

Litzsinger Road Ecology Center

City of Ladue, Missouri

The Litzsinger Road Ecology Center (LREC) is an educational site, under the management of the Missouri Botanical Garden, dedicated to promoting science teaching and learning, environmental literacy, and stewardship of the Earth. Located in the City of Ladue, just 10 miles west of downtown St. Louis, the 34-acre Ecology Center encompasses a variety of habitats such as bottomland forest, restored prairie, and a reach of Deer Creek.



The reach of Deer Creek flowing through the LREC property was rapidly eroding its streambanks, and threatening to undermine stands of mature trees and a restored prairie plot along the top of the bank. Concern about ongoing bank erosion prompted the Ecology Center to contact Intuition & Logic. We conducted a geomorphic assessment along 2,500 feet of the stream, and provided management recommendations.



From our analysis, it was evident that the study reach of Deer Creek was adjusting via meander migration, or lateral planform adjustment. While meander migration is a natural phenomenon that can occur without anthropogenic influence, review of historic aerial photographs and field reconnaissance data indicated that lateral meander migration along Deer Creek was provoked by previous channelization efforts, a loss of channel sinuosity, and excessive bedload introduced from urbanized reaches upstream.

Preliminary management recommendations included use of existing riparian buffers, regrading and vegetating degraded streambanks, and placing rock weirs or stream barbs to deflect scouring flows away from the bank toe. While conventional approaches focus almost exclusively on increasing the resistance of an eroding feature, usually in the form of hard armor, our recommendations could be achieved by working with the forces shaping the stream, and focused on protecting threatened infrastructure and property by improving the stability of the entire reach.