

The Iowa Watershed Approach

Oxbow Restoration

What is oxbow restoration?

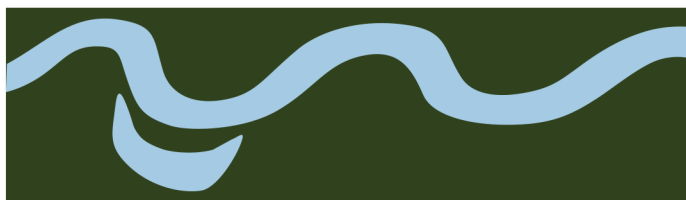
Oxbow features are remnant meanders of rivers and creeks, cut off of the main channel either by erosive forces or human alteration. When these features are restored and reconnected to the watercourse as a meander, they **provide habitat** for fish, birds, reptiles and amphibians that prefer slow-moving water, provide **flood storage capacity, reduce sediment load** and can **reduce nitrate load by 56%**. Restorations are **low cost**, often costing less than \$10,000, and land retirement is typically not required because they are often found in marginal, silted-in areas.



Oxbow Restoration and Flood Reduction

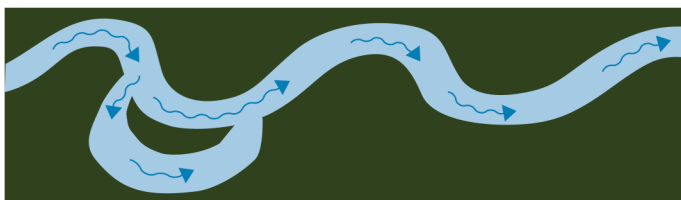
THEIR IMPACT

1. Provides floodwater storage.



Restoring oxbow features reconnects streams to their floodplains and provides temporary storage within the feature.

2. Reduces peak water flow rate after a storm event.

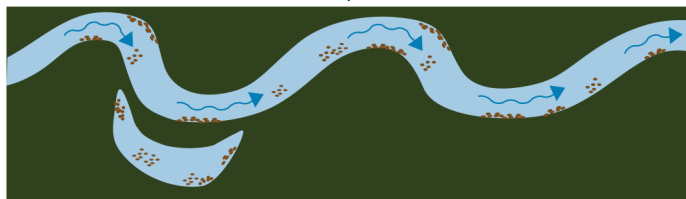


With temporary storage and slower moving streams, the timing of flood peaks is delayed.

Oxbow Restoration and Water Quality

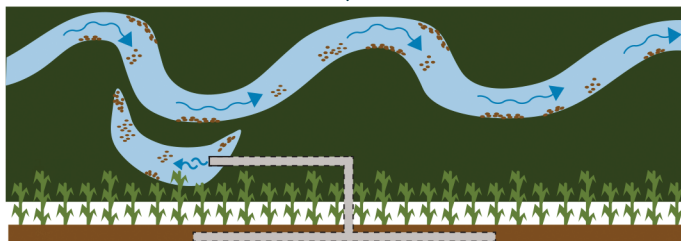
THEIR IMPACT

1. Sediment is deposited in the streambed rather than being carried downstream.



Natural stream meanders create slower moving water, allowing sediment to fall out of suspension.

2. 56% nitrate load reduction.



The meandering stream system can naturally process and cycle nutrients. Discharging tile lines into the oxbow can therefore serve as a tile nitrate treatment practice.

Financial Incentives of Oxbow Restoration

The **Iowa Watershed Approach** provides **90% cost share** for installing oxbow restorations. See your Soil and Water Conservation District or Natural Resources Conservation Service for other cost share opportunities.

Additional Benefits of Oxbow Restoration

- ▶ Does not typically require land retirement.
- ▶ Provides wildlife benefits:
 - Provides habitat for fish, birds, reptiles and amphibians that prefer slow-moving water.
 - Can provide habitat for the federally endangered Topeka Shiner.
 - Native plants can be established along the banks.
- ▶ Restores the historic and natural ecological functions of streams and rivers.
- ▶ Improves the aesthetic beauty of the landscape.

For more information on the Iowa Watershed Approach visit: <http://www.iihr.uiowa.edu/iwa/>

www.extension.iastate.edu/waterquality

Prepared by Jamie Benning, program manager, and Kristina Craft, program specialist, Iowa State University Extension and Outreach. Photos courtesy of University of Iowa IIHR-Hydroscience & Engineering.

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