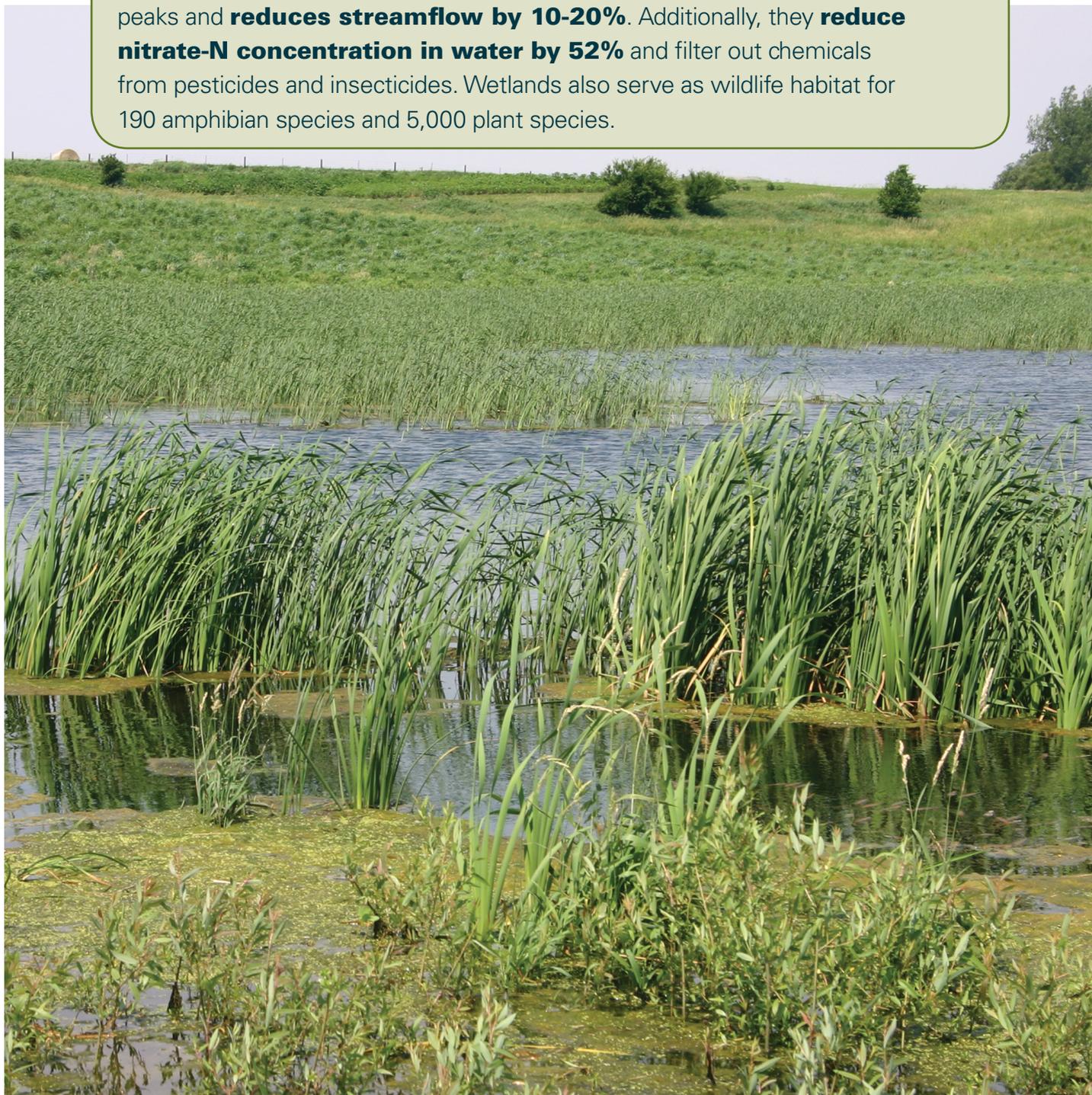


The Iowa Watershed Approach

Wetlands

What is a wetland?

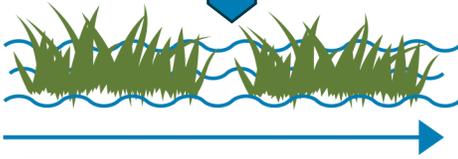
Wetlands are strategically placed to capture surface runoff and drainage water. They provide temporary storage for floodwater which lowers downstream flood peaks and **reduces streamflow by 10-20%**. Additionally, they **reduce nitrate-N concentration in water by 52%** and filter out chemicals from pesticides and insecticides. Wetlands also serve as wildlife habitat for 190 amphibian species and 5,000 plant species.



Wetlands and Flood Reduction

THEIR IMPACT

1. Provides floodwater storage.



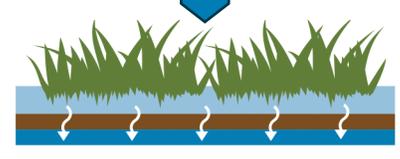
Wetlands intercept precipitation runoff and runoff is slowed compared to traveling straight across the landscape.

2. Reduces peak streamflow after a storm event by 10-20%.



With temporary storage provided in wetlands, the volume and timing of downstream flood peaks are reduced.

3. Recharges groundwater through the bottom of the wetland.

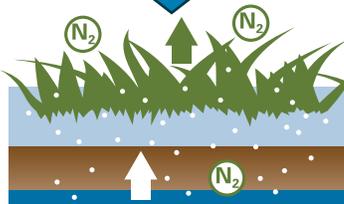


Seepage through the bottom of the wetland converts surface water into groundwater.

Wetlands and Water Quality

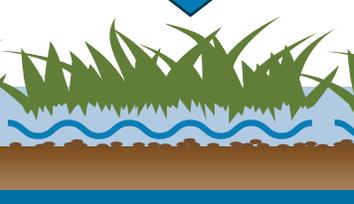
THEIR IMPACT

1. 52% reduction in nitrate-N.



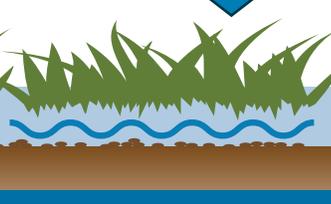
Denitrification – microorganisms convert nitrate to N₂ gas which makes up 80% of the atmosphere. Wetland design is typically shallow to promote denitrification.

2. Reduces sediment loss and serves as a particulate phosphorus sink.



Slower moving runoff produces less soil erosion. The phosphorus-laden sediment that travels with surface runoff is deposited in the wetland as runoff is slowed down.

3. 76-84% atrazine retention.



Chemicals found in pesticides and insecticides are filtered out of runoff and drainage water with wetland biota.

4. Greater than 52% removal of certain insecticides.



Financial Incentives of Wetlands

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

- ▶ Potential to lease land to hunters for additional income.
- ▶ The conversion of wet or low yielding areas into wetlands can make economic sense.

Additional Benefits of Wetlands

- ▶ Provides wildlife benefits:
 - Creates habitat and increases bird populations, including waterfowl, grassland and shore birds.
 - Increases migration corridors for migratory creatures.
 - Provides an opportunity to seed pollinator species in wetland buffer.
- ▶ Offers recreation opportunities, such as hunting, trapping and bird watching.
- ▶ 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

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This project is supported by the Iowa Nutrient Research Center.

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