



**AGENDA**  
**WATER RESOURCES ADVISORY COMMITTEE**  
**Thursday, June 20, 2019**  
**10:30 AM – 12:00 PM**  
**East-West Gateway Boardroom**

**Chair**

Mark A. Kern  
Chairman, St. Clair County Board

**Vice Chair**

Steve Ehlmann  
County Executive  
St. Charles County

**2nd Vice Chair**

Robert Elmore  
Chairman, Board of Commissioners  
Monroe County

**Executive Committee**

Tim Brinker  
Presiding Commissioner  
Franklin County

Dennis Gannon  
County Executive  
Jefferson County

Lyda Krewson  
Mayor, City of St. Louis

Dr. Sam Page  
County Executive  
St. Louis County

Kurt Prenzler

Chairman, Madison County Board

**Members**

Ron Counts  
Mayor, City of Arnold  
Jefferson County

Robert Eastern III  
Mayor, City of East St. Louis

Reggie Jones  
St. Louis County

Mark Kupsky  
Vice President,  
Southwestern Illinois  
Council of Mayors

Norman C. McCourt  
Municipal League of Metro St. Louis

Roy Mosley  
St. Clair County

Lewis Reed  
President, Board of Aldermen  
City of St. Louis

Herbert Simmons  
President, Southwestern Illinois  
Metropolitan & Regional  
Planning Commission

Tom Smith  
President, Southwestern Illinois  
Council of Mayors

Michael Walters  
Madison County

John White  
St. Charles County

**Regional Citizens**

Barbara Geisman

C. William Grogan  
Richard Kellett  
John A. Laker

**Non-voting Members**

Erin Aleman  
Illinois Department of  
Transportation

Erika Kennett  
Illinois Department of Commerce  
and Economic Opportunity

Patrick McKenna  
Missouri Department of  
Transportation

Taulby Roach  
Bi-State Development

Aaron Willard  
Missouri Office of Administration

**Executive Director**

James M. Wild

1. CALL TO ORDER - Carol Lawrence, Chair, East-West Gateway Council of Governments

**A. Introductions**

2. DISCUSSION ITEMS

**A. 2019 Flooding**

- John Osterhage, Chief of Emergency Operations for the St. Louis District, U.S. Army Corps of Engineers

**B. Ecological Data Inventory**

- Mary Grace Lewandowski, East-West Gateway
- Christopher Michael, East-West Gateway

**C. Innovative Resilience – Financing, Mitigating, Sustaining Natural and Built Infrastructure**

- Colin Wellenkamp, Mississippi River Cities and Towns Initiative

**D. Projecting the Impacts of Best Management Practices and Climate Change on Water Quality in the Meramec Basin**

- Jason Knouft, St. Louis University

**E. Water Matters Programming**

- Nine Network of Public Media

**F. Report from OneSTL Water and Green Infrastructure Working Group**

3. OTHER BUSINESS/ANNOUNCEMENTS

4. ADJOURNMENT

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## **Minutes**

Regional Water Resources Advisory Committee

Thursday, March 28, 2019

10:30 am – 12:00 pm

East-West Gateway Council of Governments Board Room

### Attendees:

Carol Lawrence, Chair – East-West Gateway Council of Governments

Molly Saunders – Nine Network

Rebecca Weaver – The Nature Conservancy

Steven Brendel – Madison County P&D

Mike Hartoin – SCI Engineering

Jay Hoskins – Metropolitan St. Louis Sewer District

John McEnery – M3 Engineering Group

Kaleena Menke – Metropolitan St. Louis Sewer District

Matt Jones – United States Army Corps of Engineers

Amelia Rodgers – St. Louis Aquarium Foundation

Brian Hoelscher – Metropolitan St. Louis Sewer District

Sean Hadley – Metropolitan St. Louis Sewer District

John Schumacher – United States Geological Survey

Brooke Butler – Nine Network

Jim Kirchherr – Nine Network

Nicole Young – Lion CS6

Heather Navarro – Missouri Coalition for the Environment

### Staff:

Mary Grace Lewandowski   Aaron Young   Jennifer Vuitel   John Posey   Paul Hubbman

Maureen McCarthy

### 1.      **CALL TO ORDER**

The meeting of the Regional Water Resources Advisory Committee (WRC) was called to order by Chair Carol Lawrence, East-West Gateway Council of Governments (EWG).

#### **A. Introductions**

### 2.      **DISCUSSION ITEMS**

#### **A. Project Clear Stormwater Capital Rate Proposal**

- Brian Hoelscher, Metropolitan St. Louis Sewer District
- Sean Hadley, Metropolitan St. Louis Sewer District

The Metropolitan St. Louis Sewer District (MSD) is a government utility which was created in 1954 by a provision in the state constitution. MSD is both a wastewater utility and a stormwater utility and serves about 1.3 million residents in St. Louis City and County. The service area is 520 square miles made up of 88 municipalities. MSD operates seven wastewater treatment plants

that treat more than 350 million gallons of wastewater a day. It is the fourth largest sewer system in the United States.

There are three major services that MSD provides: addressing pollutants and stormwater runoff in creeks and streams; operation and maintenance of the public sewer system and stormwater system; addressing flooding and erosion issues around creeks and streams.

Voters passed Proposition S in April 2016 which addressed unequal operations and maintenance of the public storm sewer funding across the service area. On April 2, 2019 a simple majority of voters in the District will decide if the new Stormwater Capital Rate proposition will provide funds for district-wide capital projects addressing erosion and flooding. As of 2016 there are about 500 identified stormwater issues that need to be addressed which are unfunded. These are a range of issues due to localized flooding, erosion, or regional flooding. To fund all of those projects would cost \$500 million. Potential solutions to these issues include property buyouts to remove people from flood plains, natural creek bank stabilization, and implementing green infrastructure such as rain gardens, and constructing new stormwater drainage systems.

If the capital rate is approved by voters, MSD will have \$30 million per year to address stormwater issues. The rate will be based on the amount of impervious area on each customer's property. The average charge for a single family home will be \$2.25 per month, or \$27.00 per year. Tax exempt entities will be subject to this capital rate. It is estimated that all of the known stormwater issues in MSD's service area could be addressed in about 30 years if they receive this funding. If passed, waterways will remain privately owned and flood plain management responsibilities will remain with the municipalities.

The rate is based on the amount of impervious surfaces, such as concrete, blacktop, rooftops, and any other surface that does not absorb stormwater and causes runoff. In order to fairly determine the amount of impervious service on a property, MSD will use an impervious area measurement method. All properties, public and private, will be subject to the capital rate. Below is a table indicating the monthly rate based on the amount of impervious surface.

<i>Customers</i>	<i>Properties/ERUs</i>	<i>Monthly Rate</i>	<i>FY22 Annual Billed Revenue</i>
<b>Residential Properties</b>			
Tier 1: 200 - 2,000 Sq. Ft	120,523	\$ 1.42	\$ 2,050,096
Tier 2: 2,001 - 3,600 Sq. Ft	218,750	\$ 2.25	\$ 5,906,250
Tier 3: 3,601 - 6,000 Sq. Ft.	80,469	\$ 3.74	\$ 3,606,621
Tier 4: >6,000 Sq. Ft.	27,122	\$ 6.84	\$ 2,226,174
Customer Assistance Program Accounts	6,328	\$ 1.13	\$ 85,428
<b>Subtotal: Residential Properties</b>	<b>453,192 properties</b>		<b>\$ 13,874,569</b>
Non Residential & Multi-Family ERUs	601,353 ERUs	\$ 2.25	\$ 16,236,531
			<b>\$ 30,111,100</b>

The Stormwater Capital Rate will appear on the monthly bill of MSD customers that are also billed for wastewater. Those not using MSD wastewater services will be billed on a quarterly basis. In September 2018 the Rate Commission's recommendation was accepted, and in November 2018 the ordinance allowing voters to consider the capital rate was approved by the board. This proposition will be on the April 2, 2019 ballot in St. Louis City and St. Louis County. For more information please contact Sean Hadley, Manager of Public Affairs, at (314) 768-6240. Information can also be found at [www.stlmsd.com/PropS](http://www.stlmsd.com/PropS).

## **B. Fourth National Climate Assessment / Green Infrastructure Strategies**

- John Posey, East-West Gateway Council of Governments

The National Climate Assessment is a document that is required by the Global Change Research Act of 1990. It calls upon the administration to perform a quadrennial review of how climate change is affecting different sectors of American economy and society. This effort is overseen by the U.S. Global Change Research Program (USGCRP), a working group of 14 federal agencies. The fourth National Climate Assessment was released in two volumes; V. 1: Climate Science Special Report and V. 2: Impacts, Risks and Adaptation. The first volume was released in November 2017 with the intention of serving as the scientific base of the second volume.

There have been observed changes in precipitation during the period of 1901 to 1960, and more observed changes during the period of 1986 to 2016. Maps show that most of the country over the last century has gotten wetter, while areas in the Southwest and Northwest have gotten drier. In Hannibal, MO on May 1<sup>st</sup> every year during the baseline period there were 11 days with water levels over the flood stage. Looking at May 1<sup>st</sup> every year from 1969-2018 there were 25 days over the flood stage. Changes in land use and precipitation patterns have contributed to the increase in flooding.

Dr. Posey contributed to the Midwest chapter of the report. He discussed six key messages for the Midwest from the Assessment. The first key message for the Midwest is that projected changes in precipitation, coupled with rising extreme temperatures before midcentury, is projected to reduce Midwest agricultural productivity to levels of the 1980s without major technological advances. There is a drying effect of warmer air on plants and soils. Vapor pressure deficit (VPD) is the difference between how much moisture is in the air and the amount of moisture in the air at saturation. Warmer air can maintain more water as vapor, putting more demand for moisture on plants. Through modeling it is shown that warmer conditions will cause an increase in VPD which is one of the factors that will lead to reduced productivity in plants.

The second key message is about forestry. Threats from a changing climate are interacting with existing stressors, such as invasive species and pests, to increase tree mortality and reduce forest productivity. Without adaptive actions, these interactions will result in the loss of economically and culturally important tree species. Forest diversity can increase resilience to climate change effects.

The third key message focuses on biodiversity and ecosystems. Species and ecosystems are typically most at risk when climate stressors, like temperature increases, interact with land-use change, habitat loss, pollution, nutrient inputs, and nonnative invasive species. Climate change is

outpacing plants' ability to shift their habitat range. Changes in climate are affecting animal species as well as plants. Warming water temperatures are causing a reduction in suitable habitat for fish for longer periods of time throughout the year. Due to competition for suitable habitat and increasing temperatures, there has been an increase in fish kills in Midwestern inland lakes. Wetland restoration projects are helping to reduce the impacts of climate change on aquatic species.

Human health is the focus of the fourth key message. Climate change is expected to worsen existing health conditions and introduce new health threats due to the increased frequency and intensity of poor air quality days, extreme high temperature events, and heavy rainfalls; extending pollen seasons; and modifying the distribution of disease carrying pests and insects.

The fifth key message is about transportation and infrastructure. Stormwater management systems, transportation networks, and other critical infrastructure are already experiencing impacts from changing precipitation patterns and elevated flood risks. Green infrastructure is reducing some of the negative impacts by using plants and open space to absorb stormwater. There needs to be more awareness of the risk that more major flooding events will occur and create transportation-related problems in more areas. There are many examples of green infrastructure around the Midwest such as street trees which provide important stormwater management and reduce the urban heat island effect. Other major examples of green infrastructure include green roofs, urban woodlands, green walls, and urban agriculture. Another topic in this section is the daylighting of streams. From the 1930s to the 1970s many creeks and streams were put into pipes. Several stormwater management authorities in the Midwest have begun restoring the natural conditions of these streams as a way to improve stormwater management.

The sixth message was about indigenous peoples. Tribal nations are especially vulnerable to climate change because of their reliance on threatened natural resources for their cultural, subsistence, and economic needs. Developing knowledge for decision-making in cooperation with vulnerable communities and tribal nations will help build adaptive capacity and increase resilience.

### **C. Green Infrastructure Elements of the Great Streets Initiative**

- Paul Hubbman, East-West Gateway Council of Governments

East-West Gateway's Great Streets Initiative program began in 2006 and is designed to encourage communities to incorporate a wide range of issues and goals for their significant streets through planning assistance. It is a competitive program that communities have to apply to. The goal of the Great Streets Initiative is to trigger economic and social benefits by centering communities around interesting, lively and attractive streets which serve all modes of transportation. This discussion focuses on the environmental factors of the Great Streets program. In order to plan with the environment planners rely on accepted science and address a range of measurable elements such as light, sound, and water. It is important that the projects make practical sense in order to reduce demand on resources, create secondary benefits such as safety, and to extend the life of what gets built. It is also a goal to make sure that project spaces reflect the local identity.

The chosen performance measures help to relate the value of environmental structures to live, work, and play aspects of an area. South Grand in the City of St. Louis was the first drawn up project and has been in the build stage for about ten years. This project allowed for rain gardens to be integrated with the street and helps to educate local residents about the benefits of green infrastructure. The South Grand project brought up questions about the effectiveness of tree wells along sidewalks. It was determined that tree wells cause trees to have shorter life spans, do not have enough pervious surface, and cost cities more money. Rain gardens have been a better alternative to tree wells and provide more benefits like reducing runoff, not absorbing heat, and allowing for better visibility for pedestrians and drivers.

Kimmswick, MO is the location of one of the most recent Great Streets projects. EWG partnered with Kimmswick, Jefferson County and the Jefferson County Port Authority. Residents, stakeholders and local businesses were also involved. Kimmswick is about the size of 15 city blocks, located next to Rock Creek and the Mississippi River and has a population of 148 people. This area has experienced a high number of flooding events in the last several years and is prone to being all but cutoff from surrounding areas because of the flood water. Sixty percent of the town's income comes from festivals and tourism. The flooding has caused many of these festivals to be canceled and prevents tourism. Kimmswick does not have a flood wall or a permanent levee system. They rely on constructing gravel levees during floods and typically half of the town's revenue goes towards flood mitigation and recovery.

Kimmswick has worked with the Corps of Engineers to create a flood protection plan and the recommendation was to construct a 12 foot high flood wall. This wall will cost \$12 million which is not something the town can afford. The project plan for Kimmswick focuses on strategies to reconnect the city with the river, watershed drainage, flood protection, public space improvement and developing the local resources to diversify the economy. Construction of bioswales, pervious walkways, and purchasing a removable flood wall are all methods included in the plan that will provide long term relief.

#### **D. Water Matters – Nine Network**

- Jim Kirchherr – Nine Network

Nine Network's goal is to mix their feature stories such as the River Towns documentary with the policy issues related to those stories. There will be an interview with Collin Wellenkamp about the Mississippi River Cities and Towns initiative and the problems Mayors of small towns on the river have been dealing with. Molly Saunders is transitioning to a different position within Nine Network. Brooke Butler is taking over as the new Community Engagement Coordinator.

#### **E. Report From OneSTL Water and Green Infrastructure Working Group**

- Rebecca Weaver, The Nature Conservancy

This group has been meeting about once a month. The three subgroups within the working group have been working on different initiatives. The data collection and analysis subgroup have been working to collect data on watershed plans for the region, creating maps, and creating a webpage that will have an interactive watershed map. The outreach and education subgroup is working on

a watershed planning workshop. The action projects subgroup is currently working on a pilot modeling effort with Washington University's Sustainability Exchange.

### 3. OTHER BUSINESS/ ANNOUNCEMENTS

The next meeting of the Meramec River Recreation Association will be on May 2, 2019 at 2:00pm in Pacific, MO.

There is an open comment period for the Federal Waters of the U.S. rule until April 15. This rule would exempt certain headwater streams and wetlands behind levees from the jurisdiction of the Clean Water Act. There are about 2,000 miles of wetlands that would be impacted.

On April 16 there will be a meeting at Meramec Caverns at which geomorphologists will be present to answer questions about changes in the landscape of the rivers in the Ozarks and other areas.

### 4. ADJOURNMENT

There being no other business, the meeting was adjourned. The next meeting of the Water Resources Advisory Committee will be June 20, 2019.