



Flooding of the Meramec River in Pacific, Missouri © Jeanne Miller Wood

The Role of Floodplains

Prioritizing and protecting floodplains to benefit communities and nature

As climate change brings heavier and more frequent storms, Missouri continues to face the challenge of coping with floods and the resulting damage to homes, businesses, roads and other infrastructure. Since 2015, Missouri has seen three federal disaster declarations. The Nature Conservancy is working on multiple strategies aimed at protecting and restoring Missouri's floodplains to help make our communities and roadways flood-resilient, while improving water quality and supporting some of the most valuable wildlife habitat on the planet.

"Floodplains are beneficial to both people and nature, retaining and slowing down flood waters, providing natural flood control, as well as highly productive wildlife habitat. Nature is a powerful tool to reduce flooding impacts," says Barbara Charry, Strategy Manager: Floodplains and Nature-Based Solutions for The Nature Conservancy in Missouri.

Floodplains also improve water quality by capturing excessive harmful nutrients—primarily nitrogen and phosphorus—carried by flood waters. With many of Missouri's rivers flowing into the Mississippi River, eventually emptying into the Gulf of Mexico, it's essential to do our part in limiting the nutrients that are causing the Gulf's dead zone. Reducing these harmful nutrients is among the most vital conservation struggles our nation currently faces. The Nature Conservancy's efforts are aiming for a 20 percent nutrients reduction in the 31-state Mississippi River Basin by 2025.

In Missouri, the lower 115 miles of the Meramec River Basin experienced three record-breaking floods in an 18-month period, resulting in 10 days of interstate closure and approximately 1,000 homes and businesses flooded. The Nature Conservancy, in partnership with the U.S. Army Corps of Engineers, the

Missouri State Emergency Management Agency and the impacted communities, is working on nature-based solutions to reduce impacts of future flooding here and around the state.

Nature-based solutions include protecting and restoring floodplains (reconnecting frequently flooded land to the river and planting native vegetation); moving people out of harm's way through voluntary buyouts; conservation of open space; flood-friendly road-crossing culverts; and green infrastructure designed to capture and slow down storm water.

Floodplains and other nature-based solutions offer cost-effective options that provide economic benefits to communities while also providing opportunities for hunting, fishing and other recreational activities.

Learn more at nature.org/MOsolutions



Dunn Ranch Prairie © Noppadol Paothong

Natural Climate Solutions

Letting nature do its work

The Nature Conservancy recently teamed up with 21 institutional partners to author *Natural Climate Solutions for the United States*, a study that explored natural functions that could prevent or sequester up to 21 percent of annual greenhouse gas emissions in the United States.

Together, these natural solutions explore a variety of strategies aimed at better managing forests, agricultural lands, grasslands and wetlands capable of storing carbon. These efforts also provide cost-efficient benefits to the communities and ecosystems on which people and wildlife rely.

Major opportunities for natural solutions in Missouri include the reforestation of buffers along our streams and riverbanks, and the restoration of our grasslands.

“Missouri has less than 1 percent of our native grasslands left. These prairies, which formally covered the northern third of our state, naturally sequester carbon, and we’ve lost almost all of them,” says James Cole, Director of Conservation Programs in Missouri. “Restoring the functions of a grassland landscape, like we are doing at Dunn Ranch Prairie in the Grand River Grasslands, provides a great opportunity for natural climate solutions.”

Additional strategies include implementing cover crops in agricultural land to keep carbon trapped in the soil and improving forest management on public and private lands to absorb carbon pollution. Both solutions enhance the landscapes while also increasing the overall health of the land and air in surrounding areas.

“What’s exciting about these solutions is that we can implement them right away. We have the solutions at our fingertips that can sequester a fifth of national greenhouse gas emissions, and TNC is actively demonstrating these techniques in our projects across the country and right here in Missouri,” says Cole.

Learn more at nature.org/usncs

NATURE MISSOURI

Volunteer With Us!

Do you want to make a difference, connect with nature and have fun? We need volunteers in Missouri who are interested in contributing time, effort and special skills to increase our ability to protect the natural heritage of Missouri.

Examples of volunteer activities include:

- Community outreach and education events
- Seed collection on preserves
- Trail maintenance
- Clean-up days
- Photography and videography
- Tree plantings

Join us and others who care for Missouri’s wild and natural places and connect with the nature we all depend on.

To learn more about volunteer opportunities in Missouri visit: nature.org/MOvolunteer



Cleanup at Zahorsky Woods Preserve ©
Melissa Walthart

Connect With Us!

Want to know more about what TNC is doing in Missouri?

- Our free e-newsletter: nature.org/greatplaces
- Facebook: facebook.com/natureconservancymissouri
- Twitter: twitter.com/nature_mo
- Instagram: [Instagram.com/nature_missouri](https://instagram.com/nature_missouri)