

Cove Spring Stream Restoration

Frankfort, Kentucky



top: After restoration; bottom: Native species supported by new habitat

Cove Spring Run and Penitentiary Branch, which drain into the Kentucky River, demonstrate the natural history of the Frankfort area: karst topography remnants of historical dam structures and

farm buildings, more recent residential and commercial development, and current flood management infrastructure. This history has impacted the stream channels, wetlands, and adjacent riparian lands.

conservation planning
ecological restoration
regenerative design



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Over 30 acres of enhanced marsh and swamp will serve as crucial habitat for many species, including waterfowl.

The Kentucky Department of Fish & Wildlife Resources, working through the City of Frankfort, funded the restoration of Cove Spring Run and Penitentiary Branch. The City turned to Biohabitats to lead this effort.

Biohabitats restoration design included a variety of habitats: low and high gradient stream, riparian and wetland. The project encompasses two distinct conditions—one steep and dominated by limestone boulders, and one involving the old oxbow of the Kentucky River with a history of beaver ponds and wetlands. The project re-establishes natural hydrology, connects the tributaries to their wetlands, and supports native vegetation while limiting invasive plants.

Biohabitats supervised the baseline aquatic monitoring, wetland delineation, land surveying, and base-map production as well as

completed stream morphological measurements, evaluated bed material in the field, and performed hydrologic and hydraulic monitoring. Biohabitats also led a design workshop with the client.

Construction was completed in Spring 2013, with Biohabitats having completed all aspects of field assessments, hydraulic and hydrologic modeling, stream restoration design, developing design plans for permitting with Kentucky Department of Water and US Army Corps of Engineers, Louisville District, bid documents, and construction oversight. Biohabitats is now performing the monitoring of the site.

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