

TABLE 2.7.2-2

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

	SALINE LOWLAND - WET LAND - SUBIRRIGATED Complex		LOAMY OVERFLOW - SUBIRRIGATED WET LAND Complex		WET LAND - WET MEADOW Complex		RIPARIAN WOODLAND		DECIDUOUS TREE WOODLAND		SHALLOW CLAYEY		SHALLOW LOAMY		SHALLOW SANDY		CLAYPAN		THIN CLAYPAN		SANDY		CLAYEY		LOAMY		LOAMY OVERFLOW		LOAMY TERRACE		LyT (occ. CyT)		TAME PASTURE			
	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points
	n=9		n=6		n=9		n=29		n=1		n=2		n=16		n=2		n=1		n=16		n=5		n=8		n=2		n=4		n=21		n=4		n=47			
PARAMETERS																																				
Bare Ground	16.33		16.33		8.00		2.79		2.00		13.50		7.50		12.00		15.00		14.69		8.20		10.63		8.50		0.50		5.14		2.00		11.96			
Rock													0.06						0.25		0.80															
Lichens										1.50		3.06		2.50				1.31		1.20		1.50		0.50				0.76					0.23			
Moss			0.50		0.11		0.03		1.00				0.25					0.13				0.38						0.29					0.02			
Litter - Standing	11.33	11.11	20.67	20.50	10.11	9.67	10.45	10.28	6.00	6.00	17.00	14.50	11.25	10.63	11.00	11.00	19.00	19.00	9.25	9.00	19.00	17.80	11.13	11.00	7.50	7.50	33.50	33.00	17.05	15.43	12.00	11.75	12.36	11.66		
Litter - Down	31.00		29.33		39.22		44.41		42.00		30.00		32.13		30.00		32.00		30.94		33.80		32.50		38.50		48.00		40.14		46.50		34.40			
Basal Vegetation	2.67		3.83		2.67		2.76		5.00		5.00		7.00		5.50		3.00		2.69		6.00		5.00		2.50		1.50		4.19		1.50		3.38			
SPECIES																																				
NATIVE PERENNIAL GRAMINOID (Cool)																																				
XAgrohordeum macounii					0.22	0.22																														
Agropyron dasystachyum													1.44	1.31	0.50	0.50					0.25	0.19	2.00	2.00	0.25	0.25			0.76	0.71						
Agropyron smithii					0.44	0.44	0.31	0.28					3.19	2.88	1.00	1.00					5.56	5.25	3.80	3.60	8.50	7.63	21.00	17.00	0.25	0.25	9.33	8.57	1.25	1.25	0.85	0.81
Agropyron trachycaulum					0.44	0.44	0.10	0.10													0.06	0.06							0.48	0.48					0.30	0.30
Calamagrostis montanensis																					0.25	0.25	0.20	0.20												
Carex aquatilis			51.00	33.33			0.79	0.34																												
Carex brevior					0.33	0.33	0.10	0.10																					0.52	0.48						
Carex eleocharis													0.31	0.31	8.00	8.00					1.00	0.94	1.40	1.40	1.13	1.13	0.50	0.50			1.14	1.10	0.50	0.50	0.57	0.53
Carex filifolia											12.00	11.00	6.00	5.63	0.50	0.50					0.06	0.06	2.80	2.80			4.50	4.50			0.05	0.05			0.19	0.19
Carex gravida							0.03	0.03																												
Carex heliophila													0.88	0.81	0.50	0.50					0.25	0.25	4.00	3.80					0.10	0.10						
Carex laeviconica			3.33	2.67	16.56	12.89	0.45	0.45																					0.10	0.10	11.50	8.50				
Carex praegracilis	0.56	0.56			1.67	1.56																														
Carex saximontana									3.00	2.00																										
Eleocharis xyridiformis	0.89	0.78	1.17	1.17	1.00	0.89																														
Elymus virginicus							0.34	0.34																												
Hordeum jubatum	0.22	0.22			8.11	6.11													21.00	15.00																
Juncus balticus	0.56	0.44			0.22	0.22																														
Koeleria pyramidata											0.50	0.50	0.88	0.88	1.00	1.00					0.44	0.44	0.60	0.60	0.38	0.38	0.50	0.50					0.40	0.34		
Poa glaucifolia	0.44	0.44																		7.00	7.00															
Poa juncifolia																					0.44	0.44														
Poa sandbergii													0.06	0.06							1.00	1.00			0.25	0.25	1.50	1.50			0.24	0.24			0.02	0.02
Puccinellia cusickii	1.00	1.00																											0.05	0.05						
Puccinellia nuttalliana	3.00	2.56																5.00	5.00																	
Scirpus validus	0.56	0.44																																		
Stipa comata											1.00	1.00	3.00	2.81	7.50	7.00					0.19	0.19	5.60	5.20	2.50	2.00	0.50	0.50			0.43	0.43			1.43	1.30
Stipa viridula							0.14	0.14					0.31	0.31							0.44	0.44	0.20	0.20	1.00	0.88			1.57	1.48			0.13	0.13		
TOTAL NPG (c)	7.22	6.44	55.50	37.17	29.00	23.11	2.28	1.79	3.00	2.00	13.50	12.50	16.06	15.00	19.00	18.50	33.00	27.00	9.94	9.50	20.60	19.80	14.00	12.50	28.50	24.50	0.25	0.25	14.76	13.76	13.25	10.25	3.89	3.62		
NATIVE PERENNIAL GRAMINOID (Warm)																																				
Andropogon scoparius													0.38	0.31	3.50	3.00									1.40	1.00										
Bouteloua gracilis											3.50	3.50	5.25	4.94	8.50	8.50					2.13	2.13	3.40	3.20	5.88	5.63	12.00	11.50			5.29	4.81			0.34	0.32
Buchloe dactyloides	0.22	0.22											3.69	3.63							5.81	5.56	3.40	2.20	4.38	4.13									1.74	1.53
Calamovilfa longifolia											5.00	5.00	0.75	0.69	2.50	2.50									4.20	3.60										
Distichlis spicata	6.67	6.00			0.11	0.11												10.00	8.00	0.75	0.69					0.75	0.75			0.14	0.14			0.09	0.09	
Muhlenbergia cuspidata													0.31	0.31	0.50	0.50					0.06	0.06														
Schedonardus paniculatus																									0.25	0.25										
Spartina pectinata	7.44	4.89	0.83	0.83	7.00	4.67	0.45	0.24																							7.50	5.50				
Sporobolus cryptandrus																																			0.04	0.04
TOTAL NPG (w)	14.33	11.11	0.83	0.83	7.11	4.78	0.45	0.24			8.50	8.50	10.38	9.88	15.00	14.50	10.00	8.00	8.75	8.44	12.40	10.00	11.25	10.75	12.00	11.50			5.43	4.95	7.50	5.50	2.21	1.98		

n (number of sample sites) = five 10-point pin frames per sample site.

NPG (c) = native Perennial Graminoid (cool).

NPG (w) = native Perennial Graminoid (warm).

TABLE 2.7.2-2

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

	SALINE LOWLAND - WET LAND - SUBIRRIGATED Complex		LOAMY OVERFLOW - SUBIRRIGATED WET LAND Complex		WET LAND - WET MEADOW Complex		RIPARIAN WOODLAND		DECIDUOUS TREE WOODLAND		SHALLOW CLAYEY		SHALLOW LOAMY		SHALLOW SANDY		CLAYPAN		THIN CLAYPAN		SANDY		CLAYEY		LOAMY		LOAMY OVERFLOW		LOAMY TERRACE		LyT (occ. CyT)		TAME PASTURE	
	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points		
	n=9		n=6		n=9		n=29		n=1		n=2		n=16		n=2		n=1		n=16		n=5		n=8		n=2		n=4		n=21		n=4		n=47	
INTRODUCED PERENNIAL GRASS																																		
Agropyron cristatum	3.67	2.89					0.24	0.24					0.44	0.31							1.00	1.00	0.25	0.25					0.38	0.33	1.75	1.75	11.32	9.85
Agropyron intermedium																																0.02	0.02	
Agropyron repens									3.00	3.00																				1.50	1.25	0.64	0.53	
Bromus biebersteinii																																0.11	0.11	
Bromus inermis	1.67	1.33					29.17	19.24	7.00	6.00							0.06	0.06							17.50	12.75	0.24	0.24			6.40	5.47		
Poa compressa																																0.06	0.06	
Poa palustris																																		
Poa pratensis	0.33	0.33	0.50	0.50	1.33	1.11	5.17	4.62	29.00	21.00	4.50	4.50	0.31	0.31			1.75	1.69	0.80	0.80	0.50	0.50	9.00	8.00	31.50	25.25	7.29	6.67	12.00	9.00	3.09	2.77		
TOTAL IPG	5.67	4.56	0.50	0.50	1.33	1.11	34.59	24.10	39.00	30.00	4.50	4.50	0.75	0.63			1.81	1.75	1.80	1.80	0.75	0.75	9.00	8.00	49.00	38.00	7.90	7.24	15.25	12.00	21.64	18.81		
NATIVE ANNUAL GRASS																																		
Festuca octoflora													0.13	0.13																				
TOTAL NAG													0.13	0.13																				
INTRODUCED ANNUAL GRASS																																		
Bromus japonicus																	0.06	0.06																
Echinochloa muricata			0.83	0.67																														
TOTAL IAG			0.83	0.67													0.06	0.06																
NATIVE PERENNIAL FORB																																		
Achillea millefolium													0.13	0.13			1.44	1.25			0.50	0.50					0.19	0.19			0.02	0.02		
Antennaria microphylla													0.69	0.69																				
Antennaria parvifolia													0.19	0.19			0.25	0.25																
Artemisia campestris																					0.20	0.20												
Artemisia frigida													0.19	0.19			0.19	0.19	0.20	0.20	0.50	0.50					0.14	0.10			0.09	0.09		
Artemisia ludoviciana							0.14	0.10					0.25	0.19	0.50	0.50					0.60	0.60			1.00	1.00	0.86	0.81	0.25	0.25	0.04	0.04		
Asclepias speciosa							0.03	0.03																										
Aster commutatus													0.13	0.13			0.25	0.25																
Aster pansus	1.78	1.33											0.06	0.06			0.13	0.13						0.25	0.25									
Aster simplex			2.67	2.33			0.07	0.07																				1.00	0.75					
Astragalus agrestis																	0.06	0.06																
Astragalus gilviflorus													0.19	0.19																				
Cerastium arvense																	0.06	0.06																
Cirsium flodmanii																					0.25	0.25												
Cirsium undulatum																															0.02	0.02		
Comandra umbellata													0.06	0.06																				
Erigeron pumilus													0.06	0.06																				
Geum aleppicum							0.03	0.03																										
Glycyrrhiza lepidota																									0.25	0.25								
Gutierrezia sarothrae	0.67	0.67											0.06	0.06			0.06	0.06			0.38	0.25					0.19	0.19			0.06	0.06		
Helianthus maximiliani	1.11	0.89																													0.02	0.02		
Iva axillaris	0.33	0.33																																
Liatris punctata												0.50	0.50	0.13	0.13																			
Linum perenne													0.06	0.06																				
Lithospermum incisum																																0.02	0.02	
Lomatium foeniculaceum																	0.19	0.19									0.14	0.10						

n (number of sample sites) = five 10-point pin frames per sample site.

NPG (c) = native Perennial Graminoid (cool).

NPG (w) = native Perennial Graminoid (warm).

TABLE 2.7.2-2

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

	SALINE LOWLAND - WET LAND - SUBIRRIGATED Complex		LOAMY OVERFLOW - SUBIRRIGATED WET LAND Complex		WET LAND - WET MEADOW Complex		RIPARIAN WOODLAND		DECIDUOUS TREE WOODLAND		SHALLOW CLAYEY		SHALLOW LOAMY		SHALLOW SANDY		CLAYPAN		THIN CLAYPAN		SANDY		CLAYEY		LOAMY		LOAMY OVERFLOW		LOAMY TERRACE		LyT (occ. CyT)		TAME PASTURE	
	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points		
	n=9		n=6		n=9		n=29		n=1		n=2		n=16		n=2		n=1		n=16		n=5		n=8		n=2		n=4		n=21		n=4		n=47	
<i>Lysimachia ciliata</i>																																0.02	0.02	
<i>Monarda fistulosa</i>							0.10	0.10																			0.50	0.50	0.05	0.05				
<i>Opuntia fragilis</i>														0.50	0.50						0.20	0.20	0.13	0.13								0.02	0.02	
<i>Opuntia polyacantha</i>																		0.06	0.06									0.10	0.10					
<i>Phlox hoodii</i>											0.50	0.50	0.19	0.19							0.31	0.31		0.13	0.13									
<i>Plantago eriopoda</i>							0.03	0.03																										
<i>Polygonum amphibium</i>					5.78	3.56																											0.02	0.02
<i>Psoralea argophylla</i>							0.07	0.07					0.13	0.13					0.13	0.13														
<i>Ratibida columnifera</i>																			0.06	0.06														
<i>Rumex mexicanus</i>			0.83	0.83	1.00	1.00																												
<i>Sagittaria cuneata</i>			0.50	0.50			0.62	0.28																										
<i>Solidago gigantea</i>							0.14	0.14																										
<i>Solidago missouriensis</i>																													0.05	0.05				
<i>Solidago mollis</i>					0.11	0.11																												
<i>Solidago nemoralis</i>													0.19	0.13																				
<i>Solidago rigida</i>													0.13	0.13																		0.02	0.02	
<i>Sphaeralcea coccinea</i>													0.13	0.13							0.13	0.13												
<i>Thalictrum dasycarpum</i>							0.07	0.07																										
<i>Thalictrum venulosum</i>									2.00	2.00																								
<i>Thermopsis rhombifolia</i>													0.19	0.19																				
<i>Urtica dioica</i>																																0.43	0.23	
<i>Verbena bracteata</i>																					0.20	0.20												
<i>Vicia americana</i>																				0.63	0.63						0.50	0.50		2.00	1.75			
<i>Viola pratensis</i>							0.03	0.03																										
TOTAL NPF	3.89	3.22	4.00	3.67	6.89	4.67	1.34	0.97	2.00	2.00	1.00	1.00	3.13	3.00	1.00	1.00			3.81	3.63	1.40	1.40	2.00	1.88		2.50	2.50	1.71	1.57	3.25	2.75	0.79	0.60	
INTRODUCED PERENNIAL FORB																																		
<i>Cirsium arvense</i>					0.22	0.22	0.55	0.52																			0.25	0.25						
<i>Convolvulus arvensis</i>																																	0.17	0.17
<i>Euphorbia esula</i>			0.17	0.17			0.07	0.07													0.20	0.20					5.75	4.75					0.02	0.02
<i>Hesperis matronalis</i>							0.03	0.03																										
<i>Medicago sativa</i>																																	0.19	0.15
<i>Plantago major</i>			0.17	0.17																														
<i>Rumex crispus</i>			0.83	0.83			0.03	0.03																										
<i>Sonchus arvensis</i>	0.44	0.44																																
<i>Taraxacum officinale</i>	0.11	0.11			0.11	0.11	0.24	0.24	3.00	3.00			0.06	0.06					0.69	0.69			0.13	0.13			0.19	0.19	0.50	0.50	0.02	0.02		
TOTAL IPF	0.56	0.56	1.17	1.17	0.33	0.33	0.93	0.90	3.00	3.00	0.00	0.00	0.06	0.06	0.00	0.00			0.69	0.69	0.20	0.20	0.13	0.13		6.00	5.00	0.19	0.19	0.50	0.50	0.40	0.36	
FERNS																																		
<i>Selaginella densa</i>													1.56	1.56					0.50	0.50	1.40	1.40					0.10	0.10			0.09	0.09		
TOTAL FERNS													1.56	1.56					0.50	0.50	1.40	1.40					0.10	0.10			0.09	0.09		

n (number of sample sites) = five 10-point pin frames per sample site.
NPG (c) = native Perennial Graminoid (cool).
NPG (w) = native Perennial Graminoid (warm).

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	SALINE LOWLAND - WET LAND - SUBIRRIGATED Complex		LOAMY OVERFLOW - SUBIRRIGATED WET LAND Complex		WET LAND - WET MEADOW Complex		RIPARIAN WOODLAND		DECIDUOUS TREE WOODLAND		SHALLOW CLAYEY		SHALLOW LOAMY		SHALLOW SANDY		CLAYPAN		THIN CLAYPAN		SANDY		CLAYEY		LOAMY		LOAMY OVERFLOW		LOAMY TERRACE		LyT (occ. CyT)		TAME PASTURE					
	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points	Total Hits	Total Points						
	n=9		n=6		n=9		n=29		n=1		n=2		n=16		n=2		n=1		n=16		n=5		n=8		n=2		n=4		n=21		n=4		n=47					
NATIVE ANNUAL/BINIENNIAL FORB																																						
Ambrosia artemisiifolia	0.22	0.22																																				
Arabis holboellii																													0.05	0.05								
Artemisia biennis			0.50	0.50			0.03	0.03																														
Atriplex subspicata							1.10	1.03																														
Chenopodium glaucum	0.33	0.33																																				
Collomia linearis												0.06	0.06																									
Draba reptans																													0.05	0.05								
Echinocystis lobata			1.00	0.83																																		
Galium aparine																																			0.17	0.15		
Grindelia squarrosa												0.06	0.06									0.38	0.38			0.38	0.38			0.19	0.19			0.04	0.04			
Hedeoma hispidum																						0.06	0.06															
Iva xanthifolia																														0.05	0.05							
Lepidium densiflorum																														0.05	0.05							
Parietaria pennsylvanica									2.00	2.00																												
Plantago elongata																																						
Plantago patagonica												0.06	0.06									0.13	0.13							0.10	0.10							
Polygonum arenastrum			0.17	0.17	0.11	0.11																								0.05	0.05							
Suaeda depressa	2.00	1.56																																				
TOTAL NAF	2.56	2.11	1.67	1.50	0.11	0.11	1.14	1.07	2.00	2.00			0.19	0.19							0.69	0.69			0.38	0.38			0.62	0.62			0.21	0.19				
INTRODUCED ANNUAL/BINIENNIAL FORB																																						
Arctium minus							0.24	0.21																														
Atriplex heterosperma	1.67	1.33																																				
Chenopodium album							0.07	0.07																														
Draba nemorosa																						0.19	0.19					0.50	0.50									
Kochia scoparia							0.66	0.38																														
Medicago lupulina			0.50	0.50										0.31	0.31							0.06	0.06															
Melilotus officinalis	0.56	0.56																				0.13	0.13						0.10	0.10					0.06	0.06		
Polygonum convolvulus																																					0.02	0.02
Thlaspi arvense	0.22	0.22																				0.19	0.19															
TOTAL IAF	2.44	2.11	0.50	0.50			0.97	0.66					0.31	0.31							0.56	0.56			0.50	0.50			0.10	0.10			0.09	0.09				
NATIVE SHRUBS																																						
Artemisia cana																					0.75	0.63			1.25	1.13			1.50	1.50	3.33	2.43	0.75	0.50	0.02	0.02		
Atriplex nuttallii																																				0.02	0.02	
Calylophus serrulatus												0.06	0.06																									
Prunus virginiana							0.28	0.17																														
Ribes americanum							0.03	0.03																														
Ribes setosum							0.03	0.03																														
Rosa arkansana																						0.06	0.06														0.04	0.04
Rosa woodsii							0.59	0.41			1.50	1.50										0.06	0.06					1.00	1.00	0.05	0.05					0.06	0.04	
Salix lutea			0.17	0.17																																		
Symphoricarpos occidentalis	1.89	1.44					4.03	3.21	4.00	3.00																	21.50	16.25	0.38	0.29	2.50	2.00	1.85	1.11				
TOTAL NATIVE SHRUBS	1.89	1.44	0.17	0.17			4.97	3.86	4.00	3.00	1.50	1.50	0.13	0.13			0.81	0.69			1.25	1.13			24.00	18.75	3.76	2.76	3.25	2.50	2.00	1.85	1.11					
NATIVE TREES																																						
Fraxinus pennsylvanica			0.17	0.17			0.21	0.21																														
Ulmus americana							0.03	0.03																														
TOTAL NATIVE TREES			0.17	0.17			0.24	0.24																														
TOTAL	38.56	31.56	65.33	46.33	44.78	34.11	46.90	33.83	53.00	42.00	29.00	28.00	32.69	30.88	35.00	34.00	43.00	35.00	27.63	26.50	37.80	34.60	29.75	27.50	50.00	44.50	81.75	64.50	34.57	31.29	43.00	33.50	31.32	26.96				

n (number of sample sites) = five 10-point pin frames per sample site.

NPG (c) = native Perennial Graminoid (cool).

NPG (w) = native Perennial Graminoid (warm).