



# Kansas City, MO Wet Weather Solutions Program

## Basin Coordinating Committee Meeting #2



**WATER**

*the future is clear*

visit [www.kcmo.org/wetweather](http://www.kcmo.org/wetweather) to learn about the Wet Weather Solutions Program



# Why Wet Weather Solutions?

- *Problems to be addressed*
- *Regulations to meet*



# Program Goals

- *Minimize loss of life & injury and reduce property damage due to flooding;*
- *Improve water quality; and*
- *Maximize economic, social & environmental benefits.*



# Why are you here?

- *Learn about issues*
- *Make sure we have considered everything*
- *Represent community priorities*
- *Provide information back to community*





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# Your input is needed

- *Framing the problem;*
- *Prioritizing desired outcomes;*
- *Developing & evaluating strategies & alternatives;*  
*and*
- *Implementing strategies.*



# Purpose of tonight's meeting

- *Get your understanding of the problems and issues.*
- *Describe what you can do to help address problems.*
- *Prioritize what is important to you.*
- *Discuss how we currently use our streams.*



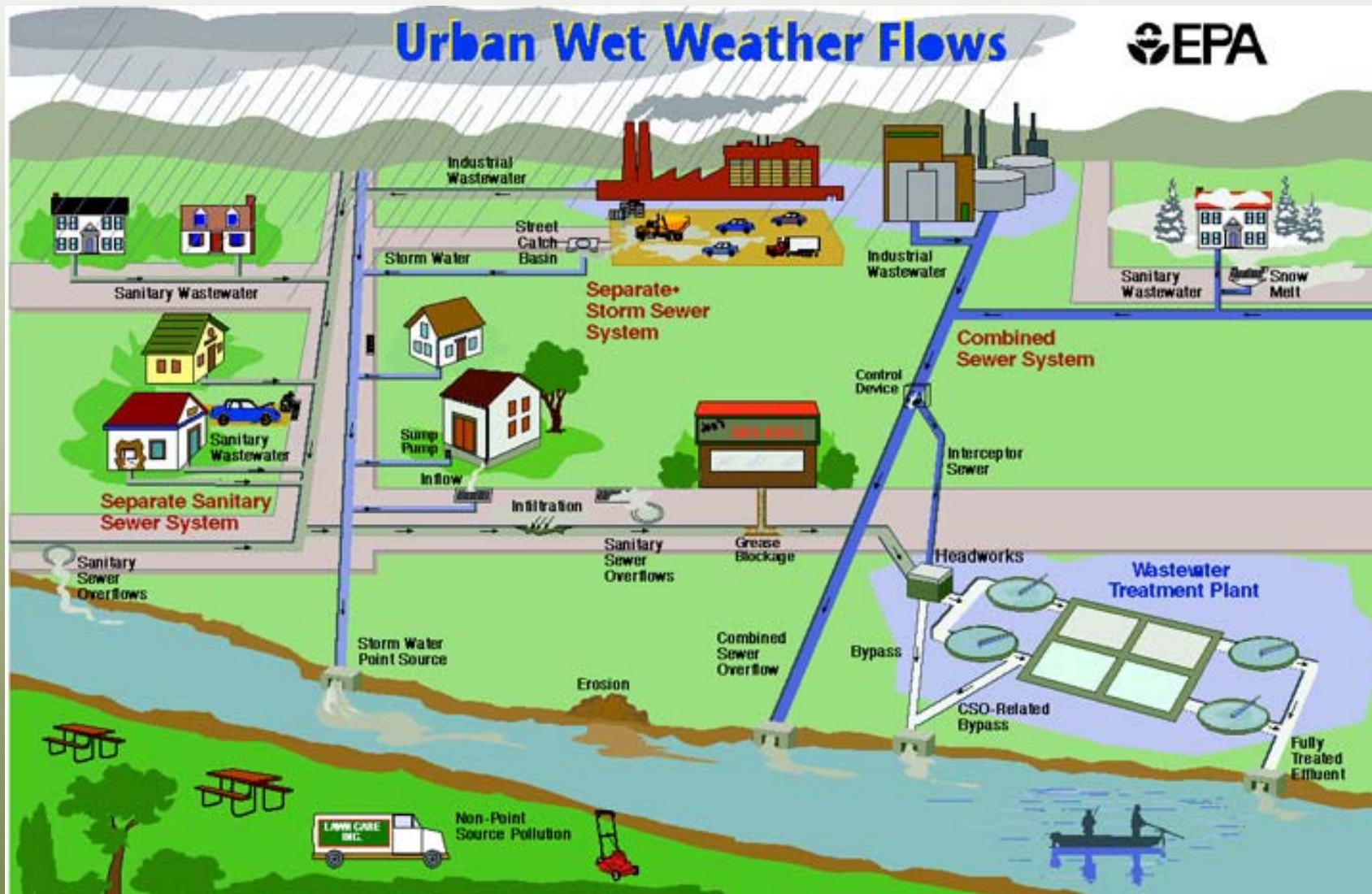


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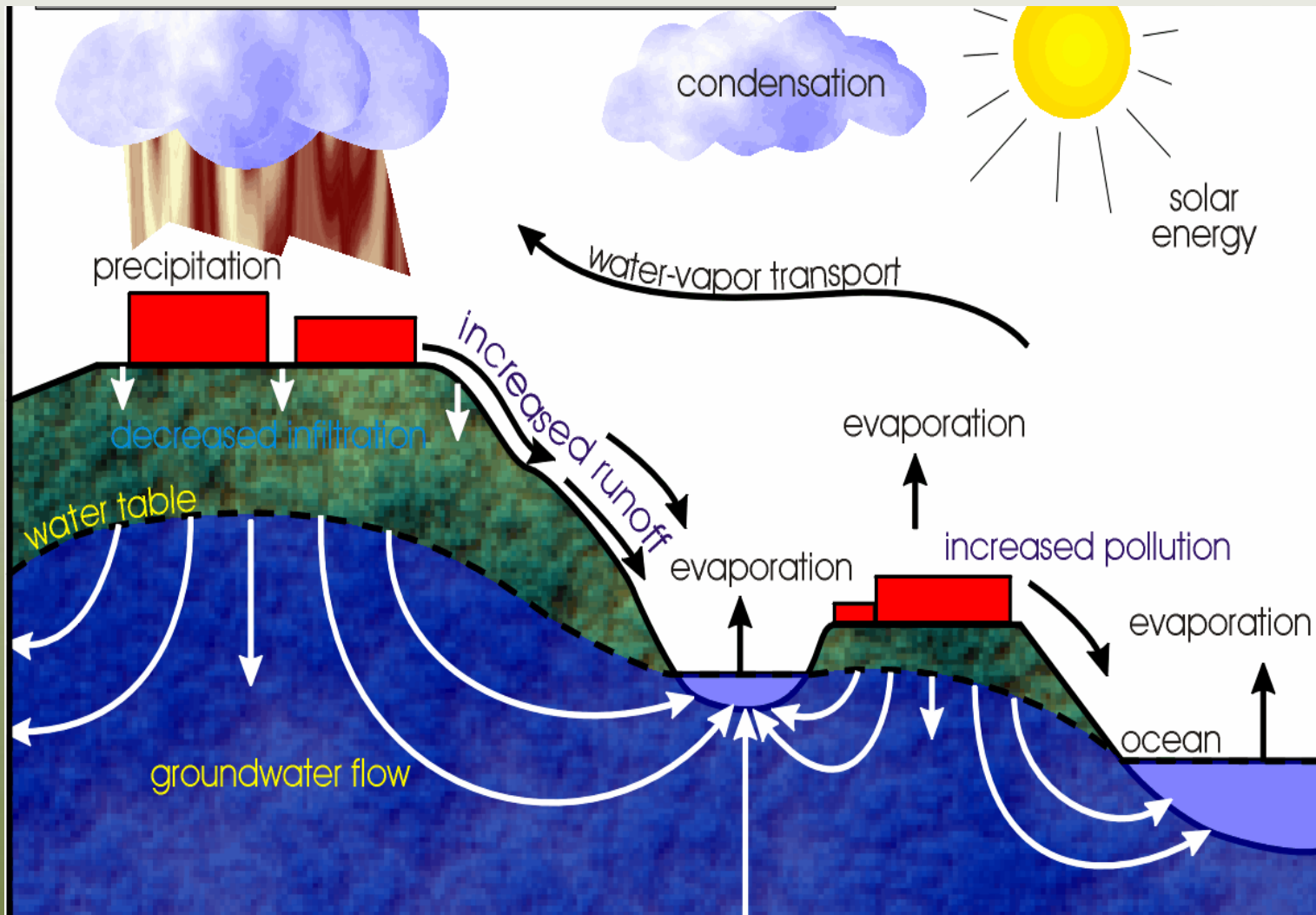
## **GOAL: Improve Water Quality**

- *What is in the water?*
- *What do we mean by water quality?*
- *How is water quality measured?*
- *Why do we have water quality standards?*
- *What are the water quality standards currently?*
- *How does this impact what solutions we evaluate?*
- *What can YOU do?*

# Urban Wet Weather Flows

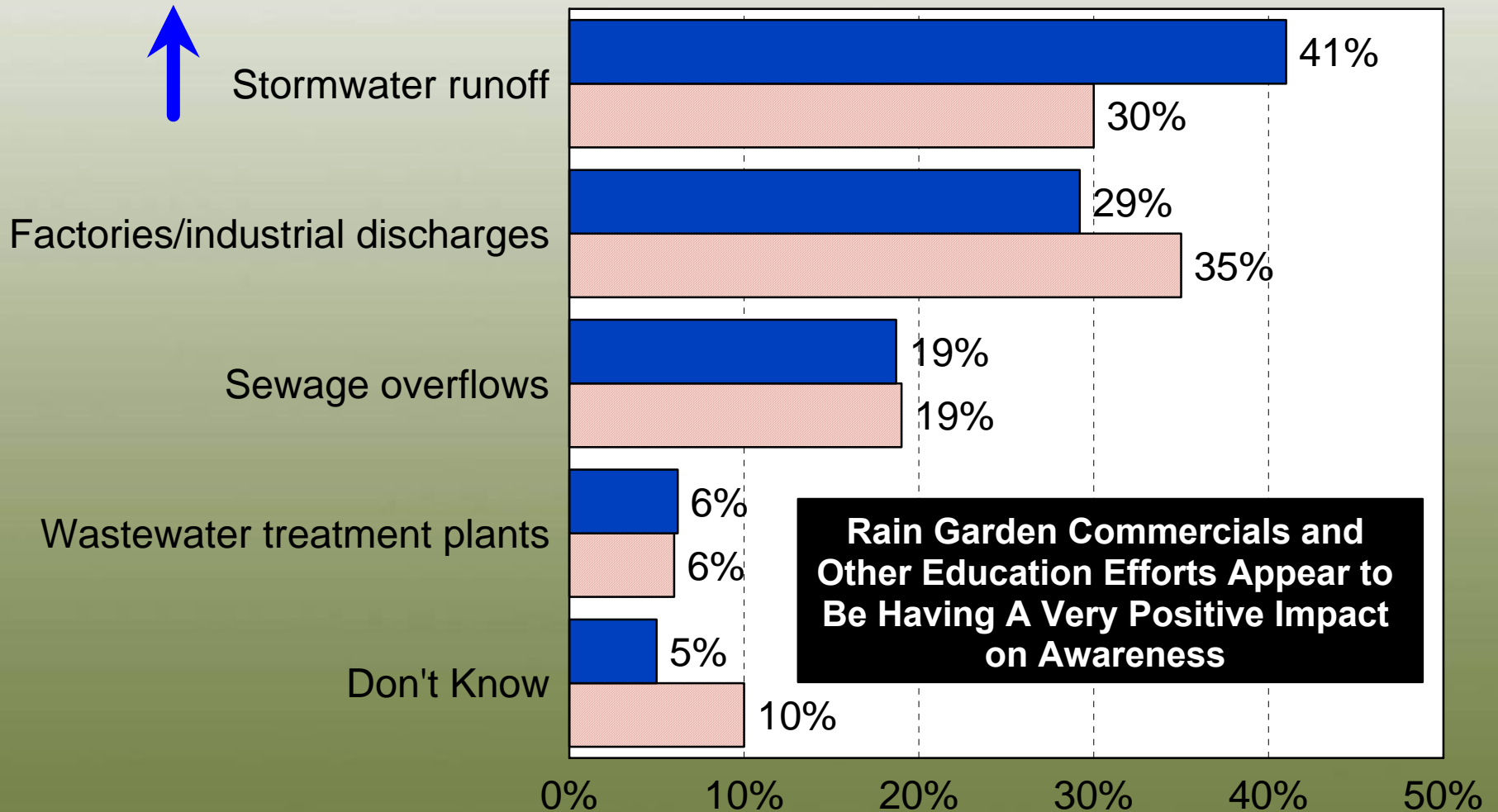


# Stormwater Runoff



# Which ONE of the following do you think contributes the MOST pollution to lakes, rivers, and streams in the area where you live?

by percentage of respondents





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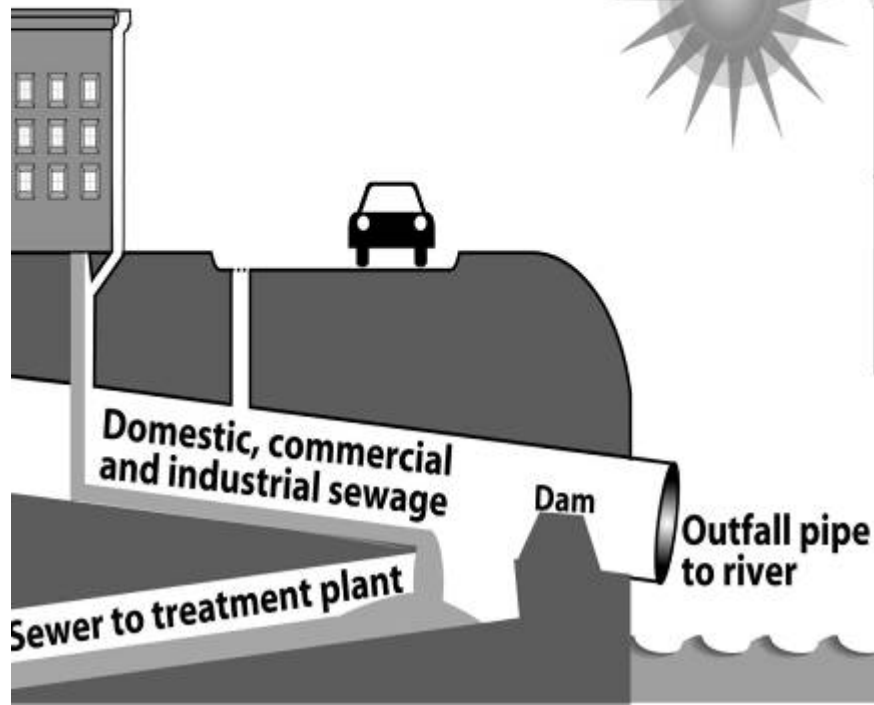
# Water from wastewater treatment plants



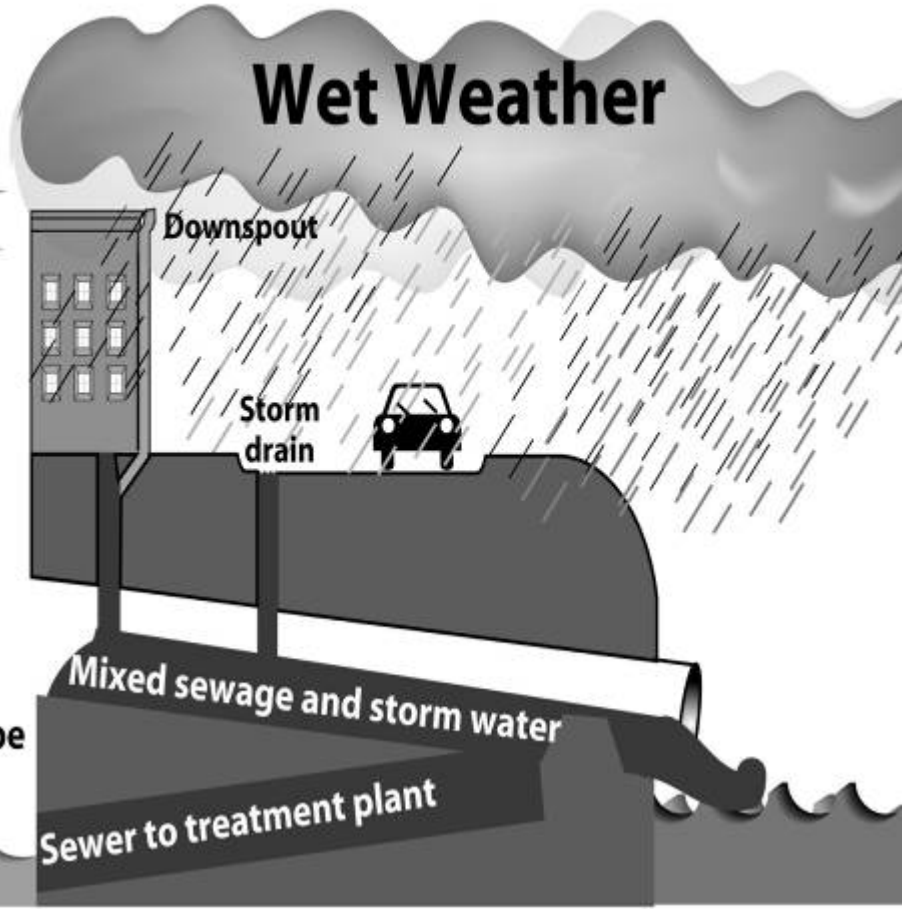


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## Dry Weather



## Wet Weather



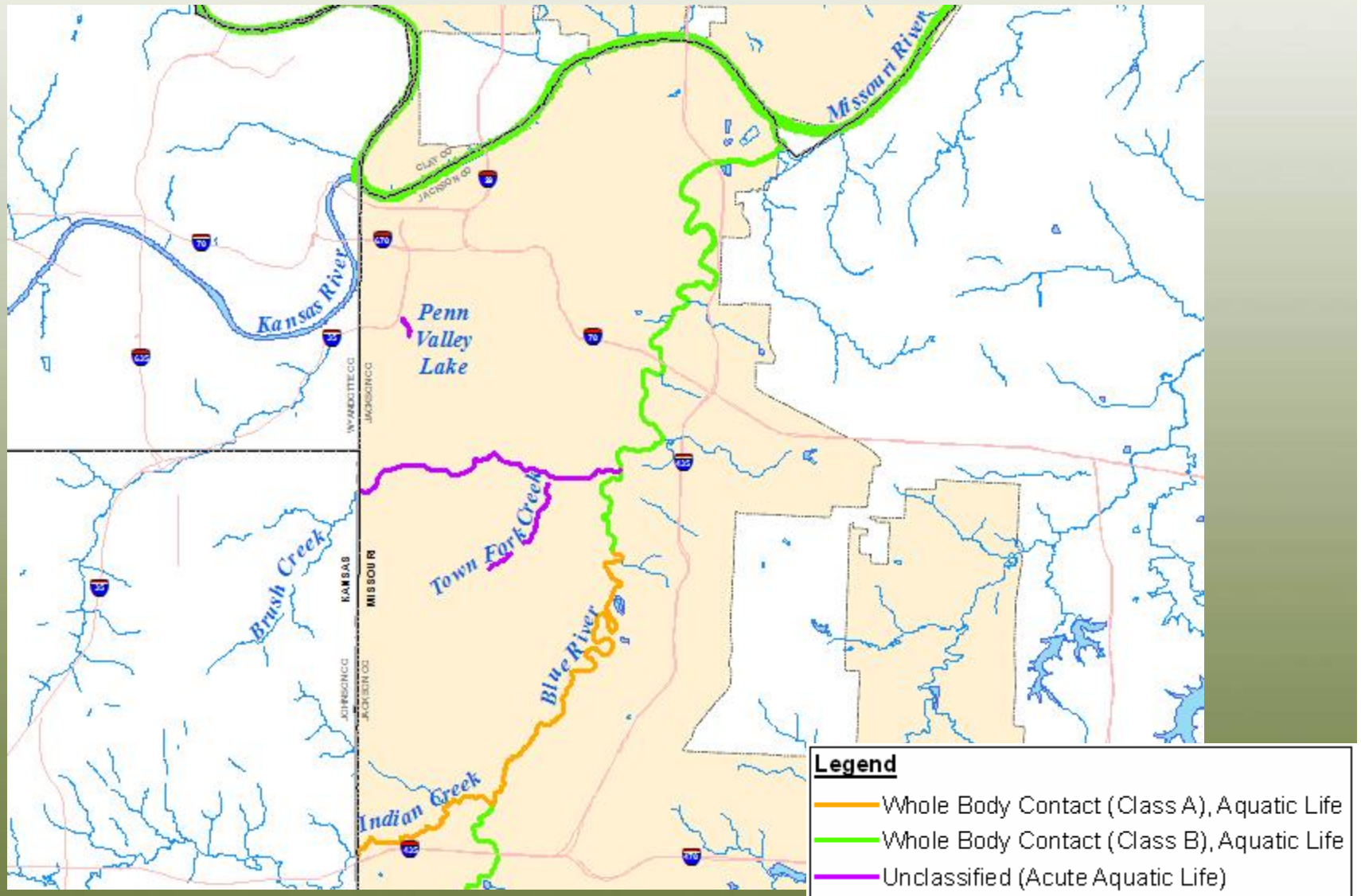


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# Sanitary Sewer Overflows



# Missouri Water Quality Standards



# Key Findings

- *Bacteria and dissolved oxygen are the primary parameters of concern*
  - *Controls focused on these issues will likely address other secondary concerns*
- *Upstream sources, stormwater and combined sewer overflows are **all** significant contributors of pollutants*
  - *This is a watershed problem – not just a CSO issue*

# Stream Asset Inventory

- Field reconnaissance
- Streambank and streambed characterization
- Erosion characterization
- Terrestrial habitat characterization
- Aquatic habitat characterization
- Site photographs
- General observations



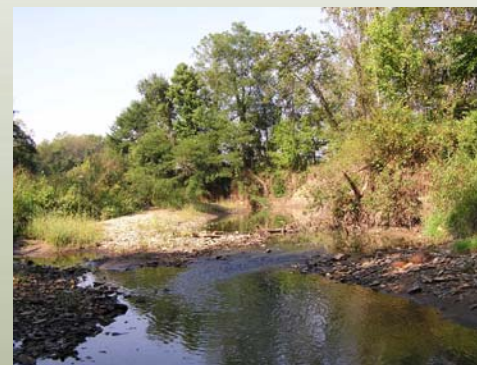
# Stream Classification



Type One  
Rock Creek



Type Two  
Dykes Branch



Type Three  
Todd Creek



Type Four  
Indian Creek



Type Five  
Town Fork Creek



Channelized  
Hickman Mills



# GOAL: Minimize the loss of life and injury and reduce property damage due to flooding

- *What do we mean by “flooding?”*
- *What are the problems in this basin?*
- *What are some potential strategies?*



# What is flooding? – Defining the Problem

- *Some areas are meant to hold flood water during a storm.*
- *Areas that will flood can be difficult to predict with 100% accuracy.*
- *We have to assess the risk of flooding.*



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## Why do we have a “100-year flood” two years in a row?

- *100 year storm = 1% chance*
- *10 year storm = 10% chance*



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# How much does it have to rain to cause flooding?

- *2-year storm = 1.8 inches in one hour*
- *5-year storm = 2.1 inches in one hour*
- *10-year storm = 2.5 inches in one hour*
- *100-year storm = 3.5 inches in one hour*



# What causes high risks to people's safety and property?

- *Too much rain for system to carry*
- *Homes & buildings located in high risk areas*
- *Increasing amounts of stormwater runoff*
- *Improper site design*

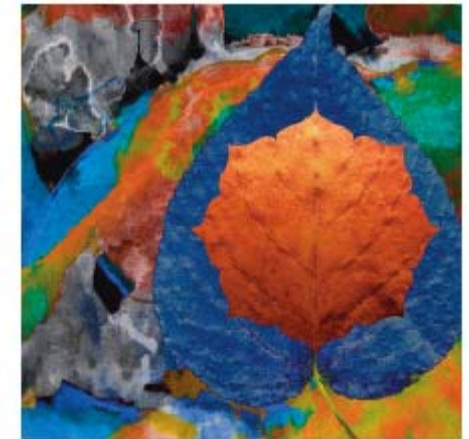


# What can be done to address these problems?

- *Reduce the amount of stormwater runoff*
- *Invest in system maintenance*
- *Remove structures from the floodplain*
- *Keep structures out of high risk areas in the future*
- *Increase system capacity*
- *Flood-proof structures*
- *Citizens can help!*

# What can YOU do?

- *Plant a rain garden*
- *Use rain barrels*
- *Disconnect your sump pump, downspouts – direct to rain gardens*
- *Dispose of hazardous waste properly*
- *Limit lawn chemical use*
- *Clean up after your pets*
- *Wash your car at a carwash*



10,000  
Rain  
GardenS





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# Questions?

# What are your Priorities?

- *Minimize loss of life and injury due to flooding*
- *Minimize property damage due to flooding*
- *Protect water quality*
- *Support aquatic life in streams*
- *Improving the aesthetics of streams*
- *Minimize the impacts on neighborhoods*
- *Maximize community benefits*
- *Maximize environmental benefits*
- *Simplify the implementation & operation*

# Meeting Process

- *Community Values, Priorities & Streams – #2*
- *Potential Technologies & Strategies – #3*
- *Alternatives & Recommendations for Open House – #4*
- *Open House*
- *Recommendations for Community Panel – #5*





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# Questions?