Conservation practices provide economic and environmental benefits to protect the natural resources of our state. The benefits of using conservation practices include improving water quality, reducing erosion of soil resources, improving wildlife and fisheries habitat and increasing the vigor and productivity of cropland. By implementing conservation into a farming operation the producer will improve the overall quality of life for all rural and urban residents.

Primary conservation practices in South Dakota include:

Crop Rotation - Crop rotation is growing crops in a recurring sequence on the same field. This practice applies to all land where crops are grown. By using crop rotations, farmers can reduce erosion from wind and water, improve soil organic matter content; manage the balance of plant nutrients; improve water use efficiency;, manage saline seeps; control plant pests including weeds; diseases and insects; provide food for livestock and provide cover and food for wildlife.

Residue Management - Residue management is managing the amount, orientation and distribution of crop and other plant residues on the soil surface. Managing residue on cropland will reduce erosion from wind and water, improve soil organic matter, provide food and cover for wildlife and manage snow to increase available moisture for plants. Farmers that farm cropland that is susceptible to erosion or called highly erodible are required to maintain a certain percentage of residue on the surface to reduce the potential for erosion.

Grassed Waterways -Grassed waterways are a natural or constructed channel that is shaped and planted to grass to control runoff from cropland. Waterways improve water quality, reduce gully erosion, and manage concentrated water runoff without causing erosion or flooding. Waterways are used in small drainage areas.

Nutrient Management - Nutrient management is managing the amount, source, placement, form and timing of the application of nutrients and soil amendments to cropland. The purpose of nutrient management is to budget and supply nutrients for plant production; properly utilize manure or organic by-products as a plant nutrient source; minimize agricultural nonpoint source pollution of surface and groundwater and to maintain or improve the physical, chemical and biological condition of soil. Using nutrients and soil amendments to increase the productivity of cropland must be based on realistic goals for the potential yield of the crop grown. Nitrogen (N) and phosphorus (P) are the two nutrients commonly used that can adversely affect water quality.

Farm Pond

A farm pond is a pool of water formed by a dam or pit that supplies water for livestock, recreation, wildlife, and helps control gully erosion.

How it helps

- Prevents soil erosion and protects water quality by collecting and storing runoff water
- Provides water for livestock, fish, wildlife, and recreational activities
- Adds value and beauty to a farm or farmstead

Farmstead Windbreaks

Multiple rows of coniferous trees or a combination of coniferous and deciduous trees are planted to protect a farmstead or feedlot from wind and snow. One or two rows of shrubs are also often planted. The established windbreak slows wind on the downwind side of the windbreak for a distance of 10 times the height of the trees. The tree rows also act like a snow fence, trapping snow within the windbreak. Field windbreaks can also be planted to reduce wind speed in open fields.

How it helps

- A windbreak reduces wind erosion, conserves energy, reduces heating bills and beautifies a farmstead.
- Trees serve as a sound barrier and muffle road noise.
- Trees and shrubs provide food and cover for wildlife.
- Improved livestock weight gains can be expected when livestock are protected from winter winds and snow.

Filter Strips

Strips of grass, trees and/or shrubs slow water flow and cause contaminants like sediment, chemicals and nutrients to collect in vegetation. Collected nutrients and chemicals are used by the vegetation, rather than entering water supplies. Filtered water then enters water bodies.

How it helps

- Grass, trees and shrubs provide cover for small birds and animals.
- Ground cover reduces soil erosion.
- The vegetative strip moves rowcrop operations farther from a stream.
- Vegetation prevents contaminants from entering water bodies, protecting water quality.

No-Till Farming

By leaving last year's crop residue on the surface before and during planting operations provides cover for the soil at a critical time of the year. The residue is left on the surface by reducing tillage operations and turning the soil less. Pieces of crop residue shield soil particles from rain and wind until plants can produce a protective canopy.

How it helps

- Ground cover prevents soil erosion and protects water quality.
- Residue improves soil tilth and adds organic matter to the soil as it decomposes.
- Fewer trips and less tillage reduces soil compaction.
- Time, energy and labor savings are possible with fewer tillage trips.

Stream Protection

Stream protection is a practice that protects streams by excluding livestock and establishing buffer zones of vegetation to filter runoff.

How it helps

- Streambanks are covered with rocks, grass, trees or other cover to reduce erosion.
- Better water quality results from reducing amounts of nutrients, chemicals, animal waste and sediment entering the stream.
- Buffer zones provide cover and habitat for birds and small animals.

Tree Planting A variety of desired tree species, either seedlings or seeds, are planted mechanically or by hand in under stocked woodlands or open fields. Tree species are matched with soil types are selected to prevent soil erosion, increase income, or boost productivity of existing woodland.

How it helps

- Improving stands of woodlands can increase profits.
- Ground cover created by trees and associated debris protects soil from rill and sheet erosion.
- Ground cover also protects water quality bt filtering excess nutrients and chemicals from surface runoff and increasing infiltration rates.
- Healthy, well-managed woodlands provide long-term wildlife habitat.

Wetlands

Natural wetlands, swamps, bogs, sloughs, potholes and marshes occur in every state in the Nation and vary widely in size, shape, and type. Sloughs, potholes and marshes in low-lying areas are very common in South Dakota. A wetland may have standing water year-round or may hold surface water for only part of the year.

How it helps

- Wetlands can provide natural pollution control. They remove nutrients, pesticides and bacteria from surface waters and can act as efficient, low cost sewage and animal waste treatment practices.
- Wetlands filter and collect sediment from runoff water.
- Because wetlands slow overland flow and store runoff water, they reduce both soil erosion and flooding downstream.
- Many wetlands release water slowly into the ground which recharges groundwater supplies.

Wildlife Habitat

Plantings trees, shrubs and other vegetation that provide cover and food will attract wildlife to an area. The type of habitat provided will determine the kind and numbers of wildlife attracted.

How it helps

- Ground cover helps reduce soil erosion, adds organic matter to the soil, filters, runoff and increases infiltration.
- It can add value to your farmstead.
- Planned wildlife habitat provides food and cover for wildlife.

Backyard Conservation

Just as they do on the farm, conservation practices on nonagricultural land can help increase food and shelter for birds and other wildlife, control soil erosion, reduce sediment in waterways, conserve water and improve water quality, inspire a stewardship ethic, and beautify the landscape. Whether you have rural acreage, a suburban yard, or a city lot, you can help protect the environment and add beauty and interest to your surroundings. Tip sheets on the following backyard conservation practices are provided by NRCS. They offer "how to" steps and helpful hints on backyard conservation:

- Backyard Pond - http://www.nrcs.usda.gov/feature/backyard/bkpond.html
- Backyard Wetland - http://www.nrcs.usda.gov/feature/backyard/bakwet.html
- Composting - http://www.nrcs.usda.gov/feature/backyard/compost.html
- Mulching - http://www.nrcs.usda.gov/feature/backyard/mulching.html
- Tree Planting - http://www.nrcs.usda.gov/feature/backyard/treeptg.html
- Water Conservation - http://www.nrcs.usda.gov/feature/backyard/watercon.html
- Wildlife Habitat - http://www.nrcs.usda.gov/feature/backyard/wildhab.html