



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



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## Blind Inlet Case Study

### Putnam County, OH

#### PROJECT HISTORY AND PURPOSE

The Maumee River is the largest watershed draining to the Western Lake Erie Basin. More than 80% of the watershed is used for corn, soybean and wheat production. The watershed is very flat and the soils are mainly clay, deposited in a former glacial lakebed. Once part of the Great Black Swamp, this watershed is poorly drained and has extensive subsurface drainage. Ditches are widely used to facilitate drainage of farmland.

The Maumee River watershed tributaries are impaired by a large amount of fine sediment caused by soil erosion and frequent channel maintenance activities. Elevated levels of phosphorus and nitrogen give rise to abundant harmful algal production in streams further degrading water quality and threatening human health.

Blind Inlets are a conservation practice standard applied in areas with low permeable soils, flat gradients, and subsurface drainage tile to drain and filter surface water from fields. The practice has been shown to be effective at removing sediment and dissolved phosphorus from runoff water and has a life span of 10 years or more. Blind inlets are well-suited to a no-till farming systems, can be sized to handle up to 20 acres, and eliminate structures in the field that need to be navigated by farm machinery.

In 2014, Putnam Soil and Water Conservation District identified 130 locations in Putnam County where blind inlets could be appropriate. Between 2016-2018, 7 blind inlets were installed to treat 41 acres of runoff. Funding for the project was provided by the U.S. Environmental Protection Agency's Great Lakes Restoration Initiative.



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*Tile Riser in a field "Before" Condition*



*Excavation of Blind Inlet and placement of subsurface tiles during construction.*



*Filling and leveling the Blind Inlet during construction*



*After construction*

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**Project Scope:** 7 Blind Inlets

### Site Physical Characteristics

**Drainage Area:** 41 Acres

**Average Acre/blind inlet:** 5.85

**Average Size:** 15 feet x 15 feet

### Total Costs

**Total Cost** \$8,008.59

**Ave Cost** : \$1,144.08

