

APPENDIX 1 Grasses of the Columbia Basin Region by BEC zone

AT = Alpine Tundra

ESSF = Engelmann Spruce–Subalpine Fir

ICH = Interior Cedar–Hemlock

IDF = Interior Douglas-fir

MS = Montane Spruce

PP = Ponderosa Pine

SBS = Sub-Boreal Spruce

List from database	AT	ESSF	ICH	IDF	MS	PP	SBS
1. <i>Agropyron cristatum</i> ssp. <i>pectinatum</i>			✓	✓		✓	
2. <i>Agropyron fragile</i>				✓			
3. <i>Agrostis capillaris</i>			✓				
4. <i>Agrostis exarata</i>		✓	✓				
5. <i>Agrostis gigantea</i>	✓	✓	✓	✓	✓		
6. <i>Agrostis humilis</i>	✓	✓		✓			
7. <i>Agrostis scabra</i>	✓	✓	✓	✓	✓	✓	
8. <i>Agrostis stolonifera</i>			✓		✓		
9. <i>Agrostis thurberiana</i>							
10. <i>Agrostis variabilis</i>	✓	✓		✓			
11. <i>Aira caryophyllea</i>			✓				
12. <i>Alopecurus aequalis</i>			✓	✓		✓	
13. <i>Alopecurus geniculatus</i>							
14. <i>Apera interrupta</i>		✓	✓	✓		✓	
15. <i>Aristida purpurea</i> var. <i>robusta</i>						✓	
16. <i>Avena fatua</i>		✓	✓				
17. <i>Avena sativa</i>		✓					
18. <i>Beckmannia syzigachne</i>			✓	✓			
19. <i>Bouteloua gracilis</i>						✓	
20. <i>Bromus aleutensis</i>			✓				
21. <i>Bromus anomalus</i>							
22. <i>Bromus briziformis</i>			✓	✓		✓	
23. <i>Bromus carinatus</i>		✓			✓		
24. <i>Bromus ciliatus</i>		✓	✓	✓			
25. <i>Bromus commutatus</i>				✓			
26. <i>Bromus hordeaceus</i>		✓	✓			✓	
27. <i>Bromus inermis</i>		✓	✓	✓	✓		
28. <i>Bromus japonicus</i>				✓		✓	
29. <i>Bromus marginatus</i>		✓	✓	✓			
30. <i>Bromus pumpellianus</i>					✓		
31. <i>Bromus richardsonii</i>		✓	✓	✓	✓		
32. <i>Bromus sitchensis</i>		✓					
33. <i>Bromus tectorum</i>		✓	✓	✓	✓	✓	
34. <i>Bromus vulgaris</i>			✓				
35. <i>Calamagrostis canadensis</i>	✓	✓	✓	✓	✓	✓	
36. <i>Calamagrostis montanensis</i>			✓	✓			
37. <i>Calamagrostis purpurascens</i>	✓	✓	✓	✓	✓		
38. <i>Calamagrostis rubescens</i>		✓	✓	✓	✓		
39. <i>Calamagrostis scribneri</i>							
40. <i>Calamagrostis stricta</i>		✓	✓	✓	✓	✓	✓
41. <i>Calamovilfa longifolia</i>			✓	✓		✓	
42. <i>Cinna latifolia</i>		✓	✓		✓		

APPENDIX 1 (Continued)

List from database	AT	ESSF	ICH	IDF	MS	PP	SBS
43. <i>Cynosurus echinatus</i>			✓				
44. <i>Dactylis glomerata</i>		✓	✓	✓	✓		
45. <i>Danthonia californica</i>	✓	✓					
46. <i>Danthonia intermedia</i>	✓	✓	✓				
47. <i>Danthonia spicata</i>		✓	✓		✓		
48. <i>Danthonia unispicata</i>			✓				
49. <i>Deschampsia caespitosa</i>		✓	✓	✓	✓	✓	
50. <i>Deschampsia danthonioides</i>			✓				
51. <i>Deschampsia elongata</i>		✓	✓	✓			
52. <i>Digitaria sanguinalis</i>			✓				
53. <i>Distichlis spicata</i>				✓	✓	✓	
54. <i>Elymus alaskanus</i> ssp. <i>latiglumis</i>		✓					
55. <i>Elymus alaskanus</i> ssp. <i>alaskanus</i>	✓	✓	✓	✓		✓	
56. <i>Elymus canadensis</i>			✓	✓			
57. <i>Elymus elymoides</i>		✓		✓			
58. <i>Elymus glaucus</i>		✓	✓		✓		
59. <i>Elymus hirsutus</i>			✓	✓			
60. <i>Elymus lanceolatus</i>		✓	✓	✓		✓	
61. <i>Elymus trachycaulus</i>		✓	✓	✓	✓	✓	
62. <i>Elytrigia pontica</i> ssp. <i>pontica</i>				✓		✓	
63. <i>Elytrigia repens</i>			✓	✓		✓	
64. <i>Festuca arundinacea</i>			✓	✓			
65. <i>Festuca baffinensis</i>	✓						
66. <i>Festuca brachyphylla</i>	✓	✓	✓	✓			
67. <i>Festuca campestris</i>		✓	✓	✓	✓	✓	
68. <i>Festuca idahoensis</i>		✓	✓	✓	✓	✓	
69. <i>Festuca occidentalis</i>					✓		
70. <i>Festuca rubra</i>			✓	✓	✓		
71. <i>Festuca saximontana</i>	✓	✓	✓	✓	✓		
72. <i>Festuca subuliflora</i>			✓				
73. <i>Festuca trachyphylla</i>			✓				
74. <i>Festuca viridula</i>		✓	✓		✓		
75. <i>Glyceria borealis</i>			✓	✓	✓	✓	
76. <i>Glyceria elata</i>		✓	✓				
77. <i>Glyceria grandis</i>	✓		✓	✓			
78. <i>Glyceria leptostachya</i>						✓	
79. <i>Glyceria striata</i>	✓	✓		✓	✓	✓	
80. <i>Hierchloe odorata</i>			✓	✓	✓	✓	
81. <i>Hordeum brachyantherum</i>			✓				
82. <i>Hordeum jubatum</i>		✓		✓			
83. <i>Koeleria macrantha</i>		✓	✓	✓	✓	✓	
84. <i>Leymus cinereus</i>		✓		✓		✓	
85. <i>Leymus innovatus</i>	✓	✓		✓	✓		
86. <i>Lolium perenne</i> ssp. <i>multiflorum</i>							
87. <i>Lolium perenne</i>				✓	✓		
88. <i>Melica bulbosa</i>		✓					
89. <i>Melica smithii</i>		✓	✓				
90. <i>Melica spectabilis</i>	✓				✓		

APPENDIX 1 (Continued)

List from database	AT	ESSF	ICH	IDF	MS	PP	SBS
91. <i>Melica subulata</i>		✓	✓				
92. <i>Muhlenbergia asperifolia</i>				✓			
93. <i>Muhlenbergia filiformis</i>				✓			
94. <i>Muhlenbergia glomerata</i>			✓	✓			
95. <i>Muhlenbergia richardsonis</i>				✓			
96. <i>Oryzopsis asperifolia</i>	✓	✓	✓	✓	✓		✓
97. <i>Panicum capillare</i>		✓	✓	✓		✓	
98. <i>Panicum occidentale</i>							
99. <i>Pascopyrum smithii</i>			✓	✓		✓	
100. <i>Phalaris arundinacea</i>			✓	✓	✓		
101. <i>Phleum alpinum</i>	✓	✓	✓	✓	✓		✓
102. <i>Phleum pratense</i>		✓		✓		✓	
103. <i>Phragmites australis</i>			✓				
104. <i>Piptatherum exigua</i>	✓	✓			✓		
105. <i>Piptatherum hymenoides</i>		✓		✓		✓	
106. <i>Piptatherum micrantha</i>		✓		✓			
107. <i>Piptatherum pungens</i>					✓		✓
108. <i>Poa alpina</i>	✓	✓	✓	✓			
109. <i>Poa annua</i>	✓	✓				✓	
110. <i>Poa arctica</i>	✓						
111. <i>Poa bulbosa</i>						✓	
112. <i>Poa compressa</i>			✓	✓	✓	✓	
113. <i>Poa cusickii</i> ssp. <i>cusickii</i>	✓	✓		✓		✓	
114. <i>Poa glauca</i>	✓			✓			
115. <i>Poa interior</i>							
116. <i>Poa leptocoma</i>	✓	✓	✓	✓			
117. <i>Poa nervosa</i>							
118. <i>Poa palustris</i>	✓	✓	✓	✓	✓		
119. <i>Poa pratensis</i>			✓	✓	✓	✓	
120. <i>Poa secunda</i> ssp. <i>secunda</i>	✓	✓	✓	✓	✓	✓	
121. <i>Poa stenantha</i>			✓				
122. <i>Poa trivialis</i>			✓				
123. <i>Poa wheeleri</i>	✓	✓			✓		
124. <i>Polypogon monspeliensis</i>				✓		✓	
125. <i>Pseudoroegneria spicata</i> ssp. <i>spicata</i>		✓	✓	✓	✓	✓	
126. <i>Puccinellia distans</i>				✓			
127. <i>Puccinellia nuttalliana</i>				✓		✓	
128. <i>Puccinellia pauciflora</i>							
129. <i>Schizachne purpurascens</i>		✓					
130. <i>Schizachyrium scoparium</i>				✓			
131. <i>Scolochloa festuacea</i>		✓		✓		✓	
132. <i>Secale cereale</i>		✓					
133. <i>Spartina gracilis</i>		✓		✓		✓	
134. <i>Sphenopholis obtusata</i>	✓		✓		✓	✓	
135. <i>Sporobolus cryptandrus</i>						✓	
136. <i>Stipa comata</i>			✓	✓	✓	✓	
137. <i>Stipa curtiseta</i>				✓			
138. <i>Stipa nelsonii</i> var. <i>dorei</i>	✓	✓		✓	✓	✓	

APPENDIX 1 (Concluded)

List from database	AT	ESSF	ICH	IDF	MS	PP	SBS
139. <i>Stipa occidentalis</i>		✓	✓	✓		✓	
140. <i>Stipa richardsonii</i>						✓	
141. <i>Torreyochloa pauciflora</i>			✓	✓	✓		
142. <i>Trisetum cernuum</i> var. <i>canescens</i>		✓	✓	✓			
143. <i>Trisetum spicatum</i>	✓	✓	✓	✓	✓	✓	
144. <i>Trisetum wolfii</i>	✓						
145. <i>Vahlodea atropurpurea</i>	✓	✓	✓	✓			
146. <i>Vulpia microstachys</i>			✓				
147. <i>Vulpia octoflora</i>			✓	✓		✓	
148. x <i>Elyhordeum macounii</i>				✓			
149. x <i>Festulolium braunii</i>				✓			
150. x <i>Festulolium loliaceum</i>				✓			
TOTAL	33	71	83	89	48	51	4
	22%	47%	55%	59%	32%	33%	3%
	AT	ESSF	ICH	IDF	MS	PP	SBS

Agropyron

<i>Agropyron cristatum</i> (L. Gaertn.) ssp. <i>pectinatum</i> (Biel.) Tzvelev	Crested Wheatgrass
<i>Agropyron fragile</i> Roth	Siberian Wheatgrass

Agrostis

<i>Agrostis capillaris</i> L.	Colonial Bentgrass
<i>Agrostis exarata</i> Trin.	Spike Bentgrass
<i>Agrostis gigantea</i> Roth.	Redtop
<i>Agrostis humilis</i> Vasey	Alpine Bentgrass
<i>Agrostis scabra</i> Willd.	Hair Bentgrass
<i>Agrostis stolonifera</i> L.	Creeping Bentgrass
<i>Agrostis variabilis</i> Rydb.	Mountain Bentgrass

Aira

<i>Aira caryophyllea</i> L.	Silver Hairgrass
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Alopecurus

<i>Alopecurus aequalis</i> Sobol.	Little Meadow-foxtail
<i>Alopecurus geniculatus</i> L.	Water Meadow-foxtail

Apera

<i>Apera interrupta</i> (L.) Beauv.	Silky Bentgrass
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Aristida

<i>Aristida longiseta</i> Steud. var. <i>robusta</i> Merr.	Red Three-awn
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Avena

<i>Avena fatua</i> L.	Wild Oat
<i>Avena sativa</i> L.	Common Oat

Beckmannia

<i>Beckmannia syzigachne</i> (Steud.) ssp. <i>baicalensis</i> (Kusnez.) Koyama	American Sloughgrass
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Bouteloua

<i>Bouteloua gracilis</i> (H.B.K.) Lag. Ex Steud.	Blue Grama
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Bromus

<i>Bromus aleutensis</i> Trin. ex Griseb.	Aleut Brome
<i>Bromus anomalus</i> Rupr. ex. Fourn.	Nodding Brome
<i>Bromus briziformis</i> Fisch. & C.A. Mey	Rattle Brome
<i>Bromus carinatus</i> Hook. & Arn. var. <i>hookerianus</i> (Thunb.) Shear	California Brome
<i>Bromus ciliatus</i> L.	Fringed Brome
<i>Bromus commutatus</i> Schrad.	Meadow Brome
<i>Bromus hordeaceus</i> L.	Soft Brome
<i>Bromus inermis</i> Leyss.	Smooth Brome
<i>Bromus japonicus</i> Thunb. ex Murr.	Japanese Brome

APPENDIX 2 (Continued)

<i>Bromus marginatus</i> Nees	Mountain Brome
<i>Bromus pumpellianus</i> Scribn.	Pumpelly Brome
<i>Bromus richardsonii</i> Link	Richardson's Brome
<i>Bromus sitchensis</i> Trin.	Alaska Brome
<i>Bromus tectorum</i> L.	Cheatgrass
<i>Bromus vulgaris</i> (Hook.) Shear	Columbia Brome
<i>Calamagrostis</i>	
<i>Calamagrostis canadensis</i> (Michx.) Beauv.	Bluejoint
<i>Calamagrostis montanensis</i> (Scribn.) Scribn.	Plains Reedgrass
<i>Calamagrostis purpurascens</i> R. Br.	Purple Reedgrass
<i>Calamagrostis rubescens</i> Buckl.	Pinegrass
<i>Calamagrostis stricta</i> (Timm) Koel.	Slimstem Reedgrass
<i>Calamovilfa</i>	
<i>Calamovilfa longifolia</i> (Hook) Scribn. var. <i>longifolia</i>	Prairie Sandgrass
<i>Catabrosa</i>	
<i>Catabrosa aquatica</i> (L.) Beauv.	Water Hairgrass
<i>Cinna</i>	
<i>Cinna latifolia</i> (Trevir.) Griseb.	Nodding Woodreed
<i>Cynosurus</i>	
<i>Cynosurus echinatus</i> L.	Hedgehog Dogtail
<i>Dactylis</i>	
<i>Dactylis glomerata</i> L.	Orchard Grass
<i>Danthonia</i>	
<i>Danthonia californica</i> Boland	California Oatgrass
<i>Danthonia intermedia</i> Vasey	Timber Oatgrass
<i>Danthonia spicata</i> (L.) Beauv. ex R. & S.	Poverty Oatgrass
<i>Danthonia unispicata</i> (Thurb.) Munro ex Macoun	One-spike Oatgrass
<i>Deschampsia</i>	
<i>Deschampsia cespitosa</i> (L.) Beauv.	Tufted Hairgrass
<i>Deschampsia danthonioides</i> (Trin.) Munro ex Benth.	Annual Hairgrass
<i>Deschampsia elongata</i> (Hook.) Munro ex Benth.	Slender Hairgrass
<i>Digitaria</i>	
<i>Digitaria sanguinalis</i> (L.) Scop.	Hairy Crabgrass
<i>Distichlis</i>	
<i>Distichlis spicata</i> (L.) Greene var. <i>stricta</i> (Torr.)	Alkali Saltgrass
<i>Elymus</i>	
<i>Elymus alakanus</i> (Scribn. & Merr.) A. Love	Alaskan Wildrye
<i>Elymus canadensis</i> L.	Canada Wildrye

APPENDIX 2 (Continued)

<i>Elymus elymoides</i> (Raf.) Swezey	Squirreldtail Grass
<i>Elymus glaucus</i> Buckl.	Blue Wildrye
<i>Elymus hirsutus</i> J. Presl.	Hairy Wildrye
<i>Elymus lanceolatus</i> (Scribn. & J.G. Smith) Gould	Thickspike Wildrye
<i>Elymus repens</i> (L.) Nevski	Quackgrass
<i>Elymus trachycaulus</i> (Link) Gould in Shinnars	Slender Wheatgrass
<i>Festuca</i>	
<i>Festuca arundinacea</i> Schreb.	Tall Fescue
<i>Festuca baffinensis</i> Polunin	Baffin Fescue
<i>Festuca brachyphylla</i> Schult. and Schult.fil.	Alpine Fescue
<i>Festuca campestris</i> Rydb.	Rough Fescue
<i>Festuca idahoensis</i> Elmer	Idaho Fescue
<i>Festuca minutiflora</i> Rydb.	Little Fescue
<i>Festuca occidentalis</i> Hook.	Western Fescue
<i>Festuca pratensis</i> Hudson	Meadow Fescue
<i>Festuca rubra</i> L.	Red Fescue
<i>Festuca saximontana</i> Rydb.	Rocky Mountain Fescue
<i>Festuca subuliflora</i> Scribn. in Macoun	Crinkle-awned Fescue
<i>Festuca trachyphylla</i> (Hack.) Kraj.	Hard Fescue
<i>Festuca viridula</i> Vasey	Green Fescue
<i>Glyceria</i>	
<i>Glyceria borealis</i> (Nash) Batch.	Northern Mannagrass
<i>Glyceria elata</i> (Nash) M.E Jones	Tall Mannagrass
<i>Glyceria grandis</i> S. Wats. ex A. Gray	Reed Mannagrass
<i>Glyceria leptostachya</i> Buckl.	Slender-spiked Mannagrass
<i>Glyceria pulchella</i> (Nash) K. Schum.	Slender Mannagrass
<i>Glyceria striata</i> (Lam) A.S. Hitchc.	Fowl Mannagrass
<i>Hierochloe</i>	
<i>Hierochloe odorata</i> (L.) Beauv.	Common Sweetgrass
<i>Hordeum</i>	
<i>Hordeum brachyantherum</i> Nevski	Meadow Barley
<i>Hordeum jubatum</i> L.	Foxtail Barley
<i>Koeleria</i>	
<i>Koeleria macrantha</i> (Ledeb.) J.A. Schultes	Junegrass
<i>Leymus</i>	
<i>Leymus cinereus</i> (Scribn. & Merr.) A. Love	Giant Wildrye
<i>Leymus innovatus</i> (Beal) Pilger	Fuzzy-spiked Wildrye
<i>Lolium</i>	
<i>Lolium multiflorum</i> Lam.	Italian Ryegrass
<i>Lolium perenne</i> L.	Perennial Ryegrass

APPENDIX 2 (Continued)**Melica**

<i>Melica bulbosa</i> Geyer ex Porter & Coult.	Oniongrass
<i>Melica smithii</i> (Porter) Vasey	Smith's Melic
<i>Melica spectabilis</i> Scribn.	Purple Oniongrass
<i>Melica subulata</i> (Griseb. in Ledeb.) Scribn.	Alaska Oniongrass

Muhlenbergia

<i>Muhlenbergia andina</i> (Nutt.) A.S. Hitchc.	Foxtail Muhly
<i>Muhlenbergia asperifolia</i> (Nees & Meyen) Parodi	Alkali Muhly
<i>Muhlenbergia filiformis</i> (Thurb.) Rydb.	Slender Muhly
<i>Muhlenbergia glomerata</i> (Wild.) Trin.	Marsh Muhly
<i>Muhlenbergia richardsonis</i> (Trin.) Rydb.	Mat Muhly

Oryzopsis

<i>Oryzopsis asperifolia</i> Michx.	Rough-leaved Ricegrass
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Panicum

<i>Panicum capillare</i> L.	Common Witchgrass
<i>Panicum occidentale</i> Scribn.	Western Witchgrass
<i>Panicum oligosanthos</i> Schult. var. <i>scribnerianum</i> (Nash) Fern.	Few-flowered Witchgrass

Pascopyrum

<i>Pascopyrum smithii</i> (Rydb.) A. Love	Western Wheatgrass
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Phalaris

<i>Phalaris arundinacea</i> L.	Reed Canary Grass
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Phleum

<i>Phleum alpinum</i> L.	Alpine Timothy
<i>Phleum pratense</i> L.	Common Timothy

Phragmites

<i>Phragmites australis</i> (Cav.) Trin. ex Steud.	Common Reed
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Piptatherum

<i>Piptatherum exiguum</i> (Thurber) Barkw.	Little Ricegrass
<i>Piptatherum micranthum</i> (Trin. & Rupr.) Barkw.	Small-flowered Ricegrass
<i>Piptatherum pungens</i> (Torrey) Barkw.	Short-awned Ricegrass

Poa

<i>Poa alpina</i> L.	Alpine Bluegrass
<i>Poa annua</i> L.	Annual Bluegrass
<i>Poa arctica</i> R. Br.	Arctic Bluegrass
<i>Poa bulbosa</i> L.	Bulbous Bluegrass
<i>Poa compressa</i> L.	Canada Bluegrass
<i>Poa cusickii</i> Vasey	Cusick's Bluegrass
<i>Poa glauca</i> Vahl	Glaucous Bluegrass
<i>Poa leptocoma</i> Trin.	Bog Bluegrass

APPENDIX 2 (Continued)

<i>Poa nemoralis</i> L.	Wood Bluegrass
<i>Poa palustris</i> L.	Fowl Bluegrass
<i>Poa pratensis</i> L.	Kentucky Bluegrass
<i>Poa secunda</i> J.S. Presl	Sandberg's Bluegrass
<i>Poa stenantha</i> Trin.	Narrow-flowered Bluegrass
<i>Poa trivialis</i> L.	Rough Bluegrass
<i>Poa wheeleri</i> Vasey	Wheeler's Bluegrass
<i>Polypogon</i>	
<i>Polypogon monspeliensis</i> (L.) Desf.	Rabbitfoot Polypogon
<i>Pseudoroegneria</i>	
<i>Pseudoroegneria spicata</i> (Pursh) A. Löve	Bluebunch Wheatgrass
<i>Puccinellia</i>	
<i>Puccinellia distans</i> (Jacq.) Parl.	Weeping Alkaligrass
<i>Puccinellia nuttalliana</i> (Schult.) A.S. Hitchc.	Nuttall's Alkaligrass
<i>Schizachne</i>	
<i>Schizachne purpurascens</i> (Torr.) Swallen	False Melic
<i>Schizachyrium</i>	
<i>Schizachyrium scoparium</i> (Michx.)	Little Bluestem
<i>Scolochloa</i>	
<i>Scolochloa festuacea</i> (Willd.) Link	Rivergrass
<i>Secale</i>	
<i>Secale cereale</i> L.	Rye
<i>Setaria</i>	
<i>Setaria viridis</i> (L.) Beauv.	Green Bristlegrass
<i>Spartina</i>	
<i>Spartina gracilis</i> Trin.	Alkali Cordgrass
<i>Sphenopholis</i>	
<i>Sphenopholis obtusata</i> (Mich.) Scribn.	Prairie Wedgegrass
<i>Sporobolus</i>	
<i>Sporobolus cryptandrus</i> (Torr.) A. Gray	Sand Dropseed
<i>Stipa</i>	
<i>Stipa comata</i> Trin. & Rupr.	Needle-and-thread Grass
<i>Stipa curtisetia</i> (A.S. Hitchc.) Barkw.	Short-awned Porcupine Grass
<i>Stipa hymenoides</i> Roem. & Schult.	Indian Ricegrass
<i>Stipa nelsonii</i> Scribn. var. <i>dorei</i> Barkw. & Maze	Columbian Needlegrass
<i>Stipa occidentalis</i> Thurb. ex S. Wats. var. <i>pubescens</i> Maze, Taylor & MacBryde	Stiff Needlegrass
<i>Stipa richardsonii</i> Link	Spreading Needlegrass
<i>Stipa spartea</i> Trin.	Porcupinegrass

APPENDIX 2 (Concluded)

Thinopyrum

Thinopyrum ponticum (Podp.) Tall Wheatgrass

Torreyochloa

Torreyochloa pauciflora (J.S. Presl.) Church Weak False-manna

Trisetum

Trisetum cernuum Trin. Nodding Trisetum

Trisetum spicatum (L.) Richt. Spike Trisetum

Trisetum wolfii Vasey Wolf's Trisetum

Triticum

Triticum aestivum L. Wheat

Vahlodea

Vahlodea atropurpurea (Wahlenb.) Fries Mountain Hairgrass

Vulpia

Vulpia microstachys (Nutt.) Munro Small Fescue

var. *pauciflora* (Scribn. ex Beal)

Lonard & Gould

Vulpia octoflora (Walt.) Rydb. Six-weeks Grass

Hybrids

x *Elyhordeum macounii* (Vasey) Barkw. Macoun's Wildrye

x *Festulolium braunii* (K. Richt) A. Camus Hybrid Fescue

x *Festulolium loliaceum* (Huds.) P. Fourn. Hybrid Fescue

- _____ Is the plant **annual** or **perennial**?
- _____ Are there **rhizomes** or **stolons**?
- _____ Is the **ligule** made up of hairs or a membrane?
- _____ How long is the ligule?
- _____ Are there **auricles**?
- _____ Are the leaf **blades** flat or **inrolled**?
- _____ List the surface type for the leaf **sheath** (**smooth**, **rough**, **hairy**, etc.)
- _____ Are the sheaths **open** or **closed** (how far along the length)?
- _____ Is the flowerhead a **spike** or **branching**?
- _____ If a spike, how many spikes at each **node**?
- _____ Is the spikelet **round** or **compressed**?
- _____ Are there **sterile flowers** (or florets)?
- _____ Are the sterile flowers above or below the fertile ones?
- _____ How many flowers to a **spikelet**?
- _____ Are the **glumes** as long as, longer than, or shorter than the spikelet?
- _____ How many **nerves** on the back of the first glume?
- _____ How many **nerves** on the back of the second glume?
- _____ How long is the **glume**?
- _____ Does the glume have an **awn**? How long is it?
- _____ How many nerves are on the lemma?
- _____ Are the nerves of the lemma **parallel** or **converging** at the tip?
- _____ Is the lemma **rounded** or **compressed-keeled** on the back?
- _____ Is the lemma **awnless**, **awned on the back**, or **terminally awned**?
- _____ Where is the lemma **awn** attached, on the tip or on the back?
- _____ Is the lemma either **webbed** or **bearded** at the base? (yes or no)?
- _____ Is the **palea** as long as the lemma?
- _____ Is there a **callus**?
- _____ Is there any obvious colour on the stem or the flowerhead?

GLOSSARY

Alpine: Those parts of mountains that rise above the cold limits of trees.

Annual: Complete the life-cycle (seed to seed) in one growing season.

Anther: The pollen-bearing part of the stamen.

Apical: Pertaining to the apex or tip of a plant organ.

Appressed: Pressed flat against or close to another organ, as flowerhead branches against the axis or hairs against a stem or leaf.

Arctic: Pertaining to the unforested regions that occur north of the treeline.

Ascending: Rising upward, as stems that curve upward from the base; or branches of a flowerhead that slope upward at an angle of about 40–70°.

Auricles: Projecting lobes or appendages of leaf tissue, usually paired, and arising from the junction of the leaf sheath and the blade. Projecting on either side of the collar.

Awn: A bristle—usually at the end of a glume, lemma, or palea.

Axis: General term for a central, supporting grass organ (e.g., a rachilla or, in particular, the main or central stem of a compound flowerhead).

Basal: That part near to, or forming part of, the base. In grasses, leaves can be basal or along the stem.

Bearded: Long, often stiff hairs at the base of the lemma. In some genera their presence is a key feature to identification.

Biennial: Growing for two years—usually producing flowers and fruit in the second year.

Bifid: Two-lobed or split at the apex.

Blade: Broad part of the leaf that extends from the stem.

Blue Listed: Vulnerable, rare taxa that could become candidates for the Red List in the foreseeable future. A vulnerable species is of special concern because of characteristics that make it particularly sensitive to human activities or natural events.

Bract: Any of the reduced or modified leaves of the flowerhead and upper part of a shoot; in grasses, the glumes and lemmas are bracts.

Bunchgrass: A grass habit that produces a large number of side shoots. The current year's leaf growth is usually basal and previous year's sheaths can persist.

Caespitose: Growing in tufts (i.e., with several or many stems growing closely together). Referred to as “tufted” in this paper.

Callus: A hard projection that appears to be an extension of the lemma.

Callus-scar: Scar left on the thickened base of the lemma after abscission from the rachilla.

Caryopsis: The fruit of grasses; the grain.

Ciliate: With a fringe of hairs on the margin.

Clasping: Surrounding or holding tightly, as a type of auricle.

Collar: Junction area of the leaf sheath and blade.

Compressed: Unusually flattened in one plane, as the spikelets of some grasses. The spikelet can be compressed across the back so that the glumes and lemma appear flattened (dorsal) or from the sides so that the spikelet or the glumes appear keeled (lateral).

Contracted: Closely bunched together, as the flowerhead branches with the axis in some grasses.

Culm: The above-ground stem of a grass.

Deciduous: Part of the plant that falls away at the end of its normal function. Awns are sometimes deciduous.

Decumbent: With a horizontal or inclined base that curves upward into an erect or ascending tip, as some grass stems.

Depauperate: Small or poorly developed; the condition of impoverished or dwarfed plants that are below average size.

Drooping: Bending or arching downward, especially as the tips of flowerhead branches weighted down by spikelets.

Endemic: Confined to a particular, often relatively small, geographic area.

Erect: Standing upright.

Fertile lemma: A lemma with a functional flower, either male or female, inside it. If you find any parts inside the lemma at all you can consider it a fertile lemma. See also sterile lemma.

First glume: The lower glume (toward ground); usually smaller.

Flexuous: Having relatively firm bends.

Flower: The basic unit of a grass spikelet, having one flower subtended and usually enclosed by the lemma and the palea.

Geniculate: Abruptly bent or twisted.

Glume: One of a pair of bracts, found at the base of a grass spikelet.

Grass bald: An open area in an otherwise forested zone, and often in a mountainous region, in which grasses are a significant or dominant part of the vegetation; grass balds often occur in regions having summers with low precipitation, and are usually confined to areas of shallow soil (as on mountain summits occurring below the subalpine zone) and/or steep south-facing or west-facing slopes.

Hairy: Bearing hairs (trichomes) of any sort.

Herbaceous: Herb-like.

Hyaline: Thin and translucent or transparent.

Indurate: Hardened; firm; retaining its shape.

Internode: The part of a stem or culm between two successive nodes.

Introduced: Plant origins from outside North America; introduction either accidental or intentional.

Involute/Inrolled: Rolled inwards, as the margins of a grass leaf blade, exposing the lower surface and concealing or partially concealing the upper surface.

Keeled: Having a conspicuous, central, longitudinal ridge (resembling the keel of a ship), as the lemma of some grasses.

Lanceolate: Lance-shaped; long and tapered to a point.

Lemma: The outer, usually larger (away from the axis), bract of the pair of bracts that enclose a grass flower. The inner bract is called the palea.

Ligule: In grasses, applied to the tongue-shaped appendage arising at the junction of the leaf sheath and blade, and partially surrounding the stem.

Montane: Pertaining to mountain slopes, and often, in particular, to the mostly forested zone extending downslope from the subalpine forest zone.

Nerve: A longitudinal vein of a leaf, lemma, or other organ.

Nodding: Bent to the side, as the tip of a grass flowerhead that is not erect.

Node: The part of a stem to which a leaf is attached; in grasses this is often a thickened part of the stem. This is the base of the sheath for the leaf above, from which the measurement should be taken for the amount of opening in the sheath.

Ovary: The structure that encloses the young undeveloped seeds.

Palea: The inner (toward the axis) of the pair of bracts that enclose a grass flower.

Panicle: A compoundly branched flowerhead, as in many grasses.

Pedicel: The stalk of a single flower; in grasses, the stalk of a single spikelet.

Perennial: Growing for more than two growing seasons, usually flowering each year.

Prow-shaped: Shaped as the forward part of a ship; said of some grass leaf blade tips that have their margins turned upward—and sometimes inwards as well—resembling a ship's prow.

Pubescent: Having short, soft hairs; sometimes loosely used for bearing hairs (trichomes) of any sort (i.e., hairy).

Rachilla: The axis of a spikelet.

Rachis: In grasses, the main or central stem of a simple (non-compound) flowerhead such as that of a spike (compare *axis*).

Red Listed: Candidate for legal designation as an endangered or threatened species. An endangered species is an indigenous species facing extinction in British Columbia. A threatened species is one that is likely to become extinct if limiting factors are not reversed.

Reflexed: Bent backward.

Rhizomatous: Having rhizomes.

Rhizomes: The underground stems of a plant; has roots and shoots at the nodes.

Second glume: The upper glume (i.e., the distal one).

Sheath: The part of a grass leaf that wraps around the stem. It is important to distinguish the sheath from the stem. A hairy sheath, mistaken for a stem, may mislead you in the key.

Spikelet: In grasses, the compact unit of the flowerhead consisting of one or two glumes at the base and one to several florets borne on the rachilla.

Spreading: Directed outward; in grasses, often used to refer to hairs on an organ (e.g., a leaf sheath), or to flowerhead branches that form an angle with the axis between that of ascending and patent (i.e., between about 70 and 90°).

Sterile lemma: A lemma with no functional flower or flower parts inside.

Stolon: Above-ground stem of a plant that produces roots and shoots at the nodes.

Subalpine: Pertaining to the forest zone immediately below the alpine tundra.

Submontane: Pertaining to the steppe zone in mountainous areas occurring below the montane zone.

Throat: Variously, the area between, or the angle formed by, the upper margins of the leaf sheath.

Truncate: As if cut off; having the apex or base of an organ transversely straight or nearly straight.

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