USDA Natural Resources Conservation Service

Ecological site F043BP612ID
Limy Cold Woodland Group

Last updated: 3/01/2024
Accessed: 05/02/2024

General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

MLRA notes

Major Land Resource Area (MLRA): 043B–Central Rocky Mountains

The Central Rocky Mountains (MLRA 43B) of Idaho exist primarily in the central and southeastern portions of the state. The climate is extremely variable with precipitation lows of 9 to 100 inches per year and frost free days of less than 30 to over 110 days. The geology of the region is also highly variable. The combination of variable climate and geology create a complex relationship of plant communities. MLRA 43B elevations with most mountain peaks reach an elevation of 6,000 to 8,000 feet (1,830 to 2,440 meters), but peaks exceeding 10,000 feet (3,050 meters) are not uncommon.

LRU notes

LRU P: PES/PEG (Provisional Ecological Site or Group) A PROVISIONAL ECOLOGICAL SITE is a conceptual grouping of soil map unit components within a Major Land Resource Area (MLRA) based on the similarities in response to management. Although there may be wide variability in the productivity of the soils grouped into a Provisional Site, the soil vegetation interactions as expressed in the state-and-transition model are similar and the management actions required to achieve objectives, whether maintaining the existing ecological state or managing for an alternative state, are similar. Provisional sites are likely to be refined into a more precise concept during the process of meeting the APPROVED ECOLOGICAL SITE DESCRIPTION criteria.

Classification relationships

This PROVISIONAL ECOLOGICAL SITE has been developed to meet the standards established in the National Ecological Site Handbook. The information associated with this ecological site does not meet the Approved Ecological Site Description Standard, but it has been through Quality Control and Quality Assurance processes to assure consistency and completeness. Further investigations, reviews and correlations are necessary before it becomes an Approved Ecological Site Description.

Ecological site concept

• Site does not receive any additional water
• Dominant Cover: Coniferous Forest
• Soils are
o not saline or saline-sodic
o Moderately deep to deep
o Greater than 35% coarse fragments by volume, skeletal
• Soil surface texture ranges from loam to silt loam in surface mineral 4”
• Site Landform: mountain slopes, ridges, escarpments
• Area of rugged mountain, mountain slopes of the Central Rocky Mountains
• Parent material is colluvium, alluvium
• Moisture Regime: xeric

• Temperature Regime: cryic
• Elevation Range: 7400-11000
• Slope: 15-70% (Typically less than 35%)

Associated sites

F043BP616ID	**Ashy Cold Woodland Group**
F043BP609ID	**Upland Cold Woodland Group**

Similar sites

F043BP609ID	**Upland Cold Woodland Group**
F043BP610ID	**Upland Cool Woodland Group**

Table 1. Dominant plant species

Tree	(1) *Pinus albicaulis* (2) *Abies lasiocarpa*
Shrub	(1) *Vaccinium scoparium*
Herbaceous	(1) *Festuca idahoensis* (2) *Carex geyeri*

Physiographic features

Site exists on mountain slopes. Slopes vary from 15 to 70 percent with dominant slopes exceeding 35 percent.

Table 2. Representative physiographic features

Landforms	(1) Mountains > Mountain slope
Elevation	7,400–11,000 ft
Slope	15–70%
Aspect	Aspect is not a significant factor

Climatic features

The site is located within the cryic temperature regime in the typic xeric moisture regime with Relative Effective Annual Precipitation (REAP) quite variable from 15 to 22 inches. Frost Free days are 30 to 60.

Table 3. Representative climatic features

Frost-free period (characteristic range)	14-50 days
Freeze-free period (characteristic range)	44-104 days
Precipitation total (characteristic range)	16-17 in
Frost-free period (actual range)	5-59 days
Freeze-free period (actual range)	29-119 days
Precipitation total (actual range)	16-17 in
Frost-free period (average)	32 days
Freeze-free period (average)	74 days
Precipitation total (average)	17 in

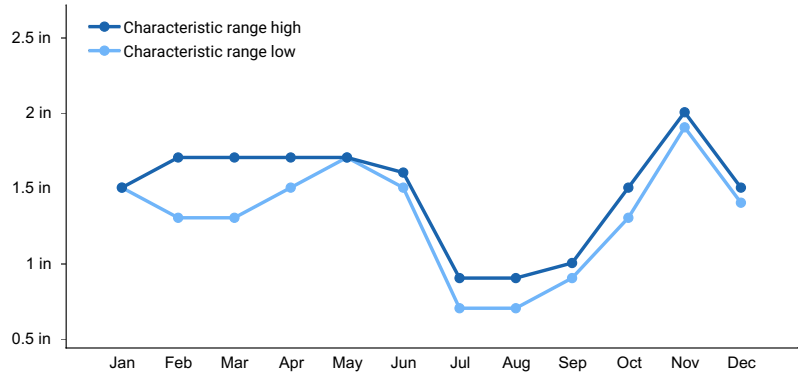


Figure 1. Monthly precipitation range

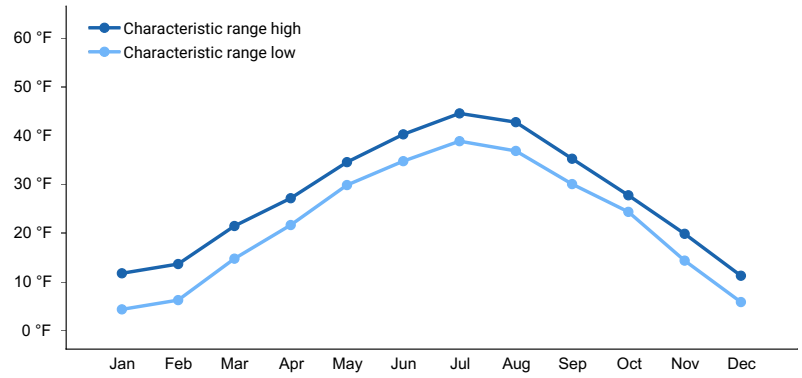


Figure 2. Monthly minimum temperature range

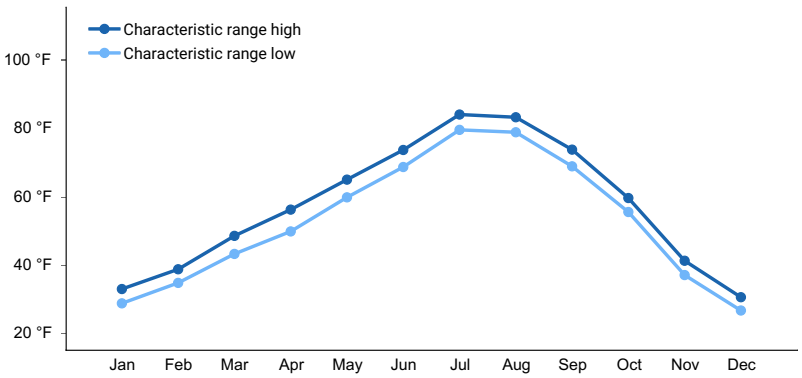


Figure 3. Monthly maximum temperature range

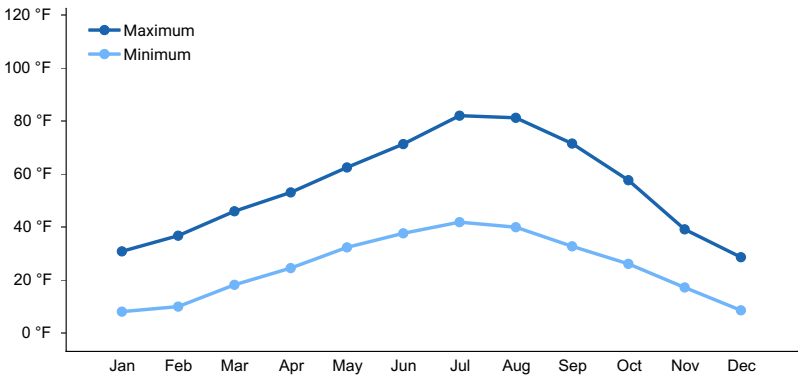


Figure 4. Monthly average minimum and maximum temperature

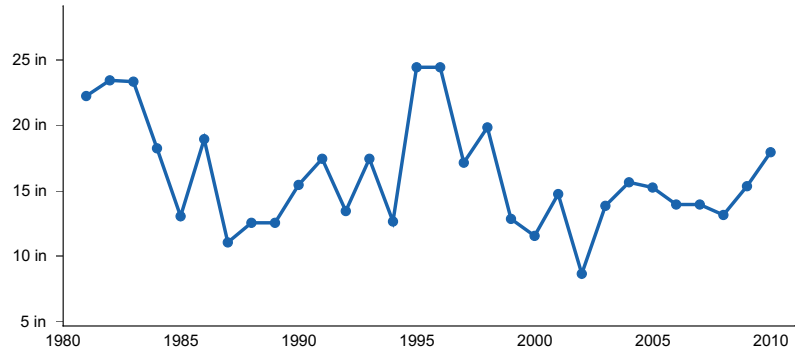


Figure 5. Annual precipitation pattern

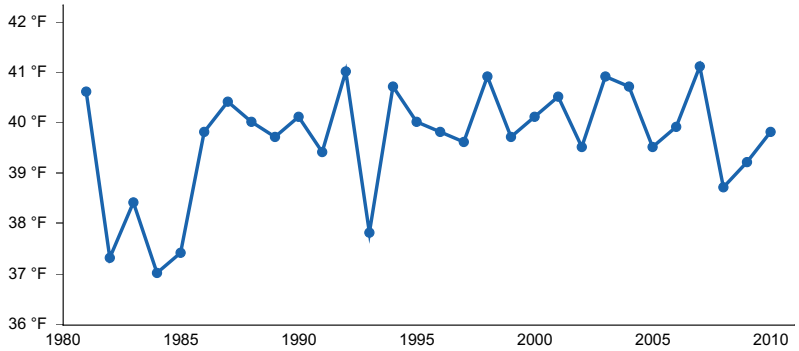


Figure 6. Annual average temperature pattern

Climate stations used

- (1) STANLEY RS [USW00004112], Stanley, ID
- (2) MIDDLE FORK LODGE [USC00105897], Stanley, ID

Influencing water features

This site is not directly associated with any water features.

Wetland description

N/A

Soil features

Soil textures variable based on local geology; however, trend loamy. Parent material is colluvium, alluvium, and is carbonatic.

Table 4. Representative soil features

Parent material	(1) Colluvium–limestone (2) Alluvium–limestone
Surface texture	(1) Very gravelly loam (2) Flaggy, very flaggy silt loam
Family particle size	(1) Loamy-skeletal (2) Fine-loamy
Drainage class	Moderately well drained to well drained
Permeability class	Slow to moderate
Depth to restrictive layer	20–100 in

Soil depth	20–100 in
Surface fragment cover <=3"	0–15%
Surface fragment cover >3"	0–30%
Available water capacity (0-40in)	1.6–2.1 in
Calcium carbonate equivalent (0-30in)	15–45%
Clay content (0-40in)	10–30%
Soil reaction (1:1 water) (0-40in)	5.6–8.4
Subsurface fragment volume <=3" (0-40in)	0–35%
Subsurface fragment volume >3" (0-40in)	0–35%

Ecological dynamics

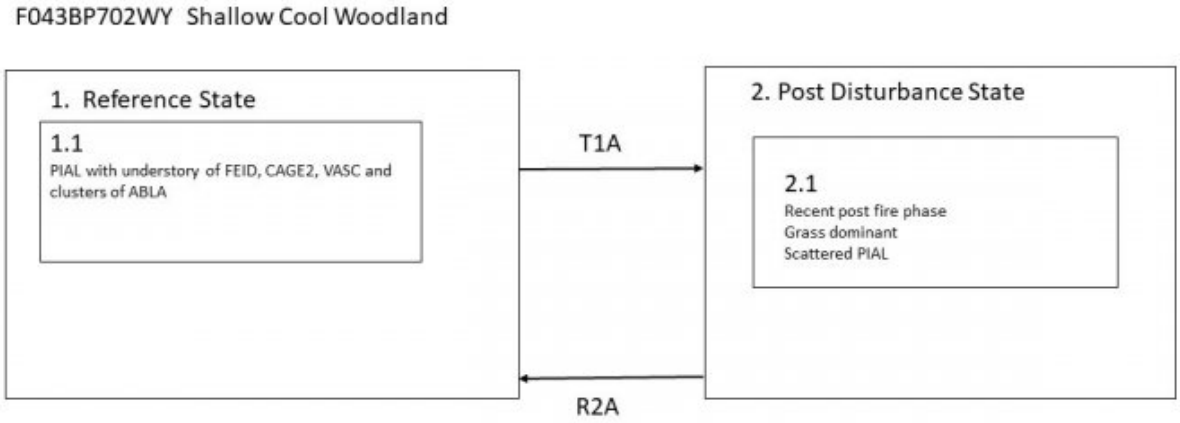
This is characterized by Whitebark Pine overstory with an understory of various grasses and forbs; including Idaho fescue, Geyer's sedge and grouse whortleberry.
Fires are infrequent but when they occur can remove overstory; vegetation recovery is slow.

State-and-transition model

1 Reference State
1.1 Whitebark pine with understory of Idaho fescue, Geyer's sedge, grouse whortleberry, and clusters of subalpine fir.
T1A Post disturbance includes stand replacing fire, insect pestilence, or disease, and clear cut.

2 Post Disturbance State
2.1 Recent post fire phase. Grass is dominant, scatter subalpine fir.
R2A Over time, without fire, insect pestilence, or disease, stand will recover. Whitebark pine increases

State and transition model



T1A: Post disturbance includes stand replacing fire, insect pestilence, or disease, and clear cut

R2A: Over time, without fire, insect pestilence, or disease. PIAL increases

Animal community

This ecological site is considered important habitat for large wild game such as deer, elk and bighorn sheep.

Typically this site is considered good for livestock grazing. If the tree canopy is open it will often contain grazeable forage.

Recreational uses

Site frequently used by many outdoor recreationists such as bird watchers, campers, hikers, bikers, and hunters.

Wood products

The dominant forest type is typically not suited to forest products of different types. Harvest of this site may prove challenging due to slope and remote location.

Inventory data references

Information was gathered from Forest Habitat Type guides and other reference material gathered historically by range and forest professionals.

Other references

Steele, Robert; Pfister, Robert D.; Ryker, Russell A.; Kittams, Jay A. 1981. Forest Habitat Types of Central Idaho. General Technical Report INT-114. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station. 138 p.

Steele, Robert; Cooper, Stephen V.; Ondov, David M.; Roberts, David W.; Pfister, Robert D. 1983. Forest habitat types of eastern Idaho-western Wyoming. Gen. Tech. Rep. INT-144. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station. 122 p.

Contributors

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Approval

Kirt Walstad, 3/01/2024

Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	
Contact for lead author	
Date	05/02/2024
Approved by	Kirt Walstad
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:**

2. **Presence of water flow patterns:**

3. **Number and height of erosional pedestals or terracettes:**

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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

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5. **Number of gullies and erosion associated with gullies:**

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6. **Extent of wind scoured, blowouts and/or depositional areas:**

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7. **Amount of litter movement (describe size and distance expected to travel):**

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8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):**

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**

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11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):**

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12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

    Dominant:

    Sub-dominant:

    Other:

    Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**

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14. **Average percent litter cover (%) and depth (in):**

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**

16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:**

17. **Perennial plant reproductive capability:**