



A healthy riparian corridor can protect surrounding communities from flood damage and provides a scenic environment for outdoor recreation. © TNC

## Protecting Blue River Offers Flood Protection and More

The Blue River watershed—the land area that drains into the Blue River—is one of Kansas City’s most important natural resources. This area, which includes Coffee, Wolf and Camp Branch Creeks, provides many environmental benefits and recreational opportunities.

The river used to be surrounded by rich woodlands and other vegetation that absorbed rainwater, shaded the river channel and protected it from erosion. But as the Kansas City metro area grew, the Blue River lost much of its surrounding ecosystem to concrete channels and eroded banks. Straightened river channels and increased runoff from surrounding pavement, roofs, and roads have caused devastating floods resulting in millions of dollars in avoidable damage and lost homes and businesses. Kansas City is also facing substantial increases

in annual rainfall and 30 times as many days above 105°F by the end of this century, leading to more severe floods and loss of freshwater biodiversity.

### *What needs to happen?*

The Nature Conservancy teamed up with researchers at Kansas State University to assess and quantify the ecosystem services the Blue River currently provides and what it could deliver if we turned to green infrastructure, protecting the headwaters and restoring the stream corridor. The report shows this wouldn’t just help nature—it makes economic sense, too.

The analysis found that maintaining and restoring a 150-foot wide riparian buffer on each side of the Blue River and its

*continued on next page*

### **Terms to Know**

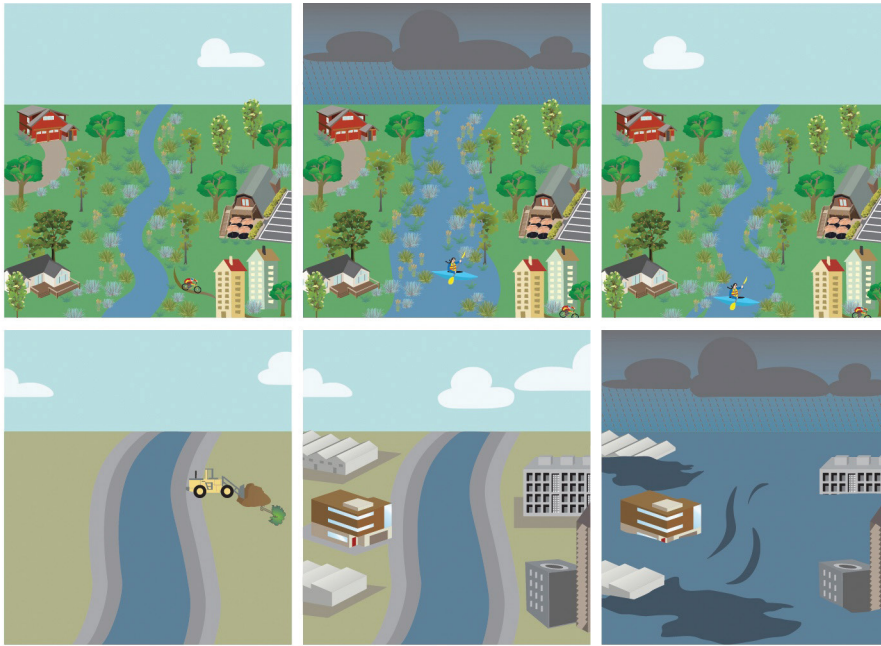
**Ecosystem services** are the benefits that ecosystems provide to people. For the Blue River, ecosystem services are things like controlling floods, filtering water, providing aquatic habitat for fish, and keeping carbon locked in the soil underground instead of releasing it into the atmosphere.

**Green infrastructure** employs elements of natural systems, such as rain gardens and green roofs to absorb rainfall. Traditional human-made structures like dams are known as gray infrastructure. For the Blue River, restoring the riparian networks along the river—the trees, river banks, and surrounding land—instead of constructing rigid, concrete stream channels is an example of green infrastructure.

Keeping the environment around the river healthy allows nature to meet the needs of people.

**Advocating for Nature**

Staff and trustees from The Nature Conservancy met with state lawmakers in Topeka on February 16 and with Kansas’s federal delegation in Washington D.C. on March 7-8 to ask them to support conservation initiatives in Kansas and across the United States. The Nature Conservancy uses the best available science and decades of field experience to help lawmakers make informed policy decisions about nature.



TOP: A continuous natural river corridor provides recreation opportunities and gives the river room to flood without damaging homes and businesses. BOTTOM: A straightened concrete river channel surrounded by urban development is not resilient, leading to increased flood magnitudes and damages with heavier rainfall. Illustration © Melissa Meyer

tributaries provides flood-regulating benefits valued up \$12,320 per acre/year. The same buffer would improve water quality by reducing phosphorus, nitrogen and sediment loads by as much as 500%. The value of that level of water quality regulation is \$1,850 per acre/year.

*Why don't we restore the entire watershed?*

It's not that simple. The Blue River watershed extends across portions of two states, four counties and numerous municipalities. With so many different jurisdictions, “logistical challenge” is an understatement. There are two major steps to take now that would have substantial positive impacts:

- 1. Create a consistent stream protection ordinance that extends throughout the Blue River watershed.** Maintaining existing natural areas within the watershed and targeting restoration of highly developed stream banks are critically important to reducing flood risk. Currently, only a handful of municipalities in the watershed have adopted some form of stream protection ordinance, and they are not uniform.
- 2. Reduce the development of impervious surfaces and incentivize the development of natural areas near the Blue River and its tributaries.** Even with woodland buffers surrounding the main channel of the Blue River, modeling scenarios show that an increase in paved surfaces in the watershed will increase the impacts of flooding. Impervious surfaces should be minimized whenever possible.

The clock is ticking, but there’s still hope for the Blue River.

Learn more at [nature.org/blueriver](http://nature.org/blueriver).



From top: TNC staff and trustees with U.S. Representative Sharice Davids; Governor Laura Kelly; State Senator Carolyn McGinn; and State Senator Ronald Ryckman