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A geological phenomenon in the Elk River in Webster County is hiding in plain sight

By Rachel Isabell risabell@hdmediallc.com

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WEBSTER SPRINGS — For years, there has been speculation about the unique pattern visible in the rocks in the Elk River beneath the bridge at the traffic light in Webster Springs.

Normally underwater, the stone structures are more noticeable now, due to low water levels brought on by severe drought across West Virginia.




Dry as a bone: West Virginia currently nation's most drought-plagued state





An aerial look at the unique river stone in the Elk River at Webster Springs on Sept. 15, 2024. The rocks have recently been confirmed by WVU Geology Professor Jaime Toro as tessellated pavement.

Dwayne McCourt | For HD Media

By Rick Steelhammer rsteelhammer@hdmediallc.com  1 min to read

Some theories that have been floated were the possibility of an ancient road system, or that stone for the Webster County Courthouse was quarried from the riverbed. Others have wondered if the grid-like pattern was a natural occurrence.

What seems most likely, however, is that this feature is a geological formation known as tessellated pavement. This type of phenomenon is associated more often with coastal regions. However, by appearances, it seemed that it could be present here in the Elk River.

'Rare' tessellated pavement in Elk River

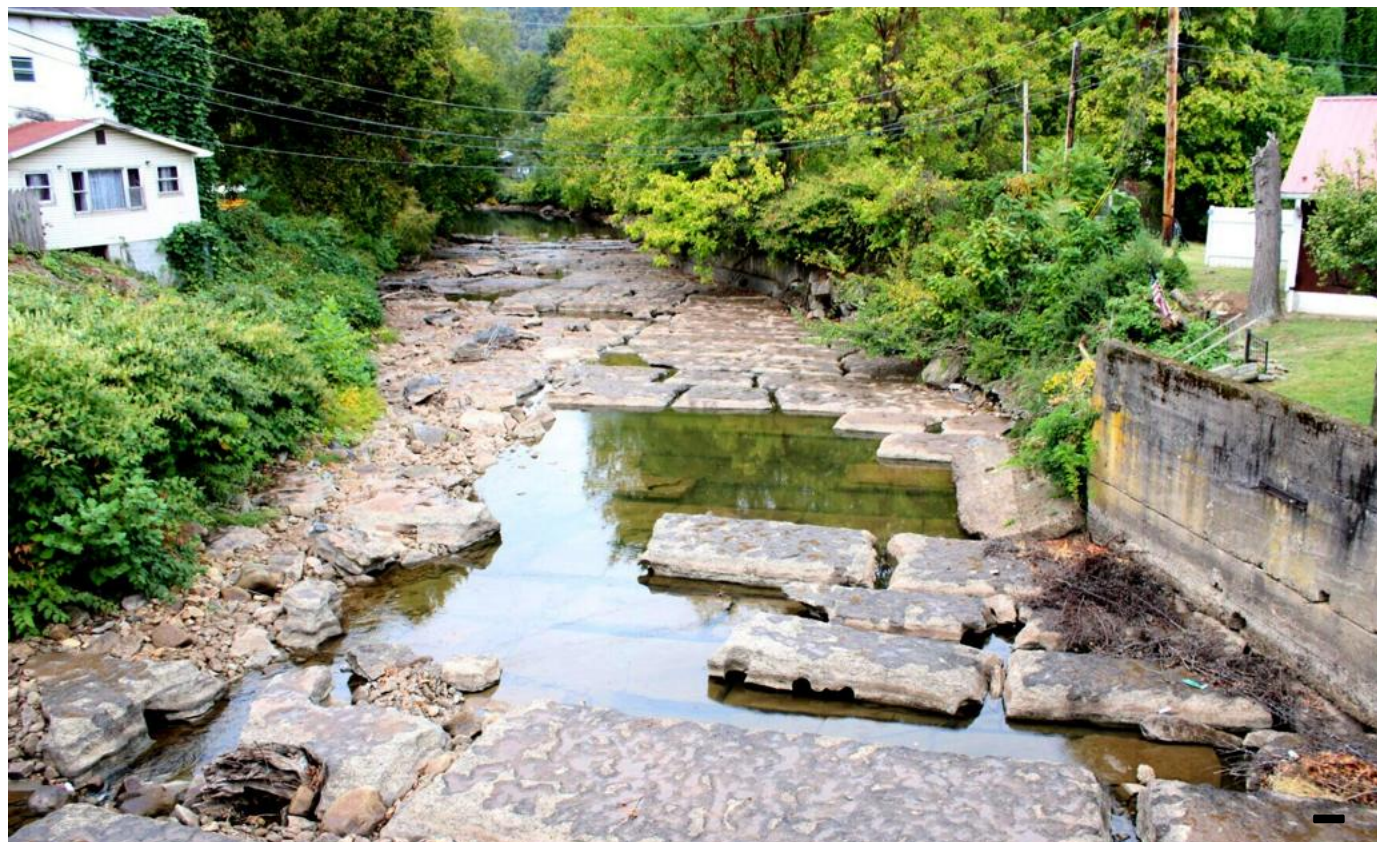
Thanks to analysis from Jaime Toro, [professor of Structural Geology and Tectonics](#) at West Virginia University, it's been confirmed that the interestingly shaped rocks in Webster Springs are indeed tessellated pavement.

"It is rare to see such a well-exposed example in our part of the world," Toro said. "I could use it as an example in my class."

Toro explained that these formations result from a common geological process involving joints, which are tensional cracks that form in rocks due to applied stress.

"These joints are a result of forces during regional deformation," Toro said.

"You can think of them as a result of the same forces that caused the folding of the rocks that created the Appalachians. That means that they are quite ancient in our case. They must be more than 250 million years old. Interestingly, the ones at Webster Springs do not have the classical orientation. They are far enough from the mountain front that they must be controlled by some more local disturbance to the stress field," he explained.





The Elk River is seen from the bridge at the traffic light in Webster Springs on Sept. 17, 2024. The low water levels offer a good view of the tessellated pavement that has formed in the river over millions of years.

RUSS ISABELL, for the Gazette-Mail

A well-known example of tessellated pavement is found at [Eaglehawk Neck in Tasmania, Australia](#), which draws visitors from all over the world to witness its natural beauty.

Similarly, the tessellated pavement in Webster Springs — now confirmed by experts — could attract both locals and tourists interested in seeing the phenomena of stones that appear to have been crafted by human hands.

This unusual pattern in the Elk River offers a glimpse into the forces that shaped our mountains and rivers millions of years ago, and adds to Webster County another recognized and intriguing feature to appreciate.