



HEL/PHEL DETERMINATION -- GIS TOOL

The following tool was developed to facilitate the 1026 determination and documentation process for HEL using GIS.

HEL Tool will

- 1- Summarize HEL for a given tract, field(s).
- 2- Compute if a field is HEL or NHEL
- 3- Compute PHEL based on LiDAR derived slope percent and length
- 4- Output automated 026e and letters

Save the Zip to C:\temp\. Unzip directly to C:\ so that you have C:\HEL\

Prior ArcMap Setup

Open ArcMap or your County Template.

Select **Geoprocessing** >> **Environments...** >> **Workspace**

Set Workspace to a local folder such as c:\temp

Select **Geoprocessing** >> **Geoprocessing Options...** >> **Overwrite the outputs of geoprocessing operations**

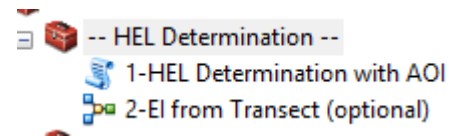
Select **Customize** >> **Extensions...** >> **Spatial Analyst** and **3D Analyst** for the transect tool

Turn on Toolbox

Right click ArcToolbox Select **Add** **Add Toolbox...**

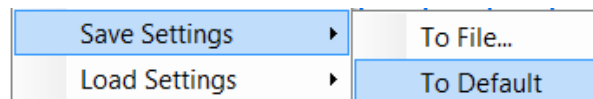
Browse to C:\HEL\ and Select **HEL Determination.tbx**

Your toolbox should now have



Right click in the Toolbox Area and **Save to Default**

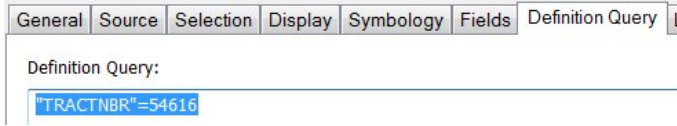
Save your template as well.



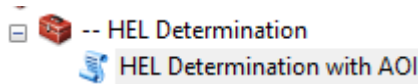
ArcMap Layer Requirements

Make sure a CLU; HEL; Soils; and DEM layers are loaded.

Zoom to your Tract and select your field(s). Use a Definition Query (optional) for your tract. This also ensures you print FOIA compliant maps.



Running HEL Tools



Open Model 1.

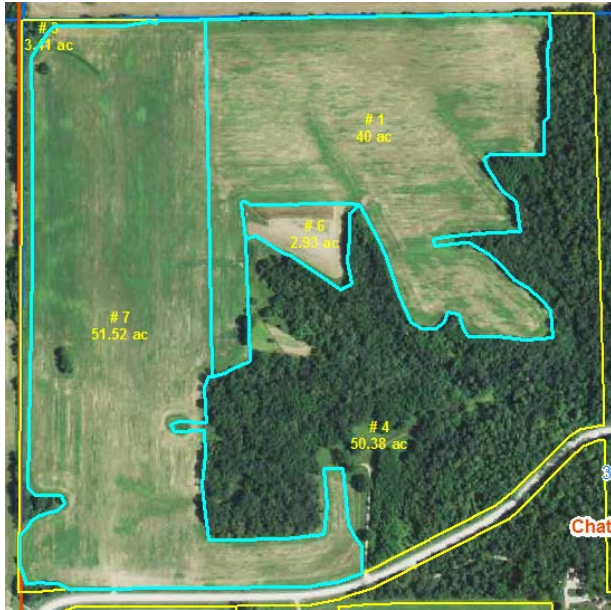
Select your layers from the dropdown choices. Your layers need to be in ArcMap. You can either draw a boundary on your map or select specific CLU field(s) in your map.

Change the DC name and State if necessary

The K, T, R fields will auto populate, or they can be chosen from drop down choices

Select [Show Help >>](#) For more detail on each step of the process

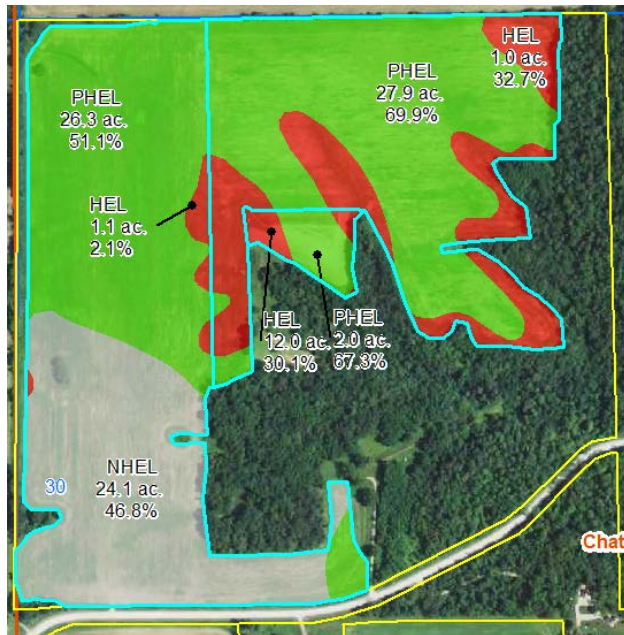
Note: Your State GIS Specialist will have set the correct parameters for your tool. You will get errors if the tool parameters are not set to recognize the fields HEL, T, K, R.



The 1026 requires a Determination on field 1, 6, 7.

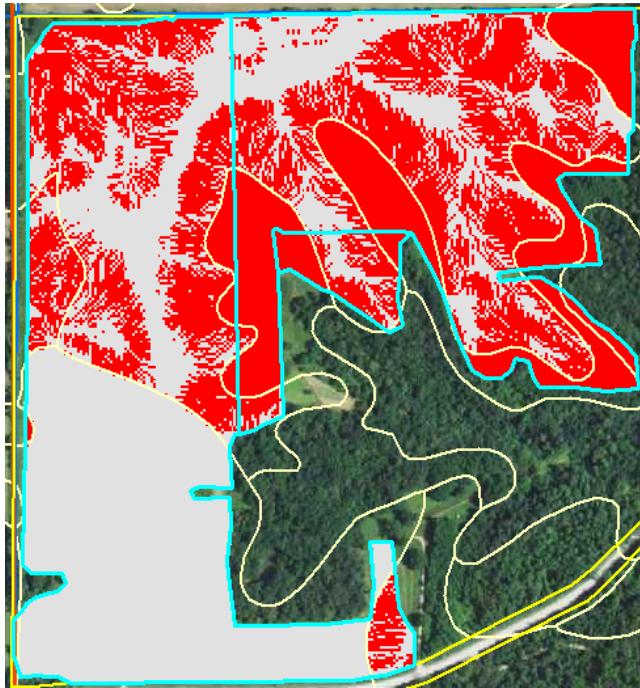
Your first output layer will provide total Acres and total Percent for HEL, NHEL or PHEL for each field. In all 3 fields, evaluating PHEL will determine if the field is HEL or NHEL.

- HELSummaryLayer
- other, ususally water
- HEL
- PHEL
- NHEL



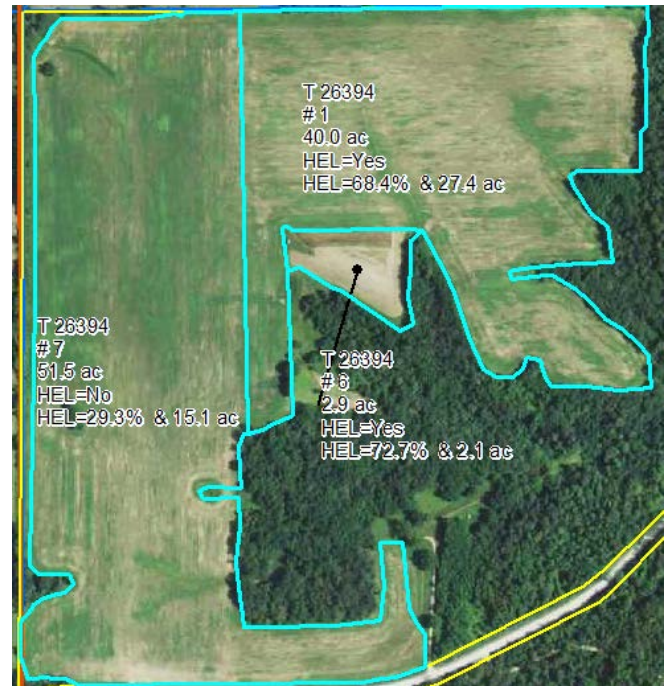
The Second Output provides PHEL mapunit EI determination. The soils that are originally HEL will be all red. Those that were originally NHEL will be all grey. PHEL map units are a combination of HEL/NHEL

- finalhelmap
- Value
- NHEL
- HEL



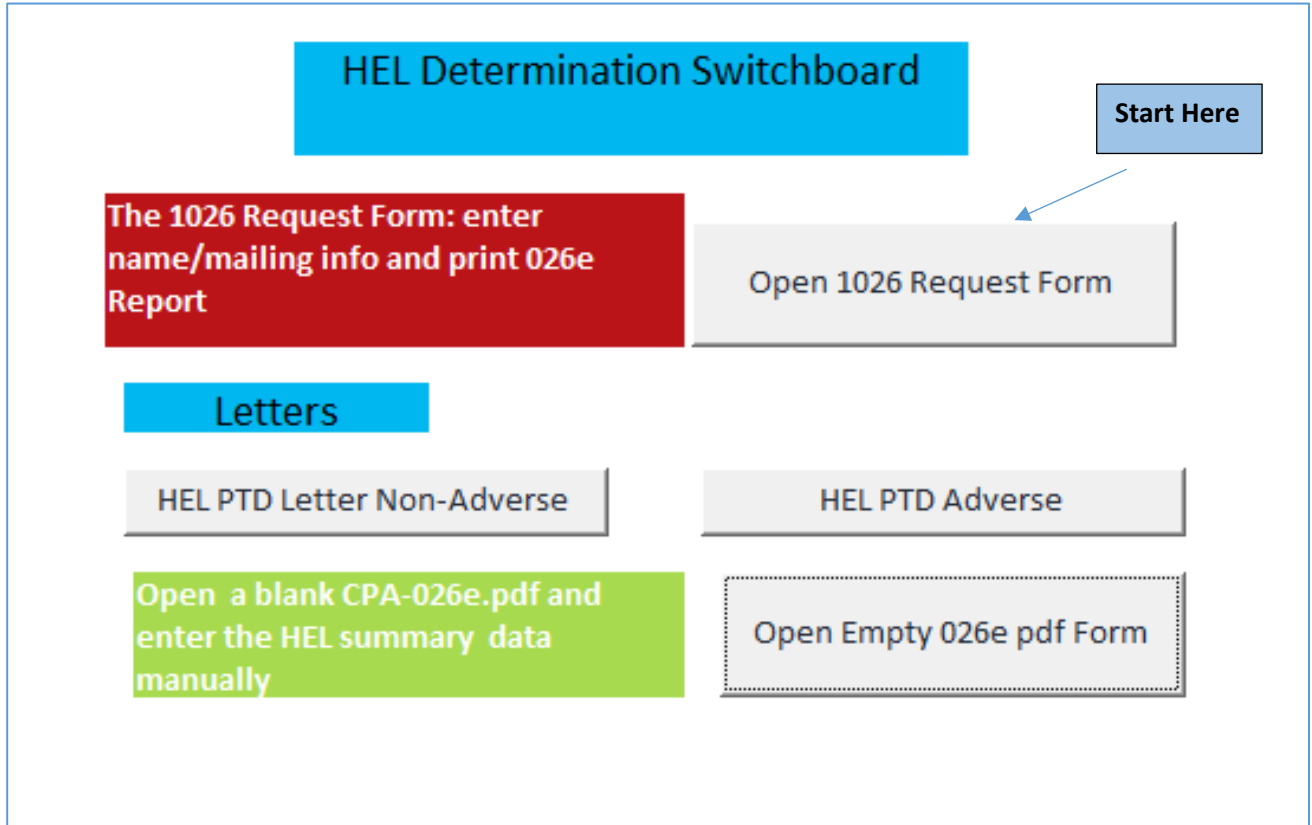
The Third Output will summarize the PHEL areas that are HEL/NHEL and compute total HEL percent and area for the field.

- HEL_YES_NO
-



Select Ok. There are no variables to change. The Model adds the required information to create the 026e and the letters.

MS Access will open. You can also open MS Access from the c:\HEL\ folder manually





HEL/PHEL DETERMINATION -- GIS TOOL

Request Date 11/1/2016

First, Last Name Betty Lou

Address 1234 Mystreet

City Pretty City MN **Zip** 55555

Agency or Person Requesting Determination: Landowner

Are there HEL Soils on the Farm

Is there a Soils Survey

This Determination was completed in the: Office

It was delivered by: Mail

Remarks: this is a demo

Authorized Signature: Bob Smith, DC

Open CPA-026e

COUNTYCD	FARM	TRACT	Field	Sodbust	HEL	Acres	Date
045	2540	26394	1	No	Yes	40.0	11/29/2016
045	2540	26394	6	No	Yes	2.9	11/29/2016
045	2540	26394	7	No	No	51.5	11/29/2016
*							

Record: 1 of 3 No Filter Search

You can edit add or remove records in this table instead of using ArcMap. This will populate the letters or 026e with information provided.

Enter the Info for the 026e

Open CPA-026e

If a field is sodbusted, manually update to Yes

The county code will determine the NRCS mailing address in the Footer

When you have finished entering data, click the Open CPA-026e button



HEL/PHEL DETERMINATION -- GIS TOOL



United States Department of Agriculture

Natural Resources Conservation Service

NRCS-CPA-026e
8/2013

HIGHLY ERODIBLE LAND AND WETLAND CONSERVATION DETERMINATION

Name	Betty Lou	Request Date:	11/1/2016	County:	045
Address:	1234 Mystreet Pretty City, MN 55555				
Agency or Person Requesting Determination:	Landowner	Tract No:	26394	FSA Farm No:	2540

Section I - Highly Erodible Land

Is a soil survey now available for making an erodible land determination?

Are there highly erodible soil map units on this farm?

Fields in this section have undergone a determination of whether they are highly erodible land (HEL) or not; fields for which an HEL Determination has not been completed are not listed. In order to be eligible for USDA benefits, a person must be using an approved conservation system on all HEL.

Field(s)	HEL	SodBust	Acres	Determination Date
1	Yes	No	40.0	11/29/2016
6	Yes	No	2.9	11/29/2016
7	No	No	51.5	11/29/2016

The Highly Erodible Land determination was completed in the:

Remarks:	this is a demo
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I certify that the above determinations are correct and were conducted in accordance with policies and procedures contained in the National Food Security Act Manual.

Signature Designated Conservationist	Date
Bob Smith, DC	Tuesday, November 29, 2016

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Use the letter provided by your state, these may differ from this example.

Letters

HEL PTD Letter Non-Adverse	HEL PTD Adverse
Small Area Exemption NHEL	Small Area Exemption HEL

HEL PTD Adverse Letter.

The checkbox can be checked after printing.

All letters use the output from ArcMap to indicate what each field determination is.

United States Department of Agriculture

11/29/2016

Betty Lou
1234 Mystreet
Pretty City, MN 55555

RE: Highly Erodible Land (HEL) Determination

The Natural Resources Conservation Service (NRCS) recently receipted the Farm Service Agency (FSA) with a Highly Erodible Land Conservation (HEL) and Wetland Conservation (WC) Certification (form AD1026). As a result, NRCS is issuing a preliminary technical determination in accordance with the HELC provisions of the Food Security Act of 1985, as amended. This preliminary technical determination was conducted by NRCS field office staff and concluded that field(s) listed below as HEL "Yes" is (are) highly erodible fields. Other fields listed as HEL "No" is (are) not highly erodible fields. For additional information, refer to form NRCS-CPA-026 and the map attached to this letter. This determination has been made in accordance with the regulation at Title 7 C.F.R. (Code of Federal Regulation) Part 12.2.

<u>Farm:</u>	<u>Tract:</u>	<u>Field(s)</u>	<u>Acres</u>	<u>HEL (Yes/No)</u>
2540	26394	1	40.0	Yes
2540	26394	6	2.9	Yes
2540	26394	7	51.5	No

The identified field(s) is (are) considered highly erodible land because:

- The highly erodible soil map unit(s) in the field(s) constitutes 33.33 percent of the acreage in the field or equal 50 or more acres.
- A previously determined HEL field has been combined with a NHEL field or a previously undetermined area.
- A previously determined HEL field has been split.

This preliminary technical determination is an adverse decision. As such, you have appeal rights and may act upon one of the following options as follows:

CERTIFIED MAIL



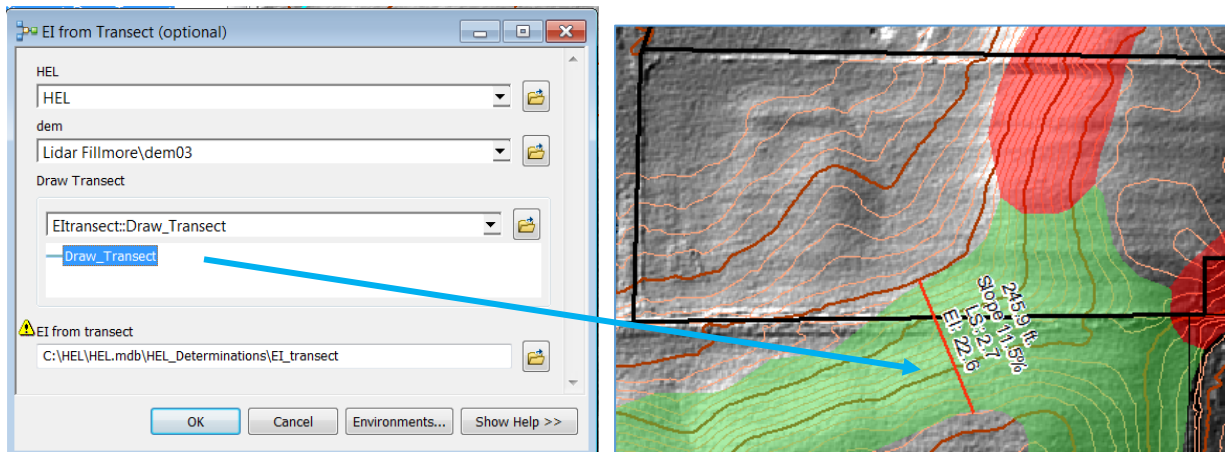
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Model 2. Transect Tool for EI (optional)

The Model will extract from your DEM the slope percent and slope length from a line drawn on the map. It is not linked to any other process, and is for display and reference purpose. For example, if field calculations were requested during the Preliminary appeal process. The Transect could be verified against the LiDAR data.

For the purpose of calculating Slope length, a transect can extend beyond a mapunit and beyond a field edge (see policy). The tool will use the frozen T,K,R values from the Soil Mapunit that lies in the **Center of the transect** in the event a transect would cross multiple mapunits.

You can draw as many transects as you wish, and they do not need to be straight.



Please provide any changes, improvements to this Tool.

<p>Kevin Godsey, Soil Scientist</p> <p>Missouri NRCS MLRA Soil Survey, Marble office</p> <p>PO BOX 199, 406 East Main St.</p> <p>Marble Hill, MO 63764</p> <p>OFFICE 573-741-3033</p> <p>FAX 855-835-0067</p> <p>kevin.godsey@mo.usda.gov</p>	<p>Christiane Roy</p> <p>SE MN Regional GIS Specialist</p> <p>USDA - NRCS</p> <p>1485 Industrial Drive #102, Rochester, MN 555901</p> <p>☎ office (507) 405-3580 ☎ cell (507)-951-2256</p> <p>✉ christiane.roy@mn.usda.gov</p>
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Appendix 1

This is a snapshot of Policy, Refer to your [Policy Shortcut](#) for more detail

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 unit 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

511.12 Revising HEL Field Determinations

A. Revising Determinations

The following table provides NRCS policy on revising HEL determinations:

IF NRCS receives Form 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— <ul style="list-style-type: none"> • 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.

B. Notification of Changes

A new Form NRCS-CPA-026 is to be prepared and distributed when a field redefinition meets 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 Form NRCS-CPA-026. NRCS will make remarks on the Form AD-1026 that the new field is NHEL. Sign, date, and return the Form AD-1026 to FSA.
	An HEL field(s),	Notify FSA and the USDA participant via a new Form NRCS-CPA-026.

