



A research, outreach, and implementation project funded by the Great Lakes Restoration Initiative

Two-Stage Ditch Case Study: Inkrott Ditch Putnam County, OH

PROJECT HISTORY AND PURPOSE

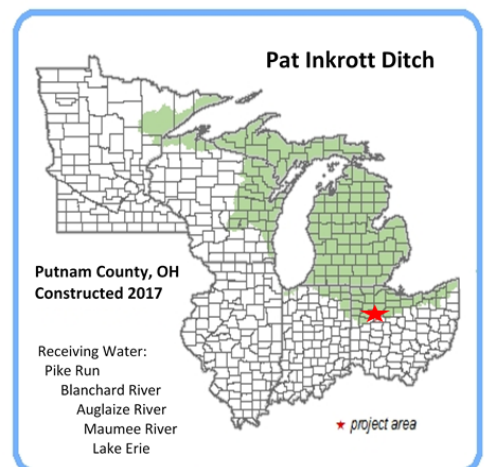
The Blanchard River covers more than 700 square miles and drains multiple counties in the Western Lake Erie Basin. More than 80% of the land is in corn, soybeans, winter wheat and pasture. Most of the watershed is very flat (<2% slopes) and the soils are heavy clays deposited in a former glacial lake bed. This watershed is poorly drained and has extensive subsurface drainage. Ditches are widely used to facilitate drainage of farmland.

Pike Run drains 5.5 square miles before joining the Blanchard River. The stream is channelized and has legal drain status above TR F-6 where it is maintained by the Putnam County Soil and Water Conservation District. A major limiting factor to aquatic use attainment in this watershed is moderate to heavy silt cover and significant embeddedness.

A two-stage channel was constructed on Pat Inkrott Ditch in 2017 to reduce excess sedimentation and stabilize ditch banks. Putnam SWCD, The Ohio State University, and Putnam County Engineers worked together to survey the site and develop design plans for the two-stage ditch. It is under the maintenance of the Putnam County Engineer.

PROJECT LOCATION

Pat Inkrott Ditch is a 1st order tributary to Pike Run located near Leipsic, OH. It drains 240 acres of subsurface-tiled agricultural fields and pasture (>90%). All of the soils in the contributing watershed are Hydrologic Soil Group C.



PROJECT PARTNERS

**Putnam County Soil and
Water Conservation District**

The Nature Conservancy

The Ohio State University

**USDA Agricultural Research
Service.**



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During Construction



After Construction

Site Physical Characteristics

Drainage Area: 240 acres

Channel Slope, Average: 0.27%

Project Length: 742 linear feet

Landowner: Pat Inkrott

Project Costs

Earth Work Costs: \$4,128.50

- **Mobilization: \$250, lump sum**
- **Soil Excavation, Hauling, Leveling: \$3,878.50**
 - ❖ **586 cubic yards @ \$1.25 per cubic yard, removal from channel**
 - ❖ **1.26 cubic yards per linear foot of channel**

Outlet repair, protection and erosion control: \$2,325

Seed and Seeding, 1.15 acres: \$4,785

Miscellaneous Labor, clean up: N/A

Engineering, survey, and inspection: \$0 (design by Putnam County Engineer, Survey and inspection by OSU and Putnam Soil and Water Conservation District)

Total Costs

Total Cost: \$11,238.50

Cost per linear foot: \$15.15

59 lbs of P removed per year