawa County. My prepared response follows below:

"We do not expect any short-term ramifications such as any downgrade of the County credit rating as a result of the Detroit bankruptcy. The rating agencies evaluate the financial condition of each government individually. Ottawa County has enjoyed strong credit ratings from all three credit rating agencies for quite some time now. It will likely take years of litigation to resolve the Detroit bankruptcy and thus any possible resulting impacts to municipal bond pricing and/or credit ratings for public sector corporations will not be known for many years to come."

"We have checked on the Qualified Energy Conservation Bonds of just shy of \$5.5 million that the County plans to sell for the facilities upgrade project and potential investors informed our financial advisor that the Detroit bankruptcy has not reduced their appetite to purchase the bonds."

For those who would like to read further on this, I've include a related article in the Digest:

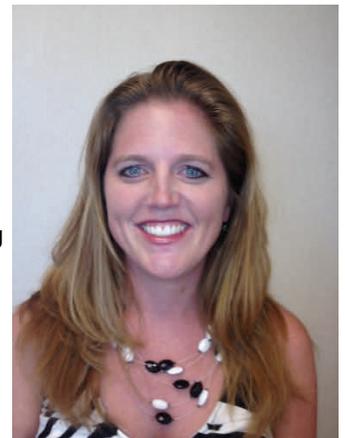
[Moody's Article on how Detroit Bankruptcy may Change how other Cities Approach Their Pension and Debt Obligations](#)

NEW DHS DIRECTOR BEGINS HER DUTIES

Ms. Kendra Spanjer began her duties as Director of Ottawa County DHS about one month ago. Her photo and bio appear below.

Kendra Spanjer is a 12-year veteran of DHS who started her career as a foster care worker in Allegan County. She also managed a variety of Children's Services programs -- including child protective services, licensing, and juvenile justice -- during her time as a supervisor. Her most recently held position was the Program Manager for Barry/Eaton Counties over Children's Services and Payments programs.

She earned her bachelor's degree in Sociology and master's degree in Social Work from Grand Valley State University.



DELTA DENTAL GRANT TO "MILES OF SMILES"

The Delta Dental Foundation recently awarded a \$10,000 grant to the Ottawa County Health Department's "Miles of Smiles" Dental Van program. Delta Dental representatives were appreciative of Board Chair Jim Holtrop's "thank you" for the grant, which has been awarded for several years now. His note said in part: "We are proud of the dental program, the service that it provides and the staff and volunteers that operate it. We are very grateful for the support of your organization."

HYDRAULIC FRACTURING FORUM (Mark Knudsen)

A capacity crowd (210 attendees) turned-out for the Ottawa County Planning Commission's forum on Hydraulic Fracturing (i.e. fracking) Wednesday night (July 17) at the Fillmore Street Complex.

Although there have been many reports from other areas of the state about these types of meetings being disrupted by unruly attendees, the attendees from Ottawa County were courteous and respectful at this forum; and many of the speakers expressed their appreciation afterwards for having a meeting that was controlled and orderly.

Six speakers were each given 15 minutes to provide an overview regarding the following topics: history of fracking, state regulations, Ottawa County's geology, well drilling processes, safety precautions, environmental concerns, local unit of government regulatory authority, and oil & gas leases. While a lot of useful information was presented in 15 minutes, the time-frame proved to be challenging for the speakers to convey all of the information that they wanted to share.

The survey results from attendees are attached. A few of the highlights from the survey are that 89.3% rated the forum as excellent or good and 10.7% rated it as fair. 55.6% of respondents said the content of the forum was "just right" while 27% said it was too basic, and 6.3% said it was too advanced. 93% of individuals expressed an interest in scheduling a series of additional forums to discuss specific fracking topics in a more in-depth manner. The following were the most requested topics: Environmental Concerns (41.8%), Well Drilling Process/MDEQ Regulations (26.8%), Local Government Regulatory Authority (9.2%), Economic Impact (7.1%), Ottawa County Geology (6.3%), and Oil and Gas Leases (6.3%). The Planning Commission will be discussing the most effective venue and dates for conducting these additional seminars. Due to the level of interest expressed, these forums will be scheduled as soon as possible.

Once the Planning Commission has established a schedule for the additional forums, notifications will be distributed through this Digest, email and mail communications, and media outlets. If you are not on the Planning Commission's list to receive notification about training opportunities on topics such as this one, but would like to be notified in the future, please contact the Planning Department at plan@miottawa.org or 616-738-4852.

Hydraulic Fracturing (i.e. Fracking) Seminar

July 17, 2013
Evaluation Results¹

1. The program was

Excellent:	25.3%
Good:	64.0%
Fair:	10.7%
Poor:	0%

2. Did the program provide you with practical facts and information?

Yes:	60.3%
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Somewhat: 38.5%

No: 1.3%

3. The content was:

Just right: 55.6%

Too basic: 27.0%

Too advanced: 6.3%

Focused differently than I had anticipated: 1.3%

4. The handling of the presentation arrangements, registration, and organization was:

Excellent: 42.1%

Good: 53.9%

Fair: 3.9%

Poor: 0%

5. The length of the presentation was:

Too long: 12.2%

Just right: 58.1%

Too short: 29.7%

6. How did you find out about this presentation?

Radio or newspaper: 33.3%

Friend/Co-worker: 23.1%

E-mail: 20.5%

Mail: 12.8%

Newsletter: 2.6%

Other: 7.7%

1. 45% survey response rate (173 attendees on sign-in sheets and 78 survey responses)

7. Rate each speaker:

	Excellent	Good	Fair	Poor
Adam Wygant, MDEQ	31.6%	53.9%	13.2%	1.3%
Alan Hinks, Westshore Consulting	22.1%	44.2%	32.5%	1.3%
Richard Sandtveit, Trendwell Energy	13.9%	36.7%	41.8%	7.6%
LuAnn Kozma, Comm. To Ban Fracking	15.4%	28.2%	35.9%	20.5%
Curtis Talley, Jr, MSUE	60.9%	31.9%	7.2%	0.0%

Rodney Schermer & Jessica DesNoyers

Scholtan Fant 15.4% 56.4% 26.9% 1.3%

8. Do you think a more in-depth presentation would be worthwhile of any of the issues that were covered in tonight's seminar?

Yes: 93.1%

No: 25.7%

If yes, which issue(s) would you be interested in hearing more about?

Environmental Concerns/Protections	41.8%
Well Drilling Process/MDEQ Regulations	26.8%
Local Unit Regulatory Authority	9.2%
Economic Impact	7.1%
Ottawa County Geology	6.3%
Oil and Gas Leases	6.3%
History of Fracking	2.5%

9. Would you like to be included on a mailing list for future seminars?

Yes: 74.3%

No: 25.7%

Summary of Pertinent Comments:

There was not enough time to adequately review the amount of information available.

A full-day might be needed.

Information was good for a first meeting but several topics need more in-depth review

This needs to be a much longer seminar. Get either the West Michigan Environmental Action Council involved or the Tip of the Mitt in Petosky

A debate between Adam and LuAnne would be a real hoot

We still do not know about the technical aspects of fracking.

Would like to learn about local land use impacts of fracking

Need more information on the pros and cons of fracking

I'd like more specifics as to whether fracking is inherently unsafe

I have attended most of the fracking forums around the state. This is the best one I have attended so far.

ROAD COMMISSION AND PUBLIC UTILITIES REPORTS

The Board of Commissioners and Board of Road Commissioners met recently to review the work of taskforces that were created by the Board of Commissioners in cooperation with the Road Commission to study whether

the Public Utilities Department and/or the Road Commission should be placed under the County umbrella and not remain independent as they now are. The team that looked at the Public Utilities Department recommended that it stay under the purview of the Road Commission which several recommendations intended to improve planning and communication.

Governor Snyder signed a law into effect last year that for the first time allows county boards of commissions to “take over” the operations of county road commissions. This “enabling” legislation “sunsets” after three years and this means that this option will disappear on December 31, 2014 unless the timeframe is extended or removed. The task force presented three options: 1) Do Nothing – leave Road Commission as is; 2) County take-over of Road Commission; 3) Leave Road Commission governing structure as it is but have County Board and Road Commission jointly adopt a memorandum of understanding detailing improvements that the task force deemed necessary.

The County Board of Commissioners will consider a resolution that will reflect Option #3 above and a memorandum of understanding at its August 13th regular meeting. The Board welcomes public input at or before this meeting. Communications Manager Shannon Felgner has put out a press release to this effect already.

The Holland Sentinel published an article and a “quick hits” opinion on this topic, both of which are linked below. I was slightly misquoted. The Sentinel quoted me as saying that the Road Commission “However, management of **employees**, that’s where the commission would like to see some improvement.” My actual quote was “However, management of **employee benefits**, that’s where the commission would like to see some improvement.”

Read more: <http://www.hollandsentinel.com/news/x1806126111/Report-calls-for-increased-cooperation-decreased-retirement-costs-for-Ottawa-County-Road-Commission#ixzz2aYnOv7IU>

http://www.hollandsentinel.com/mobile_opinion/x1806128315/QUICK-HITS-Five-thoughts-on-this-weeks-news

TEEN PHOTO VOICE PROJECT (Kristina Wieghmink)

The Ottawa County Health Department and the Ottawa Youth Sexual Health Coalition (OYSHC) is working with local teen parents on a photo voice project called “One Voice”. The OYSHC received funding for this project from a grant awarded by the Community Foundation of the Holland/Zeeland Area. This project records the challenges and experiences teenagers face with raising children. “Talking to your children about sexuality, abstinence and contraceptives is not always easy, but it is very important! Parents and caregivers play a critical role in their children's decisions about sex,” states project coordinator, Heather Alberda. The Ottawa County Health Department is encouraging parents to talk with teens on how to handle tough decisions about sex, before they have to make them on their own.

The OYSHC photo voice project aligns with the efforts of

The National Campaign, to help prevent teen and unplanned pregnancies www.TheNationalCampaign.org. The teen pregnancy rate in the U.S. has declined 42% since its peak in 1990 and is now at a nearly 40-year low, according to data from the Centers for Disease Control's National Center for Health Statistics. This decline proves that progress can be made on tough issues. In fact, few social problems have improved quite as dramatically over the past 20 years as teen pregnancy. The latest news on the teen pregnancy front has been incredibly positive.

This featured photo (also attached) is part of the photo voice project provided by teen mom, Johanna Luevano from Holland. Luevano was trying to capture the once carefree and spontaneous nature of being a teenager, which changed drastically when caring for her baby. "Once you're a mom it's not just about you and your happiness, but yours and your baby. Being a "normal" teenager is no longer an option," accounts Luevano. Information is available to help parents have an open, honest and informed conversation about sex with their youth. Call Heather Alberda, Health Educator at 616-393-5774 or visit www.miottawa.org/ochd.

NEED HELP HAVING THE DRUG TALK? THERE'S AN APP FOR THAT (Kristina Wieghmink)

Local non-profit creates iPhone app with youth drug use facts and conversation starters for parents.

OTTAWA COUNTY, July 1, 2013 – Our nation's medicine cabinets contain more than 200,000,000 pounds of wasted, leftover prescription medications. Often going unmonitored, 6 out of 9 youth are sneaking these meds for some type of high, but who is using and what do parents need to look for?

Answers to these questions and more substance use facts are available on the new Talk Sooner app for iPhone (only) and on www.talksooner.org. Parents can easily access information about different substances, including alcohol, tobacco, and marijuana, and learn about the latest drug trends facing West Michigan youth.

More than just facts, the Talk Sooner app provides guiding information to help parents talk with their children about substance use, what signs parents need to look for, and where to go locally for help if they find their child is using.

"Parent involvement is essential to preventing youth substance use," says Stephanie VanDerKooi, prevention services coordinator at the Lakeshore Coordinating Council. "We want parents to talk with their children early and often about the dangers of tobacco, alcohol, prescription drugs, and other substances. The Talk Sooner app will enable parents with the knowledge and support to have these conversations."

Years of research has proven that teens whose parents are "hands on" – engaged in their teens' day-to-day lives, relaxing with them, having frequent family dinners, supervising them, establishing standards of behavior, and setting positive examples of healthy behavior--are much less likely to smoke, drink or use drugs.

"Families are spending more time on-the-go these days, and less time sitting around the dinner table at home," says VanDerKooi. "These conversations often need to happen in the car, out for dinner or maybe during another activity; the new Talk Sooner app will help them to do this."

The new Talk Sooner app for iPhone (only) is free for parents, grandparents or anyone else seeking advice, tips, and knowledge about youth substance use, and how to talk to their child.

Formed in 2009, Talksooner.org is collaboration between Network 180 and the Lakeshore Coordinating Council for parents and young teens to learn and discuss tips for talking about the effects of alcohol, drug, and tobacco use. The Lakeshore Coordinating Council is comprised of substance abuse and community task forces in Allegan, Berrien, Muskegon, and Ottawa counties.

Funding was made possible in part by Drug Free Communities Support Grant #1H79SP017013-01 from ONDCP and SAMHSA. The views expressed do not necessarily reflect the official policies of the Office of National Drug Control Policy or the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

TalkSooner.org

INTERIM DEPARTMENT DIRECTORS

Serving in an interim department head role can often be a difficult assignment. We have two such directors working in major departments this summer – Lynne Doyle, appointed Interim Department Director of the Community Mental Health Department for the next six months, and Dave Carpenter, Interim Fiscal Services Director until this position is filled.

Lynne Doyle

Lynne Doyle is currently serving as the Interim Executive Director for Community Mental Health of Ottawa County. She received a Master's degree in Counseling Psychology from Western Michigan University and a Master's degree in Public Administration from Grand Valley State University. She has worked for Ottawa County for almost 21 years. She started as a clinician and then Clinical Program Coordinator in services for individuals with developmental disabilities at CMH. She next worked as the Community Health Manager at the Health Department. In 2009 Lynne returned to CMH as the Deputy Director. She currently resides in Grand Haven with her husband and son.



Dave Carpenter

If you have seen the sticker, "Say yah to da U.P., eh?" on the bumper of a vehicle in the Fillmore Complex parking lot, it was most likely on Dave's vehicle.

Dave is a 1982 graduate of Rudyard High School, and a 1986 graduate of Grace College in Winona Lake, IN. After college, he moved back to the U.P. and was employed in public accounting, and as the Finance Director of Chippewa County from 1993-2004. An opening for an Accountant/Business Administrator at CBH (Children's Bible Hour) Ministries brought



Dave and his family down to the Grand Rapids area in 2004. He have been employed with Ottawa County since January, 2012.

Dave's wife, Joan, is from Sault Ste. Marie, Ontario and we have been blessed with four children: Angela, Jennifer, Robert and Anne.

2013 IT ANNUAL REPORT (Dave Hulst)

Information Technology Director Dave Hulst gave an excellent and very unique Annual Report to the Board of Commissioners recently and I asked him to give it a second time to our Quarterly Management Group Meeting. Instead of the typical glance back at accomplishments from the past year, the report is a look to the future and what we need to accomplish in IT. I think the report makes great reading and have included it in the Digest.

We are metrics nerds. We're constantly monitor, tracking and measuring. The report provides a lot of information that reflects our bias toward concrete numbers. It tells you what we do and how much we've done. Numbers aren't always fun but they give us a sense of comfort. However, we can't move forward if we just live in our comfort zone. So, I've decided that this year's report and presentation needs to be a little different. This year we need to take a look back a little farther than just one year, and we need to look ahead with a bigger vision. This past year has involved a lot of evaluation, exploration and discovery. Trying to answer where are we, and where do we want to go?

Consider the reasons for voyages of discovery in the past by looking at some businesses that you may or may not recognize.

1. **Polaroid:** Shake it like a Polaroid picture! You know you're good when your name is the product. (Hello, Kleenex). But while you and I were buying our first digital camera, printing pictures and later taking photos with our phones and PDA's, the execs at Polaroid were snapping and shaking their pictures into oblivion. So loved was the brand that countless people took daily shots of and created art, diaries and literature using these magical snapshots taped to their walls or to the street. The leader of an amazing niche technology that so enriched anyone born before 1980, Polaroid went bankrupt in 2005. The name may emerge again, but the brand and the impact will always be retro. **Failed to adapt to changes in technology and opportunities for new technology. Kodak is a more recent example of a similar failure.**

2. **Commodore Computer:** Between 1983-1986, Apple, IBM, and Atari computer were quaking in their boots. The reason? The Commodore 64 was selling 2 million units a year and dominated nearly 50% of the total market. As the company tried to innovate by releasing the Commodore plus/4, a faster, smarter version with a color screen, they alienated their original customer base. The new model was incompatible with the cherished C64. Commodore tried to discontinue the old line in the US by 1990 and announced it would stop shipping them in 1995. The tactic didn't work. Customers all over Europe continued to snap up the C64s until it became impossible for the company to manufacture them at a reasonable price without selling new, more expensive models. As they say, "you can't kill the C64." The company went bankrupt in the spring 1994. **Locked into their original**

creation.

So why take on a journey of discovery? What can we draw from these examples?

1. **Speed.** There is pressure to do more and do it more quickly. Technology changes rapidly enough that by the time you implemented the newest technology you've skipped another generation of technology and now you're behind. If you fail to move on technology, you could be left behind and if you make the wrong choice, you could end up wasting a lot of time and resources (i.e. Betamax vs VHS).

2. **Flexibility.** People get locked into something and moving them onto something else can destroy a project i.e. Commodore 64.

3. **Resources.** There is never enough: Time, Resources to do everything people want

4. **Opportunity.** Taking advantage of capabilities that occur by being ready.

So the discovery we're on is to find answers to address these issues. We know that our current resources are limited. The demand exceeds the resources but the opportunities are greater than ever.

We're trying to find our way to the future. There has been a lot of discovery, through discussion, analysis. Trying to look at how we need to change to keep the County current in technology and technology delivery. We're not normally an organization that makes sudden sweeping changes. Our method is traditionally steady and methodical. Risk is managed by taking reasonable and manageable steps in a new direction. We think of ourselves as practical, methodical, consistent and reliable. When it comes to change, you might say we "COPE" with change. It sounds fun but it can be painful. But, we also need to realize that "not changing" creates risk and also is painful.

This journey of discovery recognizes that the future is going to be different. It's hard to see what those specific differences will be because with each step forward, the picture changes, the options change and the opportunities change.

What does all that really mean? Let me give you a rough sequence of what we need to do.

1. It starts with the infrastructure. A building that has structural issues needs to be structurally reinforced or have its structure replaced. In technology structure consists of the facilities, power, cabling, networks (both wired and wireless and all the associated equipment to allow information to flow, servers and storage. The current infrastructure has been adequate to support what we do. We have replaced equipment to keep it current, upgraded and expanded gradually with incremental demand. Now we need to take a holistic look and say its time to move look at a major reinforcement and upgrade. This would mean:
 - a. Moving our wide area network capacity from 1Gb to 10 to 40Gb.
 - b. Expanding network capacity to devices from 10/100Mb to 1Gb.
 - c. Increasing the speed of connections from servers to storage by from 1Gb to 10Gb.

- d. Revamping our wireless system to be centrally managed.
- e. Segregating network traffic to allow separate public and business traffic and isolating confidential information.
- f. Improving security and encrypting network traffic.
- g. Building greater redundancy and failover on our wide area network.
- h. Expanding our internet/interagency network capacity and providing failover.
- i. Implementing Quality of Service on network traffic to ensure the reliability of voice and streaming traffic.
- j. Revising our phone system to add capabilities and potentially move from digital external connections to IP trunking.

Why? Because the infrastructure is what enables us to do those key things that I mentioned earlier: Provide **Speed, Flexibility**, ability to leverage our **Resources**, and the ability to take advantage of **Opportunities**.

To avoid this:



2. Infrastructure has always been critical to commerce. Before trains, major waterways were usually the sites for large cities. With industry, major junctures of railways and highways became the locations where cities grew. And so with technology, infrastructure is an enabler. But beyond the infrastructure which is really a hidden resource people only recognize value through the applications they use to work, play and interact. The purpose of developing a coherent technology architecture is to deliver beneficial solutions. To someone trying to do a job, it means an application, app and content running on a device. It's convenient, reliable, easy to learn and use, and it makes their task easier or even enjoyable (that may be a stretch). The County is working through some significant challenges and will continue to face new ones in the future.
 - a. Completion of the Enterprise Resource Planning implementation (known as Munis). Resolving issues and stabilizing the functionality and processes within the organization in how this new system is employed.
 - b. Replacing the Justice System with MICA. Which is a major investment that involves the Sheriff's Office, Prosecutor's Office and the Courts. The timeline for completion is through 2015.
 - c. Over the next year, finding a new e-mail system and replacing Lotus Notes.
 - d. Replacing multiple applications supported on the Lotus Notes platform beyond the e-mail system.

- e. Retiring old systems as they are replaced. (more challenging is saying NO to updates on legacy software)
 - f. Shifting some of our existing staff from roles as Programmer/Analysts to Business Analysts.
 - g. Supporting a growing number of Commercial Off The Shelf (COTS) applications and understanding our role in that support, and the role of our customers. Each package is different in terms of how much we can do and whether it is an IT or a Departmental liaison who takes a lead in communicating with the vendor, or service provider.
 - h. The ongoing evolution of County web and social media sites.
 - i. The requirements for mobile accessible applications or mobile apps.
3. Underlying all of this is service. What resources are needed to support all of this "stuff?" How much can a Help Desk person know when there are 100 different questions or issues encountered in a given day? Increased staffing is a Band-Aid solution. Users need to be more self-sufficient, part of that goes back to the idea that applications need to be reliable and easy to use. It also implies increased involvement by the users to know what they want to participate in the selection. Within our department, it means continuous learning and constantly looking at our processes and the tools we use. It also means, we can't do it all ourselves. There is a need to bring in the specialists, private sector organizations with the technical expertise that we lack.

Summary: As you can see, there is a lot of work to do, and changes that need to occur. That effort is going to require allocation of resources and careful prioritization to ensure resources are optimized and not wasted. Today, I wanted to report where we are and what the County's technology state of affairs looks like but more as a means of focusing on the future. I wanted to lay a foundation for you so that as we implement changes, you'll have a framework for making your decisions. Hopefully, I've achieved that goal and not confused you with too much technical talk or talk about metrics. If there are any questions, I would be happy to answer them. I'm always available to discuss County technology or assist you.

Thank you for your time and consideration.

JUDGE CRAIG BUNCE

Our newest District Judge, the Hon. Craig Bunce also did a presentation at the Quarterly Management Meeting that covered the impressions of a new Judge and lessons learned over the past six-months. It was a very refreshing and informative presentation.

DOG CENSUS UPDATE

In August, Ottawa County staff will be heading to Grand Haven and Zeeland Townships on the lookout for unlicensed dogs. So far, officials have gone door to door in Holland, Georgetown, Allendale and Park Townships. Since the census was initiated, residents have flocked to get licenses. In June 2012, 1002 (669 one-year licenses and 333 three-year licenses) were sold. This year, June sales have gone up almost three and a half times to 3415 licenses (2473 on-year licenses and 940 three-year licenses). One of the County's concerns in initiating the dog census was covering the costs for the program. Total summer expenses for the census and licenses are expected to run between \$9,000-\$10,000. The June sales as reported above, provided approximately \$37,000 in added revenue which will fully cover all census expenses, and then be used to offset rising animal shelter service costs. Officials suspect that many more pets are still unlicensed. During the census, households with unlicensed dogs are given information on how and where to obtain a license. Those who choose to not follow through on licensing risk being ticketed. Dog licenses can be purchased online, by mail or in person in either one or three year increments. Owners must provide a current rabies certificate and proof of spaying or neutering (if applicable.) Owners can visit miOttawa.org to order the license online or obtain one by mail. In person, dog owners can visit one of over two dozen locations selling licenses, including many local government offices and veterinarians. The cost of a license varies from \$10 to \$70. Fees collected through dog licensing help offset the costs for Ottawa County Animal Control and for shelter services provided through the Harbor Humane Society.

WATER RESOURCES STUDY

The Board of Commissioner recently accepted the final product of the Water Resources Study completed by Michigan State University. The PowerPoint presentation is included in the Digest for your review ([click here](#)).

CONDOLENCES

We offer our condolences to the family of Dave Hulst . Dave's mother, Una Hulst Nykamp, who was a retired 25-year employee of the District Court, passed away on Sunday, July 28, 2013.

PRESIDENTIAL DECLARATION UPDATE (Beth Thomas and Shannon Felgner)

Seven jurisdictions, including Ottawa County, are seeking public assistance. Last week, meetings were held with FEMA and those seeking assistance. At the meetings, applicants were assisted by FEMA Project Specialists who provided more detailed eligibility information. The guidance from the project specialists will continue through the grant writing process. FEMA will assist in writing a matching grant (75/25) for these projects whereby applicants will pay 25%. Project categories include:

- > Debris Removal
- > Emergency Protective Measures
- > Roads & Bridges
- > Water Control Facilities
- > Buildings & Equipment
- > Utilities
- > Parks, Recreational Areas, and Other Facilities



"West Olive, Mich., July 24, 2013 --Monica Cross, Project Specialist, answers questions for David Mazurek, Ottawa Parks and Recreation. Applications have been filed for several Ottawa County Departments and details are discussed at a Kick Off meeting. FEMA Public Assistance Grants are available to cover at least 75% of the cost of repair. Photo by Marilee Caliendo/FEMA"



"West Olive, Mich., July 24, 2013 --Arthur Schettini (center), Project Specialist, answers questions at the Ottawa Kick-Off meeting. Applications for Public Assistance grants have been filed for several Ottawa County Departments and details are discussed individually. FEMA Public Assistance grants are available to cover at least 75% of the cost of repair. Photo by Marilee Caliendo/FEMA"

2013 DIGITAL COUNTIES SURVEY AWARD

The Center for Digital Government, in association with the National Association of Counties, has named the 2013 Digital Counties Survey Award Winners. Ottawa placed 9th nationally in the 250,000 to 499,999 population category. Ottawa has achieved top ten status several times over the past 8 years. The only other two Michigan counties recognized were Allegan in the 150,000 to 249,999 population and Oakland in the 500,000 and over population.

Congratulations to Dave Hulst and the IT staff; JoAnn Arcand and the Web Techs staff; as well as Keith Van Beek; Shannon Felgner; and the many department and office leaders who work hard to make miOttawa.org one of the best service delivery websites in the nation.

Click the link below for an article that provides more information from govtech.com. Board Chair Jim Holtrop was on hand at the recent NACO Conference in Fort Worth, Texas, to accept the award and will present it at the next Board meeting.

[2013 Digital Counties Survey Winners Announced](#)

GVMC WEEKLY UPDATE (John Weiss)

[Click here](#) for the most recent update.

SPECIAL COMMENT

Rate this Research



Detroit Bankruptcy May Change How Other Distressed Cities Approach Their Pension and Debt Obligations

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Detroit's bankruptcy is profoundly meaningful for the universe of distressed local governments in the US, as it may set the tone or even create a precedent for how other financial strapped cities approach their own long-term liabilities. While the vast majority of municipalities are not in stress and will remain bystanders as the Detroit events unfold, depending on the final outcome we could see more stressed local governments turn to bankruptcy as a tool for reducing or restructuring their debt or pension obligations. We could also see meaningfully lower recoveries for cities that default, and different recoveries among debt security types than we have previously expected.

Important questions will remain unanswered about the city's bankruptcy¹ and proposal to creditors, possibly for a lengthy period. Our preliminary views on the implications for the municipal market are:

- » Detroit's bankruptcy could set a standard, if not a legal precedent, for how other distressed cities approach their long-term liabilities, especially the relative seniority of pension versus debt obligations.
- » If Detroit succeeds in reducing accrued pension benefits and GO debt, we could see a modest increase in the number of distressed local governments using similar tactics to reduce liabilities.
- » If the proposal to treat GO bondholders as unsecured is successful, the example could weaken GO claims relative to secured liabilities in other potential bankruptcy situations, and we could change the rank ordering of various debt security types including GO bonds.
- » If bankruptcy proceedings are protracted and fail to restore solvency or materially restructure the city's liabilities, other distressed issuers would be unlikely to emulate Detroit's approach.

¹ In order for Detroit's bankruptcy to proceed, the federal bankruptcy court must first determine that the city is eligible for bankruptcy. There are five elements that must be satisfied, the two most significant being (a) the city has been deemed cash flow insolvent; and (b) the city has demonstrated that it has negotiated in good faith with creditors. For details, see our report "[Moody's: Detroit \(MI\) Review Continues Following Bankruptcy Filing; Focus Shifts to Debt Recovery](#)" dated July 18th.

Detroit as Tone-Setter for Severely Distressed Municipalities

If Detroit succeeds in reducing previously promised pension benefits and discharging most of its GO debt, it may enhance the appeal of a similar tactic for other stressed entities. If Detroit is bogged down in years of expensive proceedings and fails to restore solvency or materially restructure its liabilities, other distressed issuers would be unlikely to emulate Detroit's approach. Further, even if an issuer did want to emulate Detroit's approach, obtaining bankruptcy protection in the first place can be very difficult.

Assuming bankruptcy protection is granted, the bankruptcy judge in Detroit's case faces two key questions, with potentially significant implications for other stressed local governments:

- 1) **The relative seniority of pension liabilities and General Obligation bond debt.** Most states have left unclear in state law which creditor class takes primacy over the other when resources are too scarce to satisfy both. Detroit's proceedings may set a precedent for other issuers seeking to expunge one liability or the other.
- 2) **Whether General Obligation bonds are "secured" or "unsecured."** The legal distinction is vital². An unsecured creditor class can be placed into a pool with other types of unsecured creditors, such as vendors or leaseholders. If Detroit's state-appointed emergency manager's proposal to treat GO bondholders as unsecured is successful, the example set could weaken GO claims relative to secured liabilities in other potential bankruptcy situations. Any treatment of Detroit's debt in bankruptcy is likely to be particularly meaningful in Michigan, because a federal bankruptcy court would be interpreting Michigan law when making its judgments.

The answers to these questions could influence the municipal bond market's expectations for pension and debt recoveries, even if they don't set direct legal precedent outside of Michigan.

EXHIBIT 1

Ratings on Detroit's Securities Vary

Detroit Security	Rating*
General Obligation Unlimited Tax	Caa3
General Obligation Limited Tax	Ca
Certificates of Participation	Ca
Water/Sewer Senior Lien	B1
Water/Sewer Subordinate Lien	B2
Distributable State Aid / Senior Lien	Aa3
Distributable State Aid / Second Lien	A1
Distributable State Aid / Third Lien	A3

Source: Moody's

*All ratings are under review for downgrade.

² See "[Key Credit Considerations for Municipal Governments in Bankruptcy](#)," 1/19/2012.

Pensions V. Debt

A key question is the relative seniority of debt and pension liabilities. If Detroit continues to claim, and is successful in arguing, that unfunded pension liabilities are on par with GO debt, the outcome will create a strong legal precedent for the treatment of pension liabilities in Michigan and perhaps beyond.

A central feature of recent and ongoing municipal bankruptcy cases in Rhode Island, California, and now Michigan is a tension between debt and pension liabilities. In some extreme cases, issuers will lack the resources to satisfy both.

We have seen a solution in Rhode Island that favored GO bonds over pensions, and the outcome of Vallejo's bankruptcy in California favored pension obligations over non-GO bonds (the issuer had no GO debt), although the city decided not to take on CalPERS and that decision was not contested. We expect future solutions will continue to vary by state.

In most cases, state law does not clearly establish which liability takes priority. Michigan is one of seven states in which accrued pension benefits are explicitly legally protected in the state constitution. This potentially sets up a conflict with the legal protections for unlimited tax General Obligation bonds in Michigan. While Michigan laws have apparently provided some legal protection to both GO bondholders and pension beneficiaries, the relative seniority remains unclear when there are not enough resources to pay both.

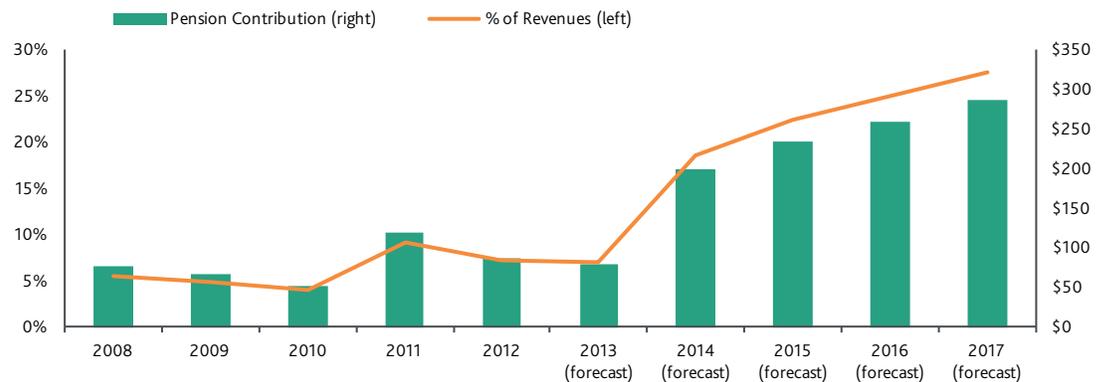
Given this uncharted legal path, the Detroit bankruptcy outcome could set important legal precedent for other municipalities in Michigan facing a similar tension between bonds and pension obligations by resolving issues of priority of claims under Michigan law. While Detroit's outcome would not be legally binding on future bankruptcy courts, we expect any decision laid down in this case would provide guidance to other courts. Of course, the Detroit case could be appealed, no matter the outcome, protracting what we already foresee will be a drawn-out litigation.

The question of debt versus pensions will have significant implications for bondholders given the size of Detroit's unfunded pension liabilities. If the court finds that the pension obligations are secured claims, it may have the effect of diluting recovery for bondholders. The city has proposed a higher valuation of the unfunded pension liability, based on more conservative actuarial assumptions, which will further dilute bondholder recovery if upheld.

Detroit's proposal to creditors identifies pensions and other post employment benefits as a reason for the city's financial stress and a target of negotiations to reduce fixed costs.

Despite substantial bond issuances in the past decade to improve pension funding, Detroit's pension problems are large (see Exhibit 5), with a reported unfunded liability of \$615 million, and a net liability as large as \$3 billion using our more conservative set of assumptions. On our adjusted basis, the unfunded liability is more than twice the size of the city's operating revenues of \$1.3 billion (versus the national average of one year of revenues) and presents very high fixed costs. Moody's estimates that the city would need to contribute \$240 million per year, or roughly 20% of operating revenues to start to fully fund its unfunded pension liabilities.

EXHIBIT 2

Pensions to Exert Large Impact on Detroit's Budget

Source: Detroit Emergency Manager Proposal to Creditors, June 13, 2013

Pension costs have become an increasing source of Detroit's budget pressure because the city has deferred pension payments over time and issued bonds to try to improve funding while the city's economy and labor force needed to generate the tax revenues to support pension payments have been shrinking. Indeed, the state-appointed emergency manager's proposal to creditors in June outlined the case that the city's deteriorating economic picture with 25% population loss, 18% unemployment rate and loss of 25,000 jobs since 2008 has exacerbated the city's already very stressed liquidity position and has challenged the city to meet its obligations to bondholders and pensioners.

Debt costs are also a continuing pressure. Detroit has relied on borrowing to make up for years of inadequate pension funding, and servicing this pension debt creates an additional fixed costs each year, accounting for about 4% of this year's operating revenues. In fact, the pension bonds were the first obligation to experience payment default, with a \$35.3 million payment missed on June 13.

"Secured" V "Unsecured"

The Emergency Manager's proposal to treat GO bonds as "unsecured" could change other issuers' approach to their GO liabilities.

Chapter 9 of the US bankruptcy code makes a clear distinction between a "secured" liability (such as a sewer bond with a special revenue pledge) and an "unsecured" liability (such as a vendor invoice for supplies). Secured liabilities are supposed to be paid up to the amount of the collateral securing the claim, while unsecured liabilities share in whatever assets are left over, and are more easily restructured or reduced.

Some states have rendered GO bonds effectively "secured" by securing them with a statutory lien (see Exhibit 3).

EXHIBIT 3

States with Statutory Liens for General Obligation/Ad Valorem Debt

California

Colorado

Florida

Louisiana

Rhode Island

Outside of these states, whether a GO pledge is considered “secured” would need to be resolved through the courts. To our knowledge, no entity has successfully restructured a GO liability in bankruptcy court, although we believe Jefferson County is likely to do so. Jefferson County, which filed for bankruptcy in 2011, is in default on \$200 million of GO debt.

Holders of Central Falls, RI's and Sierra Kings Health Care District, CA'S GO bonds didn't miss a payment throughout their bankruptcies. Central Falls' restructuring discharged much of its pension liabilities but held GO bonds harmless. Harrisburg, PA attempted to discharge some of its GO debt in bankruptcy, but the city was denied bankruptcy protection. Some other municipalities that have obtained bankruptcy protection, such as Stockton, CA and Vallejo, CA, do not have GO debt.

The Detroit bankruptcy case will test the strength of various security types, including Unlimited Tax GOs (GOULT) and Limited Tax GOs (GOLT), and the promises and revenue streams supporting the two, which are quite different.

Detroit has a dedicated property tax levy for ULT bonds, but it remains unclear whether this creates “security” as it is not explicitly granted in state law. The city is authorized and required by law to levy and collect ad valorem taxes upon all taxable property in the city, without limitation as to rate or amount, to pay principal of and interest on unlimited tax bonds when due. Moreover, the Michigan state constitution says property tax limitations do not apply to voter approved, GOULT debt.

In contrast, GOLTs do not have a dedicated levy and therefore compete with other general fund expenditures, and the tax levy is already at its maximum level. State statute says that GOLT bonds are payable from any funds available to the city for that purpose, as a first budget obligation, including, the proceeds of annual ad valorem property taxes, which must, to the extent necessary, be levied on all taxable property within the boundaries of the city, subject to applicable charter, statutory and constitutional tax rate limitations.

The city is currently levying its taxes to the maximum rate permitted by law.

The Detroit bankruptcy could also test whether water and sewer revenue bonds are in fact treated as special revenues. Given the language of the bankruptcy code and limited case law on the issue, including the recent Jefferson County decision, bonds secured by special revenues have been treated as exempt from the automatic stay provisions. This gives holders of bonds with these revenue pledges the right to continue receiving scheduled debt service payments from available funds, net of necessary operating expenses, through bankruptcy. Because of this feature, special revenue bonds should have a lower risk of default in bankruptcy than debt secured by general pledges of property, sales or income taxes. This feature explains our higher ratings on Detroit's water and sewer bonds relative to the GO bonds. Even the exemption from the automatic stay does not completely insulate special revenues from impairment, as there can still be pressure to restructure.

Detroit is an Outlier

Although many of Detroit's problems are common, the magnitude of its problems is not. Other cities in the US have undergone post-industrial depopulation and an erosion of the tax base, and now carry debt burdens that are heavy relative to the remaining tax base and population. But no large city lost as much as Detroit.

EXHIBIT 4

Detroit: Selected Financial and Other Data Points

	2008	2009	2010	2011	2012
Total Full Value [1] (\$000)	28,226,881	27,890,945	24,995,286	22,240,789	18,874,903
Annual change in Full Value (%)		(1)	(10)	(11)	(15)
Direct Net Debt Outstanding (\$000)	2,237,802	1,714,240	1,748,119	2,233,508	2,143,685
Direct Net Debt as % of Full Value	7.9	6.1	7	10	11.4
Median Direct Net Debt as % of Full Value, All US Cities	1.0	1.0			
Unfunded Actuarial Accrued Liability (UAAL) (\$000)				643,754	
Moody's Adjusted Net Pension Liability (ANPL) (\$000)				3,049,329	
Adjusted UAAL as % of Operating Revenues				2.59	
Median Adjusted UAAL as % of Operating Revenues, All US Cities				0.89	
Operating Revenues (\$000)	1,400,403	1,357,631	1,256,051	1,295,575	1,175,723
Operating Surplus (Deficit) (\$000)	-125,159	-114,692	-119,373	-58,444	-119,910
Operating Surplus (Deficit) as % of Operating Revenues (%)	(9)	(8)	(10)	(5)	(10)
Operating Funds Balance as % of Revenues	-10.9	-21	-7.7	-12.1	-24.4
Median Operating Funds Balance as % of Revenues, US Median	38.7	35.6	34.4	36.6	
				US	Detroit
Median Family Income, 2011 Census				50,054	27,862
Population Change 2000-2010 (%), Detroit				9.7	-25
Poverty Rate (%) (2000 Census)				15.0	26.1

Source: Moody's Municipal Financial Ratio Analysis

[1] Market value of taxable real property.

Our negative outlook on the local government sector as a whole³, in place now for close to five years, reflects a number of substantial economic and fiscal pressures, including a sluggish economic recovery, constraints in key revenue sources, and mounting spending pressures. In spite of the negative outlook, we anticipate that few issuers will follow Detroit into default or bankruptcy. We don't expect elevated financial stress to lead to pervasive defaults. We expect defaults to remain rare even among outliers.

Most local governments exhibit solid credit fundamentals, notwithstanding the recent period of economic and fiscal stress. In fact many local governments are starting to feel the effects of the housing recovery, and while this recovery varies somewhat from region to region, most local governments have seen property tax and other revenues stabilize and in some cases return to growth. Spending pressures have not completely subsided for many local governments, and it may be several years before most can rebuild reserves spent down during the recession.

³ See [Outlook for US Local Governments Remains Negative in 2013](#)

Pension costs are significant in some cases, although many state and local government reforms will help slow the pace of spending growth in future years. In April Moody's placed 29 local governments on review for downgrade due to outsized pension liabilities as estimated by a more conservative set of assumptions compared to reported data. One of the cities placed on review is the city of Chicago. We downgraded the city of Chicago to A3 with a negative outlook from Aa3 earlier this month because of large and growing net pension liabilities. We estimated the pension unfunded liability in the range of \$30 billion on a Moody's-adjusted basis, or an extraordinary 7 times operating revenues (versus a national average for pension burdens roughly equal to one year of revenues). Chicago's A3 rating also recognizes the city's long-standing position at the center one of the most diverse economies in the nation, and its broad legal authority to generate revenues from a large property tax base and a larger sales tax base. Chicago also has a large capacity to raise additional tax revenue if needed, an economic capacity that is completely absent in Detroit.

Defaults Could Increase Modestly, Recoveries May Meaningfully Decline

We believe that local governments face a "new normal" in which the historically minimal default rate is likely to increase, and historically strong recovery rates may trend lower.

The case could influence market expectations and issuer behavior at the fringe of municipal credit: those issuers at risk of default or municipal bankruptcy. We rate only 34 local governments below investment grade, out of a universe of more than 7,500 rated entities.

As we have said since 2010, we expect future municipal defaults to increase but still remain few in number. After recording only 7 rated local government defaults from 1970 to 2010, we have already seen four GO and lease bond defaults in 2012 and 2013 (see Exhibit 3). This remains a very small number relative to the 7,500 rated local governments, but is a trend we are watching nonetheless.

Based on recent defaults and ongoing creditor negotiations, bondholder recoveries may decrease from the very high historical norm. The likelihood of seeing greater loss severities over time may depend in part on legal decisions that emerge from this and other ongoing bankruptcy cases.

EXHIBIT 5

Moody's Rated Local Government GO and Lease Bond Defaults and Recoveries Since 1970

Municipality	State	Security Class	Default Date	Estimated Ultimate Recovery
Belfield, City of	ND	GO	4/1/1987	55% of principal
Baldwin County	AL	GO	10/1/1988	100%
Polk County	IA	Lease	12/1/1991	100%
Orange County	CA	Lease	12/6/1994	100%
Cicero, Town of	NY	Lease	11/1/2003	10% of principal
Jefferson County	AL	GO	9/15/2008	Pending
Harrisburg, City of	PA	GO	6/1/2009	Pending
Wenatchee, City of	WA	GO	6/1/2012	100%
Stockton, City of	CA	General Fund obligations	6/28/2012	pending - 17% initial offer
Pontiac School District	MI	GO	5/1/2013	pending
Detroit, City of	MI	Certificates of Participation	6/14/2013	pending - 10% initial offer

Source: Moody's

Prospects for recovery in the more recent defaults is probably lower than most of the recoveries in the defaults prior to 2008. Holders of Jefferson County, AL's GO warrants or Harrisburg, PA's GO-guaranteed bonds are unlikely to recover 100 cents on the dollar, and holders of Detroit's GO bonds may face an even lower recovery based on the city's initial offer to creditors of only 10 cents on the dollar⁴.

We do not foresee the Detroit bankruptcy presaging a large volume of defaults and bankruptcies. Most local governments are managing through the current environment, and defaulters like Harrisburg and Jefferson County will remain anomalies with unique stories to tell.

Moreover, the sector is emerging from an era of nearly unparalleled credit strength, where default rates and recoveries were simply incomparable to most other sectors (see Exhibit 6).

EXHIBIT 6

Sector Average Default and Recovery Performance

Sector	Number of recoveries considered	Average Recovery
Municipal GO only (excluding those pending)	3	85%
Municipal GO + lease (excluding those pending)	6	78%
All municipal defaults, 1970-2012	72	62%
Corporates v Municipals*		
	Average 5 year default rate	Average Recovery
Municipals	0.06%	62%
Corporates, senior unsecured	7.61%	49%

*All data are for period 1970-2010, except average recoveries for corporates, which are 1987-2012.

Source: Moody's

⁴ We assume for the purposes of this discussion that the arguments laid forth in the Proposal to Creditors will continue to be made by the city in a bankruptcy court.

Moody's Related Research

Special Comments:

- » [US Municipal Bond Defaults and Recoveries, 1970-2012, April 2013 \(151936\)](#)
- » [Speculative-grade US Local Government Sector: Still Small but Growing, October 2012 \(146034\)](#)
- » [Detroit's Bankruptcy Filing Increases Probability of Payment Disruption, July 2013 \(156611\)](#)
- » [Recent Local Government Defaults and Bankruptcies May Indicate A Shift in Willingness to Pay Debt, July 2012 \(144002\)](#)
- » [Key Credit Considerations for Municipal Governments in Bankruptcy, January 2012 \(136814\)](#)

Sector Comment:

- » [Detroit's Bankruptcy Filing Increases Probability of Payment Disruption, July 2013 \(156611\)](#)

Rating Action:

- » [Moody's downgrades Detroit's GOULT rating to Caa3, June 2013](#)

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 Report Number: 156771

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Ottawa County
WATER RESOURCES STUDY
Phase 1

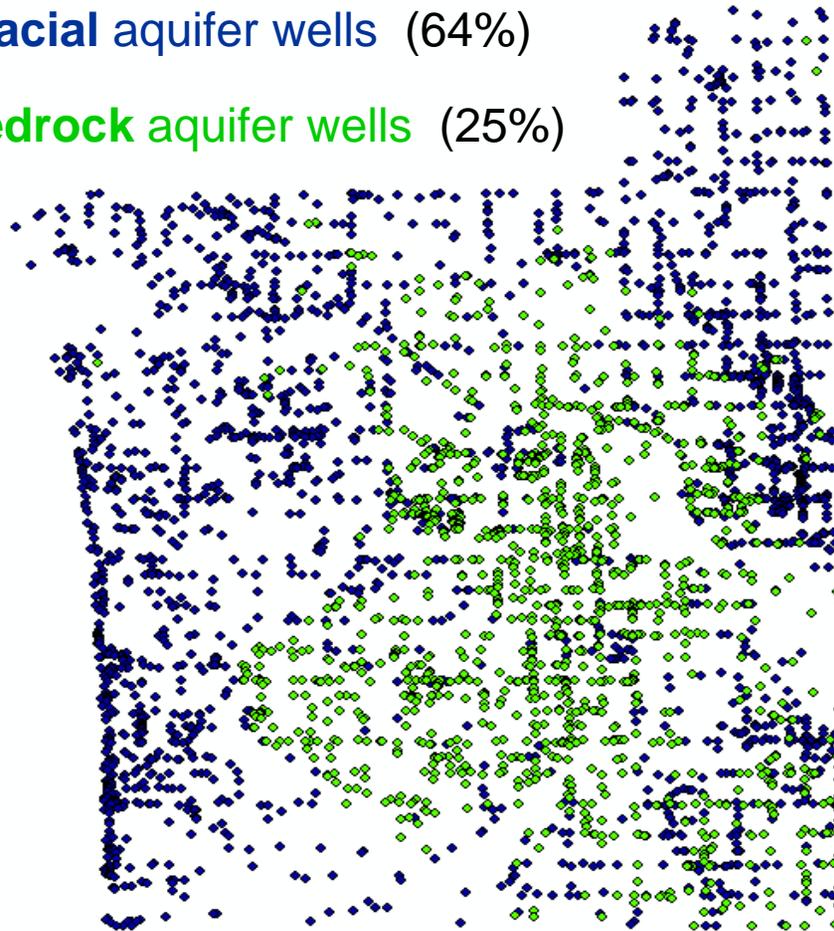
Dept. of Civil and Environmental Engineering
and
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Institute of Water Research
Michigan State University

Data sets used:

□ MDEQ **Wellogic** Database

- 8,027 digital water wells records in Ottawa County
 - 5,152 **Glacial** aquifer wells (64%)
 - 2,018 **Bedrock** aquifer wells (25%)



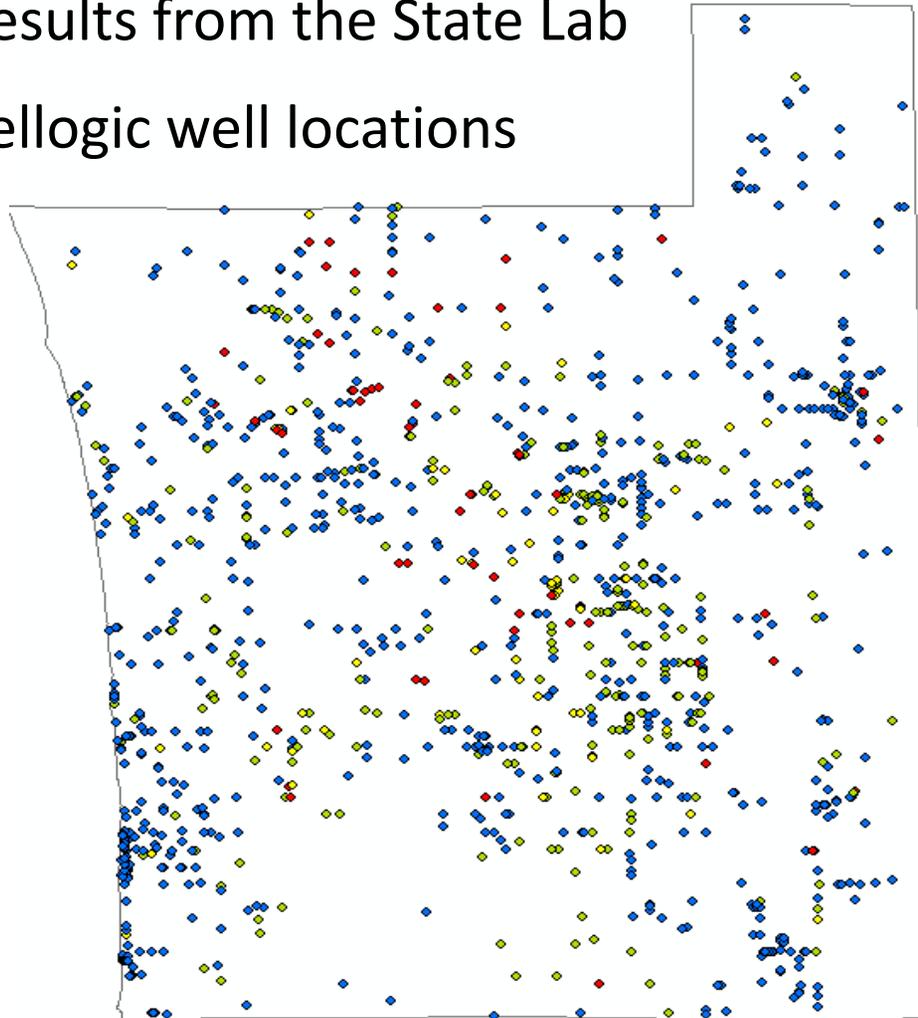
□ MDEQ Wellogic Database

- MSU data-cleaning procedure for static water levels
 - Remove “black & white” errors, those that are clearly wrong, using a systematic evaluation process.
 - Remove statistical outliers using a moving-window, statistical data analysis that identifies and removes data values that deviate significantly from local trends based on a predefined criterion (*e.g.*, outside three standard deviations).
 - Remove “gray” errors (“randomly” distributed data noise) caused by inaccurate well location, seasonal variability, measurement uncertainty and “driller variability.” We use an advanced “moving window, non-stationary, multiscale Kriging technique”. Using a location-dependent variogram, this filtering technique removes noise in complex datasets in the presence of strongly non-stationary spatial trends.

Data sets used:

❑ MDEQ **WaterCHEM** database

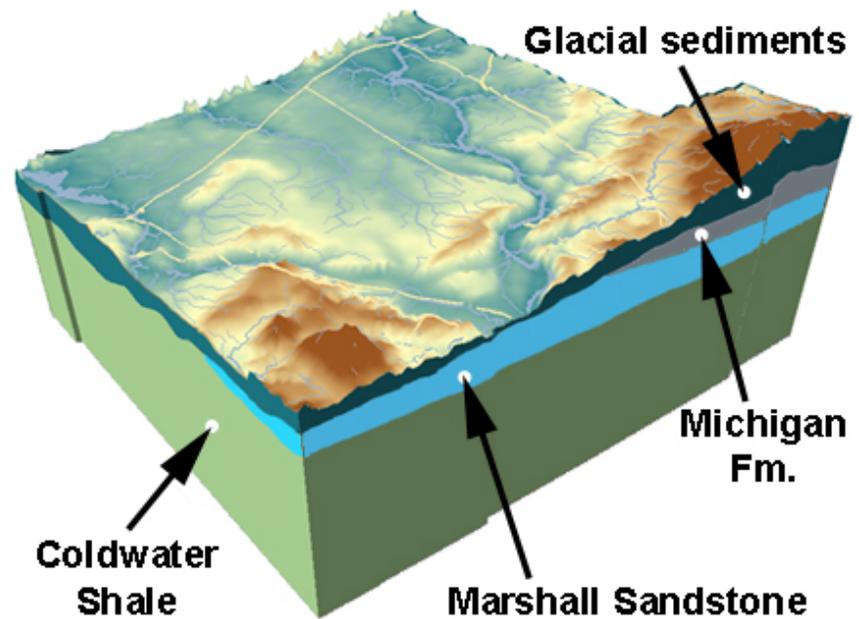
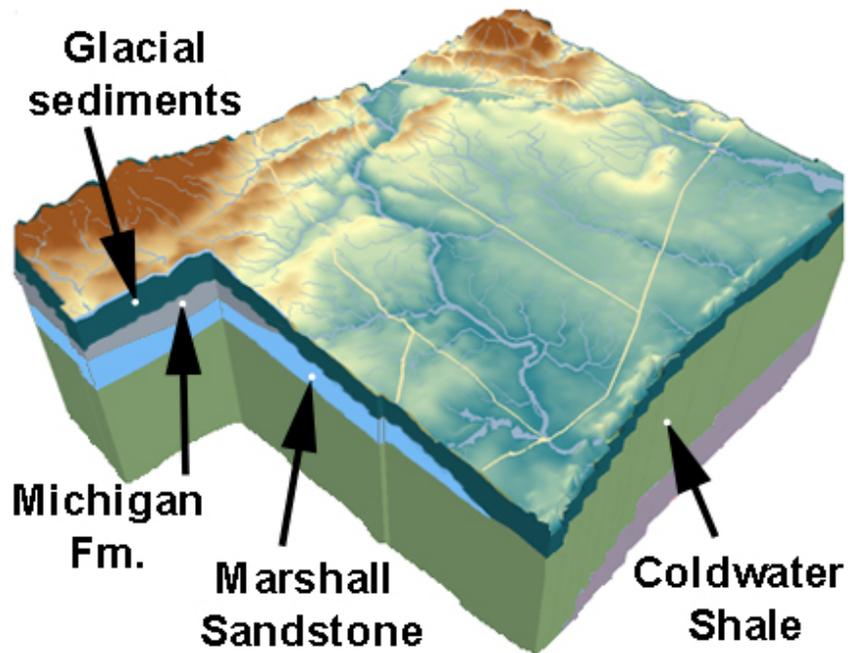
- 1983-2010 test results from the State Lab
- Spatial link to Wellogic well locations



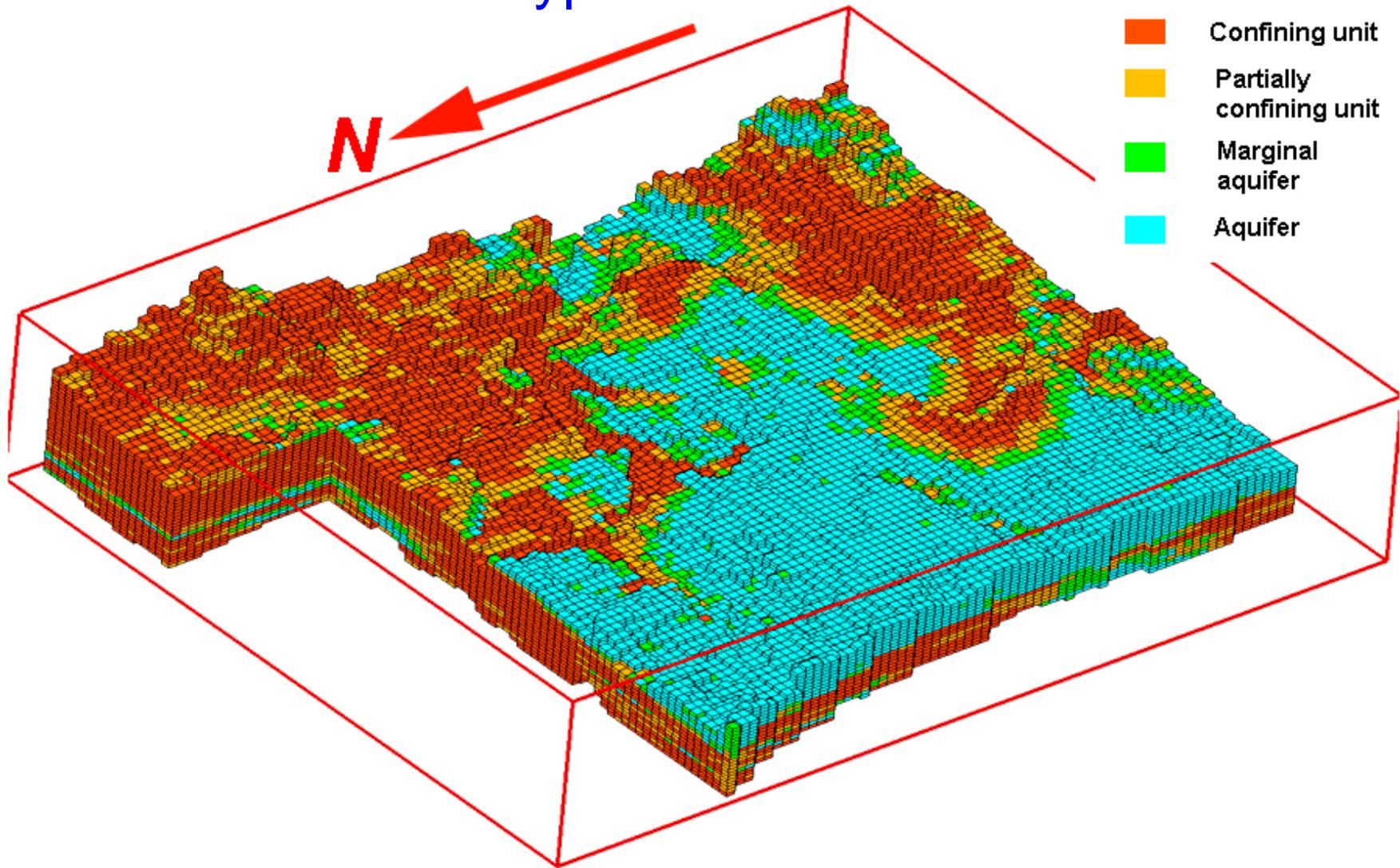
Summary of results:

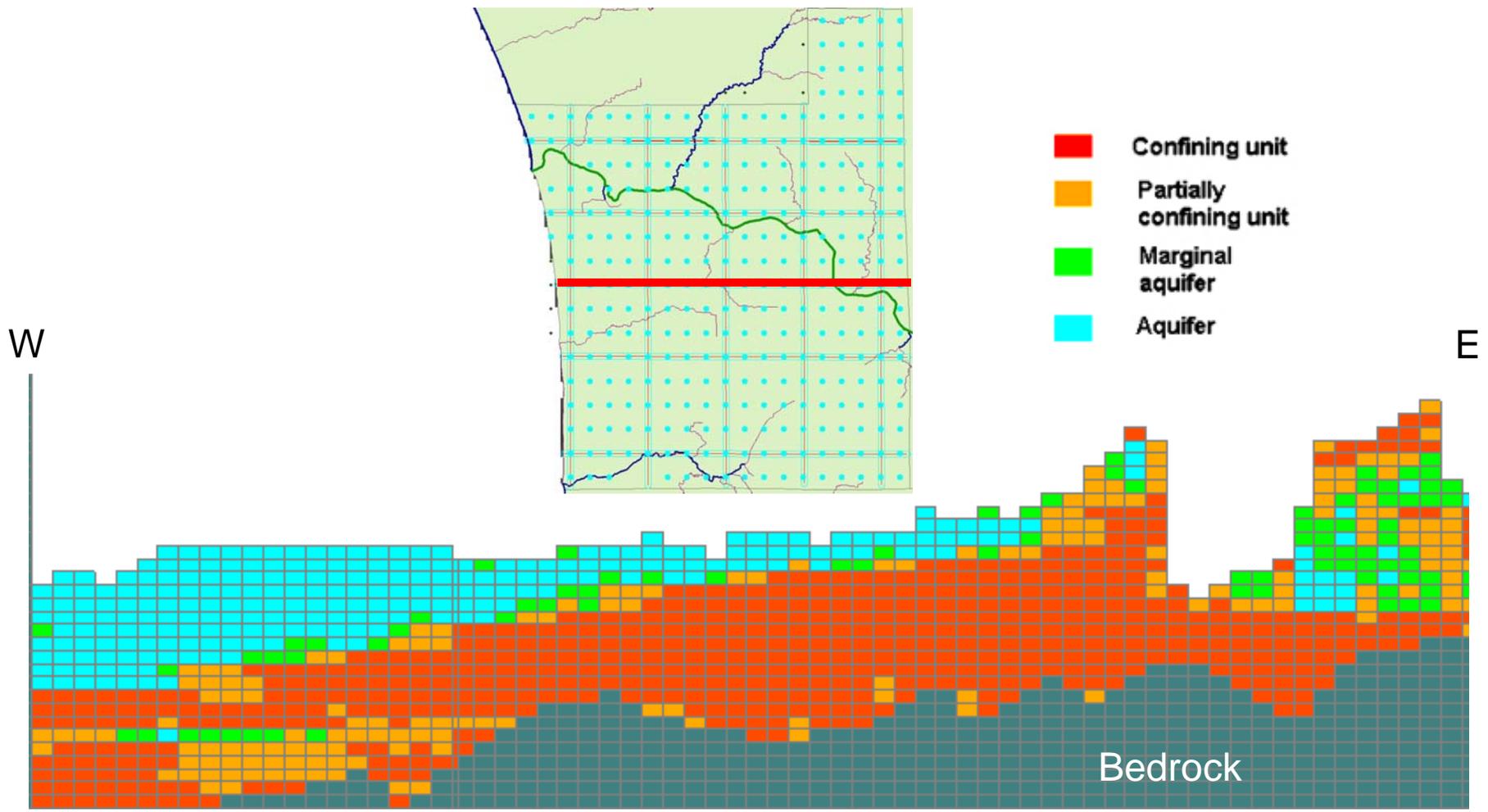
Two extensive aquifers in Ottawa County:

- ❑ Upper, unconfined glacial aquifer
- ❑ Deep, confined bedrock aquifer



Glacial sediment types



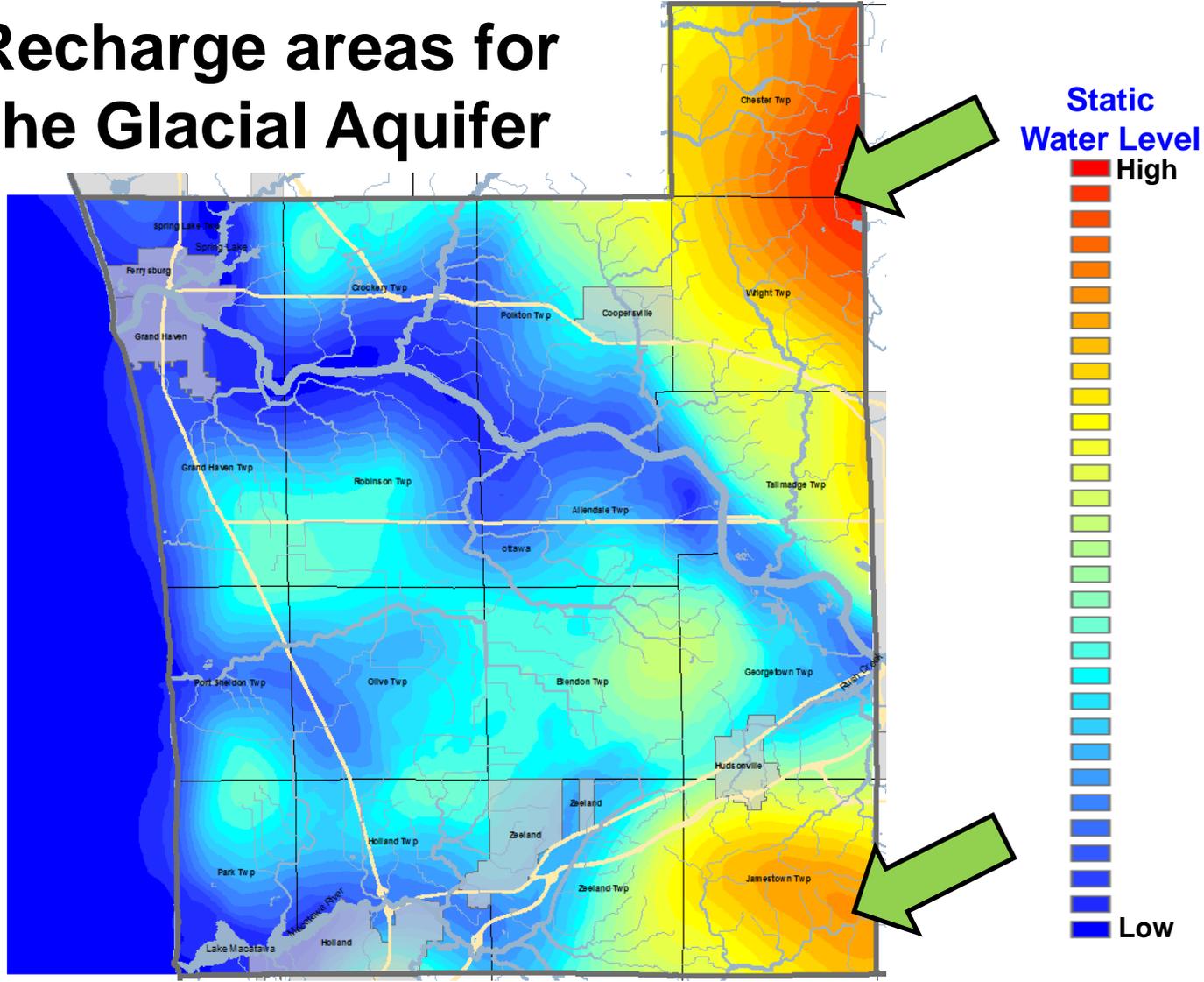


Summary of results:

- **Master recharge areas** for the unconfined Glacial Aquifer occur in Chester and Wright townships in the NE and in Jamestown Township in the SE.
- Due to the heterogeneous nature of the glacial sediments in these areas, **recharge to the unconfined Glacial Aquifer is limited.**
- Groundwater replenished by the NE recharge area discharges to the Grand River; so this recharge does not contribute groundwater to the areas south of the Grand River.
- Groundwater replenished by the SE recharge area discharges to the Macatawa River and Rush Creek; so this recharge does not appreciably contribute to the central county region.

Recharge areas for the Glacial Aquifer

Mapping the SWL recorded in glacial wells



Summary of results:

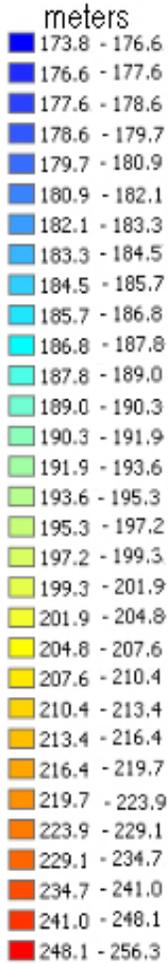
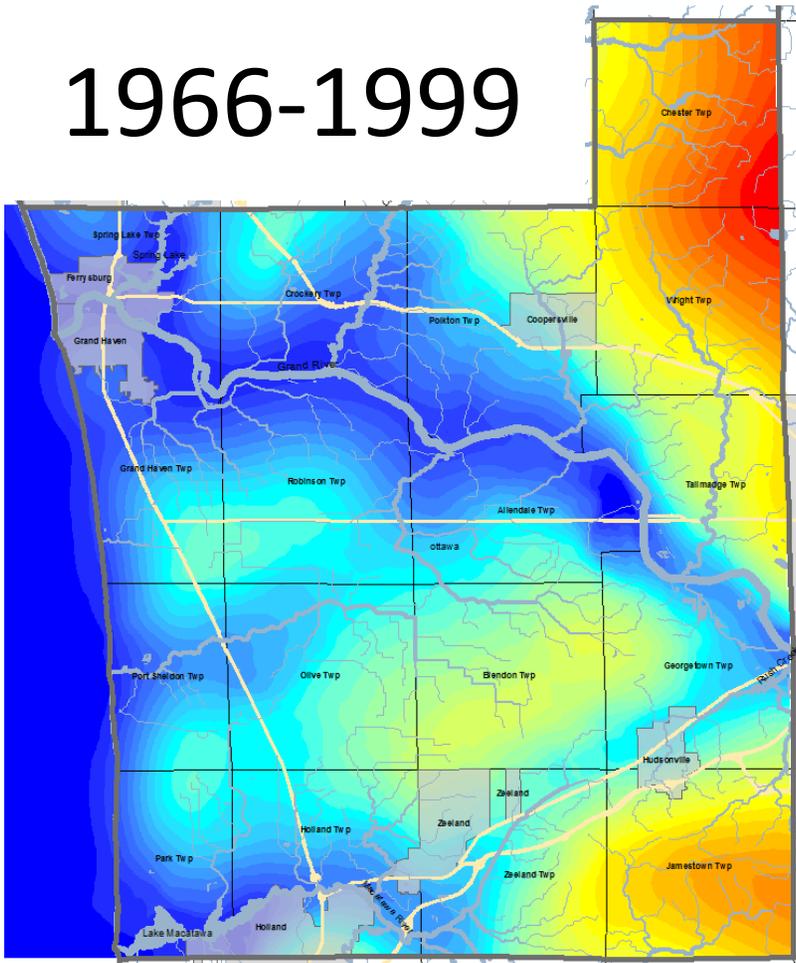
- **The master recharge area** for the confined Bedrock Aquifer occurs in Jamestown Township in the SE.
- Due to the finer texture and heterogeneous nature of the glacial sediments in this area, **recharge to the confined Bedrock Aquifer is limited.**

Summary of results:

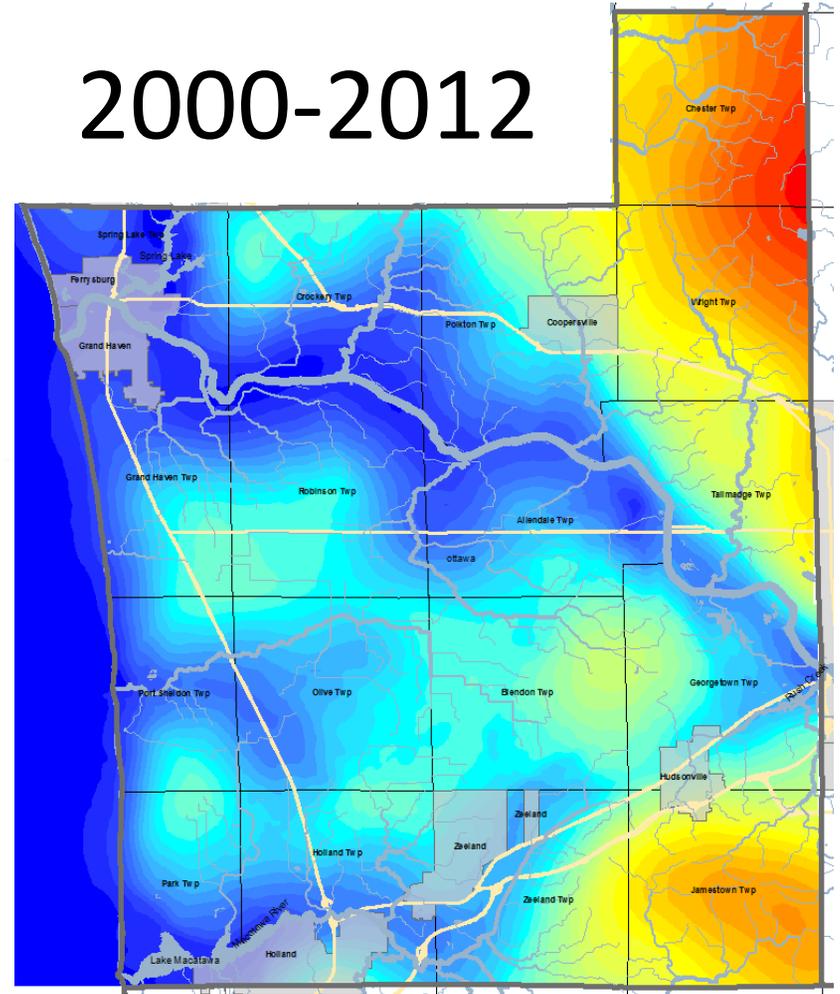
- Since 1999, the **static water levels in both the glacial and the bedrock aquifer** have modestly, but significantly, **declined**.
- This documents that **the current volume of groundwater withdrawals in Ottawa County may not be sustainable in the long run**.
- **Further study will be necessary in order to forecast the duration of available groundwater.**

Temporal Trends in SWL within the Glacial Aquifer

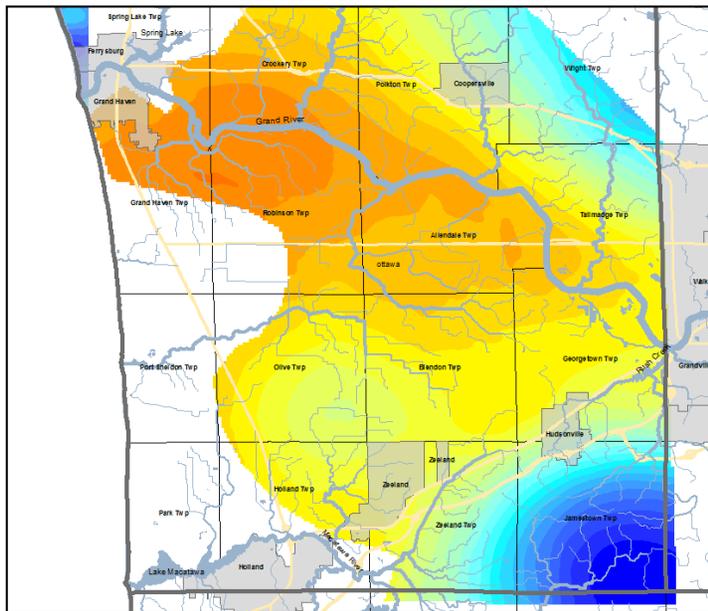
1966-1999



2000-2012

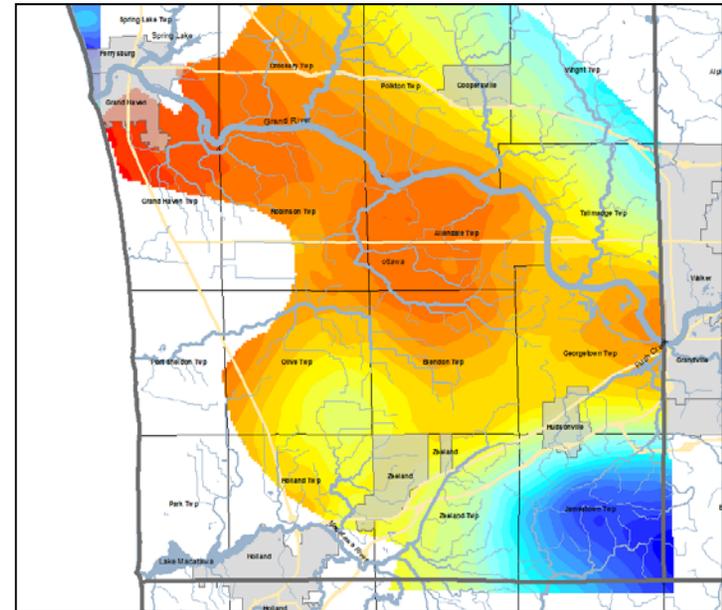


Temporal Trends in SWL within the Bedrock Aquifer



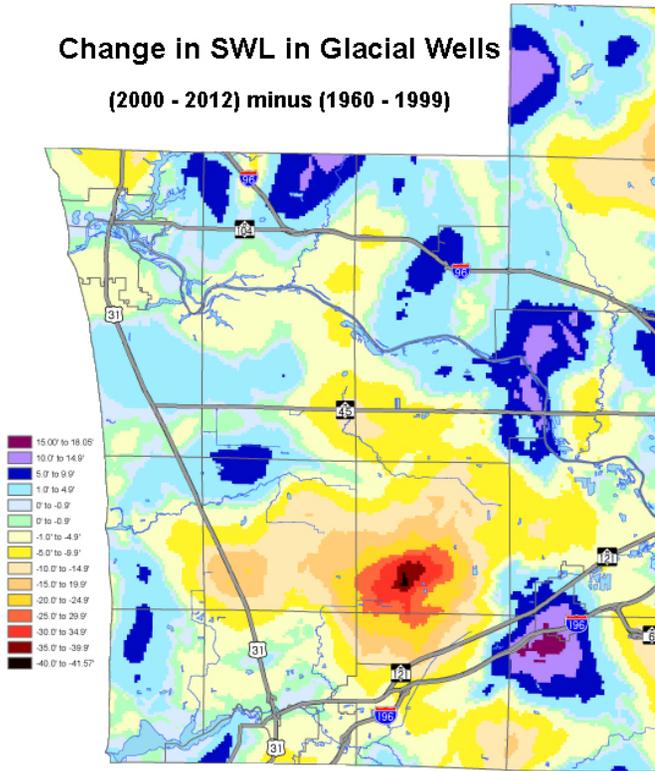
1966-1999

Meters (amsl)



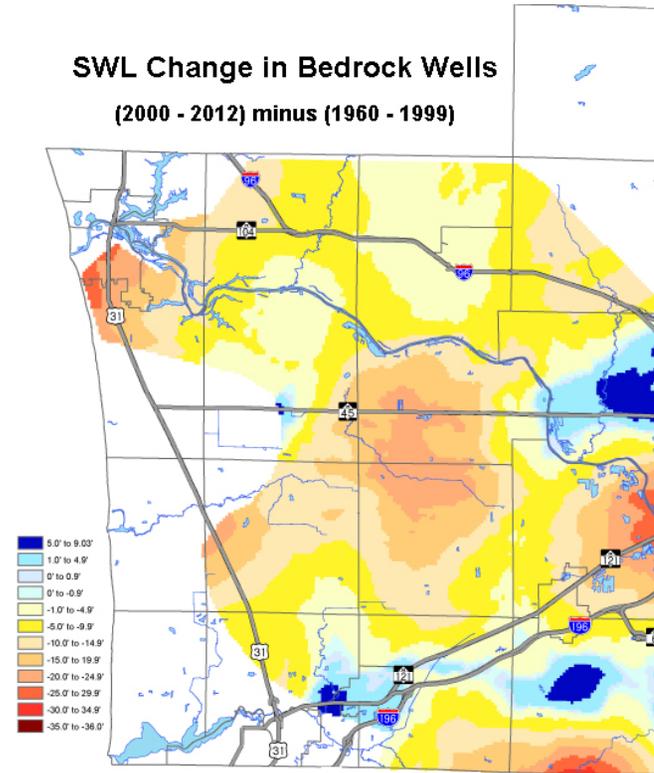
2000-2012

Change in SWL in Glacial Wells
(2000 - 2012) minus (1960 - 1999)



There may have been as much as a 25 – 40 ft. decline in the **glacial** SWL in the Blendon Twp core area

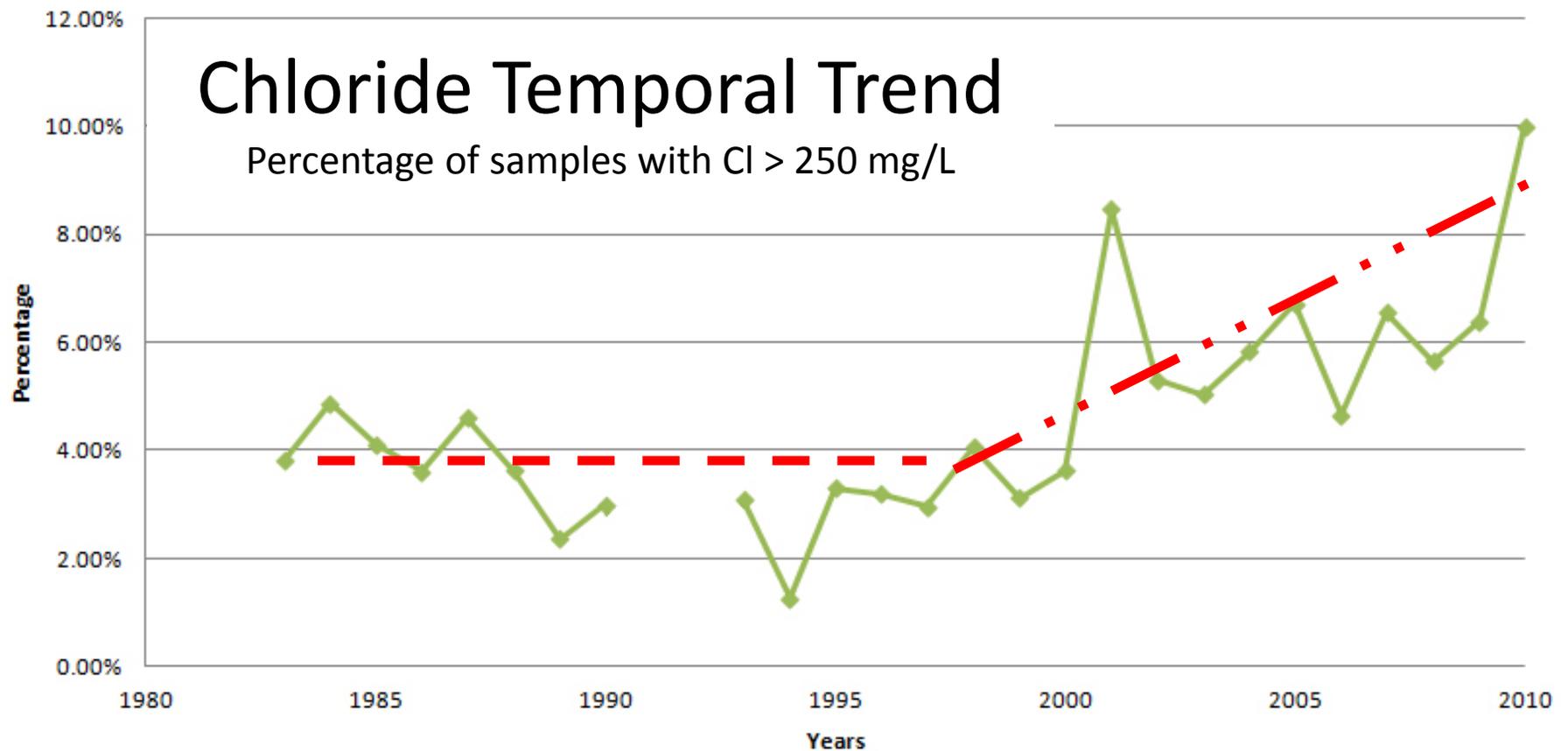
SWL Change in Bedrock Wells
(2000 - 2012) minus (1960 - 1999)



There may have been as much as a 15 – 25 ft. decline in **bedrock** SWL in the Allendale Twp/ Blendon Twp core area

Summary of results:

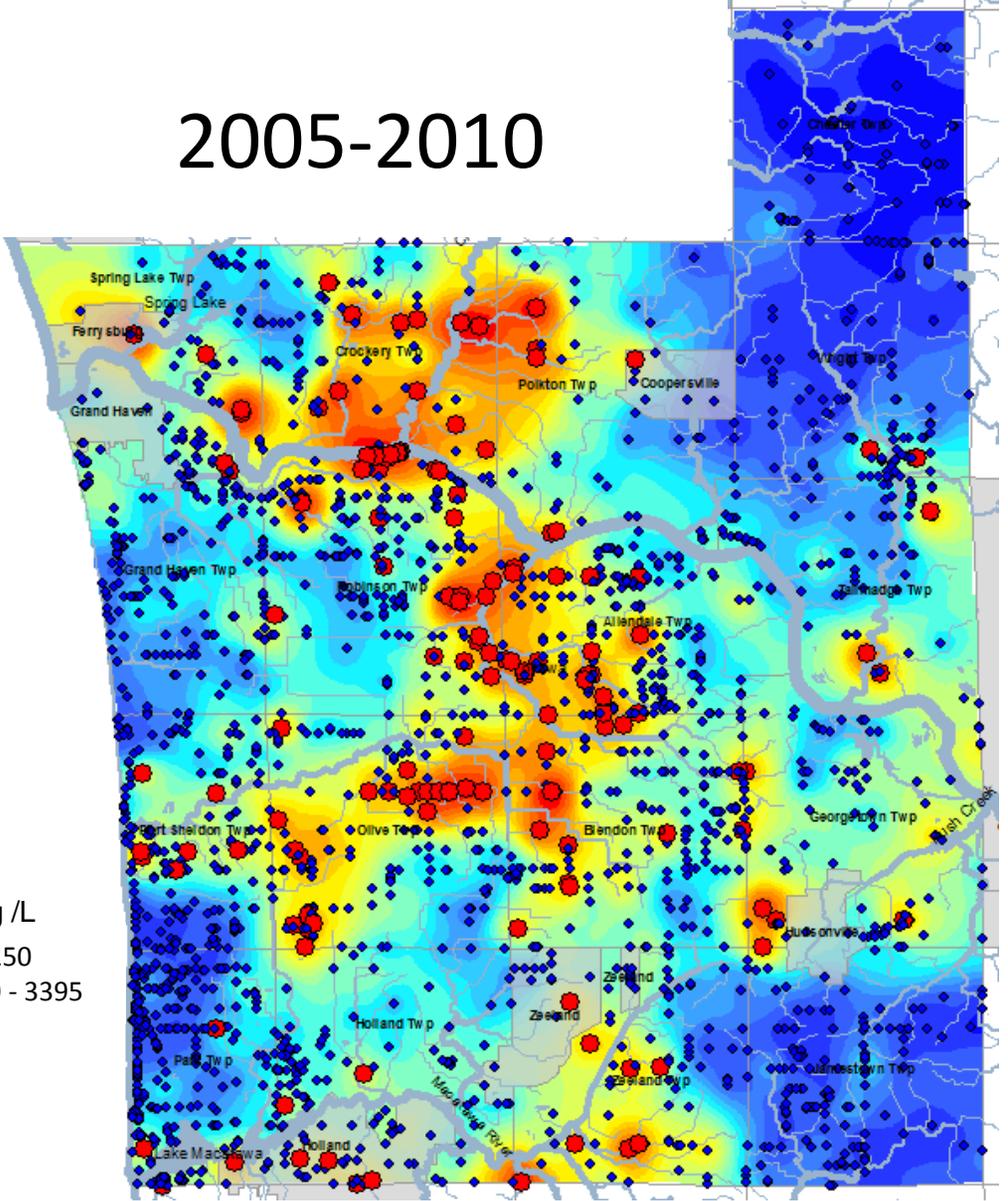
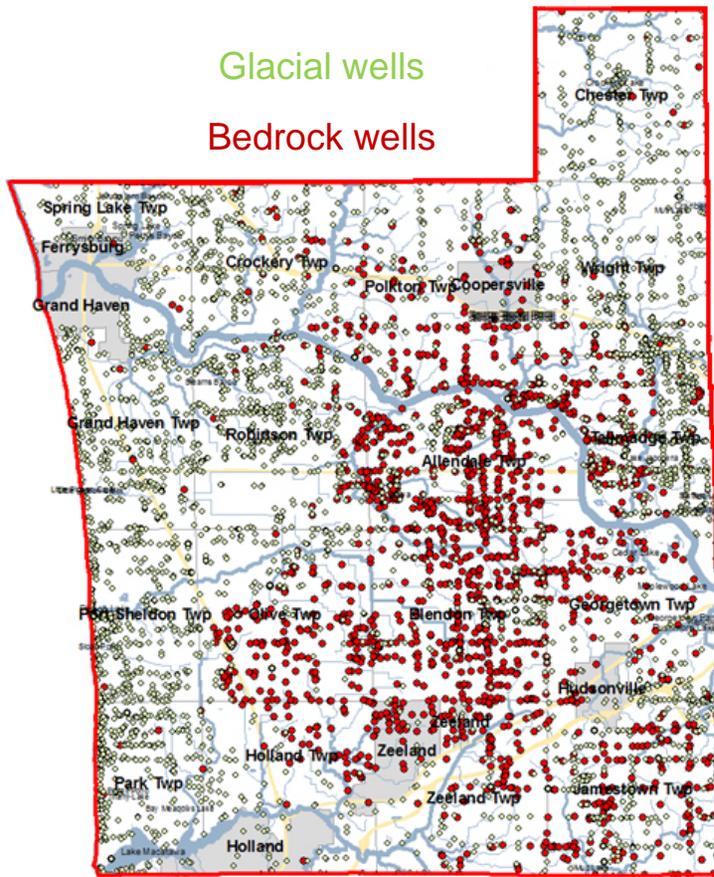
- The **groundwater in the bedrock aquifer is becoming more saline** through time, as shown by increasing chloride concentrations.



Glacial wells

Bedrock wells

2005-2010



mg / L		mg / L	
7 - 15	84 - 95	0 - 250	250 - 3395
15 - 21	95 - 108		
21 - 27	108 - 123		
27 - 34	123 - 139		
34 - 41	139 - 158		
41 - 48	158 - 182		
48 - 56	182 - 216		
56 - 64	216 - 262		
64 - 74	262 - 320		
74 - 84	320 - 414		

Safe Drinking Water Standard (recommended limit): < 250 mg / L

Chloride classification of irrigation water

Chloride concentration (ppm)

Effect on Crops

< 70

Generally safe for all plants

70-140

Sensitive plants show injury

141-350

Moderately tolerant plants
show injury

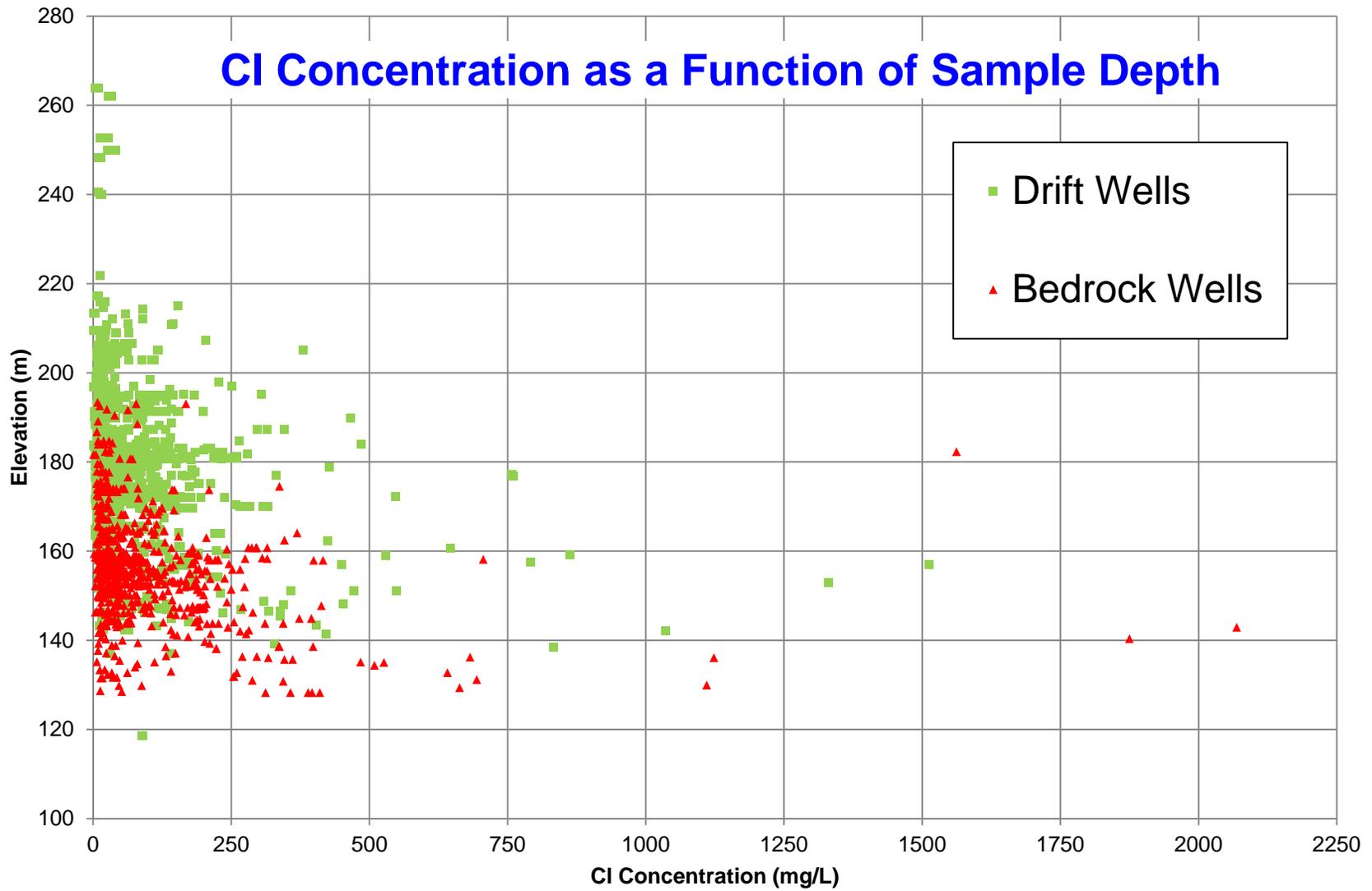
> 350

Can cause severe problems

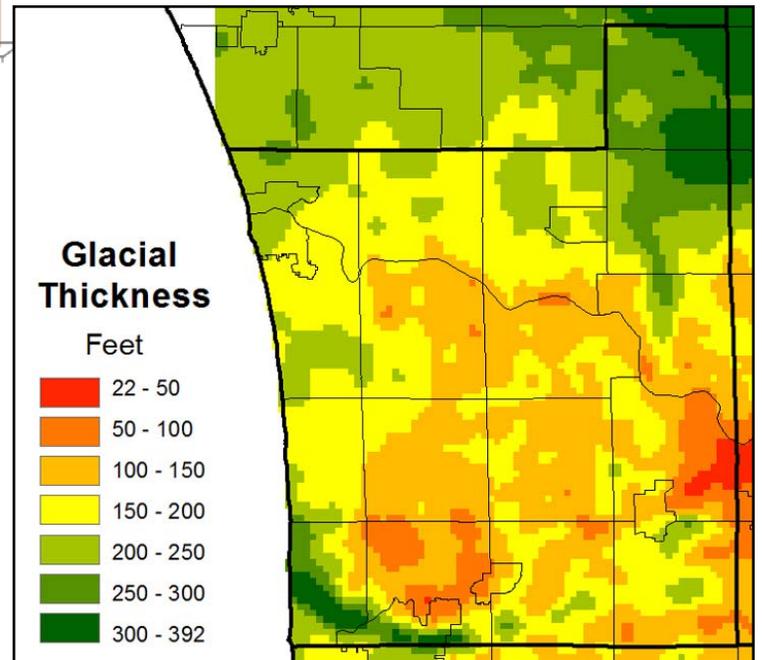
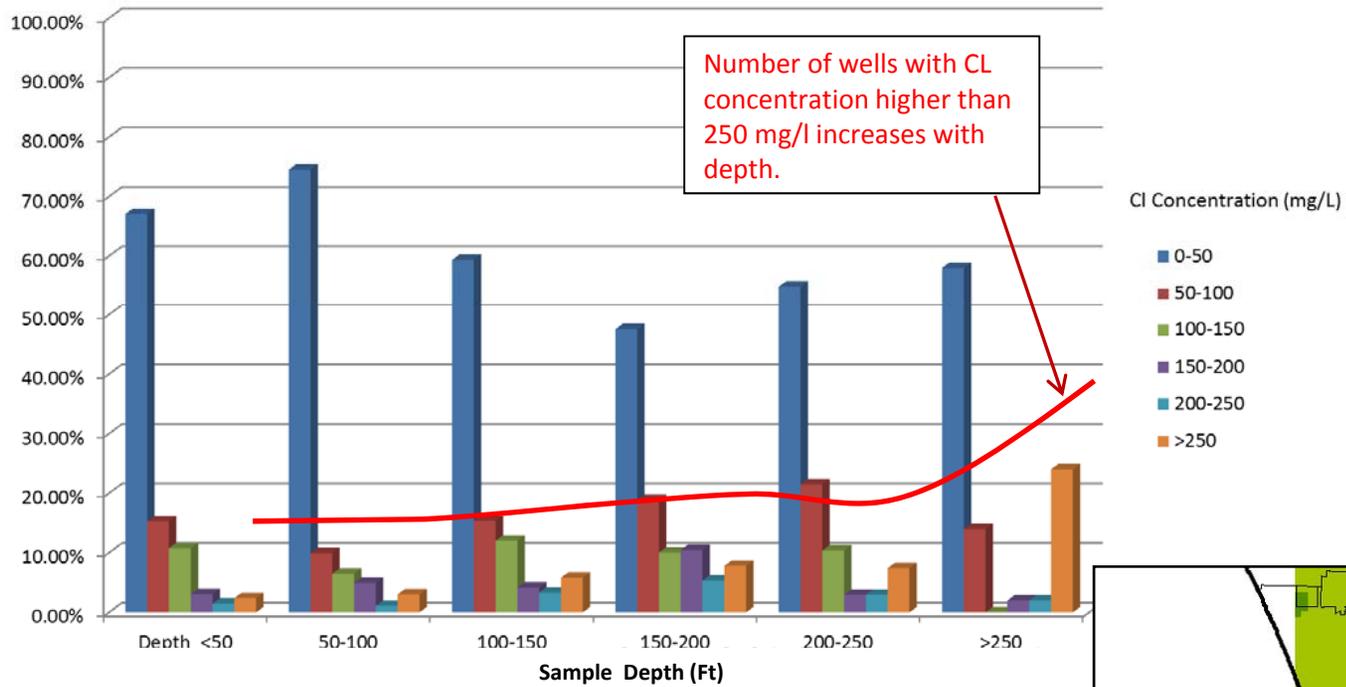
Source: Mass (1990) Crop Salt Tolerance. *Agricultural Salinity Assessment and Management Manual*. K.K. Tanji (ed.). ASCE, New York. pp 262-304.

Summary of results:

- The depth-concentration plot shows that the chloride concentrations in the bedrock aquifer are NOT a surface contamination problem (*e.g.*, road salt). **Hypersaline groundwater is upwelling within the Marshall Formation.**
- It is likely that increasing withdrawals from the bedrock aquifer over time have increased the upward migration rate of hypersaline groundwater from deeper in the Marshall Formation.
- **Further study will be necessary in order to forecast the nature of this water quality change (*i.e.*, will chloride concentrations continue to increase; will/has the chloride levels reached a steady state).**



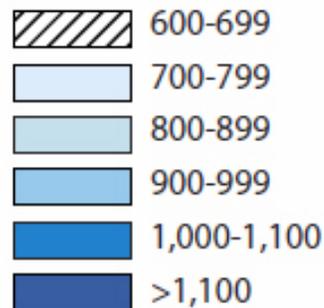
Cl Concentration Histogram for Different Sample Depth Range



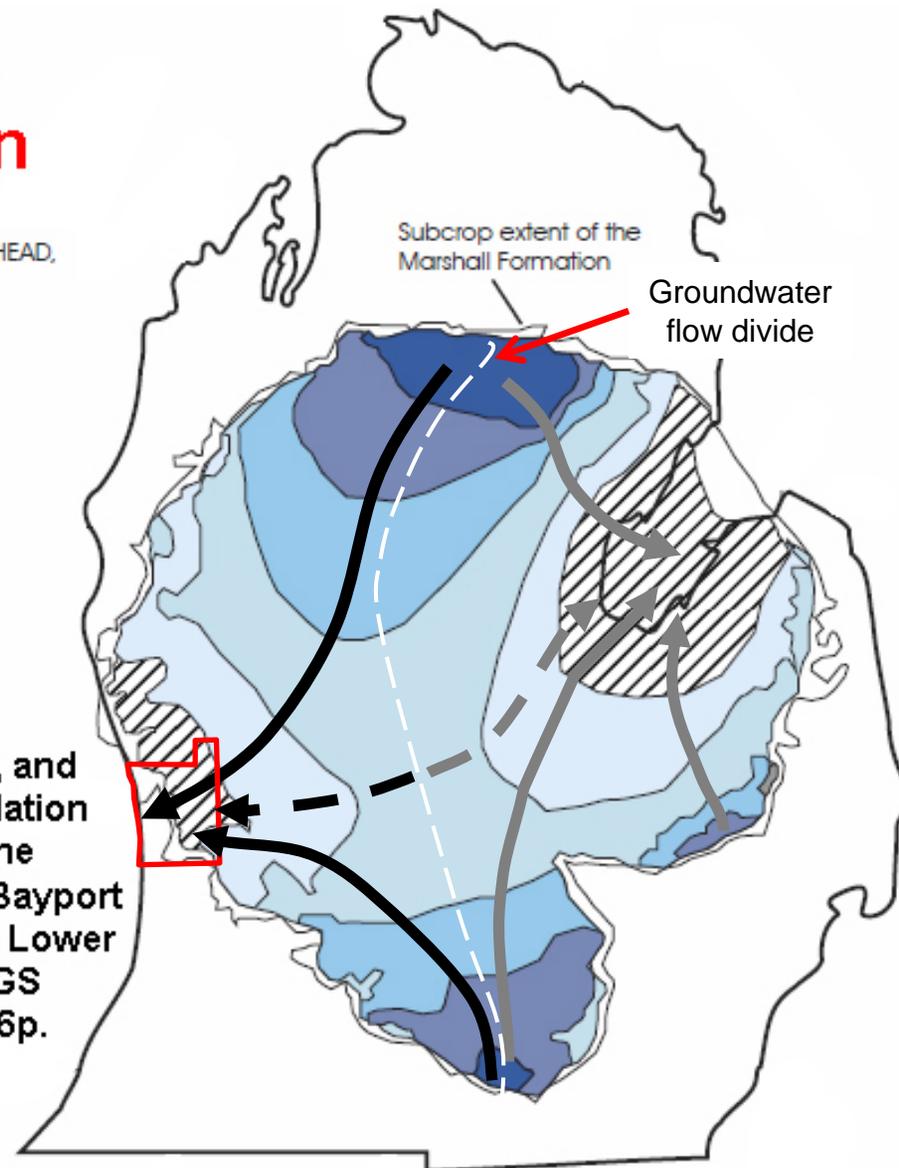
Ottawa County is part of the master discharge zone for the Marshall Formation

Marshall Formation

EQUAL ALTITUDE OF SIMULATED HYDROLOGIC HEAD, IN FEET ABOVE SEA LEVEL



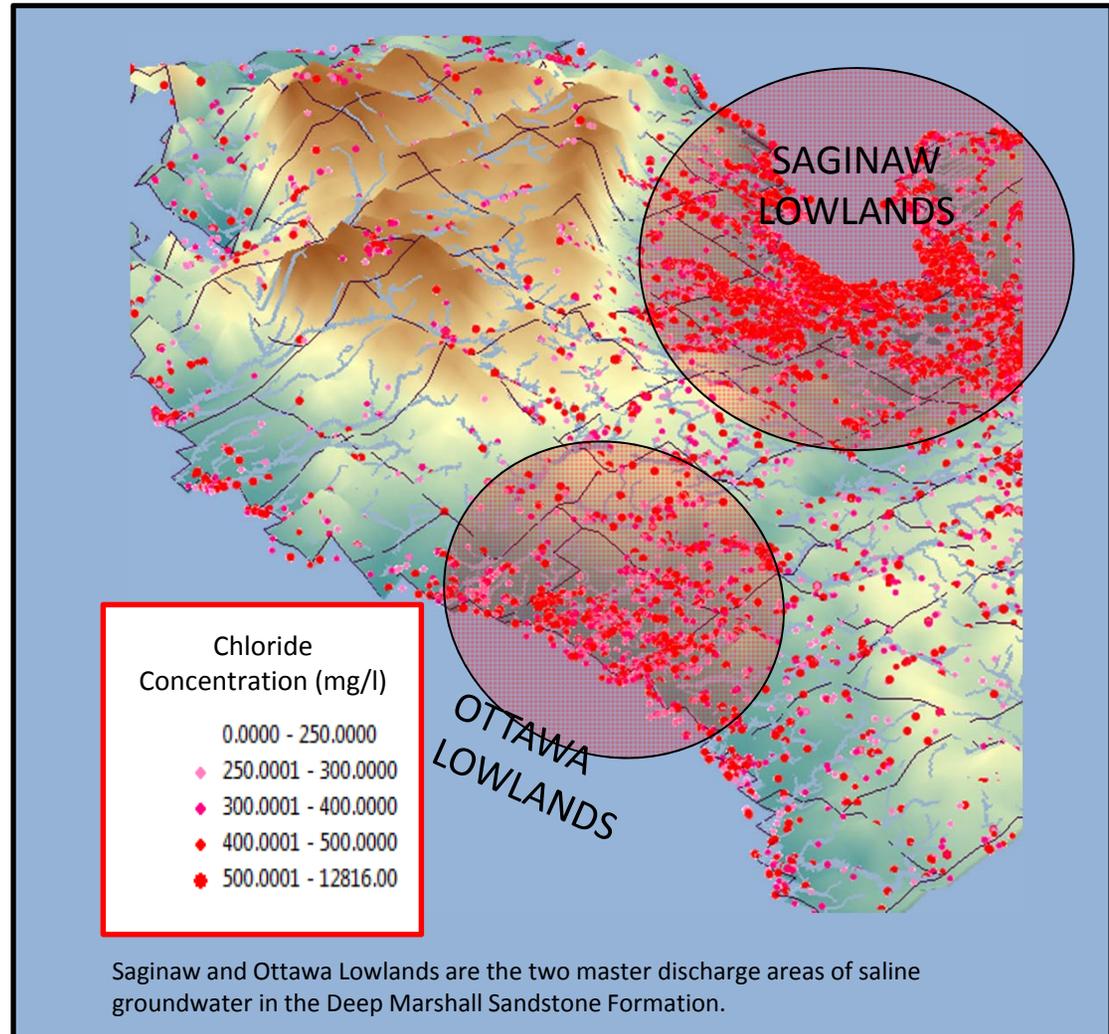
J.R. Hoaglund, G.C. Huffman, and N.G. Grannemann. 2002. Simulation of Ground-Water Flow in the Glaciofluvial, Saginaw, Parma-Bayport and Marshall Aquifers, Central Lower Peninsula of Michigan. USGS Open-File Report 00-504, 36p.



Ottawa County is part of the master discharge zone for the Marshall Formation

The Saginaw and Ottawa lowlands share the following common characteristics:

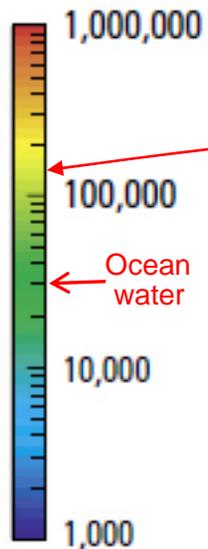
- Coastal areas at low elevations in Michigan.
- Master discharge areas of deep bedrock aquifers.
- Presence of an extensive surficial clay layer limiting natural recharge to the bedrock aquifers.



Increased withdrawals from the Marshall Formation = upwelling saline groundwater

EXPLANATION

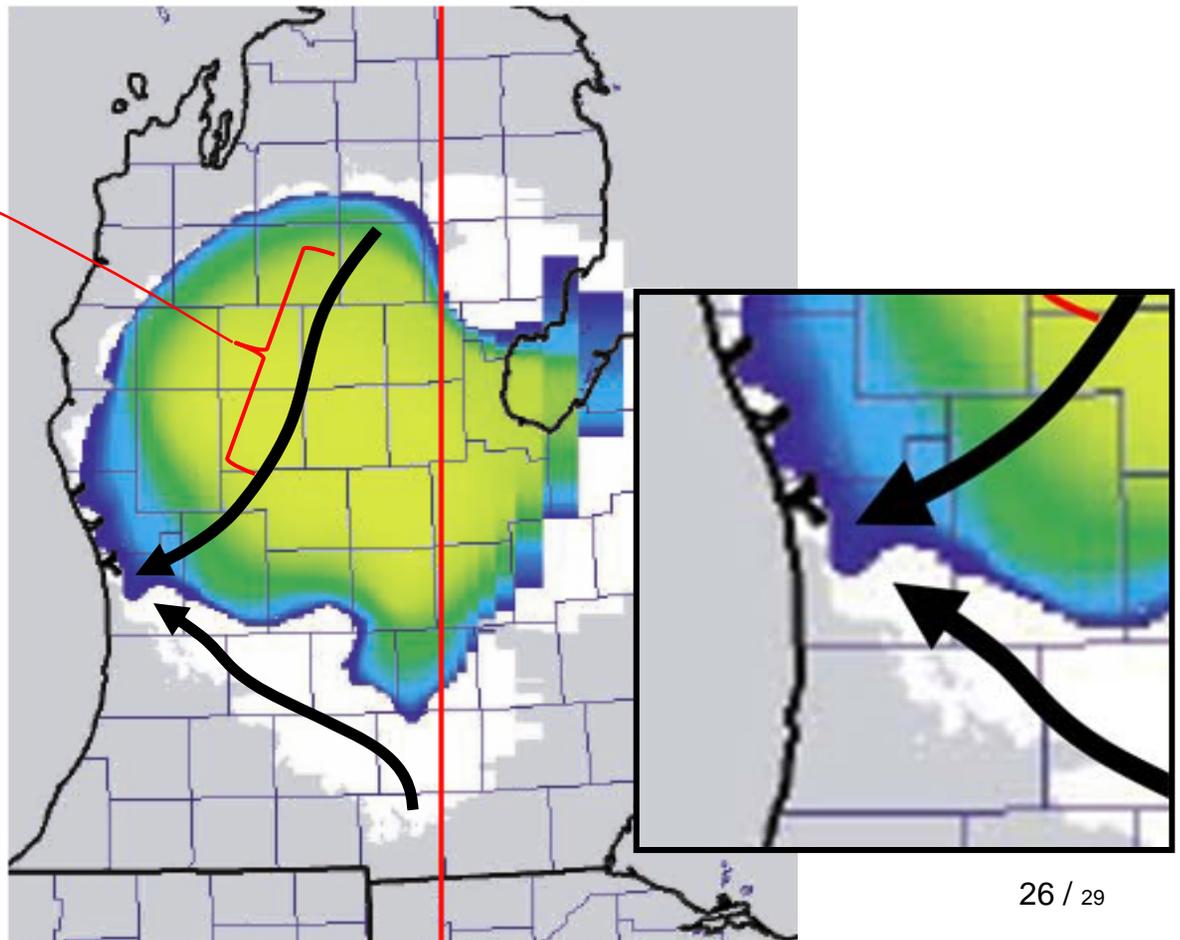
Total dissolved-solids concentration, in milligrams per liter



Area not colored if less than 1,000 milligrams per liter

- Innermost model domain
- Model boundary
- Hydrogeologic unit not present

Lampe, D.C., 2009, Hydrogeologic framework of bedrock units and initial salinity distribution for a simulation of groundwater flow for the Lake Michigan Basin: U.S. Geological Survey Scientific Investigations Report 2009-5060, 49 p.



Summary of results:

- **Nitrate concentrations are elevated (> 3 mg/L) in many areas** of the county. There are numerous hotspots throughout the county, especially in the areas
 - just east of Ferrysburg and Grand Haven
 - south and SE of Zeeland
 - in central and western Allegan Twp
 - in central Georgetown Twp
 - in SW Jamestown Twp.
- In many of these hotspots, the nitrate concentrations are 2 - 5 times the drinking water standard of 10 mg/L!
- There is **no strong temporal trend** of nitrate concentration variations.

Nitrate

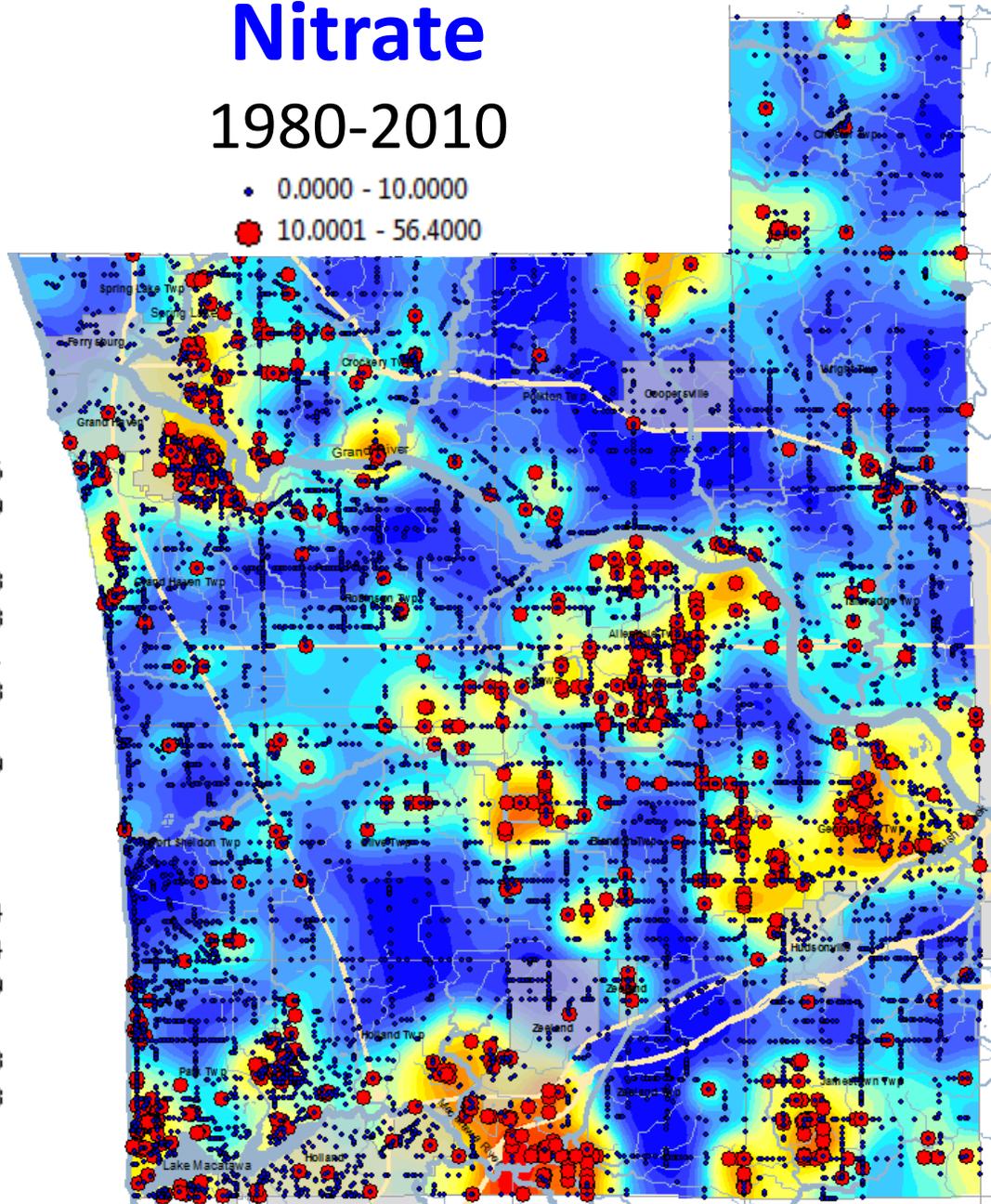
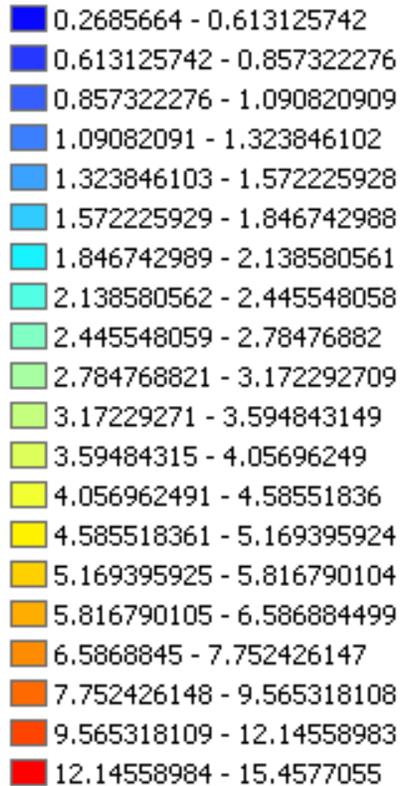
1980-2010

Drinking water standard
< 10 mg/L

• 0.0000 - 10.0000

● 10.0001 - 56.4000

mg/L



Ottawa County WATER RESOURCES STUDY

Dept. of Civil and Environmental Engineering
and
Institute of Water Research
Michigan State University

David P. Lusch, *Ph.D.*
lusch@msu.edu



Safe Routes to School Grant Opportunity and Training Program

Safe Routes to School (SR2S) is a program administered by the Federal Highway Administration. It may be available to members of GVMC who partner with their local schools to improve pedestrian and bicycling facilities. The purpose of the program is to:

- Enable and encourage all children to walk and bike to school.
- Make bicycling and walking to school safer and more appealing modes of transportation.
- Develop projects and encourage activities that will improve student health and safety while reducing traffic, fuel consumption and air pollution.

This program is targeted for K-8 students who will benefit from infrastructure improvements allowing them to walk or bike to school safely.

Examples of projects eligible for funding include: sidewalk improvements, new sidewalks, sidewalk widening, sidewalk gap closures, repairs and curb ramps. On street improvements like bicycle lanes, widened lanes or shoulders, traffic signs or pavement markings are also eligible.

Many other improvements for pedestrians, bikes, traffic calming

that benefits children, street crossing signalization, bicycle parking racks, lighting, and ADA improvements are included in the program.

The program can also be used to assist with non-infrastructure projects and activities including: bicycle safety education, bicycle rodeos (many GVMC members sponsor these), increased law enforcement during times children are walking to school, volunteer safety patrol and crossing guard programs.

This program is funded under the new Transportation Alternatives through MAP-21 and could be very beneficial to communities looking for ways to increase pedestrian and bike safety around schools.

FREE Safe Routes to School Training Program

As part of our Strategic Initiative on Training, GVMC is participating along with MDOT and the Michigan Fitness Foundation in conducting a training session on Safe Routes to School. GVMC members as well as the public are invited to attend this session. Please feel free to pass this information on to interested participants or educational leaders in your communities.

The program is intended for elected and appointed local

government officials, school administrators, principals, school transportation supervisors, community planners, city and county road authorities, municipal engineers and safe route to school champions.

The session will be held:

**Wednesday August 28, 2013
9:00 am –12:00 Noon**

Grand Rapids Township Hall

1836 E. Beltline NE

Grand Rapids, MI 49525

The training program will include how to:

- Develop a Safe Routes to School education, encouragement, enforcement and engineering programs.
- Build a strong SR2S planning team
- Conduct an effective walking audit for SR2S.
- Develop an action plan and cover funding application requirements.

Registration is required. The training is FREE. You can register at:

surveymonkey.com/s/5BWW95D

You can also register by visiting the website at saferoutesmichigan/train.org If you have additional questions feel free to contact April Morrison-Harke at 517-908-3832 or GVMC.