

SECTION 2 – NATURAL RESOURCES INFORMATION

1. Soils

Soil Interpretations

Highly Erodible Land

General

The basis for identifying highly erodible land is the erodibility index of a soil map unit. The erodibility index of a soil is determined by dividing the potential erodibility for each soil by the soil loss tolerance (T) value established for the soil. The T value represents the maximum annual rate of soil erosion that could take place without causing a decline in long-term productivity. A soil map unit with an erodibility index of 8 or more is a highly erodible soil map unit.

Water Erosion

Potential erodibility for sheet and rill erosion is estimated by multiplying the following factors of the Universal Soil Loss Equation (USLE):

1. Rainfall and runoff factor (R)
2. Susceptibility of the soil to water erosion (K)
3. Combined effects of slope length and steepness (LS)

The erodibility index for sheet and rill erosion is represented by the formula $RKLS/T$. A soil map unit is highly erodible if the LS factor for the shortest length and minimum percent of slope is used and the $RKLS/T$ value equals or exceeds 8.

A soil map unit is potentially highly erodible if: (1) the $RKLS/T$ value using the minimum LS factor is less than 8 and (2) the $RKLS/T$ value using the maximum LS factor is equal to or greater than 8.

Wind Erosion

Potential erodibility from wind erosion is estimated by multiplying the following factors of the Wind Erosion Equation (WEQ).

1. Climatic characterization of windspeed and surface soil moisture (C)
2. The susceptibility of the soil to wind erosion (I)

The erodibility index for wind erosion is represented by the formula CI/T . A soil map unit is highly erodible if the CI/T value equals or exceeds 8.

Highly Erodible Soil Map Unit List

Highly Erodible Soil Map Unit Lists are prepared according to the guidance in the National Food Security Act Manual, Third Edition, Amend. 2, Part 511, November 1996.

Existing Highly Erodible Soil Map Unit Lists were frozen on January 1, 1990. The highly erodible land (HEL) classification of soil map units that were on HEL lists before 1990 cannot be changed when the lists are updated. The T factor, the Universal Soil Loss Equation (USLE) R, K, and LS factors, and the C and I factors for the Wind Erosion Equation are frozen for all soil map units that were on HEL lists before January 1, 1990.

Washington lists can be found on eFOTG in Section II, Soils and then HEL Frozen Soils Lists.