MSU SUSTAINABLE STORMWATER MANAGEMENT

# WALKING TOUR

W.J. BEAL BOTANICAL GARDEN

# RIPARIAN BUFFERS

Michigan State University (MSU) has implemented **green infrastructure** to capture stormwater from surrounding roads, parking lots, and buildings. Previously, water from these surfaces entered the storm sewer system, which led directly into the Red Cedar River. Now through a variety of green infrastructure practices, stormwater is captured and either reused or infiltrated on site. Capturing stormwater reduces pollutant runoff into the river, improving water quality.


## WHAT ARE RIPARIAN BUFFERS?

Riparian buffers are an effective practice used to reduce the amount of pollutants, such as sediments and nutrients, from draining into streams and rivers. By moderating fluctuations in stream temperature and light levels, riparian buffers enhance stream quality. The vegetative environment also provides habitat and biodiversity.

## HOW DO RIPARIAN BUFFERS WORK?

1. Stormwater runoff travels downhill towards the Red Cedar River over pavement and lawns into the vegetated buffer strip planted along the banks.

2. The W.J. Beal Botanical Garden buffer strip intercepts the water flow where sediments, pesticides, and other pollutants are removed from the runoff before reaching the Red Cedar River.

3. Water slowly infiltrates into the groundwater. The soil acts as a filter, which breaks down stormwater pollutants, purifying the water. Buffers also slow the water reaching the Red Cedar River, reducing flooding.

## DID YOU KNOW?

Stormwater drains into the Red Cedar River from surrounding urban areas. It carries pollutants and increases water levels during major rainfall events. Riparian buffer strips are key in cleansing stormwater, reducing water flow, and providing streambank stabilization.

**Contributing Departments and Units**

Biosystems Engineering
Community Sustainability
Horticulture
Infrastructure Planning and Facilities
Institute of Water Research

MICHIGAN STATE UNIVERSITY | SUSTAINABILITY

**You are an essential part of the Red Cedar Watershed, and your actions can help to protect our shared water resources. To learn how you can help, visit:**

*msu-water.msu.edu*