MISSOURI DEPARTMENT OF NATURAL RESOURCES
Missouri Geological Survey

US Army Corps of Engineers

MISSOURI WATER RESOURCES PLAN

Developing a Sustainable Plan for Missouri's Water Resources

November 14, 2018

Jennifer Hoggatt, MoDNR
Matthew Scott, CDM Smith

Kansas Governor's Water Conference

Agenda Overview

- Water Plan Vision
- Objectives and Schedule
- Core Elements of the Plan
- Outreach and Communications

MISSOURI WATER RESOURCES PLAN

Missouri Water Resources Plan Vision

- Statutory Responsibility (640.415 RSMo):

  "The department shall develop, maintain and periodically update a state water plan for a long-range, comprehensive statewide program for the use of surface water and groundwater resources of the state, including existing and future need for drinking water supplies, agriculture, industry, recreation, environmental protection and related needs."

MISSOURI
WATER RESOURCES PLAN

The Missouri Water Resources Plan is a long range, comprehensive strategy to:

Project Vision (MoDNR)

- Provide an understanding of water resource needs
- Ensure the quantity of water resources meet future water demands
  - Identify future water supply shortfalls
  - Explore options to address water needs

Missouri Water Resources Plan Update: **Define Water Supply Objectives**

- Sustainably meet municipal and industrial needs
- Sustainably meet agricultural needs
- Provide operational flexibility
- Protect the environment
- Promote cost effectiveness
- Identify water quality impacts on water supply uses
- Educate and engage residents, businesses, and other stakeholders in water planning to 2060

Missouri Water Resources Plan Organization Chart

USACE MoDNR

Technical Support:
CDM Smith
University of Missouri

Project Managers:
Jennifer Hoggatt, MoDNR
Kaely Megaro, USACE
Jaysson Funkhouser, USACE

Advisory Group:
Interagency Task Force

Technical Work Group Needs

- Consumptive
- Infrastructure
- Non-Consumptive
- Agricultural
- Water Quality

Stakeholders / Public Outreach

MISSOURI WATER RESOURCES PLAN

USACE Partnership – Planning Assistance to States

- Authority and scope outlined in Section 22 of the Water Resources Development Act (WRDA) of 1974
- Planning level of detail only - not detailed construction design
- Wide coverage – "water and related resource" planning
- Cost shared 50/50 with state, tribal, or local government
  - In-kind services can be used to meet 100 percent of non-federal contribution
  - Program annual ceiling is $30 million nationally, and $5 million per state

MISSOURI WATER RESOURCES PLAN

Missouri Water Resources Plan Update: **Goals**

1. Gather public and stakeholder input to help identify needs and priority areas of water resource development.
2. Establish key stakeholder advisory and technical groups to help guide water plan development.
3. Develop an updated evaluation of current groundwater and surface water availability and develop projected water supply needs.
4. Produce an in-depth analysis of current and future consumptive, non-consumptive and agricultural water needs, and identify gaps in water availability based on water demand projections.

MISSOURI WATER RESOURCES PLAN

Missouri Water Resources Plan Update: **Goals**

5. Identify water and wastewater infrastructure needs, and evaluate funding and financing opportunities.

6. Recognize water quality and assess how this affects water supply uses.

7. Understand areas where developing new and more sustainable water sources, better infrastructure, and more integrated water supplies can help to sustain water delivery.

8. Better understand regionally where future water gaps may exist, as studies have revealed in parts of southwest and northern Missouri.

MISSOURI WATER RESOURCES PLAN

Critical Success Factors

- Stakeholders
- Project Management
- Communication
- Technical

MISSOURI WATER RESOURCES PLAN

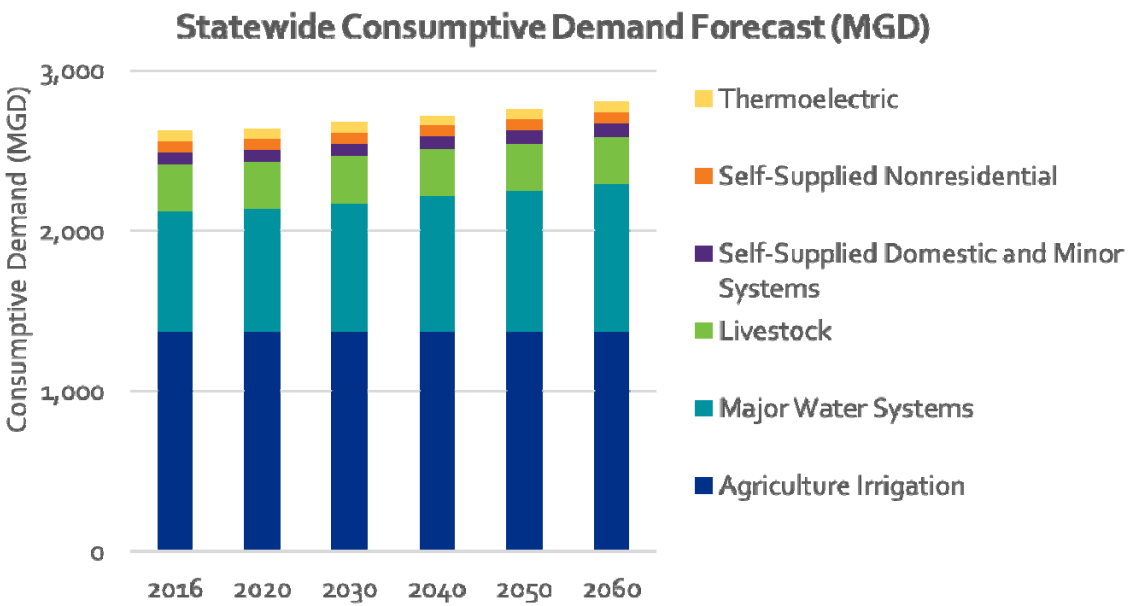
Elements of the Water Plan

- Develop estimates of water needs for all sectors of water use
- Assess water supplies
- Assess water quality as it affects water use availability
- Identify infrastructure needs, costs and financing
- Gather public and stakeholder input

WATER RESOURCES PLAN

Water Resources Plan – Core Elements

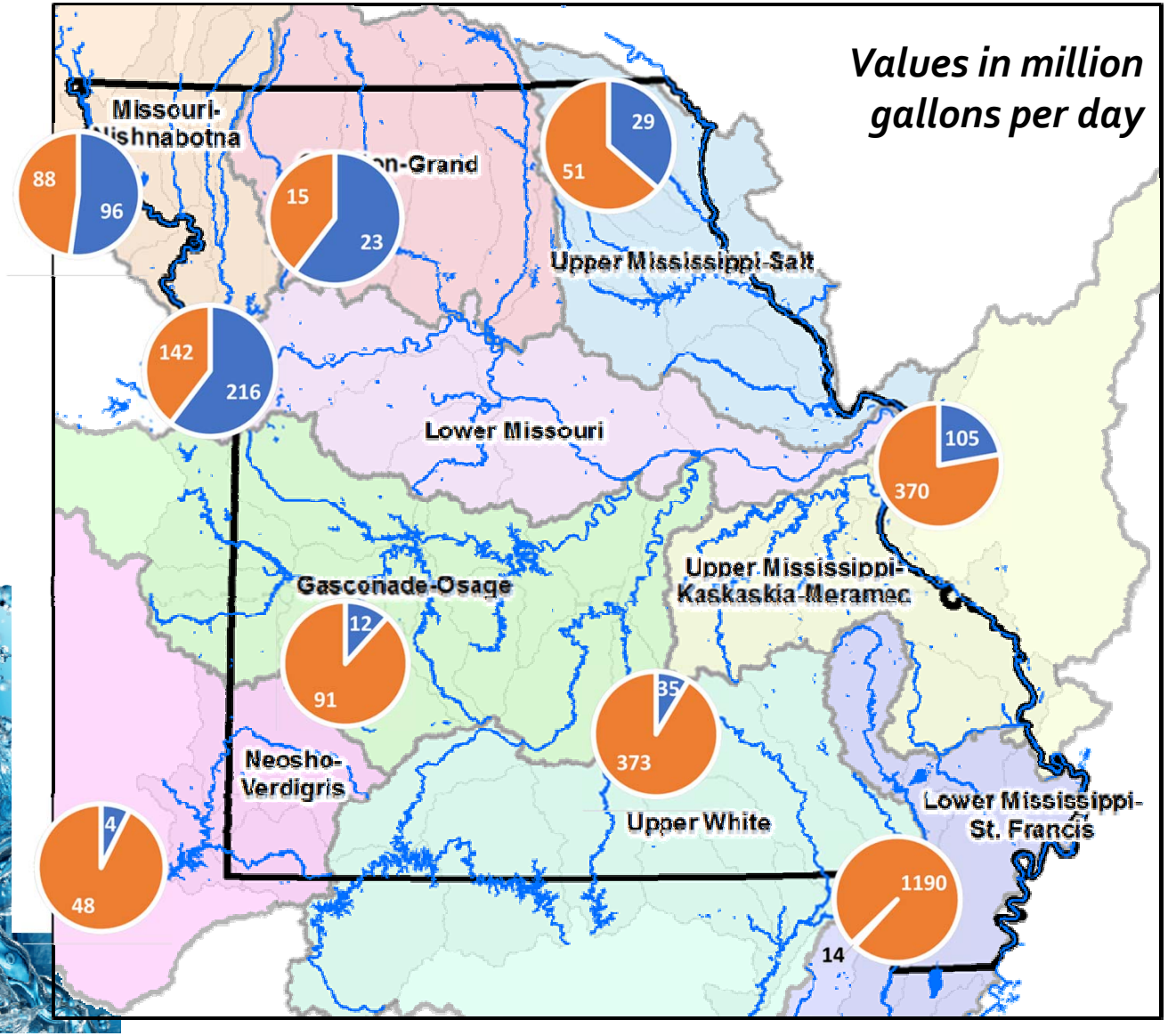
- **Demands**
- Supply
- Infrastructure
- Water Quality
- Public and Stakeholder Involvement

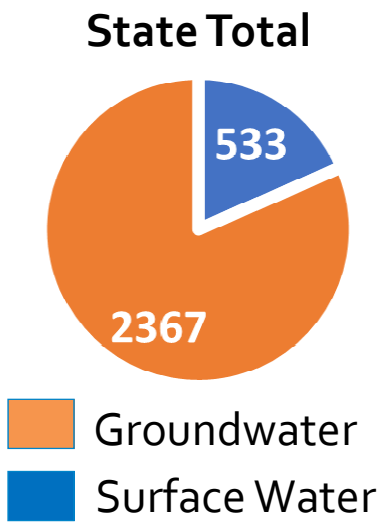


* Agricultural irrigation and livestock demands represent current use and are not yet forecasted

MISSOURI WATER RESOURCES PLAN

Current Consumptive Water Demands by Source – Draft Results





MISSOURI WATER RESOURCES PLAN

Water Resources Plan – Core Elements

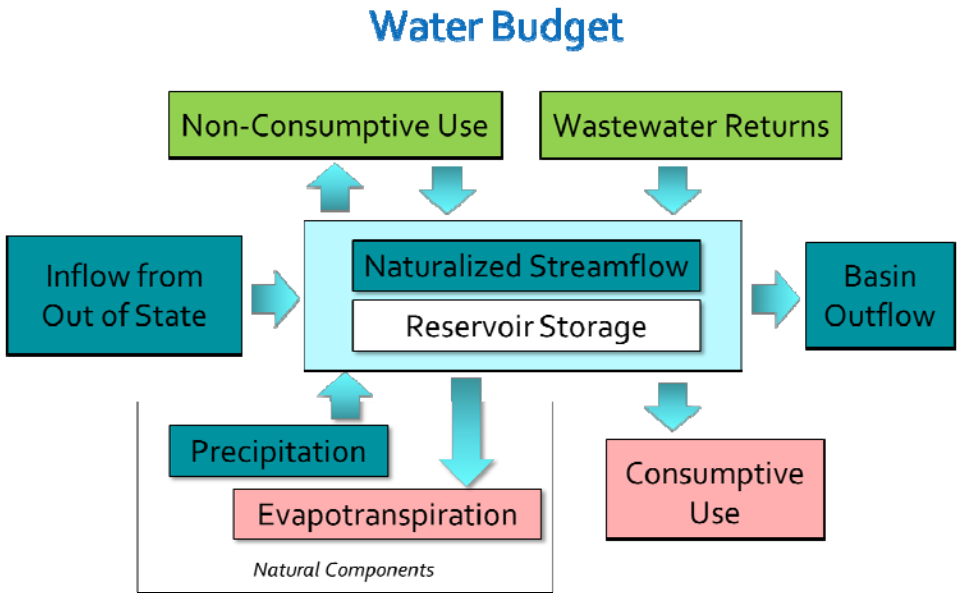
Demands

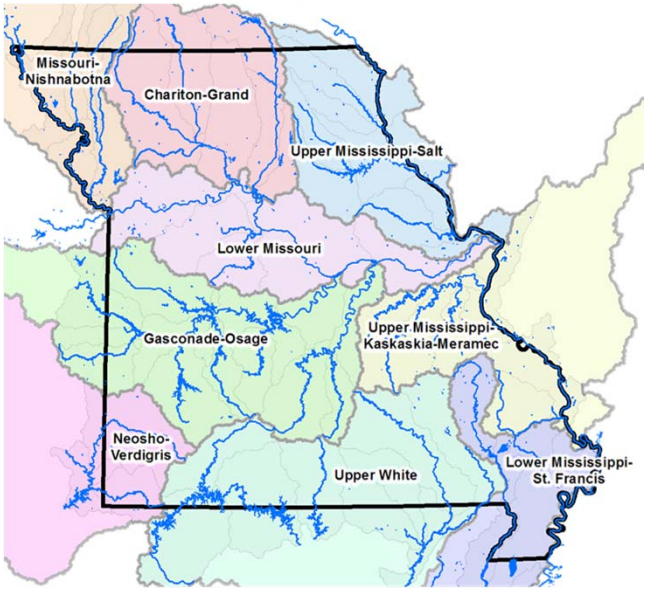
Supply

Infrastructure

Water Quality

Public and Stakeholder Involvement

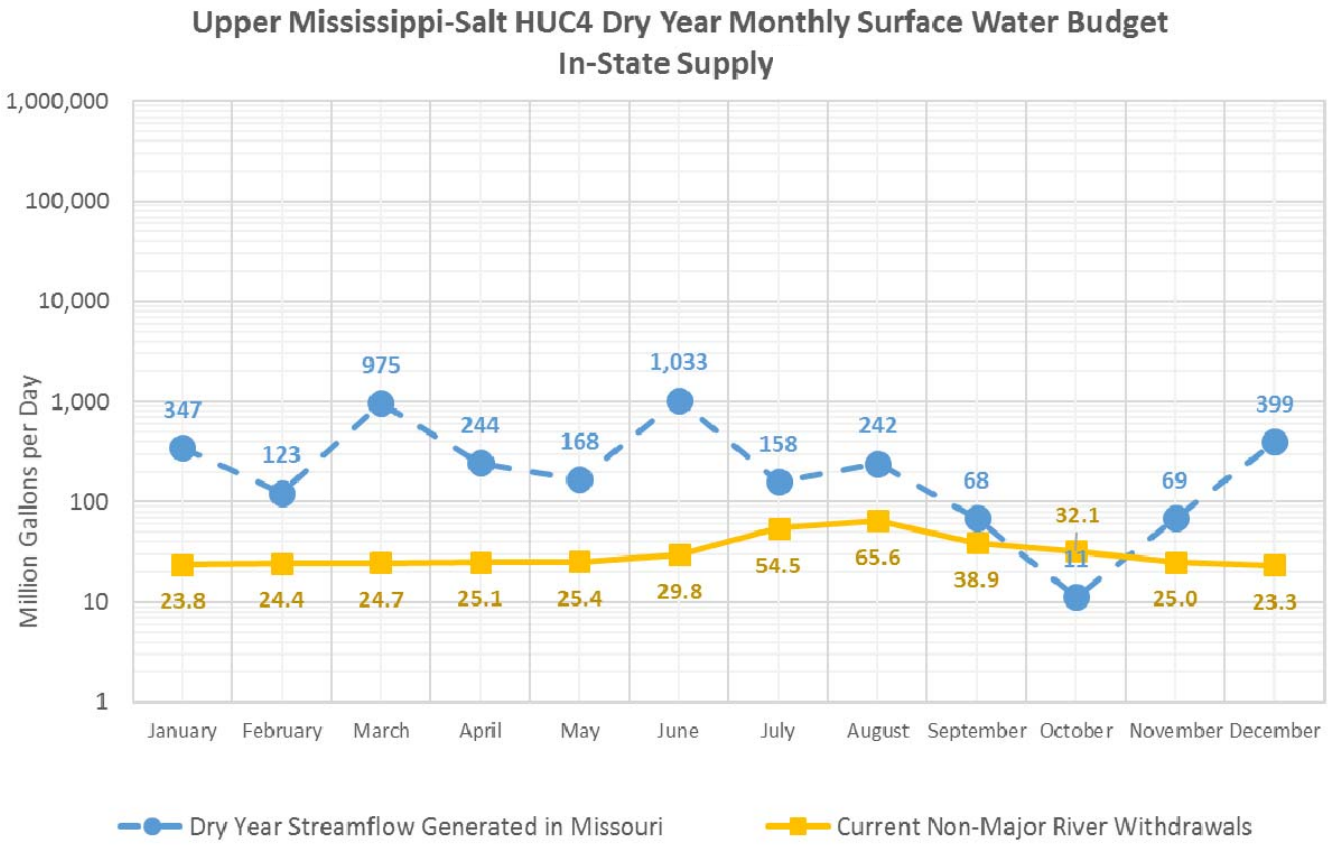




MISSOURI WATER RESOURCES PLAN

Determining Challenges in Supply: Analysis at the HUC4

In-State Supply
Dry Year



MISSOURI
WATER RESOURCES PLAN

Water Resources Plan – Core Elements

Demands

Supply

Infrastructure

Water Quality

Public and Stakeholder Involvement

- Infrastructure Analysis
  - EPA 2011 Drinking Water Infrastructure Needs Survey and Assessment (DWINSA)
  - Drinking Water State Revolving Funds (SRF)
  - EPA 2012 Clean Watersheds Needs Survey (CWNS)
  - Missouri Clean Water Information System Database (CWIS)
- Regional Water Supply Studies

MISSOURI WATER RESOURCES PLAN

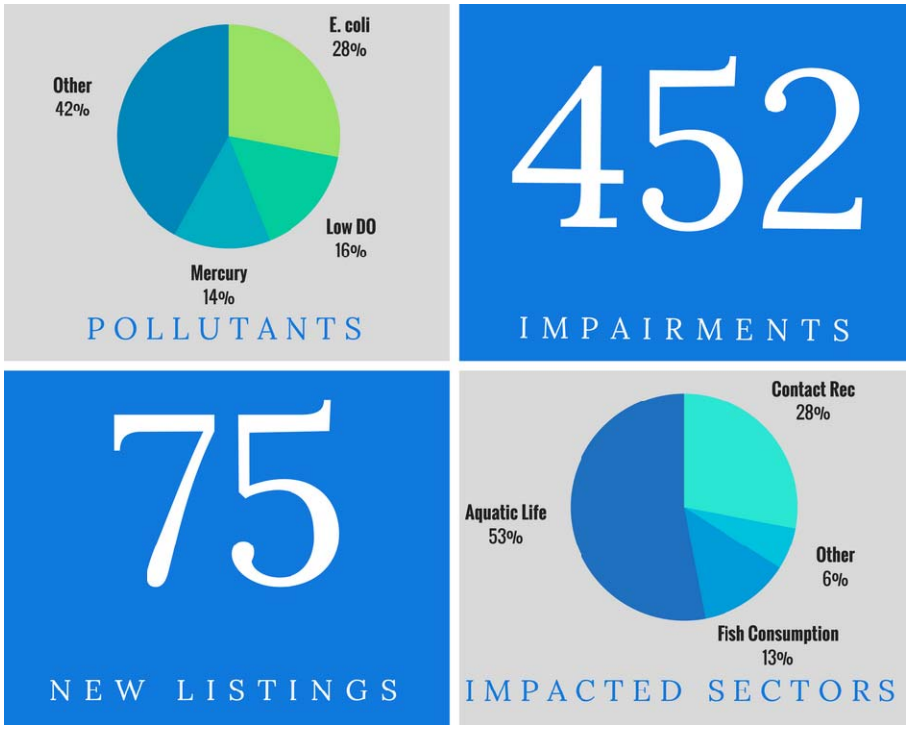
Wastewater and drinking water infrastructure needs in Missouri, over the next twenty years, are estimated to exceed $9.5 billion and $8.4 billion, respectively.

(2017 MoDNR, Financial Assistance Center)

Water Resources Plan – Core Elements

- Demands
- Supply
- Infrastructure
- **Water Quality**
- Public and Stakeholder Involvement

MoDNR 2016 303(d) List



MISSOURI WATER RESOURCES PLAN

Water Resources Plan – Core Elements

Demands

Supply

Infrastructure

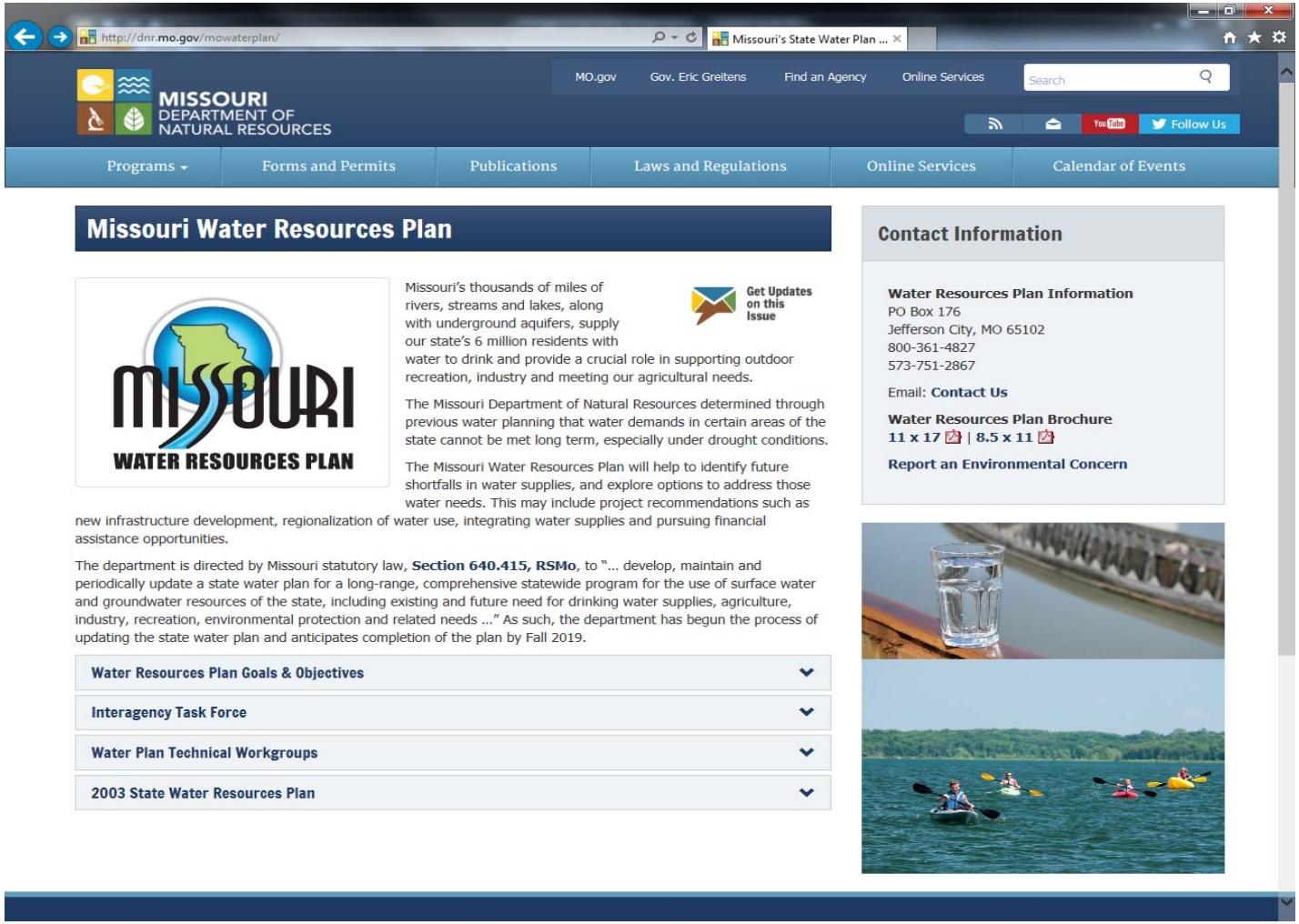
Water Quality

Public and Stakeholder Involvement

- Interagency Taskforce
- Technical Workgroups
- Water Resource Plan Presentations
- Missouri Water Resources Plan Brochure
- Water Resources Plan Website

MISSOURI WATER RESOURCES PLAN

Missouri Water Resources Plan – Website



dnr.mo.gov/mowaterplan/

Communications and How to Learn More

Website:

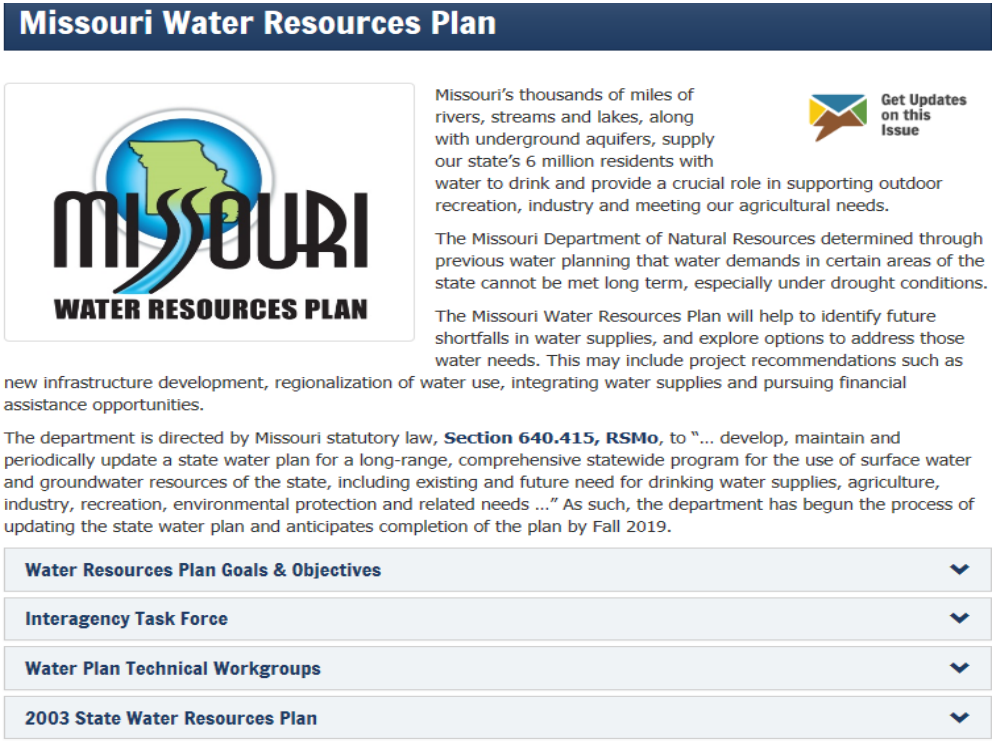
dnr.mo.gov/mowaterplan

Telephone:

573-751-2867

Email:

mowaterplan@dnr.mo.gov



Missouri Water Resources Plan

MISSOURI WATER RESOURCES PLAN

Get Updates on this Issue

Missouri's thousands of miles of rivers, streams and lakes, along with underground aquifers, supply our state's 6 million residents with water to drink and provide a crucial role in supporting outdoor recreation, industry and meeting our agricultural needs.

The Missouri Department of Natural Resources determined through previous water planning that water demands in certain areas of the state cannot be met long term, especially under drought conditions.

The Missouri Water Resources Plan will help to identify future shortfalls in water supplies, and explore options to address those water needs. This may include project recommendations such as new infrastructure development, regionalization of water use, integrating water supplies and pursuing financial assistance opportunities.

The department is directed by Missouri statutory law, **Section 640.415, RSMo**, to "... develop, maintain and periodically update a state water plan for a long-range, comprehensive statewide program for the use of surface water and groundwater resources of the state, including existing and future need for drinking water supplies, agriculture, industry, recreation, environmental protection and related needs ..." As such, the department has begun the process of updating the state water plan and anticipates completion of the plan by Fall 2019.

- Water Resources Plan Goals & Objectives
- Interagency Task Force
- Water Plan Technical Workgroups
- 2003 State Water Resources Plan

MISSOURI WATER RESOURCES PLAN

Questions?