

SUSTAINABLE WATER MANAGEMENT PLAN

2013-2020 City of Urbana, Illinois







Urbana Sustainability Advisory Commission

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

City of Urbana Staff

William Gray, Public Works Director Scott R. Tess, Environmental Sustainability Manager Brad Bennett, Senior Civil Engineer Mike Brunk, City Arborist Vince Gustafson, Operations Kate L. Brickman, Administrative Assistant

Urbana Mayor & City Council

Laurel Lunt Prussing, Mayor Charlie Smyth, Ward 1 Eric Jakobsson, Ward 2 Robert E. Lewis, Ward 3 Brandon Bowersox, Ward 4 Dennis P. Roberts, Ward 5 Heather D. Stevenson, Ward 6 Diane W. Marlin, Ward 7

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

Mail:Scott R. Tess706 S. Glover Ave. Urbana, Illinois 61802Website:www.urbanaillinois.us/forms/sustainability-public-input-survey

Discuss Sustainability in Urbana at:

Facebook: www.facebook.com/sustainableurbana

CONTENTS

1. SUMMARY		4
2. BACKGROUND		6
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	1:
2.4	Aspect 4: Flood Management	13
2.5	Aspect 3: Surface Water & Stormwater Aspect 4: Flood Management Aspect 5: Recreational Waters	14
3. ASPECTS, GOALS, &	ACTIONS	1
3.1	Aspect 1: Potable Water Supply and Demand	16
3.2	Aspect 2: Potable Water Quality Aspect 3: Surface Water & Stormwater	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	2



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 January 1, 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.

1. SUMMARY

5 ASPECTS : 8 GOALS : 27 ACTIONS

ASPECT 1: POTABLE WATER SUPPLY & DEMAND



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 forthcoming Champaign County Regional Planning Commission's model emergency water conservation 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.

Reduce potable water use in City-owned buildings 24%



Action 1 Retrofit water-saving faucet aerators where appropriate.

Action 2 Upgrade computer server room cooling system.

Action 3 Install water-saving irrigation controls where appropriate.

Action 4 Retrofit water-saving toilets where appropriate.

Action 5 Assess water reuse opportunities of U-C Sanitary District treated water discharge.

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

ASPECT 2: POTABLE WATER QUALITY

GOAL

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.



INVESTIGATE ADDITIONAL ACTIVITIES TO PROTECT POTABLE WATER QUALITY

Action 1 Assess legal, funding, and staffing necessary for brownfields cleanup and redevelopment.
 Action 2 Assess feasibility of household hazardous waste collection events.
 Action 3 Identify Mahomet Aquifer recharge areas in need of protection.

1. SUMMARY

ASPECT 3: SURFACE WATER & STORMWATER



PROTECT SURFACE WATER AND STORMWATER QUALITY

Action 1 Continue to implement Stormwater Utility Credit and Incentive Program. Action 2 Demonstrate & promote environmentally friendly use of landscape fertilizers, pesticides, and associated practices.



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



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 managing and mitigating potential flood impacts.

ASPECT 5: RECREATIONAL WATERS

GOAL

SUPPORT THE DEVELOPMENT 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.

2. BACKGROUND



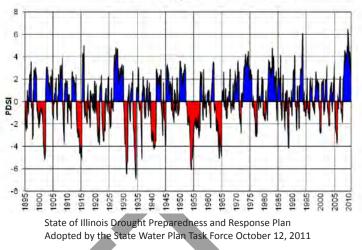
Crystal Lake

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. This resource is very resilient, recharging storage levels during wet years following depletions during dry years. Additionally, measurements show more substantial wet periods in recent years.

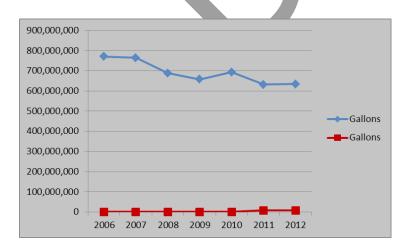
Per capita residential potable water consumption has been declining for years in Urbana and in the U.S. generally. Additionally, municipal water consumption has been declining. Commercial and industrial water use has fluctuated. This fluctuation appears to track economic development and recession.

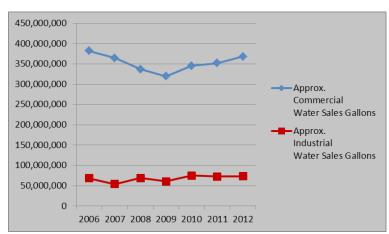
Palmer Drought Severity Index - Illinois



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	2006	382,116,750		68,244,000	
2007	764,572,900	53	2007	364,697,460	-5%	54,172,500	-21%
2008	688,741,000	48	2008	336,732,750	-8%	68,990,250	27%
2009	658,198,750	45	2009	319,500,000	-5%	60,453,000	-12%
2010	693,059,750	46	2010	345,158,250	8%	74,970,000	24%
2011	639,700,500	42	2011	351,974,250	2%	72,640,500	-3%
2012	642,242,370	42	2012	368,193,750	5%	73,554,000	1%

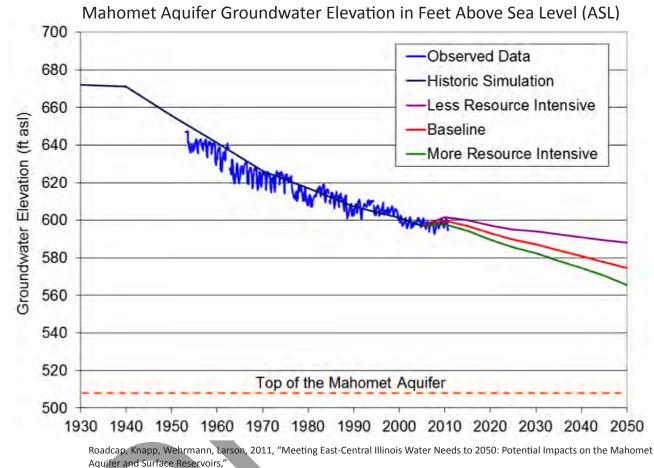






2.1 BACKGROUND

Despite improvements in efficient water use, groundwater elevations are predicted to slowly fall 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 of published a document titled *East-Central Illinois Water Supplies Vulnerable to Droughts of Record* where the committee stated no water supplys in Champaign County are to be listed as vulnerable.



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.

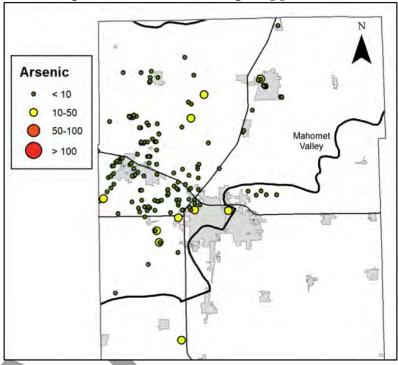
Potable Water Supply & Demand Summary

- Potable water supply is not unlimited, but any potential crisis is far in the future.
- Per capita residential and municipal potable water consumption has been falling.
- There is some interaction between the deep Mahomet Aquifer and the surficial Glasford Aquifer creating the potential for localized dewatering of wells.
- Modeled predictions could change due to unforseen growth and development.

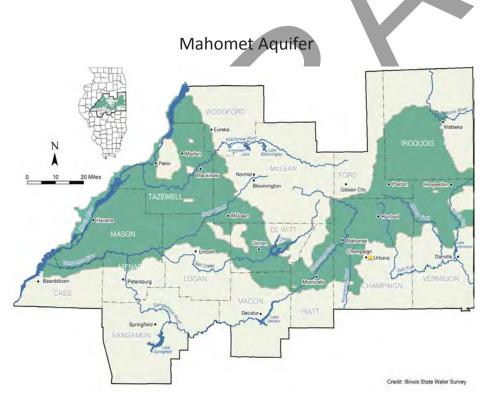
Potable Water Quality

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

The water quality in the Mahomet Aquifer is very good. There is a very small amount of naturally occuring Arsenic in the shallow Glasford Aquifer 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 Glasford Aquifer. 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.

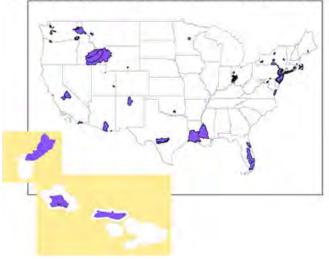


Walt Kelly. Personal communication. October 10, 2012.



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

National Sole Source Aquifers



Superfund sites, Brownfields, undeclared 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 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.

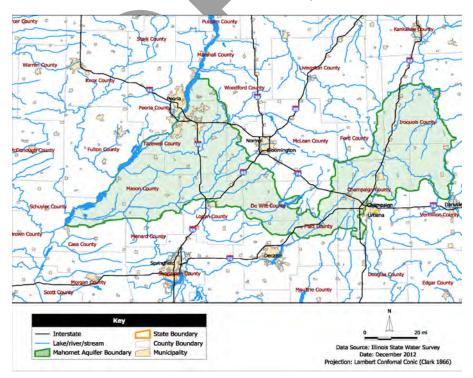
There are no declared brownfields in Champaign County although there are likely sites with contaminated soils yet to be discovered dating back to industrial operations that

US Environmental Protection Agency to occured before the advent of environmental regulations.

The City of Urbana, in collaboration with many other municipalities, has 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.
- Undeclared brownfields can pose risks, but the risks are largely unknown.



Stormwater and Surface Water Quality

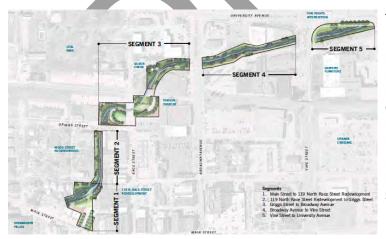
Urbana is fortunate that the Illinois EPA conducts water quality testing of several surface waters in the City as part of federal Clean Water Act requirements. The results of this testing are known as the '303(d) List' available at http://www.epa.state.il.us/water/water-quality/. This testing determines 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. Wastewater treatment plants are not designed to treat pharmaceutical waste, therefore, flushed pharmaceuticals may persist through treatment and be discharged to surface waters. Statewide, approximately 15% of surface waters have been assessed, although 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 are. Green infrastructure investments that improve environmental performance while providing urban green space has been accompanied by adjacent private sector investment in many places across the U.S.



Boneyard Creek

To improve surface water quality, Urbana works to remove pollutants that can be picked up by stormwater through leaf collection service and street sweeping. 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 have an opportunity to reduce their stormwater utility fee by applying for incentives and credits that are outlined in the program. Incentives and credits are available to ratepayers who reduce the impact of the runoff from their properties by such methods as installing sustainable stormwater practices that allow stormwater to infiltrate into the ground. These practices offset the impact of some of the impervious surface on the property by reducing the rate and volume of runoff, and by removing pollutants that would otherwise be carried to streams and lakes.

Credit Ture	Credit Amount		
Credit Type	Single Family / Duplex	Other Properties	
Runoff Rate Reduction	NA	20% max.	
Runoff Volume Reduction	NA	20% max.	
Runoff Water Quality	NA	10% max.	
Direct Discharge	NA	50% max.	
Education	NA	\$5/student, 50% max	

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 ٠ provide community development benefits.

Incentive Type	Maximum Amount \$50		
Rain Barrel ¹			
Rain Garden ²	\$250		
Runoff Rate Reduction ^{2,3}	\$250		
Runoff Volume Reduction ^{2,3}	\$250		
Runoff Water Quality ^{2,3}	\$250		
Total Incentive Available	\$300		

Flood Management

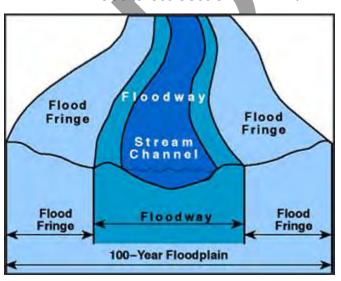
Flood management is primarily provided by the City of Urbana's stormwater sewer system as well as public and private stormwater detention ponds. This infrastructure drains stormwater from streets and properties reducing the frequency and severity of flooding.

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 allow 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.



Flood Zones



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 inpervious 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.

Recreational Waters

The quality and accessiblity 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

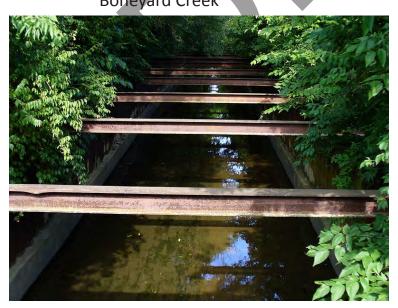
been assessed for Aesthetic Quality either. The narrative standards list the following Aesthetic Criteria:

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

Turbidity

Color

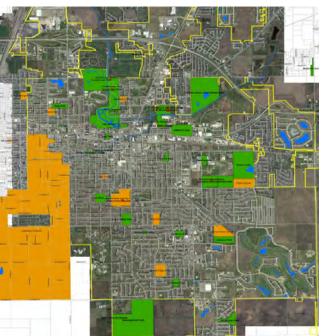




Recreational Waters

- 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.

Parks and Surface Waters



M Dorothy, Wikimedia Commons

3. ASPECTS, GOALS, & ACTIONS

Crystal Lake



GOAL 1: CONTINUE A DECREASING TREND OF PER CAPITA POTABLE WATERIMPLEMENTATION PARTNERSUSE

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

- Work with water company to create community-wide water consumption reporting by sector.
- Seek similar cities to share and compare data with.

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.'

ACTION 3 Consider adoption of the forthcoming Champaign County Regional Planning Commission's model emergency water conservation 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.

• City of Urbana, Illinois Green Business Association (IGBA), Urbana Business Association (UBA), IL American Water

Regional Planning Commission

• City of Urbana , Champaign County

• City of Urbana, Mahomet Aquifer Consortium, Illinois State Water Survey, et al

• City of Urbana, IL American Water

3.1 ASPECT 1: POTABLE WATER SUPPLY AND DEMAND

GOAL 2: REDUCE POTABLE WATER USE IN CITY-OWNED BUILDINGS 24% **IMPLEMENTATION PARTNERS ACTION 1** Retrofit water-saving faucet aerators where appropriate. City of Urbana Change 32 faucet aerators used 10 minutes per day at 255 days from 2.2 to 1.5 GPM =57,120 gallons per year or 2% of annual use and \$260 in annual savings. **ACTION 2** Upgrade computer-server room cooling system. • City of Urbana Replace aging water cooled system with ductless mini-split electric-cooled • City of Urbana system savaing 100% of an estimated 525,000 gallons per year or 18% annual use and \$2,452 in annual savings. **ACTION 3** Install water-saving irrigation controls where appropriate. Install rain sensors, soil moisture sensors, or other irrigation controls. City of Urbana achieving 15% reduction in total irrigation or 5,600 gallons per year or 2% of total annual use and \$115 in savings. **ACTION 4** Retrofit water-saving toilets where appropriate. Change (9) 1 GPF Urinals to .125 GPF Urinals at 30 flushes per day at 255 days =60,244 gallons per year or 2.1% of annual use and \$273 in annual City of Urbana, Urbana-Champaign Sanitary District savings. ACTION 5 Assess water reuse opportunities of U-C Sanitary District treated wa-• City of Urbana, EPA WaterSense ter discharge. Program Action 6 Establish a policy of choosing EPA WaterSense labeled products for City procurement.

EPA WaterSense

3.2 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 ACTIVITIES TO PROTECT POTABLE WATER QUALITY

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

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.

ACTION 3 Identify Mahomet Aquifer recharge areas in need of protection.

IMPLEMENTATION PARTNERS

- City of Urbana, et al
- City of Urbana, et al

• City of Urbana, Mahomet Aquifer Consortium, Illinois State Water Survey, et al

IMPLEMENTATION PARTNERS

• City of Urbana, Illinois EPA Office of Brownfields Assistance

• City of Urbana, Champaign County Regional Planning Commission, Illinois EPA, Product Stewardship Institute

• City of Urbana, Illinois State Water Survey, Champaign County Regional Planning Commission

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 • City of Urbana Program. **ACTION 2** Demonstrate & promote environmentally friendly use of landscape City of Urbana, University of Illinois fertilizers, pesticides, stormwater management, and associated practices. **Extension Service** Create 'Better Homes and Gutters' information and tour. **IMPLEMENTATION PARTNERS GOAL 2: INVESTIGATE ACTIVITIES TO PROTECT SURFACE WATER AND STORMWATER** ACTION 1 Assess best practices for inspections, maintenance, and regulation • City of Urbana, Illinois EPA Bureau of of private and municipal stormwater storage and/or stormwater treatment Water facilities. City of Urbana Police Department, ACTION 2 Assess feasibility of maintaining a pharmaceutical waste collection City of Champaign Police Department, drop box at the police station. Champaign County Sheriff's Office, University of Illinois Police, University ACTION 3 Report EPA TMDL testing to the Sustainability Advisory Commission. of Illinois SEA Grant • City of Urbana, Illinois EPA Bureau of Water



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 managing and mitigating potential flood impacts.
- City of Urbana

3.5 ASPECT 5: RECREATIONAL WATERS

GOAL 2: SUPPORT THE DEVELOPMENT AND USE OF RECREATIONAL WATERS MIMPLEMENTA

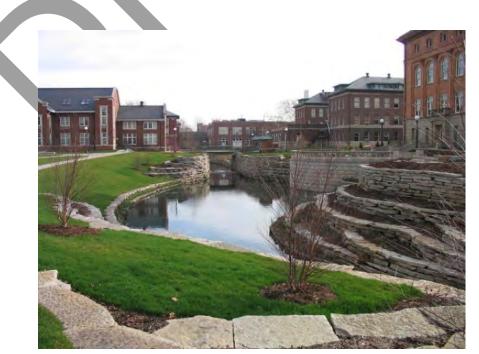
ACTION 1 Assess current amount of public access to recreational waters.

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

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.

- **IMPLEMENTATION PARTNERS**
- City of Urbana, Champaign County Regional Planning Commission
- City of Urbana, Champaign County Regional Planning Commission
- City of Urbana, Urbana Park District



	 commercial, residential, and/or irrigation purposes. Goal 2 Action 1 Retrofit water-saving faucet aerators where appropriate. Goal 2 Action 5 Assess water reuse opportunities of U-C Sanitary District treated water discharge. Goal 2 Action 2 Assess feasibility of household hazardous waste collection events. Goal 2 Action 1 Assess best practices for inspections, maintenance, and regulation of private and municipal stormwater storage and/or stormwater treatment facilities. Goal 2 Action 2 Assess feasibility of maintaining a pharmaceutical waste collection drop box at the police 		 associated practices. Goal 1 Action 1 Ensure that the focus group called to address climate change adaptation in Goal 4 of the Urbana 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 managing and mitigating potential flood impacts. Goal 1 Action 2 Assess a long term public access goal for recreational waters in Urbana. Goal 1 Action 3 Promote an appreciation for the ecological, aesthetic, and economic values of recreational waters as green infrastructure. Goal 1 Action 5 Assess feasibility of a rain sensor and/or soil moisture sensor ordinance for new landscape irrigation systems. 	
COMPLETEASPECTIndeterminateAspect2IndefiniteAspect3IndefiniteAspect32013Aspect12013Aspect1	Aspect 1 Aspect 1 Aspect 2 Aspect 3 Aspect 3	Aspect 5 Aspect 1 Aspect 1 Aspect 1 Aspect 3	Aspect 4 Aspect 5 Aspect 5 Aspect 1	Aspect 1 Aspect 1 Aspect 2 Aspect 1 Aspect 1 Aspect 2 Aspect 2
COMPLETE Indetermina Indetermina Indefinite Indefinite 2013 2013	2013 2013 2013 2013 2013	2013 2014 2014 2014 2014	2014 2014 2015 2015	2016 2013 2013 2014 2013 2014 2020 2020 2020 2019 2020 2020 2014 2020 2020 2020 2020 2020