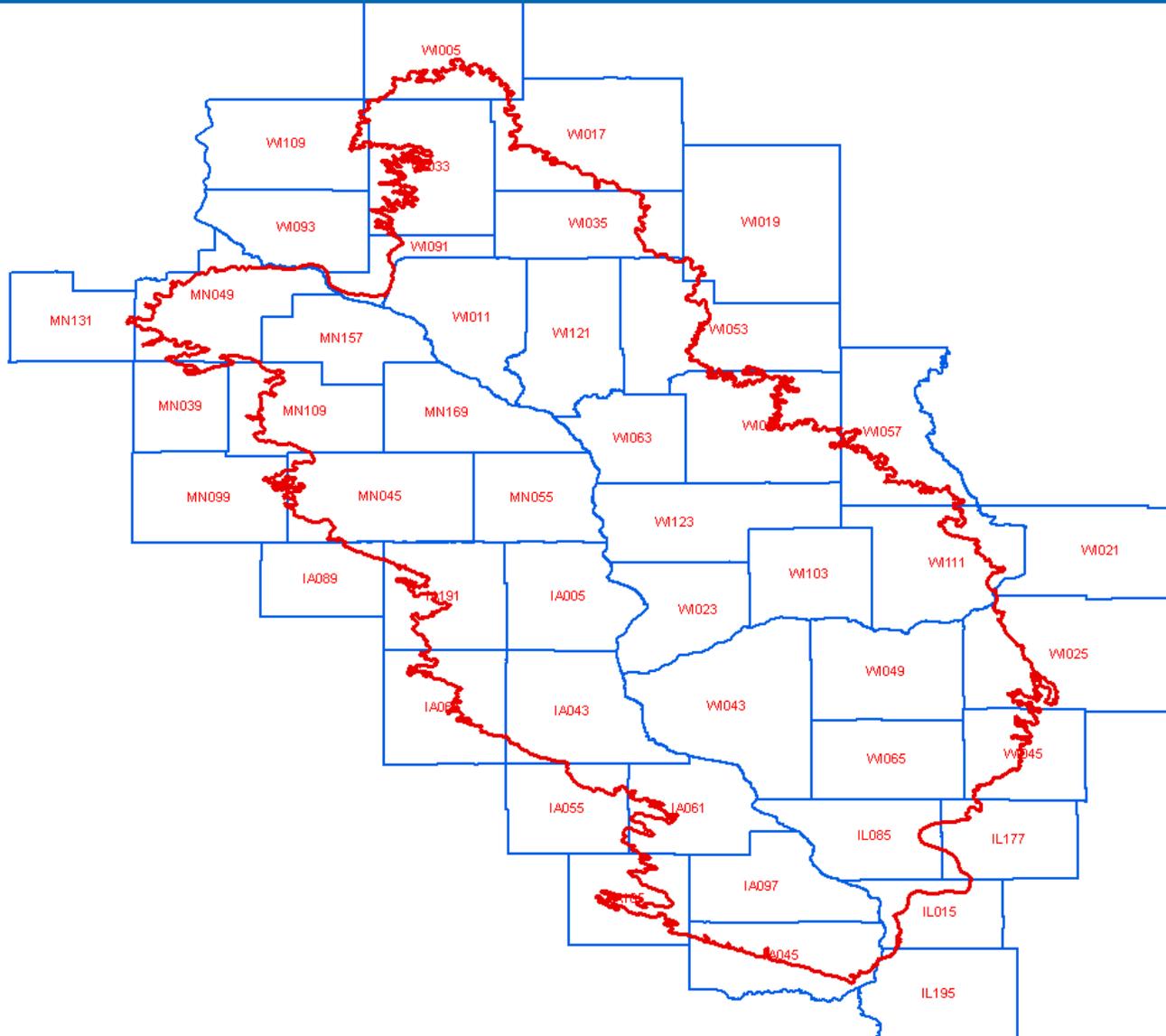


Module 5-Assess quality and consistencies of existing data

In reference to the Evaluation
process



Assessing quality – MLRA 105



Assessing Quality

- Evaluations are completed on map units within each of the soil surveys
- Each soil survey within the MLRA will be evaluated
- Map unit evaluations will be documented in the Map Unit Text table in the “Non-MLRA Soil Survey Area”.
- Map unit evaluations will be compiled by map unit name or landform for work plan development

Data to be Assessed

- Manuscripts
- OSD
- NASIS
- PEDON
- NSSL database
- Spatial Database
- STATSGO

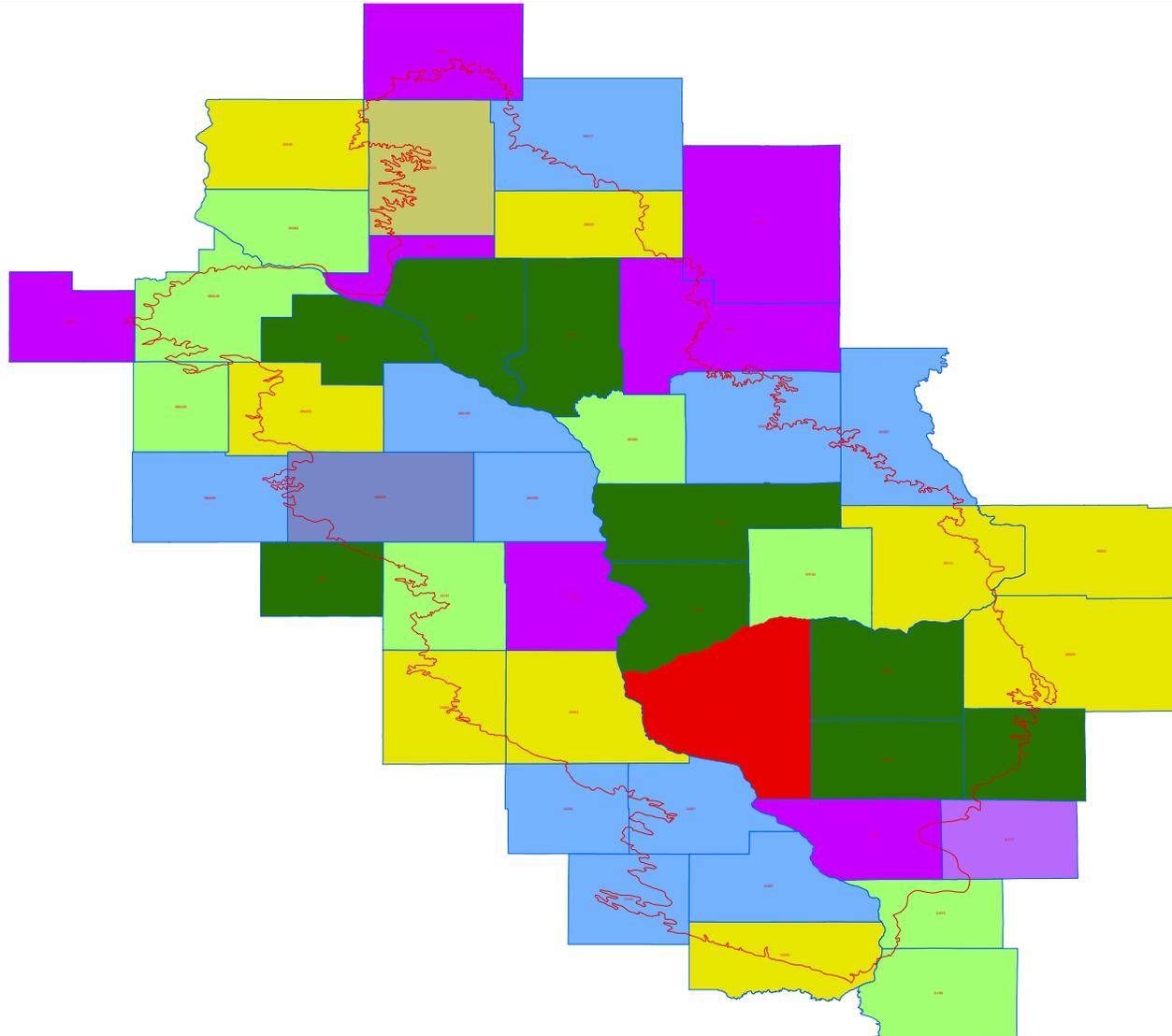
Correlation dates

Legend

MLRA105_Surveys

legend.cordate

- 1/1/1960
- 1/1/1965
- 1/1/1969
- 1/1/1977
- 1/1/1984
- 1/1/1988
- 1/1/1990
- 1/1/1992
- 10/10/1977
- 2/2/1964
- 2/2/1969
- 2/2/2003
- 3/3/1974
- 3/3/1981
- 3/3/2005
- 3/3/2007
- 4/4/1959
- 4/4/1960
- 4/4/1975
- 4/4/1987
- 5/5/1955
- 5/5/1962
- 5/5/1979
- 5/5/1983
- 5/5/1986
- 5/5/2006
- 6/6/1978
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- 6/6/1993
- 6/6/1996
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- 6/6/2003
- 7/7/1969
- 7/7/1975
- 7/7/1981
- 7/7/1987
- 7/7/1994
- 7/7/1998
- 7/7/2005
- 8/8/1972
- 8/8/2005
- 9/9/1972
- 9/9/2001
- 9/9/2006



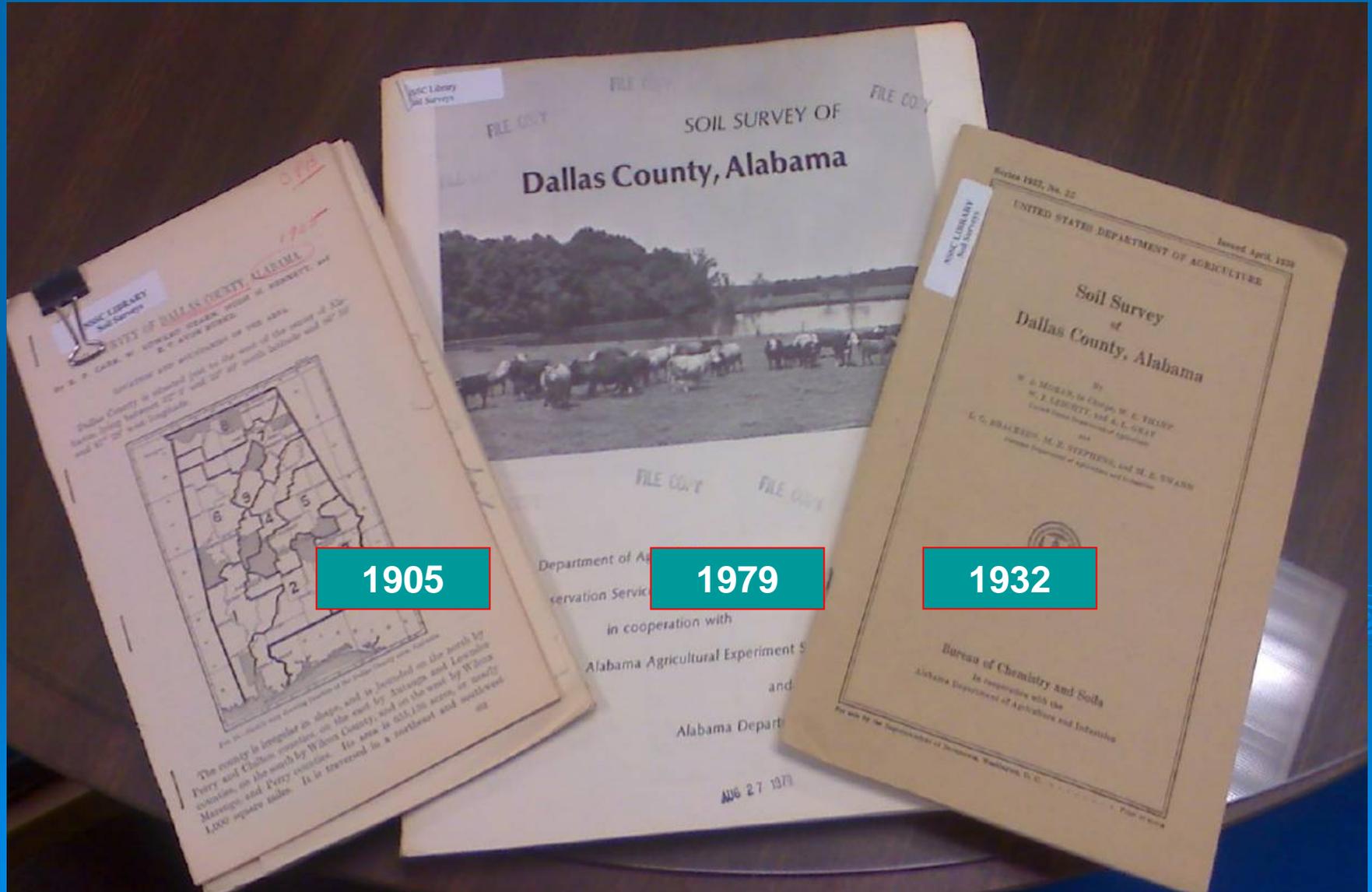
Process Steps

- The soil survey manuscripts are the first line of review.
- Compare the Map Unit Descriptions (MUD) to understand the map unit design for that county
- Compare the Taxonomic Unit Descriptions (TUD) to identify the component concept for that county
- Compare the manuscripts property and interpretation tables

Process Steps

- Compare the map unit concepts for the given map unit name as it crosses the MLRA survey area
- Compare TUDs and OSDs
- After review of the manuscripts, then NASIS can be reviewed in context of the original map unit design.
- Compare the manuscript properties and interpretations tables to NASIS data

Manuscript Review



Manuscript Data Review

Typical profile (cultivated Hord very fine sandy loam, 0 to 1 percent slopes, 0.42 mile east and 100 feet north of SW corner, sec. 32, T. 16 N., R. 6 W.):

- A_{1D}** 0 to 7 inches, gray (10YR 5/1, dry) and very dark gray (10YR 3/1.5, moist) very fine sandy loam; weak, medium and fine, angular blocky structure to a weak, very fine, crumb structure; soft when dry and very friable when moist; abrupt, smooth lower boundary.
- A₁₂** 7 to 14 inches, dark-gray (10YR 4/1, dry) and very dark brown (10YR 2/1.5, moist) very fine sandy loam; weak, medium and fine, angular blocky structure to a weak, very fine, crumb structure; soft when dry and very friable when moist; abrupt, smooth lower boundary.
- B₂₁** 14 to 28 inches, grayish-brown (10YR 5/2, dry) and gray (10YR 5/1, dry) very fine sandy loam; weak, medium and fine, subangular blocky structure to a weak, very fine, crumb structure; soft when dry and very friable when moist; gradual, wavy lower boundary.
- B₂₂** 28 to 38 inches, grayish-brown (10YR 5/2, dry) and gray (10YR 5/1, dry) very fine sandy loam; weak, medium and fine, subangular blocky structure to a weak, very fine, crumb structure; soft when dry and very friable when moist; gradual, wavy lower boundary.
- B_{23ca}** 38 to 50 inches, gray (10YR 5/1, dry) and grayish-brown (10YR 5/2, dry) very fine sandy loam; weak, medium and fine, subangular blocky structure to a weak, very fine, crumb structure; soft when dry and very friable when moist; gradual, wavy lower boundary.
- C₁** 50 to 60 inches, brownish-gray (10YR 5/2, dry) and brown (10YR 4/2, dry) very fine sandy loam; weak, medium and fine, subangular blocky structure to a weak, very fine, crumb structure; soft when dry and very friable when moist; gradual, wavy lower boundary.
- C₂** 60 to 70 inches, light-gray (10YR 7/2, dry) and light brownish-gray (10YR 6/2, moist) very fine sandy loam; weak, crumb to massive structure; soft when dry and very friable when moist; violent effervescence but no calcium carbonate concretions.

The entire profile is very friable and open. It has very

Crop production is affected by the extent of the alkali areas. About 65 percent or more of this complex is non-alkali and produces very good crops. Some production is obtained from the alkali areas during the more favorable growing seasons.

The Hall-Exline complex is suitable for all the crops produced in the county. As a whole, this complex is fairly productive. It is suitable for irrigation. It is in capability class IIIs-1 and in the saline lowland range site.

Hord Series

The Hord series consists of deep medium-textured soils on terraces that are mostly south of the Loup River. They are easily worked and are on nearly level areas and gentle slopes that reach a maximum of 6 percent.

The Hord soils differ from the Hall soils principally in having a weakly developed medium-textured subsoil. In contrast, the Hall soils have a well-developed, silty clay loam subsoil. The Hord soils have developed from old stratified sandy and silty alluvium, and the Hall soils, from silty parent material.

Typical profile (cultivated Hord very fine sandy loam, 0 to 1 percent slopes, 0.42 mile east and 100 feet north of SW corner, sec. 32, T. 16 N., R. 6 W.):

The entire profile is very friable and open. It has very small openings or channels that become fewer with depth.

The Hord soils are suitable for all local crops. They are among the most productive soils because of their deep silty profile. The level of fertility is high, but tests have shown a need for lime and for phosphate fertilizer in some areas. These soils are well suited to irrigation.

Hord fine sandy loam, 0 to 1 percent slopes (Hr), has a profile similar to the one described. The surface soil, however, is a fine sandy loam. This soil is in capability unit IIe-3 and in the sandy range site.

Hord fine sandy loam, 1 to 3 percent slopes (HrA), has a profile similar to the one described. The surface soil is slightly thinner and has a fine sandy loam texture. Slopes average about 2 percent. This soil is in capability unit IIe-3 and in the sandy range site.

Hord fine sandy loam, 3 to 7 percent slopes (HrB), has a profile similar to the one described. This soil, however, is on steeper slopes and has a fine sandy loam surface soil 10 to 12 inches thick. It is in capability unit IIe-3 and in the sandy range site.

Hord very fine sandy loam, 0 to 1 percent slopes (Hy), has the profile described for the Hord series. It is in capability class I-1 and in the silty range site.

Hord very fine sandy loam, 1 to 3 percent slopes (HyA), has a profile similar to the one described. The sur-

NASIS Data Review

NASIS (2940) - NSSC Data

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SAVE CUT COPY PASTE TABLE TABLE SORT

CLEAR CANCEL 349814

ES	Rec ID	DMU Ce Status	DMU Description
P	76826	0	125HrB

ES	Rec ID	Component Name	Majr Compon
-	160599	HORD	

ES	Rec ID	Designation	Top De RV	Bottom RV	Low Tc
-	349814	H1	0	28	8.0
-	349815	H2	28	152	18.0

ons, from silty parent material.
 Typical profile (cultivated Hord very fine sandy loam, 0 to 1 percent slopes, 0.42 mile east and 100 feet north of SW corner, sec. 32, T. 16 N., R. 6 W.):

- A_{1p} 0 to 7 inches, gray (10YR 5/1, dry) and very dark gray (10YR 3/1.5, moist) very fine sandy loam; weak, medium and fine, angular blocky structure to a weak, very fine, crumb structure; soft when dry and very friable when moist; abrupt, smooth lower boundary.
- A₁₂ 7 to 14 inches, dark-gray (10YR 4/1, dry) and very dark brown (10YR 2/1.5, moist) very fine sandy loam; weak, medium, angular blocky structure breaking to a fine and very fine, crumb structure; slightly hard when dry and very friable when moist; worm casts and small open channels are numerous; clear, wavy lower boundary.
- B₂₁ 14 to 28 inches, gray (10YR 5/1, dry) and very dark grayish-brown (10YR 3/1.5, moist) very fine sandy loam or silt loam; weak, coarse and medium, subangular blocky to weak, crumb structure; slightly hard when dry and very friable when moist; worm casts and fine openings throughout; gradual, wavy lower boundary.
- B₂₂ 28 to 38 inches, brown (10YR 5/2.5, dry) and dark grayish-brown (10YR 4/2, moist) very fine sandy loam; weak, coarse, angular blocky to a weak, fine and very fine, crumb structure; slightly hard when dry and very friable when moist; many worm casts and many minute channels or openings are visible; clear, wavy lower boundary.
- B_{23ca} 38 to 50 inches, light brownish-gray (10YR 6/2.5, dry) and grayish-brown (10YR 5/2, moist) loam; weak, medium and fine, subangular blocky to a weak, fine and very fine, crumb structure; slightly hard when dry and friable when moist; violent effe-

- vescence; many small and medium-sized soft calcium carbonate concretions; clear, wavy lower boundary.
- C₁ 50 to 60 inches, light-gray (10YR 7/2.5, dry) and light brownish-gray (10YR 6/2, moist) very fine sandy loam; weak, fine and very fine, crumb to massive structure; soft when dry and very friable when moist; violent effervescence; few soft calcium carbonate concretions; gradual, wavy lower boundary.
- C₂ 60 to 70 inches, light-gray (10YR 7/2, dry) and light brownish-gray (10YR 6/2, moist) very fine sandy loam; weak, crumb to massive structure; soft when dry and very friable when moist; violent effervescence but no calcium carbonate concretions.

Manuscript Data Review

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PoC2—Providence silt loam, 5 to 8 percent slopes, eroded. This is a sloping, moderately well drained soil that has a fragipan. This soil formed in a mantle of silty material overlying loamy material on ridgetops and side slopes in uplands.

Typically, the surface layer is dark brown silt loam about 4 inches thick. The subsoil extends to a depth of about 65 inches. To a depth of about 14 inches, it is dark brown silty clay loam; to 26 inches, it is strong brown silt loam. Below that layer the subsoil is a fragipan. To a depth of 40 inches, it is dark brown loam mottled in shades of gray and brown; below layer, it is strong brown loam mottled in shades of gray and brown.

of this soil as septic tank absorption fields. These limitations can be partly overcome by increasing the size of the absorption field.

This Providence soil is in capability subclass IIe and in woodland suitability group 3o7.

PoC2—Providence silt loam, 5 to 8 percent slopes, eroded. This is a sloping, moderately well drained soil that has a fragipan. This soil formed in a mantle of silty material overlying loamy material on ridgetops and side slopes in uplands.

Typically, the surface layer is dark brown silt loam about 4 inches thick. The subsoil extends to a depth of about 65 inches. To a depth of about 14 inches, it is dark brown silty clay loam; to 26 inches, it is strong brown silt loam. Below that layer the subsoil is a fragipan. To a depth of 40 inches, it is dark brown silt loam mottled in shades of gray and brown; below that layer, it is strong brown loam mottled in shades of gray and brown.

In most areas of this eroded soil, part of the original surface layer has been removed by erosion, and tillage has mixed the remaining topsoil and subsoil. In some small areas, all of the plow layer is the original topsoil, and in other areas, the plow layer is mainly subsoil. Some areas of this soil have a few rills and shallow gullies.

This soil ranges from very strongly acid to medium acid throughout except where the surface has been limed. Permeability is moderate in the upper part of the subsoil and moderately slow through the fragipan. Available water capacity is moderate. Runoff is medium, and erosion is a moderate hazard. The high water table

control erosion. Livestock overgrazing or grazing when the soil is too wet will cause surface compaction, excessive runoff, and poor tilth. In a few places, smoothing and shaping of gullies are needed. Proper stocking, pasture rotation, deferred grazing, and weed and brush control help to keep the pasture and soil in good condition.

This soil is moderately suited to loblolly pine, shortleaf pine, Shumard oak, yellow-poplar, and sweetgum. Limitations are slight.

This soil has moderate limitations for most urban uses. The low strength of this soil for streets and roads is a severe limitation. Limitations for urban uses include seasonal wetness and the shrink-swell properties of the subsoil. Proper design and careful installation will help overcome these limitations. The moderately slow permeability in the fragipan and wetness are severe limitations for use of this soil as septic tank absorption fields. These limitations can be partly overcome by increasing the size of the absorption field.

This Providence soil is in capability subclass IIe and woodland suitability group 3o7.

PoC3—Providence silt loam, 5 to 8 percent slopes, severely eroded. This is a sloping, moderately well drained soil that has a fragipan. This soil formed in a mantle of silty material overlying loamy material on ridgetops and side slopes on uplands.

Typically, the surface layer is dark brown silt loam about 3 inches thick. The subsoil extends to a depth of about 66 inches. To a depth of about 16 inches, it is dark brown silty clay loam; to 21 inches, it is yellowish brown silt loam. Below that layer is a fragipan. To about

can break up the plowpan.

Included in mapping are small areas of Loring and Tippah soils in positions similar to those of this Providence soil. Also included are a few small areas of soils that are severely eroded and a few small areas of soils that have slopes ranging from 2 to 5 percent.

Most areas of this soil are used for pasture or crops, a small acreage is in woodland. This soil is moderately suited to row crops, truck crops, and small grains. The erosion hazard and runoff are increased if row crops are grown. Conservation tillage, contour farming, terraces, grassed waterways, and cropping systems that include grasses and legumes help slow runoff and control erosion. Returning crop residue to the soil helps maintain fertility and tilth and reduces crusting and packing.

This soil is moderately suited to grasses and legumes for pasture or hay. The plant cover helps slow runoff and control erosion. Livestock overgrazing or grazing when the soil is too wet will cause surface compaction, excessive runoff, and poor tilth. In a few places, smoothing and shaping of gullies are needed. Proper stocking, pasture rotation, deferred grazing, and weed and brush control help to keep the pasture and soil in good condition.

NASIS Data Review

Data Mapunit					
ES	Rec ID	DMU Ce Status	DMU Description	Prod Index	HEL (obsolete)
P	383937	3	089PoC2		

Component					
ES	Rec ID	Component Name	Major Component	Comp % RV	Ki series
-	829257	PROVIDENCE	yes	100	series

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This soil is moderately suited to grasses and legumes for pasture or hay. The plant cover helps slow runoff and control erosion. Livestock overgrazing or grazing when the soil is too wet will cause surface compaction, excessive runoff, and poor tilth. In a few places, smoothing and shaping of gullies are needed. Proper stocking, pasture rotation, deferred grazing, and weed and brush control help to keep the pasture and soil in good condition.

➤ Missing information?

NASIS Data

➤ Compare data

acid clay at a depth of 24 to 36 inches.

Typical pedon of Providence silt loam, 2 to 5 percent slopes, eroded; 0.75 mile north of Camden on State Highway 17 and 300 feet east of the highway; NE1/4NW1/4 sec. 24, T. 11 N., R. 4 E.

ES		Rec ID	DMU Ce Status	DMU Description	Prod Index	HEL (obsolete)
P		383937	3	089PoC2		

ES		Rec ID	Component Name	Major Component	Comp % RV	Kind
-		829257	PROVIDENCE	yes	100	series

ES		Rec ID	Designation	Top De	Bottom	Total Clay			OM	
				RV	RV	Low	RV	High	Low	RV
-		1817937	H1	0	15	5.0	8.5	12.0	0.50	1.7!
-		1817938	H2	15	56	18.0	24.0	30.0		
-		1817939	H3	56	91	20.0	25.0	30.0		
-		1817940	H4	91	132	12.0	21.0	30.0		
-		1817941	H5	132	178	10.0	18.5	27.0		

Madison County, Mississippi

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are on lower lying stream terraces and uplands, have grayish mottles within 16 inches of the surface. Byram soils, which are on adjacent ridgetops and side slopes, are underlain with alkaline clayey material at depths of 4

slopes, do are on and are in positions lerlain with

to 5 percent on State ay;

silt loam; few 10YR 4/4) ky structure; abrupt smooth

3) silt loam; friable; few

fine roots; strongly acid; clear smooth boundary.

B21t—9 to 14 inches; dark brown (7.5YR 4/4) silt loam; moderate medium and fine subangular blocky structure; friable; many fine roots; patchy clay films on faces of peds; medium acid; clear smooth boundary.

B22t—14 to 22 inches; strong brown (7.5YR 5/6) silt loam; moderate fine and medium subangular blocky structure; friable; few patchy clay films; few fine black concretions; medium acid; clear irregular boundary.

Bx1—22 to 28 inches; yellowish brown (10YR 5/6) silt loam; common medium distinct gray (10YR 6/1) mottles; weak coarse prismatic structure parting to moderate fine and medium subangular blocky; firm, compact and brittle; voids; pale brown silt coatings in cracks between prisms; patchy clay films; few black concretions; strongly acid; clear wavy boundary.

Bx2—28 to 36 inches; mottled strong brown (7.5YR 5/6), light brownish gray (10YR 6/2), and dark yellowish brown (10YR 4/4) silt loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm, compact and brittle; fine pores; few fine black concretions; strongly acid; gradual wavy boundary.

IIBx3—36 to 52 inches; strong brown (7.5YR 5/6) loam; common medium distinct gray (10YR 6/1) mottles; weak coarse prismatic structure parting to weak medium subangular blocky; firm, compact and brittle; sand grains bridged with clay; strongly acid; clear smooth boundary.

IIB23t—52 to 70 inches; yellowish red (5YR 5/6) sandy clay loam; common medium distinct gray (10YR 6/1) and yellowish brown (10YR 5/6) mottles; weak coarse subangular blocky structure; firm; patchy clay films; very strongly acid.

Depth to the fragipan ranges from 18 to 38 inches. The reaction of the soil ranges from very strongly acid to medium acid throughout except where the surface has been limed.

The Ap horizon is grayish brown, dark brown, yellowish brown, or light yellowish brown.

The B1 and B2t horizons are strong brown, yellowish brown, dark brown, or yellowish red. Texture is silt loam or silty clay loam. The Bt horizon usually contains 20 to 30 percent clay and 5 to 15 percent sand.

The Bx and IIBx horizons have yellowish red to yellowish brown matrix colors that are mottled in shades of gray, brown, and red, or they are mottled yellow, brown, gray, and red. The upper part of the fragipan is silty clay loam or silt loam. The lower part is clay loam, sandy clay loam, or sandy loam. It ranges from firm to very firm. The IIBt horizon ranges from red to gray. Texture is sandy loam, loam, sandy clay loam, or clay loam.

Riedtown series

The Riedtown series consists of moderately well drained soils that formed in silty alluvium on flood plains. Slopes range from 0 to 2 percent. The soils of the Riedtown series are coarse-silty, mixed, thermic Fluvaquentic Eutrochrepts.

Riedtown soils are associated with Adler, McRaven, Morganfield, and Oaklimeter soils; all are on flood plains. Adler soils, which are in positions similar to Riedtown soils, have thin horizontal strata. McRaven soils, which are in slightly lower areas, have grayer subsoil.

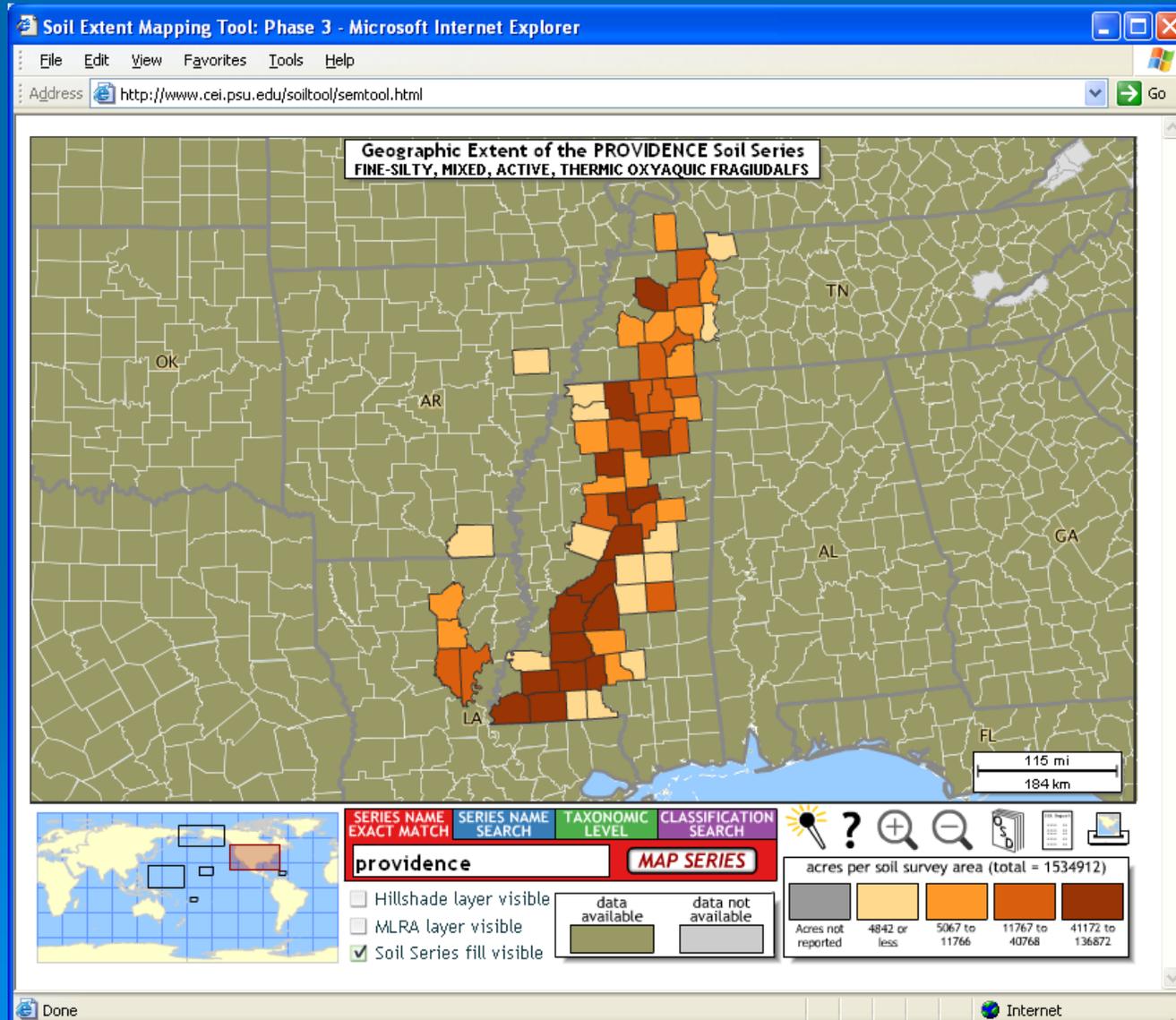
Morganfield soils, which are in higher positions, have thin horizontal strata and have a browner upper control section. Oaklimeter soils, which are in positions similar to those of Riedtown soils, are more acid below the surface layer.

Typical pedon of Riedtown silt loam; 2 miles west of Canton along State Highway 22, about 1 mile northwest along Virililia Road, 0.25 mile north along Old Yazoo City Road, northeast along drainage ditch 0.25 mile, and southeast 200 feet; NW1/4NW1/4 sec. 22, T. 9 N., R. 2 E.

Ap—0 to 6 inches; dark brown (10YR 4/3) silt loam; weak fine granular structure; friable; many fine roots; slightly acid; abrupt smooth boundary.

Series Distribution

Series distribution tool is available for analyzing where the series is mapped



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Links ABC Directions Gateway JOBS KSAL Lincoln MSN NAL NASIS NRCS Policy Radar SalJourn SDM SDMD Soils

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[Check All](#)

	pedon_number	user_pedon_id	series
<input checked="" type="checkbox"/>	40A4183	76TN109006	Providence
<input checked="" type="checkbox"/>	40A4820	59MS085001	Providence
<input checked="" type="checkbox"/>	40A4821	59MS085002	Providence
<input checked="" type="checkbox"/>	78P0357	78LA067001	Providence
<input checked="" type="checkbox"/>	85P0083	84LA059020	Bussy
<input checked="" type="checkbox"/>	85P0085	84LA059022	Providence
<input checked="" type="checkbox"/>	85P0087	84LA021018	Bussy

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	hzn	tophzn	botzn	desg	texture	descrip	Sand	Silt	ClyT	ClyF	SiltF	Csilt	SndVF	SndF	SndM	SndC	SndVCp
2	0	23	Ap	Silt loam	27.2	51.1	21.7		26.7	24.4	10.2	11.3	4.4	1.1	0.2		
3	0	8	Ap	Silt loam	15.1	74.1	10.8	6.3	41.7	32.4	8.4	4.8	1	0.5	0.4		
4	0	11	Ap1	Silt loam	10.6	79.4	10.0	4.1	52.1	27.3	0.7	1.6	6.1	2	0.2		
5	0	8	A	Silt loam	17.8	73.0	9.2		41.6	31.4	1.1	6.5	7.1	2.7	0.4		
6	0	10	A1	Silt loam	27.9	65.9	6.2	3.7	32.2	33.7	16.3	10	0.6	0.4	0.6		
7	8	25	BE	Silt loam	12.5	72.1	15.4	9.4	42.6	29.5	6.7	3.8	0.8	0.4	0.8		
8	8	18	E	Silt loam	14.7	74.2	11.1		42.7	31.5	0.9	5.6	6.1	2	0.1		
9	10	18	A2	Silt loam	21.2	63.3	15.5	8.6	36.7	26.6	11.8	8.5	0.5	0.3	0.1		
10	11	20	Ap2	Silt loam	8.1	76.3	15.6	7.9	50	26.3	0.5	1.2	5.2	1.2	--		
11	15	56	Bt	Silty clay loam	15.5	59.8	24.7		36.4	23.4	8.1	5.1	1.2	0.7	0.4		
12	18	30	Bt11	Silty clay loam	17.6	58.9	23.5	16.1	33.7	25.2	10.2	6.6	0.5	0.2	0.1		
13	18	23	B		11.2	74.3	14.5		45.2	29.1	0.6	4.2	4.7	1.5	0.2		
14	20	45	Bt1	Silty clay loam	4.3	65.9	29.8	17.6	46.4	19.5	0.3	0.7	2.6	0.7	--		
15	23	37	B		18.6	52.3	29.1		33.2	19.1	7.2	8.2	2.6	0.6	tr		
16	23	36	Bt1		8.9	70.2	20.9		42.9	27.3	0.5	3.3	3.8	1.2	0.1		
17	25	48	Bt1	Silt loam	8.5	67.7	23.8	15.8	42.6	25.1	4.5	2.8	0.7	0.4	0.1		
18	3																
19	3																
20	3																
21	4																
22	4																
23	5																
24	5																
25	50	78	Bt3		10.0	65.3	24.7		41.3	24	0.8	3.7	4.3	1.3	0.1		
26	63	79	B / E	Silty clay loam	8.5	67.7	23.8	12.8	48.6	19.1	0.6	1.4	4.8	1.7	--		
27	69	101	2Bx1	Silt loam	27.3	56.8	15.9	12.6	26.9	29.9	15.9	10.5	0.5	0.2	0.2		
28	71	104	Bx2		33.8	37.8	28.4		23.1	14.7	14.6	14	4.3	0.8	0.1		
29	73	89	Bt3	Silt loam	13.8	64.3	21.9	16.1	37.1	27.2	7.5	4.3	0.7	0.4	0.9		
30	76	97	2Btx / Ex		28.4	56.1	15.5		33.9	22.2	1.1	9.7	13.7	3.9	tr		
31	79	99	Btx1	Clay loam	12.5	61.2	26.3	15.9	42.8	18.4	0.6	1.4	8.3	2.2	--		
32	89	101	B / E	Silt loam	15.0	65.2	19.8	15.2	35.5	29.7	8.5	4.8	0.7	0.4	0.6		
33	97	135	2Btx1		50.9	34.5	14.6		21	13.5	1.6	16.3	25.6	7.3	0.1		
34	99	119	Btx2	Sandy clay loa	24.9	54.2	20.9	13.2	34	20.2	1	2.5	16.8	4.6	--		
35	101	137	Btx1	Silt loam	14.0	62.0	24.0	19.1	34.3	27.7	8.3	4.3	0.6	0.3	0.5		

Exporting NSSL Data to Excel

Tools for assessing data

- Manuscripts
- Series Extent Tool
- NASIS
- SSURGO template
- Soil Data Viewer
- Pedon Analysis
- STATSGO

Manuscript and NASIS Review

- Map unit concept is maintained in the manuscript. Manuscripts **MUST** be reviewed.
- NASIS contains soil properties. Few states have updated NASIS to include manuscript information.
- Manuscripts and NASIS should be critically reviewed dependent (not independently) of the other

Analyzing NASIS Data

Loading MLRA Data

Overlap tables are to be populated with the MLRA

NASIS (13308) Select Manager

NASIS Site: NSSC Pangaea Ready for Use Only

Query Name: Area2/Mapunit/Datamapunit for mapunits by MLRA

Select One or More Target Tables:

- Area (area2)
- Mapunit
- Data Mapunit
- Mapunit Area Overlap
- Legend

Query Description:

This query is designed to load the map units from a single MLRA overlap in the official legends. Set Target Table to Area2, Mapunit, Datamapunit to load the mapunit table with those map unit within a given MLRA.

Query Text:

```
FROM area area2, mapunit, datamapunit, mapunit_area_overlap, legend, legend_area_overlap, area area1, area_type, correlation  
WHERE mapunit.mapunit_status != "additional" and
```

NASIS (13308) Query Parameters

MLRA symbol IMATCHES 105

Non-MLRA Soil Survey Area IMATCHES *

Analyze NASIS Data

➤ Reporting MLRA Data

NASIS (13308) Report Manager

NASIS Site: NSSC Pangaea Local National Ready for Use Only

Report Name:

- MLRA - Chemical Properties (multiple legends)
- MLRA - Chemical Properties by component (multiple legends)
- MLRA - Component Acres
- MLRA - Component Acres formatted report
- MLRA - Engineering Properties w/hzname (multiple legends)
- MLRA - Engineering Properties w/hzname by component name
- MLRA - Legend by Name w/ county name (multiple legends)
- MLRA - Overlap Legend acres export
- MLRA - Overlap Legend with overlap acres by Name w/ county
- MLRA - Physical Properties (multiple legends)
- MLRA - Physical Properties by component name**
- MLRA - Soil Features (multiple legends)

Report Description:

Physical Properties Report

THIS REPORT IS USED TO TEST SOIL PROPERTIES FOR A COMPONENT ACROSS MULTIPLE LEGENDS

LOAD YOUR MLRA DATA FIRST!
Use the National query "Area2/Mapunit/Datamapunit for mapunits by MLRA"
Select target tables:
Area2, Mapunit, Data Mapunit.

Other tables used in report:
Legend, Correlation, Component, Horizon

Preview Print Save Ascii Cancel Help

NASIS (13308) Report Parameters

Component Name to Review Fayette

Apply Cancel Help

Analyze NASIS Data

Report Name: MLRA - Physical Properties by component name Page 7 of 21

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

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05/14/2008

PHYSICAL PROPERTIES OF SOILS--Continued

This Report uses all Legends of Occurrence

Map symbol and soil name	Depth	Clay	Moist bulk density	Ksat	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	KF	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
WI121: FaB: Fayette silt loam, 2 to 6 percent slopes												
Fayette-----	0-13	10-22	1.10-1.45	4.00-14.00	0.22-0.24	0.0-2.9	11.0-3.0	.43	.43	5	5	56
	13-43	18-27	1.20-1.60	4.00-14.00	0.20-0.22	0.0-2.9	10.5-1.0	.37	.37			
	43-60	10-25	1.20-1.50	4.00-14.00	0.20-0.22	0.0-2.9	10.2-0.5	.37	.37			
IA089: 163F: Fayette silt loam, 20 to 30 percent slopes												
Fayette-----	0-11	15-27	1.30-1.35	4.00-14.00	0.20-0.22	0.0-2.9	12.0-3.0	.32	.32	5	6	48
	11-43	25-35	1.30-1.45	4.00-14.00	0.18-0.20	3.0-5.9	10.0-1.0	.43	.43			
	43-60	22-26	1.45-1.50	4.00-14.00	0.18-0.20	3.0-5.9	10.0-0.5	.43	.43			
WI121: FaE: Fayette silt loam, 20 to 30 percent slopes												
Fayette-----	0-13	10-22	1.10-1.45	4.00-14.00	0.22-0.24	0.0-2.9	11.0-3.0	.43	.43	5	5	56
	13-43	18-27	1.20-1.60	4.00-14.00	0.20-0.22	0.0-2.9	10.5-1.0	.37	.37			
	43-60	10-25	1.20-1.50	4.00-14.00	0.20-0.22	0.0-2.9	10.2-0.5	.37	.37			
IA005: 163G: Fayette silt loam, 25 to 40 percent slopes												
Fayette-----	0-10	15-27	1.30-1.35	4.23-14.11	0.20-0.22	0.0-2.9	12.0-3.0	.32	.32	5	6	48
	10-51	25-35	1.30-1.45	4.23-14.11	0.18-0.20	3.0-5.9	10.0-1.0	.43	.43			
	51-60	22-26	1.45-1.50	4.23-14.11	0.18-0.20	3.0-5.9	10.0-0.5	.43	.43			
Fayette-----	0-7	18-26	1.25-1.30	4.00-14.00	0.21-0.23	0.0-2.9	12.5-3.5	.32	.32	5	6	48
	7-49	26-35	1.30-1.35	4.00-14.00	0.18-0.20	3.0-5.9	10.5-1.0	.43	.43			
	49-60	22-26	1.35-1.45	4.00-14.00	0.18-0.20	3.0-5.9	10.0-0.5	.43	.43			
Fayette-----	0-8	27-32	1.35-1.45	4.00-14.00	0.18-0.20	3.0-5.9	10.4-2.0	.43	.43	4	7	38
	8-38	25-35	1.30-1.45	4.00-14.00	0.18-0.20	3.0-5.9	10.0-0.5	.43	.43			
	38-60	22-26	1.45-1.50	4.00-14.00	0.18-0.20	3.0-5.9	10.0-0.5	.43	.43			
IA043: 163G: Fayette silt loam, 25 to 40 percent slopes												
Fayette-----	0-17	15-27	1.30-1.35	4.23-14.11	0.20-0.22	0.0-2.9	12.0-3.0	.32	.32	5	6	48
	17-48	25-35	1.30-1.45	4.23-14.11	0.18-0.20	3.0-5.9	10.0-1.0	.43	.43			
	48-60	22-26	1.45-1.50	4.23-14.11	0.18-0.20	3.0-5.9	10.0-0.5	.43	.43			
IA045: 163G: Fayette silt loam, 25 to 40 percent slopes												
Fayette-----	0-8	15-27	1.30-1.35	4.23-14.11	0.20-0.22	0.0-2.9	12.0-3.0	.32	.32	5	6	48
	8-56	25-35	1.30-1.45	4.23-14.11	0.18-0.20	3.0-5.9	10.0-1.0	.43	.43			
	56-72	22-26	1.45-1.50	4.23-14.11	0.18-0.20	3.0-5.9	10.0-0.5	.43	.43			
IA055: 163G: Fayette silt loam, 25 to 40 percent slopes												
Fayette-----	0-12	15-27	1.30-1.35	4.23-14.11	0.20-0.22	0.0-2.9	12.0-3.0	.32	.32	5	6	48
	12-46	25-35	1.30-1.45	4.23-14.11	0.18-0.20	3.0-5.9	10.0-1.0	.43	.43			
	46-60	22-26	1.45-1.50	4.23-14.11	0.18-0.20	3.0-5.9	10.0-0.5	.43	.43			
IA061: 163G: Fayette silt loam, 25 to 40 percent slopes												
Fayette-----	0-10	15-27	1.30-1.35	4.23-14.11	0.20-0.22	0.0-2.9	12.0-3.0	.32	.32	5	6	48
	10-46	25-35	1.30-1.45	4.23-14.11	0.18-0.20	3.0-5.9	10.0-1.0	.43	.43			
	46-60	22-26	1.45-1.50	4.23-14.11	0.18-0.20	3.0-5.9	10.0-0.5	.43	.43			

SSURGO Template in Data Assessment

Microsoft Access

File Edit View Insert Format Records Tools Window Help

Type a question for help

soildb_US

Open

Objects

Tables

Queries

Forms

Reports

Pages

Macros

Modules

Groups

Favorite

Soil Reports (Template Version: 33)

Soil Survey Area Name

Allamakee County, Iowa

Allamakee County, Iowa

Barron County, Wisconsin

Buffalo County, Wisconsin

Carroll County, Illinois

Chippewa County, Wisconsin

Clark County, Wisconsin

Clayton County, Iowa

Clinton County, Iowa

63D	Chelsea loamy sand, 9 to 14 percent slopes
63E	Chelsea loamy sand, 14 to 18 percent slopes
63F	Chelsea loamy sand, 18 to 25 percent slopes

Select All Clear Selections Selection Help

Report Name

Acreage and Proportionate Extent of the Soils

Include Minor Soils Include Report Description

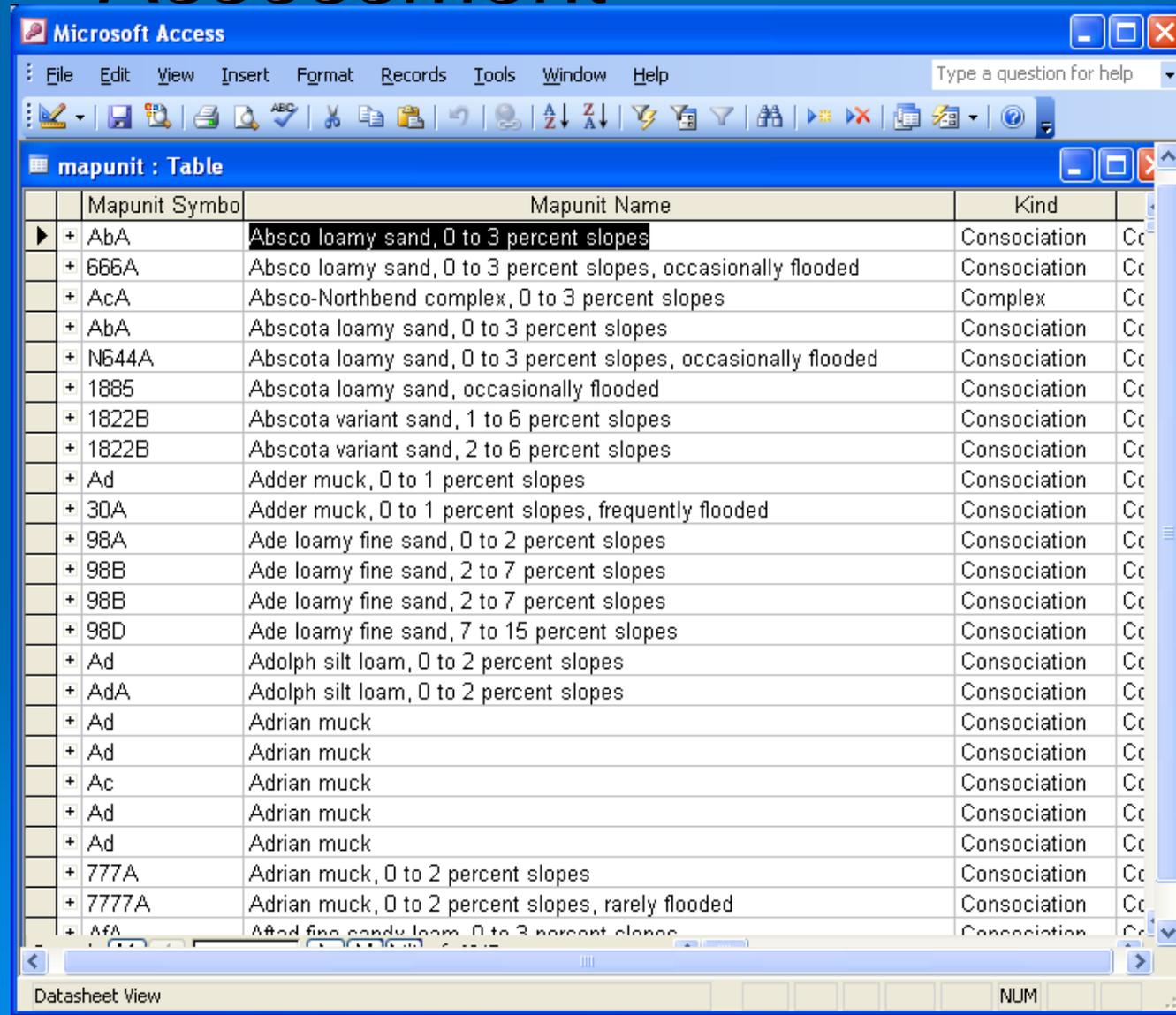
Generate Report Exit System Reports

If you are new to this database, please select the Reports tab of the Database window and open the report titled "How to Understand and Use this Database".

Form View NUM

SSURGO Template in Data Assessment

Data can be rapidly analyzed using the SSURGO template – MLRA Legend



The screenshot shows a Microsoft Access window titled 'mapunit : Table'. The table contains the following data:

Mapunit Symbol	Mapunit Name	Kind
AbA	Absco loamy sand, 0 to 3 percent slopes	Consociation
666A	Absco loamy sand, 0 to 3 percent slopes, occasionally flooded	Consociation
AcA	Absco-Northbend complex, 0 to 3 percent slopes	Complex
AbA	Abscota loamy sand, 0 to 3 percent slopes	Consociation
N644A	Abscota loamy sand, 0 to 3 percent slopes, occasionally flooded	Consociation
1885	Abscota loamy sand, occasionally flooded	Consociation
1822B	Abscota variant sand, 1 to 6 percent slopes	Consociation
1822B	Abscota variant sand, 2 to 6 percent slopes	Consociation
Ad	Adder muck, 0 to 1 percent slopes	Consociation
30A	Adder muck, 0 to 1 percent slopes, frequently flooded	Consociation
98A	Ade loamy fine sand, 0 to 2 percent slopes	Consociation
98B	Ade loamy fine sand, 2 to 7 percent slopes	Consociation
98B	Ade loamy fine sand, 2 to 7 percent slopes	Consociation
98D	Ade loamy fine sand, 7 to 15 percent slopes	Consociation
Ad	Adolph silt loam, 0 to 2 percent slopes	Consociation
AdA	Adolph silt loam, 0 to 2 percent slopes	Consociation
Ad	Adrian muck	Consociation
Ad	Adrian muck	Consociation
Ac	Adrian muck	Consociation
Ad	Adrian muck	Consociation
Ad	Adrian muck	Consociation
777A	Adrian muck, 0 to 2 percent slopes	Consociation
7777A	Adrian muck, 0 to 2 percent slopes, rarely flooded	Consociation
AfA	Afted fine sandy loam, 0 to 3 percent slopes	Consociation

Spatial Review

- Spatial geographical distribution maps
- Soil Data Viewer for rapid assessment
- Using STATSGO map units polygons as a basis for landform or generalized map

Soil Extent Mapping Tool

<http://www.cei.psu.edu/soiltool/>

- Displays the spatial extent of a soil series by county
- Provides approximate acreage per soil survey area.
- Soils information is a snapshot of data from the Soils DataMart of February and April 2006

- Generate summary report of Series by SSA and acres

Geographic Extent of the TAMA Soil Series
FINE-SILTY, MIXED, SUPERACTIVE, MESIC TYPIC ARGUDDOLLS
SAUK COUNTY, WISCONSIN
2553 acres of TAMA
0.471% of 541979 SSA acres

TAMA Soil Series
FINE-SILTY, MIXED, SUPERACTIVE, MESIC TYPIC ARGUDDOLLS
und,efi,ned total acres

SOIL SURVEY AREA	SSA ID	SOIL ACRES	% OF SSA
MARSHALL COUNTY, IOWA	IA127	135370	36.952
TAMA COUNTY, IOWA	IA171	106456	23.031
GRUNDY COUNTY, IOWA	IA075	89227	27.724
CEDAR COUNTY, IOWA	IA031	88912	23.894
SCOTT COUNTY, IOWA	IA163	85933	28.835
JASPER COUNTY, IOWA	IA099	82156	17.439
LOGAN COUNTY, ILLINOIS	IL107	77075	19.482
LAFAYETTE COUNTY, WISCONSIN	WI065	64365	15.821
GRANT COUNTY, WISCONSIN	WI043	62940	8.33
POWESHIEK COUNTY, IOWA	IA157	60560	16.18
STEPHENSON COUNTY, IL	IL177	49426	13.704
TAZEWELL COUNTY, ILLINOIS	IL179	47818	11.345
MORGAN AND SCOTT COUNTIES, ILLINOIS	IL606	47524	12.93
CLINTON COUNTY, IOWA	IA045	39500	8.629
STARK COUNTY, ILLINOIS	IL175	37378	20.355
FILLMORE COUNTY, MINNESOTA	MN045	35063	6.355
BENTON COUNTY, IOWA	IA011	34459	7.46
JOHNSON COUNTY, IOWA	IA103	34330	8.618
MUSCATINE COUNTY, IOWA	IA139	30732	10.656
PEORIA COUNTY, ILLINOIS	IL143	25734	6.382
HARDIN COUNTY, IOWA	IA083	20739	5.686
BOONE COUNTY, ILLINOIS	IL007	17774	9.887
IOWA COUNTY, WISCONSIN	WI049	15981	3.256
DEWITT COUNTY, ILLINOIS	IL039	14535	5.616
MASON COUNTY, ILLINOIS	IL125	11637	3.244
LINN COUNTY, IOWA	IA113	11394	2.467
JO DAVIESS COUNTY, ILLINOIS	IL085	11071	2.789
PUTNAM COUNTY, ILLINOIS	IL155	10965	9.86
DUBUQUE COUNTY, IOWA	IA061	10414	2.653
LA SALLE COUNTY, ILLINOIS	IL099	10271	1.4
POLK COUNTY, IOWA	IA153	9359	2.469

enter soil series name and click "map series"
Tama MAP SERIES

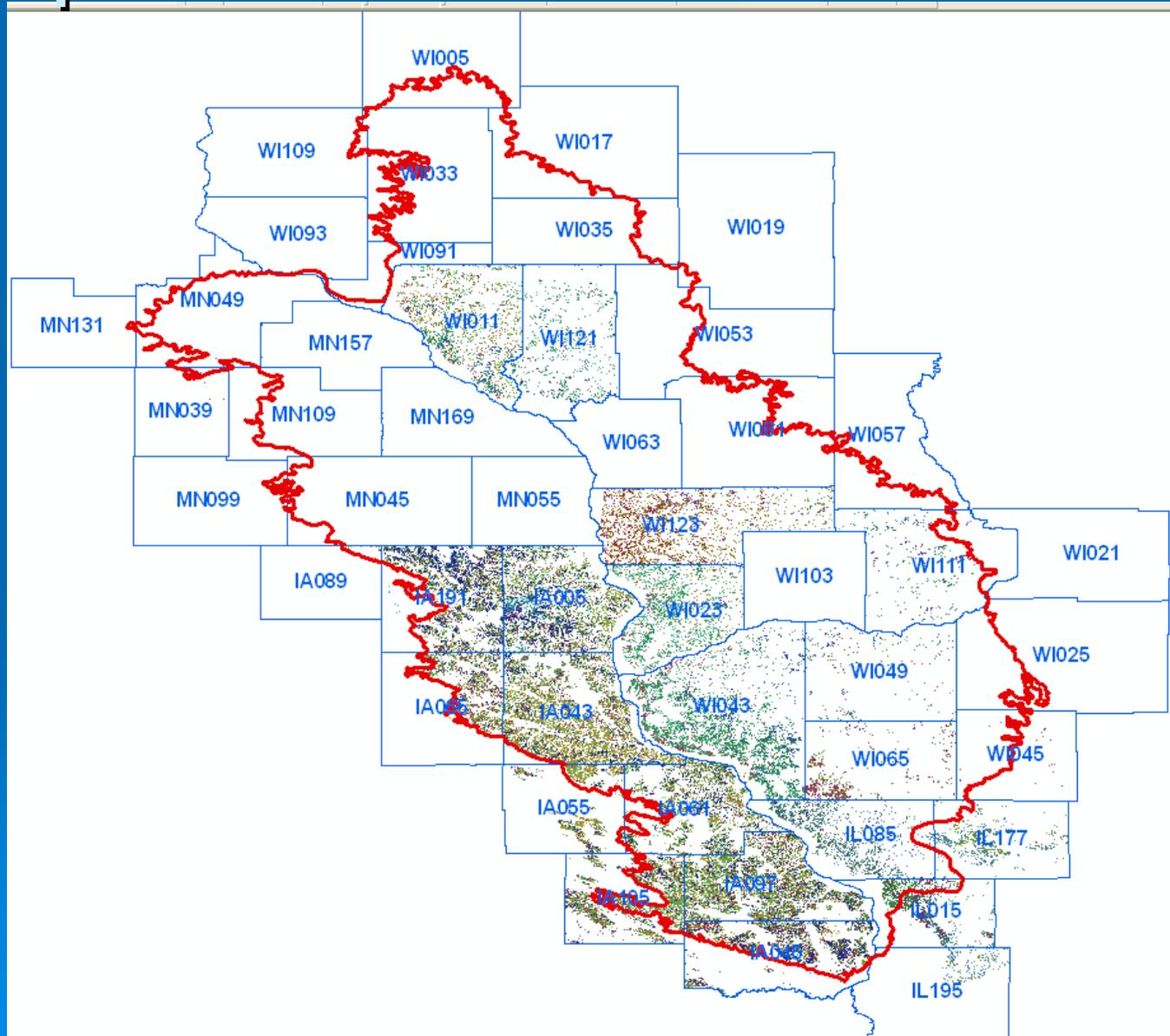
acres per soil survey area

acres per soil survey area
No Data
613 to 5792
6148 to 11071
11394 to 39500
47524 to 135370

1. Enter Soil Series 2. Click "Map Series"

Map Unit Distribution

Using Arc to identify map units in MLRA 105 with “Fayette” as a component



Soil Data Viewer

What is it?

- Application built as an extension to ArcMap that interacts with NASIS spatial and tabular data to create soil-based thematic maps.
- Tool can be run independent of ArcMap to solely produce tabular reports or activated from ArcMap to produce thematic map and reports.

Why use it?

- Friendly user interface that reduces soil survey attribute database complexity.
- Aggregation method of components to the mapunit level is determined by user and calculated by SDV.
- Suite of over 50 interpretative and property tables available to analyze.
- Analyze custom dataset exported from NASIS
- SDV version 5.2 now available for ArcMap 9.2

What do I need?

- At a minimum you need the tabular soils data.
- You will need both the spatial and tabular data to create thematic maps.
- Spatial data must be converted to a shapefile format.

Soil Data Viewer.. Con't.

http://soildataviewer.nrcs.usda.gov/documents/Soil_Data_Viewer_5_2_User_Guide.pdf

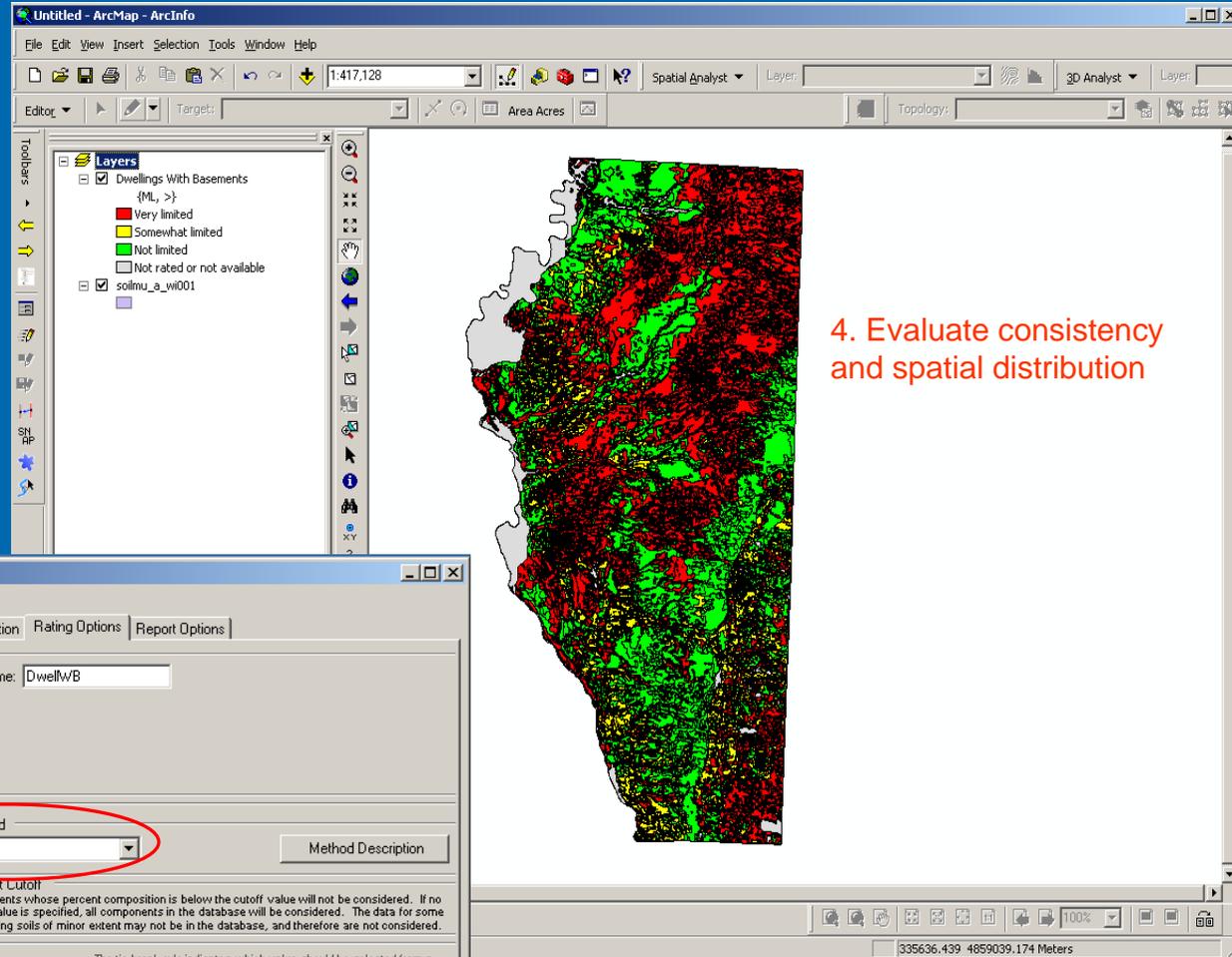
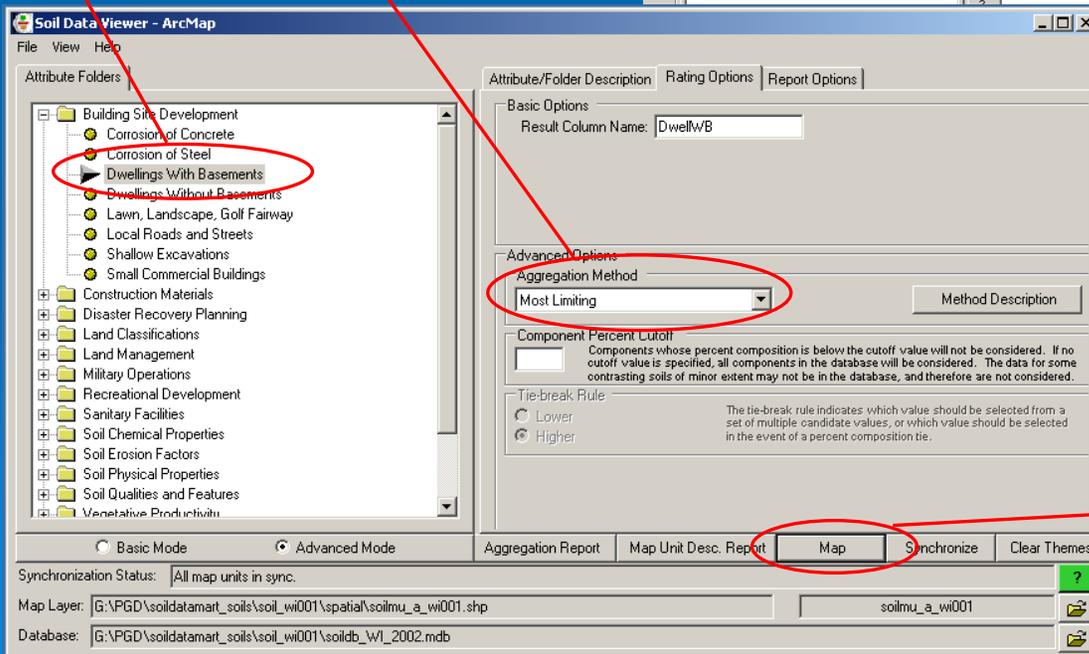
Can be used to evaluate the consistency of an interpretation or property within a SSA or across different boundaries by appending multiple SSA's

1. Select report to evaluate

2. Select aggregation method

3. Click "Map" to generate thematic map

4. Evaluate consistency and spatial distribution



SDV use in Data Assessment

The screenshot displays the ArcMap interface with the Soil Data Viewer (SDV) extension. The main map area shows a soil data assessment with a color-coded legend (red, yellow, green, blue) overlaid on a topographic map. The interface includes a 'Layers' panel on the left, a 'Table of Contents' on the right, and a 'Map Layer' and 'Database' field at the bottom.

Layers Panel:

- Organic Matter
- mapunits_for_s8787
- MLRA105_SSURGO_mapunits
- ST_s8787
- mlra105_MLRA_GSM_Clip
- MLRA105
- MLRA105_Surveys
- MLRA105_SSURGO

Table of Contents:

- Construction Materials
- Disaster Recovery Planning
- Land Classifications
- Land Management
- Recreational Development
- Sanitary Facilities
- Soil Chemical Properties
- Soil Erosion Factors
- Soil Physical Properties
 - Available Water Capacity
 - Available Water Supply, 0 to 100
 - Available Water Supply, 0 to 150
 - Available Water Supply, 0 to 25 c
 - Available Water Supply, 0 to 50 c
 - Bulk Density, 15 Bar
 - Bulk Density, One-Tenth Bar
 - Bulk Density, One-Third Bar
 - Linear Extensibility
 - Liquid Limit
 - Organic Matter
 - Percent Clay
 - Percent Sand
 - Percent Silt
 - Plasticity Index
 - Saturated Hydraulic Conductivity
 - Saturated Hydraulic Conductivity

Map Layer: S:\Finnell\GIS_Projects\MLRA105\

Database: R:\GIS_Projects\MLRA105\nasis\

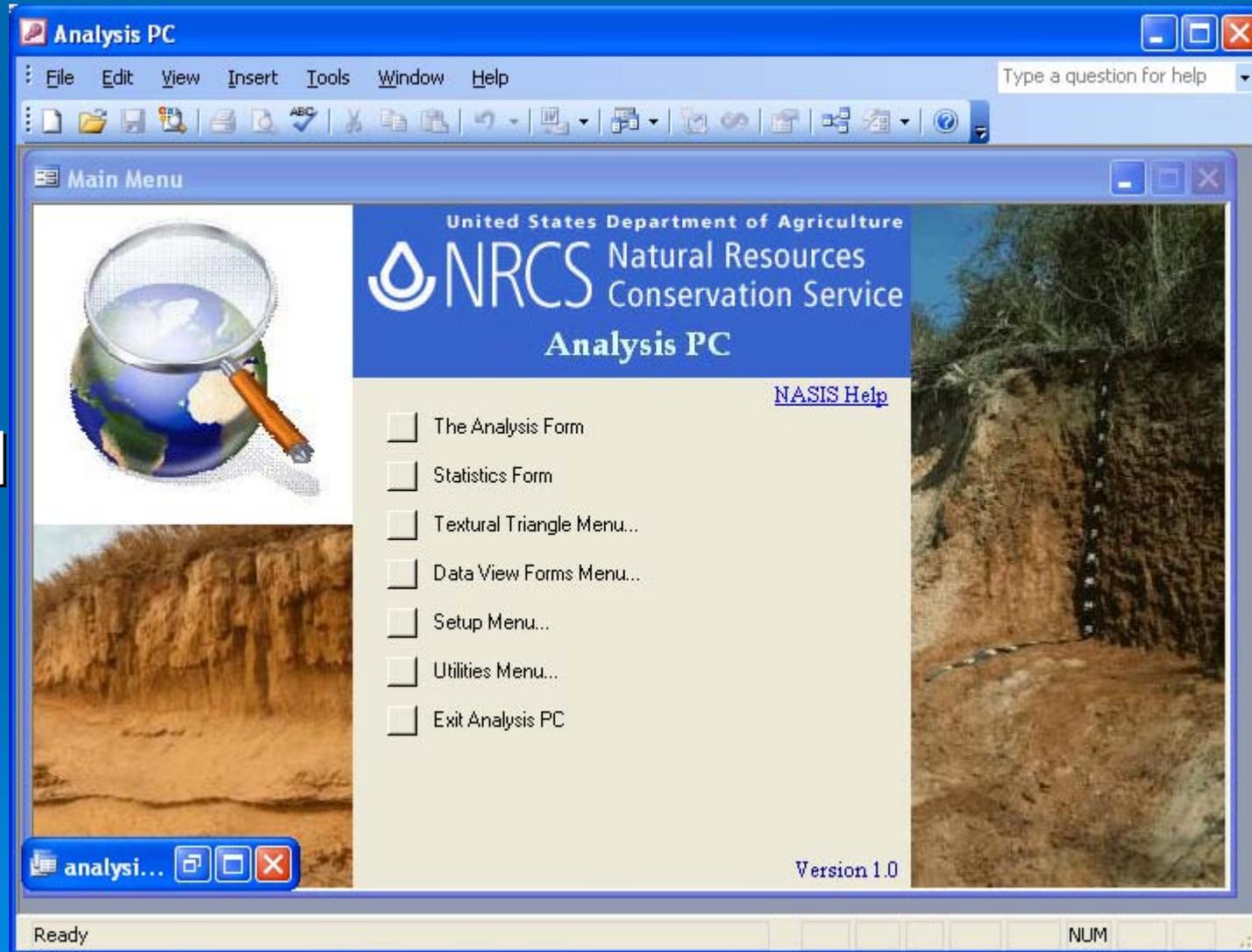
Map Scale: 1:60,912

Map Style: Arial

Coordinates: 90°19'52.524"W 43°46'25.073"N

Pedon Analysis

Used to
analyze
Pedon
data
extracted
from
NASIS



Pedon Analysis

Preloaded queries are available to analyze Pedon data

The Analysis Form

Reset: [icon] The Analysis Form [icon] Help: [icon] Exit: [icon]

Query: all soils and plot Run: [icon] Description: [icon] Add Query: [icon]

Options: Include recommendations Empty SiteNad83: [icon] Links: ArcMap: [icon] Pedon Description Report

	Include?	siteiid	usiteid	peiid	upedonid	soinmassamp	soinmasscorr
▶	<input checked="" type="checkbox"/>	-277403	08IL085001	-276636	08IL085001	Alganssee	Alganssee
	<input checked="" type="checkbox"/>	-273425	86IL085084	-272439	86IL085084	Dodgeville	Frankville
	<input checked="" type="checkbox"/>	-273382	78IL085005	-272400	78IL085005	Dodgville variant	Frankville
	<input checked="" type="checkbox"/>	-264505	07WI-057-004	-263270	07WI-057-004	Ettrick silt loam	
	<input checked="" type="checkbox"/>	-264504	07WI-057-003	-263269	07WI-057-003	La Farge	
	<input checked="" type="checkbox"/>	-264502	07WI-057-001	-263267	07WI-057-001	Urne very fine s	
	<input checked="" type="checkbox"/>	-264350	07WI-021-004	-263117	07WI-021-004	Plainfield loamy	Plainfield loamy
	<input checked="" type="checkbox"/>	-264045	07WI-025-006	-262557	07WI-025-006	Houghton	
	<input checked="" type="checkbox"/>	-264044	07WI-025-005	-262556	07WI-025-005	McHenry	
	<input checked="" type="checkbox"/>	-264043	07WI-025-004	-262610	07WI-025-004	NewGlarus	
	<input checked="" type="checkbox"/>	-264042	07WI-025-002	-262609	07WI-025-002	Orion	
	<input checked="" type="checkbox"/>	-264041	07WI-025-001	-262608	07WI-025-001	Granby	
	<input checked="" type="checkbox"/>	-264040	07WI-103-019	-262607	07WI-103-019	Houghton	
	<input checked="" type="checkbox"/>	-264039	07WI-103-018	-262606	07WI-103-018	Fivepoints	
	<input checked="" type="checkbox"/>	-264038	07WI-103-017	-262605	07WI-103-017	Dorerton	
	<input checked="" type="checkbox"/>	-264037	07WI-103-016	-262604	07WI-103-016	Orion	
	<input checked="" type="checkbox"/>	-264036	07WI-103-015	-262603	07WI-103-015	Fivepoints	
	<input checked="" type="checkbox"/>	-264035	07WI-103-014	-262602	07WI-103-014	Chelsea	
	<input checked="" type="checkbox"/>	-264034	07WI-103-012	-262601	07WI-103-012	Churchtown	
	<input checked="" type="checkbox"/>	-264033	07WI-025-010	-262600	07WI-025-010	Fivepoints	
	<input checked="" type="checkbox"/>	-264032	07WI-049-011	-262599	07WI-049-011	Rockbluff	
	<input checked="" type="checkbox"/>	-264031	07WI-049-009	-262598	07WI-049-009	Sparta	
	<input checked="" type="checkbox"/>	-264030	07WI-049-008	-262597	07WI-049-008	NewGlarus	
	<input checked="" type="checkbox"/>	-264029	07WI-049-007	-262596	07WI-049-007	NewGlarus	
	<input checked="" type="checkbox"/>	-264028	07WI-049-006	-262595	07WI-049-006	Churchtown	
	<input checked="" type="checkbox"/>	-264027	07WI-049-005	-262594	07WI-049-005	NewGlarus	

Record: [icon] [icon] 1 [icon] [icon] [icon] of 373

Selected Set Functions

Check/Uncheck All [icon]

Deselect Unchecked: [icon]

Deselect Checked: [icon]

Load Selected Set: [icon]

Save Filtered/Sorted Set: [icon]

Save Entire Selected Set: [icon]

Send Data to Excel: [icon]

Spatial Link Functions

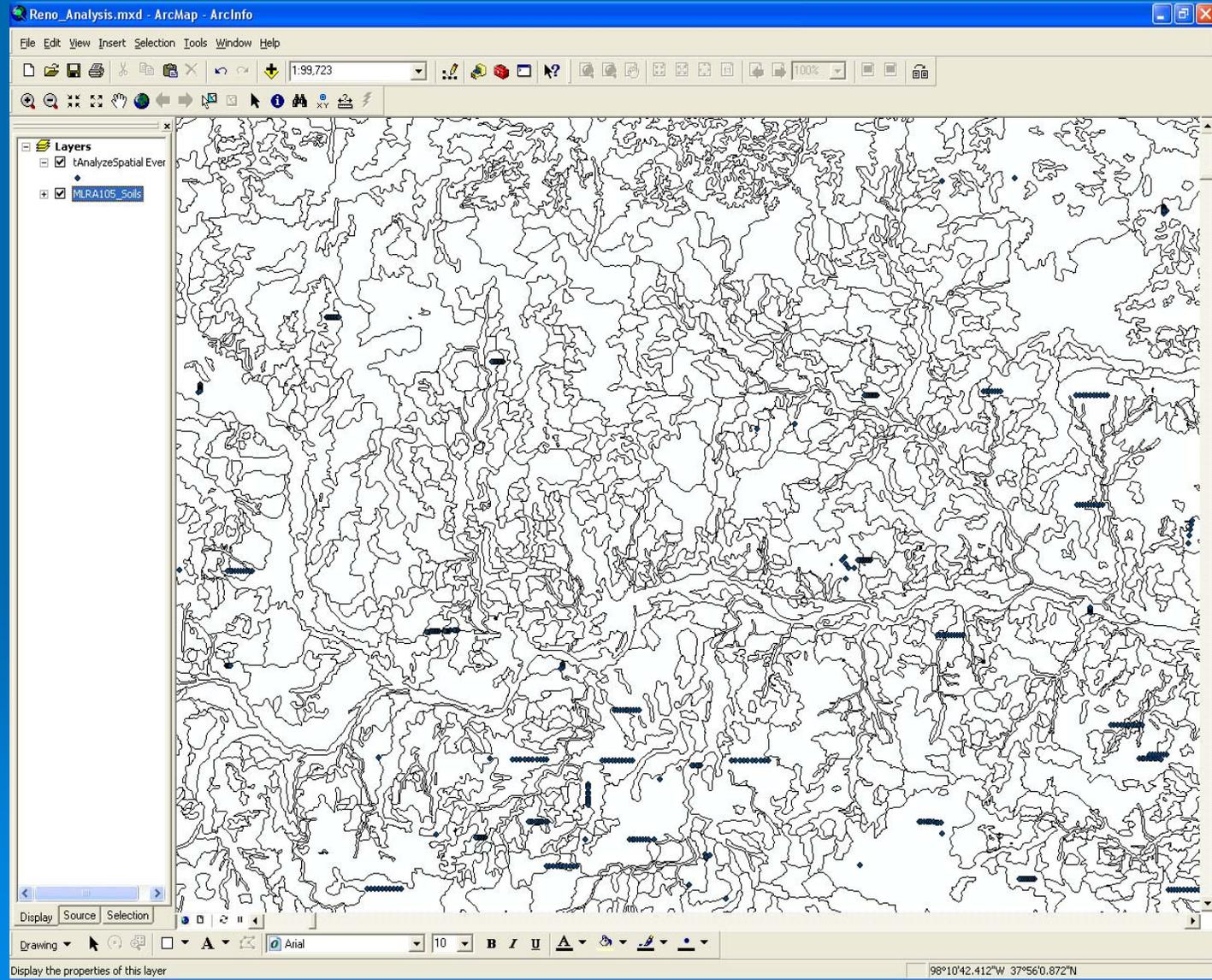
Send Filtered Set To ArcMap: [icon]

Send Selected Set To ArcMap: [icon]

From ArcMap Update Access: [icon]

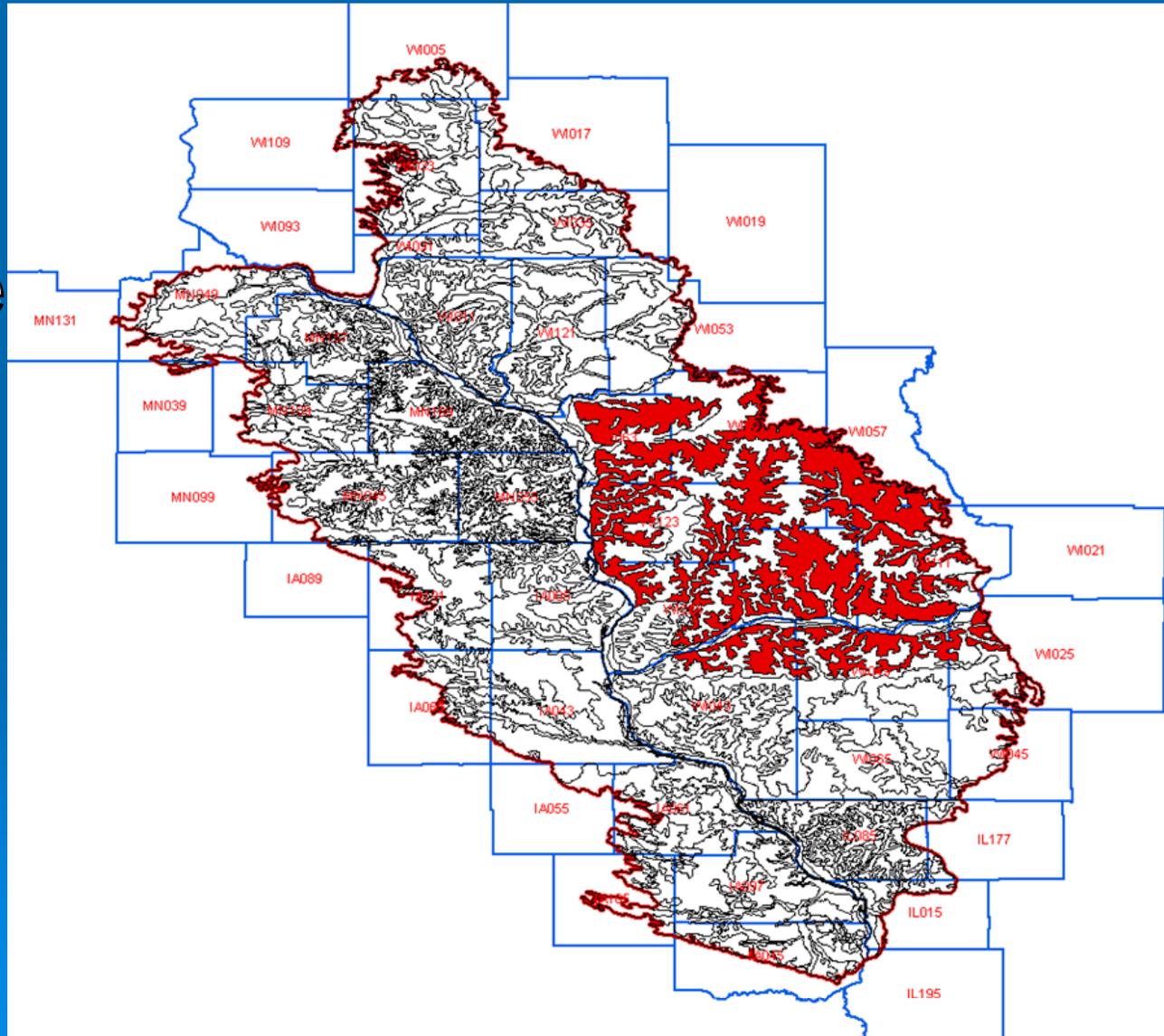
Pedon Analysis

Sites and data can be exported to Arc for spatial review of Pedon data

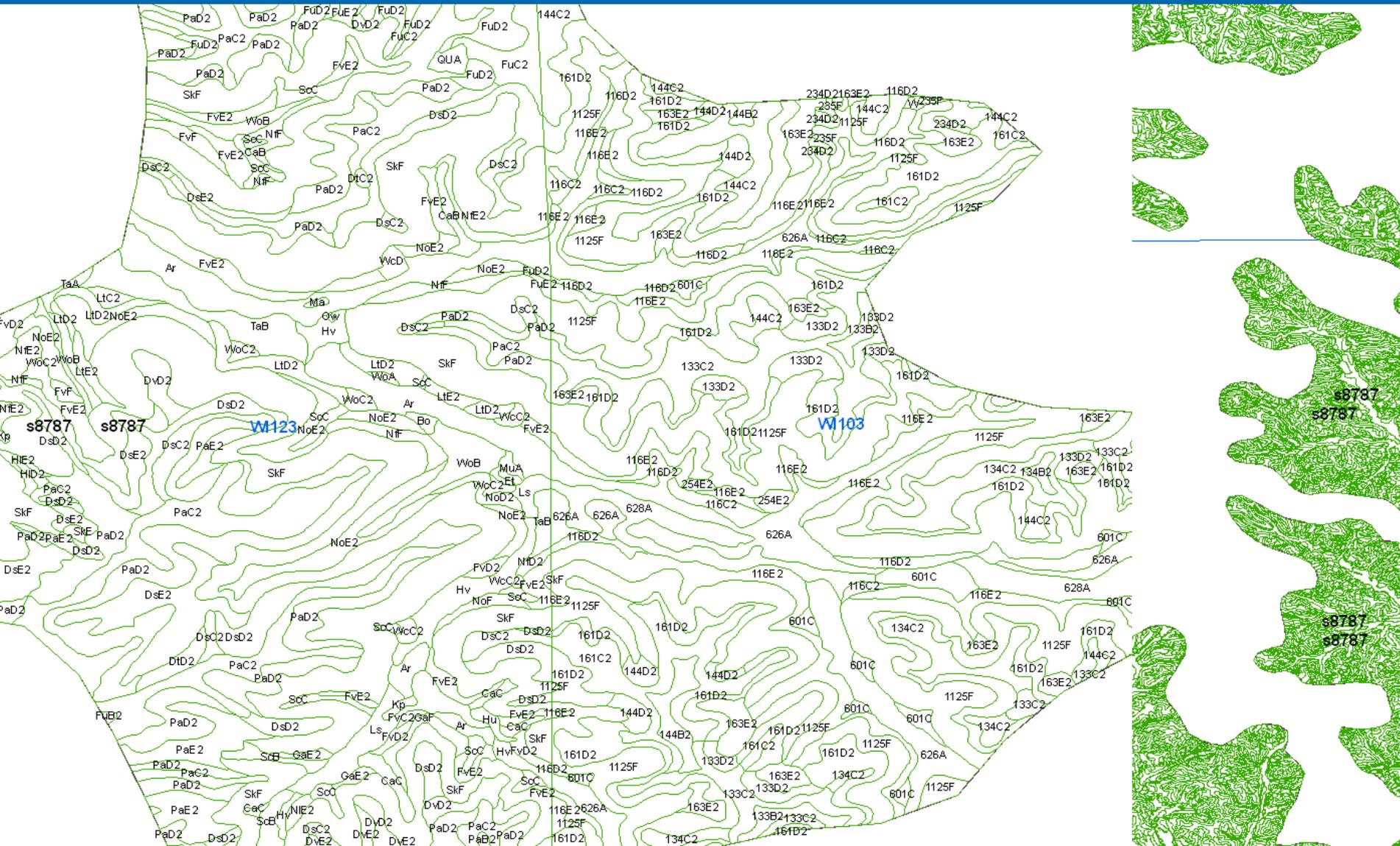


Spatial Review - STATSGO

STATSGO
data
should be
part of
the
review
process



Spatial Review - SSURGO



STATSGO Review

- Generalized version of the SSURGO data for use in multi state planning
- Most requested single soils download
- Used to aid in the identification of landform or map unit grouping
- Should be updated in conjunction with SSURGO product

Top Survey Downloads

Area symbol	Downloads	Area symbol	Downloads
US	18,604	WA633	764
CA772	1,114	CA669	756
CT600	1,100	TX201	746
CA675	1,062	CA013	733
OR003	964	TX453	720
CA638	859	CA678	710
CA067	849	OR637	707
CA695	821	CA777	699
CO641	819	AZ649	697
TX029	769	MD003	696
CO001	765	AZ656	685
		CA097	682
		WI025	680