National Food Security Act Manual, Fourth Edition

Part 511 — Highly Erodible Land Determinations

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Subpart A — Developing Soil Data for HEL Determinations

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511.01 HEL Soil Erodibility Index

a Soil Erodibility Index

The soil erodibility index (EI) is the measure selected to determine whether a soil map unit is highly erodible.

b Determining Potential Erodibility

The potential erodibility (PE) of a soil map unit is calculated as follows:

- Sheet and Rill Erosion (using USLE): PE = R x K x LS where:
  - R = rainfall and runoff.
  - K = susceptibility of the soil to water erosion.
  - LS = the combined effects of slope length and steepness.
- Wind Erosion (using WEQ): PE = C x I, where:
  - C = climatic characterization of windspeed and surface soil moisture expressed as a percentage.
  - I = the susceptibility of the soil to wind erosion.

Note: The factor values for the equations used in the soil-loss equations are those in effect as of January 1, 1990.

c Calculating Erodibility Index

The erodibility index (EI) for a soil map unit is determined by dividing the potential erodibility for the soil map unit by the soil loss tolerance (T) value established for the soil in the FOTG as of January 1, 1990.

Erosion Equation	**Calculation**
Sheet and Rill Erosion (USLE)	$\frac{R \times K \times LS}{T} = EI$
Wind Erosion (WEQ)	$\frac{C \times I}{T} = EI$

Note: The Highly Erodible Map Unit List contained in the FOTG as of January 1, 1990, will be used for all EI calculations, including sodbuster determinations and reviews of previous determinations.

d Highly Erodible Soil Map Units

A soil map unit with an erodibility index of 8 or greater is considered to be highly erodible land (HEL) as set forth in the regulation 7 CFR 610, Subpart B.

511.02 Highly Erodible Soil Map Unit List

a Highly Erodible Soil List

The Highly Erodible Soil Map Unit List is a list of all soil map units, names, and symbols in an area. These soil are specifically categorized as being—

- Highly Erodible (HEL) from wind erosion
- Highly Erodible or Potentially Highly Erodible (PHEL) from sheet and rill erosion.

Note: When a field determination includes PHEL soil mapping units, the highly erodible land determination shall be verified through a field review to determine the correct LS factor value for that specific field in order to finalize the field HEL determination. If necessary, a new determination shall be issued when the field verification changes the original office HEL determination label.

b HEL Soil Map Unit List Area

The Highly Erodible Soil Map Unit List developed as of January 1, 1990, will be used for all highly erodible land determinations.

The Highly Erodible Soil Map Unit List shall be developed and maintained for any of the following:

- Each soil survey area
- Each FOTG area
- Other geographic areas as determined by State Conservationist.

c Highly Erodible Soil Map Units and Soil Map Unit Components

The percentage of HEL soil map unit components that are required to achieve predominance of a soil map unit will be established by the State Conservationist. Determine whether a soil map unit is considered highly erodible according to the following table.

<table>
<tr><th>IF the soil map unit...</th><th>AND...</th><th>THEN...</th></tr>
<tr><td>Is named for either—
A single type of soil or
A single miscellaneous area,</td><td>Either the named—
soil is identified as highly erodible, or
Miscellaneous area is identified as highly erodible,</td><td rowspan="2">The entire soil map unit is considered highly erodible.</td></tr>
<tr><td rowspan="2">Is named for two or more—
Types of soils or
Miscellaneous areas,</td><td>A predominance of the named components are all highly erodible,</td></tr>
<tr><td>Less than a predominance of the named components are highly erodible,</td><td>The soil map unit is not considered highly erodible.</td></tr>
<tr><td>Contains highly erodible soils only as inclusions,</td><td colspan="2"></td></tr>
</table>

d Filing Highly Erodible Soil Map Unit Lists

The Highly Erodible Soil Map Unit List shall be a part of Section II of the FOTG.

e Tenure of HEL Soil Map Unit List

The Highly Erodible Soil Map Unit List that was in effect January 1, 1990, will remain unchanged for HEL determinations.

f Areas with More Than One “R” or “C” Value

A separate HEL soil map unit list will be developed for soil survey areas or counties having more than one “R” or “C” factor value.

A map showing the boundaries of each individual C or R factor value area will be placed in Section I of the FOTG.

511.03 Developing HEL Soil Map Unit Lists Using an Existing Soil Survey

a List of Soil Map Units

A list of soil map units may be available as follows:

- Field Office Technical Guide (FOTG)
- Published soil survey

Determine if the list is up to date by comparing it against the Section II of the FOTG on file in the NRCS Office.

b Needs for Erodibility Calculations

Provide erodibility calculations in each soil survey area or county for each soil map unit, including all components of a complex, association, or undifferentiated unit.

c Procedure for Calculating Soil Map Unit Erodibility

When calculating erodibility for soil map units, use the following table for guidance.

To DETERMINE...	USE...
The LS value required for a soil map unit to be highly erodible for areas subject to sheet and rill erosion.	The following equation: $\frac{8T}{RK} = LS$
L and S onsite	The procedures in the National Agronomy Manual
L and S in the office	The data in the FOTG
$\frac{C I}{T}$ for WEQ	

d Determining Highly Erodible Soil Map Units

A soil map unit is considered to be highly erodible when the following criteria apply:

- Sheet and rill erosion areas: The value for LS equals or exceeds 8T/RK for the shortest length and minimum percent slope.
- Wind erosion areas: The value of CI/T equals or exceeds 8.

e Determining Potentially Highly Erodible Soil Map Units

In sheet and rill erosion areas, a soil map unit is considered to be potentially highly erodible if the following criteria apply:

- The value for LS that is less than 8T/RK for the shortest length and minimum percent of slope.
- The value for LS that exceeds 8T/RK for the longest length and maximum percent of slope.

Any fields with PHEL soil map units will be verified on-site to determine whether they are HEL or NHEL, as shown in the following table:

STEP	ACTION
1	Make onsite L (slope length) and S (slope percent) measurements on several representative slopes for each PHEL soil delineation.
2	Use the procedures in the National Agronomy Manual when determining LS values.
3	Determine the predominance of HEL for a map unit by comparing the total area of the delineation to that area with an EI of 8 or greater.
4	Document all decisions with supporting data placed in the case file.

511.04 Developing HEL Soil Map Unit Lists When a Completed Soil Survey is not Available

a Soil Survey in Progress

If a soil survey was in progress or has been started since January 1, 1990, determine if the soil mapping units added to the soil survey legend are HEL using the procedures set forth in the NFSAM, Section 511.03.

The factor values that are to be used for soil mapping units on new or modified soil survey legends are the factor values set forth in the FOTG that were in force as of January 1, 1990, for R, C, LS factor values for the USLE and K, I, and T factor values for the WEQ.

b Amending the HEL Soil Map Unit List

If a map unit discussed in paragraph 511.04(a) is HEL, it shall be appended to the Highly Erodible Soil Map Unit List of the FOTG (as of January 1, 1990), with appropriate documentation and explanation to support the addition.

The only HEL map units that will be appended to the Highly Erodible Soil Map Unit List are those that have been correlated since January 1, 1990, where the correlation has been completed according to the procedures in the National Soil Survey Handbook.

c Approvals

Each HEL map unit appended to the Highly Erodible Map Unit List will be dated and approved by the State Soil Scientist.

d Filing and Archiving HEL Soil Map Unit Lists

The amended HEL Map Unit List will be filed in the appropriate FOTG. All previous copies of the HEL Map Unit List shall be filed as per instructions set forth in GM 120, Part 408. Mark the HEL Soil Map Unit List that has been replaced with the following: “Superseded by HEL Map Unit List dated [enter appropriate date]”.

e No Changes to Previously Included Soil Map Units

Under no circumstances will the soil map units previously included on the January 1, 1990, Highly Erodible Map Unit List have their classification changed

Fields with previous HELC determinations will not be changed by any additions of soil map units to the Highly Erodible Soil Map Unit List.

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Part 511 — Highly Erodible Land Determinations

Subpart B — Determining HEL Fields for HELC Administration

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511.10 Field Boundaries and Field Redefinition

a NRCS Responsibility in HELC Administration

NRCS will make determinations in response to the answers for questions 8, 9, or 10 on the AD–1026.

- Determinations will be made for each field assigned a separate field number.

Note: Separate determinations will not be made for subfields designated with alphabet (A, B, C). Subfield determinations will be reflected in the determination for the total field (numeric designation).

- Determination for fields containing conservation practices that appear to subdivide a field, such as field strips or terraces, shall be made for the entire field, not for the individual strip or terrace.
- Determinations for fields assigned multitract numbers shall be made for the field(s), not the tract.

b Field Redefinitions

FSA has the sole responsibility for field redefinition, including the following:

- Dividing a field into two or more fields when a tract is divided into two or more tracts.
- Combining two or more fields into one field.
- Making a field redetermination at the requests of the USDA participant.
- Separating HEL from NHEL in a field, if the—
  - HEL units are contiguous
  - HEL units are manageable as one unit
  - Separation is beneficial in the application of a conservation system.

Note: Fields may not be combined to avoid a determination of HEL. Transfer of field boundaries to new aerial photography including digitizing common land unit boundaries shall not be the trigger for a new HEL determination.

c Impacts of Changing Field Boundaries

When highly erodible and non highly erodible fields are combined, the new field will first be analyzed to determine if the 33 1/3 percent or the 50 acre rule apply in determining HEL predominance.

- If the entirety of the new field contains at least 33 1/3 percent or 50 acres or more of HEL soil mapping units, then the entire field is HEL.
- If the new field does not meet the HEL 33 1/3 percent or the 50 acre rule, then the area of the original—
  - HEL field will continue to be HEL

- NHEL field will remain labeled NHEL

Note: This situation will allow both an NHEL and an HEL label in a single field. FSA shall maintain the field boundary line on the aerial photograph that existed before the USDA participant combined the fields, connecting each with a bracket to indicate that the areas have been combined into one field.

d CRP Acreage and Determination Labels

When land from a CRP contract is returned to agricultural production and the acreage was previously part of a larger field with an existing HEL determination, the CRP area will carry the same determination label as the original, larger field unless the operator intends to farm the CRP area differently from the original, larger field.

If no determination was completed prior to entry of the acreage into CRP, an HEL determination shall be made according to NFSAM, Section 511.12.

511.11 Determining Highly Erodible Fields

a Basis for Determining Highly Erodible Fields

Determinations will be completed for all fields within a tract or multitract.

The statutory provisions require that HEL determinations be based on the definition of a field within a farm, as follows:

Definition: A field is defined as a part of a farm that is separated from the balance of the farm by permanent boundaries, such as fences, permanent waterways, woodlands, and croplines (in cases where farming practices make it probable that the cropline is not subject to change).

A field will be subject to the HELC provisions if it is determined to be highly erodible.

b Preparing for Making HEL Determinations

When FSA refers an AD–1026 to NRCS, the following data will be used to make highly erodible land determinations:

- Information included on the AD–1026, aerial photocopies, and any attachments.
- The Highly Erodible Soil Map Unit List. The Highly Erodible Soil Map Unit List and associated FOTG data that was prepared as of January 1, 1990, will be used for ALL HEL determinations.
- Soil survey maps.
- Previous HEL determinations completed on the tract.

c Determine HEL by Field

This table gives the conditions under which fields will be determined HEL or NHEL.

IF the highly erodible soil map units in a field…	THEN the field is…
Constitute 33.33 percent or more of the acreage in the field,	HEL
Equals 50 or more acres,	
Do not constitute 33.33 percent nor equal 50 acres or more,	NHEL

d HEL Determination Labels

The following HEL identification labels shall be recorded on the aerial photocopies, as well as the official aerial photography maintained by FSA:

- HEL — The field is composes of predominantly highly erodible soil mapping units and is subject to the HELC compliance provisions.
- NHEL — The field is not composed of predominantly highly erodible soil mapping units and is not subject to the HELC compliance provisions.

e Determination Considerations

Portions of the soil map unit area outside of the field boundary will not be considered in the erodibility determination except as used to determine slope length as indicated in the National Agronomy Manual.

Fields initially determined as being potentially highly erodible (PHEL) will be reviewed in the field to determined if the field is HEL or NHEL. The on-site investigation will be fully documented to support the determination, including the measurements used to support the LS factor value generated.

Field observation data used to make erodibility determinations will supersede any factors used in making office determinations of HEL.

f Multitract Determinations

Determinations for fields assigned multitract numbers shall be made as follows:

- Use field boundaries for making HEL determinations on land for which there was no prior HEL determination, including fields defined as multitracts.
- Redetermine HEL using the criteria for highly erodible fields in NFSAM, Section 511.11 if both of the following apply:
  - The original HEL determination on the land was made using tract subdivisions of a field rather than field boundaries within a farm.
  - The producer has requested the redetermination in writing.

g Providing HEL Determination Notification

Notify all USDA participant signatories on the form AD–1026, including all primary owners and tenants, as well as FSA, of the HEL determination. The notification shall be in writing, and will be issued not later than 10 days after completing the determination. Examples of letters of notification are included in the Exhibits as specified in the Conservation Programs Manual, Part 510, Subpart G. Notification shall include the following information:

- The type of determination.
- The basis for making the determination (i.e., analysis of the soil mapping unit information).
- Appeal and Mediation information.
- A copy of the determination.
- Any other material or documentation needed to support the technical determination.

h HEL Field Records to Provide

For all HEL determinations, provide the following records to the persons listed in paragraph 511.11(g) above—

- A copy of the official HEL determination.
- A copy of the completed FSA aerial photocopy with HEL/NHEL designations.
- The technical determination notification letter.

i Case File Records Required

The following documents will be maintained as specified in GM 120, Part 408, in the appropriate case file folder :

- AD–1026 and AD–1026A
- NRCS–CPA–026

- Completed FSA aerial photocopy with HEL/NHEL designations
- HEL calculations including field documentation of PHEL soil map units
- Resource inventory data
- Any other material used for making the required determinations.

511.12 Revising Highly Erodible Land Field Determinations

a Revising Determinations

The following table provides NRCS policy on revising HEL determinations:

IF NRCS receives an AD–1026...	AND...	THEN...
With a statement in the remarks section that the original field boundaries for the tract are incorrect,	An aerial photocopy is provided with correct boundaries,	Complete a new HEL determination using the 33 1/3 or 50 acre rule.
With an aerial photocopy showing new field boundaries resulting from dividing or combining one or more existing fields,	A previously determined HEL field is combined with NHEL or a previously undetermined area,	Complete a new HEL determination for the new field using the 33-1/3 or 50 acre rule. If the new field is— • HEL, then label the entire field HEL. • NHEL, then the area of the original HEL field will continue to be designated HEL; the new NHEL area will be designated NHEL.
	An NHEL field is split, or NHEL fields are combined,	Complete a new HEL determination.
	A previous HEL field is split,	Any field with remaining HEL soil map units remains as HEL. Fields with no HEL soil map units are NHEL.
With a request by a participant that HEL be separated from NHEL in the field,	The participant establishes a permanent boundary to separate HEL from NHEL that meets FSA requirements for HEL delineations,	Complete the new HEL determinations using the new field boundaries.
When fields are split and redefined for CRP eligibility purposes,		Make a new determination for the land remaining in the former field.

Note: FSA will enter the circumstances regarding the redefinition in the remarks section of the AD–1026.

b Notification of Changes

A new NRCS–CPA–026 is to be prepared and distributed when a field redefinition meets the following criteria:

IF the field redefinition results from…	AND the resulting determination is…	THEN NRCS will…
Splitting a field or combining two or more fields,	An NHEL field(s),	Not need to issue a new NRCS–CPA–026. NRCS will make remarks on the AD–1026 that the new field is NHEL. Sign, date and return the AD–1026 to FSA.
	An HEL field(s),	Notify FSA and the USDA participant via a new NRCS–CPA–026.

511.13 Incorrect Determinations

a Technical Errors

When a technical or other error is found, NRCS shall immediately take appropriate action to correct the error(s) and provide notification all signatories to the form AD–1026.

b Correcting HEL Determinations

Incorrect HEL determinations will not result in the ineligibility of benefits for any prior years or in the year that the incorrect determination is found.

When an incorrect HEL determination is found, NRCS will—

- Correct the determination.
- Notify all signatories on the form AD–1026 and FSA.
- Assist the USDA participant with developing or revision of a conservation plan or conservation system that will meet the HELC requirements, if needed.
- Provide appeal and mediation rights. (See CPM, Part 510.)