

## 22. Idaho Fescue Ecological Series

Table 22-1. Full and short names for the ecological types in the Idaho Fescue Ecological Series.			
Ecological Type		Plant Association Code	Short Name
Code	Name		
GA08	Idaho fescue/slender wheatgrass–Very deep Argic Cryoborolls, shallow to Argillic, not coarse on surface–Concave backslopes and footslopes, > 9,700 ft	FEID/ELTR7	Idaho fescue–Deep dark clay soils, shallow to clay layer

This is the *Festuca idahoensis* series of Komárková (1986) and Tisdale (1986); it includes the *Bromopsis inermis* series, the *Elymus trachycaulus* series, and part of the *Danthonia parryi* series of Komárková (1986). This series is not well known from the UGB, mostly occurring in parks and in patches within Thurber fescue grasslands. These sites have shallower-Mollic soils that do not support Thurber fescue.

Plant species that increase under grazing include pussytoes (ANTEN), flowery phlox (PHMU2),

yarrow (ACLA5), fringed sage (ARFR4), and Nelson's needlegrass (ACNE9). Plant species that decrease under grazing include slender wheatgrass (ELTR7), native bromes (BROMO2), Idaho fescue (FEID), and vetch (VIAM). Some forbs, such as silvery lupine (LUAR3) may increase under cattle use but decrease under sheep use or summer deer or elk use (Tweit and Houston 1980).

This series is rated as very resistant to trampling damage by humans (Cole 1985).

Table 22-2. Characteristics of Ecological Types within Ecological Series 22 in the Upper Gunnison Basin. Numbers are shown in form Average (Minimum-Maximum)								
Code Short Name	No. Samples	Elevation, ft	Avg. Aspect, °M (r) Slope, %	Soil Coarse, %	Depth, cm Mollic, cm	Surface: Coarse, % Bare, %	Cover, %: Trees Shrubs Graminoids Forbs	Total Live Cover, % No. Species TLC/NS, %
GA08 Idaho fescue–Deep dark clay soils, shallow to clay layer	4	10,285 (9,720-10,810)	180 (0.80) 2 (0-5)	30	94 12	5 (1-14) 22 (4-50)	0 (0-0) 1 (0-2) 78 (7-119) 59 (20-94)	137.8 (85.8-174.1) 24 (20-32) 5.7 (4.3-7.2)



An Idaho fescue stand in relatively good condition. Idaho fescue 93% cover, mouse-ear chickweed 10%, muttongrass 10%. Elk Park Quadrangle, elevation 10,810 ft, 5% SW-facing slope. September 28, 1982.

**IDAHO FESCUE–DEEP DARK CLAY SOILS, SHALLOW TO CLAY LAYER**

Idaho fescue/slender wheatgrass–  
 Very deep Argic Cryoborolls, shallow to Argillic, not coarse on surface–  
 Concave backslopes and footslopes, > 9,700 ft

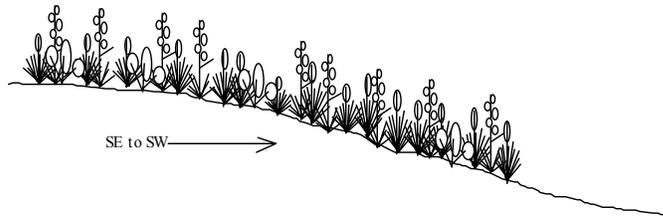


Figure 22-1. Cross-section of vegetation structure of *Idaho fescue–Deep dark clay soils, shallow to clay layer*. Aspects are southerly, and slope angles average 2%.

*Idaho fescue–Deep dark clay soils, shallow to clay layer* is an uncommon type in small parks and swales where soils are shallow to a heavy-clay horizon (Argillic), usually outside the deep rainshadows. It occurs in small parks in the Gunnison Basin. This type has also been described from western Montana, northwestern Wyoming, and the western slope of Colorado. *Idaho fescue–Deep dark clay soils, shallow to clay layer* is characterized by Idaho fescue (FEID). Other distinguishing features include slender wheatgrass (ELTR7) and poorly-drained to moderately-drained Cryumbrepts. See Table 22-5 for common species names and codes.

*Idaho fescue–Deep dark clay soils, shallow to clay layer* is related to *Thurber-Idaho fescues–Deep cold dark soils*, which occurs on slightly steeper slopes and deeper, coarser soils, and is conspicuously dominated by Thurber fescue (FETH). *Idaho fescue–Deep dark clay soils, shallow to clay layer* is also related to *Timber oatgrass–Shallow soils–Exposed high ridges*, which occurs at higher elevations on exposed ridges and shallow soils.

The plant association *Festuca idahoensis/Elymus trachycaulus* is a new name, based on *Festuca idahoensis/Agropyron caninum* of Mueggler (1980) and Hess (1982). Very little is known about succession in this unusual type. Horizontal obstruction is very low, and these sites are rarely used by deer or elk at any time.

Table 22-4. Resource Values for *Idaho fescue–Deep dark clay soils, shallow to clay layer*. Resource values were calculated from the numbers in Table 22-3, relative to the whole UGB.

The numbers in this table can be translated: 0 = Very Low, 1 = Low, 2 = Moderately Low, 3 = Moderate, 4 = Moderately High, 5 = High, and 6 = Very High.

Community Type		Community Type	
Resource Value	A	Resource Value	A
Potential Cattle Forage Production	2-4	Deer & Elk Forage & Browse	0-1
Grazing Suitability	3	Need for Watershed Protection	1-2
Wetland	No	Soil Stability	4
Riparian Area	No	Risk of Soil Loss-Natural	1
Developed Recreation	3-4	Risk of Soil Loss-Management	2-3
Dispersed Recreation	3-4	Risk of Permanent Depletion-Range	1-2
Scenic	1-2	Risk of Permanent Depletion-Wildlife	0-1
Road & Trail Stability	4	Resource Cost of Management	2-3
Construction Suitability	3	Cost of Rehabilitation	3-4
Deer & Elk Hiding Cover	0		

## Summary of Ecological Type Characteristics

1. Explanation of symbols in Appendix A. Percentages in [brackets] indicate the percentage of plots sampled that have that characteristic.

NUMBER OF SAMPLES	4, soil descriptions from 1 of these (total 4)
ELEVATION	10,285 ft (9,720-10,810 ft); 3,135 m (2,963-3,295 m)
AVERAGE ASPECT	180°M (r = 0.80)
LITHOLOGY	Tuff [60%], basalt, and breccia
FORMATIONS <sup>1</sup>	Taf [60%], Tbb, and Tpl, all Tertiary volcanics
LANDFORMS	Mostly soil creep slopes [75%]
SLOPE POSITIONS	Backslopes and footslopes
SLOPE SHAPES	Concave [50%] to linear [50%] horizontally, Concave [75%] to linear [25%] vertically
SLOPE ANGLE	2.2% (0-5%)
SOIL PARENT MATERIAL	Colluvium [75%] or alluvium [25%]
COARSE FRAGMENTS	4.5% (1-14%) cover on surface
SOIL DEPTH	94 cm; 37 in
MOLLIC THICKNESS	12 cm; 5 in
TEXTURE	Sandy loam surface, silty loam-sandy clay loam subsurface
SOIL CLASSIFICATION	All Argic Cryoborolls, very deep
TOTAL LIVE COVER	137.8% (85.8-174.1%)
NUMBER OF SPECIES	24.3 (20-32)
TOTAL LIVE COVER/NO. SPECIES	5.7% (4.3-7.2%)
CLIMATE	Cold, moderately dry grassland
WATER	Snowfall is considerable. Thin layers of live vegetation and litter layers retain some moisture

## Community Type

A *Idaho fescue-sparse slender wheatgrass-forbs* has Idaho fescue present to dominant, 4-95% cover. One plot is dominated by the grazing-increaser forb hairy golden aster (HEV14), and one other plot is dominated by the exotic smooth brome (BRIN7), apparently invading into the site from a roadside seeded to this species. The other plots have a selection of dry to moist forbs under Idaho fescue.

Table 22-3. Community types within *Idaho fescue-Deep dark clay soils, shallow to clay layer*.

Community Type	No. samples	Elevation, ft Slope, %	Coarseness, % Depth, cm Mollic Depth, cm	Surface Coarse, % Bare, % Serai Stage	Layer Height, m		Avg Layer Cvr %	Cover, %: Trees Shrubs Graminoids Forbs	No. Species Total Live Cover, % TLC/NS, %	Prod. <sup>1</sup> , lb/ac/yr Shrubs Gramin. Forbs	Obstruct'n %:				
					Lr						1.5-2.0 m	1.0-1.5 m	0.5-1.0 m	0.0-0.5 m	Total<2m
A. Idaho fescue-sparse slender wheatgrass-forbs	4	10,285 (9,720-10,810) 2.2 (0-5)	30 94 12	5 (1-14) 22 (4-50)	S	0.3 (0.0-0.6)	4 84	0 (0-0)	24 (20-32) 138 (86-174) 78 (7-119) 59 (20-94)	0-34 68-2951 49-1122	0	0	0	30	8
					GF	0.15 (0.0-0.9)		1 (0-2)			0				
								78 (7-119)			0				
								59 (20-94)			0				

Table 22-5. Common Species in *Idaho fescue-Deep dark clay soils, shallow to clay layer*, where Characteristic cover > 10% or Constancy > 20%. "-" means that the species is not found. Dead cover is not listed. Ccv = Characteristic Cover, Con = Constancy. If Avc = Average Cover, then these are related using the formula  $Avc = Ccv \cdot 100\% / Con$ .

Code	Species	Ccv (Con) N = 4	Common Name
SHRUBS			
ARCA13	<i>Artemisia cana</i>	1 (25)	silver sagebrush
CHNA2	<i>Chrysothamnus nauseosus</i>	1 (25)	rubber rabbitbrush
PEFL15	<i>Pentaphylloides floribunda</i>	1 (25)	shrubby cinquefoil
GRAMINOIDS			
ACLE9	<i>Achnatherum lettermanii</i>	3 (25)	Letterman needlegrass
AGSC5	<i>Agrostis scabra</i>	2 (75)	rough bentgrass
BRCA10	<i>Bromopsis canadensis</i>	T (25)	fringed brome
BRIN7	<i>Bromopsis inermis</i>	85 (25)	smooth brome
CAGE	<i>Carex geophila</i>	1 (25)	dryland sedge
CAGE2	<i>Carex geyeri</i>	2 (25)	elk sedge
CAOB4	<i>Carex obtusata</i>	3 (25)	blunt sedge
DECE	<i>Deschampsia cespitosa</i>	T (25)	tufted hairgrass
ELTR7	<i>Elymus trachycaulus</i>	6 (75)	slender wheatgrass
FEID	<i>Festuca idahoensis</i>	41 (100)	Idaho fescue
FETH	<i>Festuca thurberi</i>	1 (25)	Thurber fescue
JUARA4	<i>Juncus arcticus ssp. ater</i>	2 (25)	Baltic rush
KOMA	<i>Koeleria macrantha</i>	10 (25)	prairie junegrass
POFE	<i>Poa fendleriana</i>	4 (75)	muttongrass
POGL	<i>Poa glauca</i>	5 (25)	Greenland bluegrass
TRSP2	<i>Trisetum spicatum</i>	3 (25)	spike trisetum
FORBS			
ACLA5	<i>Achillea lanulosa</i>	8 (75)	western yarrow
AGGL	<i>Agoseris glauca</i>	1 (75)	false-dandelion
ANSE4	<i>Androsace septentrionalis</i>	T (50)	northern rock-jasmine
ANRO2	<i>Antennaria rosea</i>	4 (50)	rose pussytoes
ANUM	<i>Antennaria umbrinella</i>	T (25)	umber pussytoes
ASAL7	<i>Astragalus alpinus</i>	21 (25)	alpine milkvetch
BIBI5	<i>Bistorta bistortoides</i>	1 (25)	American bistort
CARO2	<i>Campanula rotundifolia</i>	T (25)	common harebell
CEFO2	<i>Cerastium fontanum</i>	25 (25)	mouse-ear
CEST3	<i>Cerastium strictum</i>	5 (25)	mouse-ear
CHFR3	<i>Chenopodium fremontii</i>	T (25)	Fremont goosefoot
CISC3	<i>Cirsium scopulorum</i>	2 (25)	Alpine thistle
DEPI	<i>Descurainia pinnata</i>	T (25)	pinnate tansy mustard
DRRE	<i>Draba rectifruca</i>	T (25)	whitlow-wort
ERFE3	<i>Eremogone fendleri</i>	T (25)	desert sandwort
ERSP4	<i>Erigeron speciosus</i>	T (25)	Oregon fleabane
ERSU2	<i>Erigeron subtrinervis</i>	2 (75)	threenerve fleabane
ERSU11	<i>Eriogonum subalpinum</i>	T (25)	sulfurflower
GEAC2	<i>Gentianella acuta</i>	T (25)	little gentian
GECA3	<i>Geranium caespitosum</i>	1 (25)	Fremont geranium
GERI	<i>Geranium richardsonii</i>	1 (25)	Richardson geranium
HEVI4	<i>Heterotheca villosa</i>	65 (25)	hairy golden aster
NOMO2	<i>Noccaea montana</i>	T (25)	candytuft
ORLU2	<i>Orthocarpus luteus</i>	T (25)	yellow owl-clover
PERY	<i>Penstemon rydbergii</i>	1 (25)	beardtongue
PNAF	<i>Pneumonanthe affinis</i>	2 (25)	bottle gentian
POAR11	<i>Polygonum arenastrum</i>	1 (50)	devil's shoestrings
POHI6	<i>Potentilla hippiana</i>	3 (25)	horse cinquefoil
POPU9	<i>Potentilla pulcherrima</i>	4 (75)	beauty cinquefoil
PORU3	<i>Potentilla rubricaulis</i>	1 (25)	snow cinquefoil
PSMO	<i>Pseudocymopterus montanus</i>	10 (25)	mountain parsely
PYCL2	<i>Pyrrocoma clementis</i>	8 (25)	tranquil goldenweed
SOMU	<i>Solidago multiradiata</i>	1 (25)	mountain goldenrod
SOSI3	<i>Solidago simplex</i>	3 (25)	Mt. Albert goldenrod
TAOF	<i>Taraxacum officinale</i>	7 (100)	common dandelion
TRHY	<i>Trifolium hybridum</i>	2 (25)	alfalfa clover
VIAM	<i>Vicia americana</i>	2 (25)	American vetch
VIAS2	<i>Virgularia ascendens</i>	1 (25)	Chile aster
GROUND COVER			
.BARESO	bare soil	22 (100)	
.LITTER	litter and duff	73 (100)	
.GRAVEL	gravel 0.2-10 cm	5	
.COBBLE	cobble 10-25 cm	4 (25)	
.STONES	stone > 25 cm	-	
.MOSSON	moss on soil	-	
.LICHENS	lichens on soil	1	