

CMAP



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Northwest Water Planning Alliance Strategic Plan: 2014-16

September 2014



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CMAP is the region's official comprehensive planning organization. Its GO TO 2040 planning campaign is helping the region's seven counties and 284 communities to implement strategies that address transportation, housing, economic development, open space, the environment, and other quality of life issues.

See www.cmap.illinois.gov for more information.

Front cover: Cary Water Tower by Ron Zack; back cover: Chain o' Lakes by Sonny Cohen.

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Image by Andrew Prickett.

Introduction

Beyond the recommendations made in *Water 2050: Northeastern Illinois Regional Water Supply / Demand Plan (2010)*, the topic of *Water Management in the 21st Century* is addressed in that plan's final chapter. The potential of collaborative management is discussed using examples that highlight the growing recognition that collaboration is a key ingredient to new water resource stewardship efforts.

And with groundwater dependent communities particularly in mind, an exploration of self-organization and collaborative planning and management is suggested in lieu of more government regulation to guard against overuse and conflict that groundwater shortage could someday breed.

Following such advice, the Northwest Water Planning Alliance (NWPA)¹ was initiated in August 2010, just five months after *Water 2050* was published. Born of an intergovernmental agreement involving ten parties representing over 70 communities² and their county governments³, the NWPA aims to collaboratively plan for their shared groundwater resources. The geography of the NWPA is roughly coincident with, but not limited to, the Fox River Basin in Illinois (Figure 1).

The NWPA is led by two committees: an executive committee (EC) that is responsible for formal decisions and recommendations to the membership and a technical advisory committee (TAC) that reports to the EC with recommendations. The former is composed of elected officials from both county and municipal government while the latter is composed of municipal water-utility staff, consulting engineers representing Council of Governments (COG), other federal, state, county, and regional government staff, and nongovernmental organizations.

The first two years of NWPA activity were characterized by monthly or bimonthly meetings that resulted in at least two major accomplishments: the recommendation that NWPA members become WaterSense Partners⁴ and a more recent recommendation that members adopt an outdoor lawn-watering ordinance as developed and recommended by TAC.

The status of NWPA “common-pool” water resources are as follows: the deep-bedrock aquifer continues to be “mined” as withdrawals outpace replacement water, the Fox River has revealed its limitations during the historic drought of 2011-12, and withdrawals of shallow groundwater are reducing natural groundwater discharge and thus, capturing streamflow. Furthermore, shallow groundwater supplies may be disrupted should a drought persist beyond the typical duration of one-two years. As a result, an interest in drought preparedness and strategic planning has emerged and been used to attract support from the Chicago Metropolitan Agency for Planning (CMAP) in the form of a Local Technical Assistance (LTA) planning grant. The purpose of this report is to highlight the outcomes of the LTA project that occurred throughout 2013.

1 Northwest Water Planning Alliance, see <http://www.nwpa.us/>.

2 Municipal governments are represented through their local COG. Five COGs - Lake County Municipal League, Barrington Area Council of Governments, McHenry County Council of Governments, Metro West Council of Government, and Northwest Municipal Conference — are participants in the intergovernmental agreement with five county governments. Two communities, Aurora and Elgin, also use the Fox River as source of drinking water.

3 Lake, McHenry, Kane, DeKalb, and Kendall Counties.

4 U.S. EPA WaterSense Partnership Program, see <http://www.epa.gov/watersense/>.

Scope of Work

CMAP's LTA grant brought staff time to bear on the NWPA TAC via participation in monthly meetings and on the Executive Committee's bimonthly meetings as necessary. Staff also led the NWPA strategic planning process that occurred throughout 2013.

Discussions about drought preparedness vis-à-vis the American Water Works Association "Drought Preparedness and Response: Manual of Water Supply Practices - M60" made clear that the NWPA lacks the fundamental "building blocks" to allow for immediate drought planning. For example, drought preparedness depends on having some understanding of available supply of water, current and historic water usage, current and projected water demand, and other water-related data. As a collective, the NWPA is without such data, preventing analysis and the information that collaborative planning and management depends upon.

The 2013 scope-of-work plan outlined below aimed to collect, organize, and/or generate basic data and information derived from such in order that the NWPA can proceed to plan and manage as the collective organization it aims to be. The ongoing effort requires the cooperation of municipal member water departments, the Illinois Water Inventory Program (IWIP), and Illinois State Water Survey (ISWS) staff assigned to participate on TAC.

The memorandum of understanding between CMAP and NWPA and its scope-of-work listed the following five project activities:

1. Summarize annual water use among members for 2010, 2011, and 2012 using data reported to IWIP. Differentiate between water withdrawals from the Fox River and three aquifer types: deep bedrock, sand and gravel, and shallow bedrock.
2. Following a methodology used by ISWS, examine aquifer recharge for the NWPA geography.⁵ Estimate the potential effects of a drought year on average recharge values and compare to current and, if available, projected use (i.e. water demand).
3. Participate in monthly TAC meetings and discussions centered on developing implementation / tracking strategies to accomplish:
 - a. Water loss auditing / reporting
 - b. Conservation / efficiency implementation and tracking
 - c. Public information / education
4. Work with TAC and ISWS to develop "next steps" research proposal for the ISWS to carry out when the funding necessary is secured.
5. Work with TAC in developing a funding strategy to implement strategic planning objectives for recommendation to the EC.

⁵ See "An Analysis of Groundwater Use to Aquifer Potential Yield in Illinois" by H. Allen Wehrmann, Sean V. Sinclair, and Timothy P. Bryant. Illinois State Water Survey, Groundwater Section. 2003. Available at <http://www.isws.illinois.edu/pubs/pubdetail.asp?CallNumber=ISWS+CR+2004%2D11>.

Annual Water Use: 2010-12

Annual water use data was requested of the IWIP that is housed within ISWS which resides on the campus of the University of Illinois Urbana Champaign. Beginning with a base year of 2005, the last year of historic data used in the regional demand scenarios⁶ created for the Water 2050 planning process, data were also compiled for 2010 and 2011. Data from 2012 reports were collected but necessitated considerable estimation in order to be comparable to previous years.

Total groundwater withdrawals were tallied among the 55 community water suppliers that have a statutory obligation to annually report to IWIP (Figure 2). The base year of 2005 was a drought year, preceded the economic recession, and water use was clearly highest that year among the four years graphed. Twenty-one communities had not yet reported 2012 withdrawals to IWIP. Thus, their use was estimated from the previous year. By comparison, 2011 data featured four community estimates and 2010 featured two estimates.

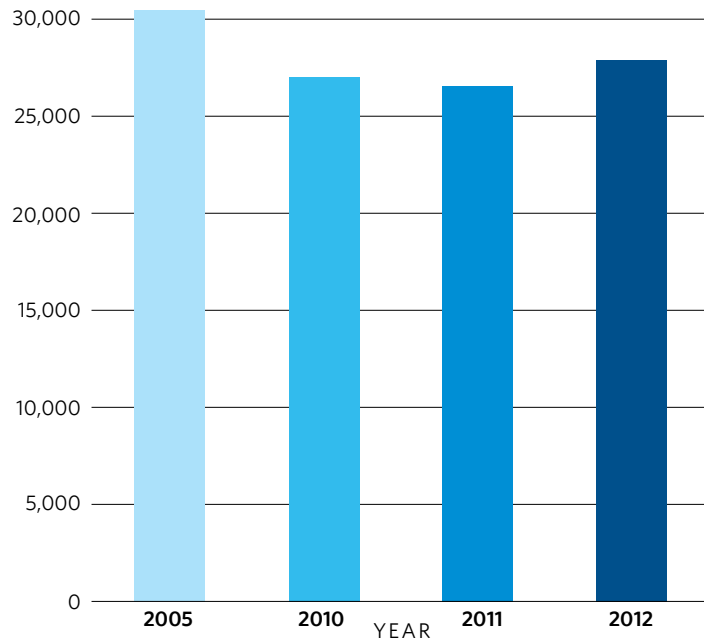
Since IWIP records groundwater withdrawals by aquifer, it is possible to track usage by three sources of drinking water: unconsolidated sand and gravel, shallow bedrock, and deep bedrock. Figure 2 illustrates withdrawals by these different groundwater sources. Withdrawals from the shallow aquifer are fairly consistent over time, but up slightly in 2012 compared to 2005. There is a downward trend in withdrawals from the unconsolidated sand and gravel aquifer. Withdrawals from the deep-bedrock aquifer are slightly higher than they were in 2005, ending a downward trend that persisted through 2011 (Figure 3). Once 2012 estimates are replaced with actual withdrawals data, it will become known if increases in two of three groundwater sources remain.

The City of Elgin and the City of Aurora also withdraw water from the Fox River. Both communities are capable of practicing conjunctive use as they also have wells. Their combined river withdrawals are featured in Figure 4. The drought of 2005 clearly suppressed the amount of water that could be taken from the river.

While not obvious from Figure 4, data indicate that the relatively low amount of 2005 is largely attributable to low water levels at the Aurora intake though Elgin's withdrawals were down too compared to other years. There is a downward trend in river withdrawals since 2010 that both Aurora and Elgin are contributing to.⁷

Figure 5 plots withdrawals from all four sources of water (i.e., Fox River and three types of aquifers) and includes a line for total withdrawals.⁸ It will be at least another year before it becomes known whether the slight increase in total use from 2011 to 2012 is a trend or an aberration.⁹

Figure 2. Total groundwater withdrawals by Northwest Water Planning Alliance communities, millions of gallons



Source: Illinois Water Inventory Program, Illinois State Water Survey.

For those communities who have yet to report withdrawals, their most recent reported usage was used to estimate usage.

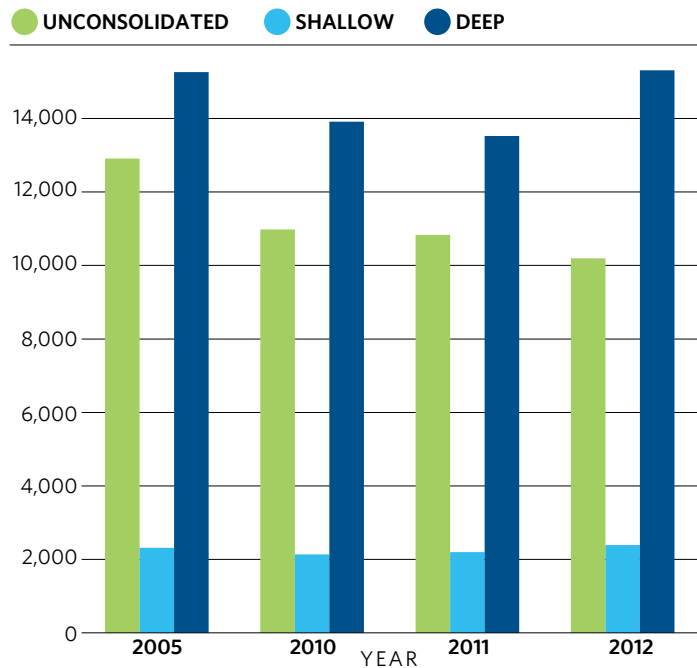
6 B. Dziejewski and F.J. Chowdhury, 2008. Regional Water Demand Scenarios for Northeastern Illinois: 2005-2050: Project Completion Report prepared for the Chicago Metropolitan Agency for Planning. Southern Illinois University Carbondale. See <http://www.cmap.illinois.gov/documents/10180/14452/NE+IL+Regional+Water+Demand+Scenarios+to+2050+project+completion+report.pdf/c67c0773-5986-4fae-b5a8-324bf23e84b4>.

7 As of December 2013, there remains a discrepancy between Elgin's river withdrawals as recorded by IWIP and reported elsewhere by Elgin. The Illinois State Water Survey and City of Elgin are working towards data reconciliation.

8 Note the x-axis is not proportional: Data are displayed for each of four years, not including intervening years between 2005 and 2010.

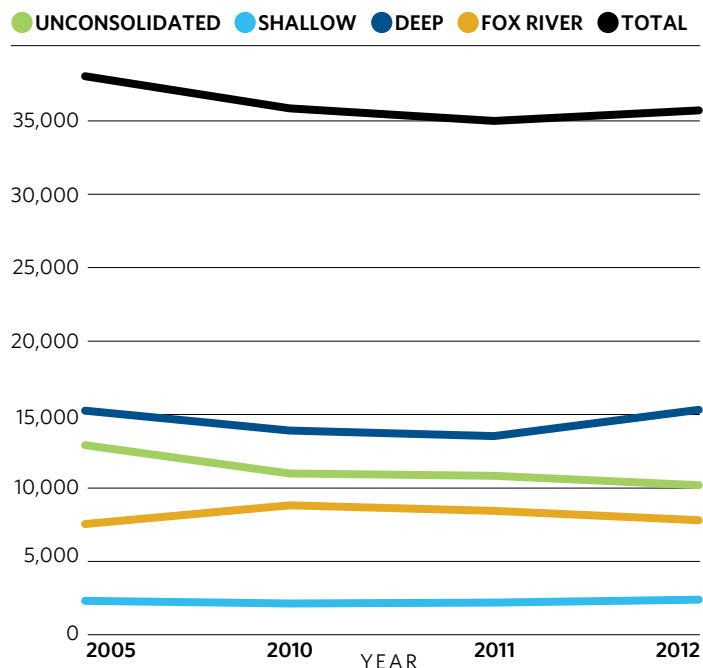
9 As previously noted, 2012 data estimates will be replaced with actual reported data.

Figure 3. Withdrawals reported by groundwater source by Northwest Planning Alliance communities, millions of gallons



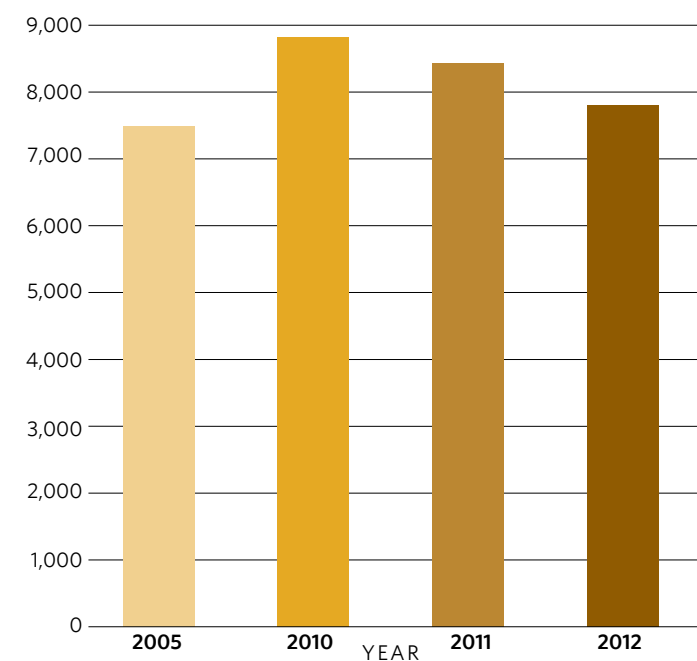
Source: Illinois Water Inventory Program, Illinois State Water Survey.
For those communities who have yet to report withdrawals, their most recent reported usage was used to estimate usage.

Figure 5. Water withdrawals from all sources by Northwest Water Planning Alliance communities, millions of gallons



Source: Illinois Water Inventory Program, Illinois State Water Survey.
For those communities who have yet to report withdrawals, their most recent reported usage was used to estimate usage.

Figure 4. Fox River withdrawals by Aurora and Elgin, millions of gallons



Source: Illinois Water Inventory Program, Illinois State Water Survey.

Estimate of Groundwater Supply

This task is the most challenging among those pursued by the NWP. A report issued by the ISWS in 2003¹⁰ served as an inspiration for committing to this task along with the understanding that any drought preparedness plan requires knowledge of available water supply.

With an interest in drought preparedness, it was desirable from most perspectives to develop an estimate of supply.

Current thinking among ISWS staff, however, was not supportive of the approach that had been proposed in the MOU between CMAP and NWP. On this matter, the ISWS opinion influenced the direction taken and they proposed an alternative approach: to consider predevelopment natural discharge of groundwater to streams as a surrogate for available supply in addition to the amount of Fox River water that is available above current withdrawals. Too many issues of uncertainty involving the flow of groundwater, both vertically between aquifers (i.e., leakage) and horizontally between shallow groundwater and the stream network, rendered this approach infeasible too.

The approach now taken by the ISWS is to continue to refine their model and resolve interactions between pumping levels in both deep- and shallow-bedrock aquifers and their consequent effects on natural groundwater discharge. Thus, this LTA project ends without an estimate of supply as hoped for, but with a sense of direction towards improved understanding of groundwater flow interactions and the questions new findings raise. Furthermore, and evidenced below in the strategic plan, the ISWS will pursue work tasks that are prerequisite to estimating available supply.

Strategic Planning

Developing a strategic plan throughout 2013 was a core component of the work performed with the NWP and captured the intention of the last three project activities listed in the scope-of-work.

The three-year strategic plan, 2014-2016, features several components that are outlined below and featured in detail in Table 1.

Mission Statement

Like all components of the strategic plan, the mission statement was the product of several discussions involving both committees and is as follows:

The NWP, formed by intergovernmental agreement, seeks to collaboratively plan for and steward our shared river and groundwater resources to ensure a sustainable water supply for the people, economy, environment, and future generations.

Vision Statement

Unlike the mission statement that describes the purpose of an organization, the vision statement expresses the desired end-state and is best presented in future tense:

The NWP area will have dependable supplies of water for generations to come.

¹⁰ See, "An Analysis of Groundwater Use to Aquifer Potential Yield in Illinois" by H. Allen Wehrmann, Sean V. Sinclair, and Timothy P. Bryant. Illinois State Water Survey, Groundwater Section. 2003. Available at: <http://www.isws.illinois.edu/pubs/pubdetail.asp?CallNumber=ISWS+CR+2004%2D11>.

Goals, Objectives, and Strategies

Three goals of equal standing were established and are as follows:

1. Build the organizations capacity to achieve mission.
2. Provide education and outreach to raise awareness of the value of water as a finite asset.
3. Develop sustainable water-use policies and practices that are widely adopted and protective of water supplies.

Each goal features from two to six objectives and each objective has from one to six strategies for a total of 31 along with an evaluation measure per objective. Strategies indicate a lead implementer, first steps, key partners in implementation, a level of priority, and whether executive committee approval is necessary (Table 1).

Regarding levels of priority, each strategy was first determined to be either internal or external in terms of the party depended on for implementation. Internal strategies can be accomplished by actions from within the NWWPA management structure (e.g. TAC, TAC members acting independently on behalf of NWWPA, and EC). External priorities depend on the cooperation of organizations such as the Illinois State Water Survey, any of the COGs, and other organizations or local governments. A third category of priority was deemed 'ongoing' for those strategies that should always have activity aimed at both short- and long-term effects.

Both internal and external priorities were assigned a level, 1-3, with a number 1 designating accomplishment or substantive progress expected during the first year (2014), number two designating the same outcome during 2015, and so on. A paired comparison analysis of external priorities was conducted to arrive at a ranking and assignment of external priorities (Table 2). Internal priority-level assignments were the outcome of TAC deliberations.

Summary

Producing the three-year strategic plan was an invaluable exercise for the NWWPA. The organization now enters its fourth year in 2014 with a solid roadmap to accomplishment in areas of practical concern that will define the efficacy of this unique organization.

The plan will, among other things, strengthen the communication and working relationship between the two management committees, TAC and EC. The plan codifies the role of ISWS in NWWPA affairs. And it serves to focus the efforts of key regional partners including CMAP and the Metropolitan Planning Council, a nongovernmental organization.

Given the relatively undeveloped nature of the institutional structure for water planning and management outside of the Lake Michigan service area, it is vitally important to the region that the NWWPA succeed in collaboratively planning for and managing their shared water supplies. An annual report, the promise of which is one strategy of the plan, will document progress and success accordingly.

Strategic Plan for the Northwest Water Planning Alliance: 2014-16

Mission Statement

The NWPA, formed by intergovernmental agreement, seeks to collaboratively plan for and steward our shared river and groundwater resources to ensure a sustainable water supply for the people, economy, environment, and future generations.

Vision Statement

The NWPA area will have dependable supplies of water for generations to come.

Table 1. Goal A. Build the organization capacity to achieve mission.

STRATEGY	LEAD IMPLEMENTER	FIRST STEPS	PARTNERS	PRIORITY
OBJECTIVE 1. DEVELOP AN ANNUAL STREAM OF REVENUE.				
Reevaluate membership dues.*	EC	Follows the lead of Objective 2.	TAC	Internal - 3
Pursue grant opportunities.	TAC / MPC	Have a grant/strategy match discussion during first quarter.	EC / CMAP	Internal - 1
OBJECTIVE 2. DEVELOP A WORK PLAN/BUDGET CONSISTENT WITH THE STRATEGIC PLAN; PRIORITIZE ACTIVITIES ACCORDINGLY.				
Determine staff and resources needs; hire accordingly.*	TAC / EC	Second half of 2014 activity.	ISWS / USGS	Internal - 2
OBJECTIVE 3. CREATE A STRUCTURE (I.E., PROCESS AND PRODUCTS) FOR COMMUNICATION WITH AND ENGAGEMENT OF MEMBERS.				
Produce an annual report.*	CMAP	Begin discussion of report outline at January 2014 TAC/EC meetings.	TAC / EC	Internal - 2
Prepare news, activity updates, and action requests for delivery to and by council of governments and county boards.	MPC	Collect monthly feedback from EC and TAC and finalize newsletter; issue a schedule and editing protocol.	TAC	Internal - 1

Internal and External Priority Ranking

- 1 = top priority, completion or substantive progress to be made during first year (2014);
 2 = mid-level priority, completion or substantive progress to be made within 2 years;
 3 = lower priority, completion or substantive progress expected within 3-year span of strategic plan.

Evaluation Measures have been developed for each objective and will be refined over time. They are found on an accompanying worksheet.

* Requires Executive Committee Approval.

See Appendix A on p. 17 for list of acronyms.

Table 1. (continued) Goal B. Provide education and outreach to raise awareness of the value of water as a finite asset.

STRATEGY	LEAD IMPLEMENTER	FIRST STEPS	PARTNERS	PRIORITY
OBJECTIVE 1. PROMOTE A WATER-USE CONSERVATION AND EFFICIENCY ETHIC.				
Encourage members to participate in the neverwaste.org campaign.	TAC / EC	Invite AWE to present to EC; TAC follows with action item recommendations; promote campaign in e-newsletter timed with other steps.	AWE	Ongoing
Encourage members to become WaterSense partners.	EC / COGs	Use e-newsletter to promote members in the program; EC commits to action item on COG agendas; gather info on participant activities.	MMC / U.S. EPA	Ongoing
Encourage adoption of Water 2050 recommendations.	TAC / EC	Use e-newsletter to promote recommendations.	MPC / IISG / MMC	Ongoing
Promote use of existing resources and programs (e.g., CMAP's water-bill inserts).	NWPA members	Use e-newsletter to promote resources / programs.	MPC / CMAP / IISG / MMC	Ongoing
OBJECTIVE 2. INCORPORATE ONGOING EDUCATIONAL OPPORTUNITIES FOR TWO DIFFERENT AUDIENCES: ELECTED OFFICIALS AND SCHOOL-AGE CHILDREN.				
Collaborate with other organizations (e.g. American Water Works Association, National Groundwater Association, Illinois-Indiana Sea Grant) to apply existing educational programs and/or staff resources.	TAC members	TAC members to self-identify as liaison with action items developed by and discussed with both groups	EC / other organizations	External - 3
Approach local college (e.g., Columbia College Chicago) to develop a short film(s) for one or more K-12 audience (e.g., 3rd grade, 7th grade, junior-year high school).	MPC / CMAP	Arrange to meet with faculty in first quarter to discuss potential project and production schedule.	TAC / EC	External - 2
Build on high-profile events such as fix-a-leak week, World Water Day, etc.	MPC	Present ideas to EC in Jan. for recommendation to members; create a competition for fix-a-leak week.	TAC / EC	Internal - 1
Work with local school districts and member municipalities to emulate the City of Batavia's annual "utilities field trip" model.	EC / COGs	Using a brief developed by City of Batavia, EC to develop work plan and action items.	MMC	External - 2
Prepare a brief for newly elected officials.	TAC/MPC	TAC to develop a menu of topics for discussion with EC.	MMC / EC	Ongoing
Develop and make presentations to county and village boards, city councils, and Council of Governments; coordinate with delivery of annual reports.	CMAP / MPC / MMC	Prioritize topics at January 2014 TAC/EC meetings; request EC to secure time on COG/ county/village board agendas.	TAC / EC	External - 1

Table 1. (continued) Goal C. Develop sustainable water-use policies and practices that are widely adopted and protective of water supplies.

STRATEGY	LEAD IMPLEMENTER	FIRST STEPS	PARTNERS	PRIORITY
OBJECTIVE 1. IN TERMS OF WATER USE, DEFINE "SUSTAINABILITY" BY EACH SOURCE OF WATER.				
Review the literature and other users (i.e., places) for how sustainability is defined and made operational; gain agreement within the TAC for a recommendation to be made to the Executive Committee.*	TAC	Group reporting of literature review; operational definition developed for discussion with EC; determine acceptable reduction (%) of natural groundwater discharge.	ISWS, INHS	Internal - 1
Consider ISWS model/guidance to optimize new well locations to avoid well interference.	ISWS	1) Obtain future well locations from municipal comprehensive plans. 2) Use information from #1 to advise on expected impacts. 3) Consult current/future models to identify locations for new wells to ensure sustainability per Objective C1.	NWPA members/ TAC	External - 3
OBJECTIVE 2. TRACK MONTHLY AND ANNUAL WATER USE AMONG MEMBERS.				
Support member use of monthly data reporting.	TAC	Solicit feedback from users to perfect ease of use and form effectiveness; determine if webinar will be helpful for encouraging use.	ISWS	Internal - 1
Poll the IWIP for annually reported data.	CMAP	Add WY 2012 data to 2010/2011 data compiled in 2013.	TAC	Internal - 1
Develop a framework or process for understanding private-well water use.	ISWS	1) Develop initial estimates based on IWIP public supply data. 2) Refine private-well use estimates by extrapolating info from lit review and IWIP.	TAC	External - 3
OBJECTIVE 3. IMPROVE THE SCIENTIFIC UNDERSTANDING OF WATER SUPPLIES IN TERMS OF QUANTITY AND QUALITY.				
Determine data collection and information needs in concert with the Illinois State Water Survey.	ISWS / TAC	1) Review historic data records and water reports. 2) Combine the McHenry, Kane, and Kendall County models and use new model to identify knowledge gaps. 3) Conduct a model sensitivity analysis of uncertain parameters to see impacts on results.	County government	External - 1
Develop an ideal network of monitoring wells and identify both existing wells and new wells as part of the network.	ISWS	Identify areas where the model predicts both significant and minimal pumping impacts and either locate/use existing wells or recommend construction of new monitoring wells.	TAC / NWPA members	External - 1

Internal and External Priority Ranking

- 1 = top priority, completion or substantive progress to be made during first year (2014);
 2 = mid-level priority, completion or substantive progress to be made within 2 years;
 3 = lower priority, completion or substantive progress expected within 3-year span of strategic plan.

Evaluation Measures have been developed for each objective and will be refined over time. They are found on an accompanying worksheet.

* Requires Executive Committee Approval.

See Appendix A on p. 17 for list of acronyms.

Table 1. (continued)

Goal C. Develop sustainable water-use policies and practices that are widely adopted and protective of water supplies.

STRATEGY	LEAD IMPLEMENTER	FIRST STEPS	PARTNERS	PRIORITY
OBJECTIVE 4. MAKE RECOMMENDATIONS TO PROTECT GROUND- AND SURFACE-WATER QUALITY.				
Promote wintertime “sensible salting” as the de facto standard practice at state, county, township, and local levels of road maintenance responsibility.	TAC / EC / County governments / COGs	TAC to develop a policy position for EC endorsement and promotion to municipalities and others with highway maintenance jurisdiction.	APWA / IARGC / IDOT / ILAWWA	Internal - 1
Engage other organizations (e.g., Fox River Ecosystem Partnership, Fox River Study Group) in dialogue regarding collaboration on shared interests and issues.	(overlapping) TAC members / EC	Identify menu of issues to discuss with other organizations; explore action items as an outcome of those discussions.	CMAP/MPC	Internal - 3
Ensure mention of NWPA and make recommendations in watershed plans that are developed within the subregion.	CMAP / TAC	Develop a guidance brief for sharing with other watershed planners.	FRSG / other plan developers	Internal - 2
OBJECTIVE 5. ACHIEVE CONSISTENCY AMONG MEMBERS REGARDING AN OUTDOOR LAWN-WATERING ORDINANCE.				
Provide guidance/assistance with ordinance implementation, development and promotion upon request.	IISG / MPC	Work with IISG to create short brochure and outreach toolkit materials about conservation and ordinance.	MMC / CMAP	Ongoing
OBJECTIVE 6. ORGANIZE TO DEVELOP DROUGHT-PREPAREDNESS RECOMMENDATIONS.				
Work with ISWS to develop best estimate of available water supply.	ISWS	Establish metrics (acceptable drawdown, acceptable reduction in natural groundwater discharge) and uncertainty associated with each metric (cyclical pumping, interformational boreholes, deep aquifer transmissivity). These values will be improved as ISWS implements new modeling technologies (MODFLOW-USG, MNW, etc.)	TAC	External - 2
Work with the IWIP to track historical annual water use by member.	CMAP	Build on data previously collected for 2005, 2010, and 2011.	TAC	Internal - 2
Assess demand per NWPA member by customer class for monthly, seasonal, and annual use.*	NWPA members / TAC	Develop customer-class definitions; conduct census of members to identify customer-class categories used.	EC / COGs	Internal - 2,3
Forecast population and growth projections.	CMAP	Coordinate with GO TO 2040 update to be released in 2014.	NWPA members / TAC	Internal - 1
Estimate annual volume of nonrevenue water following AWWA M36 water-loss methodology.*	NWPA members	Review M36 form for application to NWPA and compare/contrast to LMO-2 for recommendation to IDNR; set up training sessions in partnership with ILAWWA.	TAC / EC / ILAWWA	Internal - 2

Table 2. Paired comparison analysis of external priorities

ACTIVITY	Collaboration with other organizations - A	Approach local college - B	Work with local schools - C	Present to Boards and Councils - D	Engage with other organizations - E
Collaboration with other organizations - A		B, 1	C, 2	D, 3	A, 2
Approach local college - B			C, 0	D, 2	B, 1.5
Work with local schools - C				D, 0.5	C, 1
Present to Boards and Councils - D					D, 3
Engage with other organizations - E					

For each cell, each activity was compared against another and the activity considered to be a higher priority was then recorded using a shorthand notation of the activity (A through E). The difference in importance between the two priorities was then scored on a scale, with 0 (equal importance) to 3 (much more important). For example, “collaboration with other organizations - A” was considered to be a lower priority compared with “approach local college - B,” so B was recorded in the corresponding cell. However, the difference in priorities was not very much, so it was scored a 1.

A = 2 = 12.5%, B = 2.5 = 15.62%, C = 3 = 18.75%, D = 8.5 = 53.1%, E = 0 = 0%

Appendix A: List of Acronyms

APWA	American Public Works Association
AWE	Alliance for Water Efficiency
AWWA	American Water Works Association
CMAP	Chicago Metropolitan Agency for Planning
COG	Council of Government
EC	Executive Committee of the Northwest Water Planning Alliance
FRSG	Fox River Study Group
IARGC	Illinois Association of Regional Groundwater Councils
IDOT	Illinois Department of Transportation
IISG	Illinois-Indiana Sea Grant
ILAWWA	Illinois Section of the American Water Works Association
INHS	Illinois Natural History Survey
ISWS	Illinois State Water Survey
IWIP	Illinois Water Inventory Program
LTA	Local Technical Assistance
MMC	Metropolitan Mayors Caucus
MPC	Metropolitan Planning Council
NWPA	Northwest Water Planning Alliance
TAC	Technical Advisory Committee of the Northwest Water Planning Alliance
U.S. EPA	United States Environmental Protection Agency
USGS	United States Geological Survey

Appendix B: NWPA Members

Municipalities represented by Member Councils of Governments and NWPA Counties

Algonquin	Fox River Grove	Lake In The Hills	Prospect Heights
Antioch	Geneva	Lake Villa	Richmond
Aurora	Gilberts	Lake Zurich	Ringwood
Barrington	Grayslake	Lakemoor	Sleepy Hollow
Barrington Hills	Green Oaks	Lakewood	South Barrington
Bartlett	Greenwood	Lily Lake	South Elgin
Batavia	Hainesville	Lindenhurst	Spring Grove
Big Rock	Hampshire	Maple Park	St. Charles
Bull Valley	Harvard	Marengo	Sugar Grove
Burlington	Hawthorn Woods	McCullom Lake	Tower Lakes
Campton Hills	Hebron	McHenry	Trout Valley
Carpentersville	Huntley	McHenry County	Union
Cary	Inverness	Millbrook	Virgil
Crystal Lake	Island Lake	Minooka	Wadsworth
Deer Park	Johnsburg	Montgomery	Wauconda
De Kalb	Kane County	Newark	Wayne
DeKalb County	Kaneville	North Aurora	West Chicago
East Dundee	Kendall County	North Barrington	West Dundee
Elburn	Kildeer	Oswego	Woodstock
Elgin	Lake Barrington	Pingree Grove	Yorkville
Fox Lake	Lake County	Plattville	



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