VALUING FARMLAND USING LAND CLASS RATINGS

Leigh Ann Parkinson, R/W-AC Presenter



Why Use Land Class Ratings?

- □OBJECTIVE when applied properly
- □DATA required is readily available
- □RESULTS are credible

You're **DYING** to know more, aren't you???

3 Easy Steps

Gather Soil Data

Use Soil Data to Construct Land Class Rating

Adjust Comparable Land Values Using Land Class Rating

Step 1

Gather Soil Data



Web Soil Survey
U.S. Department of Agriculture
Natural Resource Conservation Service

http://websoilsurvey.nrcs.usda.gov/app/



You are here: Web Soil Survey Home

Search Enter Keywords All NRCS Sites

Browse by Subject

- ▶ Soils Home
- National Cooperative Soil Survey (NCSS)
- Archived Soil Surveys
- ▶ Status Maps
- Official Soil Series Descriptions (OSD)
- Soil Series Extent Mapping Tool
- ▶ Geospatial Data Gateway
- ▶ eFOTG
- National Soil Characterization Data

The simple yet powerful way to access and use soil data.



Welcome to Web Soil Survey (WSS)



Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS) and provides access to the largest natural resource information system in the world. NRCS has soil maps and data available online for more than 95 percent of the nation's counties and anticipates having

100 percent in the near future. The site is updated and maintained online as the single authoritative source of soil survey information.

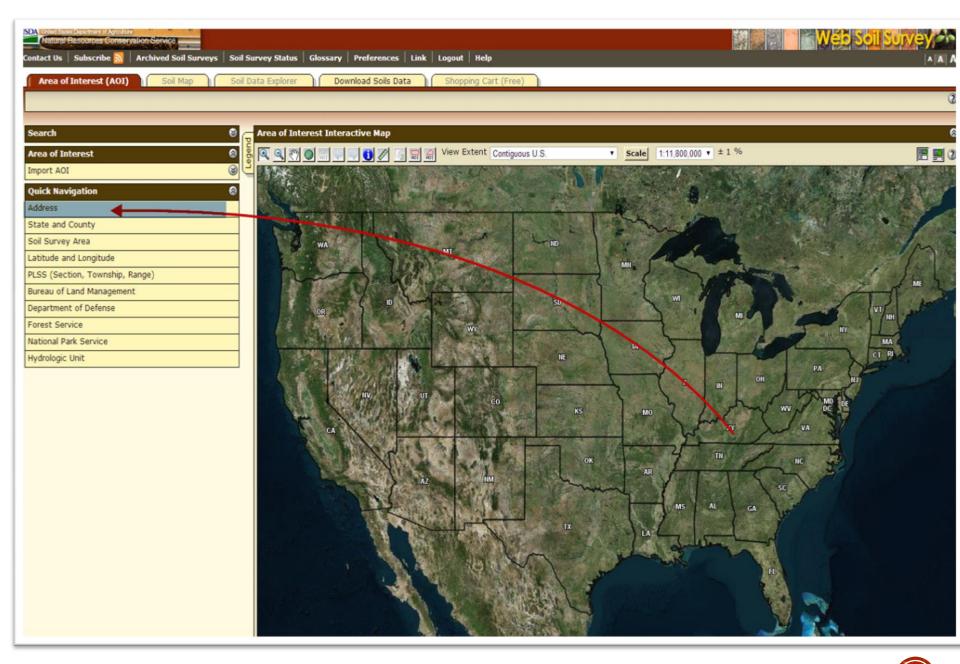
Soil surveys can be used for general farm, local, and wider area planning. Onsite investigation is needed in some cases, such as soil quality assessments and certain conservation and engineering applications. For more detailed information, contact your local <u>USDA</u> Service Center or your NRCS State Soil Scientist.

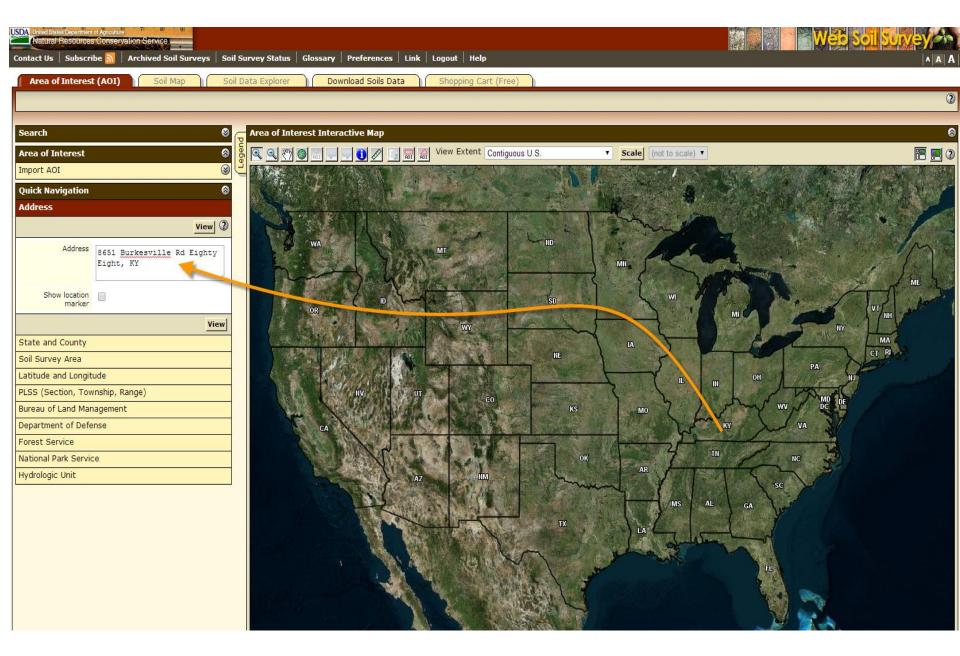
I Want To ...

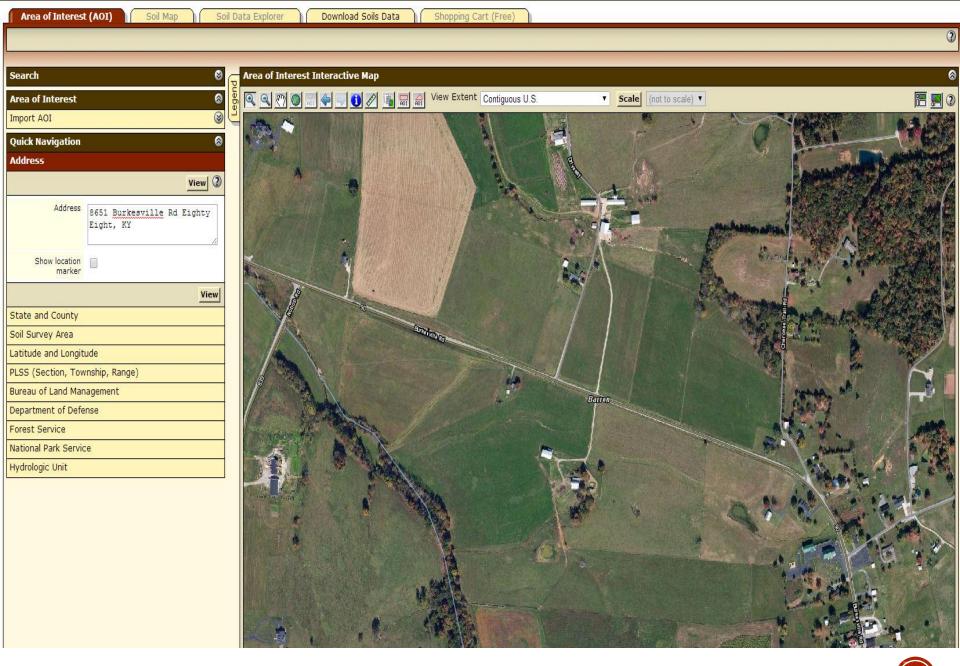
- Start Web Soil Survey (WSS)
- Know the requirements for running Web Soil Survey — will Web Soil Survey work in my web browser?
- Know the Web Soil
 Survey hours of operation
- Find what areas of the U.S. have soil data
- Find information by topic
- Know how to hyperlink from other documents to Web Soil Survey

Announcements/Events

- Web Soil Survey 3.1 has been released! View description of new features and fixes.
- Web Soil Survey Release History
- Sign up for e-mail updates via GovDelivery

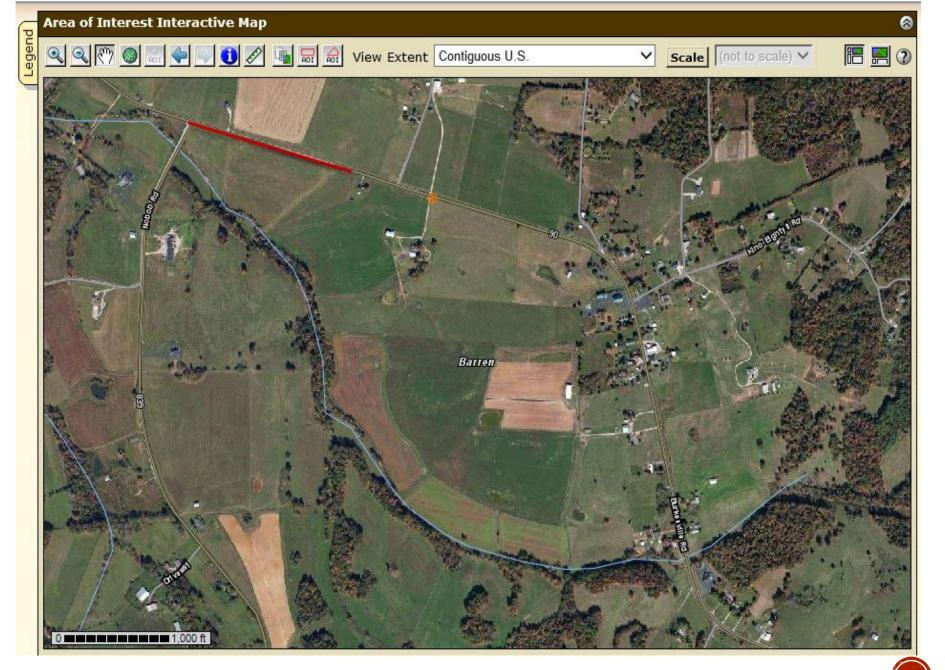


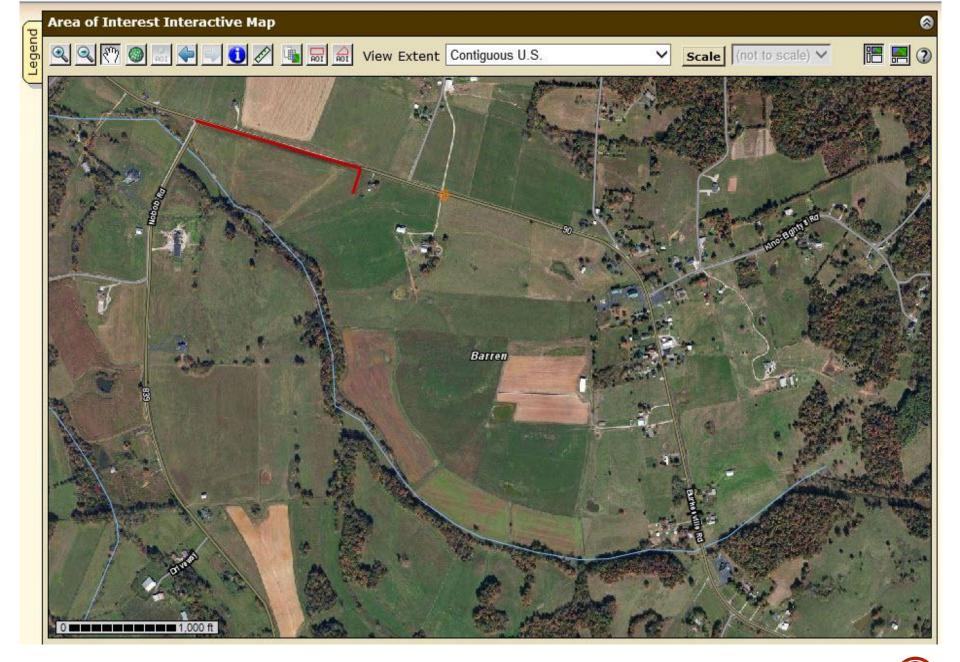


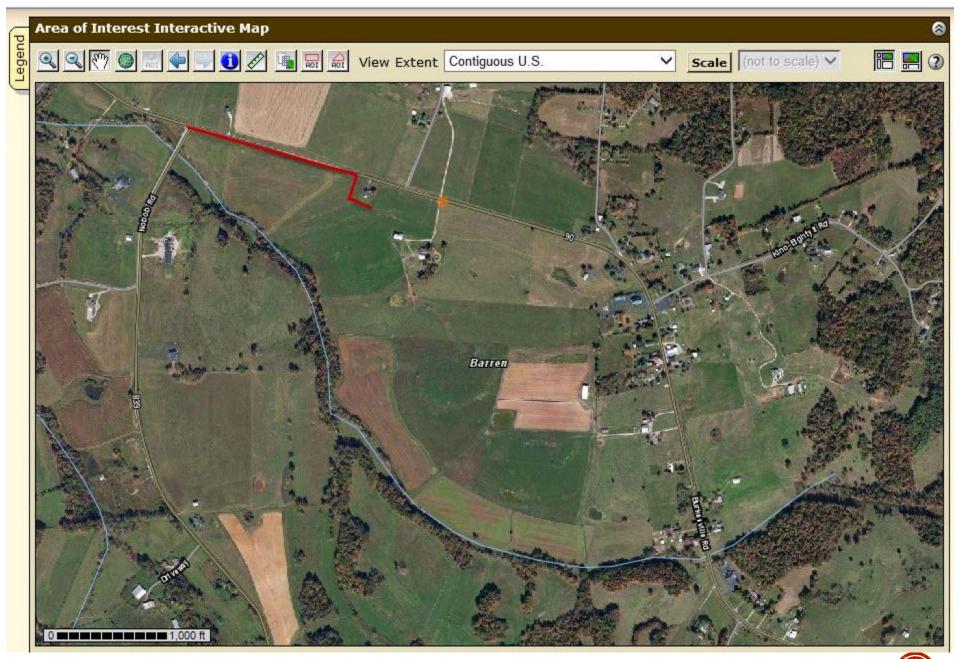


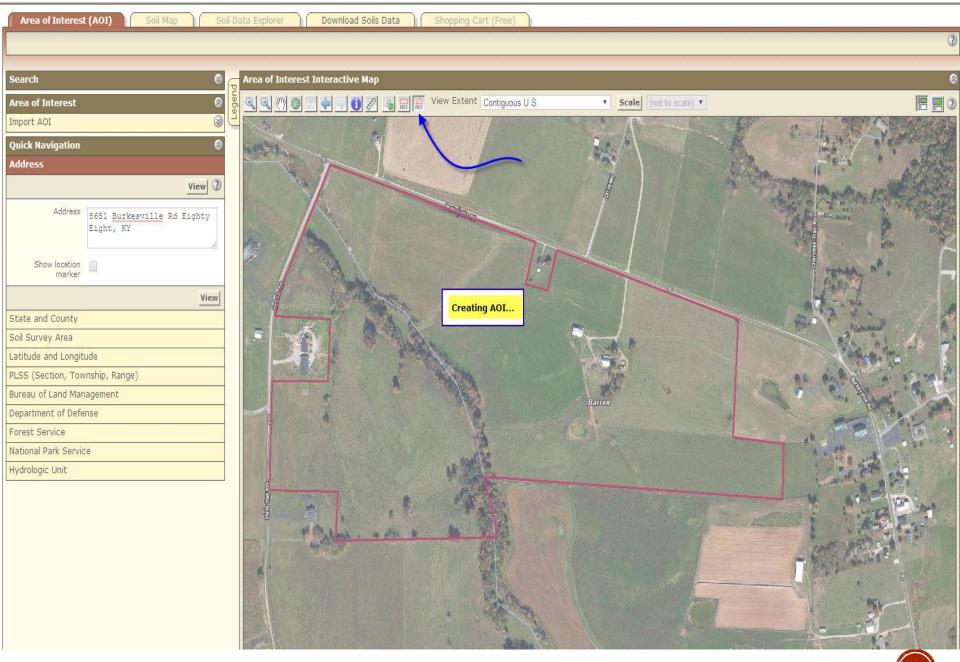
Map your Area of Interest



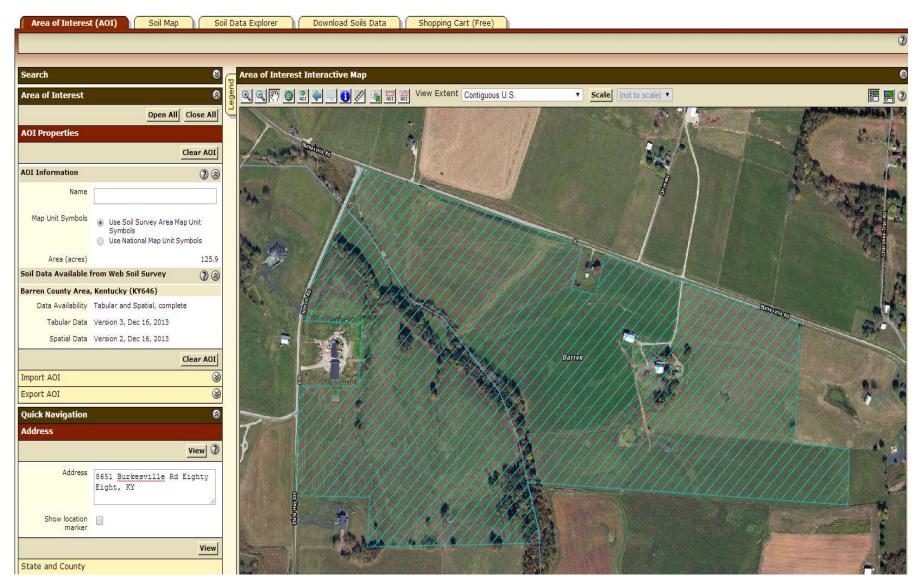


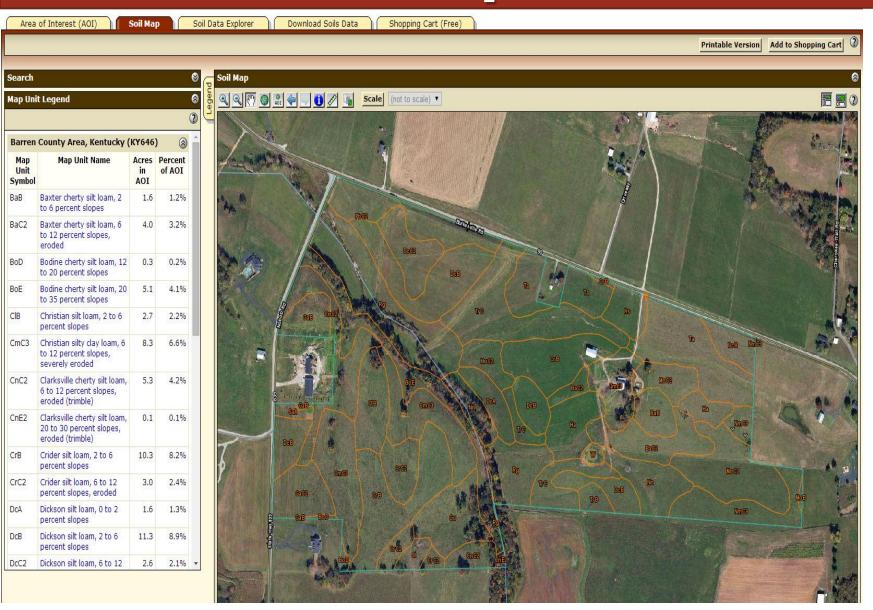


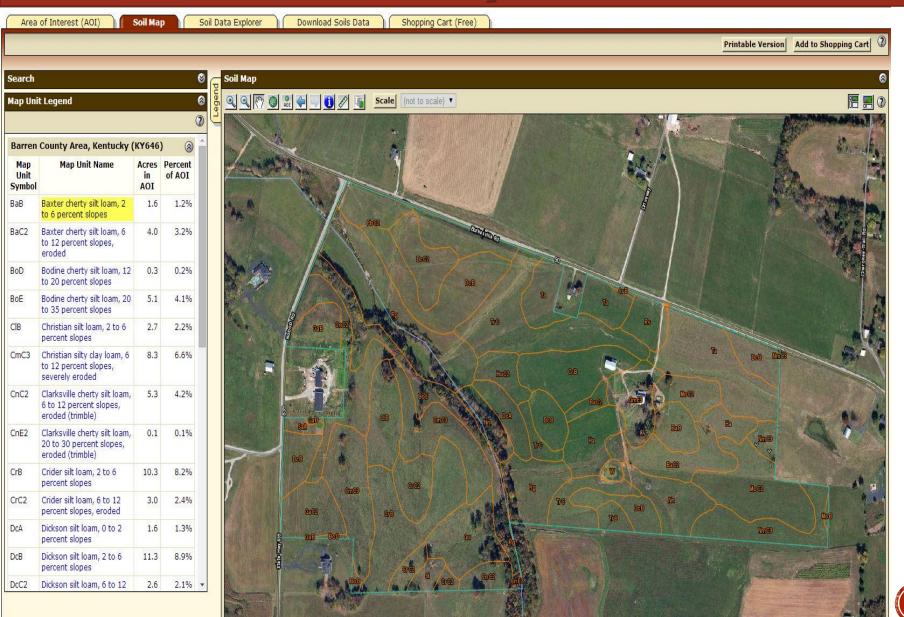


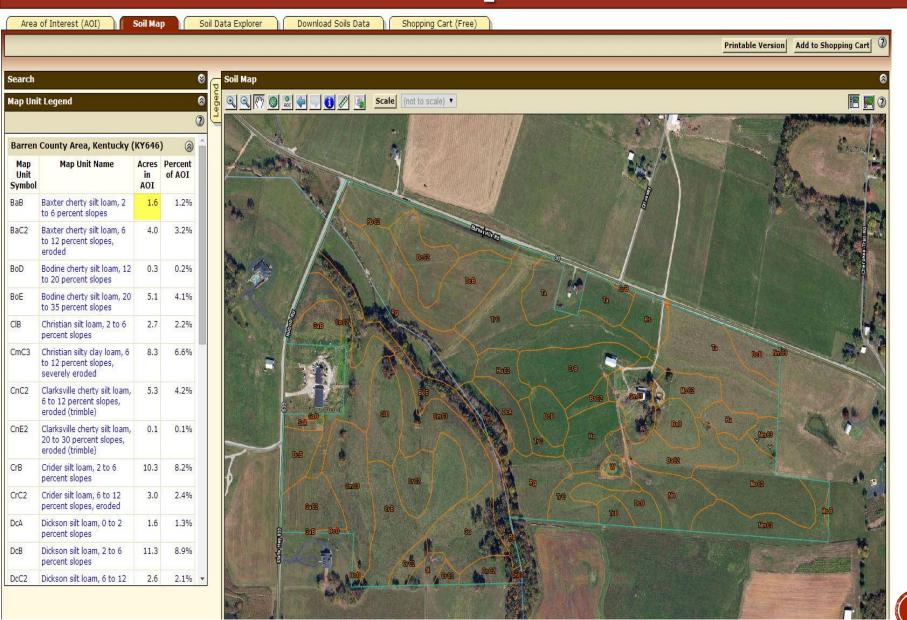


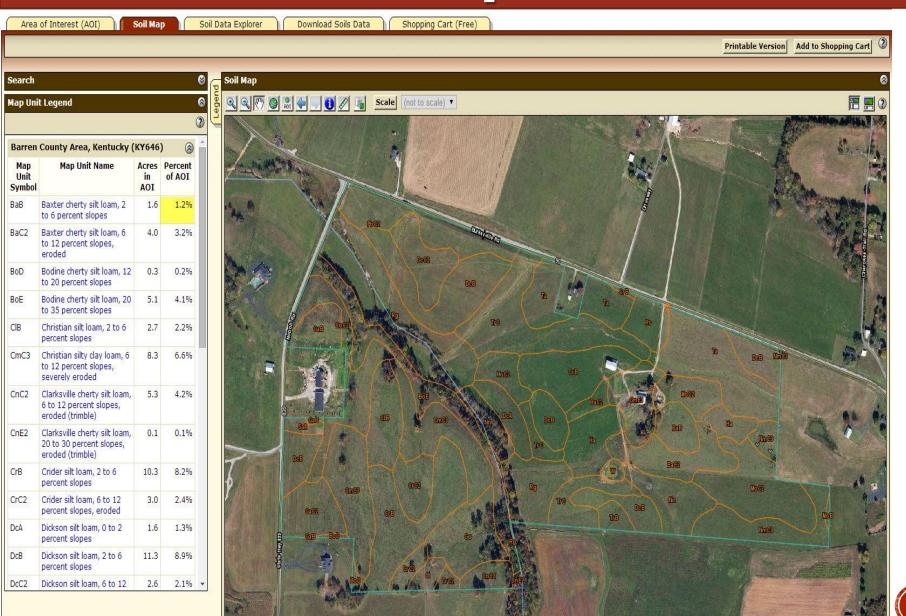
Area of Interest is Defined



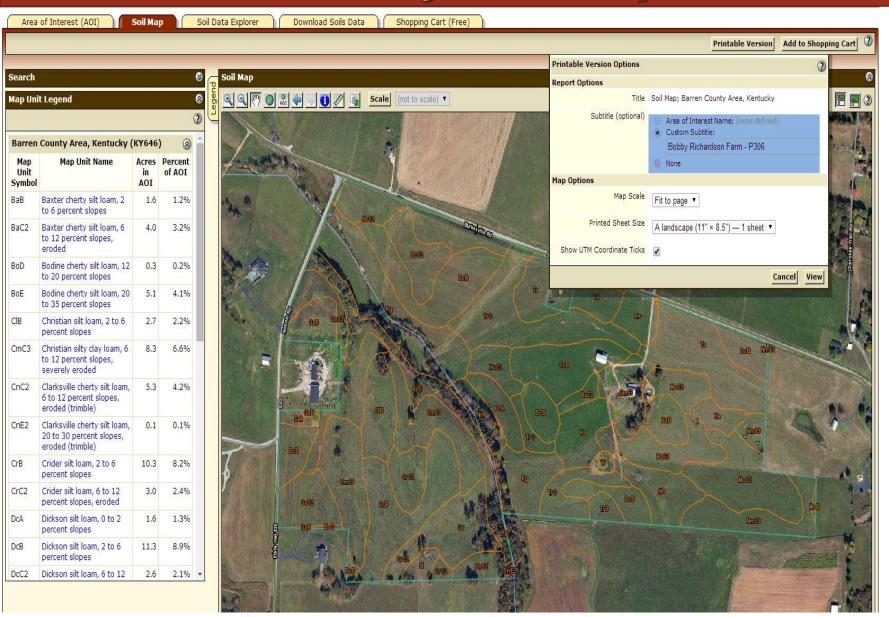


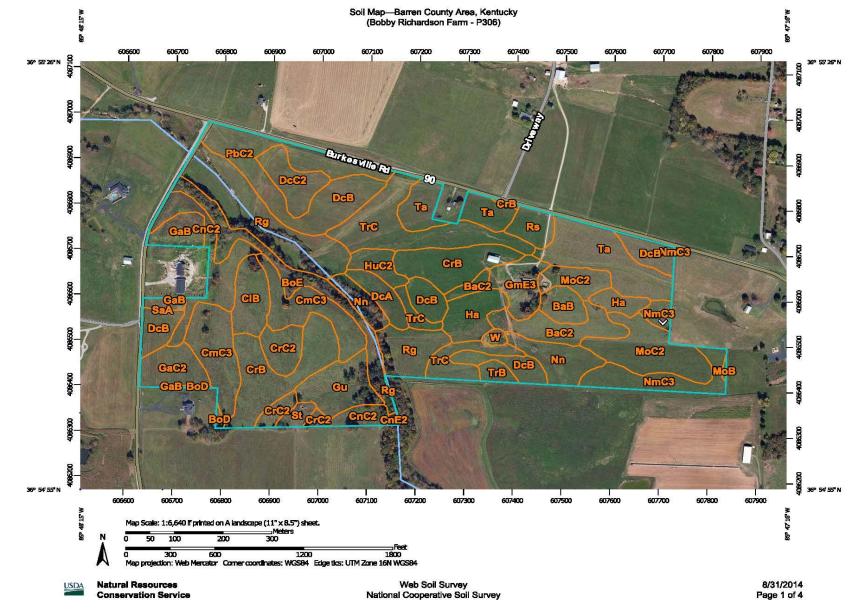




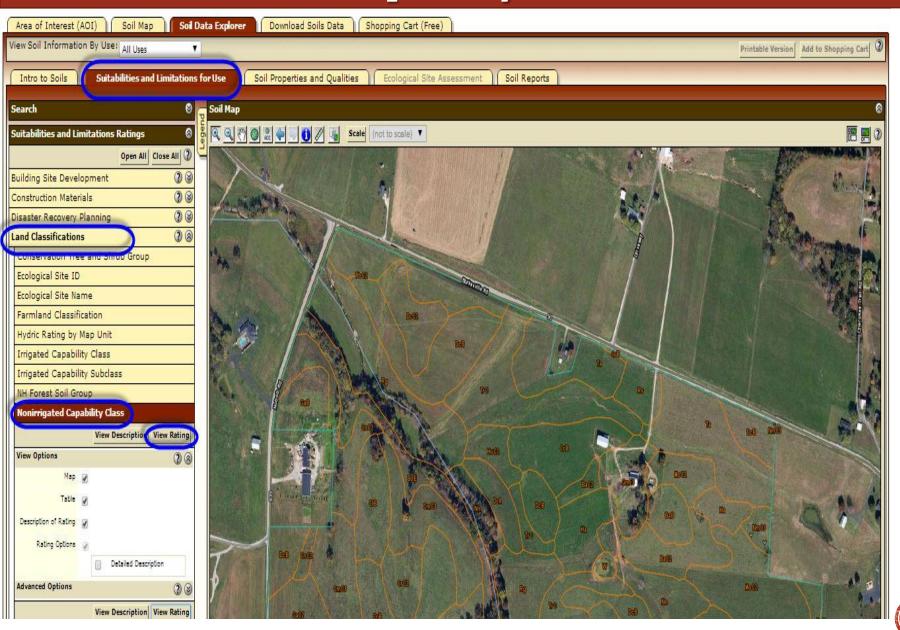


Printing the Soil Map

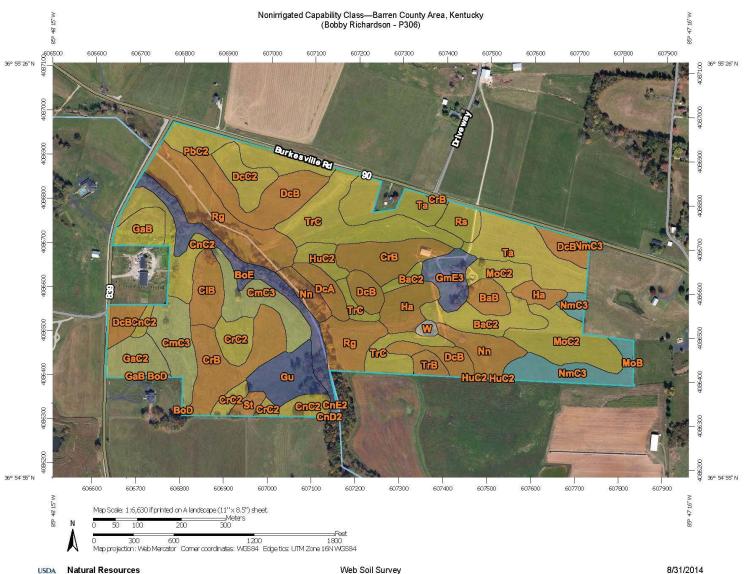




Capability Class



Capability Class



Print Optior

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Nonirrigated Capability Class

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BaB	Baxter cherty silt loam, 2 to 6 percent slopes	2	1.6	1.29
BaC2	Baxter cherty silt loam, 6 to 12 percent slopes, eroded	3	4.0	3.2%
BoD	Bodine cherty silt loam, 12 to 20 percent slopes	6	0.1	0.1%
BoE	Bodine cherty silt loam, 20 to 35 percent slopes	7	5.0	4.0%
CIB	Christian silt loam, 2 to 6 percent slopes	2	2.7	2.2%
CmC3	Christian silty clay loam, 6 to 12 percent slopes, severely eroded	4	8.0	6.4%
CnC2	Clarksville cherty silt loam, 6 to 12 percent slopes, eroded (trimble)	3	5.2	4.19
CnD2	Clarksville cherty silt loam, 12 to 20 percent slopes, eroded (trimble)	4	0.0	0.0%
CnE2	Clarksville cherty silt loam, 20 to 30 percent slopes, eroded (trimble)	6	0.1	0.1%
CrB	Crider silt loam, 2 to 6 percent slopes	2	10.3	8.29
CrC2	Crider silt loam, 6 to 12 percent slopes, eroded	3	3.1	2.5%
DcA	Dickson silt loam, 0 to 2 percent slopes	2	1.6	1.3%
DcB	Dickson silt loam, 2 to 6 percent slopes	2	11.3	9.0%
DcC2	Dickson silt loam, 6 to 12 percent slopes, eroded	3	2.6	2.19
GaB	Garmon silt loam, 2 to 6 percent slopes	3	2.1	1.79
GaC2	Garmon silt loam, 6 to 12 percent slopes, eroded	4	2.7	2.1%

Natural Resources
Conservation Service

Web Soil Survey National Cooperative Soil Survey 8/31/2014 Page 3 of 5

Refer to Handout for larger view

Nonirrigated Capability Class-Barren County Area, Kentucky

Bobby Richardson - P306

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
GmE3	Garmon shaly silt loam, 15 to 25 percent slopes, severely eroded	7	2.6	2.1%
Gu	Gullied land	8	3.7	2.9%
На	Hamblen silt loam	2	3.8	3.0%
HuC2	Humphreys cherty silt loam, 6 to 12 percent slopes, eroded	3	1.5	1.2%
МоВ	Mountview silt loam, 2 to 6 percent slopes	2	0.0	0.0%
MoC2	Mountview silt loam, 6 to 12 percent slopes, eroded	3	7.0	5.6%
NmC3	Needmore silty clay, 6 to 12 percent slopes, severely eroded	6	4.4	3.5%
Nn	Newark silt loam	2	4.4	3.5%
PbC2	Pembroke silt loam, 6 to 12 percent slopes, eroded	3	3.8	3.0%
Rg	Robinsonville gravelly silt loam (sensabaugh)	2	11.1	8.8%
Rs	Roellen silty clay loam	3	1.6	1.3%
St	Staser silt loam	2	0.7	0.6%
Та	Taft silt loam	3	9.5	7.5%
TrB	Tarklin cherty silt loam, 2 to 6 percent slopes	2	0.9	0.7%
TrC	Tarklin cherty silt loam, 6 to 12 percent slopes	3	9.8	7.8%
W	Water		0.4	0.3%
Totals for Area of Inte	rest		125.7	100.0%

USDA Natural Resources
Conservation Service

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Refer to Handout for larger view

Now We're Cookin'!!

Soil Data Collection is Complete

Step 2

Use Soil Data to Construct a Land Class Rating

Converting Soil Classes into Rating Classifications

Converting son Classes into Rating Classifications						
SOIL CLASS (per WSS)	Soil Rating					
Class 1 soils have few limitations that restrict their use.	100					
Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.	85					
Class 3 soils have severe limitations that reduce the choice of						

plants or that require special conservation practices, or both.

of plants or that require very careful management, or both.

pasture, etc.

pasture, etc.

grazing, forestland, etc.

Class 5 soils are subject to little or no erosion but have other

Class 4 soils have very severe limitations that reduce the choice

limitations, impractical to remove, that restrict their use mainly to

Class 6 soils have severe limitations that make them generally

unsuitable for cultivation and that restrict their use mainly to

unsuitable for cultivation and that restrict their use mainly to

Class 8 soils and miscellaneous areas have limitations that

preclude commercial plant production and restrict their use to

recreational purposes, wildlife habitat, or esthetic purposes.

Class 7 soils have very severe limitations that make them

70

55

40

25

10

5

Other Considerations

- □USE is not appropriate for interim ag uses

 Development potential will skew results
- ☐PONDS/WATER not included

 Their value assigned elsewhere

Calculating the Land Class Rating

(Subject Property)

Soil Class	Acres	Soil Rating	Composite (PU)
2	48.5	85	4122.5
3	50.2	70	3514
4	10.7	55	588.5
6	4.6	25	115
7	7.6	10	76
8	3.7	5	18.5
Totals	125.3		8434.5

Composite	÷	Total Acres	=	Land Class Rating	
8434.5] [125.3		67.3	

Calculating the Land Class Rating

(Comparable Sale)

Soil Class	Acres	Soil Rating	Composite (PU)
2	53.5	85	4547.5
3	65	70	4550
4	6.5	55	357.5
6	2.3	25	57.5
7	1.7	10	17
8	0	5	0.0
Totals	129		9529.5

Composite	÷	Total Acres	=	Land Class Rating	
9529.5		129		73.9	

Writing up a Comparable Sale

KYTC Form 62-20C is *DESIGNED* to accommodate LCR

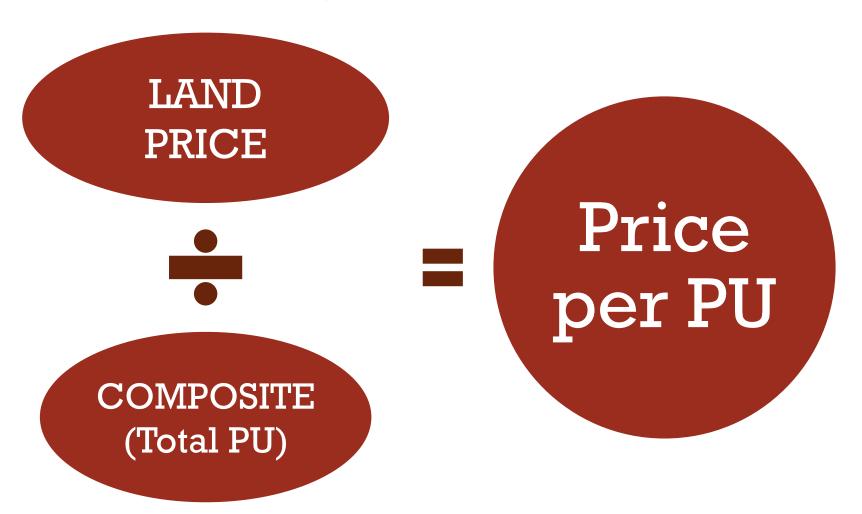


(Excerpt from Handout Supplement)

Allocation And Contributing Values (Date Of Sale)								
Land Topography (L) Level (SR) Slightly Rolling (R) Rolling (H) HIlly (W) Waste Land Quality (E) Excellent (VG) Very Good (G) Good (F) Fair (P) Poor								
Land Classific	Land Classification Topo/Quality Rating Factor Area UOM Composite Unit Value							
Cropland-Class 2		SR/G	85	53.5000	AC	4547.5	\$2,846.00	\$152,250.00
Cropland-Class 3		SR/F	70	65.0000	AC	4550	\$2,343.00	\$152,289.00
Pasture-Class 4		R/G	55	6.5000	AC	357.5	\$1,841.00	\$11,966.00
Pasture-Class 6		SR/F	25	2.3000	AC	57.5	\$837.00	\$1,925.00
Woodlands-Class 7		R/F	10	1.7000	AC	17	\$335.00	\$570.00
Comparable Sa	Composit Area T		73.87	7				

Price Per Productive Unit

A Meaningful Unit of Comparison



Price/Acre vs. Price/Productive Unit

A Sample of Actual Sales

SALE PRICE	ACRES	PER ACRE PRICE	COMPOSITE (TOTAL PU)	\$\$/PU
\$29,000	30.00	\$967	900	\$32.22
\$47,520	31.68	\$1,500	1,462	\$32.49
\$36,800	36.80	\$1,000	1,104	\$33.33
\$94,926	55.28	\$1,808	2,990	\$33.42
\$44,304	27.69	\$1,600	1,323	\$33.49
\$25,500	14.96	\$1,705	665	\$38.33
Variances		187%	003	119%

Which appears more meaningful???

Calculating Price/Productive Unit

(Using the Comparable Sale)

Land Value \$319,000 Composite (PU) **\$** 9530

\$33.47 per PU

Step 3

Adjust Comparable Land Values Using Land Class Rating

When selecting comparable sales, look for those most similar in acreage/size and Land Class Rating to the Subject

Adjusting for Land Class Rating

Subject's LCR is (67.3)

Sale's LCR is (73.9)

Which property is superior?



Adjusting for Land Class Rating

Subject's LCR is (67.3)

Sale's LCR is (73.9)

Subject LCR
$$67.3 \div \text{Sale LCR } 73.9 = .91$$

 $.91 - 1.0 = -.09$

Sale's OVERALL Land Value is \$2,458/acre

Comparable Sale's land value of \$2,458/acre X Adjustment factor of -.09 = -\$221/acre

HELPFUL LINKS & RESOURCES

Web Soil Survey

U.S. Department of Agriculture
Natural Resource Conservation Service
http://websoilsurvey.nrcs.usda.gov/app/

How to Use Web Soil Survey 3.0

http://websoilsurvey.nrcs.usda.gov/app/Help/WSS HomePage HowTo 3 0.pdf

For a complete PDF of this presentation, please email a

request to: laparkinson@duncanappraisal.biz

QUESTIONS & COMMENTS