MAP UNITS OF HIGHLY ERODIBLE LAND

INTRODUCTION

Natural processes continually create new soil from the raw underlying parent material or from bedrock. For most soils in the State, these processes offset about 3 tons per acre of erosion each year. Erosion slower than the rate of replacement is considered "tolerable". Each soil is assigned a tolerance value based mainly on the thickness of the soil above bedrock or unaltered parent material.

Soil Conservation Service Soil Scientists and Soil Conservationists determine if a soil or map unit is highly erodible or potentially highly erodible due to sheet and rill erosion. This is done by using the Universal Soil Loss Equation (USLE). The USLE relates the effects of rainfall, soil characteristics, and length and steepness of slope to the soil's tolerable erosion rate by water.

DEFINITION OF HIGHLY ERODIBLE SOIL

A highly erodible soil/map unit is a soil with a maximum potential for erosion that equals or exceeds eight times the tolerable erosion rate. This can be represented by the formula - $RKLS/T \geq 8$. The formula does not consider crop management or conservation practices, which influence the actual erosion rate.

CRITERIA FOR HIGHLY ERODIBLE SOIL MAP UNITS

The procedure used to determine whether a given soil map unit qualifies as highly erodible land or potentially highly erodible land follows:

Step 1. For each soil map unit in the county soil legend, calculate the minimum LS value required for $RKLS/T \geq 8$ by solving for LS, ie. $LS = 8T/RK$.

Step 2. For the specific combinations of slope and steepness specified in Steps 3 and 4, obtain LS values from table 3 in the Appendices (from Agriculture Handbook 537, December, 1978).

Step 3. A soil map unit qualifies as highly erodible land if the LS value for the shortest length and minimum percent of slope expected for the unit equals or exceeds the minimum value calculated in Step 1, ie. $LS = 8T/RK$. See Appendices A-F.

Step 4. A soil map unit qualifies as potentially highly erodible land if --

a. The LS value for the shortest length and minimum percent of slope expected for the unit is less than 8T/RK and

b. The LS value for the longest length and maximum percent of slope expected for the unit exceeds 8T/RK.

See Apendices A-F.

This information is to be used in conjunction with published county soil surveys.

List of Map Units that Qualify as Potentially Highly Erodible Land

Middlesex County, Connecticut
(Correlated and Published, 1980)

AfB	Agawam fine sandy loam, 3 to 8 percent slopes
BoB	Branford silt loam, 3 to 8 percent slopes
CbB	Canton and Charlton fine sandy loams, 3 to 8 percent slopes
CsB	Cheshire silt loam, 3 to 8 percent slopes
HfB	Hartford sandy loam, 3 to 8 percent slopes
HkC	Hinckley gravelly sandy loam, 3 to 15 percent slopes
LpB	Ludlow silt loam, 3 to 8 percent slopes
MgC	Manchester gravelly sandy loam, 3 to 15 percent slopes
MyB	Merrimac sandy loam, 3 to 10 percent slopes
PbB	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes
WkB	Wethersfield loam, 3 to 8 percent slopes
WxB	Woodbridge fine sandy loam, 3 to 8 percent slopes
YaB	Yalesville fine sandy loam, 3 to 8 percent slopes

List of Map Units that Qualify as Highly Erodible Land

Middlesex County, Connecticut
(Correlated and Published, 1980)

BoC	Branford silt loam, 8 to 15 percent slopes
CsC	Cheshire silt loam, 8 to 15 percent slopes
HME	Hinckley and Manchester soils, 15 to 45 percent slopes
PbC	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes
PbD	Paxton and Montauk fine sandy loams, 15 to 25 percent slopes
WkC	Wethersfield loam, 8 to 15 percent slopes
WkD	Wethersfield loam, 15 to 35 percent slopes
YaC	Yalesville fine sandy loam, 8 to 15 percent slopes

LIST OF MAP UNITS THAT QUALIFY AS ADDITIONAL FARMLAND OF STATEWIDE IMPORTANCE

Middlesex County, Connecticut - Correlated and Published, 1980

Map Unit	Description	Class
BoC	Branford silt loam, 8 to 15 percent slopes	III
CsC	Cheshire silt loam, 8 to 15 percent slopes	III
HkC	Hinckley gravelly sandy loam, 3 to 15 percent slopes	IV
MgA	Manchester gravelly sandy loam, 0 to 3 percent slopes	III
MgC	Manchester gravelly sandy loam, 3 to 15 percent slopes	IV
PbC	Paxton & Montauk fine sandy loams, 8 to 15 percent slopes	III
PnA	Penwood loamy sand, 0 to 3 percent slopes	III
PnB	Penwood loamy sand, 3 to 8 percent slopes	III
Rb	Raypol silt loam	III
Ru	Rumney fine sandy loam	III
Rv	Rumney Variant silt loam	III
St	Suncook loamy sand	III
Wd	Walpole sandy loam	III
WkC	Wethersfield loam, 8 to 15 percent slopes	III
Wr	Wilbraham silt loam	III
WvA	Windsor loamy sand, 0 to 3 percent slopes	III
WvB	Windsor loamy sand, 3 to 8 percent slopes	III
YaC	Yalesville fine sandy loam, 8 to 15 percent slopes	III

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TABLE 2–3. EXAMPLE WASTEWATER FLOW REDUCTION METHODS

I. Elimination of nonfunctional water use
- A. Improved water use habits
- B. Improved plumbing and appliance maintenance
- C. Nonexcessive water supply pressure

II. Water saving devices, fixtures and appliances
- A. Toilet
  - 1. Water carriage toilets
    - a. Toilet tank inserts
    - b. Dual-flush toilets
    - c. Water-saving toilets
    - d. Very low-volume flush toilets
      - i. Wash down flush
      - ii. Mechanically assisted
        - . Pressurized tank
        - . Compressed air
        - . Vacuum
        - . Grinder
  - 2. Non-water carriage toilets
    - a. Pit privies
    - b. Composting toilets
    - c. Incinerator toilets
    - d. Oil-carriage toilets
- B. Bathing devices, fixtures, and appliances
  - 1. Shower flow controls
  - 2. Reduced-flow showerheads
  - 3. On/off showerhead valves
  - 4. Mixing valves
  - 5. Air-assisted low-flow shower system
- C. Clotheswashing devices, fixtures, and appliances
  - 1. Front-loading washer
  - 2. Adjustable cycle settings
  - 3. Washwater cycle settings
- D. Miscellaneous
  - 1. Faucet inserts
  - 2. Faucet aerators
  - 3. Reduced-flow faucet fixtures
  - 4. Mixing valves
  - 5. Hot water pipe insulation
  - 6. Pressure-reducing valves

III. Wastewater recycle/reuse systems
- A. Bath/laundry wastewater recycle for toilet flushing
- B. Toilet wastewater recycle for toilet flushing
- C. Combined wastewater recycle for toilet flushing
- D. Combined wastewater recycle for several uses

From: Clements et al., 1980.

East Hampton Ad Hoc Lake Advisory Committee

Taxes and Water Quality

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