Conservation Practices for Water Quality: Sediment & Nutrient Control. Trap Sediments/Trap Nutrients on the Field. Improve Soil Health.

- Sediment
 - Conservation Cover
 - Cover Crop
 - Critical Area Planting
 - Field Border & Filter Strip
 - Grøssed Waterway
 - Prescribed Grazing
 - No-Till & Reduced Till
 - Riparian forest Buffer
 - Streambank & Shoreline Protection
 - Others



- Nutrients
 - Nutrient Management Plan
 - Comprehensive Nutrient Management Plan
 - Nutrient Management
 - Drainage Water Management Plan
 - Drainage Water Management
 - Cover Crop
 - Prescribed Grazing
 - No-Till & Reduced Till
 - Others

What are some conservation practices available? • Let's look at practices to improve Ox Cr

Let's look at practices to improve Ox Creek and the St. Joseph River Watershed overall



Think about Water Quality

- Sediment and Nutrients in surface or groundwater
- How does this happen?
 - Sediment- erosion
 - Nutrient sources
 - Nutrient cycles- biogeochemical processes
 - Nutrient Movement
 - Landscape- runoff, erosion
 - Soil- infiltration, leaching

The USDA Natural Resources Conservation Service offers land management planning and "financial assistance" on "practices" you can implement.

- Financial Assistance is based on a 75% or 90% of a typical cost to implement a practice
- Financial Assistance for practices are based on your lands resource needs

Let's look at what you can do with NRCS......

Nutrient Management Plans

Goals-

- Match nutrients to plant's needs
- Minimize agricultural non-point source pollution of surface and groundwater resources
- Properly utilize manure or organic by-products as a plant nutrient source
- Maintain or improve the physical, chemical and biological condition of soil
- Record keeping continue with or with out financial assistance What's required?
- Record keeping & Current Soil tests; soil maps
 - Field maps
 - Quantities, analysis and source of nutrients applied; custom applicator records;
 - Dates and methods of nutrient application
 - Crops planted, planting and harvest dates, yields

Drainage Water Management

As the name suggests, drainage water management helps producers manage water on their fields. This practice can increase production, keep nutrients on the field and send clean, filtered water downstream. Available water can be controlled when it is released.





Adjustable Riser Boards

Riparian Forest Buffer

An area of trees and shrubs adjacent to streams, lakes, ponds, and wetlands.

 Riparian forest buffers of sufficient width intercept sediment, nutrients, pesticides, and other materials in surface runoff



Filter Strips & Field Borders

Filter Strips

A strip or area of herbaceous vegetation that removes contaminants from overland flow.

- Reduces suspended solids and associated materials in runoff.
- Reduces dissolved materials and pathogens in runoff.
- Attract beneficial insects
- Provide food and shelter for wildlife



Field Border

A strip of permanent vegetation established at the edge or around the perimeter of a field.

- Reduce erosion from wind and water
- Protect soil and water quality
- Manage pest populations
- Provide wildlife food and cover and improved habitat for pollinators



Grassed Waterway

- A shaped or graded channel that is established with suitable vegetation to carry surface water at a non-erosive velocity to a stable outlet.
 - To convey runoff without causing erosion or flooding.
 - To reduce gully erosion.
 - To protect/improve water quality.





Streambank & Shoreline Protection

- Stabilize and protect banks of streams or constructed channels, and shorelines of lakes, reservoirs, or estuaries.
- Prevent the loss of land or damage to land uses or other facilities adjacent to the banks.
- Maintain the flow or storage capacity of the water body or reduce the off-site or downstream effects of sediment resulting from bank erosion.
- Improve or enhance the stream corridor for fish and wildlife habitat, aesthetics, and recreation.





Residue & Tillage Management Reduced Till & No Till

- reduce water erosion,
- reduce wind erosion,
- improve soil quality,
- reduce energy use,
- increase plant available moisture,
- provide food and escape cover for wildlife.





Conservation Cover

A practice which establishes and maintains perennial vegetative cover to protect soil and water resources on agricultural land retired from production.

Prairie Grasses, Pollinators, and other plants can be considered in addition to other types of plants for Conservation Cover, Filter Strips & Field Borders.





Cover Crops

Cover crops are grasses, legumes, forbs or other herbaceous plants for seasonal cover and conservation purposes.

These may be rye, wheat, oats, barley, hairy vetch, red clover, turnips, canola, radishes, and triticale.

- Reduces wind or water erosion by establishing cover after a low residue crop,
- Uses up excess nutrients in the soil profile,
- Improve soil structure, minimizes compaction (root structure, improve infiltration)
- Provide nutrients for the next crop, and for weed suppression.





Critical Area Planting

A Critical Area Planting means an area of highly erodible land that cannot be stabilized by ordinary conservation treatment on which permanent perennial vegetative cover is established and protected to improve water quality. Benefits reduced soil erosion and sedimentation.



For Livestock.. Prescribed Grazing

Controlled harvest of vegetation with grazing animals,

- Improve water infiltration
- Maintain or improve riparian and upland area vegetation
- Protect stream banks from erosion
- Manage for deposition of fecal material way from water bodies
- Promote ecological and economically stable plant communities which meet landowner objectives



Ok, now what? Getting started in USDA Programs

Yes, there will be paperwork!



1. Landowner meets with NRCS Staff at the Field Office

- a) Understand who NRCS is and what we do
- b) Discuss the conservation planning procedure
- c) Pull maps of property
- d) Review potential resource concerns and landowner objectives
- e) Discuss how NRCS Programs work
- f) Answer Questions
- g) Decide how you want to do business with USDA
 - 1. Sole Proprietor using a SS#
 - 2. Partnership
 - 3. LLC
 - 4. Doing Business As (DBA) with a Federal Tax ID
 - 5. Corporation
- h) Make an appointment for a field visit. A Field Visit will NOT be scheduled until FSA records are up to date and complete.

2. Make an appointment with Farm Service Agency (FSA) to develop a USDA Farm Record or update an existing USDA Farm Record (required for program participation) to determine your eligibility for USDA programs

You will need:

- A. To provide proof of landownership or lease
- B. Complete an AD1026 form for Highly Erodible Land & Wetland Compliance
- C. Complete an AD-941 Adjusted Gross Income form
- D. Social Security number (In addition, if you are a partnership or LLC, you will need a "DUNS" number and "SAM")
- E. Farm Tract Number (FSA can assign one)

2. Schedule a Field Appointment

- a) Walk the property (farm)
- b) Document concerns and locations on map(s)
- 3. Develop a Benchmark Conservation Plan (lengthy process-Can take up to year depending on complexity of plan)
- a) Outlines conservation practices to be implemented, location of practices, and dates of implementation
- b) Build supporting Documentation-calculations, assessments, maps, soils, etc.

4. Review Conservation Plan

- a) Make adjustments to conservation practices and implementation schedule
- b) Conservation practice costs to install/implement
- c) Finalize conservation plan
- d) Participant approval of conservation plan

5. Discuss Programs/Funding/Financial Assistance Options

- a) Availability of and eligibility for NRCS Programs
- b) Financial Assistance options
- c) Conservation practice selection
- d. Review Program scoring (ranking)system

6. Apply for Program Funding

- a) Contract development Put money and practices together
- b) Verify and accept program application "score"
- c) If accepted for funding, sign a legal and binding contract with the Federal Government
- Begin implementation of practices NRCS provides technical assistance to design and install conservation practices and/or a Technical Service Provider (TSP) can be hired by participant.

I am concerned about the environment or I want to improve my soil using an NRCS practice but.....

I am not eligible for USDA programs,

Or, I really hate paperwork,

Or, I don't need reimbursement cost-share dollars

If you are **not** seeking cost-share dollars NRCS will still be glad to meet with you and discuss the resource needs and develop a conservation plan to NRCS standards for **FREE!**



Michigan Agriculture Environmental Assurance Program – MAEAP Promoting Stewardship, Protecting the Environment

