

What is an Edge of Field Practice?

Edge-of-field practices play a crucial role in meeting the Iowa Nutrient Reduction Strategy goals of improving water quality through reducing nitrogen and phosphorus in Iowa's water bodies.

These practices are good ways to reduce nutrient loss if you don't want to change crop management.

Edge-of-field practices involve drainage water management, bioreactors, saturated buffers, and denitrifying wetlands.

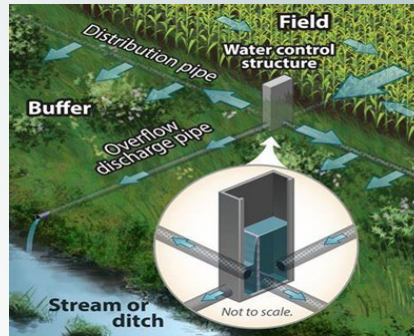
How to apply?

If you are interested in adopting an edge of field practice call your local field office today. We can investigate the site and determine your eligibility. Sign-up is continuous with no deadline.

*It is helpful to have tile maps ready as tile placement and grade are important in determining feasibility.

Saturated Buffer:

Tile water is diverted to a lateral line parallel to the stream or ditch and nitrate is treated (denitrified) as it moves through the soil profile and drains into the stream or ditch. In high flow conditions the water can bypass the lateral line and discharge, preventing the water table from getting too high in the field.



Cost Share:

(Est. \$5,000-7,000)

EQIP: \$4.59-5.51/Foot

State EOF money: Cost Share up to 75% of \$5,000

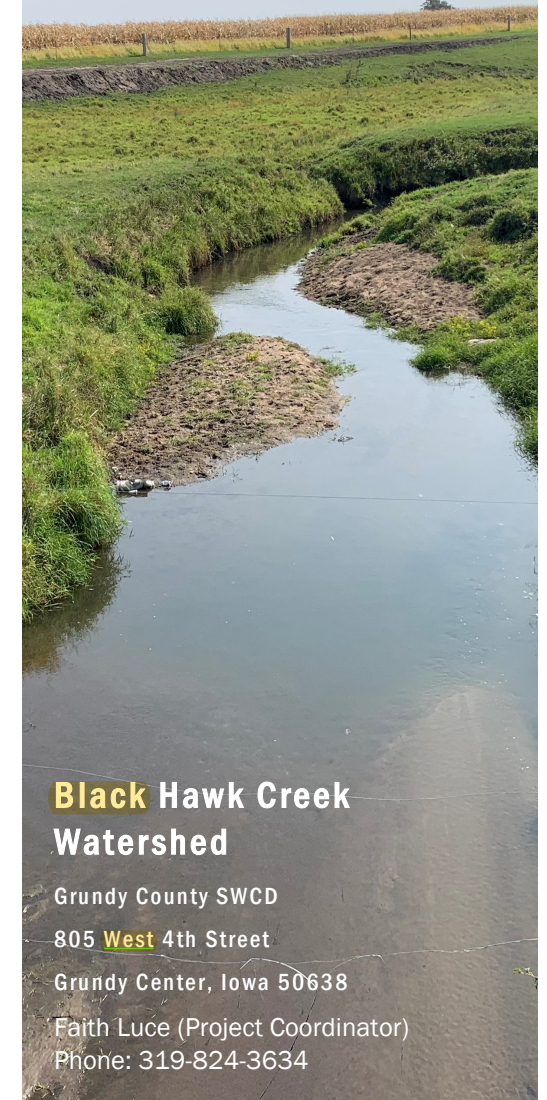
***CRP CLEAR (Filter Strip, Riparian Buffer)**

-Cost Share up to 50% of install



Black Hawk Creek Watershed Improvement Project

Working to improve soil and water health within the watershed.



Black Hawk Creek Watershed

Grundy County SWCD

805 West 4th Street

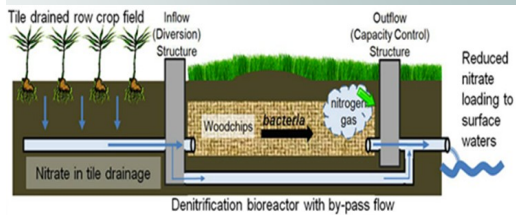
Grundy Center, Iowa 50638

Faith Luce (Project Coordinator)

Phone: 319-824-3634

Bioreactor:

A bioreactor functions similarly to a saturated buffer but has less restriction in location. A portion of the tile water is diverted into the bioreactor chamber filled with wood chips. The nitrate in the tile water is treated (denitrified) and returned to the drainage tile.



Est. Cost: \$12,000-15,000 each

EQIP: Cost Share \$35.29-59.30/cu. yd.

State EOF money: Cost Share 75% of \$10,000

***CRP CLEAR (Filter Strip, Riparian Buffer)**

-Cost Share up to 50% of Install

Constructed Wetland

Wetlands are constructed specifically to remove nutrients from tile water. They are placed in the landscape to maximize drainage area and nutrient removal, as well as providing wildlife habitat and hunting opportunities.

CRP : 10-15 years CRP + 50% cost share

CREP: 15 years CRP + easement + up to 100% cost share

WQI: up to 100% cost share + easement

EQIP: \$7,222.09-\$11,136.80/acre

Oxbow Restoration

Oxbows are remnants of the creek meanders either cut off by the main channel or by human alteration. Restoration requires digging out the sediment that has partially filled in the old channel. Oxbows create great wildlife habitat and provide flood storage. Tile water can also be rerouted into an oxbow for treatment of nitrogen (denitrification.) Good sites for oxbows are ones where there is tile nearby and where there is evidence of the old channel.



Est. Cost ~\$15,000 per acre

Federal EQIP Oxbow: restoration Cost Share \$20,220/acre

State EOF money (must have tile outlet into it) : Cost Share 50%

Prairie Strips:

Prairie strips provide many ecosystem services including habitat for beneficial insects and wildlife. Prairie plants help protect and build the soil as well as reduce nutrient movement into waterways. The addition of pollinator habitat in soybean fields may boost yields. Consider planting prairie strips on unproductive areas and field edges.



CRP: 50% cost-share and an annual rental payment of about \$225/acre.

What is a Watershed?

A watershed is a portion of land that drains into a specific waterbody. Watersheds drain rainfall and snowmelt into streams and rivers. As well as infiltration and ground water flow. Watershed improvement projects were initiated to meet the requirements outlined in the Iowa Nutrient Reduction Strategy. The INRS directs efforts in reducing nutrients from surface water. The INRS states that ag non-point sources reduce Nitrates by 41% and Phosphorus by 29%. These goals can be met by adopting in-field or Edge of Field practices.

Project Coordinator

I am an Avid outdoorsman, growing up on the Mississippi River I developed a passion for hunting, fishing, camping and kayaking. Through my time spent outside and my background in dairy farming I became a passionate advocate for conservation, sustainable agriculture and water quality restoration.

-Faith Luce



Black Hawk Creek Watershed:

Black Hawk Creek (BHC) watershed is 217,000 acres in size and spans from Grundy County into Tama and Black Hawk county. The watershed's land cover is 85% agricultural and is mostly comprised of row crops such as corn and soybean. Black Hawk Creek Watershed can be broken down into 10 sub watersheds. Three of these watersheds are noted as priorities. Including Holland Creek, Village of Reinbeck and Wilson Creek.

Watershed Impairments:

The entire watershed of BHC is impaired for E.coli and yields an average of about 5,098,725 lbs/yr of Nitrates and 168,312 lbs /yr of Phosphorus. Land along the creek is known to have frequent flooding events. The sub watershed of Wilson Creek has a problem with soil loss, losing 64,320 tons each year.



Black Hawk Creek Water Quality Improvement Project

Working to improve soil and water health within the watershed.

Black Hawk Creek Watershed

Grundy County SWCD

805 West 4th Street

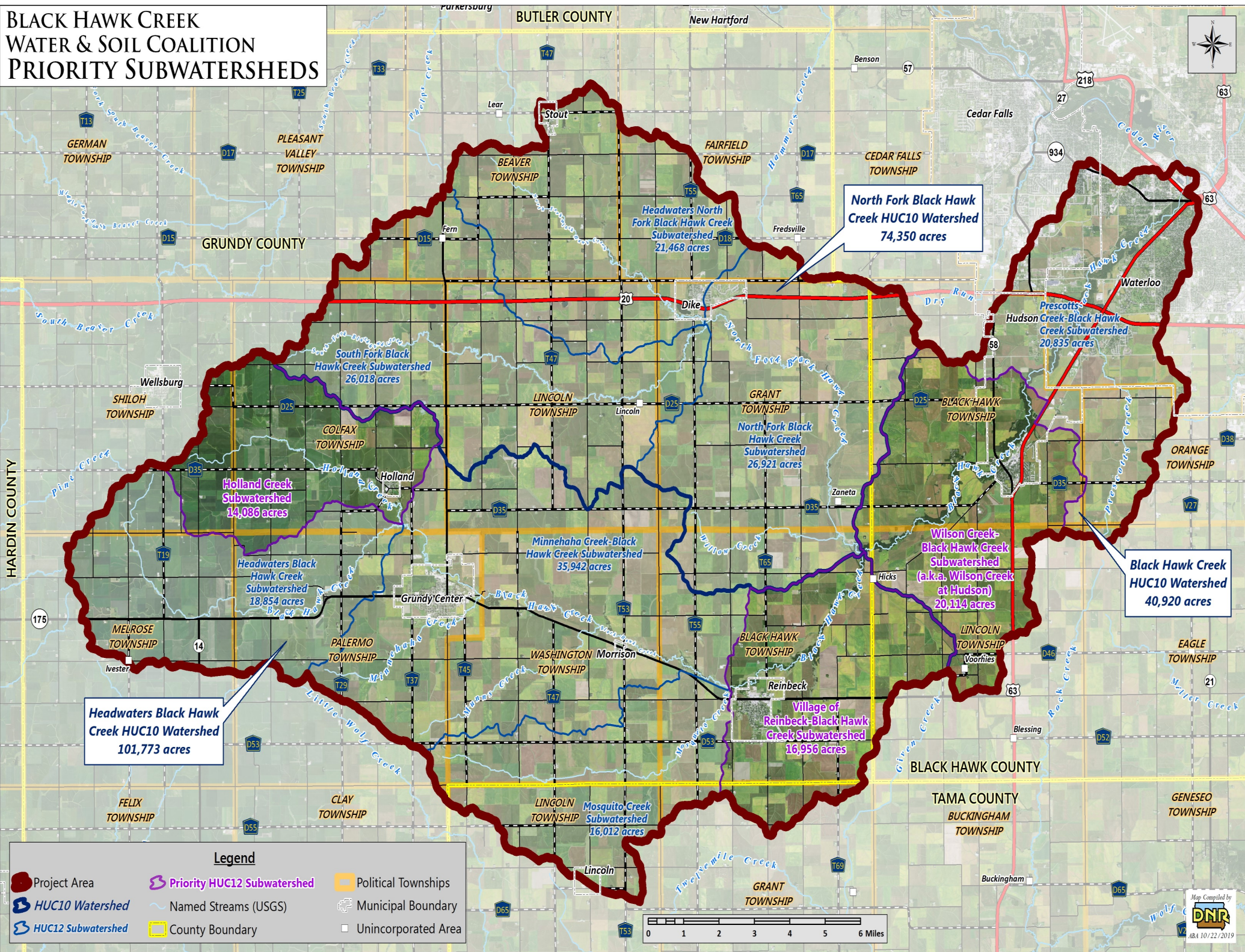
Grundy Center, Iowa 50638

Faith Luce (Project Coordinator)

Phone: 319-824-3634

E-mail: faith.luce@ia.nacdnet.net

BLACK HAWK CREEK WATER & SOIL COALITION PRIORITY SUBWATERSHEDS



Popular Cover Crops

Winter Hardy

Cereal rye: 45 lb./acre minimum

Triticale: 45 lbs/ ac minimum

Winter Wheat: 45 lbs/acre min.

Winter Kill

Oats: 60 lbs/ac

Turnip: 4 lbs/ac

Rapeseed: 5–10 lb/acre drilled;
8–14 lb/acre broadcast.

Radish: 8-10 lb/acre drilled; 12-
14 lb/acre broadcast.

Hairy Vetch: 15 to 20 lb./acre
drilled; 25 to 40 lb./acre broad-
cast

Mustard 5-12 lb/acre drilled; 10-
15 lb/acre broadcast.

Winter peas: 60 to 90 lb/acre

How to apply?

Call your local Soil and Water Conservation District and talk to office staff about enrolling your land. Have farm and tract numbers handy!

Field Office's

Grundy Center: 319-824-36-34

Waterloo: 319-269-3262

Toledo: 641-484-2702

Cost-Share

-\$15/ac winterkill

-\$30/ ac winter-hardy crops

*there is no cap on cover crop
acres



Black Hawk Creek Watershed Improvement Project

*Working to improve soil and
water health within the
watershed.*

Black Hawk Creek Watershed

Grundy County SWCD

805 West 4th Street

Grundy Center, Iowa 50638

Faith Luce (Project Coordinator)

Phone: 319-824-3634

Cover Crops

Cover crops are a non-cash crop planted into standing cash crops or bare fields following harvest. Cover crops improve soil quality by reducing erosion, soil nutrients, reducing soil compaction, improving organic matter and nutrient cycling, and improved water infiltration.

Seeding Methods:

- 1. Drilling:** ensures seed-to-soil contact promoting faster germination using less seed.
- 2. Precision planting with 15-inch rows:** allows for better soil tilth and faster nutrient uptake.
- 3. High-clearance applicator:** The application occurs while the crop is still standing.
- 4. Aerial seeding:** great with a wet, late harvest.
- 5. Vertical tillage:** seed at same time, as a quick and inexpensive option.
- 6. Seed while you combine:** Seed loss is minimal.

No-Till

No till is the absence of tillage. This is beneficial in retaining the natural structure of soil (reducing erosion) and carbon and other nutrients stored within the soil. As well as reducing fuel, labor, and equipment costs. It takes time to see the benefits of no-till, soil needs time to regain structure.

No-tillage is recommended ahead of soybean regardless of location, slope, or drainage.



Cost-Share for No-Till/Strip-Till

\$10/ac up to 500 acres

*To get funding practices are applied to a field that previously hasn't been no-tilled or strip-tilled.

Strip-till:

Strip-till is where tillage is limited to where next year's crop will be planted, reducing soil disturbance. Strip tillage benefits include reduced soil erosion, increased soil organic matter and reduced phosphorus entering waterways, as well as increased soil organic matter.

The advantages of strip-till include optimum placement of fertilizers for plant uptake and improved conditions for seed-to-soil contact at planting.

Strip-tillage ahead of corn is recommended for poorly drained, low slope fields.

