CONSERVATION SYSTEMS FOR COMPLIANCE WITH HIGHLY ERODIBE LAND PROVISIONS OF THE FOOD SECURITY ACT OF 1985 (AS AMENDED)

Conservation plans for highly erodible land (HEL) need only to address erosion; however, the goal of NRCS is to assist land users in their management of all natural resources. If, for Food Security Act purposes, a land user indicates a desire to meet only the minimum requirements of the law, the person may elect to apply only a Conservation System that would achieve a substantial reduction or permit no substantial increase in soil erosion on HEL. These systems must be technically and economically feasible and be based on local resource conditions and available conservation technology. Conservation system requirements were reaffirmed in the 1990, 1996, 2002, and 2008 Farm Bills.

Items I-IV below provides the requirements of conservation systems for HEL in North Carolina. Soil loss calculations for sheet and rill erosion will utilize the most current version of the Revised Universal Soil Loss Equation (currently RUSLE2) technology.

I. Areas subject to ephemeral gully erosion must be treated.

II. Sheet and rill erosion control must result in a substantial reduction in soil erosion using the Alternative Conservation Systems (ACS) developed for North Carolina. ACSs are based on the typical conservation systems that are socially acceptable and are being practiced by the producers who are recognized by their peers as having made a substantial reduction in erosion. Water disposal systems must be a part of any ACS where concentrated flow erosion is a problem.

    Alternative Conservation Systems have been developed by capability class for each Major Land Resource Area (MLRA) by county. The ACSs listed on the guide sheets are approved for use in North Carolina.

III. All **new** conservation compliance plans and revisions will be developed using RUSLE2 for soil loss calculations with the following conditions:

    a) HEL fields with cropping history for any year from 1981 to 1985.

        Conservation systems when applied shall not result in erosion greater than 2T for the predominate HEL mapping unit in the field.

    b) Conservation compliance plans approved prior to July 3, 1996 may be used when:

        - The same person continues to use the conservation system or revises the conservation plan at the same soil loss level.
          OR
        - The new owner or operator accepts the approved conservation plan and continues to apply it.

IV. SODBUSTING – Conservation systems for HEL brought into agricultural commodity production after December 23, 1985 from native vegetation (typically forest in North Carolina) cannot allow a substantial increase in erosion. The conservation system must reduce soil loss to the tolerable soil loss limit (T) for the predominant highly erodible soil map unit. Land brought into commodity production which was converted from non-native vegetation (harvested as hay), must meet treatment levels from I and II above.

The State Conservationist must individually approve all ACSs that do not meet the above criteria, not to exceed 4T.

The following is a list of counties by Major Land Resource Areas (MLRAs) for ACSs for implementing the conservation provisions of the 1985, 1990, 1996, 2002, and 2008 Farm Bills. See Section II for Highly Erodible Mapping Units lists by county.

Major Land Resource Area 130 – Blue Ridge			
Ashe	Clay	Macon	Transylvania
Alleghany	Graham	Madison	Watauga
Avery	Haywood	McDowell	Yancey
Buncombe	Henderson	Mitchell	
Cherokee	Jackson	Swain	
Major Land Resource Area 136 – Southern Piedmont			
Alamance	Davidson	Lincoln	Rutherford
Alexander	Davie	Mecklenburg	Stanly
Anson	Durham	Montgomery	Stokes
Burke	Franklin	Orange	Surry
Cabarrus	Forsyth	Person	Union
Caldwell	Gaston	Polk	Vance
Caswell	Granville	Pitt	Wake
Catawba	Guilford	Randolph	Warren
Chatham	Iredell	Rockingham	Wilkes
Cleveland	Lee	Rowan	Yadkin
Major Land Resource Area 133A – Southern Coastal Plain			
Cumberland	Halifax	Nash	Scotland
Duplin	Harnett	Northampton	Wayne
Edgecombe	Johnston	Robeson	Wilson
Greene	Lenoir	Sampson	
Major Land Resource Area 137 – Carolina-Georgia Sandhills			
Hoke	Moore	Richmond	
Major Land Resource Area 153			
Bertie	Craven	Martin	Pitt
Bladen	Gates	New Hanover	
Brunswick	Hertford	Onslow	
Columbus	Jones	Pender	
Major Land Resource Area 153B			
Beaufort	Chowan	Hyde	Perquimans
Camden	Currituck	Pamlico	Tyrrell
Carteret	Dare	Pasquotank	Washington

Alternative Conservation System (ACS)
Guide Sheet
MLRA 130 – Blue Ridge
Predominant Crops – Burley Tobacco and Corn

Crops are considered to be conventionally tilled in the Conservation Crop Rotation unless designated as no-till or reduced till.

Capability Subclass IIe

ACS No. 1
Crop residues remain after harvest until tillage prior to planting of next crop (or Small Grain Cover Crop - planted after crop harvest and cover crop residue remains until tillage prior to planting)
Contour Farming
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 2
Residue and Tillage Management, Reduced Till (minimum 30% residue cover after planting)
Small Grain Cover Crop (planted after row crop harvest and cover crop residue remains until tillage prior to planting)
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 3
Any combination of practices in Section IV of the Technical Guide that reduces annual erosion rates to a comparable level of protection as provided by any of the above ACSs for this capability subclass.

Capability Subclass IIIe

ACS No. 1
Conservation Crop Rotations (y1 tobacco, y2 fescue meadow)
Small Grain Cover Crop (planted as soon as tobacco is harvested and cover crop residue remains on the soil surface) or fescue planted immediately following tobacco harvest.
Contour Farming
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 2
Stripcropping
Conservation Crop Rotation (y1 tobacco, y2 small grain nurse crop - fescue established immediately after tobacco harvest)

ACS No. 3
Conservation Crop Rotation (y1 sod, y2 sod, y3 corn, y4 spring & fall cabbage)
Contour Farming

ACS No. 4
Conservation Crop Rotation (Reduced Till silage corn)
Small Grain Cover Crop (planted as soon as silage is harvested and remaining on the field until at least March 15)
Residue and Tillage Management, Reduced Till (minimum 30% residue cover after planting)

ACS No. 5
Any combination of practices in Section IV of the Technical Guide that reduces annual erosion rates to a comparable level of protection as provided by any of the above ACSs for this capability subclass.

Capability Subclass IVe and Above
Note: Class IVe and above are recommended, but not required, for conversion to permanent vegetation.

ASC No. 1
Conservation Crop Rotation (y1 sod, y2 sod, y3 tobacco, y4 tobacco)
Contour Farming
Small Grain Cover Crop (planted as soon as tobacco is harvested and remaining on the field until at least April 15)
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ASC No. 2
Conservation Crop Rotation (y1 Reduced Till corn, y2 sod, y3 sod)
Residue and Tillage Management, Reduced Till Corn (minimum 30% residue cover after planting)
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ASC No. 4
Any combination of practices in Section IV of the Technical Guide that reduces annual erosion rates to a comparable level of protection as provided by any of the above ACSs for this capability subclass.

For burley tobacco only, continuous burley tobacco may be grown on the flatter portion of a field if the area of tobacco does not exceed one acre. A cover crop will be planted as soon as the tobacco is harvested and will remain on the field until at least March 15. The remainder of the field will remain in sod.

Alternative Conservation System (ACS)
Guide Sheet
MLRA 136 – Southern Piedmont
Predominant Crops – Flue Cured Tobacco, Corn, Soybeans

Crops are considered to be conventionally tilled in the Conservation Crop Rotation unless designated as no-till or reduced till.

Capability Subclass IIe

ACS No. 1
Crop residues remain after harvest until tillage prior to planting of next crop (or Small Grain Cover Crop - planted after crop harvest and cover crop residue remains until tillage prior to planting)
Contour Farming
Terraces
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 2
Conservation Crop Rotation (y1 corn, y2 small grain – Reduced Till soybeans)
Residue and Tillage Management, Reduced Till Soybeans (minimum 30% residue cover after planting)
Crop residues remain after harvest until tillage prior to planting of next crop
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 3
Any combination of practices in Section IV of the Technical Guide that reduces annual erosion rates to a comparable level of protection as provided by any of the above ACSs for this capability subclass.

Capability Subclass IIIe

ACS No. 1
Conservation Crop Rotations (y1 tobacco - cover crop, y2 no-till corn)
Small Grain Cover Crop (planted as soon as tobacco is harvested and remaining on the field until at least March 15)
Terraces
Contour Farming
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 2 (Eroded phases on 2-8 percent slopes)
Conservation Crop Rotation (y1 corn, y2 small grain – Reduced Till soybeans)
Residue and Tillage Management, Reduced Till Soybeans (minimum 30% residue cover after planting)
Crop residues remain after harvest until tillage prior to planting of next crop
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 3
Conservation Crop Rotation (y1 Reduced Till corn, y2 small grain – Reduced Till soybeans)
Residue and Tillage Management, Reduced Till Corn and Soybeans (minimum 30% residue cover after planting)
Crop residues remain after harvest until tillage prior to planting of next crop
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 4
Stripcropping

Conservation Crop Rotation (y1 tobacco, y2 small grain nurse crop - fescue established immediately after tobacco harvest)
Crop residues remain after harvest until tillage prior to planting of next crop
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 5
Any combination of practices in Section IV of the Technical Guide that reduces annual erosion rates to a comparable level of protection as provided by any of the above ACSs for this capability subclass.

Capability Subclass IVe and Above
Note: Class IVe and above are recommended, but not required, for conversion to permanent vegetation.

ACS No. 1
Stripcropping
Conservation Crop Rotation (y1 sod, y2 sod, y3 tobacco, y4 tobacco)
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 2
Conservation Crop Rotation (y1 Reduced Till corn, y2 small grain – Reduced Till soybeans)
Residue and Tillage Management, Reduced Till Corn and Soybeans (minimum 50% residue cover after planting)
Crop residues remain after harvest until tillage prior to planting of next crop
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 3
Stripcropping
Conservation Crop Rotation (y1 tobacco, y2 small grain nurse crop - fescue established immediately after tobacco harvest)
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 4
Any combination of practices in Section IV of the Technical Guide that reduces annual erosion rates to a comparable level of protection as provided by any of the above ACSs for this capability subclass.

Capability Subclass VIe and Above
Note: Class VIe and above are recommended, but not required, for conversion to permanent vegetation.

ACS No. 1
Stripcropping
Conservation Crop Rotation (y1 sod, y2 sod, y3 tobacco, y4 tobacco)
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 2
Conservation Crop Rotation (y1 Reduced Till corn, y2 small grain – Reduced Till soybeans)
Residue and Tillage Management, Reduced Till Corn and Soybeans (minimum 50% residue cover after planting)
Crop residues remain after harvest until tillage prior to planting of next crop
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 3
Any combination of practices in Section IV of the Technical Guide that reduces annual erosion rates to a comparable level of protection as provided by any of the above ACSs for this capability subclass.

Alternative Conservation System (ACS)
Guide Sheet
MLRA 133A – Southern Coastal Plain
Predominant Crops – Flue Cured Tobacco, Corn, Soybeans, Peanuts, and Cotton

Crops are considered to be conventionally tilled in the Conservation Crop Rotation unless designated as no-till or reduced till.

Capability Subclass IIe

ACS No. 1
Crop residues remain after harvest until tillage prior to planting of next crop (or Small Grain Cover Crop - planted after crop harvest and cover crop residue remains until tillage prior to planting)
Contour Farming
Terraces
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 2
Conservation Crop Rotation (y1 row crop, y2 small grain – Reduced Till soybeans)
Residue and Tillage Management, Reduced Till Soybeans (minimum 30% residue cover after planting)
Crop residues remain after harvest until tillage prior to planting of next crop
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 3
Any combination of practices in Section IV of the Technical Guide that reduces annual erosion rates to a comparable level of protection as provided by any of the above ACSs for this capability subclass.

Capability Subclass IIIe & Subclass IIIs

ACS No. 1
Conservation Crop Rotation (y1 tobacco, y2 peanuts, y3 corn **or** y1 corn, y2 peanuts, y3 cotton **or** y1 tobacco, y2 soybeans, y3 corn) Sweet potatoes may be substituted for tobacco.
Crop residues remain after harvest until tillage prior to planting of next crop (or Small Grain Cover Crop - planted after crop harvest and cover crop residue remains until tillage prior to planting)
Terraces
Contour Farming
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 2 (for eroded phases on 2-8 percent slopes only)
Conservation Crop Rotation (y1 row crop, y2 small grain - Reduced Till soybeans)
Residue and Tillage Management, Reduced Till Soybeans (minimum 30% residue cover after planting)
Crop residues remain after harvest until tillage prior to planting of next crop
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 3
Conservation Crop Rotation (y1 Reduced Till corn, y2 small grain – Reduced Till soybeans)
Residue and Tillage Management, Reduced Till Corn and Soybeans (minimum 50% residue cover after planting)
Crop residues remain after harvest until tillage prior to planting of next crop
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 4
Conservation Crop Rotation (y1 row crop, y2 small grain – sod)
Stripcropping
Crop residues remain after harvest until tillage prior to planting of next crop
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 5
Any combination of practices in Section IV of the Technical Guide that reduces annual erosion rates to a comparable level of protection as provided by any of the above ACSs for this capability subclass.

Capability Subclass IVe – IVs and Above
Note: Classes VIe and VIs and above are recommended, but not required, for conversion to permanent vegetation.

ACS No. 1
Conservation Crop Rotation (y1 sod, y2 sod, y3 tobacco, y4 tobacco)
Stripcropping
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 2
Conservation Crop Rotation (y1 Reduced Till corn, y2 small grain – Reduced Till soybeans)
Crop residues remain after harvest until tillage prior to planting of next crop
Residue and Tillage Management, Reduced Till Corn and Soybeans (minimum 50% residue cover after planting)
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 3
Any combination of practices in Section IV of the Technical Guide that reduces annual erosion rates to a comparable level of protection as provided by any of the above ACSs for this suitability subclass.

Alternative Conservation System (ACS)
Guide Sheet
MLRA 137– Carolina-Georgia Sandhills
Predominant Crops – Tobacco, Soybeans, Corn, Cotton

Crops are considered to be conventionally tilled in the Conservation Crop Rotation unless designated as no-till or reduced till.

Capability Subclass IIe

ACS No. 1
Crop residues remain after harvest until tillage prior to planting of next crop (or Small Grain Cover Crop - planted after crop harvest and cover crop residue remains until tillage prior to planting)
Contour Farming
Terraces
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 2
Conservation Crop Rotation (y1 corn, y2 small grain – Reduced Till soybeans)
Residue and Tillage Management, Reduced Till Soybeans (minimum 30% residue cover after planting)
Crop residues remain after harvest until tillage prior to planting of next crop
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 3
Any combination of practices in Section IV of the Technical Guide that reduces annual erosion rates to a comparable level of protection as provided by any of the above ACSs for this capability subclass.

Capability Subclass IIi and Subclass IIIs

ACS No. 1
Conservation Crop Rotation (y1 row crop, y2 small grain)
Crop residues remain after harvest until tillage prior to planting of next crop (or Small Grain Cover Crop - planted after crop harvest and cover crop residue remains until tillage prior to planting)
Terraces
Contour Farming
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 2
Conservation Crop Rotation (y1 Reduced Till corn, y2 small grain – Reduced Till soybeans)
Residue and Tillage Management, Reduced Till Corn and Soybeans (minimum 50% residue cover after planting)
Crop residues remain after harvest until tillage prior to planting of next crop
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 3
Conservation Crop Rotation (y1 tobacco, y2 small grain – fescue)
Stripcropping
Crop residues remain after harvest until tillage prior to planting of next crop

ACS No. 4
Any combination of practices in Section IV of the Technical Guide that reduces annual erosion rates to a comparable level of protection as provided by any of the above ACSs for this capability subclass.

Capability Subclass IVe, IVs and Above

Note: Classes IVe, VIs and above are recommended, but not required, for conversion to permanent vegetation.

ACS No. 1
Stripcropping
Conservation Crop Rotation (y1 sod, y2 sod, y3 tobacco, y4 tobacco)
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 2
Conservation Crop Rotation (y1 Reduced Till corn, y2 small grain)
Crop residues remain after harvest until tillage prior to planting of next crop
Residue and Tillage Management, Reduced Till Corn (minimum 50% residue cover after planting)
Stripcropping
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 3
Any combination of practices in Section IV of the Technical Guide that reduces annual erosion rates to a comparable level of protection as provided by any of the above ACSs for this capability subclass.

Alternative Conservation System (ACS)
Guide Sheet
MLRA 153– Atlantic Coast Flatwoods
MLRA 153B – Tidewater Area
Predominant Crops – Flue-Cured Tobacco, Corn, Soybeans, Peanuts, and Cotton

Crops are considered to be conventionally tilled in the Conservation Crop Rotation unless designated as no-till or reduced till.

Capability Subclass IIe

ACS No. 1
Conservation Crop Rotation (y1 corn, y2 peanut, y3 cotton)
Crop residues remain after harvest until tillage prior to planting of next crop (or Small Grain Cover Crop - planted after crop harvest and cover crop residue remains until tillage prior to planting)
Contour Farming
Terraces
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 2
Conservation Crop Rotation (y1 row crop, y2 small grain – Reduced Till soybeans)
Residue and Tillage Management, Reduced Till Soybeans (minimum 30% residue cover after planting)
Crop residues remain after harvest until tillage prior to planting of next crop
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)
If row crop is tobacco, Cover Crop (planted as soon as soybeans are harvested and remaining on the field until at least March 15 prior to tobacco planting)

ACS No. 3
Any combination of practices in Section IV of the Technical Guide that reduces annual erosion rates to a comparable level of protection as provided by any of the above ACSs for this capability subclass.

Capability Subclass IIIe & Subclass IIIs

ACS No. 1
Conservation Crop Rotations (y1 tobacco, y2 peanuts, y3 corn **or** y1 corn, y2 peanuts, y3 cotton **or** y1 tobacco, y2 soybeans, y3 corn)
Crop residues remain after harvest until tillage prior to planting of next crop (or Small Grain Cover Crop - planted after crop harvest and cover crop residue remains until tillage prior to planting)
Terraces
Contour Farming
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 2 (for eroded phases on 2 – 8 percent slopes only)
Conservation Crop Rotation (y1 row crop, y2 small grain – no-till soybeans)
Crop residues remain after harvest until tillage prior to planting of next crop
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)
Contour Farming
If row crop is tobacco, Cover Crop (planted as soon as soybeans are harvested and remaining on the field until at least March 15 prior to tobacco planting)

ACS No. 3
Conservation Crop Rotation (y1 Reduced Till corn, y2 small grain – Reduced Till soybeans)

Residue and Tillage Management, Reduced Till Corn and Soybeans (minimum 50% residue cover after planting)
Crop residues remain after harvest until tillage prior to planting of next crop
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 4
Conservation Crop Rotation (y1 row crop, y2 small grain – sod)
Stripcropping
Crop residues remain after harvest until tillage prior to planting of next crop
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 5
Any combination of practices in Section IV of the Technical Guide that reduces annual erosion rates to a comparable level of protection as provided by any of the above ACSs for this capability subclass.

Capability Subclass IVe & IVs and Above
Note: Classes VIe & VIs and above are recommended, but not required, for conversion to permanent vegetation.

ACS No. 1
Stripcropping (must be arranged to avoid adjacent tilled strips)
Conservation Crop Rotation (y1 sod, y2 sod, y3 tobacco)
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)
Contour Farming

ACS No. 2
Conservation Crop Rotation (y1 Reduced Till corn, y2 small grain – Reduced Till soybeans)
Crop residues remain after harvest until tillage prior to planting of next crop
Residue and Tillage Management, Reduced Till Corn and Soybeans (minimum 50% residue cover after planting)
Grassed Waterway (required where concentrated flow erosion is a problem or where needed for outlets)

ACS No. 3
Any combination of practices in Section IV of the Technical Guide that reduces annual erosion rates to a comparable level of protection as provided by any of the above ACSs for this capability subclass.