NRCS Natural Resources Conservation Service

Helping People Help the Land

Expiring CRP Options – Conservation Buffers 2

Grassed Waterways, Field Borders, and Filters Strips

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North Dakota landowners and producers have enrolled over 3 million acres into the Conservation Reserve Program (CRP). Establishment of CRP cover (grass, legumes, trees, and shrubs) has resulted in tremendous environmental benefits to our landscape. CRP has greatly reduced sediment, nutrients, and pesticides in our water resources while providing benefits to resident and migratory wildlife.

As your CRP contract nears its end, you will be making decisions on what to do next with your land. While much of the CRP land in North Dakota is productive and likely will go back into crop or hay production, many acres of CRP land are environmentally sensitive and are not recommended for annual crop production. There are areas in most CRP fields that if maintained and managed as permanent cover will provide both protection to our rivers, lakes and wetlands, while reducing input costs on lower productivity land.

Consider maintaining or establishing areas of permanent vegetation on these critical parts of the landscape. Known as conservation buffers, these patches of vegetation have the potential to:

- Reduce the amount of sediment reaching a stream by up to 80%
- Reduce nitrogen in near surface ground water by up to 90%
- Increase crop yields by 10-30%, depending upon the crop and the buffer
- Reduce snow removal costs by thousands of dollars per mile of road
- Protect fields from flood damage and flood debris
- Reduce drain and road ditch maintenance costs
- Reduce nutrients and pesticides in runoff water
- Squaring up fields for ease of crop production
- Diversify wildlife habitat opportunities

Consider re-enrolling your eligible acres of expiring CRP contract cover into one or more of the following CRP practices to protect soil and water quality. The existing vegetation will likely meet CRP requirements. In most cases, the buffer practices are already established as part of a CRP contract. NRCS is ready to assist landowners with the location and management of buffers. CRP fields tend to be rough, due to the activity of burrowing animals. Keeping these areas in a grass buffer may require a leveling operation(s) to smooth the areas for subsequent equipment traffic, field operations, and maintenance.

Following is a brief discussion of available buffer practices in North Dakota. For more details concerning what practices qualify for Continuous CRP and what incentives apply, refer to "Continuous CRP and SAFE Practice Summary, revised 2-27-08."

Grassed Waterway

Grassed waterway in standing small grain stubble

Grassed waterways are natural or constructed channels that direct concentrated runoff to stable outlets without creating a gully, reducing sediment delivery to our water resources. Before converting CRP fields back to crop production, areas that would benefit from a grassed waterway should be located and left to control gullies. Besides controlling erosion, grassed waterways can be

harvested for hay. If hayed after the primary nesting season, they can provide nesting habitat. Grassed waterways work best when combined with good residue management, conservation tillage, and crop rotations reducing water erosion from the field.

Field Borders

Grassed field borders in lieu of end rows

A field border is a strip of perennial vegetation at the edge of a cropland field. They provide a firm level space on which to turn machinery throughout the year. They can reduce wasted crop inputs (fertilizer, herbicides, etc.) due to overlapping especially with crops requiring numerous field operations. Excessive wheel traffic compacts the soil in the headlands resulting in reduced water infiltration and poor root development that can reduce yields. Where field edges are affected by salinity, field borders can control the spread of salinity into non-saline soils. Field borders can also act as a filter strip between a field and road or drainage ditch. Field borders should be at least 20 feet wide, or wide enough to allow equipment to turn on the headlands.

Field borders used for forage production and should be seeded to a mixture of grasses that will form a dense sod such as switch grass, big bluestem, or Indian grass. In existing grass stands, interseeding of legumes can improve the forage and soil quality.

Filter Strips

Filter strips are areas of permanent vegetation used to reduce sediment, pesticides and nutrients in runoff. Established filter strips generally consist of stiff, upright sod-forming grasses, such as switchgrass, however, your existing CRP cover can be effective. Filter strips should be at least 30' wide when measured parallel to the runoff flow direction. Wider is better. When managed effectively they trap sediment on the upper edge of the filter strip and within the adjacent field. They increase infiltration, and transform entrapped pollutants to nontoxic compounds.

Filter strip protecting stream. Note "smoothed" field edge.

Filter strips are most effective when combined with residue management, crop rotation, and grassed waterways. Nutrients and sediments are kept in the field where they can be used for crop production. When properly designed and installed, filter strips can be used to "smooth" field edges, making the adjacent field easier to farm. Properly managed they provide nesting, escape and winter cover for wildlife. Check with NRCS for assistance with the technical requirements for filter strips and if re-enrolling the area in CRP is a possibility.

Conservation buffers are not the entire answer to protecting soil and water resources. When applied in correct locations and maintained properly they return conservation benefits far in excess of the small foot print of land taken from traditional production. Buffers are most effective when combined with residue management, such as no-till, crop rotations, nutrient management and pest management practices.

For more information on management options with expiring CRP contracts or if interested in installing one more of these buffer practices, please contact your local NRCS office.