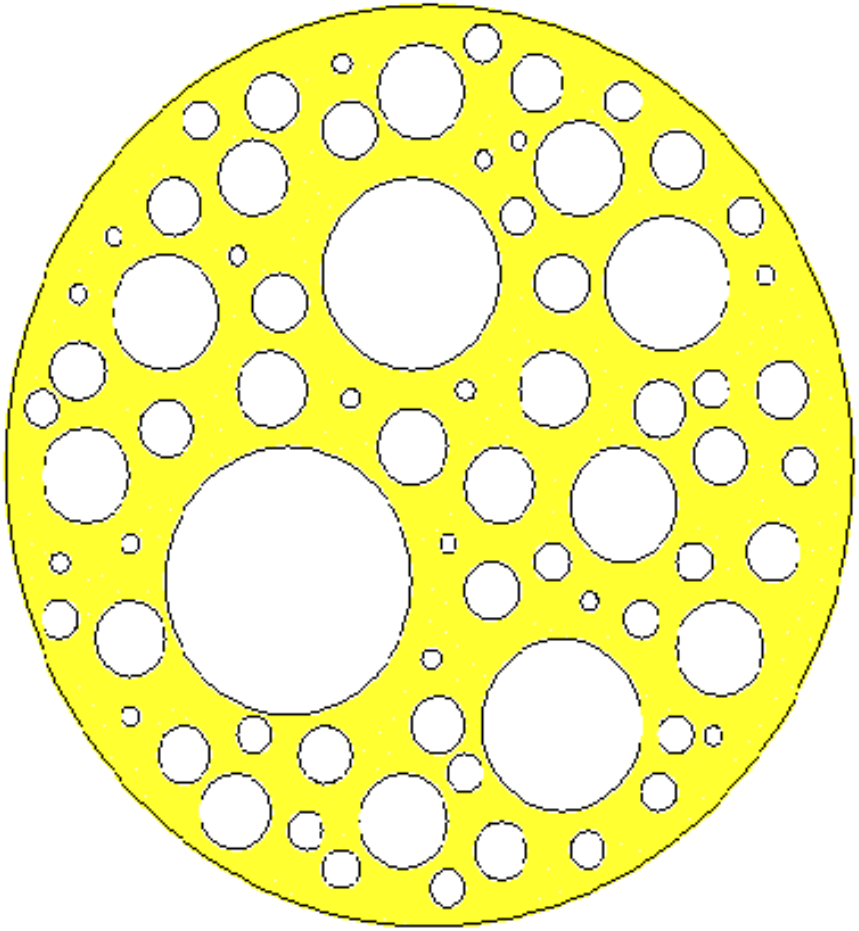
Developments in Soil Survey Research and Characterization Data

North Central Work Planning Conference
June 2008

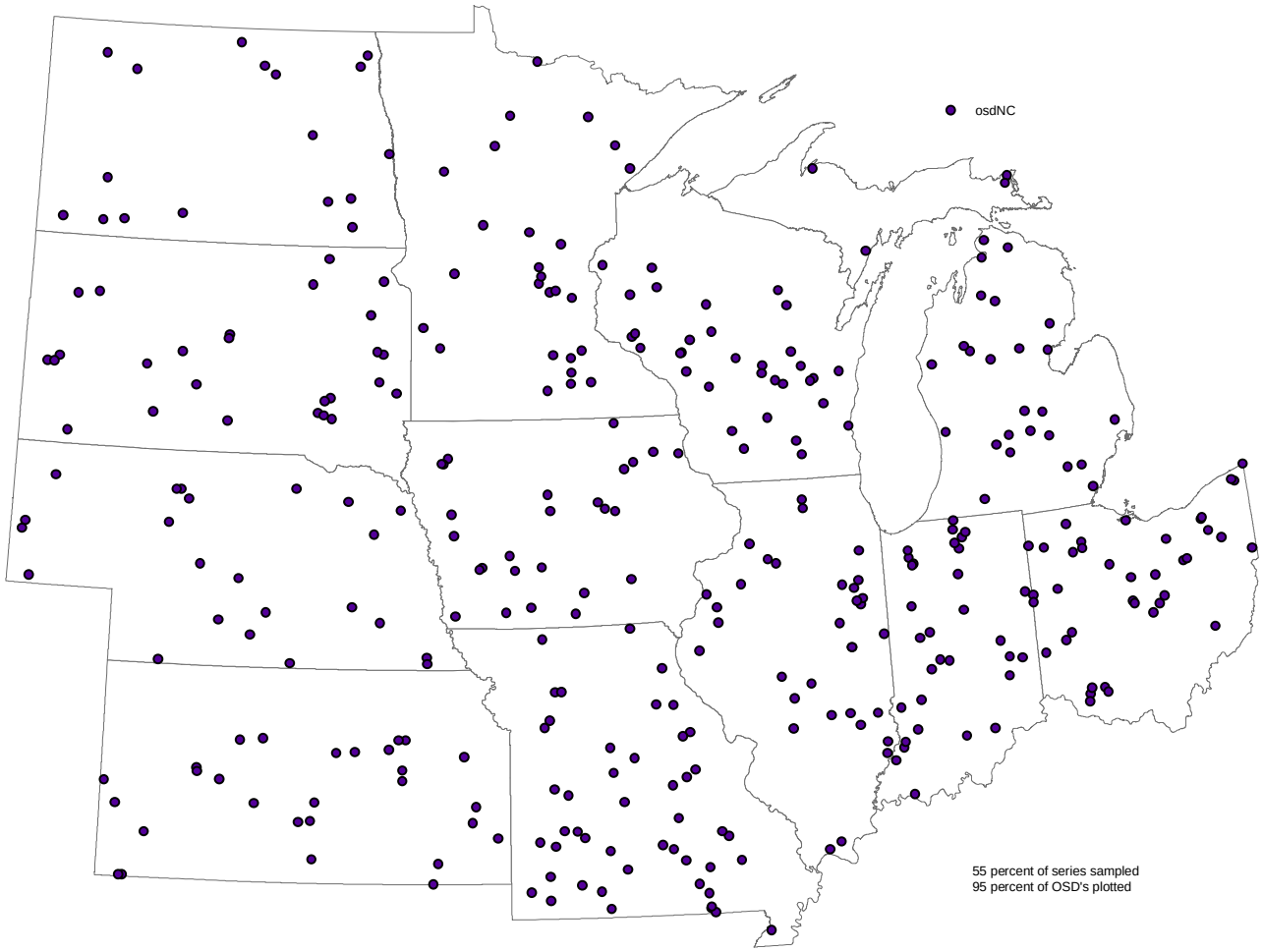
- MLRA Soil Survey Office Charges
  - updating soil surveys on a physiographic basis
  - develop long-range plans, project plans, annual plans
  - perform investigations throughout the MLRA(s)
  - maintain soil survey datasets
  - inventory and review of benchmark soils
  - review and update of official series descriptions
  - etc.

Fill the Voids



Benchmark Soils

Official Series Descriptions in North-Central US



55 percent of series sampled
95 percent of OSD's plotted

2

Albers Equal Area Projection

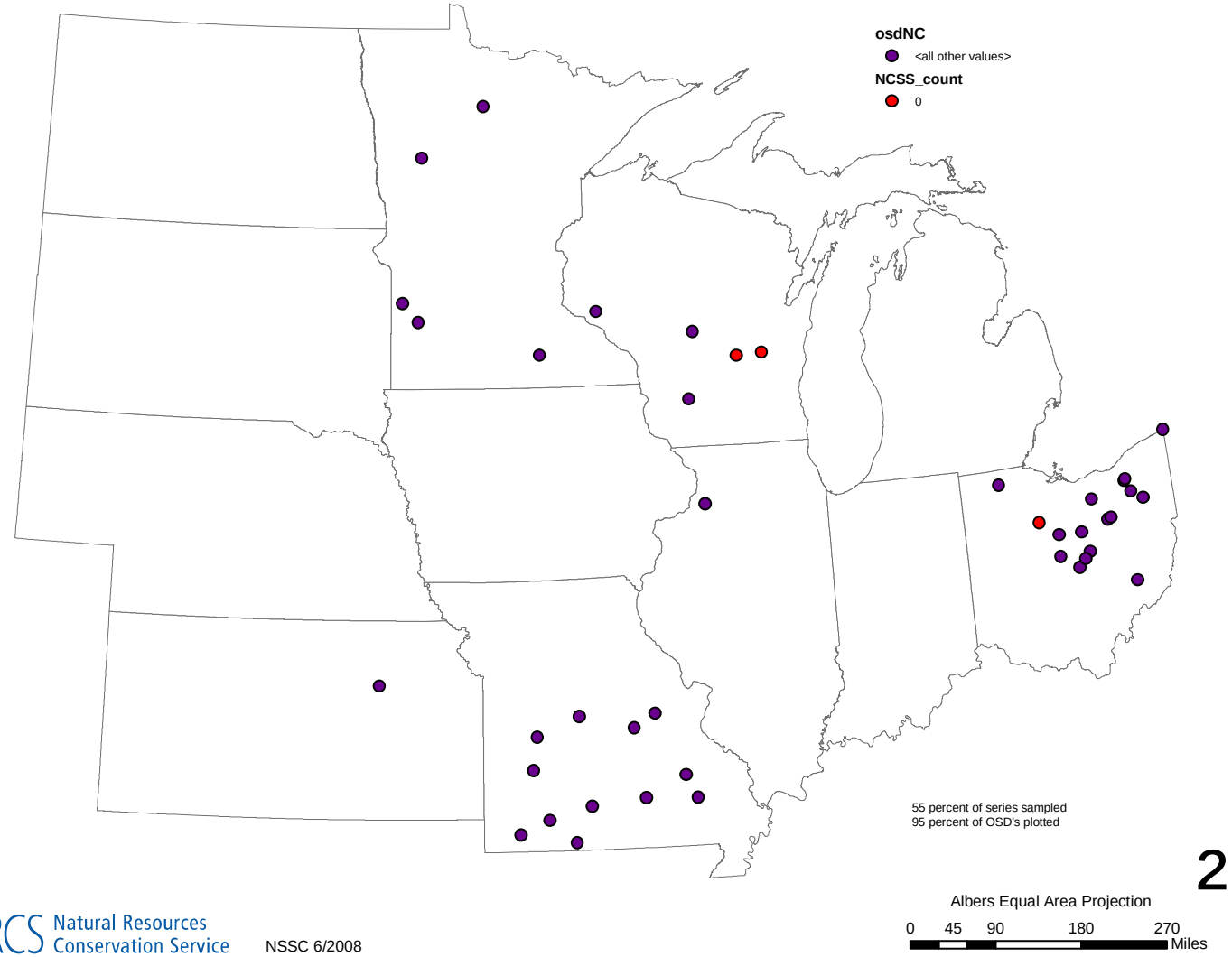
0 45 90 180 270 Miles

NRCS Natural Resources Conservation Service

NSSC 6/2008

Benchmark Data added from NCSS Labs

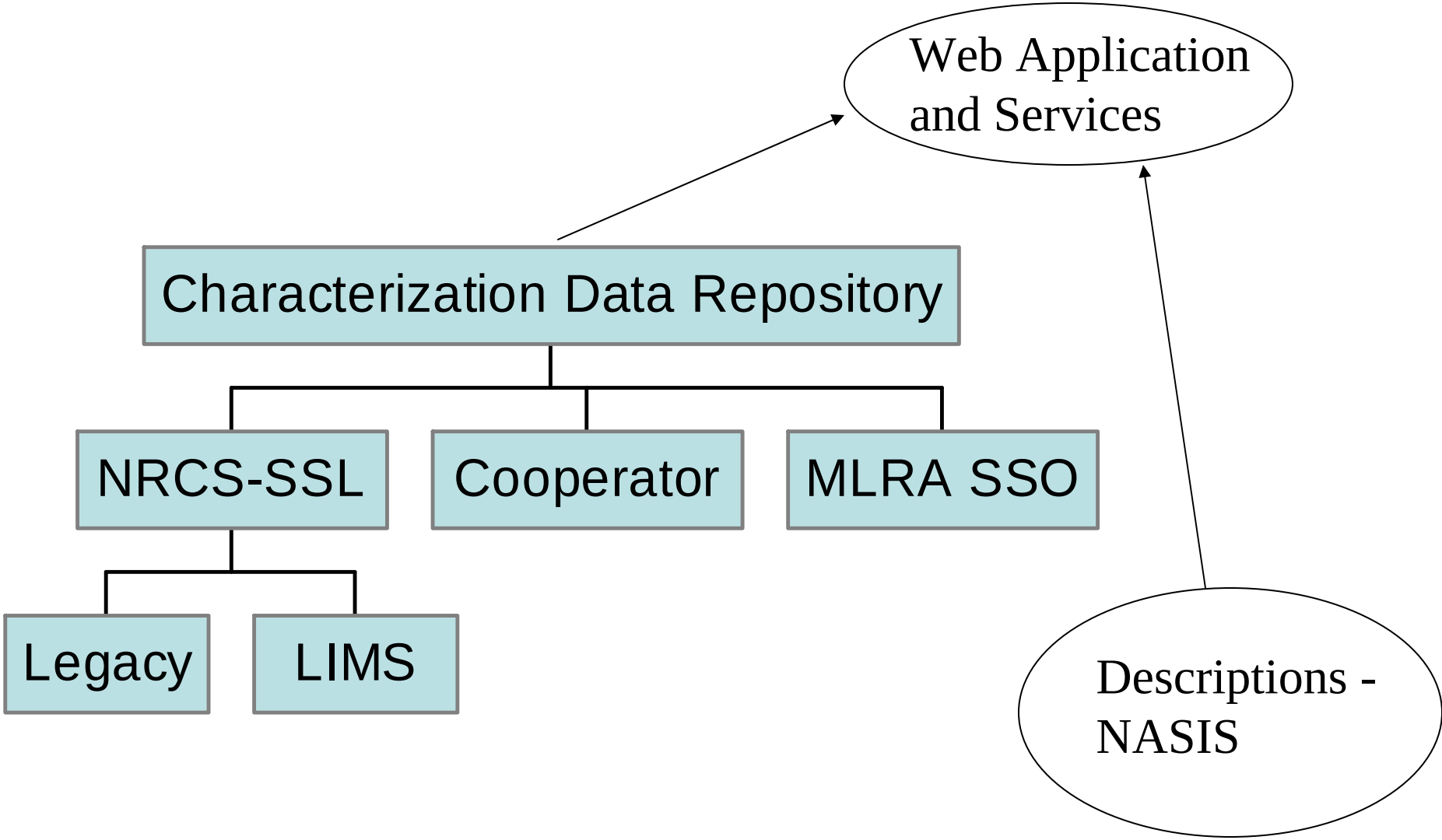
Official Series Descriptions in North-Central US



2

NRCS Natural Resources Conservation Service

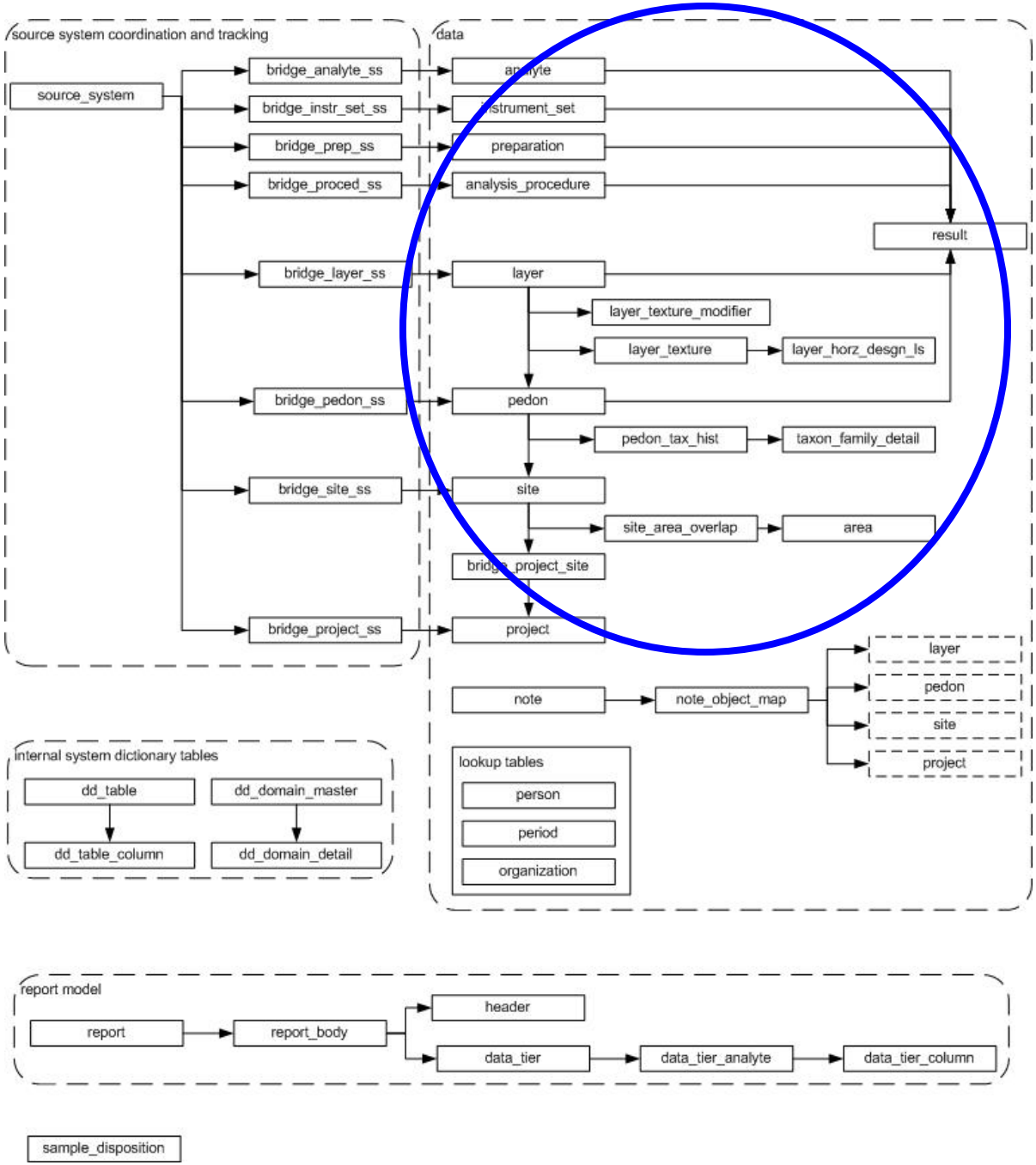
NSSC 6/2008

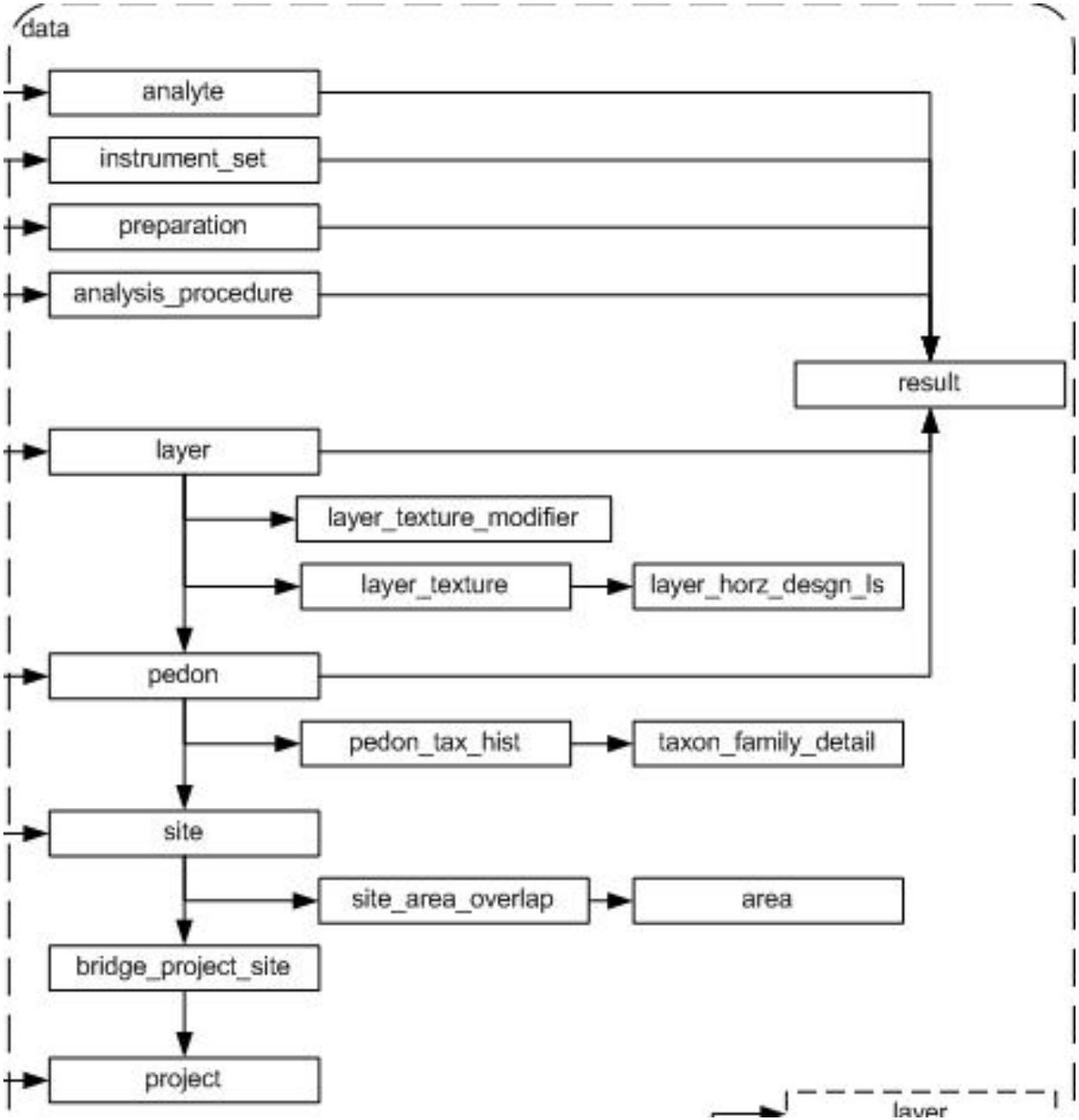

Web Application and Services
Characterization Data Repository
NRCS-SSL
Cooperator
MLRA SSO
Legacy
LIMS
Descriptions - NASIS

Cooperating Universities - 2007

Cooperating University	Pedons	Data	Validate	Metadata	Description
Auburn University	300	x			x
Cornell University	800	xxx	xx	xxx	
North Dakota State University	1,700	xxx	xx	x	
Purdue University	1,600	xxx	xxx	xx	xx
University of California-Davis	1,500	x			x
University of Idaho	350	x			x
University of Illinois	2,177	xxx	xx	xx	xx
University of Minnesota	350	xxx	x		xx
Virginia Tech	1,700	x			x

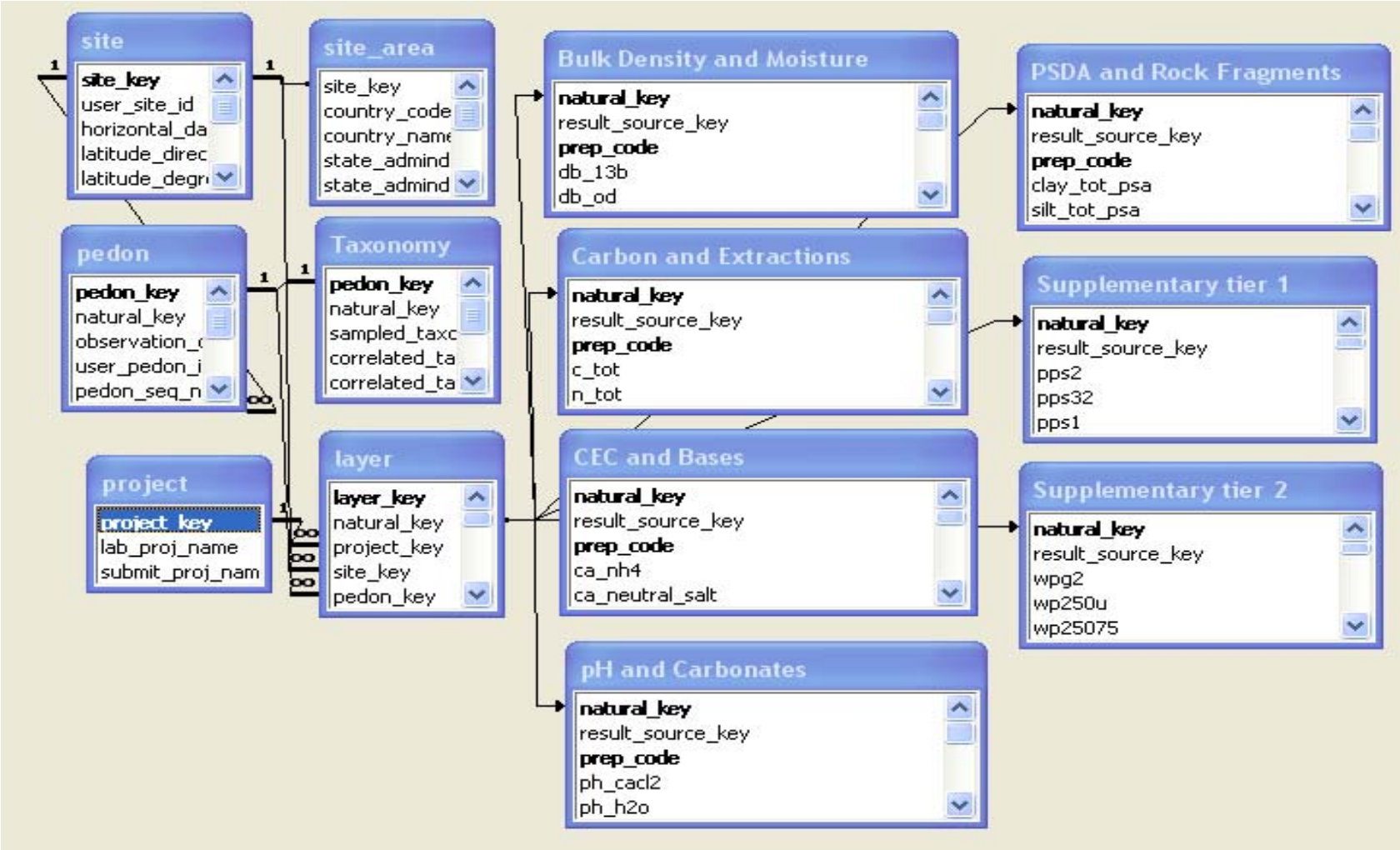
Repository data model




data
analyte
instrument_set
preparation
analysis_procedure
result
layer
layer_texture_modifier
layer_texture
layer_horz_desgn_ls
pedon
pedon_tax_hist
taxon_family_detail
site
site_area_overlap
area
bridge_project_site
project
layer

Model core

Sample User View



Clay Summary Statistics by Master Horizon

correlated_taxon_name	hzn_ma	StDevO	VarOfcl	MinOfcl	MaxOfc	AvgOfcl	CountO
Bluford	A	2.1445	4.5991	9.1	17.2	13.03	27
Bluford	B	8.5278	72.723	9.3	56.4	29.059	201
Bluford	BC	11.811	139.5	13.9	51.6	26.886	7
Bluford	BE	10.868	118.10	15.9	47.3	26.75	6
Bluford	C	11.627	135.18	3.3	45.1	23.095	19
Bluford	E	7.3913	54.632	9.7	40.3	20.031	29
Bluford	EB	5.6801	32.263	13.2	23.5	19.733	3
Bluford	R			9.6	9.6	9.6000	1

Base Data by Horizon

taxon_name	county_name	user_pedon_id	hzn_de	hzn_top	hzn_bot	cec_nh4	ecec	base_sum	fldsyb	mapsyb	class_type	layer_k
Bluford	Clay	89IL025014	Ap	0	15	7.5		8.6			sampled as	107140
Bluford	Clay	89IL025014	E1	15	23	8.9	6.6	4			sampled as	107141
Bluford	Clay	89IL025014	E2	23	46	23.3	19.4	7.9			sampled as	107142
Bluford	Clay	89IL025014	Bt1	46	53	24.9	20.8	8.9			sampled as	107143
Bluford	Clay	89IL025014	Bt2	53	71	19.5	16.2	7.8			sampled as	107144
Bluford	Clay	89IL025014	Bt3	71	102	14.9	12.6	8.7			sampled as	107145
Bluford	Clay	89IL025014	2Btx	102	152	16		15.6			sampled as	107146
Bluford	Clay	89IL025014	2BCg	152	229	17.8		18.9			sampled as	107147
Bluford	Clay	89IL025014	2Btgb1	229	267	16		17.9			sampled as	107148
Bluford	Clay	89IL025014	3Btgb2	267	343	11.2					sampled as	107149
Bluford	Clay	90IL025053	Ap	0	18	8		6.6			sampled as	107151
Bluford	Clay	90IL025053	E	18	32	7.7	5.7	4.9			sampled as	107152
Bluford	Clay	90IL025053	Btg1	32	58	15.7	12.5	4.5			sampled as	107153
Bluford	Clay	90IL025053	Btg2	58	95	21.2	17.3	8			sampled as	107154
Bluford	Clay	90IL025053	Btg3	95	130	17.9	14.3	9.8			sampled as	107155
Bluford	Clay	90IL025053	2Bcg	130	170	10.6	9.2	8.6			sampled as	107156
Bluford	Clay	90IL025053	3Ab	170	220	10.1		9.6			sampled as	107157
Bluford	Clay	90IL025053	3Btgb1	220	240	11.8		11.8			sampled as	107158
Bluford	Clay	90IL025053	3Btgb2	240	265	15.4		16.1			sampled as	107159
Bluford	Clay	90IL025053	3BCb	265	350	12.5					sampled as	107160
Bluford	Clay	90IL025053	3C1	350	400	6.8					sampled as	107161
Bluford	Clay	90IL025053	3C2	400	750	3.5					sampled as	107162
Bluford	Clay	90IL025053	4C	750	850	23.8					sampled as	107163
Bluford	Clay	90IL025057	Ap	0	20	9.6		10.3			sampled as	107190
Bluford	Clay	90IL025057	E	20	35	8.6		4.5			sampled as	107191
Bluford	Clay	90IL025057	Btg1	35	75	20.9	17.4	6.7			sampled as	107192
Bluford	Clay	90IL025057	Btg2	75	130	21.3	18.3	12.5			sampled as	107193
Bluford	Clay	90IL025057	Btg3	130	200	21.6		21.5			sampled as	107194
Bluford	Clay	90IL025057	2BCg	200	255	14.3		15.1			sampled as	107195
Bluford	Clay	90IL025057	3Btg1	255	280	22.9		24			sampled as	107196
Bluford	Clay	90IL025057	3Btg2	280	355	22.7					sampled as	107197
Bluford	Clay	90IL025057	4C	355	480	8.7					sampled as	107198
Bluford	Clay	90IL025057	5C	480	580	1.9					sampled as	107199

VER.Jan_2008 *** Soil Correlation Report *** PRINT D

Pedon Identification: 00IL053001 **Site Identification:** 00IL053001 **Laboratory Pedon ID:** 00P0991

<- - - - - - - - - - - - DESCRIPTION INFORMATION - - - - - - - - - - - - ->

Laboratory	Soil Name	Taxon Kind	Taxonomy Phrase
SSL	Pella		
SSL	Pella	series	Fine-silty, mixed, superactive, mesic Typic Endoaquolls

Correlated Soil	Pedon Type	Last Update	Site Origin
		09/18/2001	NSSL
Pella	within range of map unit	03/12/2008	MLRA11_Office

<- - - - - - - - - - - - REPOSITORY INFORMATION - - - - - - - - - - - - ->

Class Type	Soil Name	Taxon Kind	Taxonomy Phrase	Classifier	Date
sampled as	Pella	series			

<- - - - - - - - - - SITE INFORMATION - - - - - - - - - - ->

Type	Degrees	Direction	Minutes	Seconds	Datum
Latitude	40	north	44	55.00	NAD27
Longitude	88	west	7	39.00	

<- - - - - - - - - - NOTE INFORMATION - - - - - - - - - - ->

Author	Creation Date	Note
	Note Is Unavailable!	

Geo-Reference Point Map Unit Information:
Name: Pella silty clay loam, 0 to 2 percent slopes
Symbol: 153A

Kind: Consociation

Pella Series Correlation Report

Pedon Identification: 83IL053006 **Site Identification:** 83IL053006 **Laboratory Pedon ID:** 83P0771

<- - - - - - - - - - - - DESCRIPTION INFORMATION - - - - - - - - - - - - ->

Description Is Unavailable!

<- - - - - - - - - - - - REPOSITORY INFORMATION - - - - - - - - - - - - ->

Class Type	Soil Name	Taxon Kind	Taxonomy Phrase	Classifier	Date
sampled as	Pella	series	Fine-silty, mixed, mesic Typic Haplaquoll		11-01-1991
SSL	Pella	series	Fine-silty, mixed, mesic Typic Haplaquoll		11-01-1991
correlated	Pella	series	Fine-silty, mixed, superactive, mesic Typic Haplaquoll		11-01-1991

<- - - - - - - - - - SITE INFORMATION - - - - - - - - - - ->

Type	Degrees	Direction	Minutes	Seconds	Datum
Latitude	40	north	48	21.00	
Longitude	88	west	9	0	

<- - - - - - - - - - NOTE INFORMATION - - - - - - - - - - ->

Author	Creation Date	Note

Note Is Unavailable!

Geo-Reference Point Map Unit Information:

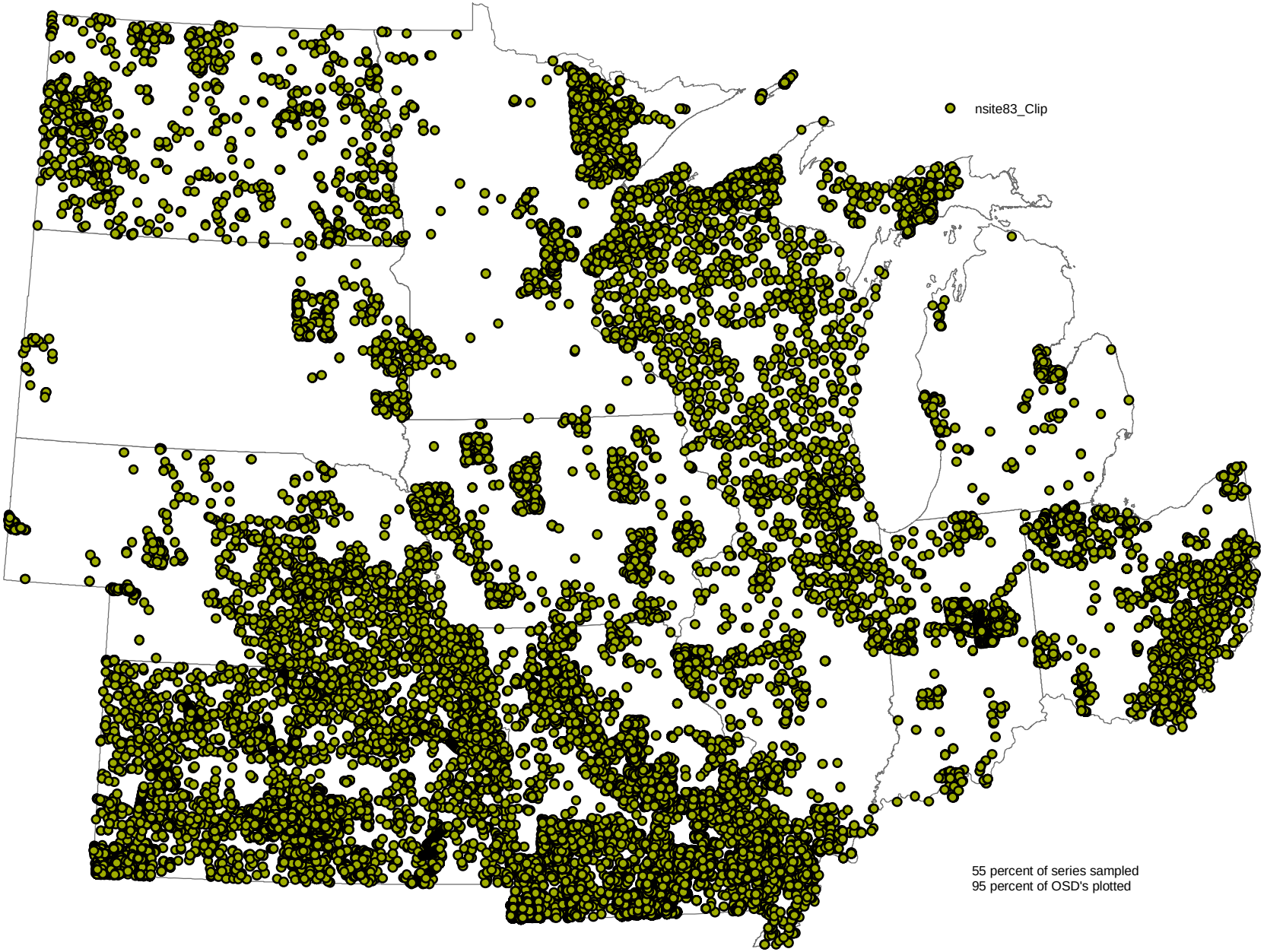
Name: Pella silty clay loam, 0 to 2 percent slopes

Symbol: 153A

Kind: Consociation

Pella Series Correlation Report

NASIS Pedons Described in North-Central US

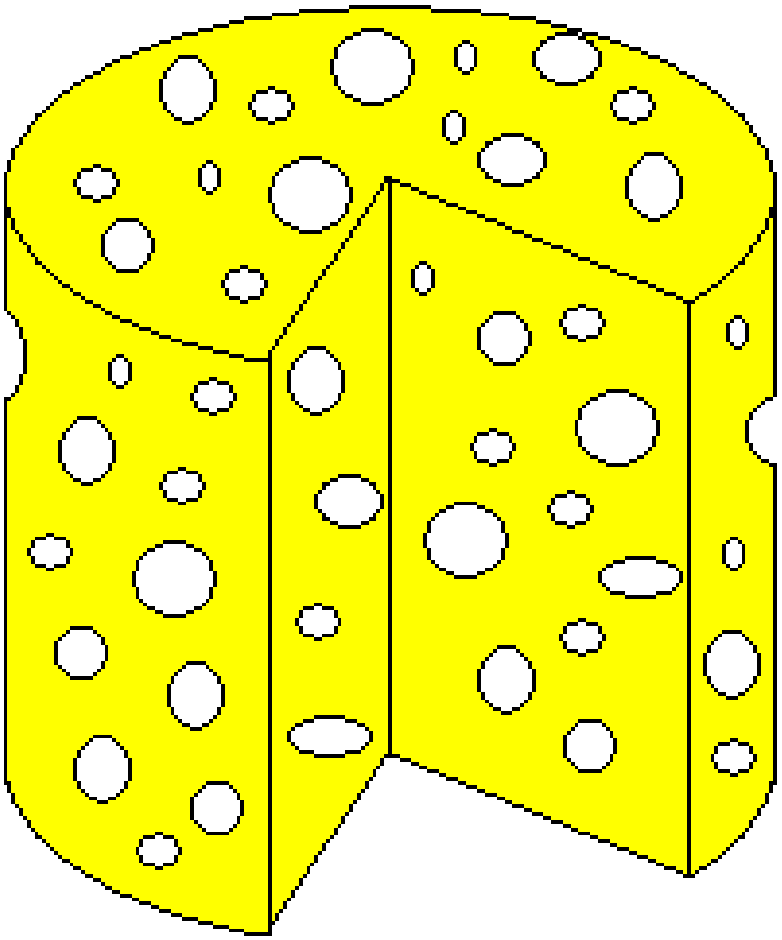


2

Albers Equal Area Projection

0 45 90 180 270 Miles

NRCS Natural Resources Conservation Service

NSSC 6/2008

- Liaisons reassigned to divide MLRA SSO workload
- SOI8
- Georeference
  - Characterization sites
  - OSD
  - NASIS Descriptions
- Shape files