

Sustainable Water Management Plan

2013-2020



SUSTAINABLE WATER MANAGEMENT PLAN

2013-2020
City of Urbana, Illinois



Photo credit: Over, T.M., Soong, D.T., and Holmes, Jr., R.R., 2011, Using observed discharges to evaluate a hydrologic and hydraulic design model, Boneyard Creek, C U.S. Geological Survey Scientific Investigations Report 2011-

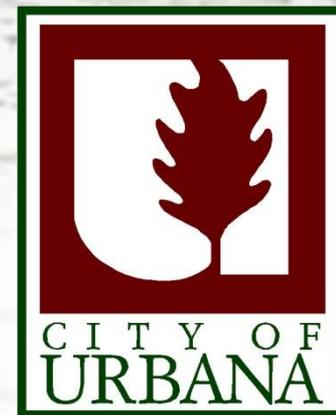
Impetus

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



Purpose

- Review the current state of five Aspects of water management
- Lay out Goals to manage these Aspects more sustainably by implementing specific, achievable Actions.



5 Water Sustainability Dimensions

- Potable Water Supply and Demand
- Potable Water Quality
- Surface Water and Stormwater Quality
- Flood Management
- Recreational Waters



Scope

- Ambitious, but achievable Goals for
 - Conservation retrofits in City-owned facilities
 - regional collaboration
 - public policies
 - public engagement



Timeframe

- Adoption date in 2013 to January 1, 2020 with the exception of certain Actions that shall be ongoing.



Background

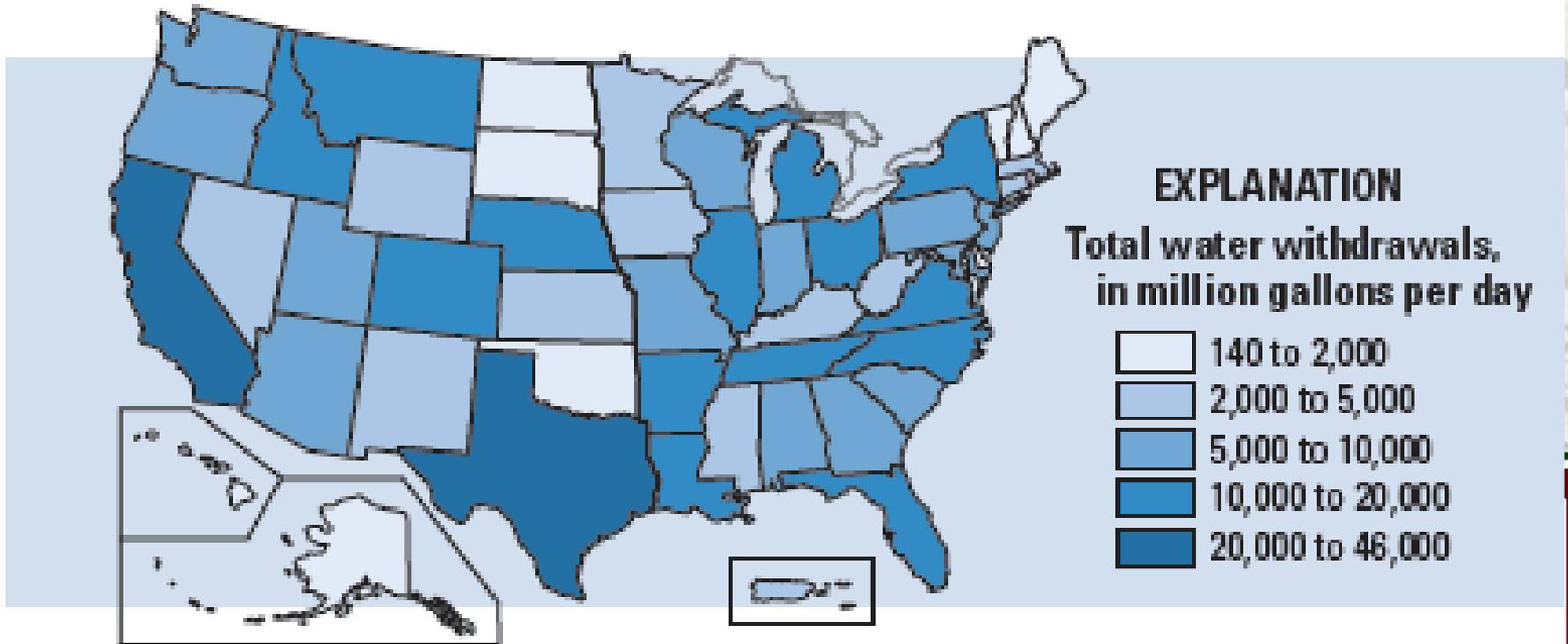


11/21/2013

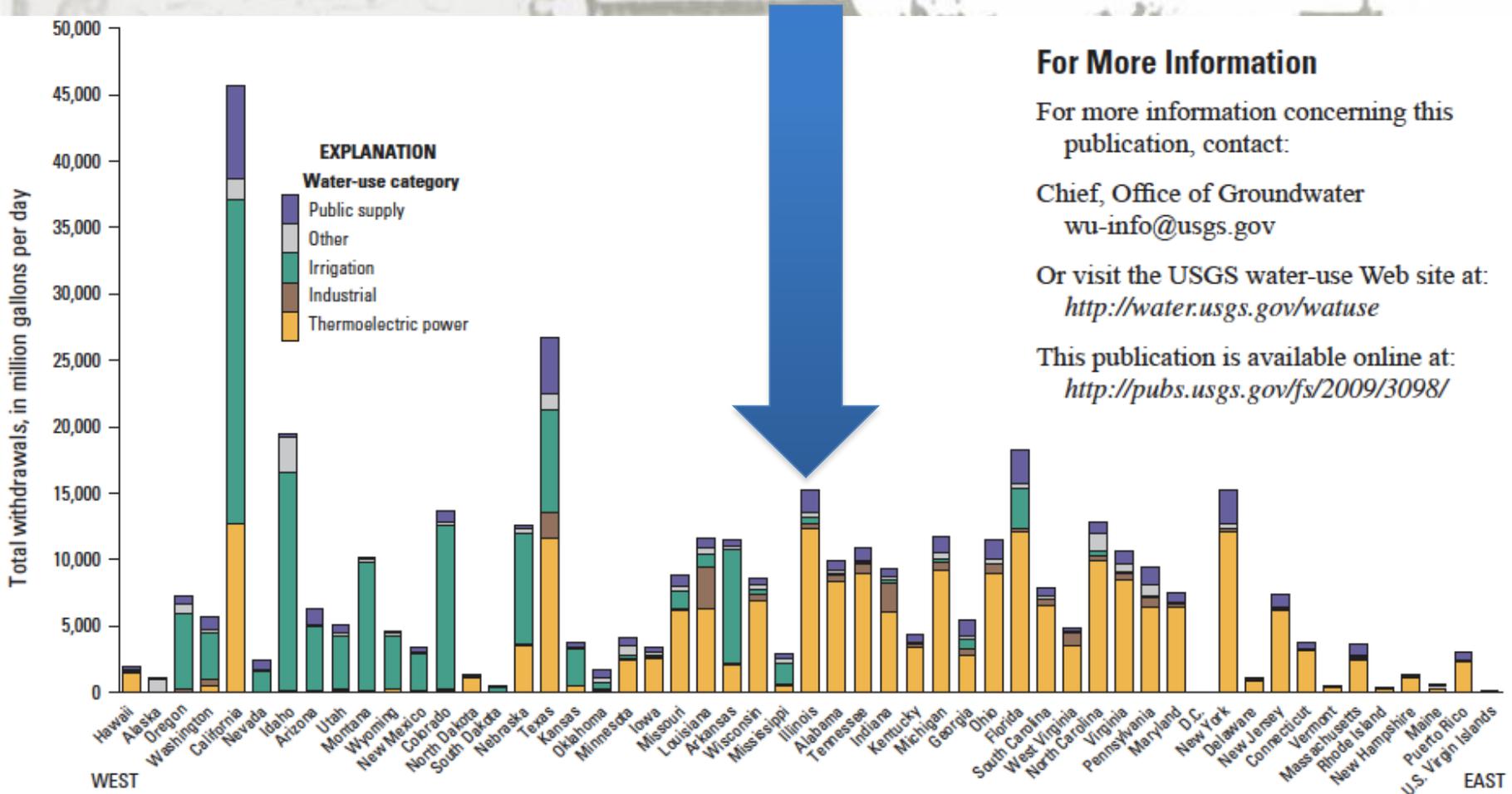
7



Surface, Ground, and Salt Water Use by State



Surface, Ground, and Salt Water Use by State



2005 withdrawals by category, in million gallons per day. States are arranged geographically.

For More Information

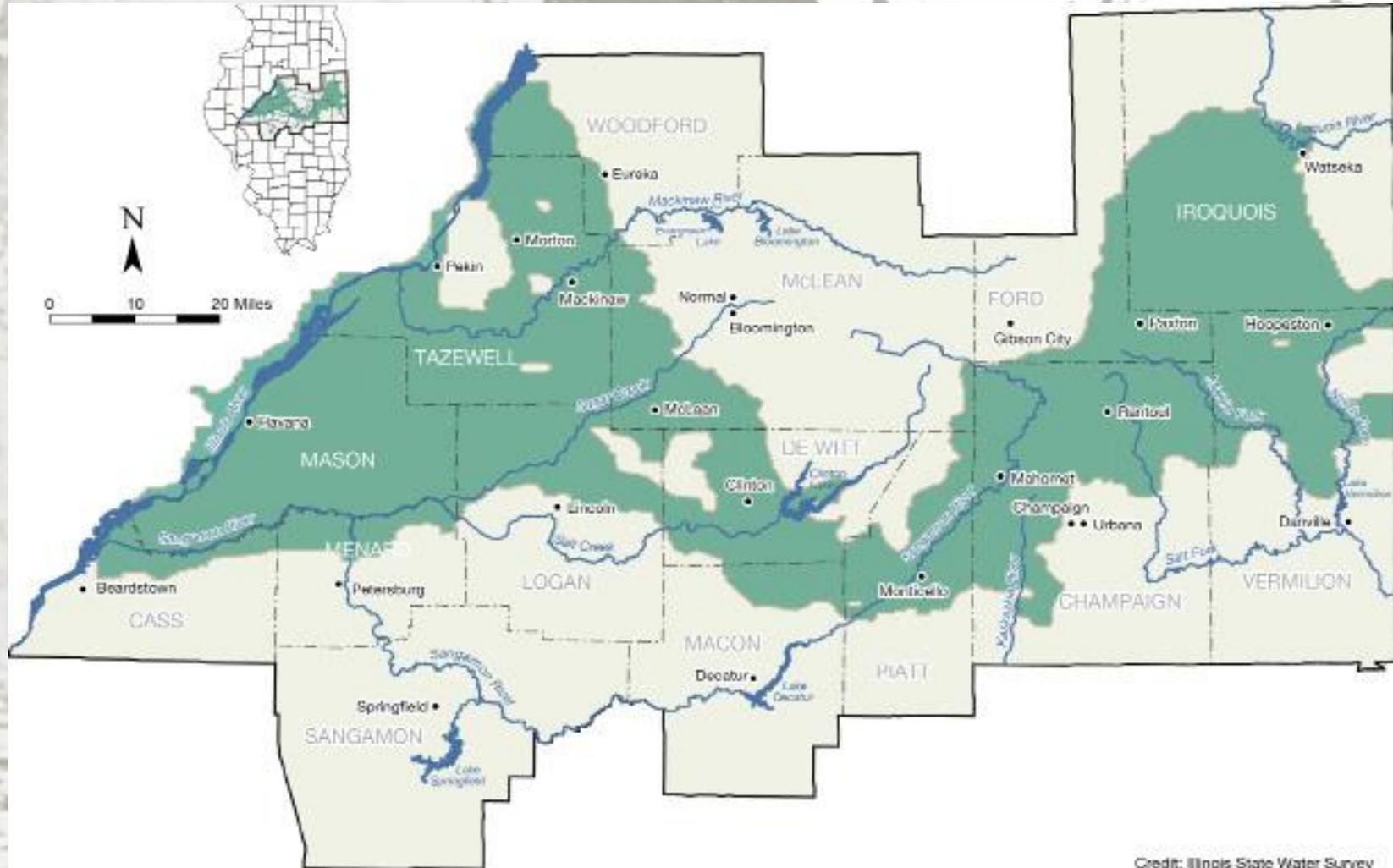
For more information concerning this publication, contact:

Chief, Office of Groundwater
wu-info@usgs.gov

Or visit the USGS water-use Web site at:
<http://water.usgs.gov/watuse>

This publication is available online at:
<http://pubs.usgs.gov/fs/2009/3098/>

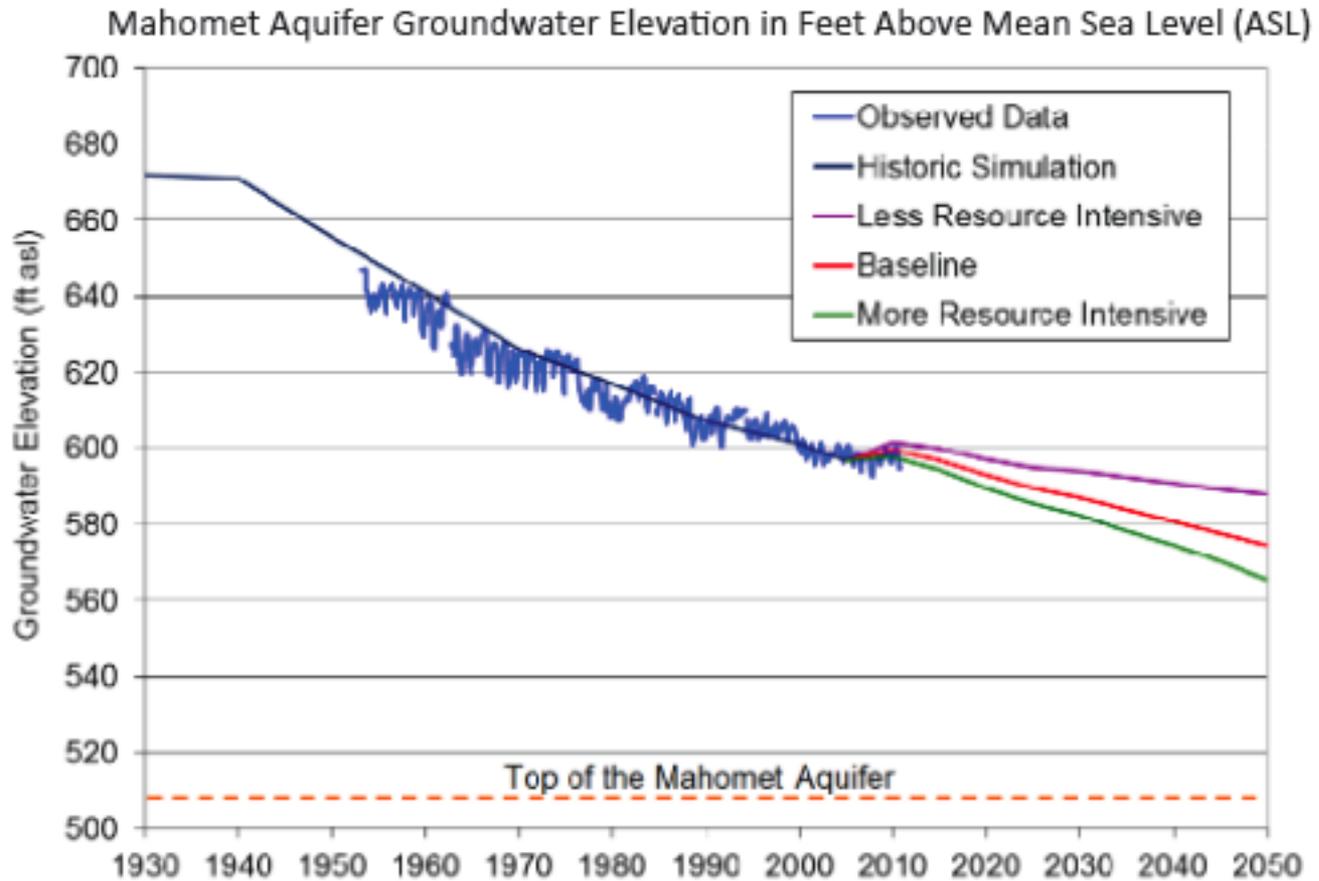
POTABLE WATER SUPPLY



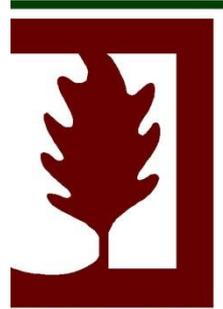
Credit: Illinois State Water Survey



POTABLE WATER SUPPLY



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

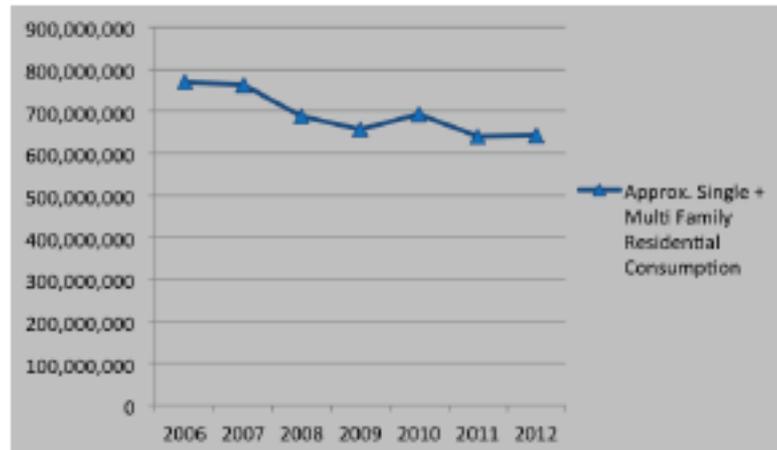


UNIVERSITY OF
URBANA

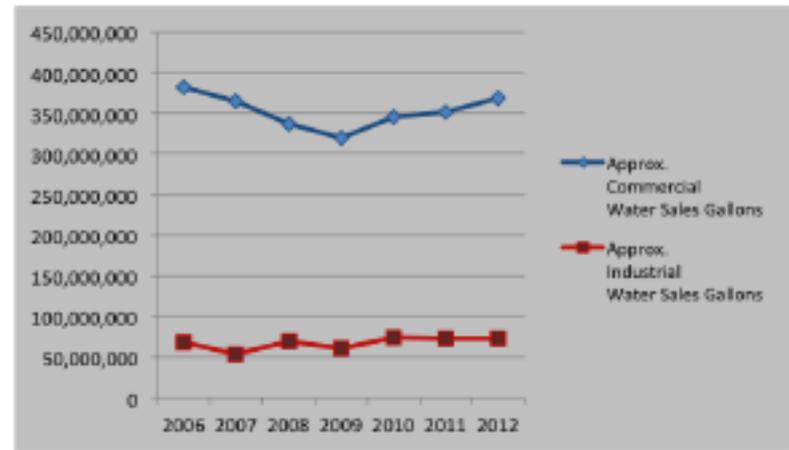
POTABLE WATER DEMAND

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%

Data from Illinois American Water



Data from Illinois American Water



POTABLE WATER DEMAND

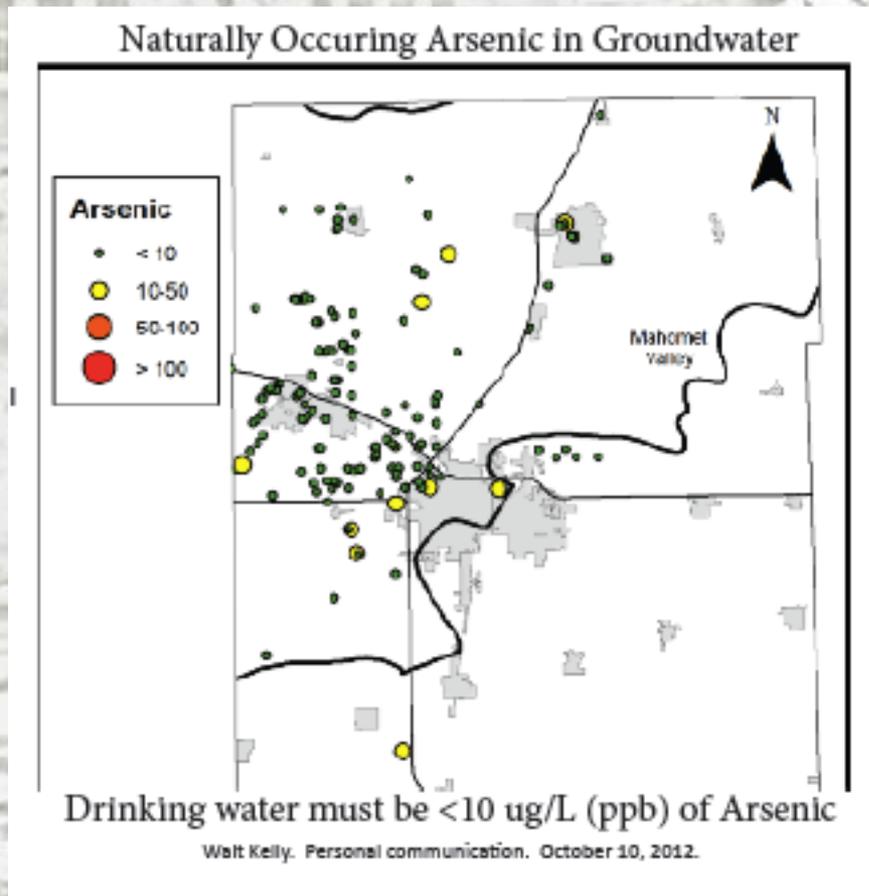
Depending on the region, homeowners use **30-60%** of their water outdoors.



50% of that is wasted, in part, due to overwatering.

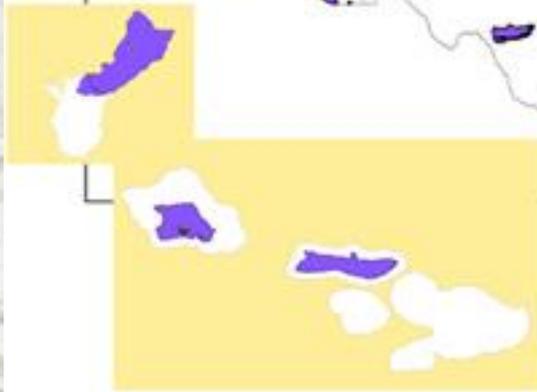
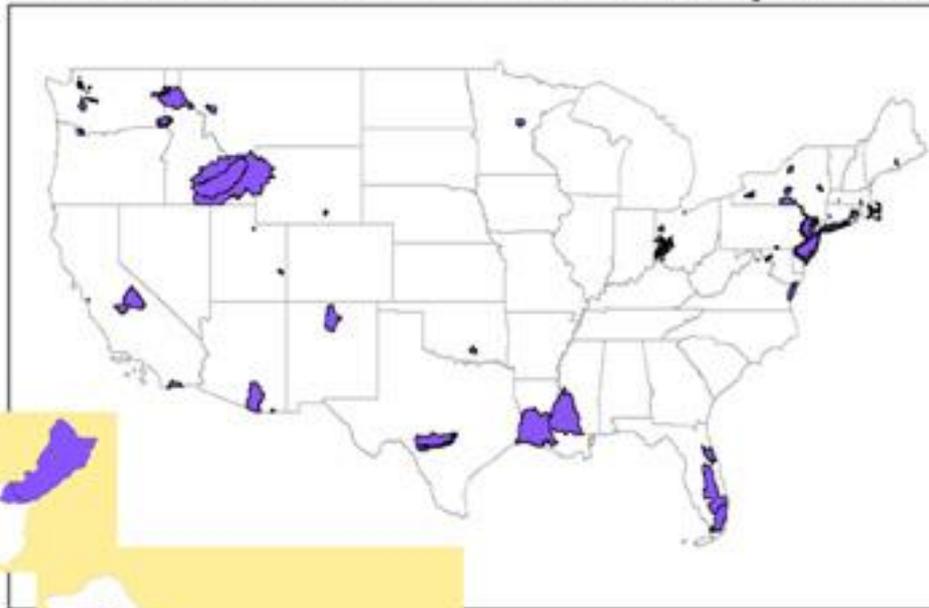


POTABLE WATER QUALITY



POTABLE WATER QUALITY

National Sole Source Aquifers

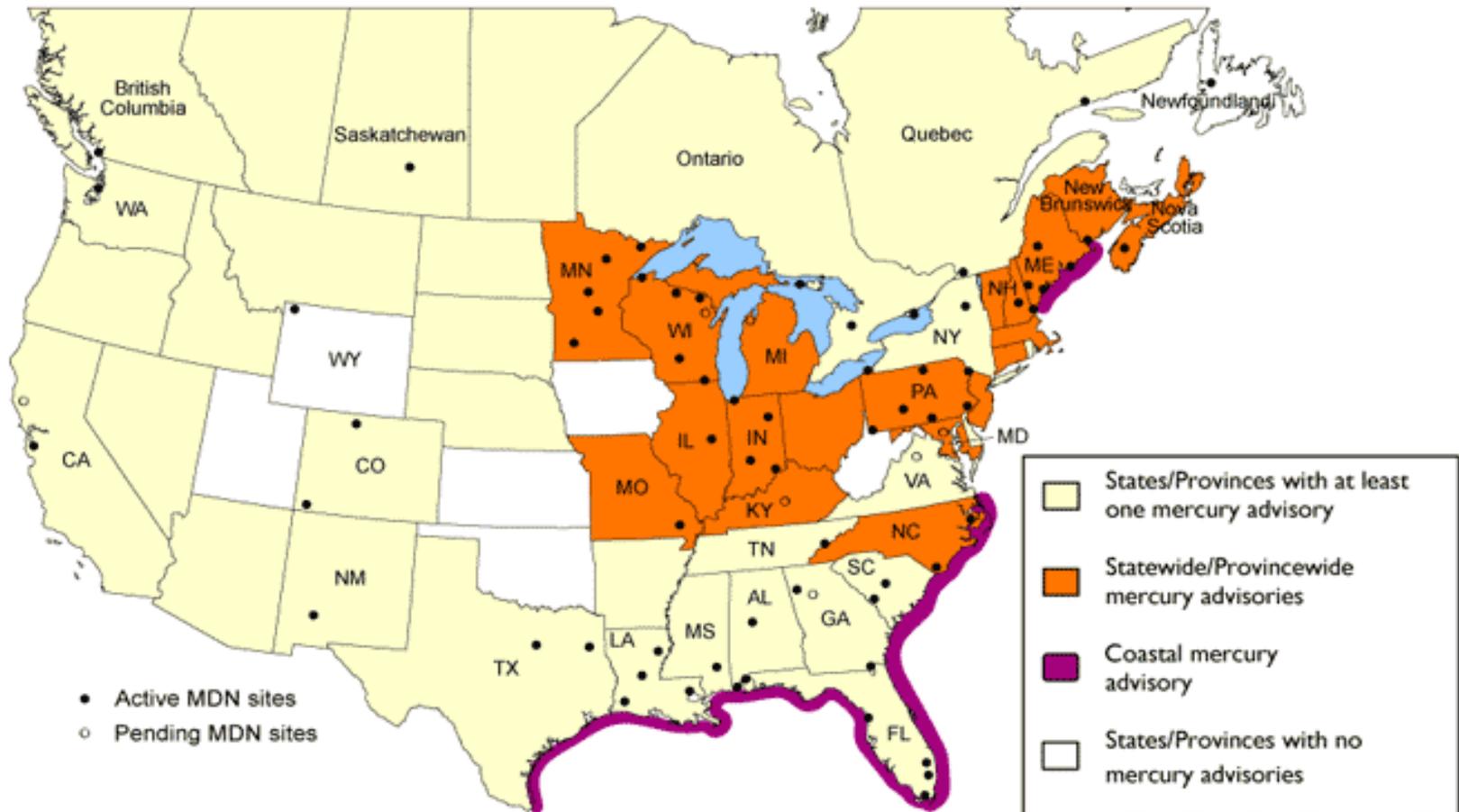


SURFACE WATER AND STORMWATER

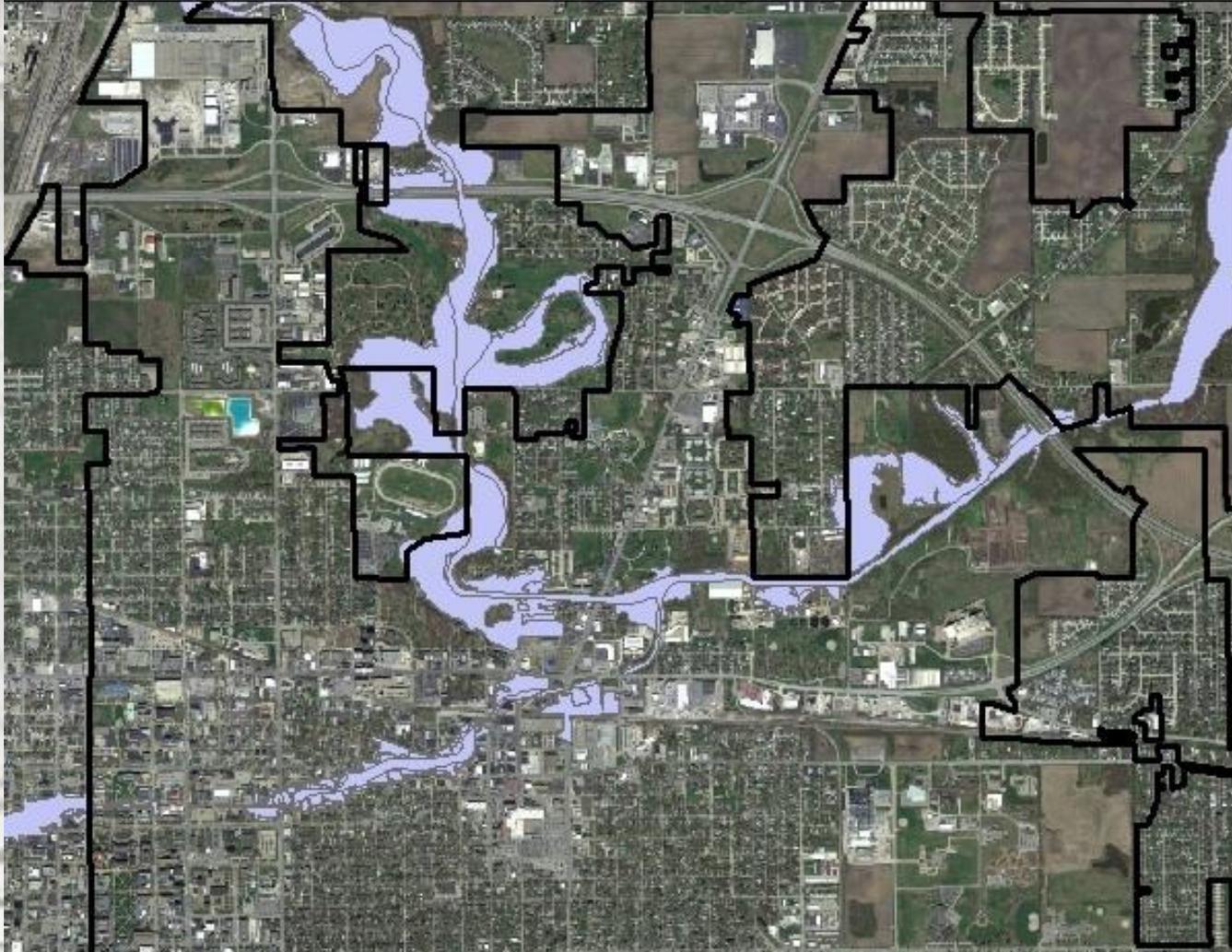
Surface Water	Designated Uses	Status	Impairments	Cause
Boneyard Creek IL_BPJCA	Aquatic Life	Not Attaining	Alteration in stream-side or littoral vegetative covers, Copper, Dissolved Oxygen, Total Phosphorus	Channelization, Urban runoff/Storm Sewers
	Fish Consumption	Not Assessed		
	Primary Contact	Not Assessed		
	Secondary Contact	Not Assessed		
	Aesthetic Quality	Not Assessed		
Crystal lake IL_RBU	Aquatic Life	Not Attaining		Atmospheric Deposition-Toxics, Source Unknown
	Mercury			
	Fish Consumption	Not Supporting		
	Primary Contact	Not Assessed		
	Secondary Contact	Not Assessed		
	Aesthetic Quality	Not Assessed		
Saline Branch IL_BPJC-06	Aquatic Life	Fully Supporting	No data	No data
	Fish Consumption	Not Assessed		
	Secondary Contact	Not Assessed		
	Aesthetic Quality	Not Assessed		
Saline Branch IL_BPJC-08	Aquatic Life	Not Attaining	Alteration of in stream-side or littoral vegetative covers, Dissolved Oxygen, pH, Loss of instream cover	Channelization, Source Unknown
	Fish Consumption	Not Assessed		
	Primary Contact	Not Assessed		
	Secondary Contact	Not Assessed		
	Aesthetic Quality	Fully Supporting		

SURFACE WATER AND STORMWATER

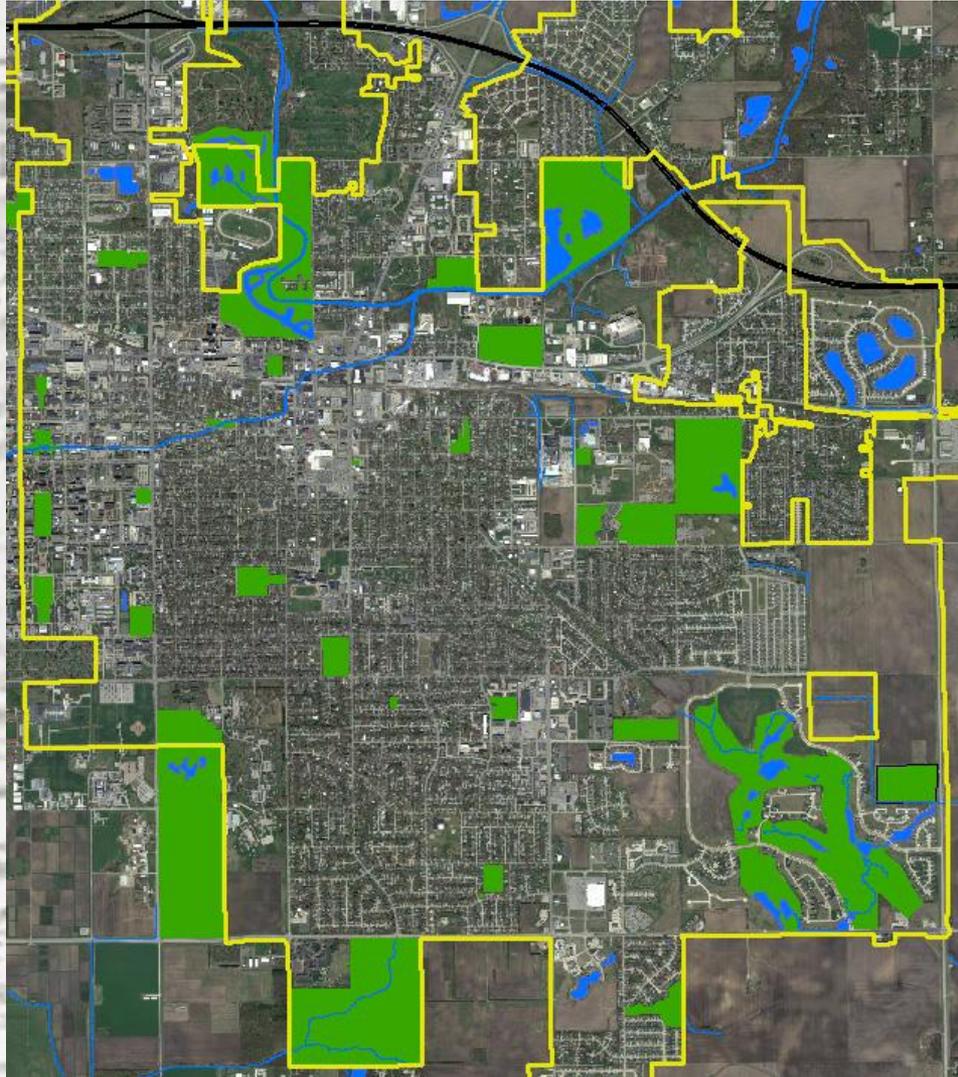
Mercury Deposition Network Sites and Mercury Fish Advisories



FLOOD MANAGEMENT



RECREATIONAL WATERS



Summary Page

1. SUMMARY

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

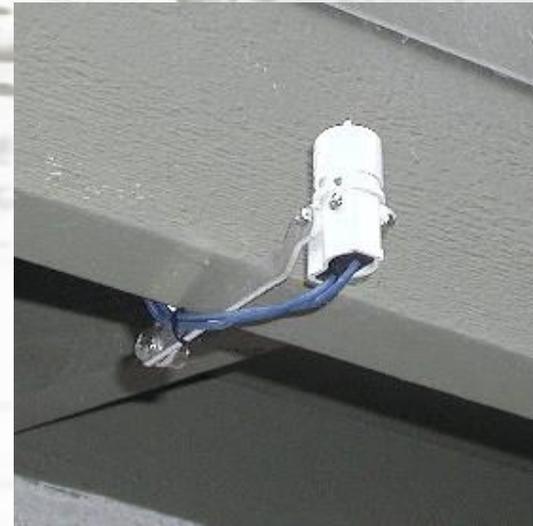
GOAL 1 PLAN FOR CLIMATE IMPACTS ON FLOOD MANAGEMENT
Action 1 Ensure that the focus group called to address climate change adaptation in Goal 4 of the Urbana Climate Action Plan addresses management and mitigation of potential flood impacts.

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.

Highlights

- ASPECT 1: POTABLE WATER SUPPLY AND DEMAND
 - ACTION 4 Assess feasibility of a rain sensor and/or soil moisture sensor ordinance for new landscape irrigation systems.



Highlights

- ASPECT 1: POTABLE WATER SUPPLY AND DEMAND
 - GOAL 2: REDUCE POTABLE WATER USE IN CITY-OWNED BUILDINGS BY 24%



Highlights

- ASPECT 3: SURFACE WATER & STORMWATER QUALITY
 - ACTION 2 Assess feasibility of maintaining a pharmaceutical waste collection drop box at the police station.



MEDICINE COLLECTION PROGRAM

www.unwantedmeds.org

Unwanted Medicines Drop Boxes

Permanently located at:

Urbana Police Department
Champaign Police Department
University of Illinois Police Department

Simply place your unwanted prescription or over-the-counter medicines into this drop box. The drugs will be disposed of properly.

ITEMS ACCEPTED

- ✓ Prescription medications (including controlled)
- ✓ All over-the-counter medications
- ✓ Pet medications
- ✓ Vitamins & Supplements
- ✓ Medicated ointments, lotions, creams, and oils
- ✓ Liquid medication in leakproof containers

ITEMS NOT ACCEPTED

- ✗ Needles/sharps
- ✗ Syringes with needles
- ✗ Thermometers
- ✗ IV Bags
- ✗ Bloody or infectious waste
- ✗ Personal care products
- ✗ Empty containers
- ✗ Hydrogen Peroxide
- ✗ Aerosol cans
- ✗ Full Inhalers
- ✗ Illegal drugs

Highlights

- ASPECT 5: RECREATIONAL WATERS
 - ACTION 1 Assess current amount of public access to recreational waters.



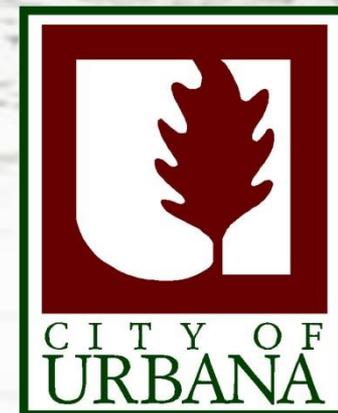
Highlights

- ASPECT 5: RECREATIONAL WATERS
 - ACTION 3 Promote an appreciation for the ecological, aesthetic, and economic values of recreational waters as green infrastructure.



Opportunities for Participation

- Regional Collaboration
 - Model policies and best practices
 - Public engagement
- Citizen Science
 - Water Sampling



Thank you

