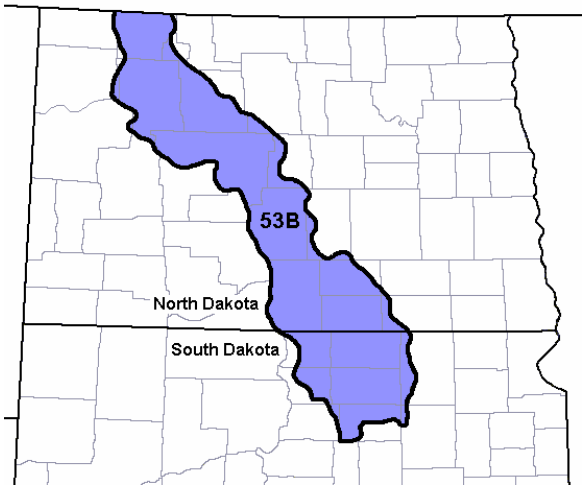
United States Department of Agriculture
Natural Resources Conservation Service

Ecological Site Description



Site Name: Shallow Marsh

Site Type: Rangeland

Site ID: R053BY025ND

Major Land Resource Area (MLRA): 53B – Central Dark Brown Glaciated Plains

For more information on MLRA's, refer to the following Web site: http://www.soilinfo.psu.edu/soil_lrr/.

Physiographic Features

This site occurs on level to nearly level or concave low lying positions.

Landform: depression, drainageway, swale **Aspect:** NA

	Minimum	Maximum
Elevation (feet):	1600	2000
Slope (percent):	0	1
Water Table Depth (inches):	0	6
Flooding:		
Frequency:	None	None
Duration:	None	None
Ponding:		
Depth (inches):	0	12
Frequency:	Occasional	Frequent
Duration:	Brief	Long
Runoff Class:	Negligible	Medium

Climatic Features

MLRA 53B is considered to have a continental climate – cold winters and hot summers, low humidity, light rainfall, and much sunshine. Extremes in temperature are characteristic. The climate is the result of this MLRA's location in the geographic center of North America. There are few natural barriers on the northern Great Plains. The air masses move unobstructed across the plains and account for rapid changes in temperature.

Annual precipitation ranges from 15 to 20 inches per year. The normal average annual temperature is about 41°F. January is the coldest month with average temperatures ranging from about 4°F (Powers Lake, North Dakota (ND)), to about 10°F (Pollock, South Dakota (SD)). July is the warmest month with temperatures averaging from about 67°F (Powers Lake, ND), to about 72°F (Pollock, SD). The range of normal average monthly temperatures between the coldest and warmest months is about 62°F. This large annual range attests to the continental nature of this MLRA's climate. Winds

average about 11 miles per hour annually, ranging from about 13 miles per hour during the spring to about 10 miles per hour during the summer. Daytime winds are generally stronger than nighttime and occasional strong storms may bring brief periods of high winds with gusts to more than 50 miles per hour.

Growth of native cool-season plants begins in late March and continues to early to mid-July. Native warm-season plants begin growth in mid-May and continue to the end of August. Green up of cool-season plants can occur in September and October when adequate soil moisture is present.

	Minimum	Maximum
Frost-free period (days):	110	135
Freeze-free period (days):	129	156
Mean Annual Precipitation (inches):	15	20

Average Monthly Precipitation (inches) and Temperature (ºF):

	Precip. Min.	Precip. Max	Temp. Min.	Temp. Max.
January	0.41	0.48	-6.8	21.5
February	0.41	0.57	0.7	28.9
March	0.57	1.09	12.0	39.7
April	1.31	2.01	27.0	57.4
May	1.98	2.92	38.6	70.8
June	3.17	3.80	48.4	79.3
July	2.38	2.84	52.9	86.2
August	1.82	2.17	50.8	85.6
September	1.37	1.67	39.9	74.2
October	0.62	1.30	28.3	61.2
November	0.53	0.74	13.7	41.2
December	0.43	0.43	0.3	27.2

Climate Stations		Period	
Station ID	**Location or Name**	**From**	**To**
ND3376	Garrison 1 NNW	1948	2001
SD4891	Leola	1948	2001
ND6383	New Town 4 W	1952	1985
SD6712	Pollock	1948	2001
ND7281	Powers Lake	1948	2001
SD7277	Roscoe	1948	2001

For local climate stations that may be more representative, refer to http://www.wcc.nrcs.usda.gov.

Influencing Water Features

Wetland Description:	System	Subsystem	Class	Sub-class
Cowardin, et al., 1979	Palustrine	N/A	Persistent Emergent Wetland	Permanently or Semi-permanently or Seasonally Flooded or Saturated

Representative Soil Features

The common features of soils in this site are the silt clay loam to silty clay-textured subsoil and slopes of zero to one percent. The soils in this site are poorly to very poorly drained and formed in glacial drift. The silt clay loam surface layer is 6 to 22 inches thick. The soils have a slow infiltration rate.

This site should show no evidence of rills, wind scoured areas or pedestalled plants. The soil surface is stable and intact. Sub-surface soil layers are non-restrictive to water movement and root penetration.

These soils are not susceptible to water erosion. Ponded water conditions and slow permeability strongly influences the soil-water-plant relationship.

Major soil series correlated to this ecological site can be found in Section II of the Natural Resources Conservation Service (NRCS) Field Office Technical Guide or the following Web sites: http://www.nrcs.usda.gov/technical/efotg/.

Parent Material Kind: glacial drift
Parent Material Origin: mixed
Surface Texture: silty clay loam
Surface Texture Modifier: none
Subsurface Texture Group: loamy
Surface Fragments ≤3" (% Cover): 0-5
Surface Fragments >3" (%Cover): 0-5
Subsurface Fragments ≤3" (% Volume): 0-10
Subsurface Fragments >3" (% Volume): 0-5

	Minimum	Maximum
Drainage Class:	very poorly	poorly
Permeability Class:	slow	slow
Depth to first restrictive layer (inches):	80	80
Electrical Conductivity (mmhos/cm)*:	0	2
Sodium Absorption Ratio*:	0	1
Soil Reaction (1:1 Water)*:	6.1	8.4
Soil Reaction (0.1M CaCl2)*:	NA	NA
Available Water Capacity (inches)*:	6	7
Calcium Carbonate Equivalent (percent)*:	0	20

* - These attributes represent from 0-40 inches or to the first restrictive layer.

Plant Communities

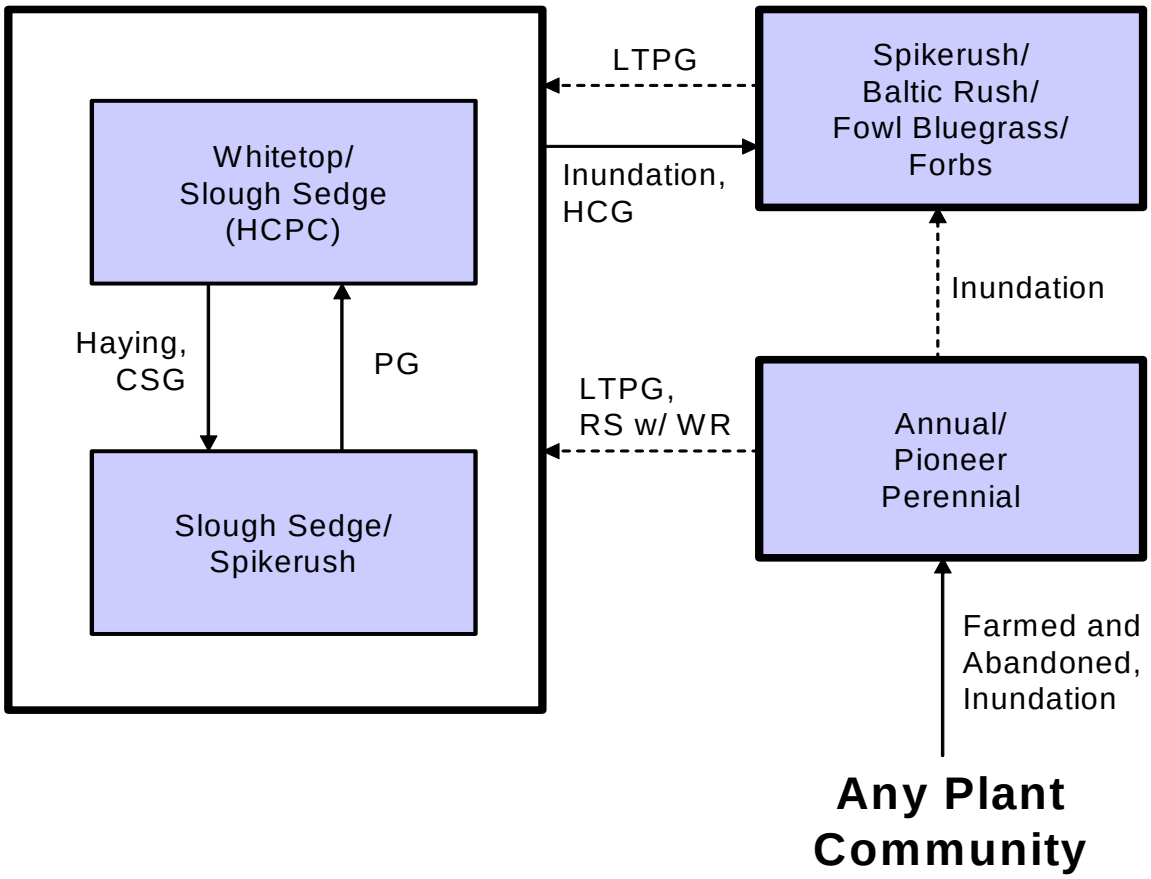
Ecological Dynamics of the Site:
The site developed under Northern Great Plains climatic conditions, and included natural influence of large herbivores, occasional fire and yearly flooding events. Changes will occur in the plant communities due to management actions and/or climatic conditions. Due to the nature of the soils, the site is considered highly variable but very stable. Under continued adverse impacts, a slow decline in vegetative vigor and composition will occur. Under favorable vegetative management treatments the site can rapidly recover to the Historic Climax Plant Community (HCPC). High variability of ponding levels and duration is the major cause of the fluctuating plant community. However, management can greatly influence the plant community dynamics during extended drought periods.

The plant community upon which interpretations are primarily based is the HCPC under normal precipitation periods. The HCPC has been determined by study of rangeland relic areas, areas protected from excessive disturbance, and areas under long-term rotational grazing regimes. Trends in plant community dynamics ranging from heavily grazed to lightly grazed areas, seasonal use pastures, and historical accounts also have been used.

Continuous grazing without adequate recovery opportunities between grazing events over several years will cause this site to depart from the HCPC. Species such as reed canarygrass, spikerush, and Baltic rush will increase in frequency and density. Non-use (rest) and lack of fire will cause litter levels and plant decadence/mortality to increase. Cattails are greatly influenced by the fluctuating water regime.

The following is a diagram that illustrates the common plant communities that can occur on the site and the transition pathways between communities. The ecological processes will be discussed in more detail in the plant community descriptions following the diagram.

Plant Communities and Transitional Pathways



CSG – Continuous seasonal grazing; **HCG** – Heavy continuous grazing; **HCPC** – Historic Climax Plant Community; **Inundation** – Long-term inundation; **LTPG** – Long-term prescribed grazing; **PG** – Prescribed grazing with adequate recovery opportunity; **RS** – Range seeding with prescribed grazing; **WR** – Wetland restoration.

Plant Community Composition and Group Annual Production

		Whitetop/Slough Sedge (HCPC)		
COMMON/GROUP NAME	**SYMBOL**	**Group**	**lbs./acre**	**% Comp**
GRASSES			*3520 - 4800*	*55 - 75*
COOL-SEASON TALL GRASSES		**1**	**1280 - 1920**	**20 - 30**
whitetop	SCFE	1	960 - 1920	15 - 30
American mannagrass	GLGR	1	320 - 640	5 - 10
WARM-SEASON TALL GRASSES		**2**	**320 - 640**	**5 - 10**
prairie cordgrass	SPPE	2	320 - 640	5 - 10
REEDGRASSES		**3**	**0 - 320**	**0 - 5**
bluejoint reedgrass	CACA4	3	0 - 320	0 - 5
northern reedgrass	CASTI3	3	0 - 320	0 - 5
plains reedgrass	CAMO	3	0 - 320	0 - 5
narrow reedgrass	CASTS5	3	0 - 320	0 - 5
OTHER NATIVE GRASSES		**4**	**320 - 640**	**5 - 10**
American sloughgrass	BESY	4	320 - 640	5 - 10
other perennial grasses	2GP	4	320 - 640	5 - 10
GRASS-LIKES		*5*	*1280 - 1920*	*20 - 30*
slough sedge	CAAT2	5	960 - 1920	15 - 30
woolly sedge	CAPE42	5	0 - 640	0 - 10
Sartwell's sedge	CASA8	5	0 - 640	0 - 10
Nebraska sedge	CANE2	5	0 - 640	0 - 10
spikerush	ELEOC	5	320 - 640	5 - 10
flatsedge	CYPER	5	0 - 320	0 - 5
Baltic rush	JUBA	5	128 - 512	2 - 8
rush	JUNCU	5	0 - 320	0 - 5
American bulrush	SCAM6	5	128 - 512	2 - 8
river bulrush	SCFL11	5	0 - 320	0 - 5
other grass-likes	2GL	5	0 - 640	0 - 10
FORBS		*6*	*320 - 960*	*5 - 15*
blue-eyed grass	SISYR	6	0 - 128	0 - 2
burreed	SPARG	6	0 - 192	0 - 3
cattail	TYLA	6	0 - 320	0 - 5
cinquefoil	POTEN	6	0 - 192	0 - 3
common waterparsnip	SISU2	6	0 - 192	0 - 3
dogbane	APOCY	6	0 - 192	0 - 3
Macoun's buttercup	RAMA2	6	64 - 192	1 - 3
meadow anemone	ANCA8	6	0 - 128	0 - 2
northern water plantain	ALTR7	6	128 - 512	2 - 8
smartweed	POLYG4	6	128 - 640	2 - 10
western dock	RUAQ	6	0 - 320	0 - 5
white panicle aster	SYLA6	6	128 - 512	2 - 8
other perennial forbs	2FP	6	0 - 320	0 - 5
other annual forbs	2FA	6	0 - 192	0 - 3

Annual Production lbs./acre	LOW RV HIGH
GRASSES	3800 - 4160 - 4400
GRASS-LIKES	1200 - 1600 - 2200
FORBS	400 - 640 - 800
TOTAL	5400 - 6400 - 7400

This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic factors. RV = Representative Value.

Plant Community Composition and Group Annual Production

		Whitetop/Slough Sedge (HCPC)			Slough Sedge/Spikerush			Spikerush/Baltic Rush/ Fowl Bluegrass/Forbs		
COMMON/GROUP NAME	**SYMBOL**	**Grp**	**lbs./acre**	**% Comp**	**Grp**	**lbs./acre**	**% Comp**	**Grp**	**lbs./acre**	**% Comp**
GRASSES			*4160 - 4800*	*65 - 75*		*1100 - 1650*	*20 - 30*		*640 - 960*	*20 - 30*
COOL-SEASON TALL GRASSES		**1**	**1280 - 1920**	**20 - 30**	**1**	**0 - 440**	**0 - 8**	**1**		
whitetop	SCFE	1	960 - 1920	15 - 30	1	0 - 275	0 - 5			
American mannagrass	GLGR	1	320 - 640	5 - 10	1	0 - 165	0 - 3			
WARM-SEASON TALL GRASSES		**2**	**320 - 640**	**5 - 10**	**2**	**0 - 275**	**0 - 5**	**2**		
prairie cordgrass	SPPE	2	320 - 640	5 - 10	2	0 - 275	0 - 5			
REEDGRASSES		**3**	**0 - 320**	**0 - 5**	**3**	**0 - 110**	**0 - 2**	**3**		
bluejoint reedgrass	CACA4	3	0 - 320	0 - 5						
northern reedgrass	CASTI3	3	0 - 320	0 - 5	3	0 - 110	0 - 2			
plains reedgrass	CAMO	3	0 - 320	0 - 5						
narrow reedgrass	CASTS5	3	0 - 320	0 - 5	3	0 - 110	0 - 2			
OTHER NATIVE GRASSES		**4**	**320 - 640**	**5 - 10**	**4**	**55 - 275**	**1 - 5**	**4**	**64 - 480**	**2 - 15**
American sloughgrass	BESY	4	320 - 640	5 - 10	4	0 - 275	0 - 5	4	0 - 320	0 - 10
foxtail barley	HOJU				4	55 - 275	1 - 5	4	0 - 320	0 - 10
other perennial grasses	2GP	4	320 - 640	5 - 10	4	0 - 275	0 - 5	4	0 - 160	0 - 5
NON-NATIVE GRASSES		**5**			**5**	**55 - 275**	**1 - 5**	**5**	**0 - 320**	**0 - 10**
barnyardgrass	ECCR				5	55 - 275	1 - 5	5	0 - 320	0 - 10
quackgrass	ELRE4							5	0 - 160	0 - 5
creeping meadow foxtail	ALAR							5	0 - 160	0 - 5
other grasses	2GRAM				5	0 - 165	0 - 3	5	0 - 160	0 - 5
GRASS-LIKES		*6*	*1280 - 1920*	*20 - 30*	*6*	*2750 - 3300*	*50 - 60*	*6*	*1280 - 1600*	*40 - 50*
slough sedge	CAAT2	6	960 - 1920	15 - 30	6	1100 - 2200	20 - 40	6	160 - 480	5 - 15
woolly sedge	CAPE42	6	0 - 640	0 - 10	6	275 - 825	5 - 15	6	0 - 256	0 - 8
Sartwell's sedge	CASA8	6	0 - 640	0 - 10	6	0 - 550	0 - 10	6	0 - 160	0 - 5
Nebraska sedge	CANE2	6	0 - 640	0 - 10	6	0 - 550	0 - 10	6	0 - 160	0 - 5
spikerush	ELEOC	6	320 - 640	5 - 10	6	825 - 1650	15 - 30	6	320 - 960	10 - 30
flatsedge	CYPER	6	0 - 320	0 - 5	6	0 - 550	0 - 10	6	0 - 256	0 - 8
Baltic rush	JUBA	6	128 - 512	2 - 8	6	275 - 825	5 - 15	6	160 - 640	5 - 20
rush	JUNCU	6	0 - 320	0 - 5	6	0 - 550	0 - 10	6	0 - 320	0 - 10
American bulrush	SCAM6	6	128 - 512	2 - 8	6	110 - 550	2 - 10	6	32 - 256	1 - 8
river bulrush	SCFL11	6	0 - 320	0 - 5	6	0 - 275	0 - 5	6	0 - 160	0 - 5
other grass-likes	2GL	6	0 - 640	0 - 10	6	0 - 550	0 - 10	6	0 - 320	0 - 10
FORBS		*7*	*320 - 960*	*5 - 15*	*7*	*275 - 825*	*5 - 15*	*7*	*320 - 800*	*10 - 25*
blue-eyed grass	SISYR	7	0 - 128	0 - 2						
burreed	SPARG	7	0 - 192	0 - 3	7	0 - 55	0 - 1			
cattail	TYLA	7	0 - 320	0 - 5	7	0 - 440	0 - 8	7	0 - 96	0 - 3
cinquefoil	POTEN	7	0 - 192	0 - 3	7	0 - 110	0 - 2	7	0 - 64	0 - 2
common waterparsnip	SISU2	7	0 - 192	0 - 3	7	0 - 275	0 - 5	7	0 - 96	0 - 3
curly dock	RUCR				7	55 - 440	1 - 8	7	96 - 480	3 - 15
dogbane	APOCY	7	0 - 192	0 - 3	7	55 - 275	1 - 5	7	32 - 256	1 - 8
Macoun's buttercup	RAMA2	7	64 - 192	1 - 3	7	0 - 110	0 - 2	7	0 - 32	0 - 1
meadow anemone	ANCA8	7	0 - 128	0 - 2	7	0 - 110	0 - 2	7	0 - 32	0 - 1
northern water plantain	ALTR7	7	128 - 512	2 - 8	7	0 - 275	0 - 5	7	0 - 128	0 - 4
smartweed	POLYG4	7	128 - 640	2 - 10	7	110 - 550	2 - 10	7	128 - 480	4 - 15
western dock	RUAQ	7	0 - 320	0 - 5	7	0 - 275	0 - 5	7	0 - 256	0 - 8
white panicle aster	SYLA6	7	128 - 512	2 - 8	7	55 - 275	1 - 5	7	32 - 256	1 - 8
other perennial forbs	2FP	7	0 - 320	0 - 5	7	0 - 275	0 - 5	7	0 - 160	0 - 5
other annual forbs	2FA	7	0 - 192	0 - 3	7	0 - 275	0 - 5	7	0 - 160	0 - 5

Annual Production lbs./acre	LOW RV HIGH	LOW RV HIGH	LOW RV HIGH
GRASSES	3900 · 4160 · 4400	1550 · 1925 · 2200	700 · 1200 · 1400
GRASS-LIKES	1200 · 1600 · 2000	2700 · 3025 · 3400	1200 · 1440 · 1800
FORBS	300 · 640 · 1000	250 · 550 · 900	300 · 560 · 1000
TOTAL	5400 · 6400 · 7400	4500 · 5500 · 6500	2200 · 3200 · 4200

This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic factors. RV = Representative value. Refer to PLANTS database for scientific names and codes: http://plants.usda.gov

Plant Community and Vegetation State Narratives

Following are the narratives for each of the described plant communities. These plant communities may not represent every possibility, but they are the most prevalent and repeatable plant communities. The plant composition tables shown above have been developed from the best available knowledge at the time of this revision. As more data are collected, some of these plant communities may be revised or removed, and new ones may be added. None of these plant communities should necessarily be thought of as "Desired Plant Communities (DPC)." According to the USDA NRCS National Range and Pasture Handbook, DPC's will be determined by the decision-makers and will meet minimum quality criteria established by the NRCS. The main purpose for including any description of a plant community here is to capture the current knowledge and experience at the time of this revision.

Whitetop/Slough Sedge Plant Community

This is the interpretive plant community and is considered to be the HCPC. This plant community evolved with grazing by large herbivores, infrequent wild fires, and periodic flooding events and is suited for grazing by domestic livestock. This plant community can be found on areas that are grazed and where the grazed plants receive adequate periods of rest during the growing season in order to recover.

Historically, fires occurred infrequently. The potential vegetation is about 55 percent grasses, 30 percent grass-likes, and 15 percent forbs. The major grasses and grass-likes include whitetop, slough sedge, woolly sedge, American mannagrass, prairie cordgrass, Sartwell's sedge, Nebraska sedge, and spikerush. Key forbs include smartweeds, western dock, and white panicle aster.

The plant community is well adapted to the Northern Great Plains climatic conditions. It is a critical plant community, providing water and habitat for the surrounding area. The diversity in plant species provides a variety of habitats for wildlife. It is resistant to drought due to a dependable water supply. This is a sustainable plant community (soil stability, watershed function, and biologic integrity).

The following growth curve is an estimate of the monthly percentages of total annual growth of the dominant species expected during a normal year.
Growth curve number: ND5307
Growth curve name: Missouri Coteau, cool-season dominant, warm-season sub-dominant.
Growth curve description: Cool-season dominant, warm-season sub-dominant, lowland.

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	2	7	36	35	10	3	6	1	0	0

Transitional pathways and/or community pathways leading to other plant communities are as follows:

- Continuous seasonal grazing without adequate recovery periods between grazing events will shift this plant community to the *Slough Sedge/Spikerush Plant Community*.

- Farmed and abandoned land or long-term inundation may lead this plant community to the *Annual/Pioneer Perennial Plant Community*.

Slough Sedge/Spikerush Plant Community

This plant community will slowly develop from the adverse effects of continuous grazing, without adequate recovery periods between each grazing event during the growing season. When compared to the HCPC, whitetop, prairie cordgrass, American mannagrass, and reedgrasses have decreased.

The grass-like species, such as slough sedge, spikerush, woolly sedge, Sartwell's sedge, Nebraska sedge, and rushes have increased, and tend to dominate this plant community.

The abundant production and proximity to water make this plant community important for livestock and wildlife such as birds, mule deer, and antelope. The plant community is stable and protected from excessive erosion. The biotic integrity of this plant community is usually intact. The watershed is usually functioning.

The following growth curve is an estimate of the monthly percentages of total annual growth of the dominant species expected during a normal year
Growth curve number: ND5306
Growth curve name: Missouri Coteau, lowland cool-season dominant.
Growth curve description: Cool-season dominant, lowland.

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	3	10	37	35	5	2	8	0	0	0

Transitional pathways and/or community pathways leading to other plant communities are as follows:

- Prescribed grazing that includes adequate recovery opportunity between grazing occurrences will shift this plant community back to the *Whitetop/Slough Sedge Plant Community (HCPC)*.

- Heavy, continuous grazing and/or inundation will convert this plant community to the *Spikerush/Baltic Rush/Fowl Bluegrass/Forbs Plant Community*.

- Farmed and abandoned land or long-term inundation may lead this plant community to the *Annual/Pioneer Perennial Plant Community*.

Spikerush/Baltic Rush/Fowl Bluegrass/Forbs Plant Community

This plant community developed with heavy continuous grazing without adequate recovery periods between grazing events and/or inundation during periods of extended above-average precipitation. Spikerush, Baltic rush, bulrush, and other less desirable grass-likes, along with grasses such as fowl bluegrass and American sloughgrass dominate the community. Quackgrass, creeping meadow foxtail, Kentucky bluegrass, and other nonnative species can invade on drier portions of the community. Whitetop, slough sedge, other sedges, prairie cordgrass, and reedgrasses will be virtually eliminated the plant community. Smartweeds, dock, and cinquefoil have increased. Areas of bare ground can be present throughout the site.

A significant amount of production and diversity has been lost when compared to the HCPC. Loss or reduction of native grasses, grass-likes, and forbs has negatively impacted energy flow and nutrient cycling. It will take a long time to restore this plant community back to the HCPC with improved management or return of more normal precipitation patterns.

The following growth curve is an estimate of the monthly percentages of total annual growth of the dominant species expected during a normal year:
Growth curve number: ND5306
Growth curve name: Missouri Coteau, lowland cool-season dominant.
Growth curve description: Cool-season dominant, lowland.

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	3	10	37	35	5	2	8	0	0	0

Transitional pathways and/or community pathways leading to other plant communities are as follows:

- Long-term prescribed grazing with adequate recovery periods following each grazing event may move this plant community toward the *Slough Sedge/Spikerush Plant Community*. Eventually it may return to the *HCPC* or associated successional plant community stages assuming an adequate seed/vegetative source is available. This process may take greater than 10 years.

- Farmed and abandoned land or long-term inundation may lead this plant community to the *Annual/Pioneer Perennial Plant Community*.

Annual/Pioneer Perennial Plant Community

This plant community develops under severe disturbance or long enduring flooding. This can result from heavy livestock or wildlife concentration, excessive ponding, or cropping abandonment (go-back land). The dominant vegetation includes pioneer annual or perennial grasses and grass-likes, forbs, invaders, and other early successional biennial and perennial species. Grasses and grass-likes may include foxtail barley, barnyardgrass, annual brome, quackgrass, spikerush, and rushes. The dominant forbs include dock, smartweeds, and other early successional species. The community is susceptible to invasion of nonnative species due to severe soil disturbances and relatively high percent of bare ground.

This plant community is resistant to change, as long as soil disturbance or severe vegetation defoliation persists, thus holding back secondary plant succession. Soil erosion is potentially low in this plant community when ponded, but occasional periods of soil blowing may occur when dry. Reduced surface cover, low plant density, low plant vigor, loss of root biomass, and soil compaction, all contribute to decreased water infiltration and impairment of the water and nutrient cycling.

Significant economic inputs, management and time would be required to move this plant community toward a higher successional stage and a more productive plant community. Secondary succession is highly variable, depending upon availability and diversity of a viable reproductive source of higher successional species within the existing plant community and neighboring plant communities. This plant community can be renovated to improve the production capability, but management changes would be needed to maintain the new plant community. The total annual production ranges from 900 to 5,000 lbs./ac. (air-dry weight) depending upon species and severity of the degradation of the site.

Transitional pathways and/or community pathways leading to other plant communities are as follows:

- Under long-term prescribed grazing and/or removal of disturbance, including adequate rest periods, this plant community will move through the successional stages, and may eventually lead towards the *Whitetop/Slough Sedge Plant Community (HCPC).* Depending on the severity of compaction, sedimentation, and concentrated heavy-loaded organic build-up and if adequate perennial plants exist, this change can occur more slowly. This process will likely take a period of (20+ years).

- Range seeding and/or wetland restoration can accelerate the conversion of this plant community towards a community resembling the *Whitetop/Slough Sedge Plant Community*.

Ecological Site Interpretations

Animal Community – Wildlife Interpretations

-- Under Development --

Whitetop/Slough Sedge Plant Community:

Slough Sedge/Spikerush Plant Community:

Spikerush/Baltic Rush/Fowl Bluegrass/Forbs Plant Community:

Annual/Pioneer Perennials Plant Community:

Animal Preferences (Quarterly – 1,2,3,4[†])

Common Name	Cattle	Sheep	Horses	Deer	Antelope	Bison	Elk
Grasses							
American mannagrass	N U U N	N D D U	N U U N	N D D U	N U U N	N U U N	N U U N
American sloughgrass	U P D U	U P D U	U P D U	U P D U	U P D U	U P D U	U P D U
bluejoint reedgrass	U P D U	N D U N	U P D U	N D U N	N D U N	U P D U	U P D U
narrow reedgrass	U P U D	N D U N	U P U D	N D U N	N D U N	U P U D	U P U D
northern reedgrass	U P U D	N D N U	U P U D	N D N U	N D N U	U P U D	U P U D
plains reedgrass	U D U U	N D N N	U D U U	N D N N	N D N N	U D U U	U D U U
prairie cordgrass	U D D U	N N N N	U D D U	N N N N	N N N N	U D D U	U D D U
whitetop	U P U D	N P N U	U P U D	N P N U	N P N U	U P U D	U P U D
Grass-likes							
American bulrush	U U U U	N N N N	U U U U	N N N N	N N N N	U U U U	U U U U
Baltic rush	N N N N	N N N N	N N N N	N N N N	N N N N	N N N N	N N N N
flatsedge	U U U U	U U U U	U U U U	U U U U	U U U U	U U U U	U U U U
Nebraska sedge	U P U D	U P N D	U P U D	U D U D	U D U D	U P U D	U P U D
river bulrush	U U U U	N N N N	U U U U	N N N N	N N N N	U U U U	U U U U
rush	N N N N	N N N N	N N N N	N N N N	N N N N	N N N N	N N N N
Sartwell's sedge	U P D U	U P D U	U P D U	U P D U	U P D U	U P D U	U P D U
slough sedge	U P U D	U P N D	U P U D	U D U D	U D U D	U P U D	U P U D
spikerush	U U U U	U U U U	U U U U	U U U U	U U U U	U U U U	U U U U
woolly sedge	U P D U	U P D U	U P D U	U P D U	U P D U	U P D U	U P D U
Forbs							
blue-eyed grass	U U U U	U U P U	U U U U	U U P U	U U P U	U U U U	U U P U
burreed	N U U N	N D D U	N U U N	N D D U	N D D U	N U U N	N U U N
cattail	U U U U	U U U U	U U U U	U U U U	U U U U	U U U U	U U U U
cinquefoil	U U D U	U U U U	U U D U	U U U U	U U U U	U U D U	U U U U
common waterparsnip	T T T T	T T T T	T T T T	T T T T	T T T T	T T T T	T T T T
dogbane	T T T T	T T T T	T T T T	T T T T	T T T T	T T T T	T T T T
Macoun's buttercup	U U U U	N U U N	U U U U	N U U N	N U U N	U U U U	N U U N
meadow anemone	U U U U	U U D U	U U U U	U U D U	U U D U	U U U U	U U U U
northern water plantain	U U U U	N U U N	U U U U	N U U N	N U U N	U U U U	N U U N
smartweed	N N N N	N N N N	N N N N	N N N N	N N N N	N N N N	N N N N
western dock	U U U U	N U U N	U U U U	N U U N	N U U N	U U U U	N U U N
white panicle aster	U U D U	U U P U	U U D U	U U P U	U U P U	U U D U	U U P U

N = not used; **U** = undesirable; **D** = desirable; **P** = preferred; **T** = toxic
[†] Quarters: 1 – Jan., Feb., Mar.; 2 – Apr., May, Jun.; 3 – Jul., Aug., Sep.; 4 – Oct., Nov., Dec.

Animal Community – Grazing Interpretations

Hydrology Functions

Water ponding is the principal factor limiting herbage production on this site. The site is dominated by soils in hydrologic groups C and D. Infiltration is slow and runoff potential for this site is negligible. In many cases, areas with greater than 75 percent ground cover have the greatest potential for high infiltration and lower runoff. An exception would be where short grasses form a dense sod and dominate the site. Areas where ground cover is less than 50 percent have the greatest potential to have reduced infiltration and higher runoff (refer to Section 4, NRCS National Engineering Handbook for runoff quantities and hydrologic curves).

Recreational Uses
This site provides hunting opportunities for upland and waterfowl game species. The wide varieties of plants which bloom from spring until fall have an esthetic value that appeals to visitors.

Wood Products
No appreciable wood products are present on the site.

Other Products
None noted.

Supporting Information

Associated Sites
(053BY006ND) – Saline Lowland
(053BY005ND) – Loamy Overflow
(053BY012ND) – Subirrigated
(053BY018ND) – Wet Land

Similar Sites
(053BY018ND) – Wet Land (WL)
[Very poorly drained soils, redoximorphic features within six inches or just below organic soil layer, found in depressions or along streams where water ponds for more than a week. Found down slope of Wet Meadow site and can be in micro low positions within the listed associated sites. Similar species, but less slough sedge, less whitetop, and more prairie cordgrass, and higher production.]

(053BY019ND) – Wet Meadow (WM)
[Poorly drained soils adjacent to streams or in depressions, with water table at or within one and one-half feet of the surface, no evidence of salts, redoximorphic features within six inches or just below the organic soil layer. Found downslope of Subirrigated or Loamy Overflow sites; can be located within associated sites. More prairie cordgrass, no whitetop, or slough sedge, less production.]

Inventory Data References
Information presented here has been derived from NRCS clipping and other inventory data. Also, field knowledge of range-trained personnel was used. All descriptions were peer reviewed and/or field-tested by various private, state, and federal agency specialists. Those involved in developing this site description include: Stan Boltz, NRCS Range Management Specialist; Michael D. Brand, State Land Dept., Director Surface Management; David Dewald, NRCS State Biologist; Paul Drayton, NRCS District Conservationist; Jody Forman, NRCS Range Management Specialist; Dennis Froemke, NRCS Range Management Specialist; Jeff Printz, NRCS State Range Management Specialist; Josh Saunders, NRCS Range Management Specialist; Kevin Sedivec, Extension Rangeland Management Specialist; Darrell Vanderbusch, NRCS Resource Soil Scientist; and Lee Voigt, NRCS Range Management Specialist.

State Correlation
This site has been correlated with North Dakota and South Dakota in MLRA 53B.

Field Offices

Aberdeen, SD	Gettysburg, SD	Minot, ND	Steele, ND
Ashley, ND	Ipswich, SD	Mohall, ND	Towner, ND
Bismarck, ND	Jamestown, ND	Mound City, SD	Turtle Lake, ND
Bowbells, ND	LaMoure, ND	Napoleon, ND	Watford City, ND
Ellendale, ND	Leola, SD	Redfield, SD	Williston, ND
Faulkton, SD	Linton, ND	Selby, SD	
Garrison, ND	McClusky, ND	Stanley, ND	

Relationship to Other Established Classifications

Level IV Ecoregions of the Conterminous United States: 42a – Missouri Coteau; 42b – Collapsed Glacial Outwash; 42c – Missouri Coteau Slope; 42d – Northern Missouri Coteau; 42f – Southern Missouri Coteau Slope; 42g – Ponca Plains; and 42h – Southern River Breaks.

Other References

High Plains Regional Climate Center, University of Nebraska, 830728 Chase Hall, Lincoln, NE 68583-0728. (http://hpccsun.unl.edu)

USDA, NRCS. National Water and Climate Center, 101 SW Main, Suite 1600, Portland, OR 97204-3224. (http://wcc.nrcs.usda.gov)

USDA, NRCS. National Range and Pasture Handbook, September 1997.

USDA, NRCS. National Soil Information System, Information Technology Center, 2150 Centre Avenue, Building A, Fort Collins, CO 80526. (http://nasis.nrcs.usda.gov)

USDA, NRCS. 2001. The PLANTS Database, Version 3.1 (http://plants.usda.gov). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

USDA, NRCS, Various Published Soil Surveys.

Site Description Approval

ND, State Range Management Specialist	Date	SD, State Range Management Specialist	Date