

## Water 2050 Regional Forum

## January 15, 2015 Cook County Conference Room

#### Notes

#### Present:

Daniel Abrams, ISWS Janet Agnoletti, Barrington Area COG John Anderson, Greenleaf Advisors Nora Beck, CMAP Lenore Beyer-Clow, Openlands Craig Blanchette, Aqua Illinois Lindsay Broughel, World Business Chicago Len Cannata, West Central Muni. Conference Wes Cattoor, IDNR OWR **Rick Cobb, ILEPA** Joanna Colletti, McHenry County Barbara Cornew, Brendan Dailey, IDNR Ben Disney, Ameresco, Inc. Colin Duesing, Will Co. Gov. John DuRocher, Northwest Water Commission Josh Ellis, MPC Mark Emory, C. B. Burke Engineering Kate Evasic, CMAP Jeff Freeman, EEI / NWPA Danielle Gallet, MPC Rick Gosch, IDNR OWR Mike Harvey, Donohue & Associates Colleen Hoesly, RMAP Jon Hortness, US Geological Survey Dan Injerd, IDNR OWR Kyla Jacobsen, City of Elgin Martin Jaffe, UIC / IISG Kumar Jensen, City of Evanston

Steve Jones, Village Of Oswego Don Keefer, IL Geological Survey Aaron Koch, City of Chicago Yu-Feng Lin, IL Geological Survey Tim Loftus, CMAP Edith Makra, MMC Patrick McAneney, Village of Glenwood Terry McGhee, DuPage Water Commission John Mick, Baxter & Woodman Paul Moyano, MWH Tim Oravec, MWRDGC Barrett Pedersen, Village of Franklin Park Katrina Phillips, Sierra Club IL Chapter Sam Pulia, Village of Westchester Len Rago, Carollo Engineers Ann Rosen, Canadian Consulate General Dale Schepers, Village of Tinley Park Margaret Schneemann, IL-IN Sea Grant Paul Schuch, Kane County James Shannon, Stanley Consultants, Inc. Debra Shore, MWRDGC Brent Shraiberg, MWRDGC Michael Smyth, Illinois American Water Chris Staron, NW Municipal Conference **Doug Stepnicka** Jason Thomason, IL Geological Survey Bob Wahlberg, Boone County Peter Wallers, EEI / NWPA Jodie Wollnik, Kane County

## **1.0 Welcome and Introductions**

10:20 a.m.

Tim Loftus and Danielle Gallet kicked off the meeting with brief introductions. Participants were asked to respond to polling questions using key pad polling to get a better sense of who was in attendance.

233 South Wacker Drive Suite 800 Chicago, Illinois 60606

312 454 0400 www.cmap.illinois.gov

Professional Affiliation	Responses		
Local Government	11	22.92%	
County Government	5	10.42%	
Special District Government	7	14.58%	
State Government	6	12.50%	
Private Industry	6	12.50%	
Research / Academia / Education	5	10.42%	
Advocacy / NGO	4	8.33%	
Other	4	8.33%	
Totals	48	100%	
Source of Drinking Water	Res	Responses	
Lake Michigan	26	54.17%	
Groundwater	18	37.50%	
Fox River	1	2.08%	
Kankakee River	1	2.08%	
Unsure	2	4.17%	
Totals	48	100%	

# 2.0 Background and Motivation for Water Forum – Tim Loftus

Using a PowerPoint presentation, Tim Loftus stepped through the background and motivation for the Water Forum. Loftus explained the purpose of the water forum – to discuss water supply planning and management issues of local/region/state interest; provide input and guidance to IDNR or other agencies on water related issues, and discuss Water 2050 implementation and its eventual update. Water 2050 was created 5 years ago and its ideas and recommendations informed the GO TO 2040 Regional Comprehensive Plan. Following plan adoption, a study by the Prairie Research Institute found that:

- 1. The deep-bedrock aquifer is being mined and is unsustainable,
- 2. Models suggest that streamflow capture is a response to pumping of shallow groundwater in the Fox River Basin, and
- 3. There is thought to be more water in the Fox River available that can be used to reduce growth in demand for groundwater.

Loftus went on to describe recent activities designed to help implement the goals and objectives of Water 2050:

- CMAP Model Water Use Conservation Ordinance
- Full-Cost Water Pricing Guidebook
- Northwest Water Planning Alliance. A collaboration of governments around their shared resource (5 counties in Northwest suburbs). Accomplishments:
  - Outdoor water ordinance, (based on U.S. drought monitor)
  - o Strategic plan 2014-2016
  - Monthly water use reporting tool that can help inform future work.
- Drinking water infrastructure. CMAP and CNT with IDNR conducted a review of water loss among Lake Michigan permittees and found that 22% of permittees are out of compliance with existing standards and more will be as the new rules go into effect, which replace unaccounted-for-flow with nonrevenue water standards. Rules will be phased in, starting with a 12% nonrevenue water standard effective October 1, 2015 and then dropping to 10% four years later. If in place today, 47% of permittees would be out of compliance with the

12% and 62% out of compliance with the 10% threshold. The report reveals the significant infrastructure problems in the region. Note that Lake Michigan water users (i.e., permittees) are the only jurisdictions in the State of Illinois required to report annual water loss. Communication of water loss to both customers and elected officials is infrequent at best. Loftus explained several efforts underway to address these issues:

- o IEPA Water Loss steering committee and associated free water audit trainings
- Development of a Water System Improvement Plan Guidance Document (coming in 2015),
- Development of a nonrevenue water policy statement (coming in spring 2015).

## 3.0 Illinois Dept. of Natural Resources, Office of Water Resources -- Wes Cattoor

# 3.1 Action Plan for a Statewide Water Supply Planning and Management Program –

Using a PowerPoint presentation, Wes Cattoor, a Water Supply Engineer with the Office of Water Resources described the background and need for an Action Plan. In 2009, a strategic plan was developed in response to an executive order from the governor mandating regional water supply planning. More recently, MPC convened discussions until funding was restored to CMAP in 2014. The action plan will outline recommendations and needs, including:

- Drought planning
- Instream flow protection
- Ground water management
- User conflict resolution
- Conservation management
- Infrastructure management
- Water supply management

The plan will also outline expectations and future tasks, schedules, and costs. Expectations include studies, executive orders, regulations, and suggest legislation as well as regular updates to published plans on ten year cycles (new plan every 10 years or less). Cattoor outlined the purpose of the Action Plan:

- Evaluate shortfalls in water supply
  - With inconsistent funding, there's been a lack of research and there are a lot of unknowns regarding available supply.
  - We currently lack a way to address user conflicts (Illinois doesn't have a first come, first serve policy)
  - Sediment buildup in reservoirs is problematic.
  - Many communities don't have a secondary water supply and no plan in case the primary source is unavailable.
- Document regularly updated to ensure this critical resource is sustained
- Communicate the importance of water supply planning
  - o Communication with legislators
  - Focus on water supply for economic growth and environmental stewardship

Cattoor reviewed data from the Palmer Drought Index, showing that the past 50 years have been very wet, during which time groundwater reserves have continued to be drawn down instead of replenished. Next half century is expected to be much drier, which likely poses a serious problem.

Cattoor stated that the Action Plan needs to be informed by local experts; the critical issues facing NE Illinois need to be in the plan. Cattoor raised several questions that could be addressed in the plan. Such as the need to consider conservation measures, how we will sustain aquifers and the inclusion of WaterSense fixtures. In terms of funding; what training should be prioritized? IDNR can fund certain types of capital projects – which should be prioritized?

# 3.2 2015 Legislative Agenda

Cattoor explained that IDNR requested \$7 million for water supply this year; but with the political turnover, this request will have to go through the process again. The request amount included \$4 million annually to sustain the program and the remaining \$3 million to address the backlog of work that occurred during gaps of funding in recent years. There is no dedicated funding at this point. IDNR is floating ideas on how to fund water supply planning, with the top idea being a bottled water tax. It is found to be less intrusive than water use fees. IDNR considered a bottle deposit program, but the set up cost was deemed too high. Also considered a use-based fee but feared it could hinder data collection which is vital for planning. The bottle water tax is similar to what IDNR did with license plates. If no funding becomes available and tax doesn't launch, IDNR will be reliant on General Revenue money which is highly volatile (money one year, none for two, etc.). A participant asked if the Governor's office has communicated interest in water supply planning; Cattoor explained nothing directly beyond a general interest in water and energy.

Following the presentation and some discussion, Loftus asked participants to respond to the following polling question:

Has IDNR made the case for requiring a consistent new source of revenue to support their statutory obligations as the state water supply planning and management agency?	Ro	snonses
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Yes	25	54.35%
Somewhat, but I'm still not convinced	18	39.13%
No	3	6.52%
Totals	46	100%

With a sizeable portion of participants responding somewhat, Loftus asked participants to further explain their hesitations.

- One participant stated that the case was made to people in this room, but that it hasn't been made to others who are not directly involved with water supply issues. Another noted that the current text of the Action Plan is much more positive than previous drafts, yet still could use graphic improvements to hold the readers interest.
- Another participant asked Cattoor to further explain what the intent of funding for capital projects, stating concerns that it could reward irresponsible water users. Cattoor explained that IDNR has authority to fund both flood control and water supply projects with a benefit cost ratio greater than 1. The criteria could be established based on the regional process and could help communities get over hurdles. Josh Ellis clarified that the capital funding issue is not currently included in the \$4 million proposal.
- Another participant asked how Illinois' water supply planning program compares to other Great Lakes States; Dan Injerd responded that the Lake Michigan program, from both the regulation and data collection side, is quite unique. But other states have more comprehensive programs, for example, Minnesota with its permit fee has given them a stable source of funding. Tim Loftus stated that the frontier in water supply planning is not necessarily with other Great Lakes states and that if we want to find guidance on planning or how to deal with scarcity, we should look to the states that are already dealing with this.
- Another participant asked for clarification on the difference between the \$4 million and \$7 million amounts. Cattoor explained that to annually sustain the program, \$4 million is necessary and that would go towards research, planning support, etc. Arlan Juhl, former

head of the office, designed the \$7 million proposal to make up for the past funding shortfalls.

# 4.0 Update on Synoptic Measurement of Sandstone Aquifers -- Daniel Abrams, Illinois State Water Survey (ISWS)

Daniel Abrams, using a PowerPoint presentation, reported on the preliminary findings of ISWS measurement of the sandstone (or deep) aquifers in Northeastern Illinois. This project, funded through IDNR, is for the whole State, and is part of the ISWS primary task to research groundwater flow. They are developing flow models for multiple regions and therefore need data to calibrate the models. As of July 2014, they started measuring water levels under static (non-pumping) conditions and have visited almost 200 facilities and over 500 wells have been measured so far. The process is ongoing.

Abrams presented preliminary draft contours, see presentation. While the results are not finalized, Abrams discussed the patterns that they are seeing in the data. There is a large cone of depression around the Joliet area and a smaller cone of depression in the Rockford area. Abrams then compared this data with the last data collection in 1980, which shows a significant difference in the Joliet area and that water levels have recovered in Northern Cook County as communities shifted to Lake Michigan water during this time period. Abrams believes that, in portions of the Joliet area, the level of desaturation of the St Peter level of the aquifer is much higher than previously thought and the aquifer is completely desaturated of the top level aquifer. These are initial results that will be reviewed. Abrams also discussed how these are static measurements and that when pumping Is occurring the desaturation could be larger.

Abrams fielded several questions from participants, including the following:

- Is collaboration with Argonne National Laboratories and their water initiative, remote sensing techniques happening? Discussions have occurred with University of Illinois, the work is being done in anticipation of Dept. of Energy funding. Need to do more data collection in a cost effective manner.
- What is the long term sustained yield of the sandstone aquifer? Don't really know traditional calculations depend on how much water is reaching the deep system, which in return depends on how much is pumped. Also depends on how you define a sustain yield (for example, is it to avoid desaturation of the St. Peter?) Sustained yield isn't an objective of the coming report, but it is something ISWS knows is necessary for planning purposes and plans to address in the medium term.
- Any data on the quality of water and impact of desaturation on yields? In terms of yields, there is no official data, but it is something that has been discussed with water utilities. Regarding water quality, because of number of wells the water is interconnected between the top two aquifers, so far no discernable difference in water quality. At this point there is no formal report planned.

Following the presentation and some discussion, Loftus asked participants to respond to a polling question:

problem or one that calls for a regional and/or state solution?	Responses	
The matter is of local concern only.	0	0%
The matter calls for more of a regional response.	3	6.38%
The matter calls for a state response.	2	4.26%
The matter calls for a coordinated local, regional, and state response.	42	89.36%
Totals	47	100%

Is growing desaturation of the deep-bedrock aquifer purely a local problem or one that calls for a regional and/or state solution?

### 5.0 Other Business

#### 5.1 Amendments to Rules Governing Lake Michigan Allocations/Permittees -

**Dan Injerd, Chief, Lake Michigan Water Allocation Program, IDNR, OWR** Dan Injerd, using a PowerPoint presentation, first provided some background information on the Lake Michigan Water Allocation program. Two years ago, Lake Michigan and Lake Huron were three feet lower than they are today. That amount of water increase could supply the Chicago region's needs for 90 years. Today, Lake Michigan serves approximately 7 million of the Chicago region's 8.5 million residents.

Injerd reviewed the water budget against the U.S. Supreme Court limit of 3200 cubic feet per second (cfs). Currently we have a water surplus of 3755 cfs which represents almost 1.25 years worth of the Illinois diversion. The last time our diversion exceeded the limit was in 1993. Injerd stressed that climate change could change this significantly. Total domestic usage has gone down, potential causes include increased focus on conservation, change in industrial practices, water pricing – but not because of loss of people because the region is still growing. State law, which mirrors the U.S. Supreme Court consent decree, requires conservation and efficient use.

Started thinking about updating the water allocation rules back in 2007 to better reflect best practices in water audit methodology. Proposed rules were introduced in February 2013 and went through a public comment process with meetings. Most comments expressed opposition to eliminating maximum unavoidable loss (MUL), some suggested we consider AWWA M-36 methodology, most opposed sub-metering for multi-family buildings.

Final rules were approved in November 2014 and will go into effect for Water Year 2015. They phase out MUL and replace unaccounted-for-flow (UFF) with a nonrevenue water standard. Moves to an audit system consistent with AWWA M-36. Noncompliance requires a Water System Improvement Plan, and submetering is recommended but not required on all new multi-family units.

5.2 Illinois Water Loss Accounting Program Steering Committee update – Danielle Gallet Gallet reflected on recent trends -- water loss is not declining and there is a need to study the economic cost of water loss and control programs to determine what level of reinvestment and modernization is economically justified (and hopefully, optimized). IEPA, AWWA, and IL Rural Water are giving free training on the new water audits. For more information about the free water loss audit trainings please use this link: http://www.isawwa.org/?page=Water\_Loss\_Training

#### 6.0 What other topics are of interest to Forum participants?

Loftus asked participants what other topics the forum should address at upcoming meetings. Participants generated the following list:

- What are other states in the Great Lakes Basin doing? Both regulatory and in regard to their geological research
- Connection with land use planning and zoning and the protection of Class III groundwater aquifers. How can laws in Illinois be used in conjunction with land use planning, zoning, etc. to protect water supply and quality. Number of statutes that authorize IDNR need to be tweaked to empower IDNR to define these issues.
- Connection between available groundwater and stream flow and the corresponding environmental protection.
- Water reuse. Water 2050 found two primary barriers to water reuse in this region, the low cost of potable water and spatial mismatch between reclaimed water and where they need it most. In the Phoenix region, for example, smaller and more decentralized wastewater treatment

plants have been built closer to areas that can reuse the water. Water reuse may have more application in groundwater dependent areas of the region.

- Include perspective of major water consuming industry and business use; they may not be aware of this research or need and could assist in legislative efforts.
- Impact of fracking on groundwater. Not so much in NE Illinois, but NY Governor banned fracking.
- Potential funding sources for local planning initiatives planning for the future is hard when there is barely enough money to meet current needs.
- Drought planning. Discussed the importance of reducing water loss to implement an effective program and the growing recognition for customer involvement and transperancy.
- WEFTEC is in Chicago this year in September. Good opportunity to get ideas out.
- Status of Lake Michigan diversion allocations how much is being used, how much is left over, etc.

# 7.0 2015 Water Forum Schedule: April 16, July 16, and October 15

8.0 Adjourn

12:15 p.m.

