

## United States Department of Agriculture Natural Resources Conservation Service

### Ecological Site Description

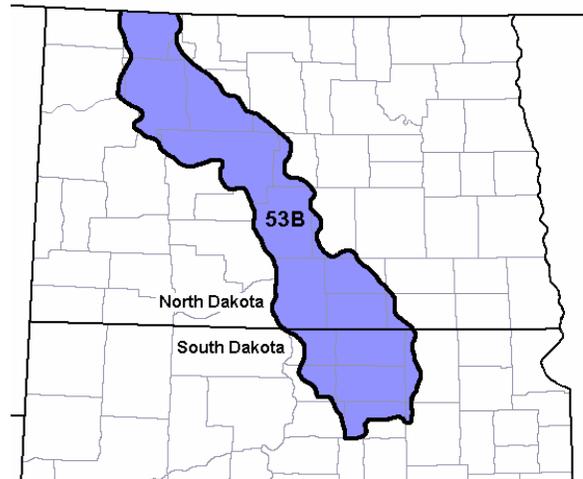
**Site Name:** Wet Land

**Site Type:** Rangeland

**Site ID:** R053BY018ND

**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/](http://www.soilinfo.psu.edu/soil_lrr/).



### Physiographic Features

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

**Landform:** lake plain, depression, drainageway      **Aspect:** NA

	<u>Minimum</u>	<u>Maximum</u>
<b>Elevation (feet):</b>	1600	2000
<b>Slope (percent):</b>	0	2
<b>Water Table Depth (inches):</b>	0	6
<b>Flooding:</b>		
<b>Frequency:</b>	None	Frequent
<b>Duration:</b>	None	Long
<b>Ponding:</b>		
<b>Depth (inches):</b>	0	24
<b>Frequency:</b>	Occasional	Frequent
<b>Duration:</b>	Long	Very long
<b>Runoff Class:</b>	Low	High

### 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.

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

**Average Monthly Precipitation (inches) and Temperature (°F):**

	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

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

## Representative Soil Features

These are very deep, very poorly drained, coarse to fine textured soils. Salinity and sodicity are none to slight. Water tables on this site range from two feet above to one-half foot below the surface during most of the growing season. This site is in deep depressions on lake plains and drainageways. Slope ranges from zero to two percent. 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:** lacustrine deposits, alluvium, till

**Parent Material Origin:** sedimentary

**Surface Texture:** silt loam, silty clay loam, silty clay

**Surface Texture Modifier:** none

**Subsurface Texture Group:** loamy

**Surface Fragments ≤3" (% Cover):** 0-5

**Surface Fragments >3" (%Cover):** 0

**Subsurface Fragments ≤3" (% Volume):** 0-10

**Subsurface Fragments >3" (% Volume):** 0

	<u>Minimum</u>	<u>Maximum</u>
<b>Drainage Class:</b>	very poorly	very poorly
<b>Permeability Class:</b>	very slow	moderate
<b>Depth to first restrictive layer (inches):</b>	80	80
<b>Electrical Conductivity (mmhos/cm)*:</b>	0	4
<b>Sodium Absorption Ratio*:</b>	0	2
<b>Soil Reaction (1:1 Water)*:</b>	6.1	8.4
<b>Soil Reaction (0.1M CaCl<sub>2</sub>)*:</b>	NA	NA
<b>Available Water Capacity (inches)*:</b>	NA	NA
<b>Calcium Carbonate Equivalent (percent)*:</b>	0	45

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

## **Plant Communities**

### **Ecological Dynamics of the Site:**

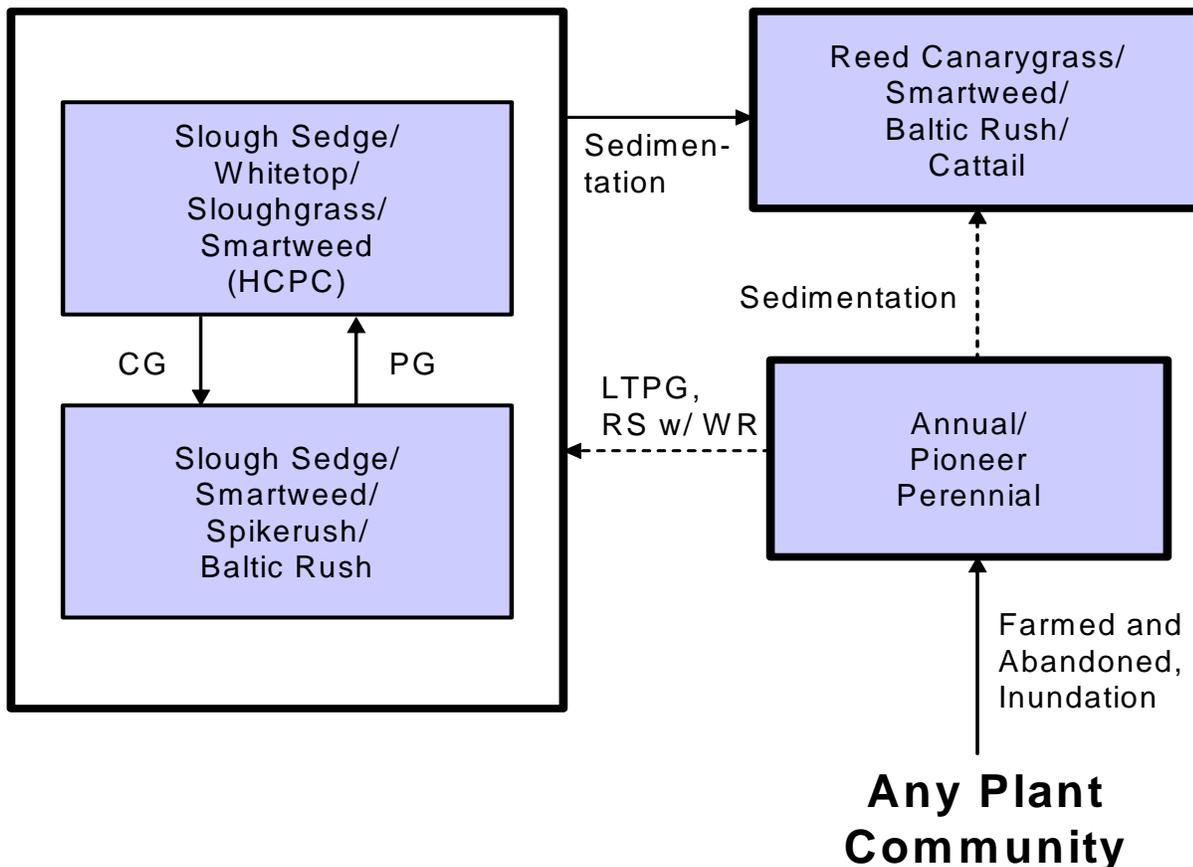
The site developed under Northern Great Plains climatic conditions, and included natural influence of large herbivores, occasional fire and yearly flooding events. Changes will occur in the plant communities due to management actions and/or climatic conditions. Due to the nature of the soils, the site 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



**CG** – Continuous grazing without adequate recovery periods; **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

		Slough Sedge/Whitetop/ Sloughgrass/Smartweed (HCPC)			
COMMON/GROUP NAME	SYMBOL	Group	lbs./acre	% Comp	
<b>GRASSES</b>		1	1200 - 2400	20 - 40	
whitetop	SCFE	1	900 - 1500	15 - 25	
American sloughgrass	BESY	1	300 - 600	5 - 10	
mannagrass	GLYCE	1	120 - 600	2 - 10	
prairie cordgrass	SPPE	1	0 - 180	0 - 3	
northern reedgrass	CASTI3	1	0 - 180	0 - 3	
reed canarygrass	PHAR3	1	0 - 180	0 - 3	
other perennial grasses	2GP	1	0 - 120	0 - 2	
<b>GRASS-LIKES</b>		2	1500 - 2400	25 - 40	
American bulrush	SCAM6	2	60 - 300	1 - 5	
Baltic rush	JUBA	2	0 - 120	0 - 2	
river bulrush	SCFL11	2	60 - 300	1 - 5	
slough sedge	CAAT2	2	900 - 2100	15 - 35	
spikerush	ELEOC	2	60 - 300	1 - 5	
woolly sedge	CAPE42	2	120 - 420	2 - 7	
other grass-likes	2GL	2	60 - 600	1 - 10	
<b>FORBS</b>		3	300 - 1200	5 - 20	
northern water plantain	ALTR7	3	60 - 420	1 - 7	
common waterparsnip	SISU2	3	60 - 180	1 - 3	
burreed	SPARG	3	60 - 480	1 - 8	
cattail	TYLA	3	0 - 60	0 - 1	
arumleaf arrowhead	SACU	3	0 - 120	0 - 2	
buttercup	RANUN	3	0 - 120	0 - 2	
water smartweed	POAM8	3	180 - 900	3 - 15	
duckweed	LEMNA	3	60 - 180	1 - 3	
western dock	RUAQ	3	0 - 120	0 - 2	
other perennial forbs	2FP	3	0 - 300	0 - 5	
<b>Annual Production lbs./acre</b>			LOW	RV	HIGH
<b>GRASSES</b>			1980 -	3300 -	4550
<b>GRASS-LIKES</b>			1800 -	1950 -	2300
<b>FORBS</b>			220 -	750 -	650
<b>TOTAL</b>			4000 -	6000 -	7500

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**

COMMON/GROUP NAME	SYMBOL	Slough Sedge/Whitetop/Slough-grass/Smartweed (HCPC)			Reed Canarygrass/Smartweed/Baltic Rush/Cattail			Slough Sedge/Smartweed/Spikerush/Baltic Rush		
		Grp	lbs./acre	% Comp	Grp	lbs./acre	% Comp	Grp	lbs./acre	% Comp
<b>GRASSES</b>										
whitetop	SCFE	1	1200 - 2400	20 - 40	1	1500 - 2000	30 - 40	1	480 - 1200	10 - 25
American sloughgrass	BESY	1	900 - 1500	15 - 25	1	50 - 250	1 - 5			
mannagrass	GLYCE	1	120 - 600	2 - 10	1	0 - 250	0 - 5			
prairie cordgrass	SPPE	1	0 - 180	0 - 3						
northern reedgrass	CAST3	1	0 - 180	0 - 3	1	0 - 50	0 - 1			
reed canarygrass	PHAR3	1	0 - 180	0 - 3	1	1000 - 1500	20 - 30	1	48 - 240	1 - 5
foxtail barley	HOJU				1	50 - 250	1 - 5	1	48 - 480	1 - 10
barnyardgrass	ECCR				1	50 - 250	1 - 5	1	48 - 240	1 - 5
quackgrass	ELRE4				1	0 - 1000	0 - 20	1	0 - 720	0 - 15
other annual grasses	2GA				1	0 - 250	0 - 5	1	0 - 240	0 - 5
other perennial grasses	2GP	1	0 - 120	0 - 2	1	0 - 100	0 - 2	1	0 - 96	0 - 2
<b>GRASS-LIKES</b>										
American bulrush	SCAM6	2	1500 - 2400	25 - 40	2	1500 - 2000	30 - 40	2	1680 - 2160	35 - 45
Baltic rush	JUBA	2	0 - 120	0 - 2	2	100 - 400	2 - 8	2	96 - 480	2 - 10
river bulrush	SCFL11	2	60 - 300	1 - 5	2	500 - 1250	10 - 25	2	480 - 1200	10 - 25
slough sedge	CAAT2	2	60 - 300	1 - 5	2	50 - 250	1 - 5	2	48 - 480	1 - 10
spikerush	ELEOC	2	900 - 2100	15 - 35	2	50 - 250	1 - 5	2	240 - 720	5 - 15
woolly sedge	CAPE42	2	60 - 300	1 - 5	2	500 - 1250	10 - 25	2	480 - 1200	10 - 25
other grass-likes	2GL	2	120 - 420	2 - 7	2	100 - 500	2 - 10	2	48 - 384	1 - 8
<b>FORBS</b>										
arrowleaf arrowhead	SACU	3	60 - 600	1 - 10	3	50 - 750	1 - 15	3	48 - 720	1 - 15
burreed	SPARG	3	300 - 1200	5 - 20	3	500 - 1000	10 - 20	3	960 - 1440	20 - 30
buttercup	RANUN	3	0 - 120	0 - 2	3	0 - 50	0 - 1			
cattail	TYLA	3	60 - 480	1 - 8	3	50 - 250	1 - 5	3	0 - 144	0 - 3
common waterparsnip	SISU2	3	0 - 120	0 - 2	3	0 - 100	0 - 2			
curly dock	RUCR				3	0 - 100	0 - 2	3	0 - 240	0 - 5
duckweed	LEMNA	3	60 - 180	1 - 3	3	250 - 1000	5 - 20	3	0 - 192	0 - 4
northern water plantain	ALTR7	3	50 - 400	1 - 8	3	50 - 400	1 - 8	3	480 - 960	10 - 20
water smartweed	POAMB	3	60 - 180	1 - 3	3	50 - 150	1 - 3	3	0 - 48	0 - 1
western dock	RUAQ	3	60 - 420	1 - 7	3	50 - 350	1 - 7	3	48 - 240	1 - 5
other perennial forbs	2FP	3	180 - 900	3 - 15	3	100 - 500	2 - 10	3	96 - 720	2 - 15
other annual forbs	2FA	3	0 - 120	0 - 2	3	0 - 150	0 - 3	3	0 - 240	0 - 5
<b>Annual Production lbs./acre</b>										
<b>GRASSES</b>		LOW RV HIGH			LOW RV HIGH			LOW RV HIGH		
<b>GRASS-LIKES</b>		2350 · 3300 · 3700			1700 · 2500 · 3300			710 · 1680 · 1900		
<b>FORBS</b>		1400 · 1950 · 2500			1400 · 1750 · 2100			1640 · 1920 · 2400		
<b>TOTAL</b>		250 · 750 · 1300			400 · 750 · 1100			950 · 1200 · 2000		
		4000 · 6000 · 7500			3500 · 5000 · 6500			3300 · 4800 · 6300		

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.

### Slough Sedge/Whitetop/Sloughgrass/Smartweed 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 40 percent grasses, 40 percent grass-likes, and 20 percent forbs. The major grasses and grass-likes include whitetop, American sloughgrass, slough sedge, mannagrass, woolly sedge, and spikerush. Key forbs include smartweeds, western dock, and 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 grazing without adequate recovery periods between grazing events will shift this plant community to the *Slough Sedge/Smartweed/Spikerush/Baltic Rush Plant Community*.
- Sedimentation will move this plant community to the *Reed Canarygrass/Smartweed/Baltic Rush/Cattail Plant Community*.
- Farmed and abandoned land, or inundation will lead this plant community to the *Annual/Pioneer Perennial Plant Community*.

### Reed Canarygrass/Smartweed/Baltic Rush/Cattail Plant Community

This plant community develops from sedimentation occurring after a ponding or flooding event. When compared to the HCPC, whitetop, prairie cordgrass, slough sedge, and northern reedgrass, have decreased. Reed canarygrass, spikerush, low-growing sedges, Baltic rush, and cattails have increased. 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:

- Farmed and abandoned land, or inundation will convert this plant community to the *Annual/Pioneer Perennial Plant Community*.

### Slough Sedge/Smartweed/Spikerush/Baltic Rush Plant Community

This plant community developed with continuous grazing without adequate recovery periods between grazing events. Whitetop, mannagrass, prairie cordgrass, and northern reedgrass have been reduced when compared to the HCPC. The plant community becomes dominated by grass-likes and forbs such as slough sedge, spikerush, Baltic rush, smartweed, and curly dock. Annual grasses like American sloughgrass and short-lived perennials such as foxtail barley will increase. Quackgrass can invade on drier portions of the community. Areas of bare ground begin to appear 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 relatively long time to restore this plant community back to the HCPC with improved management.

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 with adequate recovery periods following each grazing event may move this plant community to the *Slough Sedge/Whitetop/Sloughgrass/Smartweed Plant Community (HCPC)*.
- Farmed and abandoned land or inundation will convert this plant community to the *Annual/Pioneer Perennial Plant Community*.

### Annual/Pioneer Perennial Plant Community

This plant community develops under severe disturbance and/or long enduring flooding. This can result from excessive ponding and cropping abandonment (go-back land). The dominant vegetation includes pioneer annual grasses, forbs, invaders, and early successional biennial and perennial species. Grasses may include foxtail barley, barnyardgrass, annual brome, quackgrass, and rushes. The dominant forbs include curly dock, smartweeds, and other early successional species. Plant species from adjacent ecological sites may become minor components of this plant community. The community is susceptible to invasion of other non-native species due to severe soil disturbances and relatively high percent of bare ground. Many annual and perennial forbs, including non-native species, have invaded the site.

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. Reduced surface cover, low plant density, low plant vigor, loss of root biomass, and soil compaction, all contribute to decreased water infiltration, excessive ponding, and salt concentrations on the surface.

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 seed bank 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 300 to 2,000 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, including adequate rest periods, this plant community will move through the successional stages, and may eventually lead towards the *Slough Sedge/Whitetop/Sloughgrass/Smartweed 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 with deferment and prescribed grazing can accelerate the conversion of this plant community towards a community resembling the *Slough Sedge/Whitetop/Sloughgrass/Smartweed Plant Community (HCPC)*.

## **Ecological Site Interpretations**

### **Animal Community – Wildlife Interpretations**

-- Under Development --

**Slough Sedge/Whitetop/Sloughgrass/Smartweed Plant Community:**

**Reed Canarygrass/Smartweed/Baltic Rush/Cattail Plant Community:**

**Slough Sedge/Smartweed/Spikerush/Baltic Rush Plant Community:**

**Annual/Pioneer Perennials Plant Community:**

### Animal Preferences (Quarterly – 1,2,3,4<sup>†</sup>)

Common Name	Cattle	Sheep	Horses	Deer	Antelope	Bison	Elk
<b>Grasses</b>							
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
mannagrass	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
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
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
reed canarygrass	U D U U	N N N N	U D U U	N N N N	N N N N	U D U U	U D U 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
<b>Grass-likes</b>							
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
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
slough 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
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
<b>Forbs</b>							
arumleaf arrowhead	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
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
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
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
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
duckweed	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
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
water 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

**N** = not used; **U** = undesirable; **D** = desirable; **P** = preferred; **T** = toxic

<sup>†</sup> 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 varies from moderate to slow and runoff potential for this site is negligible to medium. 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

(053BY004ND) – Limy Subirrigated  
(053BY006ND) – Saline Lowland  
(053BY005ND) – Loamy Overflow  
(053BY012ND) – Subirrigated  
(053BY019ND) – Wet Meadow

### Similar Sites

(053BY025ND) – Shallow Marsh (SM)

[This site also ponds, and has a water table similar to the Wet Land site for portions of the year. However, this site will normally dry out each year sufficiently that agricultural operations such as haying are feasible in most years. This site typically occurs in larger, isolated concave positions. Indicator species: dominated by whitetop and sedges, with lesser amounts of prairie cordgrass, bulrush and spikerush. This site has similar species as the Wet Land site, but more whitetop, slightly more sedges, and higher production.]

(053BY019ND) – Wet Meadow (WM)

[Poorly drained soils found adjacent to streams or in depressions, with water table at the surface or within one and one-half feet from the surface with no evidence of salts, noticeable redoximorphic features within six inches or just below the organic soil layer. Found upslope from Wet Land and downslope of Subirrigated or Loamy Overflow sites; can be located within the listed associated sites. Indicator species are prairie cordgrass, northern reedgrass and no shrub. This site has less production, far less slough sedge and far more prairie cordgrass, and a water table is present yearlong.]

## 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.

<u>Data Source</u>	<u>Number of Records</u>	<u>Sample Period</u>	<u>State</u>	<u>County</u>
SCS-RANGE-417	2	1968 – 1969	ND	Burke

## 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

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ND, State Range Management Specialist

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Date

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SD, State Range Management Specialist

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Date