

TALKING WITH YOUR LANDLORD:

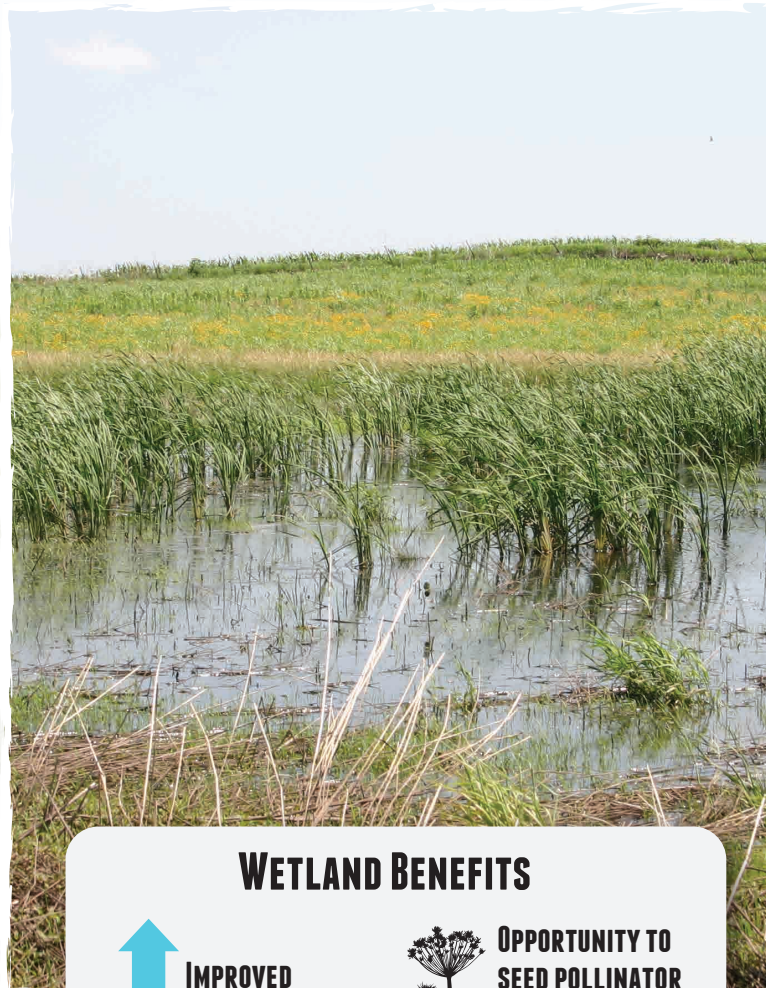
WETLANDS

There are many landowners looking for young, innovative farmers who are promoting a sound conservation ethic as they look at the future care of their land. Gaining conservation, communication and financial skills will help Emerging Farmers stand out in the community and create a competitive advantage for building relationships with future landlords. This publication series lays the initial roadmap to help develop those skills and provide resources for continued growth.

THE DOLLARS AND SENSE OF WETLANDS

Treating water with wetlands is affordable with a cost of approximately \$1.32 per pound of N removed. The cost of installation is substantial, ranging from \$59,000—\$280,000, but there are several sources of funding available to finance a wetland on your property through the Natural Resources Conservation Service (NRCS) and Iowa Department of Agriculture and Land Stewardship (IDALS).

Denitrifying practices like wetlands, bioreactors and saturated buffers remove nitrate from tile drainage water through a process called denitrification. Microbes breathe in nitrate (NO_3) and exhale inert N_2 gas back into the atmosphere. These microbes require an anaerobic (oxygen free) environment to ensure that they use the nitrate in the water rather than oxygen as part of their respiration process.



WETLAND BENEFITS



**IMPROVED
WATER QUALITY**



**OPPORTUNITY TO
SEED POLLINATOR
HABITAT**



**RENTAL AND
LAND EASEMENT
PAYMENTS**



**INCOME FROM
HUNTING LEASES**



**HUNTING, BIRD
WATCHING
AND HIKING**



**CREATION OF WILDLIFE
HABITAT AND MIGRATION
CORRIDORS**

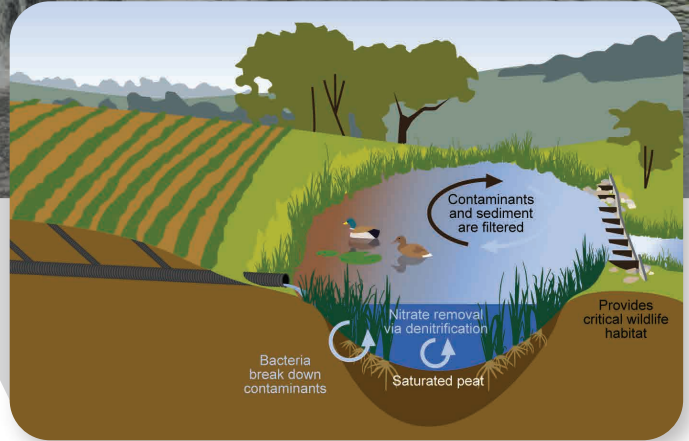


Image courtesy Iowa State University Master of Science in Agronomy Program

HOW IT WORKS

Wetlands are characterized as having water at or near the soil surface during at least part of the year, containing hydric soils, and containing plants that are adapted to wet conditions. These characteristics provide a great environment for denitrification. Wetlands are shallow in depth and allow the water to slow down and deposit sediment. **Wetlands designed for nutrient removal can reduce nitrate levels by 40-90%, sending cleaner water downstream.**

WHERE SHOULD THEY BE INSTALLED?

Constructed wetlands are strategically located and designed to remove nitrate from tile-drained water and can treat drainage areas of 500-3,600 acres. The typical wetland is 0.5-2% of the total drainage area. An easement area is established as a buffer to prevent sedimentation at a minimum of 2 acres of buffer to 1 acre of wetland, often requiring a small amount of land to be taken out of production.

For a 1,000-acre watershed:

wetland area = 5-20 acres

easement buffer area = 10-40 acres

START SMALL

Working with your landlord to gather information about the practice and addressing any concerns early will help smooth the transition to the new practice and minimize conflicts.

Your local NRCS staff and Iowa State University Extension and Outreach field specialists are available to meet with you and your landlords to help answer questions, provide resources and technical assistance.



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