

## APPENDIX E

### SUMMARY OF POINT-INTERCEPT COVER BY SAMPLE PLOT FOR ECOLOGICAL SITES, WOODLAND AND TAME PASTURE – VEGETATION STUDY AREA STARK COUNTY, NORTH DAKOTA, 2006-2007

Ecological Group and Site	Table	Page
<b>GROUP 1 - HIGH WATER TABLE</b>		
Saline Lowland-Wet Land- Subirrigated (SL-WL-Sb)	E1	E-1
Loamy Overflow-Subirrigated-Wet Land (LyOv-Sb-WL)	E2	E-4
Wet Land-Wet Meadow (WL-WM)		
<b>WOODLAND</b>		
Riparian Woodland (RW)	E3	E-9
Deciduous Tree Woodland (DTW)		
<b>GROUP 2 - SHALLOW AND VERY SHALLOW</b>		
Shallow Clayey (SwCy)	E4	E-25
Shallow Loamy (SwLy)		
Shallow Sandy (SwSy)		
<b>GROUP 3 – (CP)</b>		
Claypan (Cp)	E5	E-37
Thin Claypan (TCp)		
<b>GROUP 4 – SANDY</b>		
Sandy (Sy)	E6	E-47
<b>GROUP 5 – CLAYEY</b>		
Clayey (Cy)	E7	E-49
<b>GROUP 6 – LOAMY</b>		
Loamy (Ly)	E8	E-52
Loamy Overflow (LyOv)		
Loamy Terrace (LyT)	E9	E-54
Loamy Terrace (occasionally Clayey Terrace) (LyT (occ. CyT))		
<b>TAME PASTURE</b>		
Tame Pasture (TP)	E10	E-68

#### Footnotes for the tables in Appendix E:

“Hits” are numbered as 1=first (highest) point of vegetation canopy or standing litter intercepted (if any) progressively down to B=Basal point intercept. Basal intercepts will always total 50 hits at each sample site, as each site was inventoried with five 10-point pin frames.

Total non-stratified percent cover of a species (percent basal cover and percent canopy cover combined) can be determined from the TP (Total Points) column as:

$$\left( \frac{\text{TP intercepted}}{\text{TP examined}} \right) \times 100$$

The TH (Total Hits) column gives a relative assessment of stratification for each species (and standing litter), when compared with the TP column. The degree of grazing utilization substantially affects the ability to determine vegetation canopy cover using the point-intercept method, therefore basal cover is the focus for any statistical testing.

#### Class Codes:

NPG (c) = Native Perennial Graminoid (Cool Season)

NPG (w) = Native Perennial Graminoid (Warm Season)

IPG = Introduced Perennial Graminoid

NAG = Native Annual Graminoid

IAG = Introduced Annual Graminoid

NPF = Native Perennial Forb

IPF = Introduced Perennial Forb

NA/BF = Native Annual/Biennial Forb

IA/BF = Introduced Annual/Biennial Forb

n = number of samples

TABLE E1

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 9 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH) IN THE SALINE LOWLAND -WETLAND - SUBIRRIGATED COMPLEX ECOLOGICAL SITES – VEGETATION STUDY AREA STARK COUNTY, NORTH DAKOTA, 2006

	SALINE LOWLAND - WET LAND - SUBIRRIGATED Complex																											
	Site SL-1							Site SL-2							Site SL-3							Site SL-4						
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP
<b>PARAMETERS</b>																												
Bare Ground					8	8							26	26						21	21					10	10	
Rock																												
Lichens																												
Moss																												
Litter - Standing		3				3	3	2					2	2	8	2				10	10	6	3	1			10	10
Litter - Down					36	36						23	23						27	27					36	36		
Basal Vegetation					6	6						1	1						2	2					4	4		
	3				50		2				50		8	2				50		6	3	1		50				
<b>SPECIES</b>																												
<b>NPG (c)</b>																												
Carex praegracilis																					3	1			1	5	5	
Eleocharis xyridiformis																					5	3				8	7	
Hordeum jubatum																					1	1				2	2	
Juncus balticus																					1	1			2	4	3	
Poa glaucifolia																												
Puccinellia cusickii															8			1	9	9								
Puccinellia nuttalliana					2	2	2																		1	1	1	
Scirpus validus																					2	3				5	4	
<b>NPG (w)</b>																												
Buchloe dactyloides	1	1				2	2																					
Distichlis spicata	10				2	12	12	6				1	7	7							1					1	1	
Spartina pectinata																					6	1	1			8	7	
<b>IPG</b>																												
Agropyron cristatum	2				2	4	3																					
Bromus inermis																												
Poa pratensis																												
<b>NPF</b>																												
Aster pansus																					5	2	1	2		10	6	
Gutierrezia sarothrae																												
Helianthus maximilianii																												
Iva axillaris																					1					1	1	
<b>IPF</b>																												
Sonchus arvensis																					1	3				4	4	
Taraxacum officinale	1					1	1																					
<b>NAF</b>																												
Ambrosia artemisiifolia																												
Chenopodium glaucum																					3					3	3	
Suaeda depressa								7	1				8	7						4						4	4	
<b>IAF</b>																												
Atriplex heterosperma															2					2	2							
Melilotus officinalis															4			1	5	5								
Thlaspi arvense																												
<b>NATIVE SHRUBS</b>																												
Symphoricarpos occidentalis																												
<b>TOTAL</b>						21	20					15	14						16	16					56	48		

Footnotes given on index page E-i.

TABLE E1

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 9 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH) IN THE SALINE LOWLAND -WETLAND - SUBIRRIGATED COMPLEX ECOLOGICAL SITES – VEGETATION STUDY AREA STARK COUNTY, NORTH DAKOTA, 2006

	SALINE LOWLAND - WET LAND - SUBIRRIGATED Complex																																
	Site SL-5							Site SL-6							Site SL-7							Site SL-8											
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP					
<b>PARAMETERS</b>																																	
Bare Ground																																	
Rock																																	
Lichens																																	
Moss																																	
Litter - Standing	7	7	8				22	21	5	10	3			18	17	1	3	1									5	5	5	2			
Litter - Down							47	47						46	46												18	18					
Basal Vegetation							3	3						4	4											2	2						
	7	7	8				50		5	10	3			50		1	3	1								50		5	2				
<b>SPECIES</b>																																	
<b>NPG (c)</b>																																	
Carex praegracilis																																	
Eleocharis xyridiformis																																	
Hordeum jubatum																																	
Juncus balticus																																	
Poa glaucifolia																																	
Puccinellia cusickii																																	
Puccinellia nuttalliana																										2							
Scirpus validus																										2	2	5	1				
<b>NPG (w)</b>																																	
Buchloe dactyloides																																	
Distichlis spicata														4	2	3										10	7	4					
Spartina pectinata	11	4		1	2		18	14	21	12	4	2	2	41	23																		
<b>IPG</b>																																	
Agropyron cristatum	9	6	4	1	1		21	16	3	1				4	3	2										2							
Bromus inermis	1	2	2				5	4	5	1	1			1	8	6																	
Poa pratensis	1	1					2	2			1			1	1																		
<b>NPF</b>																																	
Aster pansus	1	1					2	2	2	2				4	4																		
Gutierrezia sarothrae																										5	1						
Helianthus maximilianii	5	2	2	1			10	8																		6	6						
Iva axillaris																										1							
<b>IPF</b>																																	
Sonchus arvensis																																	
Taraxacum officinale																																	
<b>NAF</b>																																	
Ambrosia artemisiifolia														2												2	2						
Chenopodium glaucum																																	
Suaeda depressa														1	2	2	1									6	3						
<b>IAF</b>																																	
Atriplex heterosperma	5	3	2				10	8	2	1				3	2																		
Melilotus officinalis																																	
Thlaspi arvense														1		1										2	2						
<b>NATIVE SHRUBS</b>																																	
Symphoricarpos occidentalis	9	7		1			17	13																									
<b>TOTAL</b>							85	67						81	53											15	15						

Footnotes given on index page E-i.

TABLE E1

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 9 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH) IN THE SALINE LOWLAND -WETLAND - SUBIRRIGATED COMPLEX ECOLOGICAL SITES – VEGETATION STUDY AREA STARK COUNTY, NORTH DAKOTA, 2006

	SALINE LOWLAND - WET LAND - SUBIRRIGATED Complex								SALINE LOWLAND - WET LAND - SUBIRRIGATED Complex MEAN	
	Site SL-9								Total Hits	Total Points
	1	2	3	4	B	TH	TP			
<b>PARAMETERS</b>									n=9	
Bare Ground					13	13			16.33	
Rock										
Lichens										
Moss										
Litter - Standing	9	9	7			25	25		11.33	11.11
Litter - Down					35	35			31.00	
Basal Vegetation					2	2			2.67	
<b>SPECIES</b>	9	9	7		50					
<b>NPG (c)</b>										
Carex praegracilis									0.56	0.56
Eleocharis xyridiformis									0.89	0.78
Hordeum jubatum									0.22	0.22
Juncus balticus	1					1	1		0.56	0.44
Poa glaucifolia	3	1				4	4		0.44	0.44
Puccinellia cusickii									1.00	1.00
Puccinellia nuttalliana	8	4	2		1	15	12		3.00	2.56
Scirpus validus									0.56	0.44
<b>NPG (w)</b>										
Buchloe dactyloides									0.22	0.22
Distichlis spicata	19	3			1	23	20		6.67	6.00
Spartina pectinata									7.44	4.89
<b>IPG</b>										
Agropyron cristatum									3.67	2.89
Bromus inermis	2					2	2		1.67	1.33
Poa pratensis									0.33	0.33
<b>NPF</b>										
Aster pansus									1.78	1.33
Gutierrezia sarothrae									0.67	0.67
Helianthus maximiliani									1.11	0.89
Iva axillaris									0.33	0.33
<b>IPF</b>										
Sonchus arvensis									0.44	0.44
Taraxacum officinale									0.11	0.11
<b>NAF</b>										
Ambrosia artemisiifolia									0.22	0.22
Chenopodium glaucum									0.33	0.33
Suaeda depressa									2.00	1.56
<b>IAF</b>										
Atriplex heterosperma									1.67	1.33
Melilotus officinalis									0.56	0.56
Thlaspi arvense									0.22	0.22
<b>NATIVE SHRUBS</b>										
Symphoricarpos occidentalis									1.89	1.44
<b>TOTAL</b>						45	39		38.56	31.56

Footnotes given on index page E-i.

TABLE E2

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 15 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH) IN THE LYOV-SB-WL COMPLEX AND WL-WM COMPLEX ECOLOGICAL SITES – VEGETATION STUDY AREA STARK COUNTY, NORTH DAKOTA, 2006-2007

	LOAMY OVERFLOW - SUBIRRIGATED - WET LAND Complex																											
	Site WL-1				Site WL-2				Site WL-3				Site WL-4															
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP							
<b>PARAMETERS</b>																												
Bare Ground					5	5						17	17						11	11						15	15	
Rock																												
Lichens																												
Moss																												
Litter - Standing	5	9	10			24	24	7	10	6			23	23	4	7	8			19	19	11	10	6			27	26
Litter - Down					40	40						26	26						37	37						31	31	
Basal Vegetation					5	5						7	7						2	2						4	4	
	5	9	10		50			7	10	6		50			4	7	8		50			11	10	6		50		
<b>SPECIES</b>																												
<b>NPG (c)</b>																												
XAgrohordeum macounii																												
Agropyron smithii																												
Agropyron trachycaulum																												
Carex aquatilis	42	18	5		5	70	43	28	13	2		6	49	36	28	21	6		2	57	37	17	6	2		2	27	18
Carex brevior																												
Carex laeviconica																						13	5			2	20	16
Carex praegracilis																												
Eleocharis xyridiformis								1				1	1															
Hordeum jubatum																												
Juncus balticus																												
<b>NPG (w)</b>																												
Distichlis spicata																												
Spartina pectinata								5				5	5															
<b>IPG</b>																												
Poa pratensis															1				1	1		1	1			2	2	
<b>IAG</b>																												
Echinochloa muricata																												
<b>NPF</b>																												
Aster simplex								1				1	1		8	4	1		13	11		1	1			2	2	
Polygonum amphibium																												
Rumex mexicanus								1				1	1															
Sagittaria cuneata																												
Solidago mollis																												
<b>IPF</b>																												
Cirsium arvense																												
Euphorbia esula															1				1	1								
Plantago major																												
Rumex crispus								2				2	2									2				2	2	
Taraxacum officinale																												
<b>NAF</b>																												
Artemisia biennis																												
Echinocystis lobata															3	2	1		6	5								
Polygonum arenastrum												1	1	1														
<b>IAF</b>																												
Medicago lupulina															2	1			3	3								
<b>NATIVE SHRUBS</b>																												
Salix lutea																												
<b>NATIVE TREES</b>																												
Fraxinus pennsylvanica																												
<b>TOTAL</b>					70	43						60	47						81	58						53	40	

Footnotes given on index page E-i.

TABLE E2

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 15 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH) IN THE LYOV-SB-WL COMPLEX AND WL-WM COMPLEX ECOLOGICAL SITES – VEGETATION STUDY AREA STARK COUNTY, NORTH DAKOTA, 2006-2007

	LOAMY OVERFLOW - SUBIRRIGATED - WET LAND Complex														LOAMY OVERFLOW - SUBIRRIGATED - WET LAND Complex MEAN		
	Site WL-5							Site WL-6							Total Hits	Total Points	
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP			
<b>PARAMETERS</b>															n=6		
Bare Ground					23	23							27	27		16.33	
Rock																	
Lichens																	
Moss					2	2							1	1		0.50	
Litter - Standing	5	7	6			18	18	1	7	5			13	13		20.67	20.50
Litter - Down					21	21							21	21		29.33	
Basal Vegetation					4	4							1	1		3.83	
	5	7	6		50			1	7	5			50				
<b>SPECIES</b>																	
<b>NPG (c)</b>																	
XAgrohordeum macounii																	
Agropyron smithii																	
Agropyron trachycaulum																	
Carex aquatilis	28	16	5		4	53	35	26	17	6		1	50	31		51.00	33.33
Carex brevior																	
Carex laeviconica																3.33	2.67
Carex praegracilis																	
Eleocharis xyridiformis	1					1	1	2	3				5	5		1.17	1.17
Hordeum jubatum																	
Juncus balticus																	
<b>NPG (w)</b>																	
Distichlis spicata																	
Spartina pectinata																0.83	0.83
<b>IPG</b>																	
Poa pratensis																0.50	0.50
<b>IAG</b>																	
Echinochloa muricata								3	2				5	4		0.83	0.67
<b>NPF</b>																	
Aster simplex																2.67	2.33
Polygonum amphibium																	
Rumex mexicanus	2					2	2	1		1			2	2		0.83	0.83
Sagittaria cuneata								2	1				3	3		0.50	0.50
Solidago mollis																	
<b>IPF</b>																	
Cirsium arvense																	
Euphorbia esula																0.17	0.17
Plantago major								1					1	1		0.17	0.17
Rumex crispus	1					1	1									0.83	0.83
Taraxacum officinale																	
<b>NAF</b>																	
Artemisia biennis								3					3	3		0.50	0.50
Echinocystis lobata																1.00	0.83
Polygonum arenastrum																0.17	0.17
<b>IAF</b>																	
Medicago lupulina																0.50	0.50
<b>NATIVE SHRUBS</b>																	
Salix lutea								1					1	1		0.17	0.17
<b>NATIVE TREES</b>																	
Fraxinus pennsylvanica	1					1	1									0.17	0.17
<b>TOTAL</b>						58	40						70	50		65.33	46.33

Footnotes given on index page E-i.

TABLE E2

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 15 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH) IN THE LYOV-SB-WL COMPLEX AND WL-WM COMPLEX ECOLOGICAL SITES – VEGETATION STUDY AREA STARK COUNTY, NORTH DAKOTA, 2006-2007

	WET LAND - WET MEADOW Complex																												
	Site WL-7				Site WL-8				Site WL-9				Site WL-10																
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP								
<b>PARAMETERS</b>																													
Bare Ground					17	17						31	31								9	9							
Rock																													
Lichens																													
Moss																													
Litter - Standing	1		2			3	3	6					6	6	12	6	3			21	18	12	8	5		25	24		
Litter - Down					33	33						19	19						44	44						38	38		
Basal Vegetation																			6	6						3	3		
	<b>1</b>	<b>2</b>			<b>50</b>			<b>6</b>				<b>50</b>			<b>12</b>	<b>6</b>	<b>3</b>		<b>50</b>			<b>12</b>	<b>8</b>	<b>5</b>		<b>50</b>			
<b>SPECIES</b>																													
<b>NPG (c)</b>																													
XAgrohordeum macounii																													
Agropyron smithii	2					2	2								1	1				2	2								
Agropyron trachycaulum	2	2				4	4																						
Carex aquatilis																													
Carex brevior																													
Carex laeviconica	5	4	2			11	9	17	7	1			25	17															
Carex praegracilis															7	6	1			1	15	14							
Eleocharis xyridiformis	7	2				9	8																						
Hordeum jubatum			1			1	1								11	2				3	16	11	26	13	2		2	43	30
Juncus balticus															1	1				2	2								
<b>NPG (w)</b>																													
Distichlis spicata																1				1	1								
Spartina pectinata	7	6				13	8								10					1	11	11							
<b>IPG</b>																													
Poa pratensis	3	3				6	4									1				1	2	2	1	2			1	4	4
<b>IAG</b>																													
Echinochloa muricata																													
<b>NPF</b>																													
Aster simplex																													
Polygonum amphibium	6	2				8	6	1					1	1															
Rumex mexicanus																						5	1	1			7	7	
Sagittaria cuneata																													
Solidago mollis															1					1	1								
<b>IPF</b>																													
Cirsium arvense																						2					2	2	
Euphorbia esula																													
Plantago major																													
Rumex crispus																													
Taraxacum officinale	1					1	1																						
<b>NAF</b>																													
Artemisia biennis																													
Echinocystis lobata																													
Polygonum arenastrum																													
<b>IAF</b>																													
Medicago lupulina																													
<b>NATIVE SHRUBS</b>																													
Salix lutea																													
<b>NATIVE TREES</b>																													
Fraxinus pennsylvanica																													
<b>TOTAL</b>					<b>55</b>	<b>43</b>						<b>26</b>	<b>18</b>						<b>50</b>	<b>44</b>						<b>56</b>	<b>43</b>		

Footnotes given on index page E-i.

TABLE E2

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 15 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH) IN THE LYOV-SB-WL COMPLEX AND WL-WM COMPLEX ECOLOGICAL SITES – VEGETATION STUDY AREA STARK COUNTY, NORTH DAKOTA, 2006-2007

	WET LAND - WET MEADOW Complex																																	
	Site WL-11							Site WL-12							Site WL-13							Site WL-14												
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP						
<b>PARAMETERS</b>																																		
Bare Ground												1	1													13	13							
Rock																																		
Lichens																																		
Moss												1	1																					
Litter - Standing	6	16	5			27	27	1	4			5	5	3					3	3	1						1	1						
Litter - Down					48	48					45	45					46	46								34	34							
Basal Vegetation					2	2					3	3					4	4								3	3							
	6	16	5		50		1	4			50		3				50		1							50								
<b>SPECIES</b>																																		
<b>NPG (c)</b>																																		
XAgrohordeum macounii																																		
Agropyron smithii																																		
Agropyron trachycaulum																																		
Carex aquatilis																																		
Carex brevior														3				3	3															
Carex laeviconica	33	10			2	45	36							28	8			4	40	29	12	2					3	17	15					
Carex praegracilis																																		
Eleocharis xyridiformis																																		
Hordeum jubatum	3	1				4	4																											
Juncus balticus																																		
<b>NPG (w)</b>																																		
Distichlis spicata																																		
Spartina pectinata							16	11	8	2	2	39	23																					
<b>IPG</b>																																		
Poa pratensis																																		
<b>IAG</b>																																		
Echinochloa muricata																																		
<b>NPF</b>																																		
Aster simplex																																		
Polygonum amphibium							22	12	6	1	1	42	24																					
Rumex mexicanus																						1				1	1							
Sagittaria cuneata																																		
Solidago mollis																																		
<b>IPF</b>																																		
Cirsium arvense																																		
Euphorbia esula																																		
Plantago major																																		
Rumex crispus																																		
Taraxacum officinale																																		
<b>NAF</b>																																		
Artemisia biennis																																		
Echinocystis lobata																																		
Polygonum arenastrum																																		
<b>IAF</b>																																		
Medicago lupulina																																		
<b>NATIVE SHRUBS</b>																																		
Salix lutea																																		
<b>NATIVE TREES</b>																																		
Fraxinus pennsylvanica																																		
<b>TOTAL</b>						49	40						81	47												43	32						18	16

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TABLE E2

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 15 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH) IN THE LYOV-SB-WL COMPLEX AND WL-WM COMPLEX ECOLOGICAL SITES – VEGETATION STUDY AREA STARK COUNTY, NORTH DAKOTA, 2006-2007

	WET LAND - WET MEADOW Complex							WET LAND - WET MEADOW Complex MEAN		WETLAND COMPOSITE MEAN	
	Site WL-15							Total Hits	Total Points	Total Hits	Total Points
	1	2	3	4	B	TH	TP				
<b>PARAMETERS</b>								n=9		n=15	
Bare Ground					1	1		8.00		11.33	
Rock											
Lichens											
Moss								0.11		0.27	
Litter - Standing								10.11	9.67	14.33	14.00
Litter - Down					46	46		39.22		35.27	
Basal Vegetation					3	3		2.67		3.13	
	50										
<b>SPECIES</b>											
<b>NPG (c)</b>											
XAgrohordeum macounii	2					2	2	0.22	0.22	0.13	0.13
Agropyron smithii								0.44	0.44	0.27	0.27
Agropyron trachycaulum								0.44	0.44	0.27	0.27
Carex aquatilis										20.40	13.33
Carex brevior								0.33	0.33	0.20	0.20
Carex laeviconica	8	2			1	11	10	16.56	12.89	11.27	8.80
Carex praegracilis								1.67	1.56	1.00	0.93
Eleocharis xyridiformis								1.00	0.89	1.07	1.00
Hordeum jubatum	6	1			2	9	9	8.11	6.11	4.87	3.67
Juncus balticus								0.22	0.22	0.13	0.13
<b>NPG (w)</b>											
Distichlis spicata								0.11	0.11	0.07	0.07
Spartina pectinata								7.00	4.67	4.53	3.13
<b>IPG</b>											
Poa pratensis								1.33	1.11	1.00	0.87
<b>IAG</b>											
Echinochloa muricata										0.33	0.27
<b>NPF</b>											
Aster simplex										1.07	0.93
Polygonum amphibium	1					1	1	5.78	3.56	3.47	2.13
Rumex mexicanus	1					1	1	1.00	1.00	0.93	0.93
Sagittaria cuneata										0.20	0.20
Solidago mollis								0.11	0.11	0.07	0.07
<b>IPF</b>											
Cirsium arvense								0.22	0.22	0.13	0.13
Euphorbia esula										0.07	0.07
Plantago major										0.07	0.07
Rumex crispus										0.33	0.33
Taraxacum officinale								0.11	0.11	0.07	0.07
<b>NAF</b>											
Artemisia biennis										0.20	0.20
Echinocystis lobata										0.40	0.33
Polygonum arenastrum	1					1	1	0.11	0.11	0.13	0.13
<b>IAF</b>											
Medicago lupulina										0.20	0.20
<b>NATIVE SHRUBS</b>											
Salix lutea										0.07	0.07
<b>NATIVE TREES</b>											
Fraxinus pennsylvanica										0.07	0.07
<b>TOTAL</b>						25	24	44.78	34.11	53.00	39.00

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TABLE E3

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 29 SAMPLE SITES  
 (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE RIPARIAN WOODLAND VEGETATION TYPE –  
 VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	RIPARIAN WOODLAND																													
	Site RW-1							Site RW-2							Site RW-3							Site RW-4								
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP		
<b>PARAMETERS</b>																														
Bare Ground					6	6						8	8							1	1									
Rock																														
Lichens																														
Moss																														
Litter - Standing	8	1				9	9	7				7	7	7	7	3				17	17	1	1	9	2		13	13		
Litter - Down					42	42						40	40							48	48					45	45			
Basal Vegetation					2	2						2	2							1	1					5	5			
	8	1			50		7				50		7	7	3				50		1	1	9	2	50					
<b>SPECIES</b>																														
<b>NPG (c)</b>																														
Agropyron smithii														1						1	1									
Agropyron trachycaulum														1	2					3	3									
Carex aquatilis																														
Carex brevior																														
Carex gravida																														
Carex laeviconica																														
Carex saximontana																														
Elymus virginicus														2	1					3	3									
Stipa viridula																														
<b>NPG (w)</b>																														
Spartina pectinata																							4	5	3	1	13	7		
<b>IPG</b>																														
Agropyron cristatum																														
Agropyron repens																														
Bromus inermis	13	6			1	20	15	9	2		1	12	11									35	28	15	2	5	85	41		
Poa pratensis	6	2			1	9	8	2	1		1	4	4	3					1	4	4									
<b>NPF</b>																														
Artemisia ludoviciana																														
Asclepias speciosa														1						1	1									
Aster simplex														1						1	1									
Geum aleppicum																1				1	1									
Monarda fistulosa																														
Plantago eriopoda																														
Psoralea argophylla																														
Sagittaria cuneata																														
Solidago gigantea														3	1					4	4									
Thalictrum dasycarpum																								1			1	1		
Thalictrum venulosum																														
Viola pratensis																														
<b>IPF</b>																														
Cirsium arvense																							4	6			10	9		
Euphorbia esula																														
Hesperis matronalis																														
Rumex crispus																														
Taraxacum officinale														1						1	1									

TABLE E3

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 29 SAMPLE SITES  
 (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE RIPARIAN WOODLAND VEGETATION TYPE –  
 VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	RIPARIAN WOODLAND																															
	Site RW-1								Site RW-2								Site RW-3								Site RW-4							
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP	
<b>NAF</b>																																
Artemisia biennis																																
Atriplex subspicata																																
Parietaria pensylvanica																																
<b>IAF</b>																																
Arctium minus																																
Chenopodium album																																
Kochia scoparia																																
<b>SHRUBS</b>																																
Prunus virginiana																																
Ribes americanum																										1			1	1		
Ribes setosum																1								1	1							
Rosa woodsii																6	8	3						17	12							
Symphoricarpos occidentalis																17	7	2	1					27	23	1				1	1	
<b>TREES</b>																																
Fraxinus pennsylvanica																																
Ulmus americana																																
<b>TOTAL</b>																																

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TABLE E3

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 29 SAMPLE SITES  
 (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE RIPARIAN WOODLAND VEGETATION TYPE –  
 VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	RIPARIAN WOODLAND																												
	Site RW-5							Site RW-6							Site RW-7							Site RW-8							
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	
<b>PARAMETERS</b>																													
Bare Ground												12	12																
Rock																													
Lichens																													
Moss																													
Litter - Standing	1	2	3			6	6	4	2				6	6	14	5	1			20	19	13	3	3			19	19	
Litter - Down					47	47						35	35					48	48							48	48		
Basal Vegetation					3	3						3	3					2	2							2	2		
	1	2	3		50			4	2			50			14	5	1		50			13	3	3			50		
<b>SPECIES</b>																													
<b>NPG (c)</b>																													
Agropyron smithii																													
Agropyron trachycaulum																													
Carex aquatilis								9	8	4	2		23	10															
Carex brevior																													
Carex gravida																													
Carex laeviconica																													
Carex saximontana																													
Elymus virginicus																													
Stipa viridula																													
<b>NPG (w)</b>																													
Spartina pectinata																													
<b>IPG</b>																													
Agropyron cristatum																													
Agropyron repens																													
Bromus inermis	42	34	12	4	3	95	46	15	2			2	19	15	15	7	2		1	25	20	15	10	3	1	2	31	20	
Poa pratensis								4	1				5	4	5	3			1	9	8								
<b>NPF</b>																													
Artemisia ludoviciana																													
Asclepias speciosa																													
Aster simplex																													
Geum aleppicum																													
Monarda fistulosa																													
Plantago eriopoda																													
Psoralea argophylla																													
Sagittaria cuneata								8	6	3		1	18	8															
Solidago gigantea																													
Thalictrum dasycarpum																													
Thalictrum venulosum																													
Viola pratensis																													
<b>IPF</b>																													
Cirsium arvense	4					4	4																						
Euphorbia esula		1				1	1																						
Hesperis matronalis															1					1	1								
Rumex crispus																													
Taraxacum officinale																													

**TABLE E3**

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 29 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH)  
IN THE RIPARIAN WOODLAND VEGETATION TYPE –  
VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007**

	RIPARIAN WOODLAND																															
	Site RW-5							Site RW-6							Site RW-7							Site RW-8										
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP				
<b>NAF</b>																																
Artemisia biennis																																
Atriplex subspicata																																
Parietaria pensylvanica																																
<b>IAF</b>																																
Arctium minus																										5	2				7	6
Chenopodium album																																
Kochia scoparia																																
<b>SHRUBS</b>																																
Prunus virginiana																										4	2	1			7	4
Ribes americanum																																
Ribes setosum																																
Rosa woodsii																																
Symphoricarpos occidentalis														3							3	3										
<b>TREES</b>																																
Fraxinus pennsylvanica																																
Ulmus americana																																
<b>TOTAL</b>																																

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TABLE E3

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 29 SAMPLE SITES  
 (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE RIPARIAN WOODLAND VEGETATION TYPE –  
 VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	RIPARIAN WOODLAND																											
	Site RW-11				Site RW-12				Site RW-13				Site RW-14															
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP							
<b>PARAMETERS</b>																												
Bare Ground																												
Rock																												
Lichens																												
Moss																												
Litter - Standing	5	5	3			13	12	3	4	2			9	9	4	2	3			9	9	3	11	5			19	19
Litter - Down					48	48						46	46						48	48						47	47	
Basal Vegetation					2	2						4	4						2	2						3	3	
	5	5	3		50			3	4	2		50			4	2	3		50			3	11	5		50		
<b>SPECIES</b>																												
<b>NPG (c)</b>																												
Agropyron smithii																												
Agropyron trachycaulum																												
Carex aquatilis																												
Carex brevior																												
Carex gravida																												
Carex laeviconica																												
Carex saximontana																												
Elymus virginicus																												
Stipa viridula																												
<b>NPG (w)</b>																												
Spartina pectinata																												
<b>IPG</b>																												
Agropyron cristatum																												
Agropyron repens																												
Bromus inermis	25	12	2		2	41	26	40	18	6	1	4	69	42	38	23	9	3	2	75	38	30	16	3		2	51	36
Poa pratensis																												
<b>NPF</b>																												
Artemisia ludoviciana																												
Asclepias speciosa																												
Aster simplex																												
Geum aleppicum																												
Monarda fistulosa																												
Plantago eriopoda																												
Psoralea argophylla																												
Sagittaria cuneata																												
Solidago gigantea																												
Thalictrum dasycarpum																												
Thalictrum venulosum																												
Viola pratensis																												
<b>IPF</b>																												
Cirsium arvense																												
Euphorbia esula																							1				1	1
Hesperis matronalis																												
Rumex crispus																												
Taraxacum officinale																												

TABLE E3

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 29 SAMPLE SITES  
 (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE RIPARIAN WOODLAND VEGETATION TYPE –  
 VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	RIPARIAN WOODLAND																															
	Site RW-11								Site RW-12								Site RW-13								Site RW-14							
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP	
<b>NAF</b>																																
Artemisia biennis						1								1																1		
Atriplex subspicata	1					1	1																									
Parietaria pensylvanica						1								1																1		
<b>IAF</b>																																
Arctium minus						2								2																2		
Chenopodium album	2					2	2																									
Kochia scoparia	9	6	2			17	9																									
<b>SHRUBS</b>																																
Prunus virginiana						1								1										1						1	1	
Ribes americanum						1								1																1		
Ribes setosum						1								1																1		
Rosa woodsii						1								1																1		
Symphoricarpos occidentalis						6	2							1	9	6	2													1	7	
<b>TREES</b>																																
Fraxinus pennsylvanica						1								1																1		
Ulmus americana						1								1																1		
<b>TOTAL</b>							<b>61</b>	<b>38</b>							<b>69</b>	<b>42</b>							<b>75</b>	<b>38</b>							<b>62</b>	<b>45</b>

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TABLE E3

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 29 SAMPLE SITES  
 (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE RIPARIAN WOODLAND VEGETATION TYPE –  
 VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	RIPARIAN WOODLAND																																					
	Site RW-15									Site RW-16									Site RW-17									Site RW-18										
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP										
<b>PARAMETERS</b>																																						
Bare Ground					5	5							8	8																						7	7	
Rock																																						
Lichens																																						
Moss																																						
Litter - Standing	5	6	6	1		18	18	4	3				7	7	5	6	2				13	11	1	1											2	2		
Litter - Down					43	43							38	38							45	45												43	43			
Basal Vegetation					2	2							4	4							5	5																
	5	6	6	1	50			4	3				50		5	6	2				50		1	1										50				
<b>SPECIES</b>																																						
<b>NPG (c)</b>																																						
Agropyron smithii								3	2			2	7	6																								
Agropyron trachycaulum																																						
Carex aquatilis																																						
Carex brevior																							1	1										2	2			
Carex gravida																																						
Carex laeviconica															3	3					6	6	5											5	5			
Carex saximontana																																						
Elymus virginicus								2					2	2	1	1			1	3	3												1	1				
Stipa viridula																																						
<b>NPG (w)</b>																																						
Spartina pectinata																																						
<b>IPG</b>																																						
Agropyron cristatum																																						
Agropyron repens																																						
Bromus inermis	36	19	5	2	1	63	39																															
Poa pratensis		2				2	2	7	2	3		1	13	12	2	3	1		1	7	6																	
<b>NPF</b>																																						
Artemisia ludoviciana								2				1	3	2																								
Asclepias speciosa																																						
Aster simplex																																						
Geum aleppicum																																						
Monarda fistulosa																																						
Plantago eriopoda																							1											1	1			
Psoralea argophylla								2					2	2																								
Sagittaria cuneata																																						
Solidago gigantea																																						
Thalictrum dasycarpum								1					1	1																								
Thalictrum venulosum																																						
Viola pratensis															1					1	1																	
<b>IPF</b>																																						
Cirsium arvense	1				1	2	2																															
Euphorbia esula																																						
Hesperis matronalis																																						
Rumex crispus			1			1	1																															
Taraxacum officinale																	1			1	1	1												1	1			



TABLE E3

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 29 SAMPLE SITES  
 (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE RIPARIAN WOODLAND VEGETATION TYPE –  
 VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	RIPARIAN WOODLAND																												
	Site RW-15							Site RW-16							Site RW-17							Site RW-18							
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	
<b>NAF</b>																													
Artemisia biennis																													
Atriplex subspicata							8	1					9	9									5	1	1			7	7
Parietaria pensylvanica																													
<b>IAF</b>																													
Arctium minus																													
Chenopodium album																													
Kochia scoparia																													
<b>SHRUBS</b>																													
Prunus virginiana																													
Ribes americanum																													
Ribes setosum																													
Rosa woodsii																													
Symphoricarpos occidentalis	4	1				5	4	7	3	1			11	8	17	7	4	1			29	18	4				4	4	
<b>TREES</b>																													
Fraxinus pennsylvanica		1	1			2	2								1				3	4	4								
Ulmus americana															1						1	1							
<b>TOTAL</b>						75	50						48	42						52	40						21	21	

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TABLE E3

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 29 SAMPLE SITES  
 (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE RIPARIAN WOODLAND VEGETATION TYPE –  
 VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	RIPARIAN WOODLAND																													
	Site RW-19				Site RW-21				Site RW-22				Site RW-23																	
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP									
<b>PARAMETERS</b>																														
Bare Ground					6	6						3	3																	
Rock																														
Lichens																														
Moss																														
Litter - Standing	6	3	1			10	10	6	3	1			10	10	12	1				13	12	11	2				13	13		
Litter - Down					42	42						45	45						48	48						47	47			
Basal Vegetation					2	2						2	2						2	2						3	3			
	6	3	1		50			6	3	1		50			12	1			50			11	2			50				
<b>SPECIES</b>																														
<b>NPG (c)</b>																														
Agropyron smithii		1				1	1																							
Agropyron trachycaulum																														
Carex aquatilis																														
Carex brevior																														
Carex gravida												1	1	1																
Carex laeviconica	1					1	2	2																						
Carex saximontana																														
Elymus virginicus	1					1	1																							
Stipa viridula	3					3	3	1					1	1																
<b>NPG (w)</b>																														
Spartina pectinata																														
<b>IPG</b>																														
Agropyron cristatum									1				1	1																
Agropyron repens																														
Bromus inermis	3	2				5	4	2	1				3	2	18	10	2		2	32	25	35	14	1		3	53	40		
Poa pratensis	3	2	1		1	7	7	1					1	1																
<b>NPF</b>																														
Artemisia ludoviciana								1					1	1																
Asclepias speciosa																														
Aster simplex		1				1	1																							
Geum aleppicum																														
Monarda fistulosa	3					3	3																							
Plantago eriopoda																														
Psoralea argophylla																														
Sagittaria cuneata																														
Solidago gigantea																														
Thalictrum dasycarpum																														
Thalictrum venulosum																														
Viola pratensis																														
<b>IPF</b>																														
Cirsium arvense																														
Euphorbia esula																														
Hesperis matronalis																														
Rumex crispus																														
Taraxacum officinale																														

TABLE E3

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 29 SAMPLE SITES  
 (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE RIPARIAN WOODLAND VEGETATION TYPE –  
 VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	RIPARIAN WOODLAND																							
	Site RW-19				Site RW-21				Site RW-22				Site RW-23											
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP			
<b>NAF</b>																								
Artemisia biennis																								
Atriplex subspicata							5	1				6	6		3	1	1			5	3			
Parietaria pensylvanica																								
<b>IAF</b>																								
Arctium minus																								
Chenopodium album																								
Kochia scoparia																								
<b>SHRUBS</b>																								
Prunus virginiana																								
Ribes americanum																								
Ribes setosum																								
Rosa woodsii																								
Symphoricarpos occidentalis	13	2					15	15	7	2			1	10	8									
<b>TREES</b>																								
Fraxinus pennsylvanica																								
Ulmus americana																								
<b>TOTAL</b>					<b>38</b>	<b>37</b>					<b>24</b>	<b>21</b>					<b>37</b>	<b>28</b>					<b>53</b>	<b>40</b>

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TABLE E3

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 29 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH)  
IN THE RIPARIAN WOODLAND VEGETATION TYPE –  
VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007**

	RIPARIAN WOODLAND																																							
	Site RW-24							Site RW-25							Site RW-26							Site RW-27																		
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP												
<b>PARAMETERS</b>																																								
Bare Ground													1	1												4	4											8	8	
Rock																																								
Lichens																																								
Moss																										1	1													
Litter - Standing	9	8	5			22	22	1					1	1	6	2					8	8	3														3	3		
Litter - Down					48	48						45	45							42	42																40	40		
Basal Vegetation					2	2						4	4							3	3															2	2			
	9	8	5		50		1					50		6	2					50		3														50				
<b>SPECIES</b>																																								
<b>NPG (c)</b>																																								
Agropyron smithii																																								
Agropyron trachycaulum																																								
Carex aquatilis																																								
Carex brevior							1					1	1																											
Carex gravida																																								
Carex laeviconica																																								
Carex saximontana																																								
Elymus virginicus																																								
Stipa viridula																																								
<b>NPG (w)</b>																																								
Spartina pectinata																																								
<b>IPG</b>																																								
Agropyron cristatum															3						2	5	5																	
Agropyron repens																																								
Bromus inermis	31	13	2		1	47	33	14					14	14	15	2					17	16	8	4								2	14	12						
Poa pratensis	4	10	4		1	19	15	9	2			4	15	11	3						1	4	4	7										7	7					
<b>NPF</b>																																								
Artemisia ludoviciana																																								
Asclepias speciosa																																								
Aster simplex																																								
Geum aleppicum																																								
Monarda fistulosa																																								
Plantago eriopoda																																								
Psoralea argophylla																																								
Sagittaria cuneata																																								
Solidago gigantea																																								
Thalictrum dasycarpum																																								
Thalictrum venulosum																																								
Viola pratensis																																								
<b>IPF</b>																																								
Cirsium arvense																																								
Euphorbia esula																																								
Hesperis matronalis																																								
Rumex crispus																																								
Taraxacum officinale							1						1	1														2									2	2		

**TABLE E3**

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 29 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH)  
IN THE RIPARIAN WOODLAND VEGETATION TYPE –  
VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007**

	RIPARIAN WOODLAND																												
	Site RW-24					Site RW-25					Site RW-26					Site RW-27													
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	
<b>NAF</b>																													
Artemisia biennis																												1	1
Atriplex subspicata																													
Parietaria pensylvanica																													
<b>IAF</b>																													
Arctium minus																													
Chenopodium album																													
Kochia scoparia																													
<b>SHRUBS</b>																													
Prunus virginiana																													
Ribes americanum																													
Ribes setosum																													
Rosa woodsii																													
Symphoricarpos occidentalis																													
<b>TREES</b>																													
Fraxinus pennsylvanica																													
Ulmus americana																													
<b>TOTAL</b>						<b>66</b>	<b>48</b>						<b>31</b>	<b>27</b>						<b>26</b>	<b>25</b>						<b>24</b>	<b>22</b>	

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TABLE E3

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 29 SAMPLE SITES  
 (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE RIPARIAN WOODLAND VEGETATION TYPE –  
 VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	RIPARIAN WOODLAND																										
	Site RW-28				Site RW-29				Site RW-30				Site RW-31														
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP						
<b>PARAMETERS</b>																											
Bare Ground					1	1						8	8						2	2					1	1	
Rock																											
Lichens																											
Moss																											
Litter - Standing	13	1				14	14	5	1				6	6	4					4	4	1	6	1		8	8
Litter - Down					46	46						39	39						44	44					44	44	
Basal Vegetation					3	3						3	3						4	4					5	5	
	13	1			50			5	1			50			4				50			1	6	1	50		
<b>SPECIES</b>																											
<b>NPG (c)</b>																											
Agropyron smithii																											
Agropyron trachycaulum																											
Carex aquatilis																											
Carex brevior																											
Carex gravida																											
Carex laeviconica																											
Carex saximontana																											
Elymus virginicus																											
Stipa viridula																											
<b>NPG (w)</b>																											
Spartina pectinata																											
<b>IPG</b>																											
Agropyron cristatum																											
Agropyron repens																											
Bromus inermis	8	2			1	11	11	6	1			1	8	6	9	2			4	15	13	22	2	1	4	29	22
Poa pratensis	8	1			2	11	9	4				2	6	6	3	1			4	4		7	2		1	10	9
<b>NPF</b>																											
Artemisia ludoviciana																											
Asclepias speciosa																											
Aster simplex																											
Geum aleppicum																											
Monarda fistulosa																											
Plantago eriopoda																											
Psoralea argophylla																											
Sagittaria cuneata																											
Solidago gigantea																											
Thalictrum dasycarpum																											
Thalictrum venulosum																											
Viola pratensis																											
<b>IPF</b>																											
Cirsium arvense																											
Euphorbia esula																											
Hesperis matronalis																											
Rumex crispus																											
Taraxacum officinale																						1			1	1	

TABLE E3

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 29 SAMPLE SITES  
 (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE RIPARIAN WOODLAND VEGETATION TYPE –  
 VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	RIPARIAN WOODLAND																																					
	Site RW-28								Site RW-29								Site RW-30								Site RW-31													
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP							
<b>NAF</b>																																						
Artemisia biennis																																						
Atriplex subspicata															2								2	2							2							
Parietaria pensylvanica																																						
<b>IAF</b>																																						
Arctium minus																																						
Chenopodium album																																						
Kochia scoparia																																						
<b>SHRUBS</b>																																						
Prunus virginiana																																						
Ribes americanum																																						
Ribes setosum																																						
Rosa woodsii																																						
Symphoricarpos occidentalis	2	1																																				
<b>TREES</b>																																						
Fraxinus pennsylvanica																																						
Ulmus americana																																						
<b>TOTAL</b>																																						

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TABLE E3

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 29 SAMPLE SITES  
 (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE RIPARIAN WOODLAND VEGETATION TYPE –  
 VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

PARAMETERS	RIPARIAN WOODLAND								DECIDUOUS TREE WOODLAND								WOODLAND COMPOSITE MEAN	
	Site RW-32				RIPARIAN WOODLAND MEAN				Site DTW-3				WOODLAND COMPOSITE MEAN					
	1	2	3	4	B	TH	TP	Total Hits	Total Points	1	2	3	4	B	TH	TP	Total Hits	Total Points
<b>PARAMETERS</b>	n=29								n=1								n=30	
Bare Ground							2.79							2	2		2.77	
Rock																		
Lichens																		
Moss							0.03							1	1		0.07	
Litter - Standing	2	1	1			4	10.45	10.28	5	1				6	6		10.30	10.13
Litter - Down					47	47	44.41							42	42		44.33	
Basal Vegetation					3	3	2.76							5	5		2.83	
<b>SPECIES</b>	2	1	1		50				5	1			50					
<b>NPG (c)</b>																		
Agropyron smithii							0.31	0.28									0.30	0.27
Agropyron trachycaulum							0.10	0.10									0.10	0.10
Carex aquatilis							0.79	0.34									0.77	0.33
Carex brevior							0.10	0.10									0.10	0.10
Carex gravida							0.03	0.03									0.03	0.03
Carex laeviconica							0.45	0.45									0.43	0.43
Carex saximontana									2				1	3	2		0.10	0.07
Elymus virginicus							0.34	0.34									0.33	0.33
Stipa viridula							0.14	0.14									0.13	0.13
<b>NPG (w)</b>																		
Spartina pectinata							0.45	0.24									0.43	0.23
<b>IPG</b>																		
Agropyron cristatum					1	1	0.24	0.24									0.23	0.23
Agropyron repens									3					3	3		0.10	0.10
Bromus inermis	10	2				12	29.17	19.24	4	2	1			7	6		28.43	18.80
Poa pratensis	10	1			2	13	5.17	4.62	16	9			4	29	21		5.97	5.17
<b>NPF</b>																		
Artemisia ludoviciana							0.14	0.10									0.13	0.10
Asclepias speciosa							0.03	0.03									0.03	0.03
Aster simplex							0.07	0.07									0.07	0.07
Geum aleppicum							0.03	0.03									0.03	0.03
Monarda fistulosa							0.10	0.10									0.10	0.10
Plantago eriopoda							0.03	0.03									0.03	0.03
Psoralea argophylla							0.07	0.07									0.07	0.07
Sagittaria cuneata							0.62	0.28									0.60	0.27
Solidago gigantea							0.14	0.14									0.13	0.13
Thalictrum dasycarpum							0.07	0.07									0.07	0.07
Thalictrum venulosum									1	1				2	2		0.07	0.07
Viola pratensis							0.03	0.03									0.03	0.03
<b>IPF</b>																		
Cirsium arvense							0.55	0.52									0.53	0.50
Euphorbia esula							0.07	0.07									0.07	0.07
Hesperis matronalis							0.03	0.03									0.03	0.03
Rumex crispus							0.03	0.03									0.03	0.03
Taraxacum officinale							0.24	0.24	2	1				3	3		0.33	0.33



**TABLE E3**

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 29 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH)  
IN THE RIPARIAN WOODLAND VEGETATION TYPE –  
VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007**

	RIPARIAN WOODLAND								DECIDUOUS TREE WOODLAND				WOODLAND COMPOSITE MEAN					
	Site RW-32							RIPARIAN WOODLAND MEAN		Site DTW-3				Total Hits	Total Points			
	1	2	3	4	B	TH	TP	Total Hits	Total Points	1	2	3	4			B	TH	TP
<b>NAF</b>																		
Artemisia biennis								0.03	0.03								0.03	0.03
Atriplex subspicata								1.10	1.03								1.07	1.00
Parietaria pensylvanica										1	1				2	2	0.07	0.07
<b>IAF</b>																		
Arctium minus								0.24	0.21								0.23	0.20
Chenopodium album								0.07	0.07								0.07	0.07
Kochia scoparia	2					2	2	0.66	0.38								0.63	0.37
<b>SHRUBS</b>																		
Prunus virginiana								0.28	0.17								0.27	0.17
Ribes americanum								0.03	0.03								0.03	0.03
Ribes setosum								0.03	0.03								0.03	0.03
Rosa woodsii								0.59	0.41								0.57	0.40
Symphoricarpos occidentalis								4.03	3.21	3	1				4	3	4.03	3.20
<b>TREES</b>																		
Fraxinus pennsylvanica								0.21	0.21								0.20	0.20
Ulmus americana								0.03	0.03								0.03	0.03
<b>TOTAL</b>																	28	27
								46.90	33.83								53	42
																	47.10	34.10

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TABLE E4

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 2 SAMPLE SITES  
 (FIVE 10-POINT PIN FRAMES EACH) IN THE SWCY, 16 SITES IN THE SWLY AND  
 2 SITES IN THE SWSY ECOLOGICAL SITES –  
 VEGETATION STUDY AREA

	SHALLOW CLAYEY														SHALLOW CLAYEY MEAN		
	Site SwCy-1							Site SwCy-2							Total Hits	Total Points	
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP			
<b>PARAMETERS</b>															n=2		
Bare Ground					8	8							19	19		13.50	
Rock																	
Lichens													3	3		1.50	
Moss																	
Litter - Standing	17	13	3			33	28	1						1	1	17.00	14.50
Litter - Down					41	41							19	19		30.00	
Basal Vegetation					1	1							9	9		5.00	
	17	13	3		50			1					50				
<b>SPECIES</b>																	
<b>NPG (c)</b>																	
Agropyron dasystachyum																	
Agropyron smithii																	
Carex eleocharis																	
Carex filifolia	7	2				9	8	9					6	15	14	12.00	11.00
Carex heliophila																	
Koeleria pyramidata					1	1	1									0.50	0.50
Poa sandbergii																	
Stipa comata								1					1	2	2	1.00	1.00
Stipa viridula																	
<b>NPG (w)</b>																	
Andropogon scoparius																	
Bouteloua gracilis	4	1				5	5	1					1	2	2	3.50	3.50
Buchloe dactyloides																	
Calamovilfa longifolia	8	2				10	10									5.00	5.00
Muhlenbergia cuspidata																	
<b>IPG</b>																	
Agropyron cristatum																	
Poa pratensis	5	4				9	9									4.50	4.50
<b>NAG</b>																	
Festuca octoflora																	
<b>NPF</b>																	
Achillea millefolium																	
Antennaria microphylla																	
Antennaria parvifolia																	
Artemisia frigida																	
Artemisia ludoviciana																	
Aster commutatus																	
Aster pansus																	
Astragalus gilviflorus																	
Comandra umbellata																	
Erigeron pumilus																	
Gutierrezia sarothrae																	
Liatris punctata	1					1	1									0.50	0.50
Linum perenne																	
Opuntia fragilis																	
Phlox hoodii													1	1	1	0.50	0.50
Psoralea argophylla																	

**TABLE E4**

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 2 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE SWCY, 16 SITES IN THE SWLY AND  
2 SITES IN THE SWSY ECOLOGICAL SITES –  
VEGETATION STUDY AREA**

	SHALLOW CLAYEY														SHALLOW CLAYEY MEAN		
	Site SwCy-1							Site SwCy-2							Total Hits	Total Points	
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP			
<b>PARAMETERS</b>															n=2		
Solidago nemoralis																	
Solidago rigida																	
Sphaeralcea coccinea																	
Thermopsis rhombifolia																	
<b>IPF</b>																	
Taraxacum officinale																	
<b>FERNS</b>																	
Selaginella densa																	
<b>NAF</b>																	
Collomia linearis																	
Grindelia squarrosa																	
Plantago patagonica																	
<b>IAF</b>																	
Medicago lupulina																	
<b>NATIVE SHRUBS</b>																	
Calylophus serrulatus																	
Rosa arkansana																	
Rosa woodsii	1	1	1			3	3								1.50	1.50	
<b>TOTAL</b>						<b>38</b>	<b>37</b>						<b>20</b>	<b>19</b>	<b>29.00</b>	<b>28.00</b>	

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TABLE E4

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 2 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE SWCY, 16 SITES IN THE SWLY AND  
2 SITES IN THE SWSY ECOLOGICAL SITES –  
VEGETATION STUDY AREA

	SHALLOW LOAMY																													
	Site SwLy-1							Site SwLy-2							Site SwLy-3							Site SwLy-4								
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP		
<b>PARAMETERS</b>																														
Bare Ground					3	3							5	5							14	14							10	10
Rock																					1	1								
Lichens					1	1							4	4															1	1
Moss																													1	1
Litter - Standing	7	3	1			11	11	7	2				9	9	3	2				5	5	5	1					6	6	
Litter - Down					39	39							31	31						29	29							30	30	
Basal Vegetation					7	7							10	10						6	6						8	8		
	7	3	1		50			7	2			50			3	2			50			5	1			50				
<b>SPECIES</b>																														
<b>NPG (c)</b>																														
Agropyron dasystachyum								2				1	3	3																
Agropyron smithii	7		1			8	8	2					2	2	2				1	3	3	1						1	1	
Carex eleocharis																												1	1	1
Carex filifolia	4	1			1	6	6								1					1	1	10						4	14	12
Carex heliophila																														
Koeleria pyramidata	2	1				3	3	1					1	1	1					1	1	1						1	1	
Poa sandbergii																														
Stipa comata	1					1	1		1				1	1									3						3	3
Stipa viridula															1					1	1									
<b>NPG (w)</b>																														
Andropogon scoparius																														
Bouteloua gracilis	10	5	1		5	21	20	5				1	6	6	1					1	1	2	3					3	8	8
Buchloe dactyloides								11	3			1	15	15	8				5	13	13									
Calamovilfa longifolia																														
Muhlenbergia cuspidata															1					1	1									
<b>IPG</b>																														
Agropyron cristatum																														
Poa pratensis																														
<b>NAG</b>																														
Festuca octoflora													1	1																
<b>NPF</b>																														
Achillea millefolium															1					1	1									
Antennaria microphylla																														
Antennaria parvifolia					1	1	1																							
Artemisia frigida															1					1	1									
Artemisia ludoviciana																														
Aster commutatus																														
Aster pansus																														
Astragalus gilviflorus																														
Comandra umbellata																														
Erigeron pumilus																														
Gutierrezia sarothrae																														
Liatis punctata																														
Linum perenne																														
Opuntia fragilis																														
Phlox hoodii									1				1	1																
Psoralea argophylla	1					1	1	1					1	1																

**TABLE E4**

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 2 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE SWCY, 16 SITES IN THE SWLY AND  
2 SITES IN THE SWSY ECOLOGICAL SITES –  
VEGETATION STUDY AREA**

	SHALLOW LOAMY																															
	Site SwLy-1								Site SwLy-2								Site SwLy-3								Site SwLy-4							
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP	
<b>PARAMETERS</b>																																
Solidago nemoralis																																
Solidago rigida																																
Sphaeralcea coccinea	1					1	1																									
Thermopsis rhombifolia																																
<b>IPF</b>																																
Taraxacum officinale																																
<b>FERNS</b>																																
Selaginella densa												7	7	7																		
<b>NAF</b>																																
Collomia linearis																																
Grindelia squarrosa																																
Plantago patagonica	1					1	1																									
<b>IAF</b>																																
Medicago lupulina																																
<b>NATIVE SHRUBS</b>																																
Calylophus serrulatus																																
Rosa arkansana																																
Rosa woodsii																																
<b>TOTAL</b>						43	42							38	38								23	23					28	26		

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TABLE E4

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 2 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE SWCY, 16 SITES IN THE SWLY AND  
2 SITES IN THE SWSY ECOLOGICAL SITES –  
VEGETATION STUDY AREA

	SHALLOW LOAMY																													
	Site SwLy-5						Site SwLy-6						Site SwLy-7						Site SwLy-8											
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP		
<b>PARAMETERS</b>																														
Bare Ground					3	3							4	4							4	4							17	17
Rock																														
Lichens					2	2																							2	2
Moss																														
Litter - Standing	3	1				4	4	4	2	1			7	7	28	13	5			46	39	3						3	3	
Litter - Down					35	35							42	42						39	39							24	24	
Basal Vegetation					10	10							4	4						7	7							7	7	
	3	1			50			4	2	1			50		28	13	5			50		3						50		
<b>SPECIES</b>																														
<b>NPG (c)</b>																														
Agropyron dasystachyum																														
Agropyron smithii	1					1	1	6				2	8	8	9	1				10	9									
Carex eleocharis															1	1				2	2									
Carex filifolia	1					1	1									8			1	9	8	4	1				2	7	5	
Carex heliophila	2					2	2								1					1	1									
Koeleria pyramidata	2					2	2																							
Poa sandbergii	1					1	1																							
Stipa comata	1				1	2	2								4				3	7	6	3						3	3	
Stipa viridula	1					1	1																							
<b>NPG (w)</b>																														
Andropogon scoparius																														
Bouteloua gracilis																														
Buchloe dactyloides	13				2	15	15	11	3			2	16	15																
Calamovilfa longifolia															1					1	1									
Muhlenbergia cuspidata																														
<b>IPG</b>																														
Agropyron cristatum															4	1			2	7	5									
Poa pratensis								3					3	3					1	1	1	1						1	1	
<b>NAG</b>																														
Festuca octoflora																														
<b>NPF</b>																														
Achillea millefolium								1					1	1																
Antennaria microphylla																						1					3	4	4	
Antennaria parvifolia	1				1	2	2																							
Artemisia frigida																														
Artemisia ludoviciana								2	1				3	2																
Aster commutatus	1					1	1																							
Aster pansus																														
Astragalus gilviflorus																														
Comandra umbellata																						1						1	1	
Erigeron pumilus																														
Gutierrezia sarothrae																														
Liatis punctata																														
Linum perenne																											1	1	1	
Opuntia fragilis																														
Phlox hoodii																														
Psoralea argophylla																														

TABLE E4

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 2 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE SWCY, 16 SITES IN THE SWLY AND  
2 SITES IN THE SWSY ECOLOGICAL SITES –  
VEGETATION STUDY AREA

	SHALLOW LOAMY																																						
	Site SwLy-5								Site SwLy-6								Site SwLy-7								Site SwLy-8														
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP								
<b>PARAMETERS</b>																																							
Solidago nemoralis																																1					1	2	1
Solidago rigida																																2						2	2
Sphaeralcea coccinea																																							
Thermopsis rhombifolia																																							
<b>IPF</b>																																							
Taraxacum officinale																																							
<b>FERNS</b>																																							
Selaginella densa					6	6	6																																
<b>NAF</b>																																							
Collomia linearis																																							
Grindelia squarrosa																																							
Plantago patagonica																																							
<b>IAF</b>																																							
Medicago lupulina								4	1					5	5																								
<b>NATIVE SHRUBS</b>																																							
Calylophus serrulatus																														1						1	1		
Rosa arkansana																																							
Rosa woodsii																																							
<b>TOTAL</b>						34	34						36	34							38	33														22	19		

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TABLE E4

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 2 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE SWCY, 16 SITES IN THE SWLY AND  
2 SITES IN THE SWSY ECOLOGICAL SITES –  
VEGETATION STUDY AREA

	SHALLOW LOAMY																											
	Site SwLy-9						Site SwLy-10						Site SwLy-11						Site SwLy-12									
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP
<b>PARAMETERS</b>																												
Bare Ground					5	5							1	1					5	5						10	10	
Rock																												
Lichens					7	7						7	7						4	4						9	9	
Moss																										1	1	
Litter - Standing	1	2				3	3	11	6				17	17	10	2				12	12	9	3	1		13	12	
Litter - Down					27	27						30	30						37	37					23	23		
Basal Vegetation					11	11						12	12						4	4					7	7		
	1	2			50			11	6			50			10	2			50				9	3	1		50	
<b>SPECIES</b>																												
<b>NPG (c)</b>																												
Agropyron dasystachyum	3					3	3		1				1	1														
Agropyron smithii																							6	1		2	9	7
Carex eleocharis																							1	1			2	2
Carex filifolia	3	1			3	7	7	4					4	4	4					4	4	2				2	2	
Carex heliophila								3	1				4	4	4	2			1	7	6							
Koeleria pyramidata	1					1	1								1				1	1		1				1	1	
Poa sandbergii																												
Stipa comata	2					2	2	9				2	11	10	5				2	7	7	2			1	3	3	
Stipa viridula																												
<b>NPG (w)</b>																												
Andropogon scoparius																												
Bouteloua gracilis	13	2			2	17	16					1	1	1								6	1		3	10	8	
Buchloe dactyloides																												
Calamovilfa longifolia								2					2	2	4					4	4							
Muhlenbergia cuspidata	1					1	1																					
<b>IPG</b>																												
Agropyron cristatum																												
Poa pratensis																												
<b>NAG</b>																												
Festuca octoflora																												
<b>NPF</b>																												
Achillea millefolium																												
Antennaria microphylla					2	2	2																					
Antennaria parvifolia																												
Artemisia frigida																												
Artemisia ludoviciana																1				1	1							
Aster commutatus															1					1	1							
Aster pansus					1	1	1																					
Astragalus gilviflorus	2					2	2																1			1	1	
Comandra umbellata																												
Erigeron pumilus																												
Gutierrezia sarothrae																						1				1	1	
Liatis punctata																												
Linum perenne																												
Opuntia fragilis																												
Phlox hoodii																									1	1	1	
Psoralea argophylla																												



TABLE E4

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 2 SAMPLE SITES  
 (FIVE 10-POINT PIN FRAMES EACH) IN THE SWCY, 16 SITES IN THE SWLY AND  
 2 SITES IN THE SWSY ECOLOGICAL SITES –  
 VEGETATION STUDY AREA

	SHALLOW LOAMY																															
	Site SwLy-9								Site SwLy-10								Site SwLy-11								Site SwLy-12							
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP	
<b>PARAMETERS</b>																																
Solidago nemoralis																																
Solidago rigida																																
Sphaeralcea coccinea																																
Thermopsis rhombifolia								1	1					2	2																	
<b>IPF</b>																																
Taraxacum officinale					1	1	1																									
<b>FERNS</b>																																
Selaginella densa				2	2	2					9	9	9					1	1	1												
<b>NAF</b>																																
Collomia linearis																																
Grindelia squarrosa																																
Plantago patagonica																																
<b>IAF</b>																																
Medicago lupulina																																
<b>NATIVE SHRUBS</b>																																
Calylophus serrulatus																																
Rosa arkansana																1						1	1									
Rosa woodsii																																
<b>TOTAL</b>						39	38							34	33								27	26						30	26	

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TABLE E4

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 2 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE SWCY, 16 SITES IN THE SWLY AND  
2 SITES IN THE SWSY ECOLOGICAL SITES –  
VEGETATION STUDY AREA

	SHALLOW LOAMY																													
	Site SwLy-13							Site SwLy-14							Site SwLy-15							Site SwLy-16								
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP		
<b>PARAMETERS</b>																														
Bare Ground					6	6							12	12							15	15						6	6	
Rock																														
Lichens					3	3							2	2							5	5						2	2	
Moss					2	2																								
Litter - Standing	13	5				18	16	2					2	2	6	10				16	16	6	1	1			8	8		
Litter - Down					35	35							28	28						27	27						38	38		
Basal Vegetation					4	4							8	8						3	3						4	4		
	13	5			50		2					50		6	10			50		6	1	1			50					
<b>SPECIES</b>																														
<b>NPG (c)</b>																														
Agropyron dasystachyum								1					1	1	7	2			1	10	8	5					5	5		
Agropyron smithii	4	1	1			6	4								3					3	3									
Carex eleocharis																														
Carex filifolia								6	1			2	9	9	17	5	2		2	26	26	4	1			1	6	5		
Carex heliophila																														
Koeleria pyramidata								2					2	2								1					1	1		
Poa sandbergii																														
Stipa comata	2	1			1	4	3								3					3	3		1				1	1		
Stipa viridula								2				1	3	3																
<b>NPG (w)</b>																														
Andropogon scoparius																						4	1			1	6	5		
Bouteloua gracilis	8	3	1		3	15	14	1					1	1	2					2	2					2	2	2		
Buchloe dactyloides																														
Calamovilfa longifolia															2	1				3	2	2					2	2		
Muhlenbergia cuspidata								2					2	2	1					1	1									
<b>IPG</b>																														
Agropyron cristatum																														
Poa pratensis																														
<b>NAG</b>																														
Festuca octoflora	1					1	1																							
<b>NPF</b>																														
Achillea millefolium																														
Antennaria microphylla												5	5	5																
Antennaria parvifolia																														
Artemisia frigida	1					1	1	1					1	1																
Artemisia ludoviciana																														
Aster commutatus																														
Aster pansus																														
Astragalus gilviflorus																														
Comandra umbellata																														
Erigeron pumilus															1					1	1									
Gutierrezia sarothrae																														
Liatis punctata								1					1	1								1					1	1		
Linum perenne																														
Opuntia fragilis																														
Phlox hoodii															1					1	1									
Psoralea argophylla																														

**TABLE E4**

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 2 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE SWCY, 16 SITES IN THE SWLY AND  
2 SITES IN THE SWSY ECOLOGICAL SITES –  
VEGETATION STUDY AREA**

	SHALLOW LOAMY																															
	Site SwLy-13								Site SwLy-14								Site SwLy-15								Site SwLy-16							
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP	
<b>PARAMETERS</b>																																
Solidago nemoralis																																
Solidago rigida																																
Sphaeralcea coccinea		1																														
Thermopsis rhombifolia																																
<b>IPF</b>																																
Taraxacum officinale																																
<b>FERNS</b>																																
Selaginella densa																																
<b>NAF</b>																																
Collomia linearis																																
Grindelia squarrosa																																
Plantago patagonica																																
<b>IAF</b>																																
Medicago lupulina																																
<b>NATIVE SHRUBS</b>																																
Calylophus serrulatus																																
Rosa arkansana																																
Rosa woodsii																																
<b>TOTAL</b>																																

Footnotes given on index page E-i.

TABLE E4

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 2 SAMPLE SITES  
 (FIVE 10-POINT PIN FRAMES EACH) IN THE SWCY, 16 SITES IN THE SWLY AND  
 2 SITES IN THE SWSY ECOLOGICAL SITES –  
 VEGETATION STUDY AREA

	SHALLOW LOAMY		SHALLOW SANDY																
	SHALLOW LOAMY MEAN		Site SwSy-1							Site SwSy-2							SHALLOW SANDY MEAN		
	Total Hits	Total Points	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	Total Hits	Total Points	
<b>PARAMETERS</b>	n=16																n=2		
Bare Ground	7.50						6	6							18	18		12.00	
Rock	0.06																		
Lichens	3.06						1	1							4	4		2.50	
Moss	0.25																		
Litter - Standing	11.25	10.63	3	7	1			11	11	5	6				11	11	11.00	11.00	
Litter - Down	32.13							38	38						22	22	30.00		
Basal Vegetation	7.00							5	5						6	6	5.50		
			3	7	1			50		5	6				50				
<b>SPECIES</b>																			
<b>NPG (c)</b>																			
Agropyron dasystachyum	1.44	1.31	1					1	1								0.50	0.50	
Agropyron smithii	3.19	2.88								2					2	2	1.00	1.00	
Carex eleocharis	0.31	0.31	7				2	9	9	4	2			1	7	7	8.00	8.00	
Carex filifolia	6.00	5.63								1					1	1	0.50	0.50	
Carex heliophila	0.88	0.81								1					1	1	0.50	0.50	
Koeleria pyramidata	0.88	0.88	1					1	1	1					1	1	1.00	1.00	
Poa sandbergii	0.06	0.06																	
Stipa comata	3.00	2.81	9	1				10	9	4				1	5	5	7.50	7.00	
Stipa viridula	0.31	0.31																	
<b>NPG (w)</b>																			
Andropogon scoparius	0.38	0.31	5	1			1	7	6								3.50	3.00	
Bouteloua gracilis	5.25	4.94	3	2			1	6	6	8				3	11	11	8.50	8.50	
Buchloe dactyloides	3.69	3.63																	
Calamovilfa longifolia	0.75	0.69	4				1	5	5								2.50	2.50	
Muhlenbergia cuspidata	0.31	0.31	1					1	1								0.50	0.50	
<b>IPG</b>																			
Agropyron cristatum	0.44	0.31																	
Poa pratensis	0.31	0.31																	
<b>NAG</b>																			
Festuca octoflora	0.13	0.13																	
<b>NPF</b>																			
Achillea millefolium	0.13	0.13																	
Antennaria microphylla	0.69	0.69																	
Antennaria parvifolia	0.19	0.19																	
Artemisia frigida	0.19	0.19																	
Artemisia ludoviciana	0.25	0.19	1					1	1								0.50	0.50	
Aster commutatus	0.13	0.13																	
Aster pansus	0.06	0.06																	
Astragalus gilviflorus	0.19	0.19																	
Comandra umbellata	0.06	0.06																	
Erigeron pumilus	0.06	0.06																	
Gutierrezia sarothrae	0.06	0.06																	
Liatris punctata	0.13	0.13																	
Linum perenne	0.06	0.06																	
Opuntia fragilis														1	1	1	0.50	0.50	
Phlox hoodii	0.19	0.19																	
Psoralea argophylla	0.13	0.13																	

**TABLE E4**

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 2 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE SWCY, 16 SITES IN THE SWLY AND  
2 SITES IN THE SWSY ECOLOGICAL SITES –  
VEGETATION STUDY AREA**

	SHALLOW LOAMY		SHALLOW SANDY																
	SHALLOW LOAMY MEAN		Site SwSy-1							Site SwSy-2							SHALLOW SANDY MEAN		
	Total Hits	Total Points	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	Total Hits	Total Points	
<b>PARAMETERS</b>	n=16																n=2		
Solidago nemoralis	0.19	0.13																	
Solidago rigida	0.13	0.13																	
Sphaeralcea coccinea	0.13	0.13																	
Thermopsis rhombifolia	0.19	0.19																	
<b>IPF</b>																			
Taraxacum officinale	0.06	0.06																	
<b>FERNS</b>																			
Selaginella densa	1.56	1.56																	
<b>NAF</b>																			
Collomia linearis	0.06	0.06																	
Grindelia squarrosa	0.06	0.06																	
Plantago patagonica	0.06	0.06																	
<b>IAF</b>																			
Medicago lupulina	0.31	0.31																	
<b>NATIVE SHRUBS</b>																			
Calylophus serrulatus	0.06	0.06																	
Rosa arkansana	0.06	0.06																	
Rosa woodsii																			
<b>TOTAL</b>	<b>32.69</b>	<b>30.88</b>							<b>41</b>	<b>39</b>								<b>35.00</b>	<b>34.00</b>

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TABLE E5

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 17 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH)  
IN THE CLAYPAN AND THIN CLAYPAN  
ECOLOGICAL SITES – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007**

	CLAYPAN								THIN CLAYPAN																														
	Site CP-1								Site TCp-1				Site TCp-2				Site TCp-3																						
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP										
<b>PARAMETERS</b>	n=1																																						
Bare Ground					15	15							8	8											46	46											41	41	
Rock													2	2											1	1													
Lichens													5	5																									
Moss													2	2																									
Litter - Standing	8	6	5			19	19		6	3				9	9			2	1							3	3												
Litter - Down					32	32							30	30											3	3							9	9					
Basal Vegetation					3	3							3	3																									
	8	6	5		50				6	3			50				2	1							50								50						
<b>SPECIES</b>																																							
<b>NPG (c)</b>																																							
Agropyron dasystachyum									1					1	1																								
Agropyron smithii									5	2				7	7																								
Agropyron trachycaulum																	1								1	1													
Calamagrostis montanensis																																							
Carex eleocharis																																							
Carex filifolia																																							
Carex heliophila																																							
Hordeum jubatum	13	4	2		2	21	15																																
Koeleria pyramidata																																							
Poa glaucifolia	6	1				7	7																																
Poa juncifolia																																							
Poa sandbergii																																							
Puccinellia nuttalliana	5					5	5																																
Stipa comata																																							
Stipa viridula																																							
<b>NPG (w)</b>																																							
Bouteloua gracilis																																							
Buchloe dactyloides									18	2	1		3	24	22																								
Distichlis spicata	6	3			1	10	8																						3								3	3	
Muhlenbergia cuspidata																																							
<b>IPG</b>																																							
Bromus inermis																													1								1	1	
Poa pratensis																																							
<b>IAG</b>																																							
Bromus japonicus																																							

TABLE E5

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 17 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH)  
IN THE CLAYPAN AND THIN CLAYPAN  
ECOLOGICAL SITES – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007**

	CLAYPAN								THIN CLAYPAN																							
	Site CP-1								Site TCp-1				Site TCp-2				Site TCp-3															
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP	
<b>NPF</b>																																
Achillea millefolium																																
Antennaria parvifolia																																
Artemisia frigida											1				1	1																
Aster commutatus																																
Aster pansus																																
Astragalus agrestis																																
Cerastium arvense																																
Gutierrezia sarothrae																																
Lomatium foeniculaceum																																
Opuntia polyacantha																																
Phlox hoodii																																
Psoralea argophylla																																
Ratibida columnifera																																
Vicia americana																																
<b>IPF</b>																																
Taraxacum officinale																																
<b>FERNS</b>																																
Selaginella densa																																
<b>NAF</b>																																
Grindelia squarrosa																																
Hedeoma hispidum																																
Plantago elongata																																
Plantago patagonica																																
<b>IAF</b>																																
Draba nemorosa																																
Medicago lupulina											1				1	1																
Melilotus officinalis																																
Thlaspi arvense																																
<b>NATIVE SHRUBS</b>																																
Artemisia cana																																
Rosa woodsii																																
<b>TOTAL</b>																																

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TABLE E5

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 17 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH)  
IN THE CLAYPAN AND THIN CLAYPAN  
ECOLOGICAL SITES – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007**

	THIN CLAYPAN																											
	Site TCp-4							Site TCp-5							Site TCp-6							Site TCp-7						
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP
<b>PARAMETERS</b>																												
Bare Ground					19	19						5	5						1	1						12	12	
Rock					1	1																						
Lichens					1	1						5	5						5	5								
Moss																												
Litter - Standing	3	2				5	5	6	2	5			13	13	3	4				7	7	12	4	1			17	17
Litter - Down					24	24						31	31						44	44						34	34	
Basal Vegetation					5	5						9	9													4	4	
	3	2			50			6	2	5		50			3	4			50			12	4	1		50		
<b>SPECIES</b>																												
<b>NPG (c)</b>																												
Agropyron dasystachyum								2	1				3	2														
Agropyron smithii	3					3	3	3	1				4	4	5					5	5	6	2			1	9	8
Agropyron trachycaulum																												
Calamagrostis montanensis	3				1	4	4																					
Carex eleocharis	1					1	1								3	1				4	4							
Carex filifolia	1					1	1																					
Carex heliophila																												
Hordeum jubatum																												
Koeleria pyramidata								1					1	1	1					1	1	2				2	2	2
Poa glaucifolia																												
Poa juncifolia																												
Poa sandbergii								2					2	2	2	1				3	3							
Puccinellia nuttalliana																												
Stipa comata																												
Stipa viridula																						2				2	2	2
<b>NPG (w)</b>																												
Bouteloua gracilis								1					1	1								3				3	3	3
Buchloe dactyloides	13	1			3	17	17								10	7	2			19	19	6	1			7	7	7
Distichlis spicata																												
Muhlenbergia cuspidata	1					1	1																					
<b>IPG</b>																												
Bromus inermis																												
Poa pratensis								4	1				5	5	2					2	2	3				2	5	5
<b>IAG</b>																												
Bromus japonicus																												



TABLE E5

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 17 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH)  
IN THE CLAYPAN AND THIN CLAYPAN  
ECOLOGICAL SITES – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007**

	THIN CLAYPAN																															
	Site TCp-4								Site TCp-5								Site TCp-6								Site TCp-7							
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP	
<b>NPF</b>																																
Achillea millefolium								6	2				1	9	8		1		1						2	2						
Antennaria parvifolia																																
Artemisia frigida																																
Aster commutatus																																
Aster pansus																									2					2	2	
Astragalus agrestis																	1								1	1						
Cerastium arvense								1						1	1																	
Gutierrezia sarothrae																																
Lomatium foeniculaceum								2	1					3	3																	
Opuntia polyacantha								1						1	1																	
Phlox hoodii	1					1	2	2										1							1	1						
Psoralea argophylla																	2								2	2						
Ratibida columnifera																									1					1	1	
Vicia americana								1						1	1		3	2							5	5						
<b>IPF</b>																																
Taraxacum officinale								3		1				4	4		3		1						4	4						
<b>FERNS</b>																																
Selaginella densa													8	8	8																	
<b>NAF</b>																																
Grindelia squarrosa																									3					3	3	
Hedeoma hispidum								1						1	1																	
Plantago elongata																																
Plantago patagonica																	2								2	2						
<b>IAF</b>																																
Draba nemorosa								2						2	2																	
Medicago lupulina																																
Melilotus officinalis									1	1				2	2																	
Thlaspi arvense																																
<b>NATIVE SHRUBS</b>																																
Artemisia cana								1	1					2	1																	
Rosa woodsii																												1	1	1		
<b>TOTAL</b>								<b>29</b>	<b>29</b>					<b>50</b>	<b>47</b>										<b>51</b>	<b>51</b>				<b>35</b>	<b>34</b>	

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TABLE E5

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 17 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH)  
IN THE CLAYPAN AND THIN CLAYPAN  
ECOLOGICAL SITES – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007**

	THIN CLAYPAN																												
	Site TCp-8							Site TCp-9							Site TCp-10							Site TCp-11							
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	
<b>PARAMETERS</b>																													
Bare Ground					34	34						6	6							9	9					17	17		
Rock																													
Lichens												1	1							1	1					1	1		
Moss																													
Litter - Standing	1	1				2	2	5	1	1			7	7	10	8	1			19	18	8	2			10	10		
Litter - Down					14	14						40	40						38	38					32	32			
Basal Vegetation					2	2						3	3						2	2									
	1	1			50			5	1	1		50			10	8	1		50			8	2			50			
<b>SPECIES</b>																													
<b>NPG (c)</b>																													
Agropyron dasystachyum																													
Agropyron smithii	2	1				3	3	8	5				13	12	16	2			2	20	17	6				6	6		
Agropyron trachycaulum																													
Calamagrostis montanensis																													
Carex eleocharis									1			1	2	1															
Carex filifolia																													
Carex heliophila																													
Hordeum jubatum																													
Koeleria pyramidata									1				1	1															
Poa glaucifolia																													
Poa juncifolia	4	2			1	7	7																						
Poa sandbergii								4					4	4	1					1	1								
Puccinellia nuttalliana																													
Stipa comata																													
Stipa viridula																									3		3	3	
<b>NPG (w)</b>																													
Bouteloua gracilis																										4	1	5	5
Buchloe dactyloides								5	3	1			9	7															
Distichlis spicata																													
Muhlenbergia cuspidata																													
<b>IPG</b>																													
Bromus inermis																													
Poa pratensis								7					7	7	8	1				9	8								
<b>IAG</b>																													
Bromus japonicus															1					1	1								

TABLE E5

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 17 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH)  
IN THE CLAYPAN AND THIN CLAYPAN  
ECOLOGICAL SITES – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007**

	THIN CLAYPAN																															
	Site TCp-8								Site TCp-9								Site TCp-10								Site TCp-11							
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP	
<b>NPF</b>																																
Achillea millefolium								4						4	4		2	3	1				6	4								
Antennaria parvifolia																																
Artemisia frigida																																
Aster commutatus																																
Aster pansus																																
Astragalus agrestis																																
Cerastium arvense																																
Gutierrezia sarothrae																	1										1	1				
Lomatium foeniculaceum																																
Opuntia polyacantha																																
Phlox hoodii								1				1	2	2																		
Psoralea argophylla																																
Ratibida columnifera																																
Vicia americana								1					1	1		1	2						3	3								
<b>IPF</b>																																
Taraxacum officinale									1	1			1	3	3																	
<b>FERNS</b>																																
Selaginella densa																																
<b>NAF</b>																																
Grindelia squarrosa																									1			1	1			
Hedeoma hispidum																																
Plantago elongata																	1	1						2	2							
Plantago patagonica																																
<b>IAF</b>																																
Draba nemorosa								1						1	1																	
Medicago lupulina																																
Melilotus officinalis																																
Thlaspi arvense								1	1				2	2		1							1	1								
<b>NATIVE SHRUBS</b>																																
Artemisia cana	4	1				1	6	5	3	1				4	4																	
Rosa woodsii																																
<b>TOTAL</b>							<b>16</b>	<b>15</b>							<b>54</b>	<b>50</b>							<b>43</b>	<b>37</b>							<b>16</b>	<b>16</b>

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TABLE E5

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 17 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH)  
IN THE CLAYPAN AND THIN CLAYPAN  
ECOLOGICAL SITES – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007**

	THIN CLAYPAN																												
	Site TCp-12						Site TCp-13						Site TCp-14						Site TCp-15										
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	
<b>PARAMETERS</b>																													
Bare Ground					7	7						6	6														16	16	
Rock																													
Lichens												1	1														1	1	
Moss																													
Litter - Standing	6	1				7	7	2	1				3	3	19	10	1				30	27	5					5	5
Litter - Down					42	42						34	34								50	50					30	30	
Basal Vegetation					1	1						9	9														3	3	
	6	1			50			2	1			50			19	10	1				50		5					50	
<b>SPECIES</b>																													
<b>NPG (c)</b>																													
Agropyron dasystachyum																													
Agropyron smithii	1				1	2	2	1				1	2	2	8						8	8	1					1	1
Agropyron trachycaulum																													
Calamagrostis montanensis																													
Carex eleocharis								7				2	9	9															
Carex filifolia																													
Carex heliophila								1				1	1		3						3	3							
Hordeum jubatum																													
Koeleria pyramidata	1					1	1																						
Poa glaucifolia																													
Poa juncifolia																													
Poa sandbergii	3					3	3																						
Puccinellia nuttalliana																													
Stipa comata															3						3	3							
Stipa viridula		1				1	1	1				1	1																
<b>NPG (w)</b>																													
Bouteloua gracilis	8	1				9	9	5				2	7	7	7	1					8	8							
Buchloe dactyloides	1					1	1																3				3	6	6
Distichlis spicata																							8	1				9	8
Muhlenbergia cuspidata																													
<b>IPG</b>																													
Bromus inermis																													
Poa pratensis																													
<b>IAG</b>																													
Bromus japonicus																													

TABLE E5

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 17 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH)  
IN THE CLAYPAN AND THIN CLAYPAN  
ECOLOGICAL SITES – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007**

	THIN CLAYPAN																															
	Site TCp-12								Site TCp-13								Site TCp-14								Site TCp-15							
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP	
<b>NPF</b>																																
Achillea millefolium	2					2	2																									
Antennaria parvifolia												4	4	4																		
Artemisia frigida	1	1				2	2																									
Aster commutatus	2					2	2	2						2	2																	
Aster pansus																																
Astragalus agrestis																																
Cerastium arvense																																
Gutierrezia sarothrae																																
Lomatium foeniculaceum																																
Opuntia polyacantha																																
Phlox hoodii																																
Psoralea argophylla																																
Ratibida columnifera																																
Vicia americana																																
<b>IPF</b>																																
Taraxacum officinale																																
<b>FERNS</b>																																
Selaginella densa																																
<b>NAF</b>																																
Grindelia squarrosa	2					2	2																									
Hedeoma hispidum																																
Plantago elongata																																
Plantago patagonica																																
<b>IAF</b>																																
Draba nemorosa																																
Medicago lupulina																																
Melilotus officinalis																																
Thlaspi arvense																																
<b>NATIVE SHRUBS</b>																																
Artemisia cana																																
Rosa woodsii																																
<b>TOTAL</b>						25	25							26	26								22	22					16	15		

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TABLE E5

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 17 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH)  
IN THE CLAYPAN AND THIN CLAYPAN  
ECOLOGICAL SITES – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007**

	THIN CLAYPAN										THIN CLAYPAN MEAN	
	Site TCp-16								Total Hits	Total Points		
	1	2	3	4	B	TH	TP					
<b>PARAMETERS</b>											n=16	
Bare Ground					8	8					14.69	
Rock											0.25	
Lichens											1.31	
Moss											0.13	
Litter - Standing	9	2					11	11			9.25	9.00
Litter - Down					40	40					30.94	
Basal Vegetation					2	2					2.69	
	9	2			50							
<b>SPECIES</b>												
<b>NPG (c)</b>												
Agropyron dasystachyum											0.25	0.19
Agropyron smithii	6						6	6			5.56	5.25
Agropyron trachycaulum											0.06	0.06
Calamagrostis montanensis											0.25	0.25
Carex eleocharis											1.00	0.94
Carex filifolia											0.06	0.06
Carex heliophila											0.25	0.25
Hordeum jubatum												
Koeleria pyramidata		1					1	1			0.44	0.44
Poa glaucifolia												
Poa juncifolia											0.44	0.44
Poa sandbergii	3						3	3			1.00	1.00
Puccinellia nuttalliana												
Stipa comata											0.19	0.19
Stipa viridula											0.44	0.44
<b>NPG (w)</b>												
Bouteloua gracilis											2.13	2.13
Buchloe dactyloides	7	1			2	10	10				5.81	5.56
Distichlis spicata											0.75	0.69
Muhlenbergia cuspidata											0.06	0.06
<b>IPG</b>												
Bromus inermis											0.06	0.06
Poa pratensis											1.75	1.69
<b>IAG</b>												
Bromus japonicus											0.06	0.06

TABLE E5

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 17 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH)  
IN THE CLAYPAN AND THIN CLAYPAN  
ECOLOGICAL SITES – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007**

	THIN CLAYPAN										Total Hits	Total Points
	Site TCp-16							THIN CLAYPAN MEAN				
	1	2	3	4	B	TH	TP					
<b>NPF</b>												
Achillea millefolium											1.44	1.25
Antennaria parvifolia											0.25	0.25
Artemisia frigida											0.19	0.19
Aster commutatus											0.25	0.25
Aster pansus											0.13	0.13
Astragalus agrestis											0.06	0.06
Cerastium arvense											0.06	0.06
Gutierrezia sarothrae											0.06	0.06
Lomatium foeniculaceum											0.19	0.19
Opuntia polyacantha											0.06	0.06
Phlox hoodii											0.31	0.31
Psoralea argophylla											0.13	0.13
Ratibida columnifera											0.06	0.06
Vicia americana											0.63	0.63
<b>IPF</b>												
Taraxacum officinale											0.69	0.69
<b>FERNS</b>												
Selaginella densa											0.50	0.50
<b>NAF</b>												
Grindelia squarrosa											0.38	0.38
Hedeoma hispidum											0.06	0.06
Plantago elongata											0.13	0.13
Plantago patagonica											0.13	0.13
<b>IAF</b>												
Draba nemorosa											0.19	0.19
Medicago lupulina											0.06	0.06
Melilotus officinalis											0.13	0.13
Thlaspi arvense											0.19	0.19
<b>NATIVE SHRUBS</b>												
Artemisia cana											0.75	0.63
Rosa woodsii											0.06	0.06
<b>TOTAL</b>											27.63	26.50

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TABLE E6

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 5 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH)  
IN THE SANDY ECOLOGICAL SITE – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006**

	SANDY																																						
	Site Sy-1						Site Sy-2						Site Sy-3						Site Sy-4																				
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP											
<b>PARAMETERS</b>																																							
Bare Ground					8	8							18	18										13	13										1	1			
Rock													3	3																									
Lichens																									1	1										5	5		
Moss																																							
Litter - Standing	13	5						6	3						9	9										15	13	10	7	2						19	19		
Litter - Down					39	39									25	25											25	25									35	35	
Basal Vegetation					3	3									4	4											11	11									9	9	
	13	5			50			6	3					50												50	10	7	2						50				
<b>SPECIES</b>																																							
<b>NPG (c)</b>																																							
Agropyron dasystachyum																																							
Agropyron smithii	4	1				5	5	2	1					3	3									1	1	1	8	2							10	9			
Calamagrostis montanensis																																							
Carex eleocharis	5				2	7	7																																
Carex filifolia								4						4	4	2								1	3	3	4	3							7	7			
Carex heliophila																							4	1		2	7	7											
Koeleria pyramidata																											1	1							1	3	3		
Stipa comata								2						2	2	4	1							3	8	8	10	3	1						1	15	13		
Stipa viridula																							1											1	1				
<b>NPG (w)</b>																																							
Andropogon scoparius																																							
Bouteloua gracilis								3	1				1	5	5	3								2	5	4	6	1							7	7			
Buchloe dactyloides	5	2	1			8	5	4	1				3	8	5									1	1	1													
Calamovilfa longifolia								2						2	2																								
<b>IPG</b>																																							
Agropyron cristatum	3				1	4	4																																
Poa pratensis	4					4	4																																
<b>NPF</b>																																							
Artemisia campestris								1						1	1																								
Artemisia frigida																							1											1	1				
Artemisia ludoviciana								1						1	1																								
Opuntia fragilis																									1	1	1												
Verbena bracteata	1					1	1																																
<b>IPF</b>																																							
Euphorbia esula																											1									1	1		
<b>FERNS</b>																																							
Selaginella densa																																			7	7	7		
<b>TOTAL</b>						29	26							26	23										28	27									50	47			

Footnotes given on index page E-i.



TABLE E6

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 5 SAMPLE SITES  
 (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE SANDY ECOLOGICAL SITE – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006

	SANDY										SANDY MEAN	
	Site Sy-5							Total Hits	Total Points			
	1	2	3	4	B	TH	TP					
<b>PARAMETERS</b>											n=5	
Bare Ground					1	1		8.20				
Rock					1	1		0.80				
Lichens								1.20				
Moss												
Litter - Standing	10	17	7			34	30	19.00	17.80			
Litter - Down					45	45		33.80				
Basal Vegetation					3	3		6.00				
	10	17	7		50							
<b>SPECIES</b>												
<b>NPG (c)</b>												
Agropyron dasystachyum	9		1			10	10	2.00	2.00			
Agropyron smithii								3.80	3.60			
Calamagrostis montanensis	1					1	1	0.20	0.20			
Carex eleocharis								1.40	1.40			
Carex filifolia								2.80	2.80			
Carex heliophila	4	8			1	13	12	4.00	3.80			
Koeleria pyramidata								0.60	0.60			
Stipa comata	1	1	1			3	3	5.60	5.20			
Stipa viridula								0.20	0.20			
<b>NPG (w)</b>												
Andropogon scoparius	3	3			1	7	5	1.40	1.00			
Bouteloua gracilis								3.40	3.20			
Buchloe dactyloides								3.40	2.20			
Calamovilfa longifolia	15	2	1		1	19	16	4.20	3.60			
<b>IPG</b>												
Agropyron cristatum	1					1	1	1.00	1.00			
Poa pratensis								0.80	0.80			
<b>NPF</b>												
Artemisia campestris								0.20	0.20			
Artemisia frigida								0.20	0.20			
Artemisia ludoviciana	2					2	2	0.60	0.60			
Opuntia fragilis								0.20	0.20			
Verbena bracteata								0.20	0.20			
<b>IPF</b>												
Euphorbia esula								0.20	0.20			
<b>FERNS</b>												
Selaginella densa								1.40	1.40			
<b>TOTAL</b>						56	50	37.80	34.60			

Footnotes given on index page E-i.

TABLE E7

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 8 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH) IN THE CLAYEY ECOLOGICAL SITE – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006

	CLAYEY																										
	Site Cy-1						Site Cy-2						Site Cy-3						Site Cy-4								
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH
<b>PARAMETERS</b>																											
Bare Ground					10	10						25	25							12	12					4	4
Rock												3	3														
Lichens												3	3														
Moss																				3	3						
Litter - Standing	10					10	10	7	3				10	10	4	2				6	6	12	3			15	14
Litter - Down					35	35						16	16							28	28					41	41
Basal Vegetation					5	5						6	6							7	7					5	5
	10				50		7	3				50		4	2				50		12	3			50		
<b>SPECIES</b>																											
<b>NPG (c)</b>																											
Agropyron dasystachyum															1				1	2	2						
Agropyron smithii	4				1	5	5	13	3			1	17	15	10	1			1	12	11	6	5	2	1	14	11
Carex eleocharis	1				1	2	2								3					3	3						
Koeleria pyramidata																											
Poa sandbergii	1					1	1																				
Stipa comata	1	1				2	1								5	1			3	9	6						
Stipa viridula															2	1			1	4	3	2				2	2
<b>NPG (w)</b>																											
Bouteloua gracilis																						7	2		4	13	12
Buchloe dactyloides	7				3	10	9	3				4	7	7													
Distichlis spicata																											
Schedonnardus paniculatus								1			1	2	2														
<b>IPG</b>																											
Agropyron cristatum																											
Poa pratensis																											
<b>NPF</b>																											
Achillea millefolium	1					1	1															1	1			2	2
Artemisia frigida																1				1	1						
Cirsium flodmanii																											
Gutierrezia sarothrae															2				1	3	2						
Opuntia fragilis																											
Phlox hoodii																											
Sphaeralcea coccinea																											
<b>IPF</b>																											
Taraxacum officinale																											
<b>NAF</b>																											
Grindelia squarrosa	1					1	1																				
<b>NATIVE SHRUBS</b>																											
Artemisia cana																											
<b>TOTAL</b>						22	20						26	24						34	28					31	27

Footnotes given on index page E-i.

TABLE E7

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 8 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH) IN THE CLAYEY ECOLOGICAL SITE – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006

	CLAYEY																											
	Site Cy-5						Site Cy-6						Site Cy-7						Site Cy-8									
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP
<b>PARAMETERS</b>																												
Bare Ground					5	5						9	9							7	7					13	13	
Rock																												
Lichens					2	2						2	2													5	5	
Moss																												
Litter - Standing	4	3				7	7	14	12	1			27	27	4	1				5	5	7	1	1		9	9	
Litter - Down					38	38						35	35						41	41					26	26		
Basal Vegetation					5	5					4	4							2	2					6	6		
	4	3			50			14	12	1		50			4	1			50			7	1	1		50		
<b>SPECIES</b>																												
<b>NPG (c)</b>																												
Agropyron dasystachyum																												
Agropyron smithii					2	2	2	5				5	5	7	1				8	7	4	1			5	5		
Carex eleocharis								1	1			2	2	2					2	2								
Koeleria pyramidata	1					1	1	1				1	1									1				1	1	
Poa sandbergii																			1	1	1							
Stipa comata	1					1	1	2				2	2								4	1			1	6	6	
Stipa viridula																	1	1	2	2								
<b>NPG (w)</b>																												
Bouteloua gracilis								6	5	2		3	16	15	9	2				11	11	2	1			4	7	7
Buchloe dactyloides	11	5			2	18	17																					
Distichlis spicata								6				6	6															
Schedonnardus paniculatus																												
<b>IPG</b>																												
Agropyron cristatum																												
Poa pratensis	4					4	4																					
<b>NPF</b>																												
Achillea millefolium					1	1	1																					
Artemisia frigida								1	2				3	3														
Cirsium flodmanii	2					2	2																					
Gutierrezia sarothrae																												
Opuntia fragilis									1				1	1														
Phlox hoodii									1				1	1														
Sphaeralcea coccinea								1					1	1														
<b>IPF</b>																												
Taraxacum officinale								1					1	1														
<b>NAF</b>																												
Grindelia squarrosa	2					2	2																					
<b>NATIVE SHRUBS</b>																												
Artemisia cana								5				1	6	5	3	1				4	4							
<b>TOTAL</b>						31	30						45	43						28	27					21	21	

Footnotes given on index page E-i.

**TABLE E7**

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 8 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH) IN THE CLAYEY ECOLOGICAL SITE – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006**

	CLAYEY MEAN	
	Total Hits	4
<b>PARAMETERS</b>	n=8	
Bare Ground	10.63	
Rock		
Lichens	1.50	
Moss	0.38	
Litter - Standing	11.13	11.00
Litter - Down	32.50	
Basal Vegetation	5.00	
<b>SPECIES</b>		
<b>NPG (c)</b>		
Agropyron dasystachyum	0.25	0.25
Agropyron smithii	8.50	7.63
Carex eleocharis	1.13	1.13
Koeleria pyramidata	0.38	0.38
Poa sandbergii	0.25	0.25
Stipa comata	2.50	2.00
Stipa viridula	1.00	0.88
<b>NPG (w)</b>		
Bouteloua gracilis	5.88	5.63
Buchloe dactyloides	4.38	4.13
Distichlis spicata	0.75	0.75
Schedonnardus paniculatus	0.25	0.25
<b>IPG</b>		
Agropyron cristatum	0.25	0.25
Poa pratensis	0.50	0.50
<b>NPF</b>		
Achillea millefolium	0.50	0.50
Artemisia frigida	0.50	0.50
Cirsium flodmanii	0.25	0.25
Gutierrezia sarothrae	0.38	0.25
Opuntia fragilis	0.13	0.13
Phlox hoodii	0.13	0.13
Sphaeralcea coccinea	0.13	0.13
<b>IPF</b>		
Taraxacum officinale	0.13	0.13
<b>NAF</b>		
Grindelia squarrosa	0.38	0.38
<b>NATIVE SHRUBS</b>		
Artemisia cana	1.25	1.13
<b>TOTAL</b>	<b>29.75</b>	<b>27.50</b>

Footnotes given on index page E-i.

TABLE E8

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 2 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE LOAMY AND 4 SITES IN THE LOAMY OVERFLOW  
 ECOLOGICAL SITES – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	LOAMY														LOAMY OVERFLOW											
	Site Ly-1							Site Ly-2							LOAMY MEAN		Site LyOv-1									
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	Total Hits	Total Points	1	2	3	4	B	TH	TP			
<b>PARAMETERS</b>															n=2											
Bare Ground					1	1							16	16	8.50											
Rock													1	1	0.50											
Lichens																										
Moss																										
Litter - Standing	3		3			6	6	4	4	1				9	9	7.50	7.50	7	13	13					33	33
Litter - Down					48	48							29	29	38.50									49	49	
Basal Vegetation					1	1							4	4	2.50									1	1	
	3		3		50			4	4	1			50				7	13	13					50		
<b>SPECIES</b>																										
<b>NPG (c)</b>																										
Agropyron smithii	24	10				34	27	7	1					8	7	21.00	17.00									
Carex eleocharis	1					1	1									0.50	0.50									
Carex filifolia		1				1	1	5	1				2	8	8	4.50	4.50									
Koeleria pyramidata								1						1	1	0.50	0.50									
Poa sandbergii	2					2	2	1						1	1	1.50	1.50									
Stipa comata		1				1	1									0.50	0.50									
<b>NPG (w)</b>																										
Bouteloua gracilis	3	6	5			14	13	7	1				2	10	10	12.00	11.50									
<b>IPG</b>																										
Bromus inermis																		34	20	4			1	59	40	
Poa pratensis	11	4	2		1	18	16								9.00	8.00										
<b>NPF</b>																										
Artemisia ludoviciana																		1						1	1	
Aster pansus																										
Glycyrrhiza lepidota																										
Monarda fistulosa																										
Vicia americana																		1		1				2	2	
<b>IPF</b>																										
Cirsium arvense																			1					1	1	
Euphorbia esula																										
<b>IAF</b>																										
Draba nemorosa	1					1	1								0.50	0.50										
<b>NATIVE SHRUBS</b>																										
Artemisia cana																										
Rosa woodsii																										
Symphoricarpos occidentalis																		6	7	6				19	13	
<b>TOTAL</b>						72	62							28	27	50.00	44.50								82	57

Footnotes given on index page E-1.

TABLE E8

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 2 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE LOAMY AND 4 SITES IN THE LOAMY OVERFLOW  
 ECOLOGICAL SITES – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	LOAMY OVERFLOW																			LOAMY OVERFLOW MEAN			
	Site LyOv-2						Site LyOv-3						Site LyOv-4						Total Hits	Total Points			
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4			B	TH	TP
<b>PARAMETERS</b>																				n=4			
Bare Ground					2	2																0.50	
Rock																							
Lichens																							
Moss																							
Litter - Standing	11	12	14			37	37	5	8	20			33	31	7	12	12			31	31	33.50	33.00
Litter - Down					46	46						49	49						48	48		48.00	
Basal Vegetation					2	2						1	1						2	2		1.50	
<b>SPECIES</b>	11	12	14		50			5	8	20		50			7	12	12		50				
<b>NPG (c)</b>																							
Agropyron smithii	1					1	1															0.25	0.25
Carex eleocharis																							
Carex filifolia																							
Koeleria pyramidata																							
Poa sandbergii																							
Stipa comata																							
<b>NPG (w)</b>																							
Bouteloua gracilis																							
<b>IPG</b>																							
Bromus inermis	4				1	5	5	5		1			6	6								17.50	12.75
Poa pratensis	14	20	2		1	37	30	17	26	10			53	43	12	13	10		1	36	28	31.50	25.25
<b>NPF</b>																							
Artemisia ludoviciana															2	1				3	3	1.00	1.00
Aster pansus															1					1	1	0.25	0.25
Glycyrrhiza lepidota															1					1	1	0.25	0.25
Monarda fistulosa															2					2	2	0.50	0.50
Vicia americana																						0.50	0.50
<b>IPF</b>																							
Cirsium arvense																						0.25	0.25
Euphorbia esula	4	1				5	5	4	1	2			7	7	6	4	1			11	7	5.75	4.75
<b>IAF</b>																							
Draba nemorosa																							
<b>NATIVE SHRUBS</b>																							
Artemisia cana															4	2				6	6	1.50	1.50
Rosa woodsii			1			1	1	2	1				3	3								1.00	1.00
Symphoricarpos occidentalis	13					13	13	17	11	4		1	33	23	14	6			1	21	16	21.50	16.25
<b>TOTAL</b>					62	55					102	82					81	64	81.75	64.50			

Footnotes given on index page E-i.

TABLE E9

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 21 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE LOAMY TERRACE  
AND 4 SITES IN THE LYT (OCC. CYT) ECOLOGICAL SITES – VEGETATION STUDY AREA

	LOAMY TERRACE																														
	Site LyT-1							Site LyT-2							Site LyT-3							Site LyT-4									
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP			
<b>PARAMETERS</b>																															
Bare Ground					2	2						4	4							1	1					1	1				
Rock																															
Lichens																															
Moss																				1	1										
Litter - Standing	4					4	4	4					4	4			17	23	9			49	40			17	16	10		43	35
Litter - Down					45	45						42	42							48	48							46	46		
Basal Vegetation					3	3						4	4														3	3			
	4				50			4				50				17	23	9			50					17	16	10		50	
<b>SPECIES</b>																															
<b>NPG (c)</b>																															
Agropyron dasystachyum																															
Agropyron smithii	4				1	5	5	4				2	6	6	5						5	5			10	1			1	12	12
Agropyron trachycaulum															4						4	4									
Carex brevior															5	3					8	7			2				2	2	
Carex eleocharis								9					9	9																	
Carex filifolia																															
Carex heliophila																															
Carex laeviconica																															
Poa sandbergii																															
Puccinellia cusickii																															
Stipa comata								3	1				4	4																	
Stipa viridula															5	1					6	6			2				2	2	
<b>NPG (w)</b>																															
Bouteloua gracilis								1				1	2	2																	
Distichlis spicata																															
Spartina pectinata																															
<b>IPG</b>																															
Agropyron cristatum	3	1				4	3																								
Agropyron repens																															
Bromus inermis																															
Poa pratensis	7				2	9	9	2				1	3	3	8	5	1				14	13			12	11			2	25	19
<b>NPF</b>																															
Achillea millefolium																															
Artemisia frigida																															
Artemisia ludoviciana															4	1					5	5									
Aster simplex																															
Gutierrezia sarothrae																															
Lomatium foeniculaceum																															
Monarda fistulosa																									1				1	1	
Opuntia polyacantha																															
Solidago missouriensis																															
Vicia americana																															
<b>IPF</b>																															
Taraxacum officinale								2					2	2																	

TABLE E9

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 21 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE LOAMY TERRACE  
AND 4 SITES IN THE LYT (OCC. CYT) ECOLOGICAL SITES – VEGETATION STUDY AREA**

	LOAMY TERRACE																															
	Site LyT-1								Site LyT-2								Site LyT-3								Site LyT-4							
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP	
<b>PARAMETERS</b>																																
<b>FERNS</b>																																
Selaginella densa																																
<b>NAF</b>																																
Arabis holboellii																																
Draba reptans																																
Grindelia squarrosa																																
Iva xanthifolia	1					1	1																									
Lepidium densiflorum																																
Plantago elongata																																
Plantago patagonica																																
Polygonum arenastrum	1					1	1																									
<b>IAF</b>																																
Melilotus officinalis																																
<b>NATIVE SHRUBS</b>																																
Artemisia cana																																
Rosa woodsii																						1						1	1			
Symphoricarpos occidentalis																																
<b>TOTAL</b>						20	19						26	26							42	40							43	37		

Footnotes given on index page E-i.



TABLE E9

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 21 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE LOAMY TERRACE  
AND 4 SITES IN THE LYT (OCC. CYT) ECOLOGICAL SITES – VEGETATION STUDY AREA

	LOAMY TERRACE																												
	Site LyT-5							Site LyT-6							Site LyT-7							Site LyT-8							
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	
<b>PARAMETERS</b>																													
Bare Ground					4	4						3	3							1	1					1	1		
Rock																													
Lichens																													
Moss																				1	1								
Litter - Standing	2	4				6	6	10	3				13	12	5	6				11	11	14	15	4			33	29	
Litter - Down					40	40						45	45						41	41						45	45		
Basal Vegetation					6	6						2	2						7	7						4	4		
	2	4			50			10	3			50			5	6			50			14	15	4		50			
<b>SPECIES</b>																													
<b>NPG (c)</b>																													
Agropyron dasystachyum															5				1	6	5	6				1	7	7	
Agropyron smithii	1					1	1	4		1			5	5	3	3	1			7	7	4	4	1		2	11	8	
Agropyron trachycaulum																													
Carex brevior																													
Carex eleocharis	1	1			1	3	3	2	1				3	2								1	1				2	2	
Carex filifolia																													
Carex heliophila																													
Carex laeviconica																													
Poa sandbergii															1					1	1								
Puccinellia cusickii																													
Stipa comata	2					2	2															3					3	3	
Stipa viridula	4	1	1			6	6	3	3			1	7	7								5	3			1	9	7	
<b>NPG (w)</b>																													
Bouteloua gracilis	1				2	3	3								4	5			4	13	13	6	1	2			9	9	
Distichlis spicata																													
Spartina pectinata																													
<b>IPG</b>																													
Agropyron cristatum															2					2	2								
Agropyron repens																													
Bromus inermis																													
Poa pratensis	4	3			3	10	10	14	3	1		1	19	16	7	1			2	10	9	1	3			4	4		
<b>NPF</b>																													
Achillea millefolium																						1	2				3	3	
Artemisia frigida	1	1				2	1																						
Artemisia ludoviciana	3	2				5	4																						
Aster simplex																													
Gutierrezia sarothrae																													
Lomatium foeniculaceum																													
Monarda fistulosa																													
Opuntia polyacantha																													
Solidago missouriensis																													
Vicia americana																													
<b>IPF</b>																													
Taraxacum officinale																													

TABLE E9

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 21 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE LOAMY TERRACE  
AND 4 SITES IN THE LYT (OCC. CYT) ECOLOGICAL SITES – VEGETATION STUDY AREA**

	LOAMY TERRACE																											
	Site LyT-5							Site LyT-6							Site LyT-7							Site LyT-8						
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP
<b>PARAMETERS</b>																												
<b>FERNS</b>																												
Selaginella densa																												
<b>NAF</b>																												
Arabis holboellii																												
Draba reptans																												
Grindelia squarrosa																												
Iva xanthifolia																												
Lepidium densiflorum																												
Plantago elongata																												
Plantago patagonica																												
Polygonum arenastrum																												
<b>IAF</b>																												
Melilotus officinalis																												
<b>NATIVE SHRUBS</b>																												
Artemisia cana	9	4	1			14	10																					
Rosa woodsii																												
Symphoricarpos occidentalis								3	1					4	3													
<b>TOTAL</b>						46	40							38	33											49	45	

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TABLE E9

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 21 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE LOAMY TERRACE  
AND 4 SITES IN THE LYT (OCC. CYT) ECOLOGICAL SITES – VEGETATION STUDY AREA

	LOAMY TERRACE																											
	Site LyT-9							Site LyT-10							Site LyT-11							Site LyT-12						
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP
<b>PARAMETERS</b>																												
Bare Ground											6	6							1	1						7	7	
Rock																												
Lichens																												
Moss																												
Litter - Standing	12	16	8			36	29	6	4	6			16	16	8	1	1			10	10	10	7	1			18	18
Litter - Down					48	48						41	41						43	43						35	35	
Basal Vegetation					2	2						3	3						6	6						8	8	
	12	16	8		50			6	4	6		50			8	1	1		50			10	7	1		50		
<b>SPECIES</b>																												
<b>NPG (c)</b>																												
Agropyron dasystachyum																												
Agropyron smithii	13	7			2	22	20	5	2			1	8	8	9				4	13	13	20	4			6	30	23
Agropyron trachycaulum																												
Carex brevior																												
Carex eleocharis																												
Carex filifolia																												
Carex heliophila															1				1	2	2							
Carex laeviconica																												
Poa sandbergii																												
Puccinellia cusickii																												
Stipa comata																												
Stipa viridula								1				1	1															
<b>NPG (w)</b>																												
Bouteloua gracilis							3				1	4	3	2					2	2								
Distichlis spicata																												
Spartina pectinata																												
<b>IPG</b>																												
Agropyron cristatum																												
Agropyron repens																												
Bromus inermis																3			1	4	4							
Poa pratensis	9	3				12	12	6	3			1	10	10	6	1				7	7	2	3			2	7	6
<b>NPF</b>																												
Achillea millefolium	1					1	1																					
Artemisia frigida																												
Artemisia ludoviciana	5					5	5																					
Aster simplex																												
Gutierrezia sarothrae																												
Lomatium foeniculaceum																												
Monarda fistulosa																												
Opuntia polyacantha																												
Solidago missouriensis																												
Vicia americana																												
<b>IPF</b>																												
Taraxacum officinale																												

TABLE E9

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 21 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE LOAMY TERRACE  
AND 4 SITES IN THE LYT (OCC. CYT) ECOLOGICAL SITES – VEGETATION STUDY AREA**

	LOAMY TERRACE																											
	Site LyT-9							Site LyT-10							Site LyT-11							Site LyT-12						
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP
<b>PARAMETERS</b>																												
<b>FERNS</b>																												
Selaginella densa																												
<b>NAF</b>																												
Arabis holboellii																												
Draba reptans																												
Grindelia squarrosa																												
Iva xanthifolia																												
Lepidium densiflorum																												
Plantago elongata																												
Plantago patagonica																												
Polygonum arenastrum																												
<b>IAF</b>																												
Melilotus officinalis																												
<b>NATIVE SHRUBS</b>																												
Artemisia cana	5	3	1			9	6	10	4					14	10													
Rosa woodsii																												
Symphoricarpos occidentalis																												
<b>TOTAL</b>						49	44							37	32													

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TABLE E9

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 21 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE LOAMY TERRACE  
AND 4 SITES IN THE LYT (OCC. CYT) ECOLOGICAL SITES – VEGETATION STUDY AREA

	LOAMY TERRACE																											
	Site LyT-13							Site LyT-14							Site LyT-15							Site LyT-16						
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP
<b>PARAMETERS</b>																												
Bare Ground					12	12						3	3						4	4						7	7	
Rock																												
Lichens					1	12																						
Moss																										1	1	
Litter - Standing	5	3				8	8	15	8	1			24	22	14	4				18	18	11	7	1			19	17
Litter - Down					33	33						42	42						42	42						40	40	
Basal Vegetation					4	4						5	5						4	4						2	2	
	5	3			50			15	8	1		50			14	4			50			11	7	1		50		
<b>SPECIES</b>																												
<b>NPG (c)</b>																												
Agropyron dasystachyum																												
Agropyron smithii	7				2	9	9	11	1			2	14	14	10	3	1			14	13	2	1				3	3
Agropyron trachycaulum																									1		6	6
Carex brevior																												
Carex eleocharis	1					1	1	1					1	1														
Carex filifolia																												
Carex heliophila																												
Carex laeviconica																												
Poa sandbergii																												
Puccinellia cusickii																												
Stipa comata																												
Stipa viridula																			1	1	1	1				1	1	
<b>NPG (w)</b>																												
Bouteloua gracilis	6	3			2	11	10	9	3	1		3	16	14	2				2	4	3		1				1	1
Distichlis spicata																												
Spartina pectinata																												
<b>IPG</b>																												
Agropyron cristatum																											1	1
Agropyron repens																												
Bromus inermis																											1	1
Poa pratensis															4				1	5	5	7	1			1	9	9
<b>NPF</b>																												
Achillea millefolium																												
Artemisia frigida															1					1	1							
Artemisia ludoviciana	1					1	1															2					2	2
Aster simplex																												
Gutierrezia sarothrae																												
Lomatium foeniculaceum																												
Monarda fistulosa																												
Opuntia polyacantha																												
Solidago missouriensis																												
Vicia americana																												
<b>IPF</b>																												
Taraxacum officinale																												

TABLE E9

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 21 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE LOAMY TERRACE  
AND 4 SITES IN THE LYT (OCC. CYT) ECOLOGICAL SITES – VEGETATION STUDY AREA**

	LOAMY TERRACE																															
	Site LyT-13								Site LyT-14								Site LyT-15								Site LyT-16							
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP	
<b>PARAMETERS</b>																																
<b>FERNS</b>																																
Selaginella densa																																
<b>NAF</b>																																
Arabis holboellii																																
Draba reptans																																
Grindelia squarrosa																								1						1	1	
Iva xanthifolia																																
Lepidium densiflorum																																
Plantago elongata																																
Plantago patagonica																																
Polygonum arenastrum																																
<b>IAF</b>																																
Melilotus officinalis																																
<b>NATIVE SHRUBS</b>																																
Artemisia cana																3	2	1					6	3								
Rosa woodsii																																
Symphoricarpos occidentalis																								3	1					4	3	
<b>TOTAL</b>						22	21							31	29								31	26						29	28	

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TABLE E9

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 21 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE LOAMY TERRACE  
AND 4 SITES IN THE LYT (OCC. CYT) ECOLOGICAL SITES – VEGETATION STUDY AREA

	LOAMY TERRACE																													
	Site LyT-17							Site LyT-18							Site LyT-19							Site LyT-20								
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP		
<b>PARAMETERS</b>																														
Bare Ground					13	13						17	17							18	18						3	3		
Rock												4	4																	
Lichens												3	3																	
Moss												3	3																	
Litter - Standing	5					5	5	6	1	7		14	14	9	5				14	13	6	1					7	7		
Litter - Down					32	32						23	23						28	28							41	41		
Basal Vegetation					5	5						3	3						4	4							6	6		
	5				50			6	1	7		50		9	5				50		6	1					50			
<b>SPECIES</b>																														
<b>NPG (c)</b>																														
Agropyron dasystachyum								2	1			3	3																	
Agropyron smithii	7				3	10	9	3				3	3	4				2	6	6	4						3	7	6	
Agropyron trachycaulum																														
Carex brevior																														
Carex eleocharis																					4							4	4	
Carex filifolia														1						1	1									
Carex heliophila																														
Carex laeviconica	1				1	2	2																							
Poa sandbergii								1				1	1	1						1	1	1						1	1	
Puccinellia cusickii								1				1	1																	
Stipa comata																														
Stipa viridula																														
<b>NPG (w)</b>																														
Bouteloua gracilis								1	1			2	2	5	4			1	10	10	10	2				3	15	13		
Distichlis spicata														3					3	3										
Spartina pectinata																														
<b>IPG</b>																														
Agropyron cristatum																														
Agropyron repens																														
Bromus inermis																														
Poa pratensis	4	1			1	6	6	1	2			3	2																	
<b>NPF</b>																														
Achillea millefolium																														
Artemisia frigida																														
Artemisia ludoviciana																														
Aster simplex																														
Gutierrezia sarothrae								2				2	2	1				1	2	2										
Lomatium foeniculaceum								2	1			3	2																	
Monarda fistulosa																														
Opuntia polyacantha								2				2	2																	
Solidago missouriensis														1						1	1									
Vicia americana																														
<b>IPF</b>																														
Taraxacum officinale		1				1	1	1				1	1																	

TABLE E9

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 21 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE LOAMY TERRACE  
AND 4 SITES IN THE LYT (OCC. CYT) ECOLOGICAL SITES – VEGETATION STUDY AREA**

	LOAMY TERRACE																																		
	Site LyT-17								Site LyT-18								Site LyT-19								Site LyT-20										
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP				
<b>PARAMETERS</b>																																			
<b>FERNS</b>																																			
Selaginella densa												2	2	2																					
<b>NAF</b>																																			
Arabis holboellii								1					1	1																					
Draba reptans												1	1	1																					
Grindelia squarrosa																2								2	2										
Iva xanthifolia																																			
Lepidium densiflorum								1					1	1																					
Plantago elongata								2					2	2																					
Plantago patagonica								1					1	1	1									1	1										
Polygonum arenastrum																																			
<b>IAF</b>																																			
Melilotus officinalis												2		2	2																				
<b>NATIVE SHRUBS</b>																																			
Artemisia cana								2					2	2																					
Rosa woodsii																																			
Symphoricarpos occidentalis																																			
<b>TOTAL</b>						19	18						33	31														27	27					27	24

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TABLE E9

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 21 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE LOAMY TERRACE  
AND 4 SITES IN THE LYT (OCC. CYT) ECOLOGICAL SITES – VEGETATION STUDY AREA

	LOAMY TERRACE								LyT (occ. CyT)									
	Site LyT-21						LOAMY TERRACE MEAN		Site LyT-22									
	1	2	3	4	B	TH	TP	Total Hits	Total Points	1	2	3	4	B	TH	TP		
<b>PARAMETERS</b>									n=21									
Bare Ground								5.14							3	3		
Rock																		
Lichens								0.76										
Moss								0.29										
Litter - Standing	6					6	6	17.05	15.43									
Litter - Down					43	43		40.14						45	45			
Basal Vegetation					7	7		4.19						2	2			
	6				50									50				
<b>SPECIES</b>																		
<b>NPG (c)</b>																		
Agropyron dasystachyum								0.76	0.71									
Agropyron smithii	3				2	5	4	9.33	8.57	2				1	3	3		
Agropyron trachycaulum								0.48	0.48									
Carex brevior	1					1	1	0.52	0.48									
Carex eleocharis		1				1	1	1.14	1.10									
Carex filifolia								0.05	0.05									
Carex heliophila								0.10	0.10									
Carex laeviconica								0.10	0.10									
Poa sandbergii	1					1	1	0.24	0.24									
Puccinellia cusickii								0.05	0.05									
Stipa comata								0.43	0.43									
Stipa viridula								1.57	1.48									
<b>NPG (w)</b>																		
Bouteloua gracilis	13	1			5	19	16	5.29	4.81									
Distichlis spicata								0.14	0.14									
Spartina pectinata																		
<b>IPG</b>																		
Agropyron cristatum	1					1	1	0.38	0.33	3				1	4	4		
Agropyron repens																		
Bromus inermis								0.24	0.24									
Poa pratensis								7.29	6.67	3					3	3		
<b>NPF</b>																		
Achillea millefolium								0.19	0.19									
Artemisia frigida								0.14	0.10									
Artemisia ludoviciana								0.86	0.81									
Aster simplex																		
Gutierrezia sarothrae								0.19	0.19									
Lomatium foeniculaceum								0.14	0.10									
Monarda fistulosa								0.05	0.05									
Opuntia polyacantha								0.10	0.10									
Solidago missouriensis								0.05	0.05									
Vicia americana																		
<b>IPF</b>																		
Taraxacum officinale								0.19	0.19									

TABLE E9

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 21 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE LOAMY TERRACE  
AND 4 SITES IN THE LYT (OCC. CYT) ECOLOGICAL SITES – VEGETATION STUDY AREA**

	LOAMY TERRACE								LyT (occ. CyT)								
	Site LyT-21							LOAMY TERRACE MEAN		Site LyT-22							
	1	2	3	4	B	TH	TP	Total Hits	Total Points	1	2	3	4	B	TH	TP	
<b>PARAMETERS</b>								n=21									
<b>FERNS</b>																	
Selaginella densa								0.10	0.10								
<b>NAF</b>																	
Arabis holboellii								0.05	0.05								
Draba reptans								0.05	0.05								
Grindelia squarrosa	1					1	1	0.19	0.19								
Iva xanthifolia								0.05	0.05								
Lepidium densiflorum								0.05	0.05								
Plantago elongata								0.10	0.10								
Plantago patagonica								0.10	0.10								
Polygonum arenastrum								0.05	0.05								
<b>IAF</b>																	
Melilotus officinalis								0.10	0.10								
<b>NATIVE SHRUBS</b>																	
Artemisia cana	1					1	1	3.33	2.43								
Rosa woodsii								0.05	0.05								
Symphoricarpos occidentalis								0.38	0.29								
<b>TOTAL</b>								<b>30</b>	<b>26</b>								

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SUMMARY OF POINT-INTERCEPT COVER DATA FOR 21 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE LOAMY TERRACE  
AND 4 SITES IN THE LYT (OCC. CYT) ECOLOGICAL SITES – VEGETATION STUDY AREA

	LOAMY TERRACE (occasionally Clayey Terrace)																				LyT (occ. CyT) MEAN		
	Site LyT-23							Site LyT-24							Site LyT-25								
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	Total Hits	Total Points
<b>PARAMETERS</b>																					n=4		
Bare Ground					5	5																2.00	
Rock																							
Lichens																							
Moss																							
Litter - Standing	2					2	2	5	14	11			30	29	4	8	4			16	16	12.00	11.75
Litter - Down					42	42						49	49						50	50		46.50	
Basal Vegetation					3	3						1	1									1.50	
	2				50			5	14	11		50			4	8	4		50				
<b>SPECIES</b>																							
<b>NPG (c)</b>																							
Agropyron dasystachyum																							
Agropyron smithii															1	1				2	2	1.25	1.25
Agropyron trachycaulum																							
Carex brevior																							
Carex eleocharis	1				1	2	2															0.50	0.50
Carex filifolia																							
Carex heliophila																							
Carex laeviconica								20	15	10		1	46	34								11.50	8.50
Poa sandbergii																							
Puccinellia cusickii																							
Stipa comata																							
Stipa viridula																							
<b>NPG (w)</b>																							
Bouteloua gracilis																							
Distichlis spicata																							
Spartina pectinata								19	7	4			30	22								7.50	5.50
<b>IPG</b>																							
Agropyron cristatum	1	1			1	3	3															1.75	1.75
Agropyron repens								2	4				6	5								1.50	1.25
Bromus inermis																							
Poa pratensis	5				1	6	5								23	12	4			39	28	12.00	9.00
<b>NPF</b>																							
Achillea millefolium																							
Artemisia frigida																							
Artemisia ludoviciana															1					1	1	0.25	0.25
Aster simplex								3	1				4	3								1.00	0.75
Gutierrezia sarothrae																							
Lomatium foeniculaceum																							
Monarda fistulosa																							
Opuntia polyacantha																							
Solidago missouriensis																							
Vicia americana															7	1				8	7	2.00	1.75
<b>IPF</b>																							
Taraxacum officinale	2					2	2															0.50	0.50

**TABLE E9**

**SUMMARY OF POINT-INTERCEPT COVER DATA FOR 21 SAMPLE SITES  
(FIVE 10-POINT PIN FRAMES EACH) IN THE LOAMY TERRACE  
AND 4 SITES IN THE LYT (OCC. CYT) ECOLOGICAL SITES – VEGETATION STUDY AREA**

	LOAMY TERRACE (occasionally Clayey Terrace)																				LyT (occ. CyT) MEAN											
	Site LyT-23							Site LyT-24							Site LyT-25						Total Hits	Total Points										
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH			TP									
<b>PARAMETERS</b>																				n=4												
<b>FERNS</b>																																
Selaginella densa																																
<b>NAF</b>																																
Arabis holboellii																																
Draba reptans																																
Grindelia squarrosa																																
Iva xanthifolia																																
Lepidium densiflorum																																
Plantago elongata																																
Plantago patagonica																																
Polygonum arenastrum																																
<b>IAF</b>																																
Melilotus officinalis																																
<b>NATIVE SHRUBS</b>																																
Artemisia cana																						2	1						3	2	0.75	0.50
Rosa woodsii																																
Symphoricarpos occidentalis																						7	2	1					10	8	2.50	2.00
<b>TOTAL</b>																																

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TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																													
	Site TP-1							Site TP-2							Site TP-3							Site TP-4								
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP		
<b>PARAMETERS</b>																														
Bare Ground					25	25							3	3							11	11							11	11
Rock																														
Lichens																														
Moss																														
Litter - Standing	7	2	1			10	10	4	1	3			8	8	3	2	1			6	5	3	11	3			17	16		
Litter - Down					23	23							40	40						37	37						39	39		
Basal Vegetation					2	2							7	7						2	2									
	7	2	1		50			4	1	3			50		3	2	1			50		3	11	3			50			
<b>SPECIES</b>																														
<b>NPG (c)</b>																														
Agropyron smithii								4					4	4																
Agropyron trachycaulum																														
Carex eleocharis								1					1	1																
Carex filifolia																														
Koeleria pyramidata																														
Poa sandbergii																														
Stipa comata																														
Stipa viridula												1	1	1																
<b>NPG (w)</b>																														
Bouteloua gracilis																														
Buchloe dactyloides	1					1	1	9	1			3	13	11																
Distichlis spicata															3					1	4	4								
Sporobolus cryptandrus																														
<b>IPG</b>																														
Agropyron cristatum	12	2			1	15	14	7	4			2	13	10	7	1			1	9	8	10	1				11	10		
Agropyron intermedium																														
Agropyron repens																														
Bromus biebersteinii																														
Bromus inermis	3				1	4	4								9	2				11	10	18	2				20	20		
Poa compressa																														
Poa pratensis																														
<b>NPF</b>																														
Achillea millefolium																						1					1	1		
Artemisia frigida	1					1	1																							
Artemisia ludoviciana																														
Cirsium undulatum																						1					1	1		
Gutierrezia sarothrae																														
Helianthus maximilianii																														
Lithospermum incisum																														
Lysimachia ciliata																														
Opuntia fragilis																														
Polygonum amphibium																														
Solidago rigida																														
Urtica dioica																														

TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																															
	Site TP-1								Site TP-2								Site TP-3								Site TP-4							
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP	
<b>IPF</b>																																
<i>Convolvulus arvensis</i>																																
<i>Euphorbia esula</i>																																
<i>Medicago sativa</i>																																
<i>Taraxacum officinale</i>																																
<b>FERNS</b>																																
<i>Selaginella densa</i>																1	1	1														
<b>NAF</b>																																
<i>Galium aparine</i>																																
<i>Grindelia squarrosa</i>																								1						1	1	
<b>IAF</b>																																
<i>Melilotus officinalis</i>																																
<i>Polygonum convolvulus</i>																																
<b>NATIVE SHRUBS</b>																																
<i>Artemisia cana</i>																																
<i>Atriplex nuttallii</i>																																
<i>Rosa arkansana</i>																																
<i>Rosa woodsii</i>																																
<i>Symphoricarpos occidentalis</i>																																
<b>TOTAL</b>																																

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TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																																			
	Site TP-5								Site TP-6								Site TP-7								Site TP-8											
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP					
<b>PARAMETERS</b>																																				
Bare Ground					11	11							10	10								11	11							9	9					
Rock																													1	1						
Lichens																																				
Moss																																				
Litter - Standing	16	5	1			22	22	1					1	1		5						5	5	5	1	4				10	10					
Litter - Down					35	35							37	37								37	37						36	36						
Basal Vegetation					4	4							3	3								2	2						4	4						
	16	5	1		50			1					50			5						50		5	1	4			50							
<b>SPECIES</b>																																				
<b>NPG (c)</b>																																				
Agropyron smithii	2					2	2																2	1					3	3						
Agropyron trachycaulum																																				
Carex eleocharis								2					2	2										3	2				1	6	5					
Carex filifolia																							2						2	2						
Koeleria pyramidata																							3	4				1	8	6						
Poa sandbergii																							1						1	1						
Stipa comata																							4	1					5	4						
Stipa viridula																																				
<b>NPG (w)</b>																																				
Bouteloua gracilis																							2	1				1	4	3						
Buchloe dactyloides	4				1	5	5	13	1			1	15	14																						
Distichlis spicata																																				
Sporobolus cryptandrus																																				
<b>IPG</b>																																				
Agropyron cristatum	3				1	4	4	5				2	7	7	14	1					2	17	17	3	1	1				5	5					
Agropyron intermedium																1						1	1													
Agropyron repens																																				
Bromus biebersteinii					2	5	5																													
Bromus inermis		1				1	1	1					1	1	2							2	2	8	2			1	11	10						
Poa compressa																																				
Poa pratensis																							2						2	2						
<b>NPF</b>																																				
Achillea millefolium																																				
Artemisia frigida																																				
Artemisia ludoviciana																																				
Cirsium undulatum																																				
Gutierrezia sarothrae																																				
Helianthus maximilianii																																				
Lithospermum incisum																																				
Lysimachia ciliata																																				
Opuntia fragilis																																				
Polygonum amphibium																																				
Solidago rigida																																				
Urtica dioica																																				





TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																															
	Site TP-9							Site TP-10							Site TP-11							Site TP-12										
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP				
<b>PARAMETERS</b>																																
Bare Ground						15	14							15	14							16	16							18	18	
Rock																																
Lichens																																
Moss																																
Litter - Standing	4	8	3			15	14	3	7	5			15	14	5	7	1				13	13	6	5	3				14	14		
Litter - Down					48	48							45	45							30	30							30	30		
Basal Vegetation					2	2							5	5							4	4							2	2		
	4	8	3		50			3	7	5			50			5	7	1				50						50				
<b>SPECIES</b>																																
<b>NPG (c)</b>																																
Agropyron smithii																																
Agropyron trachycaulum																																
Carex eleocharis																																
Carex filifolia																																
Koeleria pyramidata																																
Poa sandbergii																																
Stipa comata																																
Stipa viridula																																
<b>NPG (w)</b>																																
Bouteloua gracilis																																
Buchloe dactyloides																																
Distichlis spicata																																
Sporobolus cryptandrus																																
<b>IPG</b>																																
Agropyron cristatum															6	3				1	10	9	10						2	12	12	
Agropyron intermedium																																
Agropyron repens																																
Bromus biebersteinii																																
Bromus inermis	27	12	3	3	1	46	32	7	3	3	1		14	12	9	1				3	13	12	6	4					10	9		
Poa compressa																																
Poa pratensis								1	1			1	3	3	2						2	2	1						1	1		
<b>NPF</b>																																
Achillea millefolium																																
Artemisia frigida																																
Artemisia ludoviciana																																
Cirsium undulatum																																
Gutierrezia sarothrae															3							3	3									
Helianthus maximiliani																																
Lithospermum incisum																																
Lysimachia ciliata								1					1	1																		
Opuntia fragilis																																
Polygonum amphibium								1					1	1																		
Solidago rigida																																
Urtica dioica	1	1				2	2	7	7	4			18	9																		

TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																															
	Site TP-9							Site TP-10							Site TP-11							Site TP-12										
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP				
<b>IPF</b>																																
Convolvulus arvensis																																
Euphorbia esula																																
Medicago sativa																																
Taraxacum officinale																																
<b>FERNS</b>																																
Selaginella densa																																
<b>NAF</b>																																
Galium aparine								3	3	1		1	8	7																		
Grindelia squarrosa																																
<b>IAF</b>																																
Melilotus officinalis																																
Polygonum convolvulus									1				1	1																		
<b>NATIVE SHRUBS</b>																																
Artemisia cana																																
Atriplex nuttallii																																
Rosa arkansana																																
Rosa woodsii								2	1				3	2																		
Symphoricarpos occidentalis	9	4	3			1	17	11	23	16	10	5	3	57	29																	
<b>TOTAL</b>							<b>65</b>	<b>45</b>							<b>106</b>	<b>65</b>							<b>29</b>	<b>27</b>							<b>25</b>	<b>24</b>

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TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																											
	Site TP-13				Site TP-14				Site TP-15				Site TP-16															
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP							
<b>PARAMETERS</b>																												
Bare Ground					21	21						24	24						21	21						27	27	
Rock																												
Lichens					1	1						1	1															
Moss																												
Litter - Standing	4	2	1			7	7	2	1				3	3	2	1				3	3	6	1				7	7
Litter - Down					27	27						18	18						24	24						23	23	
Basal Vegetation					1	1						7	7						5	5								
	4	2	1		50			2	1			50			2	1			50			6	1			50		
<b>SPECIES</b>																												
<b>NPG (c)</b>																												
Agropyron smithii								1				1	1									2				2	2	
Agropyron trachycaulum																												
Carex eleocharis								1				1	1															
Carex filifolia																												
Koeleria pyramidata																												
Poa sandbergii																												
Stipa comata																												
Stipa viridula																												
<b>NPG (w)</b>																												
Bouteloua gracilis																												
Buchloe dactyloides								6	1			4	11	7	1				2	3	3							
Distichlis spicata																												
Sporobolus cryptandrus																												
<b>IPG</b>																												
Agropyron cristatum	9	1			1	11	9	8				3	11	10	7				2	9	9	3				3	3	
Agropyron intermedium																												
Agropyron repens																												
Bromus biebersteinii																												
Bromus inermis	11	2				13	11								1				1	2	2	8				8	8	
Poa compressa																												
Poa pratensis																												
<b>NPF</b>																												
Achillea millefolium																												
Artemisia frigida																												
Artemisia ludoviciana																												
Cirsium undulatum																												
Gutierrezia sarothrae																												
Helianthus maximilianii																												
Lithospermum incisum																												
Lysimachia ciliata																												
Opuntia fragilis																												
Polygonum amphibium																												
Solidago rigida																												
Urtica dioica																												

TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																																															
	Site TP-13							Site TP-14							Site TP-15							Site TP-16																										
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP																				
<b>IPF</b>																																																
<i>Convolvulus arvensis</i>																																																
<i>Euphorbia esula</i>																																																
<i>Medicago sativa</i>																																																
<i>Taraxacum officinale</i>																																																
<b>FERNS</b>																																																
<i>Selaginella densa</i>																																																
<b>NAF</b>																																																
<i>Galium aparine</i>																																																
<i>Grindelia squarrosa</i>																																																
<b>IAF</b>																																																
<i>Melilotus officinalis</i>																																																
<i>Polygonum convolvulus</i>																																																
<b>NATIVE SHRUBS</b>																																																
<i>Artemisia cana</i>																																																
<i>Atriplex nuttallii</i>																																																
<i>Rosa arkansana</i>																																																
<i>Rosa woodsii</i>																																																
<i>Symphoricarpos occidentalis</i>																																																
<b>TOTAL</b>	24						20						24						19						14						14						13						13					

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TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																															
	Site TP-17							Site TP-18							Site TP-19							Site TP-20										
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP				
<b>PARAMETERS</b>																																
Bare Ground					19	19						18	18						5	5												
Rock																																
Lichens												1	1						1	1												
Moss																																
Litter - Standing	1					1	1	7	2				9	9	2	2					4	4	15	17	10				42	39		
Litter - Down					29	29						27	27						44	44							44	44				
Basal Vegetation					2	2						4	4														6	6				
	1				50			7	2			50			2	2			50			15	17	10			50					
<b>SPECIES</b>																																
<b>NPG (c)</b>																																
Agropyron smithii																1				1	1	11	4					15	13			
Agropyron trachycaulum																						8	3	1		1		13	13			
Carex eleocharis																																
Carex filifolia														5	2						7	7										
Koeleria pyramidata														1						1	1											
Poa sandbergii																																
Stipa comata																																
Stipa viridula																																
<b>NPG (w)</b>																																
Bouteloua gracilis																																
Buchloe dactyloides								4	1			1	6	6	5	4					9	6										
Distichlis spicata																																
Sporobolus cryptandrus																																
<b>IPG</b>																																
Agropyron cristatum	9	2			2	13	11	2				1	3	3	3					3	3											
Agropyron intermedium																																
Agropyron repens																																
Bromus biebersteinii																																
Bromus inermis								2					2	2	15					15	15	4	3	1			8	5				
Poa compressa																																
Poa pratensis								5				2	7	7	5					5	5	8	14	6		5	33	25				
<b>NPF</b>																																
Achillea millefolium																																
Artemisia frigida								1					1	1																		
Artemisia ludoviciana																						1					1	1				
Cirsium undulatum																																
Gutierrezia sarothrae																																
Helianthus maximiliani																						1					1	1				
Lithospermum incisum																																
Lysimachia ciliata																																
Opuntia fragilis																																
Polygonum amphibium																																
Solidago rigida																																
Urtica dioica																																

TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																											
	Site TP-17							Site TP-18							Site TP-19							Site TP-20						
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP
<b>IPF</b>																												
<i>Convolvulus arvensis</i>	4	1				5	5																					
<i>Euphorbia esula</i>																												
<i>Medicago sativa</i>																												
<i>Taraxacum officinale</i>																												
<b>FERNS</b>																												
<i>Selaginella densa</i>																												
<b>NAF</b>																												
<i>Galium aparine</i>																												
<i>Grindelia squarrosa</i>																												
<b>IAF</b>																												
<i>Melilotus officinalis</i>																												
<i>Polygonum convolvulus</i>																												
<b>NATIVE SHRUBS</b>																												
<i>Artemisia cana</i>																												
<i>Atriplex nuttallii</i>																												
<i>Rosa arkansana</i>																												
<i>Rosa woodsii</i>																												
<i>Symphoricarpos occidentalis</i>																												
<b>TOTAL</b>						<b>18</b>	<b>16</b>						<b>19</b>	<b>19</b>						<b>41</b>	<b>38</b>						<b>71</b>	<b>58</b>

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TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																																			
	Site TP-21							Site TP-22							Site TP-23							Site TP-24														
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP								
<b>PARAMETERS</b>																																				
Bare Ground																																				
Rock																																				
Lichens																																				
Moss																																				
Litter - Standing	15	8	2			25	21	24	15	2			41	35	19	12					31	26	12	4	1				17	17						
Litter - Down					46	46							44	44							37	37						45	45							
Basal Vegetation					4	4							6	6							2	2						3	3							
	15	8	2		50			24	15	2			50					19	12					50						12	4	1				50
<b>SPECIES</b>																																				
<b>NPG (c)</b>																																				
Agropyron smithii																					1	1														
Agropyron trachycaulum																					1	1														
Carex eleocharis																					2	2														
Carex filifolia																																				
Koeleria pyramidata																																				
Poa sandbergii																																				
Stipa comata																																				
Stipa viridula																																				
<b>NPG (w)</b>																																				
Bouteloua gracilis																					2	2							1	1	1					
Buchloe dactyloides																																				
Distichlis spicata																																				
Sporobolus cryptandrus																																				
<b>IPG</b>																																				
Agropyron cristatum	11	4			2	17	12	5	6	1		1	13	11	3	1				1	5	4	18	3				2	23	20						
Agropyron intermedium																																				
Agropyron repens																																				
Bromus biebersteinii																																				
Bromus inermis	5	2				7	5	15	3			5	23	17																						
Poa compressa																																				
Poa pratensis	1	2				3	3	3	3			6	6	6						1	7	7	1						1	1						
<b>NPF</b>																																				
Achillea millefolium																																				
Artemisia frigida																																				
Artemisia ludoviciana																					1	1														
Cirsium undulatum																																				
Gutierrezia sarothrae																																				
Helianthus maximilianii																																				
Lithospermum incisum																																				
Lysimachia ciliata																																				
Opuntia fragilis																																				
Polygonum amphibium																																				
Solidago rigida																																				
Urtica dioica																																				

TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																															
	Site TP-21								Site TP-22								Site TP-23								Site TP-24							
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP				
<b>IPF</b>																																
<i>Convolvulus arvensis</i>																																
<i>Euphorbia esula</i>																																
<i>Medicago sativa</i>														1	1					2	1											
<i>Taraxacum officinale</i>																																
<b>FERNS</b>																																
<i>Selaginella densa</i>																																
<b>NAF</b>																																
<i>Galium aparine</i>																																
<i>Grindelia squarrosa</i>																																
<b>IAF</b>																																
<i>Melilotus officinalis</i>																																
<i>Polygonum convolvulus</i>																																
<b>NATIVE SHRUBS</b>																																
<i>Artemisia cana</i>																																
<i>Atriplex nuttallii</i>																																
<i>Rosa arkansana</i>	1	1																														
<i>Rosa woodsii</i>																																
<i>Symphoricarpos occidentalis</i>	5	2	1		2	10																										
<b>TOTAL</b>							<b>39</b>	<b>31</b>							<b>42</b>	<b>34</b>							<b>21</b>	<b>19</b>							<b>25</b>	<b>22</b>

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TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																													
	Site TP-25				Site TP-26				Site TP-27				Site TP-28																	
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP		
<b>PARAMETERS</b>																														
Bare Ground					2	2							22	22							6	6							23	23
Rock																														
Lichens													2	2																
Moss																														
Litter - Standing	19	3	1			23	22	8	2				10	10	9	8	7			24	22	5	2					7	7	
Litter - Down					46	46							24	24						41	41							23	23	
Basal Vegetation					2	2							2	2						3	3							4	4	
	19	3	1		50			8	2				50		9	8	7			50		5	2					50		
<b>SPECIES</b>																														
<b>NPG (c)</b>																														
Agropyron smithii																														
Agropyron trachycaulum																														
Carex eleocharis																											1	1	1	
Carex filifolia																														
Koeleria pyramidata								1					1	1																
Poa sandbergii																														
Stipa comata																														
Stipa viridula																														
<b>NPG (w)</b>																														
Bouteloua gracilis															2					2	2									
Buchloe dactyloides								4	1				1	6	6								3					1	4	4
Distichlis spicata																														
Sporobolus cryptandrus																														
<b>IPG</b>																														
Agropyron cristatum	14	4			2	20	15	9				1	10	9	25	16	3		3	47	30	14	1				2	17	16	
Agropyron intermedium																														
Agropyron repens																														
Bromus biebersteinii																														
Bromus inermis								5					5	5									2					2	2	
Poa compressa																														
Poa pratensis	4	1				5	4																							
<b>NPF</b>																														
Achillea millefolium																														
Artemisia frigida																							1					1	1	
Artemisia ludoviciana																														
Cirsium undulatum																														
Gutierrezia sarothrae																														
Helianthus maximilianii																														
Lithospermum incisum																														
Lysimachia ciliata																														
Opuntia fragilis																														
Polygonum amphibium																														
Solidago rigida																							1					1	1	
Urtica dioica																														

TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																											
	Site TP-25							Site TP-26							Site TP-27							Site TP-28						
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP
<b>IPF</b>																												
<i>Convolvulus arvensis</i>																												
<i>Euphorbia esula</i>																												
<i>Medicago sativa</i>																												
<i>Taraxacum officinale</i>																												
<b>FERNS</b>																												
<i>Selaginella densa</i>																												
<b>NAF</b>																												
<i>Galium aparine</i>																												
<i>Grindelia squarrosa</i>																												
<b>IAF</b>																												
<i>Melilotus officinalis</i>																												
<i>Polygonum convolvulus</i>																												
<b>NATIVE SHRUBS</b>																												
<i>Artemisia cana</i>																												
<i>Atriplex nuttallii</i>																												
<i>Rosa arkansana</i>																												
<i>Rosa woodsii</i>																												
<i>Symphoricarpos occidentalis</i>	1	2																										
<b>TOTAL</b>																												

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TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																													
	Site TP-29							Site TP-30							Site TP-31						Site TP-32									
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP		
<b>PARAMETERS</b>																														
Bare Ground					1	1														2	2							1	1	
Rock																														
Lichens																														
Moss																														
Litter - Standing	4					4	4	4	7	1			12	11	3	2	1			6	6	13	11	2			26	26		
Litter - Down					46	46							44	44						38	38						47	47		
Basal Vegetation					3	3							6	6						10	10						2	2		
	4				50			4	7	1			50		3	2	1			50		13	11	2			50			
<b>SPECIES</b>																														
<b>NPG (c)</b>																														
Agropyron smithii																														
Agropyron trachycaulum																														
Carex eleocharis																														
Carex filifolia																														
Koeleria pyramidata																														
Poa sandbergii																														
Stipa comata																														
Stipa viridula																														
<b>NPG (w)</b>																														
Bouteloua gracilis																														
Buchloe dactyloides															1					1	1									
Distichlis spicata																														
Sporobolus cryptandrus																														
<b>IPG</b>																														
Agropyron cristatum																						19	4				1	24	21	
Agropyron intermedium																														
Agropyron repens															20	5	2			3	30	25								
Bromus biebersteinii																														
Bromus inermis	9	1			1	11	9	23	6	1		4	34	28	1	1				2	2	2	1					3	2	
Poa compressa																														
Poa pratensis	10	1			2	13	12	10	3	1		1	15	14	9	3				7	19	16	10	8	1		1	20	19	
<b>NPF</b>																														
Achillea millefolium																														
Artemisia frigida																														
Artemisia ludoviciana																														
Cirsium undulatum																														
Gutierrezia sarothrae																														
Helianthus maximilianii																														
Lithospermum incisum																														
Lysimachia ciliata																														
Opuntia fragilis																														
Polygonum amphibium																														
Solidago rigida																														
Urtica dioica																														

TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																															
	Site TP-29							Site TP-30							Site TP-31							Site TP-32										
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP				
<b>IPF</b>																																
<i>Convolvulus arvensis</i>																																
<i>Euphorbia esula</i>																																
<i>Medicago sativa</i>																																
<i>Taraxacum officinale</i>												1	1	1																		
<b>FERNS</b>																																
<i>Selaginella densa</i>																																
<b>NAF</b>																																
<i>Galium aparine</i>																																
<i>Grindelia squarrosa</i>																																
<b>IAF</b>																																
<i>Melilotus officinalis</i>																																
<i>Polygonum convolvulus</i>																																
<b>NATIVE SHRUBS</b>																																
<i>Artemisia cana</i>																																
<i>Atriplex nuttallii</i>																																
<i>Rosa arkansana</i>																																
<i>Rosa woodsii</i>																																
<i>Symphoricarpos occidentalis</i>																																
<b>TOTAL</b>						24	21						50	43						52	44						47	42				

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TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																										
	Site TP-33						Site TP-34						Site TP-35						Site TP-36								
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH
<b>PARAMETERS</b>																											
Bare Ground					25	25						5	5						27	27					18	18	
Rock																											
Lichens					1	1						1	1														
Moss					1	1																					
Litter - Standing	1					1	1	15	15	2			32	29	6	3				9	8	7	8	1		16	16
Litter - Down					22	22						39	39						19	19					30	30	
Basal Vegetation					1	1						5	5						4	4					2	2	
	1				50			15	15	2		50			6	3			50				7	8	1	50	
<b>SPECIES</b>																											
<b>NPG (c)</b>																											
Agropyron smithii																											
Agropyron trachycaulum																											
Carex eleocharis																											
Carex filifolia																											
Koeleria pyramidata								1				1	1	2				1	3	2							
Poa sandbergii																											
Stipa comata								4	3			7	7	9	1			2	12	11	3	1			4	4	
Stipa viridula																					1	2			3	3	
<b>NPG (w)</b>																											
Bouteloua gracilis								2				2	2														
Buchloe dactyloides																											
Distichlis spicata																											
Sporobolus cryptandrus																					1				1	1	
<b>IPG</b>																											
Agropyron cristatum	8	1			1	10	8	13	3			1	17	16	5	1			1	7	6	22	2		2	26	23
Agropyron intermedium																											
Agropyron repens																											
Bromus biebersteinii																											
Bromus inermis								1				1	1	1					1	1							
Poa compressa																											
Poa pratensis								2				2	2														
<b>NPF</b>																											
Achillea millefolium																											
Artemisia frigida															1				1	1							
Artemisia ludoviciana																											
Cirsium undulatum																											
Gutierrezia sarothrae																											
Helianthus maximilianii																											
Lithospermum incisum																											
Lysimachia ciliata																											
Opuntia fragilis												1	1	1													
Polygonum amphibium																											
Solidago rigida																											
Urtica dioica																											

TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH)  
 IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
 STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																																
	Site TP-33							Site TP-34							Site TP-35							Site TP-36											
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP					
<b>IPF</b>																																	
Convolvulus arvensis																																	
Euphorbia esula																																	
Medicago sativa																											1						1
Taraxacum officinale																																	
<b>FERNS</b>																																	
Selaginella densa														3	3	3																	
<b>NAF</b>																																	
Galium aparine																																	
Grindelia squarrosa																																	
<b>IAF</b>																																	
Melilotus officinalis							3							3	3																		
Polygonum convolvulus																																	
<b>NATIVE SHRUBS</b>																																	
Artemisia cana	1																																
Atriplex nuttallii																																	
Rosa arkansana																																	
Rosa woodsii																																	
Symphoricarpos occidentalis																																	
<b>TOTAL</b>																																	

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TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH) IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																												
	Site TP-37							Site TP-38							Site TP-39							Site TP-40							
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	
<b>PARAMETERS</b>																													
Bare Ground					16	16							15	15						5	5						12	12	
Rock																													
Lichens					1	1																							
Moss																													
Litter - Standing	5	2	1			8	8	3	1	1				5	4		5	1	4			10	10	5	10	2		17	16
Litter - Down					26	26							31	31						41	41						36	36	
Basal Vegetation					7	7							4	4						4	4						2	2	
<b>SPECIES</b>	5	2	1		50			3	1	1		50				5	1	4		50				5	10	2		50	
<b>NPG (c)</b>																													
Agropyron smithii									2				2	2															
Agropyron trachycaulum																													
Carex eleocharis																													
Carex filifolia																													
Koeleria pyramidata																													
Poa sandbergii																													
Stipa comata	4				1	5	4	19	4			4	27	24										4			4	4	
Stipa viridula																								1				1	1
<b>NPG (w)</b>																													
Bouteloua gracilis																													
Buchloe dactyloides																													
Distichlis spicata																													
Sporobolus cryptandrus								1					1	1															
<b>IPG</b>																													
Agropyron cristatum	11	1			6	18	17	1	1				2	2		23	4			4	31	25	15				15	15	
Agropyron intermedium																													
Agropyron repens																													
Bromus biebersteinii																													
Bromus inermis								1					1	1										3	2		2	7	7
Poa compressa	1					1	1	2					2	2															
Poa pratensis								1					1	1															
<b>NPF</b>																													
Achillea millefolium																													
Artemisia frigida																													
Artemisia ludoviciana																													
Cirsium undulatum																													
Gutierrezia sarothrae																													
Helianthus maximiliani																													
Lithospermum incisum								1					1	1															
Lysimachia ciliata																													
Opuntia fragilis																													
Polygonum amphibium																													
Solidago rigida																													
Urtica dioica																													

TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH) IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																															
	Site TP-37								Site TP-38								Site TP-39								Site TP-40							
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP	
<b>IPF</b>																																
Convolvulus arvensis																																
Euphorbia esula																																
Medicago sativa	1	1				2	1																3						3	3		
Taraxacum officinale																																
<b>FERNS</b>																																
Selaginella densa																																
<b>NAF</b>																																
Galium aparine																																
Grindelia squarrosa																							1						1	1		
<b>IAF</b>																																
Melilotus officinalis																																
Polygonum convolvulus																																
<b>NATIVE SHRUBS</b>																																
Artemisia cana																																
Atriplex nuttallii																																
Rosa arkansana																																
Rosa woodsii																																
Symphoricarpos occidentalis																																
<b>TOTAL</b>						26	23							37	34								31	25					31	31		

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TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH) IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																												
	Site TP-41							Site TP-42							Site TP-43							Site TP-44							
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	
<b>PARAMETERS</b>																													
Bare Ground					11	11							3	3						11	11						6	6	
Rock																													
Lichens																											1	1	
Moss																													
Litter - Standing	5	3				8	8	9						9	9	2	3			5	5	3	5	1			9	9	
Litter - Down					37	37							44	44					36	36						41	41		
Basal Vegetation					2	2							3	3					3	3						2	2		
<b>SPECIES</b>	5	3			50		9					50		2	3			50		3	5	1			50				
<b>NPG (c)</b>																													
Agropyron smithii							1						1	1		1			1	1	6					6	6		
Agropyron trachycaulum																													
Carex eleocharis	1					1	1								3	2			5	4	4	3			1	8	8		
Carex filifolia																													
Koeleria pyramidata															1	1			2	2	3					3	3		
Poa sandbergii																													
Stipa comata															2				1	3	3								
Stipa viridula																													
<b>NPG (w)</b>																													
Bouteloua gracilis	2					2	2	3						3	3														
Buchloe dactyloides																													
Distichlis spicata																													
Sporobolus cryptandrus																													
<b>IPG</b>																													
Agropyron cristatum	15	1			2	18	17	10	1			3	14	13	14	2			1	17	14	2				2	2		
Agropyron intermedium																													
Agropyron repens																													
Bromus biebersteinii																													
Bromus inermis															6	1			1	8	6	10	1			1	12	12	
Poa compressa																													
Poa pratensis																													
<b>NPF</b>																													
Achillea millefolium																													
Artemisia frigida																													
Artemisia ludoviciana																													
Cirsium undulatum																													
Gutierrezia sarothrae																													
Helianthus maximiliani																													
Lithospermum incisum																													
Lysimachia ciliata																													
Opuntia fragilis																													
Polygonum amphibium																													
Solidago rigida																													
Urtica dioica																													

TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH) IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																																						
	Site TP-41								Site TP-42								Site TP-43								Site TP-44														
	1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP		1	2	3	4	B	TH	TP								
<b>IPF</b>																																							
Convolvulus arvensis																																							
Euphorbia esula															1								1	1															
Medicago sativa																																							
Taraxacum officinale																																							
<b>FERNS</b>																																							
Selaginella densa																																							
<b>NAF</b>																																							
Galium aparine																																							
Grindelia squarrosa																																							
<b>IAF</b>																																							
Melilotus officinalis																																							
Polygonum convolvulus																																							
<b>NATIVE SHRUBS</b>																																							
Artemisia cana																																							
Atriplex nuttallii																																							
Rosa arkansana																																							
Rosa woodsii																																							
Symphoricarpos occidentalis																																							
<b>TOTAL</b>						21	20							18	17															37	31							31	31

Footnotes given on index page E-i.

TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH) IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																			TAME PASTURE MEAN			
	Site TP-45						Site TP-46						Site TP-47						Total Hits	Total Points			
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4			B	TH	TP
<b>PARAMETERS</b>																				n=47			
Bare Ground					22	22						26	26						30	30	11.96		
Rock																							
Lichens																					0.23		
Moss																					0.02		
Litter - Standing	4	2				6	6	5	2				7	6	1					1	1	12.36	11.66
Litter - Down					24	24						23	23					14	14			34.40	
Basal Vegetation					4	4						1	1					6	6			3.38	
<b>SPECIES</b>	4	2			50			5	2			50			1			50					
<b>NPG (c)</b>																							
Agropyron smithii	1					1	1														0.85	0.81	
Agropyron trachycaulum																					0.30	0.30	
Carex eleocharis																					0.57	0.53	
Carex filifolia																					0.19	0.19	
Koeleria pyramidata																					0.40	0.34	
Poa sandbergii																					0.02	0.02	
Stipa comata																					1.43	1.30	
Stipa viridula		1				1	1														0.13	0.13	
<b>NPG (w)</b>																							
Bouteloua gracilis																					0.34	0.32	
Buchloe dactyloides															5			3	8	8	1.74	1.53	
Distichlis spicata																					0.09	0.09	
Sporobolus cryptandrus																					0.04	0.04	
<b>IPG</b>																							
Agropyron cristatum	8	1			4	13	13	4				1	5	5	2			3	5	5	11.32	9.85	
Agropyron intermedium																					0.02	0.02	
Agropyron repens																					0.64	0.53	
Bromus biebersteinii																					0.11	0.11	
Bromus inermis								3					3	3							6.40	5.47	
Poa compressa																					0.06	0.06	
Poa pratensis																					3.09	2.77	
<b>NPF</b>																							
Achillea millefolium																					0.02	0.02	
Artemisia frigida																					0.09	0.09	
Artemisia ludoviciana																					0.04	0.04	
Cirsium undulatum																					0.02	0.02	
Gutierrezia sarothrae																					0.06	0.06	
Helianthus maximiliani																					0.02	0.02	
Lithospermum incisum																					0.02	0.02	
Lysimachia ciliata																					0.02	0.02	
Opuntia fragilis																					0.02	0.02	
Polygonum amphibium																					0.02	0.02	
Solidago rigida																					0.02	0.02	
Urtica dioica																					0.43	0.23	

TABLE E10

SUMMARY OF POINT-INTERCEPT COVER DATA FOR 47 SAMPLE SITES (FIVE 10-POINT PIN FRAMES EACH) IN THE TAME PASTURE VEGETATION TYPE – VEGETATION STUDY AREA  
STARK COUNTY, NORTH DAKOTA, 2006-2007

	TAME PASTURE																		TAME PASTURE MEAN							
	Site TP-45						Site TP-46						Site TP-47						Total Hits	Total Points						
	1	2	3	4	B	TH	TP	1	2	3	4	B	TH	TP	1	2	3	4			B	TH	TP			
<b>IPF</b>																										
Convolvulus arvensis																							0.17	0.17		
Euphorbia esula																							0.02	0.02		
Medicago sativa																							0.19	0.15		
Taraxacum officinale																							0.02	0.02		
<b>FERNS</b>																										
Selaginella densa																							0.09	0.09		
<b>NAF</b>																										
Galium aparine																							0.17	0.15		
Grindelia squarrosa																							0.04	0.04		
<b>IAF</b>																										
Melilotus officinalis																							0.06	0.06		
Polygonum convolvulus																							0.02	0.02		
<b>NATIVE SHRUBS</b>																										
Artemisia cana																							0.02	0.02		
Atriplex nuttallii																							0.02	0.02		
Rosa arkansana																							0.04	0.04		
Rosa woodsii																							0.06	0.04		
Symphoricarpos occidentalis																							1.85	1.11		
<b>TOTAL</b>							15	15															14	14	31.32	26.96

Footnotes given on index page E-i.