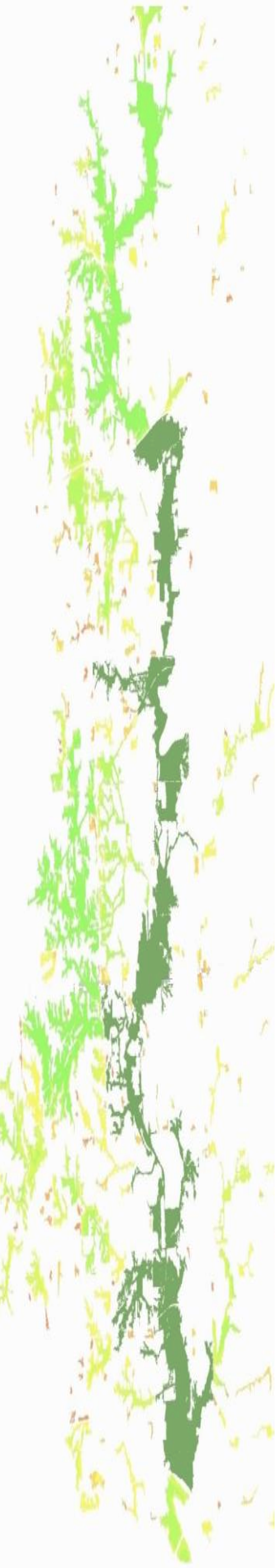


Meramec River Floodplain and Upper Silver Creek Watershed Wetland Restoration
Ecological Approach to Infrastructure Development

Purpose

Successful restoration and preservation of existing of wetlands is made easier using the data-driven approach outlined in this 2015 report. Together, wetland and upland natural and semi-natural vegetation made up more than half of the area of the Meramec River bottomlands, and in combination with water make up two-thirds of the area. Significant habitat for native biota occurs on these bottomlands, and the level of connectivity of semi-natural habitat serves as an important movement corridor for some species. The Upper Silver Creek study area contains approximately the same area of existing wetlands as the Meramec, with wetland patches along Silver Creek within the Upper Silver Creek Watershed standing out as regionally significant, forming a nearly continuous, linear patch associated with the stream bottomland.

What it is

The report maps and ranks wetlands in the Meramec River and Upper Silver Creek study areas for the purpose of highlighting wetland areas with the greatest mitigation and restoration importance, as well as cropland areas with the most potential to be restored to wetlands.

Coverage

The Meramec River bottomland study area circumscribed 15,922.9 hectares, of which 4,296.5 hectares (26.98%) was wetlands, and 2,509.1 hectares (12.38%) was water. Hence, nearly 40% of the study area was either water or wetland. Only 5.59% of the area was in high-intensity urban land cover.

The Upper Silver Creek watershed study area covered 71,714.5 hectares, of which 4,593.4 hectares (6.40%) was Palustrine wetland, exclusive of lakes and rivers. Forested wetlands accounted for 87.79% of all Palustrine wetlands.

Cost

FREE. Initial data gathering, conceptualization of methods, and technical work was completed by Missouri Resource Assessment (MoRAP) and East-West Gateway staff and paid for by funding from the Missouri and Illinois Departments of Transportation.

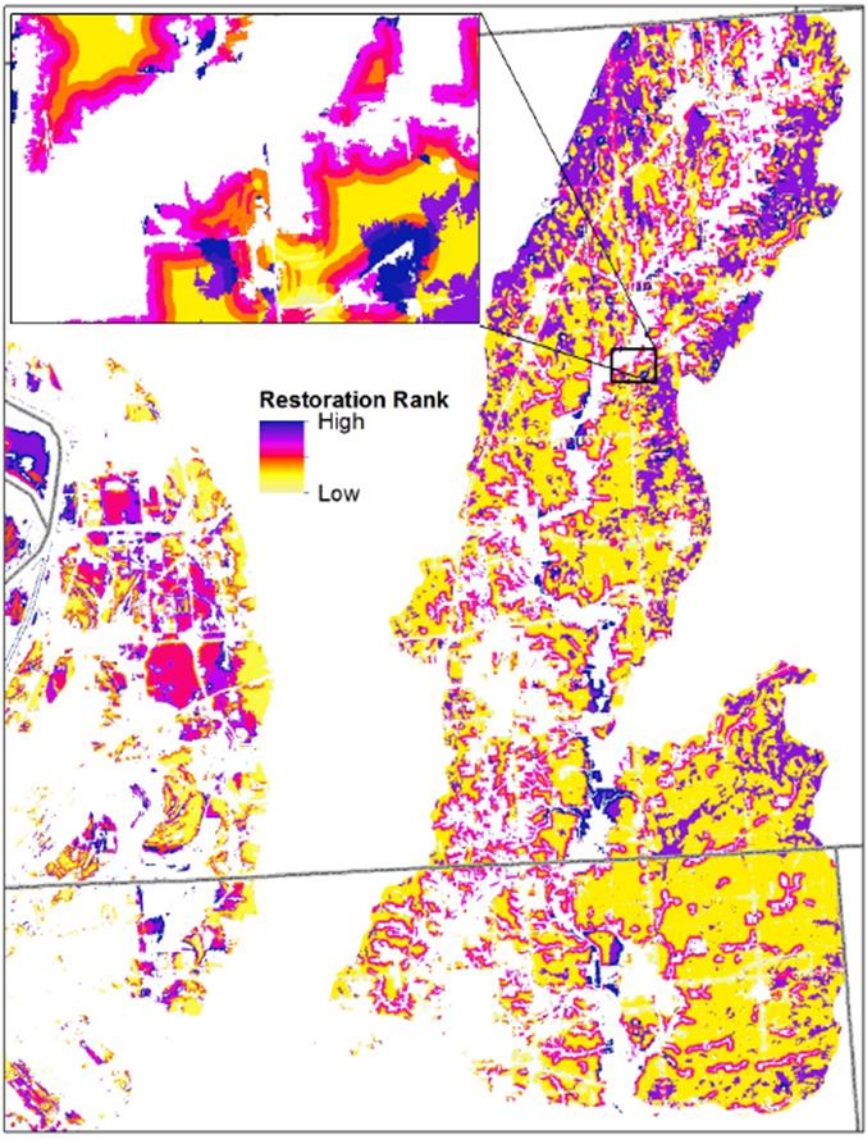
Explanation of the Ranking

Algorithms were used that considered patch size, diversity, and landscape context to assign ranks for wetland mitigation and restoration importance.

1. Only extant wetlands were ranked for mitigation importance, and only cropland or barren land was ranked for restoration importance.
2. Wetland complexes (patches) were defined based on patches formed by aggregation of all wetlands and all non-wetland vegetation touching existing wetlands. Thus, uplands adjacent to wetlands were included in patches.
3. Mitigation ranks were based on wetland complex size, diversity, and landscape context (distance to public lands or urban lands).
4. Restoration ranks were based on water regime (essentially, a 'do-ability' index for restoring wetlands) and landscape context (distance to extant wetlands, public lands).
5. The algorithm to determine wetland restoration importance was: Wetland Restoration Importance Rank = Water Regime + Distance to Public Lands + Distance to Urban Lands + Distance to Water + Distance to Extant Wetlands.

Depiction of the Ranking

As an example of the rankings outlined in the report, areas most suitable for wetland restoration (purple to blue) for the Upper Silver Creek Watershed are concentrated in the northern part of the area, or are near existing wetlands along the creek and tributaries.



How to get it

The Meramec River Floodplain and Upper Silver Creek Watershed Mapping and Importance Ranking Report can be found at www.ewgateway.org/eco. For questions regarding the data, email gisservices@ewgateway.org.

EAST-WEST GATEWAY
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