

RESOLUTION NO. 2013-07-036R

A RESOLUTION TO ADOPT A SUSTAINABLE WATER MANAGEMENT PLAN

WHEREAS, the Ordinance establishing the Urbana Sustainability Advisory Commission directs the Commission to identify priorities to achieve sustainable management of natural resources including water; and

WHEREAS, the Urbana City Council established a Common Goals Initiative that included objectives to improve water conservation; and

WHEREAS, the Urbana Sustainability Advisory Commission and City staff have prepared a draft Sustainable Water Management Plan intended to provide the basis for policies and programs which would be effective in improving the sustainable management of potable water supply and demand, potable water quality, surface waters and stormwater, flood management, and recreational waters; and

WHEREAS, the Sustainable Water Management Plan takes into consideration input from stakeholders and the general public collected through public meetings, surveys, and individual communications; and

WHEREAS, at its July 2, 2013 meeting, the Urbana Sustainability Advisory Commission recommended approval of the draft Sustainable Water Management Plan.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF URBANA, ILLINOIS, as follows:

Section 1. The City of Urbana hereby adopts the Urbana Sustainable Water Management Plan as attached.

Section 2. By such adoption, it is the intention of the City Council that in future decision making the City will consider the Urbana Sustainable Water Management Plan whenever relevant.

Section 3. The City Council directs the Environmental Sustainability Manager and staff to implement the actions listed in the Urbana Sustainable Water Management Plan.

Section 4. This resolution is hereby passed by the affirmative vote of the members of the corporate authorities then holding office, the "ayes" and the "nays" being called at a regular meeting of said Council.

PASSED by the City Council this \_\_\_\_\_ day of \_\_\_\_\_,  
\_\_\_\_\_.

AYES:

NAYS:

ABSTAINS:

\_\_\_\_\_  
Phyllis D. Clark, City Clerk

APPROVED by the Mayor this \_\_\_\_\_ day of \_\_\_\_\_,  
\_\_\_\_\_.

\_\_\_\_\_  
Laurel Lunt Prussing, Mayor



# SUSTAINABLE WATER MANAGEMENT PLAN

2013-2020  
City of Urbana, Illinois



## ACKNOWLEDGEMENTS

---

### Urbana Sustainability Advisory Commission

Marya Ryan, *Chair*  
Stephen Wald, *Vice-Chair*  
John C. Marlin  
Todd Rusk  
Rachel Vellenga  
Amelia J. Neptune  
Gary Cziko (*former member*)  
Aaron Petri (*former member*)

### City of Urbana Staff

William Gray, *Public Works Director*  
Scott R. Tess, *Environmental Sustainability Manager*  
Gale Jamison, *Assistant City Engineer*  
Brad Bennett, *Senior Civil Engineer*  
Bruce Cubberley, *Arbor Manager*  
Mike Brunk, *City Arborist*  
Vince Gustafson, *Public Facilities Supervisor*  
Kate L. Brickman, *Administrative Assistant*

### Urbana Mayor & City Council

Laurel Lunt Prussing, *Mayor*  
Charlie Smyth, *Ward 1*  
Eric Jakobsson, *Ward 2*  
Carol C. Ammons, *Ward 3*  
Bill Brown, *Ward 4*  
Dennis P. Roberts, *Ward 5*  
Michael P. Madigan, *Ward 6*  
Diane W. Marlin, *Ward 7*

DRAFT

**Comments on the Sustainable Water Management Plan can be made via:**

**Mail:** Scott R. Tess  
706 S. Glover Ave. Urbana, Illinois 61802  
**Website:** [www.urbanaininois.us/sustainability](http://www.urbanaininois.us/sustainability)

**Discuss Sustainability in Urbana at:**

**Facebook:** [www.facebook.com/sustainableurbana](http://www.facebook.com/sustainableurbana)

Photo Credit: Cover page, lower left corner - Dan Bennett

# CONTENTS

---

<b>1. SUMMARY</b>	<b>4</b>
<b>2. BACKGROUND</b>	<b>6</b>
2.1 Aspect 1: Potable Water Supply and Demand	7
2.2 Aspect 2: Potable Water Quality	9
2.3 Aspect 3: Surface Water & Stormwater	11
2.4 Aspect 4: Flood Management	13
2.5 Aspect 5: Recreational Waters	14
<b>3. ASPECTS, GOALS, &amp; ACTIONS</b>	<b>15</b>
3.1 Aspect 1: Potable Water Supply and Demand	16
3.2 Aspect 2: Potable Water Quality	18
3.3 Aspect 3: Surface Water & Stormwater	19
3.4 Aspect 4: Flood Management	20
3.5 Aspect 5: Recreational Waters	20
3.6 Implementation Table	21
<b>4. APPENDICES</b>	<b>22</b>
4.1 Appendix A: Public Input Web Form	22
4.2 Appendix B: Public Input Results	24



## Impetus

The impetus for this plan comes from a recognition of continued drawdown of our potable water supply, new risks to our potable water supply, impending state stormwater quality regulations, uncertainty created by climate change, and the value of restored high quality waterfronts.

## Purpose

This Sustainable Water Management Plan has been composed to review the current state of five Aspects of water management and to lay out Goals to manage these Aspects more sustainably by implementing specific, achievable Actions.

## Scope

The scope of this Sustainable Water Management Plan includes ambitious, but achievable Goals for water conservation within City-owned buildings, region-wide coordination, consideration of conservation rules for new private developments, and public engagement in conservation activities addressing businesses and residents.

## Timeframe

All Actions in this Sustainable Water Management Plan are intended to be completed between the date of adoption in 2013 and January 1, 2020 with the exception of certain Actions that shall be ongoing. All Actions are listed in condensed form in the Implementation Table on page 21.

## 5 ASPECTS : 8 GOALS : 26 ACTIONS

### ASPECT 1: POTABLE WATER SUPPLY & DEMAND

- GOAL 1** **CONTINUE A DECREASING TREND OF PER CAPITA POTABLE WATER USE**
- Action 1** Track potable water use for community and for City of Urbana facilities.
  - Action 2** Demonstrate, promote, and/or incentivize practices to reduce potable water used for commercial, residential, and/or irrigation purposes.
  - Action 3** Consider adoption of the Champaign County Regional Planning Commission’s forthcoming Model Water Use Restriction Ordinance.
  - Action 4** Assess feasibility of a rain sensor and/or soil moisture sensor ordinance for new landscape irrigation systems.
  - Action 5** Assess feasibility of a topsoil retention ordinance.
  - Action 6** Collaborate with Mahomet Aquifer stakeholders in coordinated messaging and policies.

- GOAL 2** **REDUCE POTABLE WATER USE IN CITY-OWNED BUILDINGS BY 24%**
- Action 1** Retrofit water-saving faucet aerators where appropriate.
  - Action 2** Upgrade computer server room cooling system.
  - Action 3** Reduce water used for landscape irrigation.
  - Action 4** Retrofit water-saving toilets where appropriate.
  - Action 5** Assess opportunities for reuse of water treated by the Urbana- Champaign Sanitary District.
  - Action 6** Establish a policy of choosing EPA WaterSense labeled products for City procurement where appropriate.

### ASPECT 2: POTABLE WATER QUALITY

- GOAL 1** **PROTECT POTABLE WATER QUALITY IN THE MAHOMET AQUIFER**
- Action 1** Continue to pursue Sole Source Aquifer status to protect the Mahomet Aquifer.
  - Action 2** Continue to pursue appropriate legal action to protect the Mahomet Aquifer.
  - Action 3** Collaborate with Mahomet Aquifer stakeholders in coordinated messaging and policies.

- GOAL 2** **INVESTIGATE ADDITIONAL ACTIVITIES TO PROTECT POTABLE WATER QUALITY**
- Action 1** Assess legal, funding, and staffing needs for brownfields cleanup and redevelopment.
  - Action 2** Assess feasibility of household hazardous waste collection events.

# 1. SUMMARY

## ASPECT 3: SURFACE WATER & STORMWATER

### GOAL 1

#### PROTECT SURFACE WATER AND STORMWATER QUALITY

**Action 1** Continue to implement Stormwater Utility Credit and Incentive Program.

**Action 2** Demonstrate & promote environmentally friendly landscaping techniques.

### GOAL 2

#### INVESTIGATE ACTIVITIES TO PROTECT SURFACE WATER AND STORMWATER

**Action 1** Assess best practices for inspections, maintenance, and regulation of private and municipal stormwater storage and/or stormwater treatment facilities.

**Action 2** Assess feasibility of maintaining a pharmaceutical waste collection drop box at the police station.

**Action 3** Report EPA TMDL testing to the Sustainability Advisory Commission.

## ASPECT 4: FLOOD MANAGEMENT

### GOAL 1

#### PLAN FOR CLIMATE IMPACTS ON FLOOD MANAGEMENT

**Action 1** Ensure that the focus group called to address climate change adaptation in Goal 4 of the *Urbana Climate Action Plan* addresses management and mitigation of potential flood impacts.

## ASPECT 5: RECREATIONAL WATERS

### GOAL 1

#### SUPPORT THE ACCESS TO AND USE OF RECREATIONAL WATERS

**Action 1** Assess current amount of public access to recreational waters.

**Action 2** Assess a long term public access goal for recreational waters in Urbana.

**Action 3** Promote an appreciation for the ecological, aesthetic, and economic values of recreational waters as green infrastructure.

# 1. SUMMARY

## CITY OF URBANA SUSTAINABILITY VISION STATEMENT

The City of Urbana is committed to meeting the needs of today's residents without compromising the ability of future generations to meet their needs.

The City of Urbana therefore works toward:

1. Supporting a healthy, diverse and equitable economy;
2. Increasing resilience and community security with respect to food, water, energy and other human needs;
3. Enhancing quality of life through stewardship of natural resources, restoration of ecological integrity, and conservation of open space.

## SUSTAINABLE WATER MANAGEMENT

Sustainable water management means working toward:

1. Stabilizing Mahomet aquifer levels;
2. Minimizing the water quality threats to the Mahomet aquifer;
3. Attainment of pollution limits for surface waters;
4. Minimizing flood damages;
5. Maximizing the recreational value of surface waters.

## 2. BACKGROUND



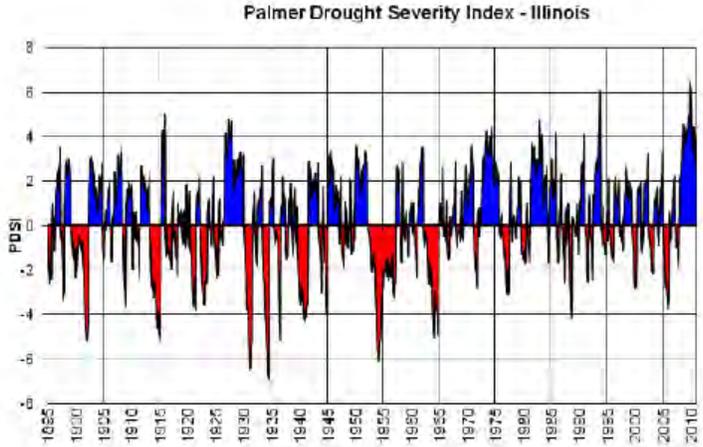
Crystal Lake

# 2.1 BACKGROUND

## Potable Water Supply & Demand

The Mahomet Aquifer supplies potable water to much of Central Illinois, including the City of Urbana. Potable water is water that is safe for drinking. East-Central Illinois uses over 200 million gallons of aquifer water per day for all uses. Current models show little if any aquifer recharge within the City of Urbana. Furthermore, existing research investigating the Mahomet Aquifer has identified suspected regions of recharge, but little specifics are known regarding precisely where and how recharge occurs.

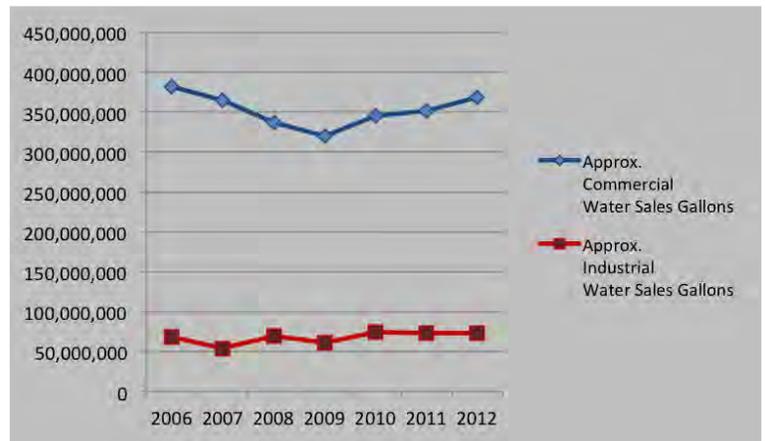
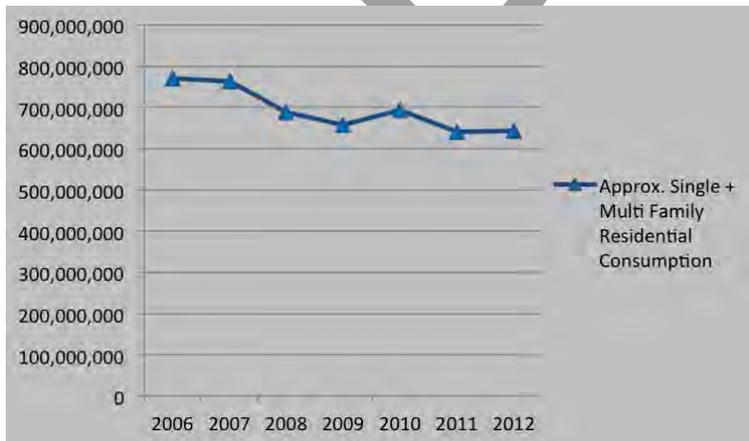
Per capita residential potable water consumption has been declining for years in Urbana and in the U.S. generally. Additionally, municipal water consumption has been declining. Commercial and industrial water use has fluctuated.



State of Illinois Drought Preparedness and Response Plan  
Adopted by the State Water Plan Task Force October 12, 2011

Approx. Single + Multi-Family Residential Consumption			Approx. Commercial Consumption		Approx. Industrial Water Consumption	
	Gallons	Per Capita Per Day	Gallons	% Change	Gallons	% change
2006	770,659,750	54	382,116,750		68,244,000	
2007	764,572,900	53	364,697,460	-5%	54,172,500	-21%
2008	688,741,000	48	336,732,750	-8%	68,990,250	27%
2009	658,198,750	45	319,500,000	-5%	60,453,000	-12%
2010	693,059,750	46	345,158,250	8%	74,970,000	24%
2011	639,700,500	42	351,974,250	2%	72,640,500	-3%
2012	642,242,370	42	368,193,750	5%	73,554,000	1%

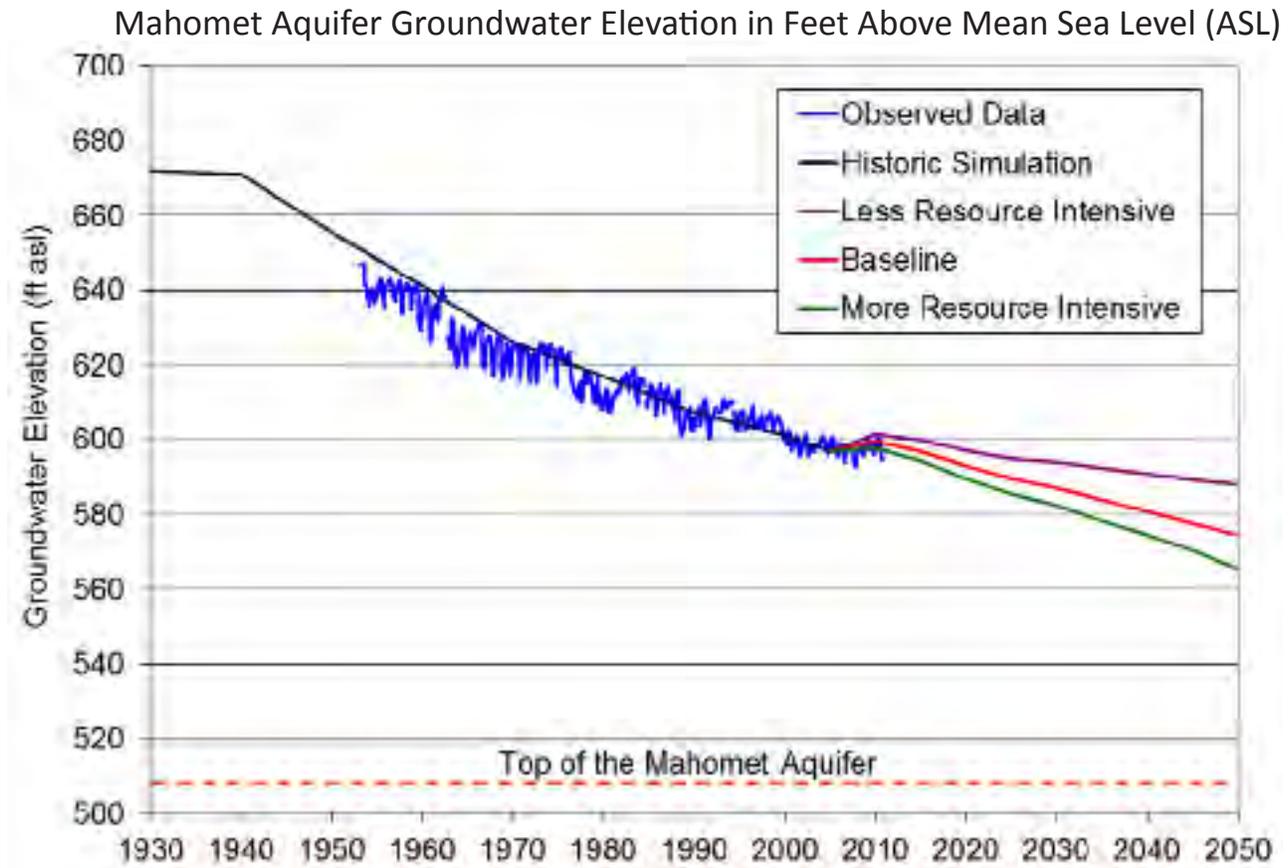
Data from Illinois American Water



Data from Illinois American Water

## 2.1 BACKGROUND

Despite improvements in efficient water use, groundwater elevations are predicted to fall slowly over the coming decades. The expected declines are not predicted to interrupt municipal potable water service due to the large capacity of the Mahomet Aquifer. Furthermore, the Drought Subcommittee of the Regional Water Supply Planning Committee have published a document titled *East-Central Illinois Water Supplies Vulnerable to Droughts of Record* where the committee stated no water supplies in Champaign County are to be listed as vulnerable.



Roadcap, Knapp, Wehrmann, Larson, 2011, "Meeting East-Central Illinois Water Needs to 2050: Potential Impacts on the Mahomet Aquifer and Surface Reservoirs,"

On January 24, 2007, Executive Order 13423 *Strengthening Federal Environmental, Energy, and Transportation Management*, was issued. This order mandates that Federal agencies reduce water intensity (gallons per square foot) by 2% each year through FY 2015 for a total of 16% based on water consumption in FY 2007. This 2% annual reduction offers a good example for local governments to strive for.

### Potable Water Supply & Demand Summary

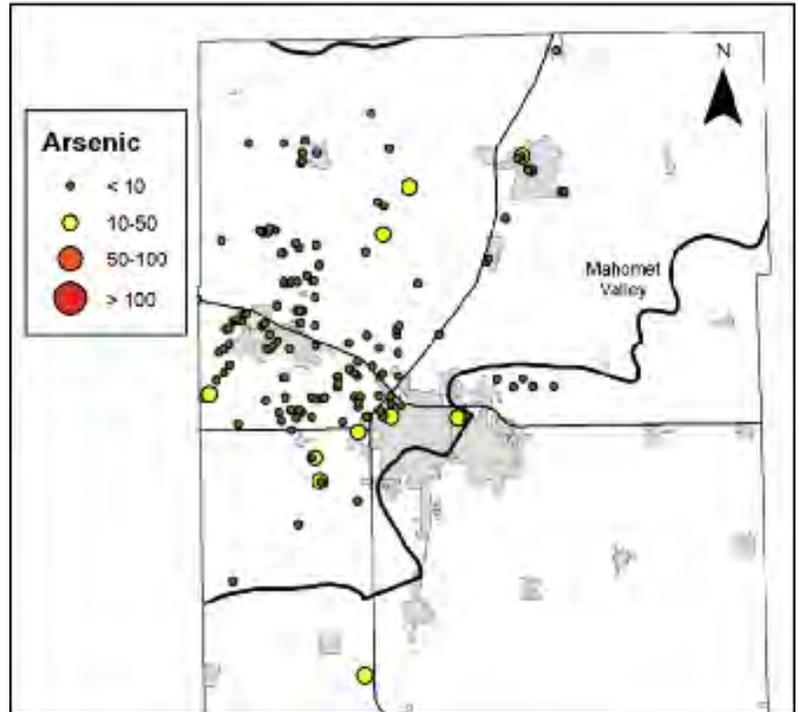
- Additional water conservation measures are necessary to ensure long term sustainable resource use.
- Per capita residential and municipal potable water consumption has been falling.
- There may be some interaction between the deep Mahomet Aquifer and shallower aquifers creating the potential for localized dewatering of wells.
- Modeled predictions could change due to unforeseen growth and development.

## 2.2 BACKGROUND

### Potable Water Quality

The water quality in the Mahomet Aquifer is very good. There is a very small amount of naturally occurring Arsenic in the shallower aquifers as well as the deeper Mahomet Aquifer. Public water supplies come from the Mahomet Aquifer while some potable wells and some irrigation wells draw water from the shallower aquifers. Public water supplies are tested and treated for a range of potential contaminants and meet stringent drinking water quality standards including standards for Arsenic. No pollutants are found in the Mahomet Aquifer in quantities significant for human health.

### Naturally Occuring Arsenic in Groundwater



Drinking water must be <10 ug/L (ppb) of Arsenic

Walt Kelly. Personal communication. October 10, 2012.

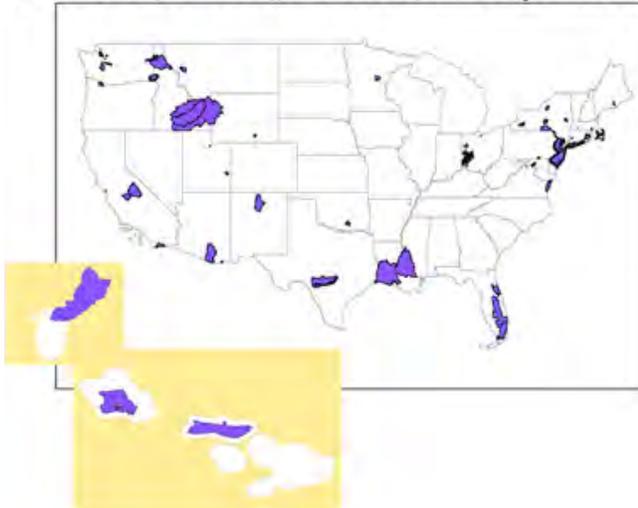
### Mahomet Aquifer



The Mahomet Aquifer is a 'confined' aquifer, as it is overlaid with nearly impermeable geologic layers that pressurize the aquifer. It is this pressure that forces the groundwater elevation higher than the top of the aquifer (as seen on the previous page). These nearly impermeable layers make it difficult for pollutants to percolate into the aquifer. However, there may be areas where different, more permeable geologic layers allow interaction between the shallower aquifers and the Mahomet Aquifer. These areas are not well documented.

## 2.2 BACKGROUND

### National Sole Source Aquifers



US Environmental Protection Agency

Superfund sites, brownfields, soil contamination, and siting of new high-risk activities such as hazardous waste landfills above the Mahomet Aquifer can pose a threat to the quality of our potable water supply. However, Champaign County has only one Superfund site located at the former Chanute Air Force base. Superfund refers to hazardous waste cleanup processes that fall under the authority of the federal *Comprehensive Response, Compensation, and Liability Act*. Site cleanup progress can be monitored at Superfund sites <http://cfpub.epa.gov/supercpad/cursites/srchsites.cfm>. At present, the Chanute site is currently in the “Study and Remedy Selection” phase.

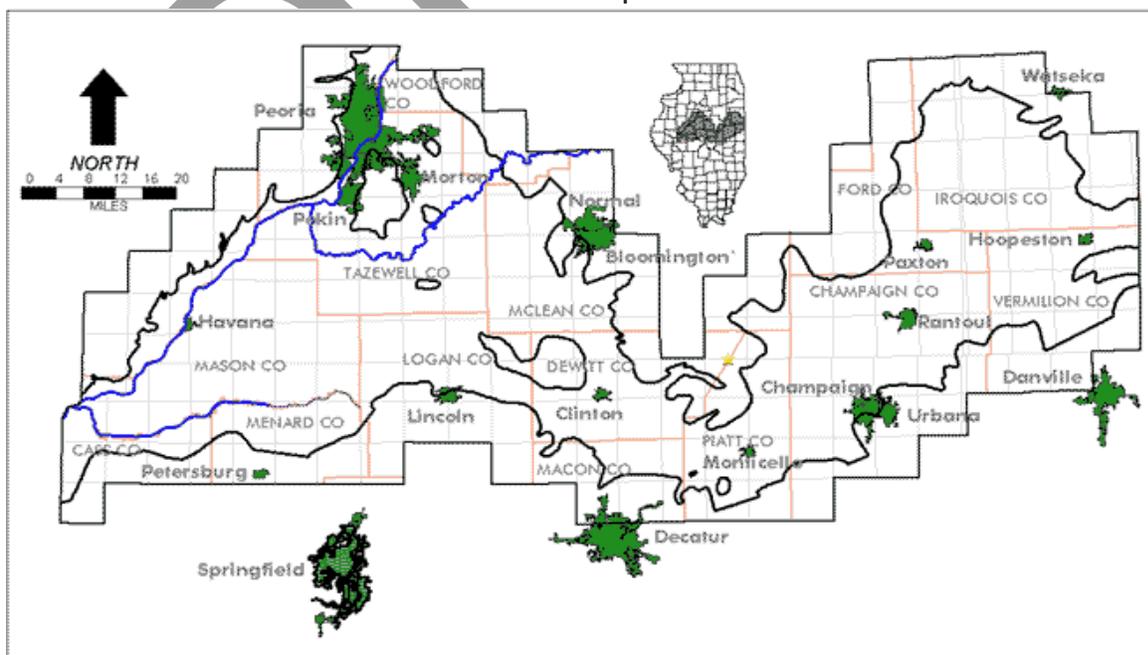
There are no recognized brownfields in Champaign County although there are likely sites with contaminated soils yet to be discovered dating back to industrial operations that occurred before the advent of environmental modern regulations.

The City of Urbana, in collaboration with many other municipalities, submitted an application to the U.S. EPA on December 12, 2012 to have the Mahomet Aquifer designated a Sole Source Aquifer (SSA). This designation would require additional environmental scrutiny on new federally funded projects and new landfills to ensure our drinking water is protected from contamination. If the application is successful, the Mahomet Aquifer will be the first Sole Source Aquifer designation in Illinois.

### Potable Water Quality Summary

- Potable water quality is very good.
- Permitting/Siting of new facilities can pose risks, but the risks are known.
- Unrecognized brownfields can pose risks, but the risks are largely unknown.

### Mahomet Aquifer



Illinois State Water Survey

## 2.3 BACKGROUND

### Stormwater and Surface Water Quality

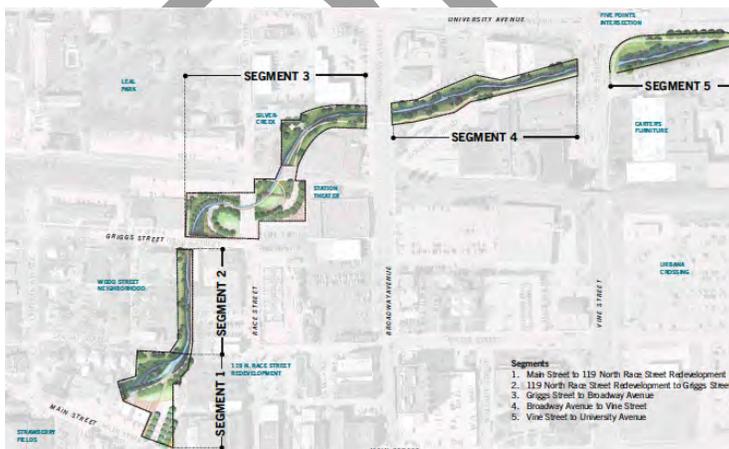
Urbana is fortunate that the Illinois EPA conducts water quality testing of several surface waters in the City as part of federal Clean Water Act requirements. The results of this testing are known as the '303(d) List' available at <http://www.epa.state.il.us/water/water-quality/>. This testing determines whether surface waters are meeting water quality criteria specified for their designated uses. The current testing regime does not include regular testing for pharmaceutical wastes that may enter the environment through improper disposal and excretion. Wastewater treatment plants are not designed to treat pharmaceutical waste, therefore, flushed pharmaceuticals as well as excreted pharmaceuticals may persist through treatment and be discharged to surface waters. Aside from pharmaceuticals, approximately 15% of surface waters statewide have been assessed, though not all waters are assessed for all designated uses every year. Officially recognized designated uses include:

- Aesthetic Quality
- Aquatic Life
- Fish Consumption
- Indigenous Aquatic Life
- Primary Contact Recreation
- Public and Food Processing Water Supply
- Secondary Contact Recreation

### 2012 Illinois 303(d) List Results

Surface Water	Designated Use	Impairment
Boneyard Creek	Aquatic Life	Copper, Dissolved Oxygen, Phosphorus (Total)
Crystal Lake	Fish Consumption	Mercury

### Boneyard Creek Improvements Project



The City of Urbana's Boneyard Creek Improvements Project will transform what is primarily a drainage channel into a valuable public amenity. The project will improve beauty, public access, safety, and ecological conditions of the creek, stimulating private sector redevelopment of the area. Green infrastructure investments that improve environmental performance while providing urban green space have stimulated nearby private sector investment in many places across the U.S.

## 2.3 BACKGROUND

### Boneyard Creek



To improve surface water quality, Urbana performs leaf collection services and street sweeping to remove pollutants that can be picked up by stormwater. Additionally, Urbana is implementing a Stormwater Utility Credit and Incentive Program. To account for the impact that on-site stormwater management can have on the City's stormwater management program costs, the City is implementing a stormwater utility fee.

Ratepayers can reduce their stormwater utility fee by applying for incentives and credits that are outlined in the program. These incentives and credits are available to ratepayers who reduce the impact of the runoff from their properties by implementing sustainable stormwater practices that allow stormwater to infiltrate into the ground. These practices can reduce the rate and volume of runoff, and remove pollutants that would otherwise be carried to streams and lakes.

### Credits For Multi-family and Commercial Properties

Runoff Rate Reduction	20% max.
Runoff Volume Reduction	20% max.
Runoff Water Quality	10% max.
Direct Discharge	50% max.
Education	\$5/student, 50% max.

### Incentives For All Properties

Incentive Type	Maximum Amount
Rain Barrel <sup>1</sup>	\$50
Rain Garden <sup>2</sup>	\$250
Runoff Rate Reduction <sup>2,3</sup>	\$250
Runoff Volume Reduction <sup>2,3</sup>	\$250
Runoff Water Quality <sup>2,3</sup>	\$250
<b>Total Incentive Available</b>	<b>\$300</b>

### Surface and Stormwater Quality Summary

- Surface water quality data is intermittent.
- Surface water quality is good, but has room for improvement.
- Restoring channelization impacts can provide community development benefits.

### Incentives For All Properties

Stormwater Management Activity	Incentive Category
Permeable Pavement	Peak Discharge/ Water Quality
Cistern	Volume Reduction
Green Roof	Volume Reduction/ Peak Discharge /Water Quality
Bioswale/Rain Garden	Peak Discharge/Volume Reduction/Water Quality
Detention Basins	Peak Discharge/ Water Quality
Manufactured BMPs	Peak Discharge/Volume Reduction/Water Quality
Infiltration Basins	Peak Discharge/Volume Reduction/Water Quality

## 2.4 BACKGROUND

### Flood Management

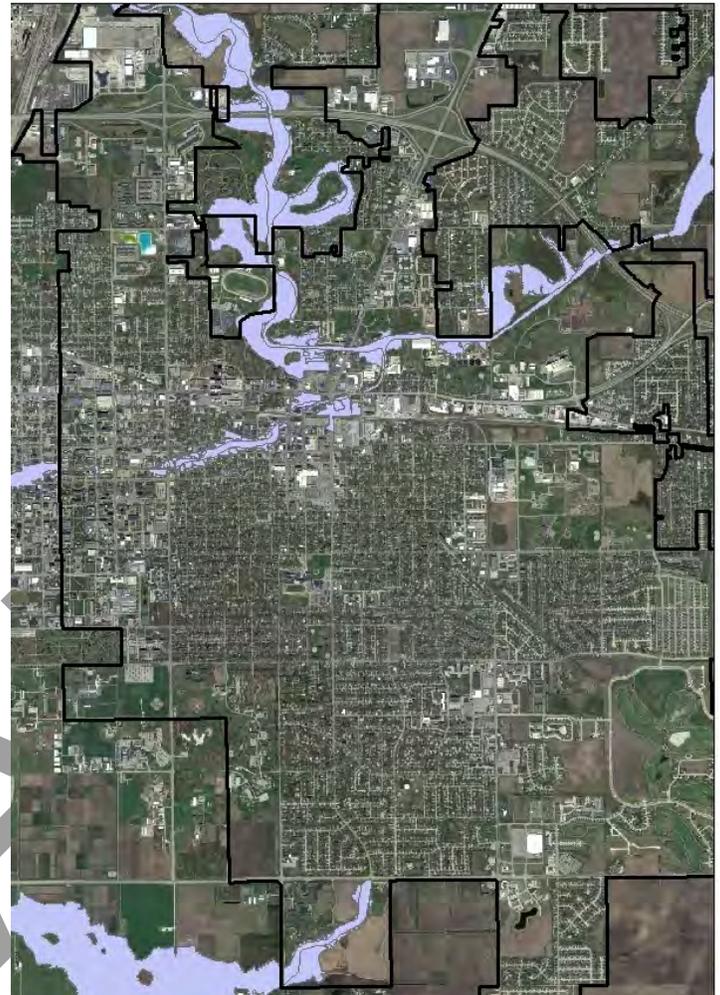
Flood management is primarily provided by the City of Urbana's stormwater sewer system as well as public and private stormwater detention ponds. This infrastructure drains stormwater from streets and properties, reducing the frequency and severity of flooding.

The credits and incentives in the City's forthcoming Stormwater Utility Program aim to decrease the rate and volume of stormwater entering the stormwater sewer system by detaining and infiltrating more water on the property which it falls upon. However, many soil types prevalent in Urbana provide low stormwater infiltration rates. Therefore, stormwater detention will remain a primary flood management strategy.

Many cities are removing parking lots and derelict buildings along waterfronts and replacing them with green infrastructure that provides flood management as well as park space. While this strategy is effective, it is also very expensive to purchase land and demolish structures.

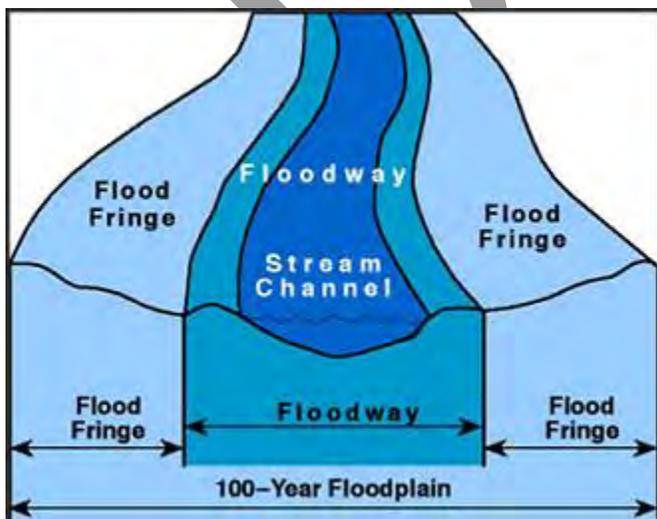
The City of Urbana has participated in the Champaign County Multi-Jurisdictional Hazard Mitigation Plan, adopted August 2009, to address hazards such as flooding. Additionally, the Urbana Climate Action Plan contains a directive to study climate adaptation.

### Flood Zones



Federal Emergency Management Agency FIRM data

### Flood Cross Section



City of Ann Arbor, MI

### Flood Management Summary

- Low soil infiltration rates mean that stormwater detention will remain a primary flood control strategy.
- Replacing impervious surfaces and structures with green infrastructure can address flood management, but is expensive.
- Goal 4 of the *Urbana Climate Action Plan* calls for a task force to study adaptation to local climate change impacts.

## 2.5 BACKGROUND

### Recreational Waters

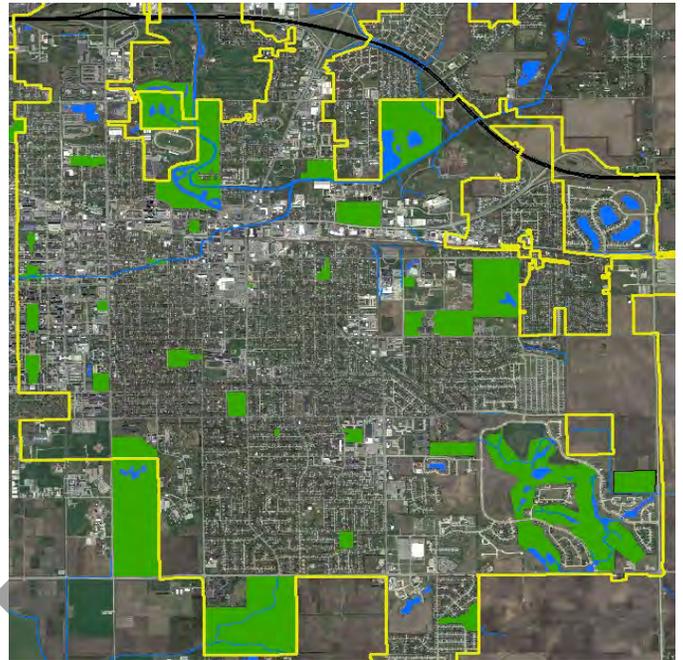
The quality and accessibility of recreational waters are increasingly recognized as critical green infrastructure that add value to nearby property. High quality, publicly accessible waters also enhance the livability and hence the desirability of a community.

The federal Clean Water Act establishes a “goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water.” The Act goes on to describe water quality criteria for Primary Contact and Secondary Contact Recreation. Primary Contact is recreation in the water. Secondary Contact is recreation near the water. No Urbana waters have been assessed for Primary or Secondary Contact Recreation by the Illinois EPA.

The same Act includes narrative criteria for Aesthetic Quality of surface waters. No waters in Urbana have been assessed for Aesthetic Quality either. The narrative standards include the following impairments:

- Sludge
- Bottom deposits
- Floating debris
- Visible oil
- Odor
- Plant growth
- Algal growth
- Color
- Turbidity

### Parks and Surface Waters



Boneyard Creek

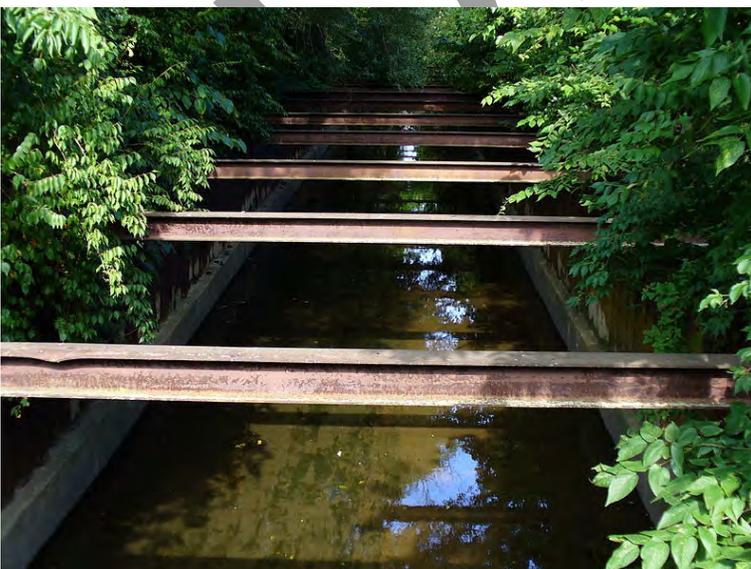


Photo credit: M Dorothy, Wikimedia Commons

### Recreational Waters

- No waters in Urbana have been assessed for Recreation or Aesthetic Quality metrics by Illinois EPA.
- Public Access to recreational waters has never been assessed in Urbana.

# 3. ASPECTS, GOALS, & ACTIONS

Saline Branch



Photo credit: Gary Cziko

### 3.1 ASPECT 1: POTABLE WATER SUPPLY AND DEMAND

#### GOAL 1: CONTINUE A DECREASING TREND OF PER CAPITA POTABLE WATER USE

#### IMPLEMENTATION PARTNERS

**ACTION 1** Track potable water use for community and for City of Urbana facilities.

- Work with the water company to ensure annual water consumption reporting showing monthly consumption.
- Seek similar cities to share and compare data with.

- Illinois American Water

**ACTION 2** Demonstrate, promote, and/or incentivize practices to reduce potable water used for commercial, residential, and/or irrigation purposes.

- Promote water-saving showerheads, faucet aerators, toilets, pre-rinse spray nozzles, micro-irrigation/drip irrigation, rain barrels, and irrigation controls.
- Organize a rain barrel truck sale to encourage stormwater reuse.
- Promote appropriate lawn irrigation practices, e.g. 'Brown is the New Green' or 'Better Homes and Gutters.'

- Illinois Green Business Association (IGBA), Urbana Business Association (UBA), IL American Water

**ACTION 3** Consider adoption of the Champaign County Regional Planning Commission's forthcoming Model Water Use Restriction Ordinance.

- Champaign County Regional Planning Commission

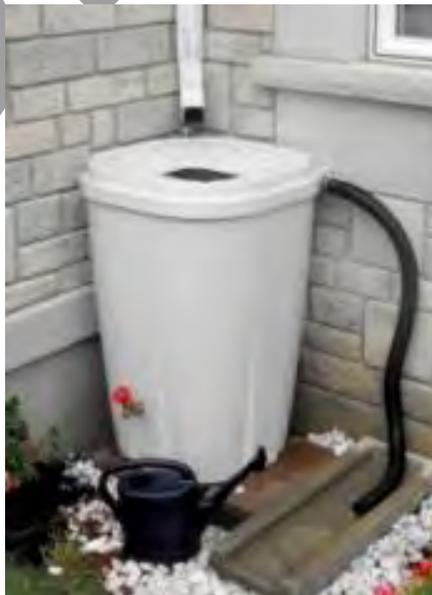
**ACTION 4** Assess feasibility of a rain sensor and/or soil moisture sensor ordinance for new landscape irrigation systems.

**ACTION 5** Assess feasibility of a topsoil retention ordinance.

**ACTION 6** Collaborate with Mahomet Aquifer stakeholders in coordinated messaging and policies.

- Consider common messaging encouraging water conservation and proper disposal of household hazardous wastes.

- Mahomet Aquifer Consortium, Prairie Research Institute, et al



### 3.1 ASPECT 1: POTABLE WATER SUPPLY AND DEMAND

#### GOAL 2: REDUCE POTABLE WATER USE IN CITY-OWNED BUILDINGS BY 24%

#### IMPLEMENTATION PARTNERS

**ACTION 1** Retrofit water-saving faucet aerators where appropriate.

- Change (32) 2.2 Gallons Per Minute (GPM) faucet aerators to 1.5 GPM aerators. At 10 minutes per day for 255 days of use, the City saves 57,120 gallons per year, reducing water usage by 2% and saving \$260 annually.

**ACTION 2** Upgrade computer-server room cooling system.

- Replace aging water cooled system with ductless mini-split electric-cooled system, saving 100% of an estimated 525,000 gallons per year or 18% annual use and \$2,452 in annual savings.

**ACTION 3** Reduce water used for landscape irrigation.

- Install rain sensors, soil moisture sensors, or other irrigation controls achieving 15% reduction in total irrigation or 5,600 gallons per year or 2% of total annual use and \$115 in savings.
- Consider resilient landscapes that minimize use of labor, water, and energy through plant selection and limited or no irrigation for all new landscape plans for city-owned properties.

**ACTION 4** Retrofit water-saving toilets where appropriate.

- Change (9) 1 Gallon Per Flush (GPF) Urinals to .125 GPF Urinals. At 30 flushes per day for 255 days, the city would save 60,244 gallons per year or 2.1% of annual use and \$273 in annual savings.

**ACTION 5** Assess opportunities for reuse of water treated by the Urbana-Champaign Sanitary District.

- Urbana-Champaign Sanitary District

**Action 6** Establish a policy of choosing EPA WaterSense labeled products for City procurement where appropriate.

- EPA WaterSense Program



## 3.2 ASPECT 2: POTABLE WATER QUALITY

### GOAL 1: PROTECT POTABLE WATER QUALITY IN THE MAHOMET AQUIFER

### IMPLEMENTATION PARTNERS

**ACTION 1** Continue to pursue Sole Source Aquifer status to protect the Mahomet Aquifer.

- Cities, Mahomet Aquifer Consortium

**ACTION 2** Continue to pursue appropriate legal action to protect the Mahomet Aquifer.

- Cities, Mahomet Aquifer Consortium

**ACTION 3** Collaborate with Mahomet Aquifer stakeholders in coordinated messaging and policies.

- Consider common messaging which encourages water conservation and proper disposal of household hazardous wastes.
- Consider policies or ordinances to protect Mahomet Aquifer recharge areas in need of protection.

- Cities, Mahomet Aquifer Consortium, Prairie Research Institute, Champaign-Urbana Public Health District

### GOAL 2: INVESTIGATE ACTIVITIES TO PROTECT POTABLE WATER QUALITY

### IMPLEMENTATION PARTNERS

**ACTION 1** Assess legal, funding, and staffing needs for brownfields cleanup and redevelopment.

- Illinois EPA Office of Brownfields Assistance

**ACTION 2** Assess feasibility of household hazardous waste collection events.

- Determine costs and funding sources.
- Assess proposed state legislation to establish architectural paint product stewardship.

- Champaign County Regional Planning Commission



Photo credit: Alex Anlicker - Wikimedia Commons

### 3.3 ASPECT 3: SURFACE WATER & STORMWATER QUALITY

#### GOAL 1: PROTECT SURFACE WATER AND STORMWATER QUALITY

#### IMPLEMENTATION PARTNERS

**ACTION 1** Continue to implement Stormwater Utility Credit and Incentive Program.

- Incentivize activities including rain barrels, rain gardens, permeable pavement, cisterns, green roofs, bioswales, and detention basins.

**ACTION 2** Demonstrate & promote environmentally friendly landscaping techniques.

- Promote judicious application of fertilizers and pesticides as well as onsite stormwater management including tree planting, bioswales and raingardens.
- Create 'Better Homes and Gutters' information and tour.

- University of Illinois Extension Service

#### GOAL 2: INVESTIGATE ACTIVITIES TO PROTECT SURFACE WATER AND STORMWATER

#### IMPLEMENTATION PARTNERS

**ACTION 1** Assess best practices for inspections, maintenance, and regulation of private and municipal stormwater storage and/or stormwater treatment facilities.

**ACTION 2** Assess feasibility of maintaining a pharmaceutical waste collection drop box at the police station.

**ACTION 3** Report EPA TMDL testing to the Sustainability Advisory Commission.

- Illinois EPA Bureau of Water

- Urbana Police, Champaign Police, Champaign County Sheriff, U of I Police, U of I SEA Grant

- Illinois EPA Bureau of Water



Photo credit: Robert Lawton - Wikimedia Commons

## 3.4 ASPECT 4: FLOOD MANAGEMENT

### GOAL 1: PLAN FOR CLIMATE IMPACTS ON FLOOD MANAGEMENT

### IMPLEMENTATION PARTNERS

**ACTION 1** Ensure that the focus group called to address climate change adaptation in Goal 4 of the *Urbana Climate Action Plan* addresses management and mitigation of potential flood impacts.

## 3.5 ASPECT 5: RECREATIONAL WATERS

### GOAL 2: SUPPORT ACCESS TO AND USE OF RECREATIONAL WATERS

### IMPLEMENTATION PARTNERS

**ACTION 1** Assess current amount of public access to recreational waters.

- Create a metric that distinguishes recreational waters from stormwater treatment facilities.
- Create a metric that distinguishes publicly accessible waters from inaccessible waters.

- Champaign County Regional Planning Commission

**ACTION 2** Assess a long term public access goal for recreational waters in Urbana.

- Champaign County Regional Planning Commission

**ACTION 3** Promote an appreciation for the ecological, aesthetic, and economic values of recreational waters as green infrastructure.

- Urbana Park District



### 3.6 IMPLEMENTATION TABLE

COMPLETE	ASPECT	GOAL	ACTION
Indeterminate	Aspect 2	Goal 1	Action 1 Continue to pursue Sole Source Aquifer status to protect the Mahomet Aquifer.
Indeterminate	Aspect 2	Goal 1	Action 2 Continue to pursue appropriate legal action to protect the Mahomet Aquifer.
Indefinite	Aspect 3	Goal 1	Action 1 Continue to implement Stormwater Utility Credit and Incentive Program.
Indefinite	Aspect 3	Goal 2	Action 3 Report EPA TMDL testing to the Sustainability Advisory Commission.
2013	Aspect 1	Goal 1	Action 1 Track potable water use for community and for City of Urbana facilities.
2013	Aspect 1	Goal 1	Action 2 Demonstrate, promote, and/or incentivize practices to reduce potable water used for commercial, residential, and/or irrigation purposes.
2013	Aspect 1	Goal 2	Action 1 Retrofit water-saving faucet aerators where appropriate.
2013	Aspect 1	Goal 2	Action 5 Assess opportunities for reuse of water treated by the Urbana- Champaign-Sanitary District.
2013	Aspect 2	Goal 2	Action 2 Assess feasibility of household hazardous waste collection events.
2013	Aspect 3	Goal 2	Action 1 Assess best practices for inspections, maintenance, and regulation of private and municipal stormwater storage and/or stormwater treatment facilities.
2013	Aspect 3	Goal 2	Action 2 Assess feasibility of maintaining a pharmaceutical waste collection drop box at the police station.
2013	Aspect 5	Goal 1	Action 1 Assess current amount of public access to recreational waters.
2014	Aspect 1	Goal 1	Action 3 Consider adoption of the Champaign County Regional Planning Commission's forthcoming Model Water Use Restriction Ordinance.
2014	Aspect 1	Goal 2	Action 2 Upgrade server room cooling system.
2014	Aspect 1	Goal 2	Action 6 Establish a policy of choosing EPA WaterSense labeled products for City procurement where appropriate.
2014	Aspect 3	Goal 1	Action 2 Demonstrate & promote environmentally friendly landscaping techniques.
2014	Aspect 4	Goal 1	Action 1 Ensure that the focus group called to address climate change adaptation in Goal 4 of the Urbana Climate Action Plan addresses management and mitigation of potential flood impacts.
2014	Aspect 5	Goal 1	Action 2 Assess a long term public access goal for recreational waters in Urbana.
2014	Aspect 5	Goal 1	Action 3 Promote an appreciation for the ecological, aesthetic, and economic values of recreational waters as green infrastructure.
2015	Aspect 1	Goal 1	Action 4 Assess feasibility of a rain sensor and/or soil moisture sensor ordinance for new landscape irrigation systems.
2016	Aspect 1	Goal 1	Action 5 Assess feasibility of a topsoil retention ordinance.
2017	Aspect 1	Goal 1	Action 6 Collaborate with Mahomet Aquifer stakeholders in coordinated messaging and policies.
2017	Aspect 2	Goal 1	Action 3 Collaborate with Mahomet Aquifer stakeholders in coordinated messaging and policies.
2018	Aspect 1	Goal 2	Action 3 Reduce water used for landscape irrigation.
2019	Aspect 2	Goal 2	Action 1 Assess legal, funding, and staffing needs for brownfields cleanup and redevelopment.
2020	Aspect 1	Goal 2	Action 4 Retrofit water-saving toilets where appropriate.

# 4. APPENDICES

## **Appendix A: Public Input Web Form**

### Sustainability Public Input Survey

Your input is critical in designing effective programs to help our community be more sustainable. You are invited to review the [Urbana Climate Action Plan](#), [Bicycle Master Plan](#), [Draft Sustainable Water Management Plan](#), as well as other sustainability plans and programs and respond to these efforts through this Sustainability Public Input Survey.

Enter your zip code: \*

Enter your email (optional):

**1. Describe any strategies from any of the sustainability plans or programs that you strongly support and/or strongly oppose? Please name the title of the plan you are commenting on: \***

**2. Describe a feasible strategy that you think is missing and should be incorporated into any sustainability plan or program. Please name the title of the plan you are commenting on: \***

**3. What barrier(s) prevent you from increasing energy efficiency, water conservation, and recycling at your home?: \***

- a. I don't have enough information on how to do this
- b. I don't know anyone else that is doing this
- c. I forget to do this
- d. I don't have enough money available to do this
- e. I'm not concerned about this
- f. Other

Check all that apply

**Please specify if you chose other:**

## 4.1 APPENDIX A: PUBLIC INPUT WEB FORM

4. What barrier(s) prevent you from increasing energy efficiency, water conservation, and recycling at your business?: \*

- a. The business doesn't have enough information on how to do this
- b. The business doesn't know anyone else that is doing this
- c. We forget to do this
- d. The business doesn't have enough money available to do this
- e. I'm not in charge and I don't think the person who is would be concerned
- f. I'm not concerned about this
- g. Other

Check all that apply

Please specify if you chose other:

5. What do you see as advantages of increasing energy efficiency, water conservation, and recycling?: \*

6. What do you see as disadvantages of increasing energy efficiency, water conservation, and recycling?: \*

7. How much control do you have over increasing energy efficiency, water conservation, and recycling?: \*

- a. Total control
- b. Significant control
- c. Some control
- d. Little control
- e. No control

8. List any factors or circumstances out of your control that would make it easier for you to increase energy efficiency, water conservation, and recycling?: \*

9. If you could ask the City of Urbana government to do one thing differently to increase energy efficiency, water conservation, and/or recycling, what would it be?: \*

Submit

### Appendix B: Public Input Results

**OPEN HOUSE** The open house for the Draft Sustainable Water Management Plan was attended by 10 members of the public.

**EMAILED PUBLIC INPUT** Seven public input submissions were received by email.

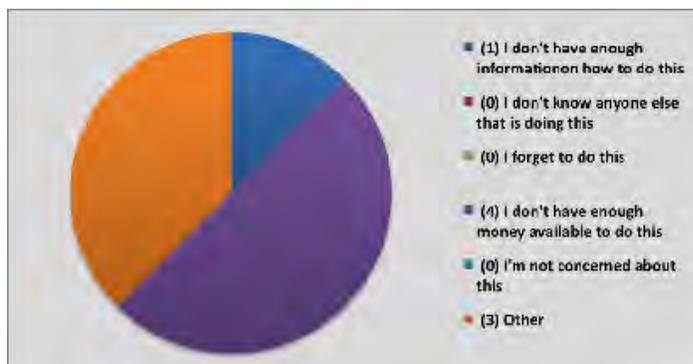
**WEBFORM PUBLIC INPUT** Seven public input submissions were received by webform.

#### **EMAILED AND VERBAL PUBLIC INPUT**

- Add footnotes and reformat storm utility graphs
- Address improperly abandoned wells
- Redundant photo subjects
- Collaborate with Public Health District
- Change 'declared brownfields' to 'recognized brownfields'
- User friendly
- Address aquifer recharge
- Appropriateness of Drought Index graphic
- Define what sustainable means for this plan

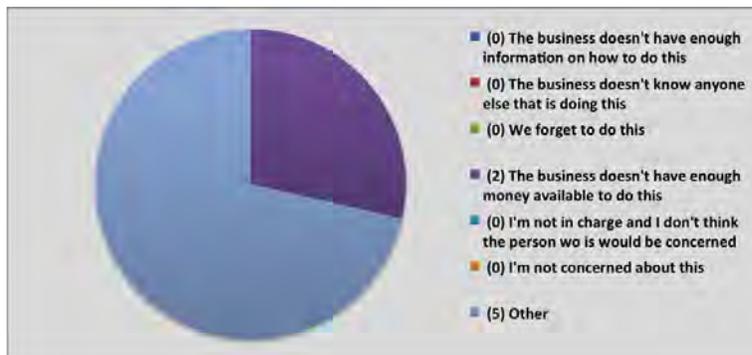
#### **WEBFORM PUBLIC INPUT**

1. Describe any strategies from any of the sustainability plans or programs that you strongly support and/or strongly oppose?
  - Strongly support all
  - Pursue sole source aquifer status
  - Promote practices to reduce potable water use for irrigation
  - Rain barrel sale
  - Banning fracking and PCB dumping near Mahomet Aquifer
  - Selling effluent is worrying
2. Describe a feasible strategy that you think is missing and should be incorporated into any sustainability plan or program.
  - Limited city resources is challenge
  - Address flooding across Coler into Busey Woods
  - Better inform what to do with hazardous wastes
  - Recognize leasing companies that use Storm Water Utility Credits or environmentally friendly landscaping
  - Better coordination with other communities that get drinking water from Mahomet Aquifer.
  - Minimum effluent flow standards
3. What barrier(s) prevent you from increasing energy efficiency, water conservation, and recycling at your home?



## 4.2 APPENDIX B: PUBLIC INPUT RESULTS

3. What barrier(s) prevent you from increasing energy efficiency, water conservation, and recycling at your home?
- Money
  - Renting/little control
4. What barrier(s) prevent you from increasing energy efficiency, water conservation, and recycling at your business?



### Other comments

- Work at home
- Don't live in Urbana
- Money
- University is trying

5. What do you see as advantages of increasing energy efficiency, water conservation, and recycling?

- Planet
- Future generations
- Resource scarcity
- Public health
- Save money
- Quality of life
- Fun

6. What do you see as disadvantages of increasing energy efficiency, water conservation, and recycling?

- None
- Auto/bicycle conflicts
- Cost
- Inconvenience

7. How much control do you have over increasing energy efficiency, water conservation, and recycling?

