Iowa Conservation Reserve Enhancement Program (CREP)

Landowner Guide to Operation and Maintenance

The Conservation Reserve Enhancement Program (CREP) was designed specifically for nitrate removal while also improving wildlife habitat. CREP strategically restores wetlands in locations that receive significant shallow subsurface drainage flow, the primary transport mechanism of nitrate to surface water. They are restored as shallow water emergent wetlands that provide 40-70% nitrate removal as shown through research and monitoring by Iowa State University.

Landowner Guide:

This 5-part guide is intended to help you maximize your investment giving you the best quality site that will get the most out of the water quality as well as habitat benefits of the area.

IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP

FSA FARM SERVICE AGENCY

Part 1: Buffer Establishment

Recommended management and tips to help ease the establishment period of the native grass buffer.

The easement area surrounding the wetland is seeded to a mix of native grasses and forbs. These grasses take some extra care to get started because they focus their early years on root establishment vs. above ground growth.

- Mowing the site early and often is the best way to ensure proper establishment of the buffer area. We recommend mowing 3-4 times per year for the first 1-2 years after seeding and spot moving 2-4 times per year for 3-4 years. The more it is cared for early on, the easier it will be to care for in the long run.
- Mowing reduces competition from early succession weed species, such as: giant ragweed, foxtail, lambs quarter, Canada thistle, etc.; therefore it is important to mow before these weeds have gone to seed.
- It's recommended that you use a rotary (brush hog) or shredding or flail type mower (stalk chopper) to chop up and spread out the mowed weeds. This method is preferred to a sickle type mower which cuts the weeds at the base and lays them flat which can smother a new seeding.
- Mow the buffer high (~8-10 inches) to only clip the weed growth above the emerging native plants.

Mowing during establishment can be done anytime throughout the growing season and does not have to adhere to the nesting season mowing ban that runs from May 15 - Aug 1. After the establishment period any mowing of the buffer during the primary nesting period must be done with approval from your local FSA office.

NEW SEEDING, NEEDS MOWING

3 YEAR OLD SEEDING

ESTABLISHED SEEDING

The CREP Field Specialist was with you through the whole sign-up and construction process. They'll be with you along the rest of the way as well. If you have any questions or concerns they'll help find the answers for you.

If you're wondering what should or shouldn't be growing on your site contact IDALS staff or your CREP Field Specialist. They'd be happy to help you identify what's considered a weed and what is a desirable plant species.

Part 2: Structure Maintenance

Recommended maintenance tips for CREP wetland structures.

The structure of you CREP wetland is the most critical component of your site. Regular maintenance will ensure it will last well beyond the required maintenance period. Your CREP wetland was designed and built with strict requirements to withstand the elements, but neglect can undermine even the best built structure. Below are recommendations for you as the landowner to help ensure the structure is maintained properly.

Regular inspection of the dam will help you stay on top of issues that may arise. Things to look out for include:

- Trees

  Trees and other woody plants growing on the structure can cause problems down the road. Overtime their roots will weaken the structure.

  Keep the structure mowed and/or spray any woody vegetation that may start growing in the structure. Make sure to use a herbicide that is approved for use close to water.

BEAVER DAM RAISES AT THE INLET TO THE WETLAND. COULD RAISE THE WATER LEVEL WHICH COULD INUNDATE INCOMING TILE OUTLETS

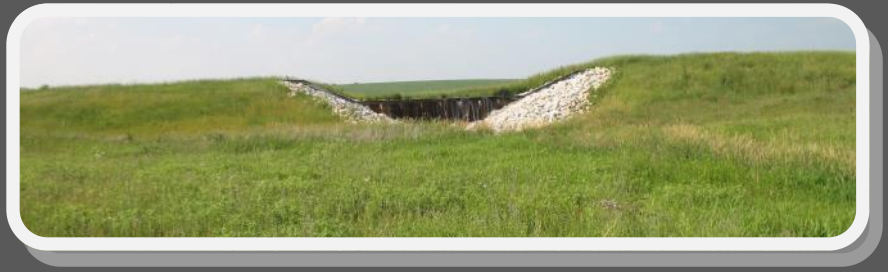
- Rodents

  Muskrats can burrow into the structure to build their dens. All sites are built with a wave berm to discourage this, but it's something to keep a look out for.

  Beavers can raise the water levels by damming up the outlet of the wetland or near the inlets. CREP wetlands are designed to maintain a minimum 1 foot separation between the normal wetland pool elevation and any incoming tile outlets. If beavers raise the pool level 1 foot or more, they could potentially impact the upland drainage system.

  Make sure to keep any rodent covers, and/or trash guards installed to prevent any clogging or inhabiting of the water control by raccoons and other varmints.

These are a few potential problems that could affect the structure of CREP sites without proper maintenance. With proper inspection and maintenance these issues can be found early and addressed before they become a problem.



WELL MAINTAINED STRUCTURE

Buffer after burning. March 2011

Part 3: Buffer Maintenance

Please refer to your Conservation Plan of Operations for help pertaining to mid-contract management.

Mid-contract management is required within the 15 years of your CRP contract. Mid-contract management can include: spraying, inter-seeding, disking, and burning. A prescribed burn is the most common mid-contract management.

Timely burns can help control volunteer trees in the buffer and can invigorate growth of native grasses and forbs.

Typically the management for the whole site is done over several years. For example, 1/3 of the area is burned in year 5, another 1/3 in year 7 and the final 1/3 is burned in year 9. FSA has cost-share available for this management.

Mid-contract management must be completed prior to or after the nesting season that runs from May 15th - August 1st. This period of time is considered the primary nesting season for Iowa. Banning any maintenance activities during this time is used to prevent harassing and/or destroying various bird species as well as their nests or their young. Special circumstances can arise that would require management during the nesting season, which could be done with approval from FSA.

If you feel more needs to be done for managing the site, please work with your CREP Field Specialist and the local FSA office to ensure more management is permissible.

Tips on Burning:

To help ensure a controlled burn you will want to consider:

- Burn only when conditions are right.
- Mow or disk a firebreak at least 2 weeks prior to burning
- Use the wetland pool as a firebreak
- Use caution when burning around tile outlets and the water control structure.

Spot-spraying or mowing:

In some cases spot mowing or spraying could be effective in treating small problem areas as opposed to covering the entire easement. Use care when spraying in the buffer because most herbicides will kill native forbs (wildflowers).

Spraying would be effective in controlling trees that may grow in the structure and around tile outlets. These areas are seeded to a cool season mix, so there is no risk in hurting the native wildflowers.

Spot mowing may help suppress weeds and allow native grasses to smother them out. Mowing is not an effective control for volunteer trees.

Same buffer 4 months later.

Part 4: Wetland Vegetation

Recommended management and tips to help establish wetland vegetation and increase the wildlife habitat of your wetland.

Your site is designed to maximize its potential to remove nitrates; as well as, provide valuable wildlife habitat and recreational opportunities for you, the landowner.

To facilitate and maximize the efficiency of these systems, they need to be managed and allowed to function as intended. This includes aquatic vegetation establishment. Aquatic vegetation is a important component of the wetland system and may have a role in nitrate removal along with microbes that convert nitrate to nitrogen gas. Aquatic vegetation is also important for many species of wildlife.

Many species of waterfowl, including Trumpeter Swans, depend on emergent and submergent wetland vegetation for food, cover, and nesting.

Submergent (under water) vegetation establishes easily with little management, but a more diverse mix of vegetation is more desirable.

In 2012, IDALS started to actively seed emergent vegetation in CREP wetland sites. In the past we have used a variety of techniques to help jump start wetland vegetation with or without a drawdown. These include:

- Passive-letting existing seed bank re-establish
- Transplanting-removing plants from nearby sources and moving to wetland.
- Broadcast seeding-harvesting seeds from nearby sources and hand seeding around the wetland.
- Muck bucket-taking a bucket of mud from existing wetland and placing in CREP wetland.

Arrowhead is a common wetland plant found on CREP sites.

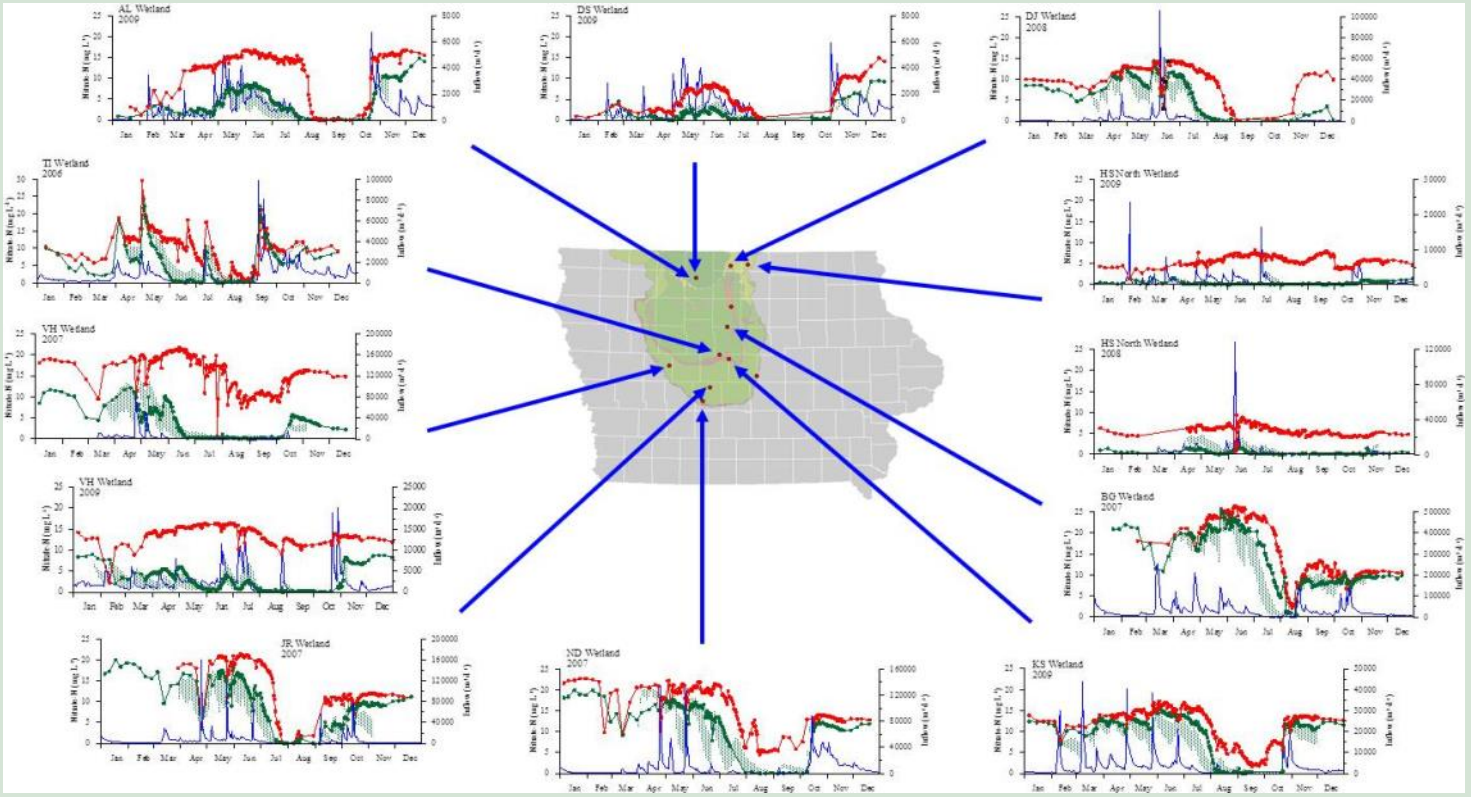
Managing water levels through the water control structure provides a moist soil environment for the existing seed bank to germinate without the presence of standing water. Once the plants germinate and are actively growing, water levels can be slowly returned to normal. Most emergent plants will reproduce through the roots when submerged. If the plants begin to die out another drawdown may be needed in the future. Your CREP Field Specialist coordinates with IDALS in advance of any site drawdowns.

Lowering water levels may decrease the wetland's efficiency for nitrate removal, so drawdowns are done sparingly.

Please contact your CREP Field Specialist if you would like help increasing the amount of vegetation in your wetland.

Bulrush and Cattail are common types of emergent vegetation inhabiting CREP sites.

Part 5: Monitoring



Water Quality Monitoring-

A unique feature that separates CREP wetlands from other conservation practices is the ability to quantify their performance at improving water quality. Iowa State University monitors 8-10 sites per year with the approval of the landowners.

The monitoring involves two auto samplers, one at the inflow and one at the outflow of the wetland, some flow monitoring equipment, and a rain gauge and wind meter. ISU staff visit the sites once a week to collect samples for analysis.

This data provides a wealth of information that helps further develop technology that improves efficiencies, designs, and understanding on how these systems function.

If your site is chosen, we hope you will allow ISU to monitor it.

USGS Frog Recorders installed at a restored CREP site.

Frog/Buffer Monitoring-

The United State Geological Survey (USGS) has also done some habitat/species diversity monitoring on CREP sites in the past. This monitoring has shown dramatic increases in presence and diversity of frog species after restoration of CREP sites.

To conduct the surveys, recorders are placed at wetlands waiting to be restored and wetlands that have been restored. The recordings are then run through a computer program that determines the species of frog based on its call.

Contact Information:

Judie Krebsbach—CREP Program Manager

judith.krebsbach@iowaagriculture.gov

(515) 725-1298

Brandon Dittman— CREP Field Coordinator

brandon.dittman@iowaagriculture.gov

(515) 281-7032

CREP Field Specialists (By County)

Buena Vista, Clay, Cherokee, Dickinson, Emmet, Humboldt, Kossuth, Palo Alto, Pocahontas, O'Brien, Osceola

Ike Petersen

(712) 260-2888

Cerro Gordo, Floyd, Hancock, Mitchell, Winnebago, Worth, Wright

Mark Sandvik

(712) 298-1565

Boone, Carroll, Calhoun, Dallas, Greene, Guthrie, Madison, Sac, Webster

Bob Powers

(515) 230-2896

Butler, Franklin, Grundy, Hamilton, Hardin, Jasper, Marshall, Polk, Story, Warren

Denny Barrick

(515) 450-6748

Iowa Department of Agriculture and Land Stewardship

Wallace State Office Building

502 E. 9th St.

Des Moines, IA 50310

Thank you for your participation in the Conservation Reserve and Enhancement Program

Iowa Department of Agriculture and Land Stewardship
Wallace State Office Building
502 E. 9th St.
Des Moines, IA 50310