United States Department of Agriculture

Natural Resources Conservation Service

Warwick Rhode Island

HIGHLY ERODIBLE

SOIL MAP UNITS

OF RHODE ISLAND

Revised January, 1993

Rhode Island Field office Technical Guide Section II D

SOIL MAP UNITS OF HIGHLY ERODIBLE LAND

INTRODUCTION

Natural processes continually create new soil from the underlying raw parent material or from bedrock. For most soils in Rhode Island these processes offset about 3 tons of erosion per acre per year. Erosion rates lower than the rate of soil development are considered "tolerable". Most soils have been assigned a tolerance value, which is based mainly on the thickness of the soil above bedrock or unaltered parent material.

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

DEFINITION OF HIGHLY ERODIBLE SOIL

A highly erodible soil, or soil map unit, has a maximum potential for erosion that equals, or exceeds, eight times the tolerable erosion rate. The maximum erosion potential is calculated without consideration to crop management or conservation practices, which can markedly lower the actual erosion rate on a given field. The maximum potential erosion rate is determined using the formula: RKLS/R (where R = the rainfall factor, K = erodibility value of the soil, and LS = the slope factor). If RKLS/T > 8 then the soil meets the criteria for a highly erodible soil.

CRITERIA FOR DETERMINING HIGHLY ERODIBLE SOIL MAP UNITS

The procedure for determining whether a given soil map unit qualifies as highly erodible or potentially highly erodible is as follows:

Step 1. For each soil map unit in the soil survey legend, calculate the minimum LS value required for (RKLS/T > 8) by solving for LS. (i.e. LS = 8T/RK)

Step 2. For the specific combinations of slope length and steepness specified in the next two steps, obtain LS values from Table 3 in Agricultural Handbook 537, Dec. 1978.

Step 3. A soil map unit qualifies as highly erodible if the LS value for the shortest length slope in combination with the minimum percent slope (as defined in the map unit description) meets the criteria of RKLS/T >8. (See appendices A-H)

Step 4 A soil qualifies as potentially highly erodible if:

a. The LS value for the shortest slope length, in combination with the minimum percent slope, (as defined in the soil map unit description) is less than 8T/RK.

- and -

b. The LS value for the longest slope length, in combination with the maximum percent slope, (as defined in the soil map unit description) is greater than or equal to 8T/RK.

(See appendices A - H)

NOTE:

** For soil map units containing more than one named soil, the map unit listing is based on the most erosive soil.

** Soil map units containing soils that have not been assigned a "K" value were not evaluated, and do not show up on these list. (Examples: beaches, gravel pits, sand dunes, dumps, Udorthents, etc.)

** Soil map units which do not appear on the highly erodible or potentially highly erodible lists, and have been assigned a "K" value, are considered non highly erodible. These soils generally are on nearly level landscapes.

List of Soil Map Units That Qualify as Highly Erodible Land

From the Soil Survey of Rhode Island
(Correlated and published, 1981)

CaD *	Canton-Charlton-Rock Outcrop Complex, 15-35% slopes
CdC	Canton and Charlton fine sandy loams, 8-15% slopes
ChC *	Canton and Charlton very stony fine sandy loams, 8-15% slopes
ChD *	Canton and Charlton very stony fine sandy loams, 15-25% slopes
GBD	Gloucester-Bridgehampton complex, hilly
GhD *	Gloucester-Hinckley very stony sandy loams, hilly
HkD	Hinckley gravelly sandy loam, hilly
NeC	Newport silt loam, 8-15% slopes

* = Rocky, very stony, or extremely stony soil map units. These soils generally are not suited for cultivation without removal of surface stones. If enough stones are removed to permit regular tillage then the soil map unit designation should be changed to a non-stony phase.

List of Soil Map Units That Qualify as Potentially Highly Erodible Land

From the Soil Survey of Rhode Island
(Correlated and published, 1981)

AfB	Agawam fine sandy loam, 3-8% slopes
BhB	Bridgehampton silt loam, 3-8% slopes
BmB	Bridgehampton silt loam, till substratum, 3-8% slopes
BnB *	Bridgehampton-Charlton Complex, very stony 0-8% slopes
BnC *	Bridgehampton-Charlton Complex, very stony 8-15% slopes
BoC *	Bridgehampton-Charlton Complex, extremely stony, 3-15% slopes
BrB	Broadbrook silt loam, 3-8% slopes
BsB	Broadbrook very stony silt loam, 0-8% slopes
CaC *	Canton-Charlton-Rock outcrop complex, 3-15% slopes
CdB	Canton and Charlton-fine sandy loams, 3-8% slopes
CeC *	Canton and Charlton-fine sandy loams, very rocky 3-8% slopes
ChB *	Canton and Charlton-very stony fine sandy loams, 3-8% slopes
CkC *	Canton and Charlton-very stony fine sandy loams, 3-15% slopes
EfB	Enfield silt loam, 3-8% slopes
GBC	Gloucester-Bridgehampton complex, rolling
GhC *	Gloucester-Hinckley very stony sandy loams, rolling
HkC	Hinckley gravelly sandy loam, rolling
HnC	Hinckley-Enfield complex, rolling
LgC *	Lippitt gravelly sandy loam, very rocky, 3-15% slopes
MmB	Merrimac Sandy loam, 3-8% slopes
NaB	Narragansett silt loam, 3-8% slopes
NbB *	Narragansett very stony silt loam, 0-8% slopes
NbC *	Narragansett very stony silt loam, 8-15% slopes
NcC *	Narragansett extremely stony silt loam, 3-15% slopes
NeB	Newport silt loam, 3-8% slopes
NfB *	Newport very stony silt loam, 3-8% slopes
NoC *	Newport extremely stony silt loam, 3-15% slopes

List of Soil Map Units That Qualify as Potentially Highly Erodible Land

From the Soil Survey of Rhode Island
(Correlated and published, 1981)

PaB	Paxton fine sandy loam, 3-8% slopes
PbB *	Paxton very stony fine sandy loam, 0-8% slopes
PbC *	Paxton very stony fine sandy loam, 3-15% slopes
PcC *	Paxton extremely stony fine sandy loam, 3-15% slopes
PmB	Pittstown silt loam, 3-8% slopes
PnB *	Pittstown very stony silt loam, 0-8% slopes
PsB	Poquonock loamy fine sand, 3-8% slopes
QoC	Quonset gravelly sandy loam, rolling
RaB	Rainbow silt loam, 3-8% slopes
RbB *	Rainbow very stony silt loam, 0-8% slopes
SdB *	Scio very stony silt loam, 0-8% slopes
StB	Sutton fine sandy loam, 3-8% slopes
SuB *	Sutton very stony fine sandy loam, 0-8% slopes
SvB *	Sutton extremely stony fine sandy loam, 0-8% slopes
WbB	Wapping silt loam, 3-8% slopes
WcB *	Wapping very stony silt loam, 0-8% slopes
WdB *	Wapping extremely stony silt loam, 0-8% slopes
WhB	Woodbridge fine sandy loam, 3-8% slopes
WoB *	Woodbridge very stony fine sandy loam, 0-8% slopes
WrB *	Woodbridge extremely stony fine sandy loam, 0-8% slopes

* = Rocky, very stony, or extremely stony soil map units. These soils generally are not suited for cultivation without removal of surface stones. If enough stones are removed to permit regular tillage then the soil map unit designation should be changed to non-stony phase.

APPENDIX - A

K = .17
T = 3

$$LS = \frac{8T}{RK} = \frac{8\ (3)}{(150)\ (.17)} = 0.941$$

percent	SLOPE length (ft.) (min.)	(max.)	TILLABLE SOIL (nonstony phases)	EROSION INDEX
3-15 (C)	50	200	Gloucester, Hinckley Quonset	Potentially HEL
15-35 (D)	50	200	Gloucester, Hinckley	HEL

percent	SLOPE length (ft.) (min.)	(max.)	NON-TILLABLE SOILS (stony phases)	EROSION INDEX
3-15 (C)	50	200	Gloucester	Potentially HEL
15-35 (D)	50	200	Gloucester	HEL

*** NOTE:** Stony phases of soil are generally non-tillable. If the stones have been removed then the soil should no longer be classified in a stony phase. In general, if tilled crops are produced in a field that the soil map indicates is very or extremely stony, then the soil mapping should be field checked.

TABLE 3 - Values of the topographic factor, LS, for specific combinations of slope length and steepness '

Percent Slope		Slope length (feet) 25	50	75	100	150	200	300	400	500	600	800	1,000
0.2	.....	.060	.069	.075	.080	.086	.092	.099	.105	.110	.114	.121	.126
0.5	.....	.073	.083	.090	.096	.104	.110	.119	.126	.132	.137	.145	.152
0.8	.....	.086	.098	.107	.113	.123	.130	.141	.149	.156	.162	.171	.179
2	.....	.133	.163	.185	.201	.227	.248	.280	.305	.326	.344	.376	.402
3	.....	.190	.233	.264	.287	.325	.354	.400	.437	.466	.492	.536	.573 → .941
4	.....	.230	.303	.357	.400	.471	.528	.621	.697	.762	.820	.920	1.01
5	.....	.268	.379	.464	.536	.656	.758	.928	1.07	1.20	1.31	1.52	1.69
6	.....	.336	.476	.583	.673	.824	.952	1.17	1.35	1.50	1.65	1.90	2.13
8	.....	.496	.701	.859	.992	1.21	1.41	1.72	1.98	2.22	2.43	2.81	3.14
10	.....	.685	.968	1.19	1.37	1.68	1.94	2.37	2.74	3.06	3.36	3.87	4.33
12	.....	.903	1.28	1.56	1.80	2.21	2.55	3.13	3.61	4.04	4.42	5.11	5.71
14	.....	1.15	1.62	1.99	2.30	2.81	3.25	3.98	4.59	5.13	5.62	6.49	7.26
16	.....	1.42	2.01	2.46	2.84	3.48	4.01	4.92	5.68	6.35	6.95	8.03	8.98
18	.....	1.72	2.43	2.97	3.43	4.21	4.86	5.95	6.87	7.68	8.41	9.71	10.9
20	.....	2.04	2.88	3.53	4.08	5.00	5.77	7.07	8.16	9.12	10.0	11.5	12.9

' $LS = (\lambda\ 72.6)^m\ (65.41 \sin^2\theta + 4.56 \sin\theta + 0.065)$ where λ = slope length in feet; m = .02 for gradients less than 1 percent, 0.3 for 1 to 3 percent slopes, 0.4 for 3.5 to 4.5 percent slopes and 0.5 for 5 percent slopes and steeper; and θ = angle of slope. (For other combinations of length and gradient interpolate between adjacent values of see fig. 4.)

APPENDIX - B

K = .20
T = 3

$$LS = \frac{8T}{RK} = \frac{8\ (3)}{(150)\ (.20)} = 0.80$$

percent	SLOPE length (ft.) (min.)	(max.)	NONTILLABLE SOIL * (stony phases)	EROSION INDEX
0-8 (B)	50	200	Bridgehampton, Charlton, Canton, Sutton, Wapping	Potentially HEL
0-8 (B)	50	300	Paxton, Pittstown, Woodbridge	Potentially HEL
3-15 (C)	50	200	Canton, Charlton	Potentially HEL
3-15 (C)	50	300	Paxton	Potentially HEL
8-15 (C)	50	200	Canton, Charlton	Potentially HEL
8-15 (C)	50	300	Paxton	Potentially HEL
15-25 (D)	50	200	Canton, Charlton	HEL
15-35 (D)	50	200	Canton, Charlton	HEL

*** NOTE:** Stony phases of soils are generally non-tillable. If the stones have been removed then the soil should no longer be classifies in a stony phase. In general, if tilled crops are produced in a field that the soil map indicates is very or extremely stony, then the soil mapping should be field checked.

TABLE 3. - Values of the topographic factor, LS, for specific combinations of slope length and steepness '

Percent Slope	Slope length (feet) 25	50	75	100	150	200	300	400	500	600	800	1,000
0.2	.060	.069	.075	.080	.086	.092	.099	.105	.110	.114	.121	.126
0.5	.073	.083	.090	.096	.104	.110	.119	.126	.132	.137	.145	.152
0.8	.086	.098	.107	.113	.123	.130	.141	.149	.156	.162	.171	.179
2	.133	.163	.185	.201	.227	.248	.280	.305	.326	.344	.376	.402
3	.190	.233	.264	.287	.325	.354	.400	.437	.466	.492	.536	.573 → .80
4	.230	.303	.357	.400	.471	.528	.621	.697	.762	.820	.920	1.01
5	.268	.379	.464	.536	.656	.758	.928	1.07	1.20	1.31	1.52	1.69
6	.336	.476	.583	.673	.824	.952	1.17	1.35	1.50	1.65	1.90	2.13
8	.496	.701	.859	.992	1.21	1.41	1.72	1.98	2.22	2.43	2.81	3.14
10	.685	.968	1.19	1.37	1.68	1.94	2.37	2.74	3.06	3.36	3.87	4.33
12	.903	1.28	1.56	1.80	2.21	2.55	3.13	3.61	4.04	4.42	5.11	5.71
14	1.15	1.62	1.99	2.30	2.81	3.25	3.98	4.59	5.13	5.62	6.49	7.26
16	1.42	2.01	2.46	2.84	3.48	4.01	4.92	5.68	6.35	6.95	8.03	8.98
18	1.72	2.43	2.97	3.43	4.21	4.86	5.95	6.87	7.68	8.41	9.71	10.9
20	2.04	2.88	3.53	4.08	5.00	5.77	7.07	8.16	9.12	10.0	11.5	12.9

' $LS = (\lambda\ 72.6)^m\ (65.41 \sin^2\theta + 4.56 \sin\theta + 0.065)$ where λ = slope length in feet; m = .02 for gradients less than 1 percent, 0.3 for 1 to 3 percent slopes, 0.4 for 3.5 to 4.5 percent slopes and 0.5 for 5 percent slopes and steeper; and θ = angle of slope. (For other combinations of length and gradient interpolate between adjacent values of see fig. 4.)

APPENDIX - C

K = .20
T = 2

$$LS = \frac{8T}{RK} = \frac{8\ (2)}{(150)\ (.20)} = 0.53$$

percent	SLOPE length (ft.) (min.)	(max.)	NONTILLABLE * SOILS (stony phases)	EROSION INDEX
3-15 (C)	50	200	Lippitt	Potentially HEL

*** Note:** Stony phases of soil are generally nontillable. If the stones have been removed then the soil should no longer be classified in a stony phase. In general, if tilled crops are produced in a field that the soil map indicates is very or extremely stony, then the soil mapping should be field checked.

TABLE 3. - Values of the topographic factor, LS, for specific combinations of slope length and steepness '

Percent Slope	Slope length (feet) 25	50	75	100	150	200	300	400	500	600	800	1,000
0.2	.060	.069	.075	.080	.086	.092	.099	.105	.110	.114	.121	.126
0.5	.073	.083	.090	.096	.104	.110	.119	.126	.132	.137	.145	.152
0.8	.086	.098	.107	.113	.123	.130	.141	.149	.156	.162	.171	.179
2	.133	.163	.185	.201	.227	.248	.280	.305	.326	.344	.376	.402 → .53
3	.190	.233	.264	.287	.325	.354	.400	.437	.466	.492	.536	.573
4	.230	.303	.357	.400	.471	.528	.621	.697	.762	.820	.920	1.01
5	.268	.379	.464	.536	.656	.758	.928	1.07	1.20	1.31	1.52	1.69
6	.336	.476	.583	.673	.824	.952	1.17	1.35	1.50	1.65	1.90	2.13
8	.496	.701	.859	.992	1.21	1.41	1.72	1.98	2.22	2.43	2.81	3.14
10	.685	.968	1.19	1.37	1.68	1.94	2.37	2.74	3.06	3.36	3.87	4.33
12	.903	1.28	1.56	1.80	2.21	2.55	3.13	3.61	4.04	4.42	5.11	5.71
14	1.15	1.62	1.99	2.30	2.81	3.25	3.98	4.59	5.13	5.62	6.49	7.26
16	1.42	2.01	2.46	2.84	3.48	4.01	4.92	5.68	6.35	6.95	8.03	8.98
18	1.72	2.43	2.97	3.43	4.21	4.86	5.95	6.87	7.68	8.41	9.71	10.9
20	2.04	2.88	3.53	4.08	5.00	5.77	7.07	8.16	9.12	10.0	11.5	12.9

' $LS = (\lambda\ 72.6)^m\ (65.41 \sin^2\theta + 4.56 \sin\theta + 0.065)$ where λ = slope length in feet; m = .02 for gradients less than 1percent, 0.3 for 1 to 3 percent slopes, 0.4 for 3.5 to 4.5 percent slopes and 0.5 for 5 percent slopes and steeper; and θ = angle of slope. (For other combinations of length and gradient interpolate between adjacent values of see fig. 4.)

APPENDIX - D

K = .24
T = 3

$$LS = \frac{8T}{RK} = \frac{8\ (3)}{(150)\ (.24)} = 0.667$$

SLOPE percent	length (ft.) (min.)	(max.)	TILLABLE SOILS (nonstony phases)	EROSION INDEX
3-8 (B)	50	300	Paxton, Woodbridge, Poquonock	Potentially HEL
3-8 (B)	50	200	Canton, Charlton, Merrimac, Sutton	Potentially HEL
8-15 (C)	50	200	Canton, Charlton	HEL

SLOPE percent	length (ft.) (min.)	(max.)	NONTILLABLE * SOILS (stony phases)	EROSION INDEX
0-8 (B)	50	300	Paxton	Potentially HEL
3-8 (B)	50	300	Narragansett	Potentially HEL
3-15 (C)	50	300	Canton, Charlton, Newport	Potentially HEL
8-15 (C)	50	300	Canton, Charlton Sutton	HEL

*** Note:** Stony phases of soil are generally nontillable. If the stones have been removed then the soil should no longer be classified in a stony phase. In general, if tilled crops are produced in a field that the soil map indicates is very or extremely stony, then the soil mapping should be field checked.

TABLE 3. - Values of the topographic factor, LS, for specific combinations of slope length and steepness '

Percent Slope	Slope length (feet) 25	50	75	100	150	200	300	400	500	600	800	1,000
0.2	.060	.069	.075	.080	.086	.092	.099	.105	.110	.114	.121	.126
0.5	.073	.083	.090	.096	.104	.110	.119	.126	.132	.137	.145	.152
0.8	.086	.098	.107	.113	.123	.130	.141	.149	.156	.162	.171	.179
2	.133	.163	.185	.201	.227	.248	.280	.305	.326	.344	.376	.402
3	.190	.233	.264	.287	.325	.354	.400	.437	.466	.492	.536	.573 → .667
4	.230	.303	.357	.400	.471	.528	.621	.697	.762	.820	.920	1.01
5	.268	.379	.464	.536	.656	.758	.928	1.07	1.20	1.31	1.52	1.69
6	.336	.476	.583	.673	.824	.952	1.17	1.35	1.50	1.65	1.90	2.13
8	.496	.701	.859	.992	1.21	1.41	1.72	1.98	2.22	2.43	2.81	3.14
10	.685	.968	1.19	1.37	1.68	1.94	2.37	2.74	3.06	3.36	3.87	4.33
12	.903	1.28	1.56	1.80	2.21	2.55	3.13	3.61	4.04	4.42	5.11	5.71
14	1.15	1.62	1.99	2.30	2.81	3.25	3.98	4.59	5.13	5.62	6.49	7.26
16	1.42	2.01	2.46	2.84	3.48	4.01	4.92	5.68	6.35	6.95	8.03	8.98
18	1.72	2.43	2.97	3.43	4.21	4.86	5.95	6.87	7.68	8.41	9.71	10.9
20	2.04	2.88	3.53	4.08	5.00	5.77	7.07	8.16	9.12	10.0	11.5	12.9

' $LS = (\lambda\ 72.6)^m\ (65.41 \sin^2\theta + 4.56 \sin\theta + 0.065)$ where λ = slope length in feet; m = .02 for gradients less than 1 percent, 0.3 for 1 to 3 percent slopes, 0.4 for 3.5 to 4.5 percent slopes and 0.5 for 5 percent slopes and steeper; and θ = angle of slope. (For other combinations of length and gradient interpolate between adjacent values of see fig. 4.)

APPENDIX - E

K = .28
T = 3

$$LS = \frac{8T}{RK} = \frac{8\ (3)}{(150)\ (.28)} = 0.571$$

percent	SLOPE length (ft.) (min.)	(max.)	TILLABLE SOILS (nonstony phases)	EROSION INDEX
3-8 (B)	50	300	Pittstown, Rainbow	Potentially HEL
3-8 (b)	50	200	Agawam, Wapping, Narragansett	Potentially HEL
8-15 (C)	50	200	Newport	HEL

percent	SLOPE length (ft.) (min.)	(max.)	NONTILLABLE * SOILS (stony phases)	EROSION INDEX
0-8 (B)	50	300	Broadbrook, Rainbow	Potentially HEL

*** Note:** Stony phases of soil are generally nontillable. If the stones have been removed then the soil should no longer be classified in a stony phase. In general, if tilled crops are produced in a field that the soil map indicates is very or extremely stony, then the soil mapping should be field checked.

TABLE 3. - Values of the topographic factor, LS, for specific combinations of slope length and steepness '

Percent Slope	Slope length (feet) 25	50	75	100	150	200	300	400	500	600	800	1,000
0.2	.060	.069	.075	.080	.086	.092	.099	.105	.110	.114	.121	.126
0.5	.073	.083	.090	.096	.104	.110	.119	.126	.132	.137	.145	.152
0.8	.086	.098	.107	.113	.123	.130	.141	.149	.156	.162	.171	.179
2	.133	.163	.185	.201	.227	.248	.280	.305	.326	.344	.376	.402
3	.190	.233	.264	.287	.325	.354	.400	.437	.466	.492	.536	.573 → .571
4	.230	.303	.357	.400	.471	.528	.621	.697	.762	.820	.920	1.01
5	.268	.379	.464	.536	.656	.758	.928	1.07	1.20	1.31	1.52	1.69
6	.336	.476	.583	.673	.824	.952	1.17	1.35	1.50	1.65	1.90	2.13
8	.496	.701	.859	.992	1.21	1.41	1.72	1.98	2.22	2.43	2.81	3.14
10	.685	.968	1.19	1.37	1.68	1.94	2.37	2.74	3.06	3.36	3.87	4.33
12	.903	1.28	1.56	1.80	2.21	2.55	3.13	3.61	4.04	4.42	5.11	5.71
14	1.15	1.62	1.99	2.30	2.81	3.25	3.98	4.59	5.13	5.62	6.49	7.26
16	1.42	2.01	2.46	2.84	3.48	4.01	4.92	5.68	6.35	6.95	8.03	8.98
18	1.72	2.43	2.97	3.43	4.21	4.86	5.95	6.87	7.68	8.41	9.71	10.9
20	2.04	2.88	3.53	4.08	5.00	5.77	7.07	8.16	9.12	10.0	11.5	12.9

' $LS = (\lambda\ 72.6)^m\ (65.41 \sin^2\theta + 4.56 \sin\theta + 0.065)$ where λ = slope length in feet; m = .02 for gradients less than 1 percent, 0.3 for 1 to 3 percent slopes, 0.4 for 3.5 to 4.5 percent slopes and 0.5 for 5 percent slopes and steeper; and θ = angle of slope. (For other combinations of length and gradient interpolate between adjacent values of see fig. 4.)

APPENDIX - F

K = .37
T = 3

$$LS = \frac{8T}{RK} = \frac{8\ (3)}{(150)\ (.37)} = 0.432$$

SLOPE percent	SLOPE length (ft.) (min.)	SLOPE length (ft.) (max.)	NONTILLABLE SOILS (stony phases)	EROSION INDEX
0-8 (B)	50	200	Scio	Potentially HEL

*** Note:** Stony phases of soil are generally nontillable. If the stones have been removed then the soil should no longer be classified in a stony phase. In general, if tilled crops are produced in a field that the soil map indicates is very or extremely stony, then the soil mapping should be field checked.

TABLE 3. - Values of the topographic factor, LS, for specific combinations of slope length and steepness '

Percent Slope	Slope length (feet) 25	50	75	100	150	200	300	400	500	600	800	1,000
0.2	.060	.069	.075	.080	.086	.092	.099	.105	.110	.114	.121	.126
0.5	.073	.083	.090	.096	.104	.110	.119	.126	.132	.137	.145	.152
0.8	.086	.098	.107	.113	.123	.130	.141	.149	.156	.162	.171	.179
2	.133	.163	.185	.201	.227	.248	.280	.305	.326	.344	.376	.402
3	.190	.233	.264	.287	.325	.354	.400	.437	.466	.492	.536	.573
4	.230	.303	.357	.400	.471	.528	.621	.697	.762	.820	.920	1.01
5	.268	.379	.464	.536	.656	.758	.928	1.07	1.20	1.31	1.52	1.69
6	.336	.476	.583	.673	.824	.952	1.17	1.35	1.50	1.65	1.90	2.13
8	.496	.701	.859	.992	1.21	1.41	1.72	1.98	2.22	2.43	2.81	3.14
10	.685	.968	1.19	1.37	1.68	1.94	2.37	2.74	3.06	3.36	3.87	4.33
12	.903	1.28	1.56	1.80	2.21	2.55	3.13	3.61	4.04	4.42	5.11	5.71
14	1.15	1.62	1.99	2.30	2.81	3.25	3.98	4.59	5.13	5.62	6.49	7.26
16	1.42	2.01	2.46	2.84	3.48	4.01	4.92	5.68	6.35	6.95	8.03	8.98
18	1.72	2.43	2.97	3.43	4.21	4.86	5.95	6.87	7.68	8.41	9.71	10.9
20	2.04	2.88	3.53	4.08	5.00	5.77	7.07	8.16	9.12	10.0	11.5	12.9

.432

' $LS = (\lambda\ 72.6)^m\ (65.41 \sin^2 \theta + 4.56 \sin \theta + 0.065)$ where λ = slope length in feet; m = .02 for gradients less than 1 percent, 0.3 for 1 to 3 percent slopes, 0.4 for 3.5 to 4.5 percent slopes and 0.5 for 5 percent slopes and steeper; and θ = angle of slope. (For other combinations of length and gradient interpolate between adjacent values of see fig. 4.)

APPENDIX - G

K = .43
T = 3

$$LS = \frac{8T}{RK} = \frac{8\ (3)}{(150)\ (.43)} = 0.372$$

percent	SLOPE length (ft.) (min.)	(max.)	NONTILLABLE * SOILS (stony phases)	EROSION INDEX
0-8 (B)	50	200	Bridgehampton	Potentially HEL

*** Note:** Stony phases of soil are generally nontillable. If the stones have been removed then the soil should no longer be classified in a stony phase. In general, if tilled crops are produced in a field that the soil map indicates is very or extremely stony, then the soil mapping should be field checked.

TABLE 3. - Values of the topographic factor, LS, for specific combinations of slope length and steepness '

Percent Slope	Slope length (feet) 25	50	75	100	150	200	300	400	500	600	800	1,000
0.2	.060	.069	.075	.080	.086	.092	.099	.105	.110	.114	.121	.126
0.5	.073	.083	.090	.096	.104	.110	.119	.126	.132	.137	.145	.152
0.8	.086	.098	.107	.113	.123	.130	.141	.149	.156	.162	.171	.179
2	.133	.163	.185	.201	.227	.248	.280	.305	.326	.344	.376	.402 → .372
3	.190	.233	.264	.287	.325	.354	.400	.437	.466	.492	.536	.573
4	.230	.303	.357	.400	.471	.528	.621	.697	.762	.820	.920	1.01
5	.268	.379	.464	.536	.656	.758	.928	1.07	1.20	1.31	1.52	1.69
6	.336	.476	.583	.673	.824	.952	1.17	1.35	1.50	1.65	1.90	2.13
8	.496	.701	.859	.992	1.21	1.41	1.72	1.98	2.22	2.43	2.81	3.14
10	.685	.968	1.19	1.37	1.68	1.94	2.37	2.74	3.06	3.36	3.87	4.33
12	.903	1.28	1.56	1.80	2.21	2.55	3.13	3.61	4.04	4.42	5.11	5.71
14	1.15	1.62	1.99	2.30	2.81	3.25	3.98	4.59	5.13	5.62	6.49	7.26
16	1.42	2.01	2.46	2.84	3.48	4.01	4.92	5.68	6.35	6.95	8.03	8.98
18	1.72	2.43	2.97	3.43	4.21	4.86	5.95	6.87	7.68	8.41	9.71	10.9
20	2.04	2.88	3.53	4.08	5.00	5.77	7.07	8.16	9.12	10.0	11.5	12.9

' $LS = (\lambda\ 72.6)^m\ (65.41 \sin^2 \theta + 4.56 \sin \theta + 0.065)$ where λ = slope length in feet; m = .02 for gradients less than 1 percent, 0.3 for 1 to 3 percent slopes, 0.4 for 3.5 to 4.5 percent slopes and 0.5 for 5 percent slopes and steeper; and θ = angle of slope. (For other combinations of length and gradient interpolate between adjacent values of see fig. 4.)

APPENDIX - H

K = .49
T = 3

$$LS = \frac{8T}{RK} = \frac{8\ (3)}{(150)\ (.49)} = 0.327$$

percent	SLOPE length (ft.) (min.)	(max.)	TILLABLE SOILS (nonstony phases)	EROSION INDEX
3-8 (B)	50	200	Bridgehampton, Enfield	Potentially HEL
3-15 (C)	50	200	Bridgehampton	Potentially HEL

*** Note:** Stony phases of soil are generally non-tillable. If the stones have been removed then the soil should no longer be classified in a stony phase. In general, if tilled crops are produced in a field that the soil map indicates is very or extremely stony, then the soil mapping should be field checked.

TABLE 3. - Values of the topographic factor, LS, for specific combinations of slope length and steepness '

Percent Slope	Slope length (feet) 25	50	75	100	150	200	300	400	500	600	800	1,000
0.2	.060	.069	.075	.080	.086	.092	.099	.105	.110	.114	.121	.126
0.5	.073	.083	.090	.096	.104	.110	.119	.126	.132	.137	.145	.152
0.8	.086	.098	.107	.113	.123	.130	.141	.149	.156	.162	.171	.179
2	.133	.163	.185	.201	.227	.248	.280	.305	.326	.344	.376	.402
3	.190	.233	.264	.287	.325	.354	.400	.437	.466	.492	.536	.573
4	.230	.303	.357	.400	.471	.528	.621	.697	.762	.820	.920	1.01
5	.268	.379	.464	.536	.656	.758	.928	1.07	1.20	1.31	1.52	1.69
6	.336	.476	.583	.673	.824	.952	1.17	1.35	1.50	1.65	1.90	2.13
8	.496	.701	.859	.992	1.21	1.41	1.72	1.98	2.22	2.43	2.81	3.14
10	.685	.968	1.19	1.37	1.68	1.94	2.37	2.74	3.06	3.36	3.87	4.33
12	.903	1.28	1.56	1.80	2.21	2.55	3.13	3.61	4.04	4.42	5.11	5.71
14	1.15	1.62	1.99	2.30	2.81	3.25	3.98	4.59	5.13	5.62	6.49	7.26
16	1.42	2.01	2.46	2.84	3.48	4.01	4.92	5.68	6.35	6.95	8.03	8.98
18	1.72	2.43	2.97	3.43	4.21	4.86	5.95	6.87	7.68	8.41	9.71	10.9
20	2.04	2.88	3.53	4.08	5.00	5.77	7.07	8.16	9.12	10.0	11.5	12.9

→ .327

' $LS = (\lambda\ 72.6)^m\ (65.41 \sin^2 \theta + 4.56 \sin \theta + 0.065)$ where λ = slope length in feet; m = .02 for gradients less than 1 percent, 0.3 for 1 to 3 percent slopes, 0.4 for 3.5 to 4.5 percent slopes and 0.5 for 5 percent slopes and steeper; and θ = angle of slope. (For other combinations of length and gradient interpolate between adjacent values of see fig. 4.)