

Middle Illinois Basin Water Supply Planning: Public Outreach and Collaboration Report

By:

The Middle Illinois Basin Committee

Representing:

LaSalle, Livingston, Marshall, Peoria,
Putnam, Stark, and Woodford Counties

Compiled by:

Tri-County Regional Planning Commission

Collaborating partners:

Illinois Department of Natural Resources
Illinois State Water Survey
Illinois State Geological Survey

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Abstract

It is crucial to ensure dependable regional water access for residents and organizations. For that reason, the Middle Illinois Basin planning team conducted a water supply planning process across a seven-county region that includes regulatory, research, and public outreach elements to identify gaps between water supply and demand. To ensure a comprehensive process, this endeavor involved collaboration among the Illinois Department of Natural Resources (IDNR), Illinois State Water Survey (ISWS), Illinois State Geological Survey (ISGS), and Tri-County Regional Planning Commission (TCRPC). This document outlines the public outreach aspect of the process, compiled by TCRPC and produced by the newly formed Middle Illinois Basin Committee (MIBC).

The planning process originally began in 2014, and at the time, TCRPC had assembled a group of MIBC stakeholders in conjunction with North Central Illinois Council of Governments. That original planning team had also created a questionnaire, which numerous stakeholders completed. However, that planning process was cut short due to funding before the end of its contract in 2015.

In November of 2017, TCRPC received funding from the IDNR to revive the past planning process and continue forward to completion. During this more recent endeavor, the team contacted and assembled the MIBC (using some framework from the initial process), which included representatives from water-related groups, industries, municipalities, agriculture, the public, and others from seven counties: LaSalle, Livingston, Marshall, Peoria, Putnam, Stark, and Woodford. After forming this committee, MIBC members attended three meetings in 2018, were able to learn about ISWS draft reports and modelling, and could submit comments and questions to the planning team.

This report outlines the results of the process and the data from the MIBC comments. The planning team analyzed data from both closed- and open-ended responses from the questionnaire developed by the previous team, plus additional comments. The planning team categorized open-ended feedback using the coding process, which is a means of quantifying qualitative data by sorting text into themes. Coding involves an iterative process of reading through responses, assigning them “codes,” or categories, and organizing the code list. Between the two years’ worth of data, a total of 214 distinctive comments were collected, spanning 13 codes including Industry and Development, Infrastructure and Engineering, Education, Water Quantity, and Water Quality. Above all, the depth and breadth of the data underscored the necessity to continue the planning process in the future. Once additional funding becomes available, the MIBC will plan to create a list of recommendations based on the results of this planning endeavor.

Table of Contents

Abstract.....	2
List of Figures	4
List of Tables	4
Acronyms	5
Introduction	5
Process.....	9
Past Planning Efforts	9
Goals	10
Main Deliverable.....	10
Scope.....	11
Phase 1: Information Gathering and Outreach	11
Phase 2: Establishment and Administration of Water Supply Stakeholder Coalition	11
Phase 3: Community Stakeholder Participation (Meetings).....	11
Phase 4: Culmination and Future Planning.....	12
Outreach	12
Timeline and Meeting Agendas	12
Phase 1 and Meeting 1.....	14
Phase 2 and Meeting 2.....	14
Phase 3 and Meeting 3.....	14
Phase 4 and Wrap Up.....	14
Ancillary Meetings	14
MIBC Members and Meeting Attendees	15
Data Gathering.....	17
Qualitative Data Analysis: Coding Process.....	17
Results.....	19
Comments.....	19
Initial and Updated Questionnaire Results (2015 + 2018).....	19
Comments from 2018 Only	23
All 2015 and 2018 Comments	23
Discussion and Limitations.....	25
Next Steps	25
Appendix: Middle Illinois Basin Participant Questionnaire	26
Endnotes	29

List of Figures

Figure 1: A hierarchy of water supply planning components.....	6
Figure 2: A map of the 10 regions (plus one subregion) of water supply planning across the State of Illinois. Courtesy of ISWS.	7
Figure 3: A more detailed map of the MIB region, which includes seven counties: LaSalle, Livingston, Woodford, Peoria, Stark, Marshall, and Putnam. Courtesy of ISWS.	9
Figure 4: The timeline of events for the MIB planning process, from December 2017 through June 2018.	13
Figure 5: The number of unique participating organizations filtered by category. Note that this number does not necessarily correlate with the number of people who attended, as some organizations had more than one representative. The “Other” category includes Engineers, Government, Research Entities/Education, and Public Water Groups.	17
Figure 6: This graph shows a profile of the 72 respondents of the water questionnaire.	20
Figure 7: The majority of 2015 questionnaire respondents indicated that they had not undergone a water shortage during drought conditions.	20
Figure 8: Most questionnaire respondents use water from a public system, while others use it from a private well or a different source.	21
Figure 9: A graph of locations of identified water issues. Note that Peoria County is the most populous, and therefore many respondents were able to provide comments about it. Just because a number is low on this graph, it does not necessarily mean that it is of lower priority.	21
Figure 10: A graph showing the number of times all codes were mentioned in the open-ended questionnaire responses.	22
Figure 11: A graph showing the number of times all codes were mentioned in 2018 comments.	23
Figure 12: A graph of the frequency of codes in all comments received in the MIB process in 2015 and 2018.	24

List of Tables

Table 1: A list of all 10 regional water supply planning areas in Illinois, the counties they represent, and their priority in the planning schedule. The areas are prioritized based on likelihood of potential water use conflicts. Note that some counties overlap over more than one planning area.	8
Table 2: List of 12 interest groups developed by the initial MIB planning team.	10
Table 3: A list of attendees and MIBC members for the three MIB meetings held across the region.	16
Table 4: A list of all codes used to categorize all open-ended responses to the water questionnaire.	18
Table 5: A list of open-ended questions from the questionnaire, along with their number in the list of questions (see appendix). The answers to these questions were organized according to 13 identified codes.	22

Acronyms

CRGC	Central Region Groundwater Committee
IDNR	Illinois Department of Natural Resources
IGAC	Illinois Groundwater Advisory Council
ISGS	Illinois State Geological Survey
ISWS	Illinois State Water Survey
MAC	Mahomet Aquifer Consortium
MIB	Middle Illinois Basin
MIBC	Middle Illinois Basin Committee
NCICG	North Central Illinois Council of Governments
TCRPC	Tri-County Regional Planning Commission

Introduction

Water supply and demand dynamics can have resounding ripple effects throughout a region, affecting people and businesses differently — especially if these effects are negative. One company’s business decision, when it comes to the amount and location of water it extracts, could trigger these ripple effects. For example, if an industry decides to move into a region or if a business drastically increases its water extraction from a water body, it could mean similar fluctuations in water systems across counties. To ensure that both residents and organizations have continued access to water across the region even as these fluctuations occur, it is critical to constantly assess and plan for water supply.

The first step in the process is to gain a solid understanding of the region’s status when it comes to water and to identify any gaps or issues that exist. To conduct this planning process, Tri-County Regional Planning Commission (TCRPC) collaborated with the Illinois Department of Natural Resources (IDNR), the Illinois State Water Survey (ISWS), and the Illinois State Geological Survey (ISGS), the latter two both part of the Prairie Research Institute at the University of Illinois. There are two main branches within the water supply planning methodology: 1) Technical and modelling work and 2) Local knowledge (see **Figure 1**). Both are necessary to gain a sufficient understanding of how much water is accessible in the region, where it is located, how it is used, and if there any gaps between supply and demand.

ISWS has taken on the technical work and conducted analyses on the region’s water supply and demand, using computer modelling tools. This work can be found in a separate document, which is currently under review. Since these models cannot always identify community-level issues, and to involve community members in an open process, it is essential to engage regional experts. TCRPC helped contact and assemble a Middle Illinois Basin Committee (MIBC) to bring together local and regional knowledge about water supply issues. This report will outline this public engagement process from start to finish.

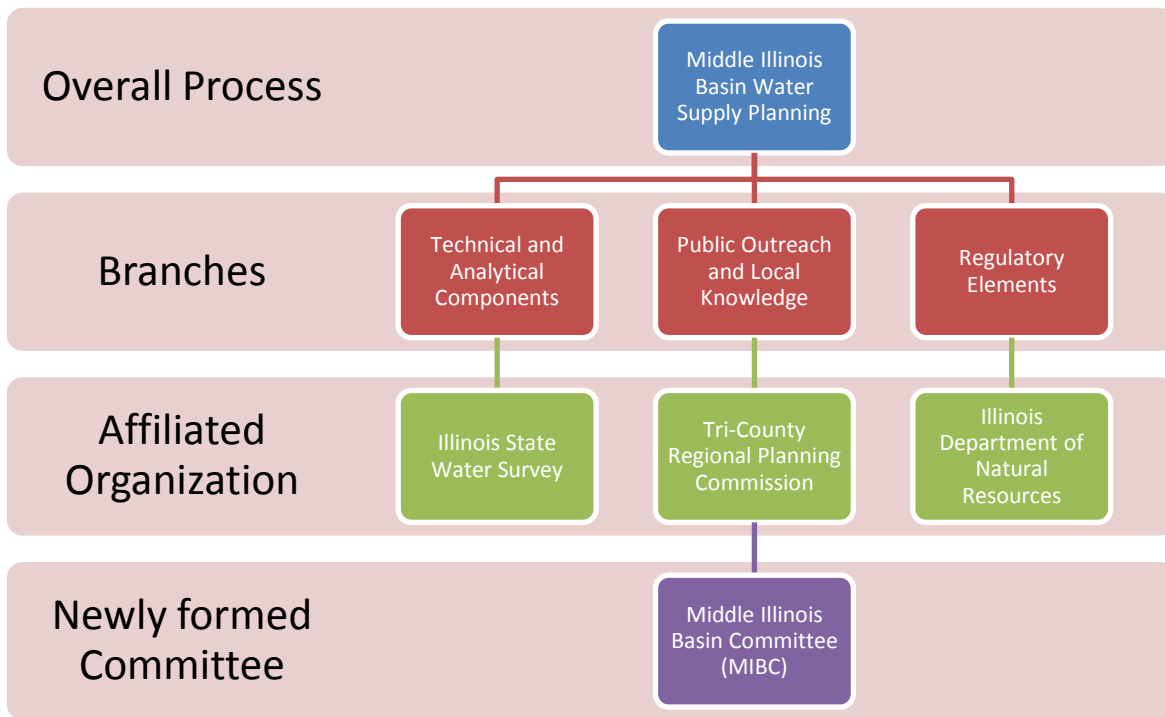


Figure 1: A hierarchy of water supply planning components.

In 2006, then Illinois Governor Rod Blagojevich issued Executive Order 1 to “develop a comprehensive, statewide water supply planning and management strategy,”¹ designating the IDNR as the overseeing and managing entity, according to a news release from the Office of the Governor on January 9, 2006². In 2005, the State of Illinois suffered an expensive drought. Therefore, to adequately plan for future events such as these, regional water supply planning entities including the MIBC were formulated.

After the governor’s executive order, the IDNR split the state into 10 water supply planning regions, plus one subregion (See **Figure 2** and **Table 1**). The Middle Illinois Basin (MIB) is one of them, made up of seven counties: LaSalle, Livingston, Marshall, Peoria, Putnam, Stark, and Woodford (See **Figure 3**). Due to the perceived likelihood of water use conflicts, the IDNR prioritized certain regions before others in the planning timeline. At the time of publication of this document, three regions had completed the initial document: Northeastern Illinois, which includes the Chicago area; East Central Illinois, focused on the Mahomet Aquifer; and Kankakee Subregion, which includes an area south of Northeastern and north of East Central.

Regional Water Supply Planning Areas

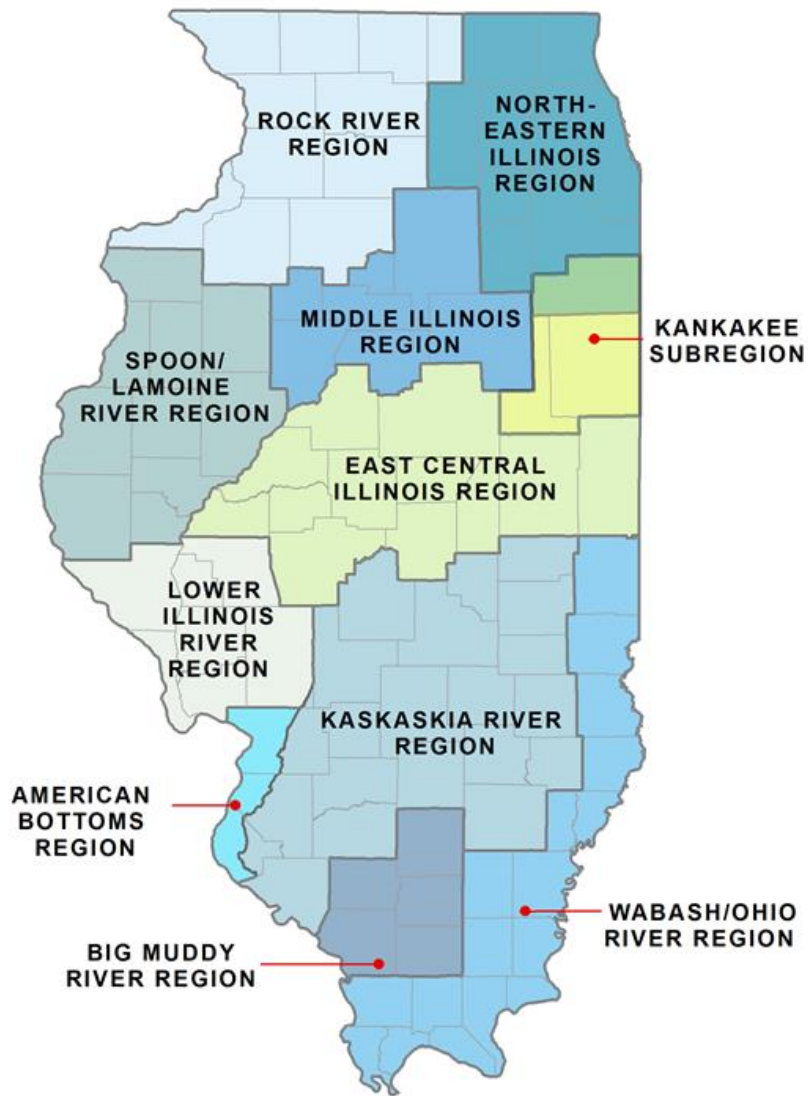


Figure 2: A map of the 10 regions (plus one subregion) of water supply planning across the State of Illinois. Courtesy of ISWS³.

Name of Water Supply Region	Counties Represented	Status as of June 2018
Northeastern Illinois*	Cook, DeKalb, DuPage, Grundy, Kane, Kendall, Lake, McHenry, and Will (9)	Completed ⁴
East Central Illinois Region	Cass, Champaign, Dewitt, Ford, Iroquois, Logan, Macon, Mason, McLean, Menard, Piatt, Sangamon, Tazewell, Vermilion, and Woodford** (15)	Completed ⁵
Kaskaskia River Basin	Bond, Christian, Clay, Clinton, Coles, Cumberland, Douglas, Effingham, Fayette, Jasper, Marion, Montgomery, Moultrie, Randolph, Richland, Shelby, Washington, and Wayne, with parts of Macoupin, Madison, Monroe, and St. Clair (~22)	Completed ⁶
Middle Illinois Basin	LaSalle, Livingston, Marshall, Peoria, Putnam, Stark, and Woodford** (7)	In Progress
Rock River Region (Northwest Illinois)	Jo Daviess, Stephenson, Winnebago, Boone, Carroll, Ogle, Whiteside, Lee, Rock Island, Henry, and Bureau (11)	In Progress
Kankakee Watershed Subregion*	Kankakee, Ford, and Iroquois (3)	In Progress
Big Muddy River Region	Perry, Jefferson, Jackson, Franklin, and Williamson (5)	Not Yet Begun
Spoon and LaMoine Basins	Mercer, Henderson, Warren, Knox, Hancock, McDonough, Fulton, Adams, Schuyler, and Brown (10)	Not Yet Begun
American Bottoms Aquifer System	Parts of Madison, Monroe, and St. Clair (~3)	Not Yet Begun
Lower Illinois Region	Pike, Scott, Morgan, Calhoun, Greene, Jersey, and parts of Macoupin (7)	Not Yet Begun
Wabash and Ohio River Tributaries	Edgar, Clark, Crawford, Lawrence, Wabash, Edwards, Hamilton, White, Saline, Gallatin, Union, Johnson, Pope, Hardin, Alexander, Pulaski, and Massac (17)	Not Yet Begun

*The Kankakee Subregion was created after IDNR's initial planning area allocations to better focus on "the Silurian Dolomite aquifer (shallow bedrock), the sand and gravel aquifers, and the Kankakee and Iroquois Rivers."⁷

** Woodford is included in both the East Central Illinois Basin and the MIB because it is on the edge of both regions, and it has similar geological and hydrological features.

Information from ISWS.

Table 1: A list of all 10 regional water supply planning areas in Illinois, the counties they represent, and their priority in the planning schedule. The areas are prioritized based on likelihood of potential water use conflicts. Note that some counties overlap over more than one planning area.

Middle Illinois Basin Priority Planning Area

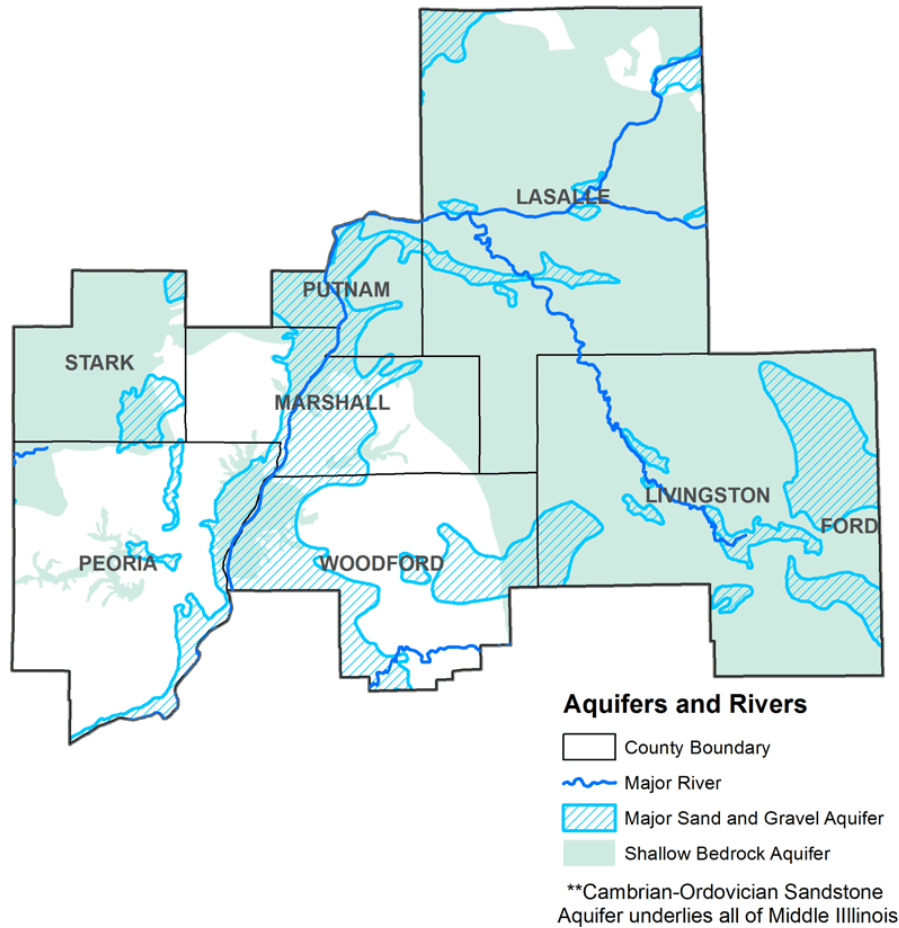


Figure 3: A more detailed map of the MIB region, which includes seven counties: LaSalle, Livingston, Woodford, Peoria, Stark, Marshall, and Putnam. Courtesy of ISWS⁸.

Process

Spanning several years, after an initial planning attempt was cut short by budgetary issues, the process kicked into gear in late 2017.

Past Planning Efforts

Preceding the 2017-2018 process, MIB water supply planning initially began in January 2014 with a different team. At that time, TCRPC received funding to partner with the IDNR and the LaSalle-based North Central Illinois Council of Governments (NCICG) to create and engage with an MIBC. At the time, the planning team assembled a regional steering committee consisting of TCRPC, NCICG, and a handful of regional stakeholders. Together, they established 12 interest groups, as seen in **Table 2**:

12 Interest Groups Identified in 2014 Planning Process	
Public	Soil and Water Conservation Districts
Counties	Environment
Municipalities	Electric Generating Utilities
Small Businesses	Water Authorities
Industries	Water Utilities
Agriculture	Rural Water Districts

Table 2: List of 12 interest groups developed by the initial MIB planning team.

With an eye to these categories, the initial planning team reached out to stakeholders across the seven counties to invite them to one of two kickoff meetings on December 3, 2014 — one in Peru (LaSalle County) in the morning and one in Peoria (Peoria County) in the afternoon. From there, and in the months following, the planning team assembled an MIBC, conducted more meetings, and created and administered a detailed stakeholder questionnaire (see Appendix).

However, in March 2015, ahead of the June 30, 2015 grant agreement deadline, IDNR was forced to terminate the agreement due to unforeseen budgetary restrictions that would no longer allow work to be completed. At that time, the planning team had expended approximately 63% of its budget and had therefore not yet completed the process. Due to this unanticipated procedural halt, the project was in limbo and the planning team was obligated to put the process on hold.

Fast forward to November 2017, when funding became available for TCRPC through the IDNR, there was an opportunity to re-introduce the process, perhaps where the original planning team had left off. Since several years had passed and none of the original planning team were in their previous positions, it was necessary to rethink the timeline, budget, and strategy to re-establish the MIBC. Strategically using past resources provided by the initial planning team and seeking new, more updated resources, TCRPC moved forward with the MIB water supply planning process in close collaboration with IDNR and ISWS representatives. Re-establishing a MIBC was a key priority.

Goals

There were three main goals throughout the outreach process for MIB water supply planning:

1. Understand the state of water supply and demand to identify gaps and disparities.
2. Ensure that future water supply can meet demand.
3. Provide informed feedback on Illinois State Water Survey's ongoing research and reports.

To accomplish these goals, it was necessary to build an MIBC that included a wide range of stakeholders, especially those whose work relies on a steady water supply in the region. Not only would the MIBC be contributing their local knowledge to the planning team, but this process would ensure that the public has a say in what is included in the process.

Main Deliverable

This document, outlining the state of water supply in the MIB based on comments and dialogue from regional stakeholders.

Scope

The planning process was structured to occur in four slightly overlapping phases, from stakeholder outreach to completion of the final document. Since the process had begun in 2014, some of the work had already been completed, but it needed to be reviewed and reconsidered due to the time lag. This prior work was used in the beginning as a baseline for moving forward, in addition to at the end when all comments were organized.

Phase 1: Information Gathering and Outreach

First, it was necessary to examine past notes and documentation of the initial 2014-2015 planning process, understanding what has been done, and planning to pick up where the work had left off. Other Phase 1 tasks included:

- An analysis of past documentation, meeting minutes, miscellaneous notes, and data including the results of a 2015 survey
- Consultations with relevant stakeholders as needed:
 - ISWS, IDNR, NCICG, East Central Illinois Region water supply planning committee, Mahomet Aquifer Consortium (MAC), Illinois Groundwater Advisory Council (IGAC), Central Region Groundwater Committee (CRGC), and others
 - Since these representatives had been previously involved in MIB water supply planning or similar other water supply planning ventures, consulting with them would add value to the MIB process.
- Beginning the process to contact relevant stakeholders that had previously been identified in 2014-2015, then consider new stakeholders that had not been identified

Phase 2: Establishment and Administration of Water Supply Stakeholder Coalition

This phase focused on meetings. During the initial planning process, a handful of meetings were held in both Peru and Peoria, and NCICG helped facilitate those meetings and identify key stakeholders who work with water in the region. Specific tasks in this phase included the following:

- Deciding on meeting logistics such as time, place, and structure
- Gauging what the attendees want or are most comfortable with, including:
 - Deciding to keep the locations split among Peoria and Peru, but alternating them rather than holding dual meetings on the same day
 - Frequency: Three total meetings between January and April
 - Kickoff meeting was held in early January
- Continuing to reach out to stakeholders, including locating replacements for those no longer in their previous positions
 - Building a list of potential committee members
- Understanding what ISWS has done in their past technical work and continuing to collaborate with them to structure meetings

Phase 3: Community Stakeholder Participation (Meetings)

In this phase, TCRPC facilitated committee and stakeholder meetings with the help of ISWS researchers. The content of the meetings included:

- Presentations from ISWS, IDNR, and TCRPC representatives about the planning process itself and the modelling work completed by ISWS researchers.

- Understanding the following, related to water supply:
 - Planned future development locations
 - Potential loss of industry
 - Feedback on population growth projections
 - Potential water supply source changes by users
 - Any other issues that arise through meeting discussions
- Identifying focus areas of MIBC water supply planning
- Consulting with stakeholders, in meetings and other means when possible
- Documenting meeting minutes and responses throughout the process

Phase 4: Culmination and Future Planning

This phase combined all information, documentation, and feedback that TCRPC and ISWS have received as they held meetings, had phone conversations, or otherwise communicated. In this phase, TCRPC also discussed the future of the water supply planning process, again looking towards previous areas such as the East Central Illinois Region for guidance. TCRPC planned to draft the main deliverable, this document, and submit it to the IDNR by the end of June 2018.

Outreach

Assembling the MIBC meant contacting stakeholders who would be most relevant to the process, specifically focusing on the categories shown in **Table 2**. To do so, the planning team used the stakeholder list from the initial planning effort as a benchmark, contacted those already on it, removed those who were no longer in their positions, and continued to brainstorm and add to the list as more individuals and organizations were identified. The planning team primarily utilized email and phone communications during Phase 1 of the process, but in-person networking also took place in ancillary meetings ahead of the process.

Timeline and Meeting Agendas

Using the four phases as guidance, the planning team developed a detailed timeline, as seen below in **Figure 4**. The colors represent the organizations: red for TCRPC, blue for ISWS, and yellow for MIBC.

Middle Illinois Basin Project Timeline

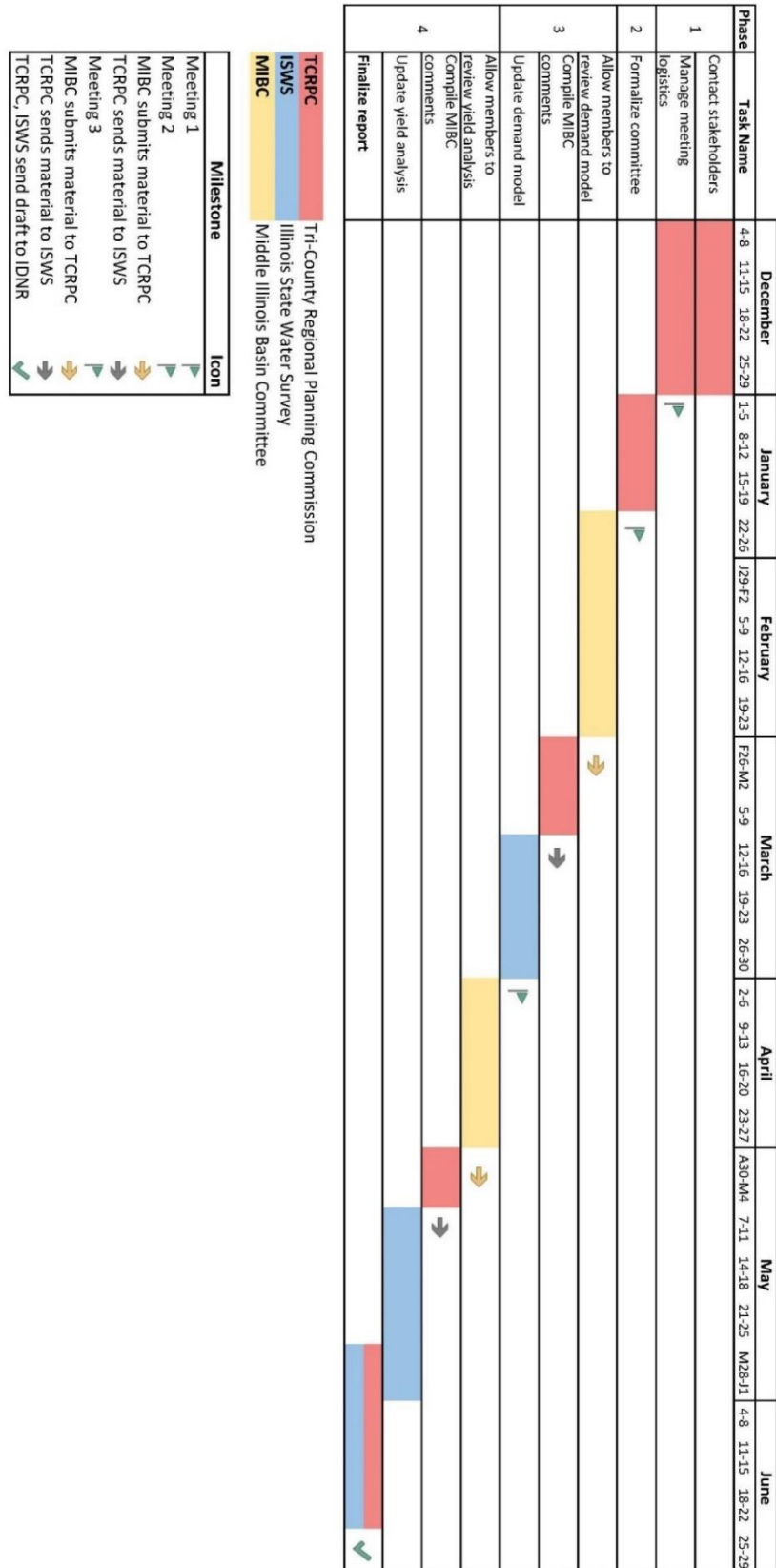


Figure 4: The timeline of events for the MIB planning process, from December 2017 through June 2018.

Phase 1 and Meeting 1

The first two months of the process focused on Phase 1, mainly gathering data, reaching out to stakeholders, and organizing meetings. This process culminated in the kickoff meeting on January 4, 2018. This took place in the Peoria Public Library, North Branch. IDNR, ISWS, and TCRPC representatives gave presentations regarding the overview and background of the project; research and modelling; and strategies, goals, and timeline; respectively. Attendees had the opportunity to ask questions regarding the process and indicate if they wished to continue as part of the MIBC.

Phase 2 and Meeting 2

Shortly after the kickoff, a second meeting was held in Peru in LaSalle County on January 24, 2018 to better accommodate stakeholders closer to that geographical area. During the second meeting, ISWS representatives presented their demand model and explained how attendees can provide input. Attendees asked questions about the process and research, and the group discussed possible gaps in the water supply in their localities.

Phase 3 and Meeting 3

After the second meeting, the MIBC had approximately one month to submit comments or questions regarding the draft ISWS demand model. TCRPC gathered all comments received by committee members, organized them, and sent them to ISWS representatives to examine if they provided any information not already covered by their modelling analysis.

Meeting 3 was held in Peoria once more, this time at the TCRPC offices on March 28, 2018. ISWS presented on their yield analysis and online maps and explained how they fit into their previous work regarding water demand. Again, committee members asked questions and discussed potential water-related issues of which they were aware in their own communities.

Phase 4 and Wrap Up

Just like after the second meeting, MIBC had about a month to submit comments or suggestions, this time for the ISWS water yield analysis. TCRPC once again organized these comments and sent them to ISWS representatives to consider in their report. ISWS and TCRPC then separately finalized their respective reports regarding the analytical and public engagement aspects of the MIB water supply planning process.

Ancillary Meetings

Other meetings were simultaneously occurring in the area regarding water supply planning, but their scopes covered different geographical regions. The IDNR hosts a quarterly State Water Supply Planning meeting, to which both ISWS and regional water supply representatives are invited. TCRPC also provided a representative at those meetings to learn more about how the statewide process fits into the MIB process and to meet other water stakeholders working towards similar goals.

A TCRPC representative also attended quarterly Central Regional Groundwater Committee (CRGC) meetings, hosted by the Tazewell County Health Department. While Tazewell County is not one of the seven counties in the MIB region, the geographic and hydrological landscapes are closely related. Additionally, some CRGC members were on the 2014-2015 MIBC and therefore were especially helpful to include in this more recent process.

MIBC Members and Meeting Attendees

Meeting attendees spanned multiple categories: public employees, rural water system representatives, industrial representatives, state and county farm bureau members, the public, county board members, village board members, city officials, university extension educators, regional planning commission representatives, health department representatives, regional environmental advocates, city emergency managers, and engineering consultants. As the process progressed, the attendees fluctuated, likely in part due to the meeting location changes.

Table 3 below outlines the organizations who participated in the process and breaks them down by one or two of the 12 categories identified in the initial planning process. Note that some organizations had more than one representative attend more than one meeting, but this list shows the number of unique participating organizations.

Figure 5 shows the number of organizations that fit in each category. The planning team took steps to contact organizations that fit all these categories and beyond. While the team made an effort to specifically contact organizations in the Water Utilities and Small Businesses category more than once, representatives from those organizations did not respond or chose not to participate, therefore could not be included in the MIBC. Note also that there is an “Other” category of organizations that were not included in the initial 12 categories. The planning team welcomed these previously unidentified categories: Engineers, Government, Research Entities/Education, and Public Water Groups. Representation from a broader reach brought in different perspectives, creating a more diverse MIBC and thus a more holistic planning process.

Organizations Represented at Water Supply Meetings	
Organization Name	Category
Bureau, Putnam & Marshall County Health Departments	Counties
Caterpillar	Industries
Caterpillar Trail Public Water District	Rural Water Districts
Central Region Groundwater Committee	Other –Public Water Groups
City of Fairbury	Municipalities
City of Peoria Office of Emergency Management	Municipalities
Civil Engineer	Other – Engineers
Continental Metals, Inc.	Industries
Groundwater Advisory Committee (GAC)	Environment, Water Authorities
GraphicsPlus Oglesby	Public
Heart of Illinois Group Sierra Club	Environment
Hennepin Water/Village of Mark	Rural Water Districts, Municipalities
Illinois Department of Natural Resources - Office of Water Resources (IDNR - OWR)	Other – Government
Illinois Farm Bureau	Agriculture
Illinois Rural Water Association (IRWA)	Water Authorities
Illinois State Water Survey	Other – Research Entities/Education
LaSalle County Board Member	Counties
LaSalle County Farm Bureau	Agriculture
Livingston County Regional Planning Commission	Counties
Marquis Energy	Electric Generating Utilities
Midwest Engineering	Other – Engineers
Northwestern University Environmental Advocacy Clinic	Environment
Peoria City/County Health Dept.	Counties
Peoria County Planning & Zoning	Municipalities
Peoria County Soil and Water Conservation District	Soil and Water Conservation Districts
Private Citizen	Public
Private Citizen -- Oglesby	Public
Rural Community Assistance Partnership (RCAP)	Rural Water Districts
Stark County Farm Bureau	Agriculture
Tazewell County Health Department	Counties
Test Inc.	Environment, Water Authorities
Tri-County Regional Planning Commission	Counties
University of Illinois Extension	Other – Research Entities/Education
Village of Mark	Municipalities
Village of Naplate, Great Lakes Rural Community Assistance Partnership (RCAP)	Municipalities, Rural Water Districts
Village of Peoria Heights	Municipalities

Table 3: A list of attendees and MIBC members for the three MIB meetings held across the region.

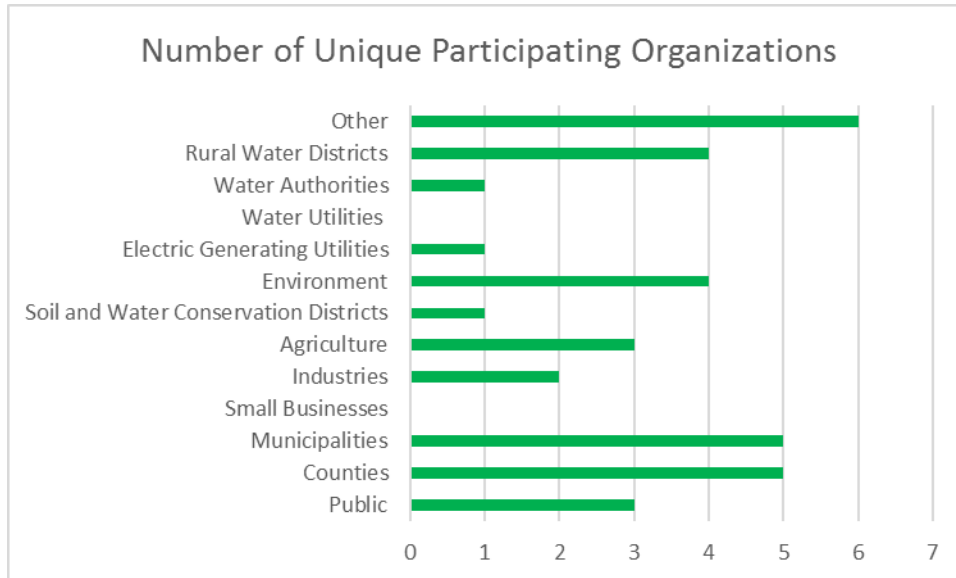


Figure 5: The number of unique participating organizations filtered by category. Note that this number does not necessarily correlate with the number of people who attended, as some organizations had more than one representative. The “Other” category includes Engineers, Government, Research Entities/Education, and Public Water Groups.

Data Gathering

There were three methods that committee members could use to submit their comments and questions regarding both the ISWS draft demand model and draft yield analysis. MIBC members could either email TCRPC directly or submit their responses in a questionnaire developed in 2015 by the MIB planning team at the time (see Appendix). This allowed participants to choose which method they most preferred, open-ended, closed-ended, or both. As mentioned in the previous section, MIBC members had a total of two months to submit comments during official comment periods, but participants who reached out with suggestions or questions during other times were also accommodated.

Qualitative Data Analysis: Coding Process

While closed-ended questionnaire responses were easily quantifiable, open-ended responses were not quite as straightforward. Due to the qualitative nature of the data and the breadth of comments in this category, the planning team used a coding process to classify the responses into broader groupings. Commonly used to analyze and interpret qualitative data, this coding process involved an iterative method of reading through the comments, assigning them codes, then re-reading to consolidate and modify codes when needed. **Table 4** shows a list and explanation of all codes used to categorize the open-ended responses from the questionnaire. In many cases, since several comments touched on more than one code, up to four codes were used per comment to more fully identify all relevant topics.

List of Codes Used to Classify Open-Ended Responses	
Code Name	Explanation
Agriculture	Encompasses any comments related to water management around farm fields, rural areas, and livestock.
Analysis	Refers to specific parts of the report or offers suggestions for how to analyze water supply or demand.
Education	Suggestions for more water-related education in schools or to the public.
Existing facilities	Comments about existing facilities, including their location, capacity, and logistics. Also includes suggestions for how to better these facilities. This most commonly overlaps with Industry and Development or Infrastructure and Engineering.
Industry and development	Discussions of the influences of manufacturing, electricity-generating facilities, construction, mining, and other entities related to water supply or demand in the region. This most commonly overlaps with Existing Facilities or Infrastructure and Engineering.
Infrastructure and engineering	Refers to water issues related to facilities, framework, and structural elements related to water, in addition to their design and maintenance. This most commonly overlaps with Existing Facilities or Industry and Development.
Nothing to add/Out of scope	Refers to comments such as “None,” “N/A,” or other such responses indicating no issues. This category also includes comments submitted that were unrelated to the planning process. This category was included to show the number of “non-issues” in the system, which are as important to note as the rest of the comments.
Political/socioeconomic, procedural	Includes responses regarding issues like cost, residential income (or lack thereof), governmental decisions, planning for water, district boundaries, community health, and balance and prioritization of municipal fund allocations.
Potential local changes	Pinpoints any identified changes in a community that could affect water supply or demand. These are broad in scope, but often relate to Existing Facilities, Industry and Development, or Infrastructure and Engineering.
Residential/civic use	Comments specifically focusing on water use by community members and public entities.
Water quality	Responses related to the quality or cleanliness of the current water supply.
Water quantity	Responses related to the quantity or amount of water available.
Waterways & hydrology	Relates to rivers, lakes, streams, or other natural water features in the region, including where or how they flow through the landscape.

Table 4: A list of all codes used to categorize all open-ended responses to the water questionnaire.

Results

The following section outlines the comments and feedback that the MIB planning team received from MIBC members and meeting attendees. This data also includes responses from a questionnaire that was developed and sent out by the initial MIB planning team in 2015 (see Appendix).

Comments

MIBC members and stakeholders submitted numerous comments in different formats. Once they were submitted, TCRPC organized them and sent them to ISWS representatives who were conducting water demand and yield analyses in case any comments affected their process. The types of comments received are documented in this section to show the breadth of information that was received regarding water supply in the MIB. For the sake of this report, these comments were organized into three categories:

1. Initial questionnaire results (2015)
2. Updated questionnaire results (2018)
3. Open-ended comments (2018)

Initial and Updated Questionnaire Results (2015 + 2018)

In March 2015, the initial planning team created a water supply questionnaire made up of questions regarding water shortages, water sources, and represented communities. The initial planning team then cast a wide net of stakeholders and public members and sent the questionnaire out electronically in an online survey format. The full questionnaire can be found in the appendix.

Seventy people responded to this questionnaire in 2015, then another two in 2018. The more recent planning process did not focus as heavily on the questionnaire, so it was not as widely distributed as it had been in the initial process. Note, however, that since much of this data is three years old, some of it may be outdated. The planning team chose to show this data regardless because some of the problems that the respondents noted may still be true today.

Data from Closed-Ended Questions

Figure 6 shows a profile of the categories of people who responded to the survey. This pool of participants appears to mostly be members of the public, followed by Small Business representatives, Other, Agriculture representatives, and Municipalities. Note that respondents were given the option of classifying themselves into more than one category, so the sum of these numbers is higher than the 72 total participants. The “Other” category included the following: wastewater and sanitary districts, homeowner organization, real estate developer, health department, engineering consultant, educational institution, fire protection district, fish and wildlife management, zoning administrator, transportation, and government office.

Note that while the more recent MIBC did not include small business owners or water utility representatives, their feedback was documented on the questionnaire. Similarly, while the questionnaire did not reach individuals from soil and water conservation districts or electric generating facilities, representatives from these entities attended MIBC meetings.

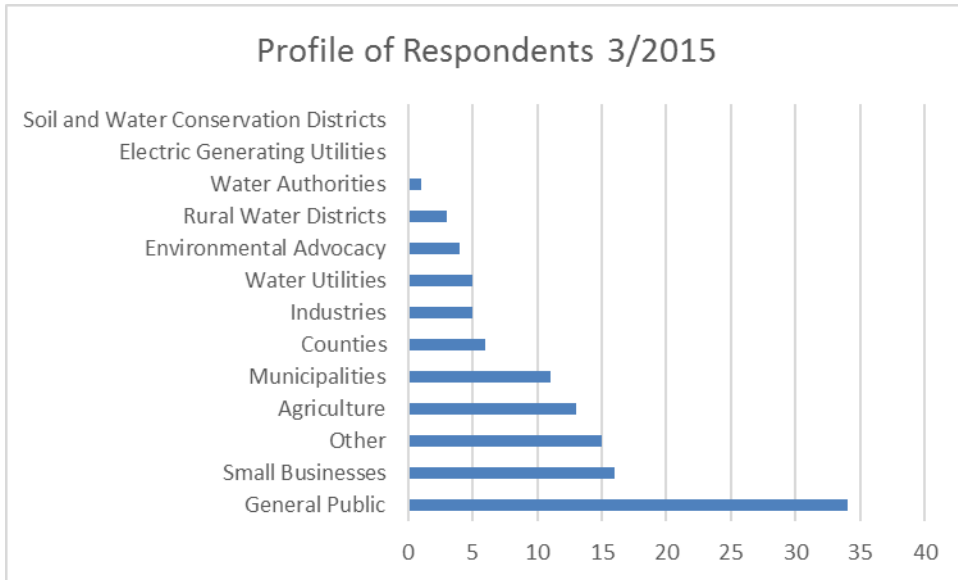


Figure 6: This graph shows a profile of the 72 respondents of the water questionnaire.

Other questions asked about experiences with water shortage and sources of water. Most questionnaire respondents, 83%, indicated that they have not had a water shortage during times of drought (See **Figure 7**). As shown in **Figure 8**, many individuals also showed that their water source is public, but private wells were also common. Note in that question, the total adds up to over 72 because some respondents said they use multiple water sources.

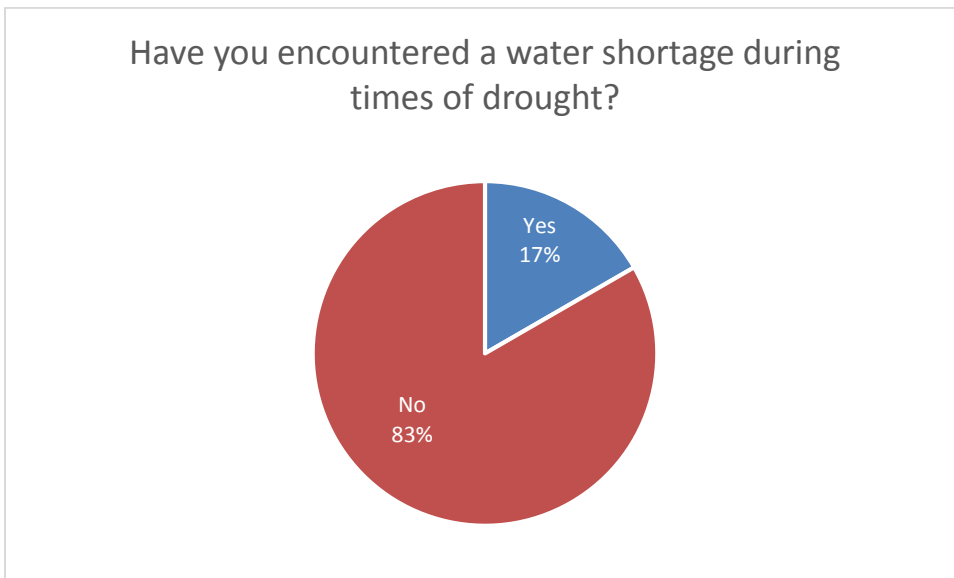


Figure 7: The majority of 2015 questionnaire respondents indicated that they had not undergone a water shortage during drought conditions.

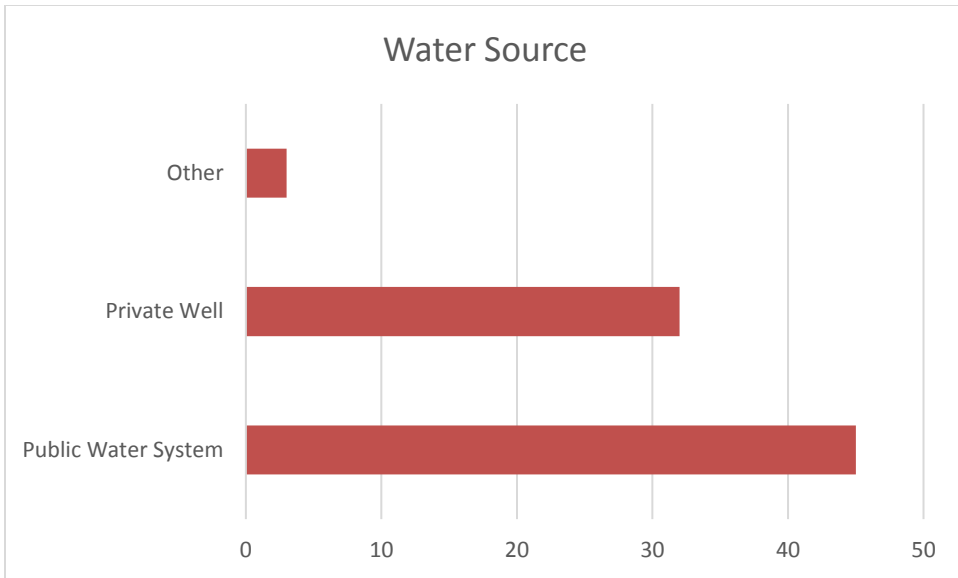


Figure 8: Most questionnaire respondents use water from a public system, while others use it from a private well or a different source.

Figure 9 shows a bar graph of the locations, by county, that questionnaire respondents identified specific water issues. This is likely skewed due to the high volume of respondents from Peoria County, so it is not possible to conclude as much from this chart. A low number does not necessarily indicate a low-priority area. One respondent was from outside of the region but has been a participant in the MIBC since the initial planning process in 2015.

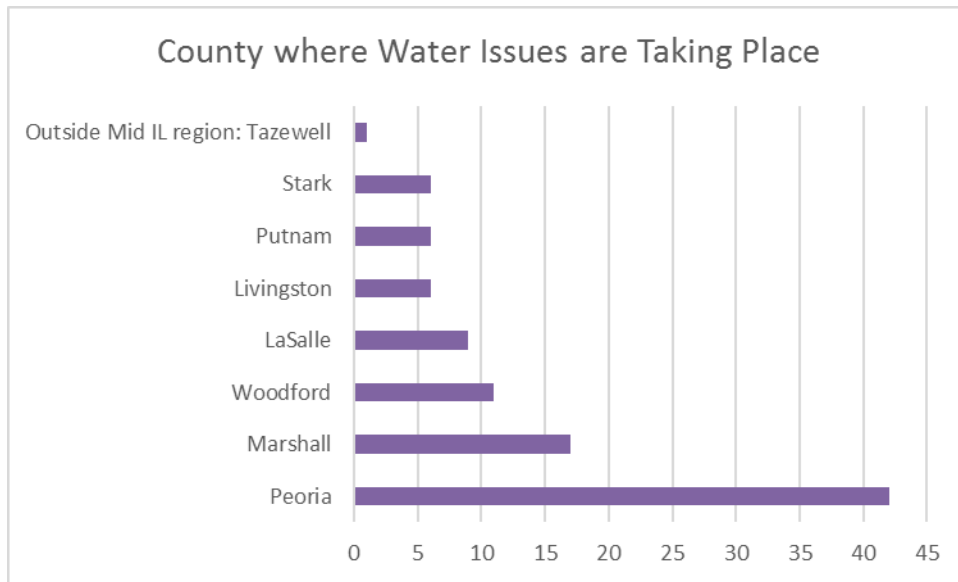


Figure 9: A graph of locations of identified water issues. Note that Peoria County is the most populous, and therefore many respondents were able to provide comments about it. Just because a number is low on this graph, it does not necessarily mean that it is of lower priority.

Data from Open-Ended Questions

In addition to the closed-ended questions, the questionnaire also posed open-ended questions. The full questionnaire can be found in the appendix, but the six open-ended questions can be seen in **Table 5**. After codifying the open-ended questionnaire responses, as explained in the Process section of this document, **Figure 10**, shows that most comments were classified in the Water Quantity code. This is logical, as this planning process revolved around MIB water supply. The second-most common code is the Nothing to Add/Out of Scope category, the responses of which generally indicated no known problems affecting water supply or demand. This code indicates a *lack* of issues, a concept which is also important to note for this process. Further down the line, Agriculture, Infrastructure and Engineering, Water Quality and Political/Socioeconomic and Procedural codes were also high in frequency.

#	Open-Ended Questions in Questionnaire
3	Have you experienced a shortage of water during any times of drought? If yes, please describe the water shortage.
4	From your perspective, what are the greatest water supply quantity issues or concerns in your area?
5	Describe these issues in greater detail. Where are they happening? Why are they happening?
6	If this water supply quantity issue or concern no longer existed, what would be the benefits for the surrounding area?
7	What ideas do you have for how this issue or concern could be resolved?
10	If you have additional comments about water supply quantity in your area, list them here.

Table 5: A list of open-ended questions from the questionnaire, along with their number in the list of questions (see appendix). The answers to these questions were organized according to 13 identified codes.

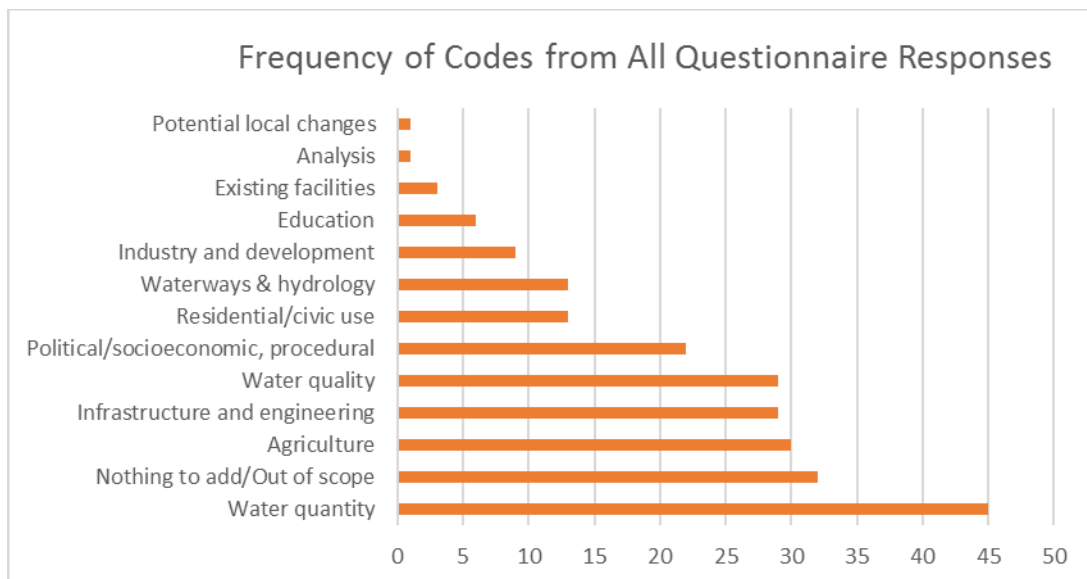


Figure 10: A graph showing the number of times all codes were mentioned in the open-ended questionnaire responses.

Comments from 2018 Only

Fifty-seven comments were submitted in 2018 from MIBC members or meeting attendees. Note that when one individual submitted their comment in the form of many bullet points or many unique issues, these were counted as individual comments so they could be more accurately coded. The great majority of comments from this round were submitted via email to TCRPC. These were either general comments or specifically related to the ISWS draft reports. Two people filled out the questionnaire. Just like the open-ended questionnaire responses shown in the previous section, the planning team codified these responses as well.

Figure 11 shows the frequency of codes in the 2018 comments. In this case, the majority addressed the influence of certain players in the Industry and Development category, followed in a distant second place by Existing Facilities and Water Quality, then Infrastructure and Engineering as the third most frequent. Interestingly, the comments here they did not mention water quantity issues as much; that code appeared only six times. While it may be tempting to conclude that water quantity issues have decreased from 2015 to 2018 if there are significantly fewer comments about them now, it is impossible to come to this conclusion due to the high number of variables in this process.

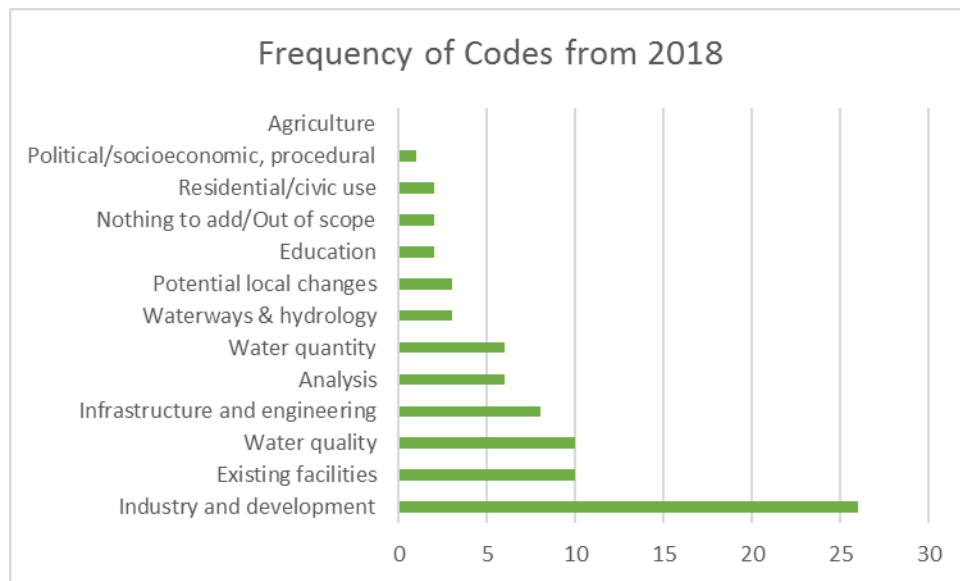


Figure 11: A graph showing the number of times all codes were mentioned in 2018 comments.

All 2015 and 2018 Comments

A total of 214 distinctive comments were received from this process. This number includes four comments regarding the ISWS draft demand report, four comments regarding the ISWS draft yield analysis report, 45 general comments about water supply in the region, and the remaining 161 from open-ended questionnaire responses. Fifty-seven comments or open-ended questionnaire responses were from 2018, while the rest were from 2015. Note that it was common for one individual to be counted many times if they provided multiple distinctive comments, even within the same submitted statement.

General Results

Figure 12 shows the frequency of all codes in all comments. Water quantity, then quality are the most frequent issues brought up, then Industry and Development, Infrastructure and Engineering, Nothing to Add/Out of Scope, and Agriculture.

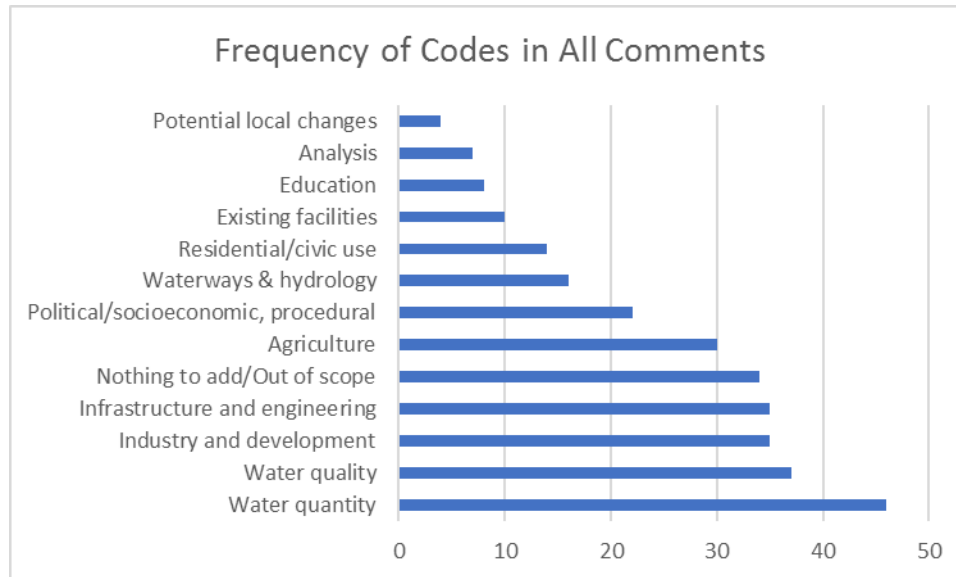


Figure 12: A graph of the frequency of codes in all comments received in the MIB process in 2015 and 2018.

Code-by-Code Details

Commenters in the **Agriculture** code often referred to a dissatisfaction with siting large livestock operations, specifically large hog farms, in the MIB area. Participants were worried that these would use up significant amounts of water and cause pollutants to flow into groundwater, therefore negatively affecting both humans and wildlife. The same was said about field runoff from crop production.

The **Analysis** code varied widely, as these commenters often referred to specific page numbers in the ISWS draft report, commenting on issues like population, modelling trends, and recently relocated facilities. The **Nothing to Add/Out of Scope** category was usually short answers such as “no problems” or “Water supply is good,” which may not seem like much, but a lack of problems is also important to note when gathering data. This allows a deeper understanding of both the challenges and the successes of the system. Along those lines, most comments about **Education** involved suggestions for more public education regarding water supply and usage by different entities, which would prompt the public to pay more attention to these issues. One commenter noted, “An informed decision which allows one to be socially conscious is empowering.”

The **Existing Facilities** responses generally outlined specific facilities that respondents felt were worth noting in relevance to regional water supply. Some pinpointed issues such as leaks, while others suggested additions to existing infrastructure. The **Industry and Development** code was occasionally linked to Water Quality as some respondents cited polluting facilities or the fear of future industrial pollution. Also coded in the **Potential Local Changes** category, some individuals provided updates on facilities that had moved or had been demolished. Similarly, the **Infrastructure and Engineering** code focused on wells, water lines, and the quality, number, and capacity of these structures. Some participants listed suggestions to utilize water sources such as greywater in the future.

The **Political/Socioeconomic, Procedural** code was broad, and comments within it typically posed larger-scale issues on which a government entity, water utility, or industry should focus. Topics included cost of water, mining operations, tracking of water usage, more pollution control and enforcement, and increased emphasis on community health. The **Residential/Civic Use** was reserved for comments about the impact of water supply or infrastructure has on residents and city functions, and vice versa. Participants voiced concerns about water quantity for fire suppression, hospitals, and homes.

Perhaps the two most substantial categories were **Water Quality** and **Water Quantity**. These were nearly always linked with another code, and sometimes linked together. Oftentimes when respondents would mention both, they commented about industrial pollution lowering the amount of viable water in the region. Quantity focused on the different ways water is used and distributed in the region. A common theme was the need for more water conservation across the board. Finally, while the previous codes focused primarily on water for use by humans, the **Waterways and Hydrology** category captured the comments regarding the natural rivers, lakes, and aquifers. Here, participants generally voiced concern regarding pollution of these natural entities and the need to preserve them.

Discussion and Limitations

While this planning process succeeded in gathering an MIBC, gathering comments about regional water supply, and providing opportunities for public involvement, there were some shortcomings. First, there were no representatives at the MIB meetings from a Water Utility or Small Business, two categories identified in the first planning process. Although the planning team made an effort to contact organizations that represented these groups, no representatives were able to attend the meetings or participate in the most recent planning process. However, their feedback was documented on the 2015 questionnaire. Similarly, while the 2015 questionnaire did not reach individuals from soil and water conservation districts or electric generating facilities, representatives from both these entities attended 2018 MIBC meetings. Therefore, the combined participation from the 2015 and 2018 planning processes was able to fill in the necessary cracks in stakeholder groups.

Further, more participants from other categories such as Industry could have also provided a more detailed connection between the research and analysis that the ISWS was conducting and the actual on-the-ground usage and planning on their end. The absence of these organizations may have affected the comments that were (or were not) received at the end. Perhaps if the project timeline was longer, the current planning team may have had more success in connecting with more individuals across the identified categories. While no planning process can be perfect, it is valuable to point out the limitations here to strive to rectify them in future regional water planning endeavors.

Next Steps

If funding becomes available, the MIB planning team will continue to hold meetings with MIBC members to keep stakeholders engaged. Future funding will also allow the planning team to continue to use the MIBC network to connect with other water stakeholders who were unable to attend or unaware of the process — more engagement from a wider variety of people can only create a more impactful process.

In terms of further studies, since this document sought to create a committee and identify gaps and issues in MIB water supply, the next planning process will allow the MIBC to brainstorm recommendations for how to close these water supply and demand gaps. These recommendations will also involve both public involvement and research, with further collaboration with ISWS and IDNR. Since the Northeastern Illinois and the East Central Illinois regions have already passed the recommendations phase, the MIB planning team will be able to speak with their planning teams to gain suggestions and best practices. While this next phase is not yet possible for the MIB due to a lack of funding, when it does arise, the MIBC will continue to meet and move forward.

Appendix: Middle Illinois Basin Participant Questionnaire

This series of questions was sent out electronically to MIBC members as one way of providing input on water issues in the region.

Regional Water Supply Planning Questionnaire: Middle Illinois Basin

A water supply planning process is underway for the Middle Illinois Basin, and we want to hear from you. The Illinois Department of Natural Resources is funding the development of regional water supply plans throughout the state. In order to adequately plan for the future, it is important to know how much water will be available, how much water will be needed, what the options are for providing additional water supplies and reducing demand, and what the impacts and costs will be.

* Required

1. Email address *

Planning Area



2. Which of the following groups do you represent? Please check all that apply. *

Check all that apply.

- General Public
- Agriculture
- Soil & Water Conservation Districts
- Environmental Advocacy
- Counties
- Municipalities
- Industries
- Electric Generating Utilities
- Water Utilities
- Rural Water Districts
- Water Authorities
- Small Businesses
- Other: _____

3. Have you experienced a shortage of water during any times of drought? If yes, please describe the water shortage.

4. From your perspective, what are the greatest water supply issues or concerns in your area?

5. Describe these issues in greater detail. Where are they happening? Why are they happening?

6. If these water supply issues or concerns no longer existed, what would the benefits be to the surrounding area?

7. What ideas do you have for how these issues or concerns could be resolved?

8. What is your source of water?

Mark only one oval.

- Public System (please provide community name or system name below)
- Private Well
- Not sure (provide your community name below)
- Other: _____

9. If your source of water is a public system, please provide the community name or system name here:

10. **If you have additional comments about water supply quantity in your area, list them here.**

11. **List your name here:**

12. **List your organization, if applicable:**

13. **List your county:**

14. **(Optional) Phone number:**



Endnotes

- ¹ State of Illinois Office of the Governor. (2006, January 9). *Governor Blagojevich orders statewide water supply study* [Press Release]. Retrieved from <https://www2.illinois.gov/pages/news-item.aspx?ReleaseID=4579>
- ² Ill. Exec. Order No. 2006-1 (Jan. 9, 2006), https://www2.illinois.gov/Pages/government/execorders/2006_1.aspx
- ³ Illinois State Water Survey. (2018). Planning Regions. *Illinois State Water Survey*. Retrieved from <https://www.isws.illinois.edu/illinois-water-supply-planning/planning-regions>
- ⁴ Meyer, S. C., Wehrmann, H. A., Knapp, H. V.; Lin, Y., Glatfelter, F. E., Angel, J. R., . . . Injerd, D. A. (2012). Northeastern Illinois Water Supply Planning Investigations: Opportunities and Challenges of Meeting Water Demand in Northeastern Illinois—Full Report. *Illinois State Water Survey*. Retrieved from <http://hdl.handle.net/2142/39969>
- ⁵ Roadcap, G. S., Knapp, H. V., Wehrmann, H. A., Larson, D. R. (2011). Meeting East-Central Illinois Water Needs to 2050: Potential Impacts on the Mahomet Aquifer and Surface Reservoirs. *Illinois State Water Survey*. Retrieved from <http://hdl.handle.net/2142/39869>
- ⁶ Knapp, H. V., Roadcap, G. S., Bekele, E. G., Wehrmann, H. A., Gillespi, W. E., Hecht, J. S., Pisani, F. J. (2012). Watershed Supply Assessment for Kaskaskia River Watershed Development: Phase I Technical Report. *Illinois State Water Survey*. Retrieved from <http://hdl.handle.net/2142/42674>
- ⁷ Illinois State Water Survey. (2018). Kankakee Watershed. *Illinois State Water Survey*. Retrieved from <https://www.isws.illinois.edu/illinois-water-supply-planning/kankakee-watershed>
- ⁸ Illinois State Water Survey. (2018). Middle Illinois. *Illinois State Water Survey*. Retrieved from <https://www.isws.illinois.edu/illinois-water-supply-planning/middle-illinois-basin>