

## Ecological site F043BP607ID Subirrigated Cool Woodland Group

Last updated: 3/01/2024  
Accessed: 05/17/2024

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### 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 central and southeast 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 (Provisional Ecological Site or Group - PEG) 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

- Dominant Cover: Forest
- Site receives additional water
- This site occurs on low terraces adjacent to flood plains of perennial or intermittent streams (though not in the floodplain), near springs and seeps, or other areas having a permanent or perched water table.
- Seasonal high water table within 40" (approx. 100cm) of soil surface.
- Moisture Regime: ustic to udic
- Temperature Regime: frigid to cryic
- Soils are
  - o Not saline or saline-sodic
  - o Moderately deep, deep, or very deep
  - o Typically less than 5% stone and boulder cover (<10% max)

- Area of rugged mountain, hills, plateaus, and valleys of the Central Rocky Mountains in Idaho and southwest Montana.
- Parent material is recent alluvium
- Elevation Range: 3800-8500
- Slope: 0-15%

### Associated sites

F043BP602ID	<b>Shallow Cool Woodland Group</b>
F043BP610ID	<b>Upland Cool Woodland Group</b>

### Similar sites

F043BP707WY	<b>Subirrigated Cool Woodland Group</b>
F043BP907MT	<b>Subirrigated Cool Woodland Group</b>

**Table 1. Dominant plant species**

Tree	(1) <i>Pseudotsuga menziesii</i> (2) <i>Picea engelmannii</i>
Shrub	(1) <i>Vaccinium scoparium</i> (2) <i>Mahonia repens</i>
Herbaceous	(1) <i>Clintonia uniflora</i> (2) <i>Senecio triangularis</i>

### Physiographic features

Site occurs on low terraces adjacent to flood plains or perennial or intermittent streams, near springs and seeps, or other areas having permanent or perched water tables. Slopes will vary from nearly level to less than 15 percent. This ecological site exists between 3800 and 8000 feet elevation.

**Table 2. Representative physiographic features**

Landforms	(1) Mountains > Terrace
Elevation	1,158–2,438 m
Slope	0–15%
Water table depth	102 cm
Aspect	Aspect is not a significant factor

### Climatic features

Climate of the area is considered cool. The climate ranges so the soils classify as frigid to cryic soil temperature regime and typic ustic to udic soil moisture regime. Relative effective annual precipitation (REAP) is 17 to 40 inches with 40-90 frost free days.

**Table 3. Representative climatic features**

Frost-free period (characteristic range)	14-97 days
Freeze-free period (characteristic range)	46-141 days
Precipitation total (characteristic range)	381-584 mm
Frost-free period (actual range)	2-120 days
Freeze-free period (actual range)	28-158 days
Precipitation total (actual range)	356-686 mm

Frost-free period (average)	51 days
Freeze-free period (average)	91 days
Precipitation total (average)	483 mm

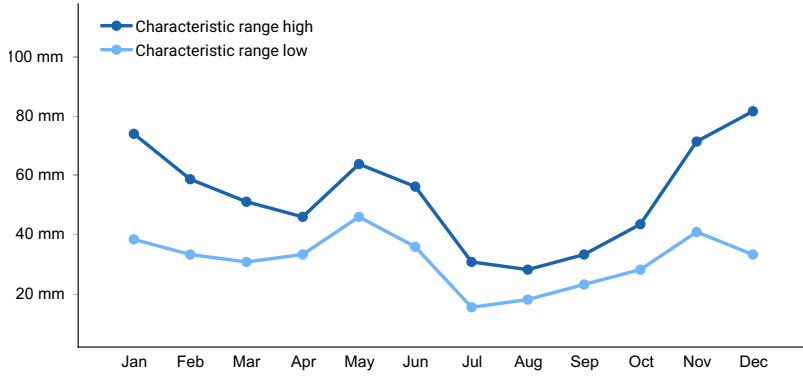


Figure 1. Monthly precipitation range

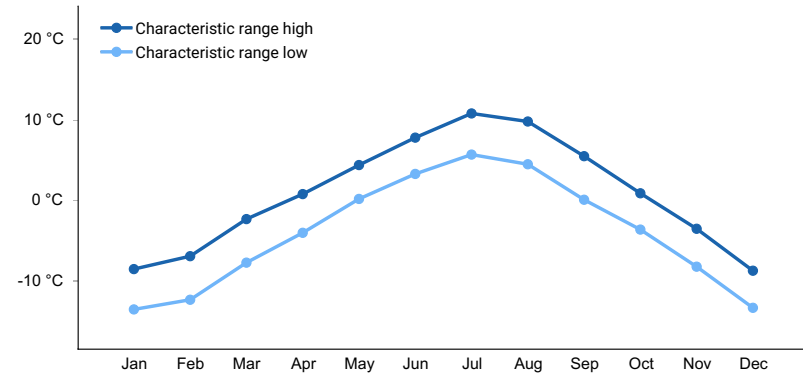


Figure 2. Monthly minimum temperature range

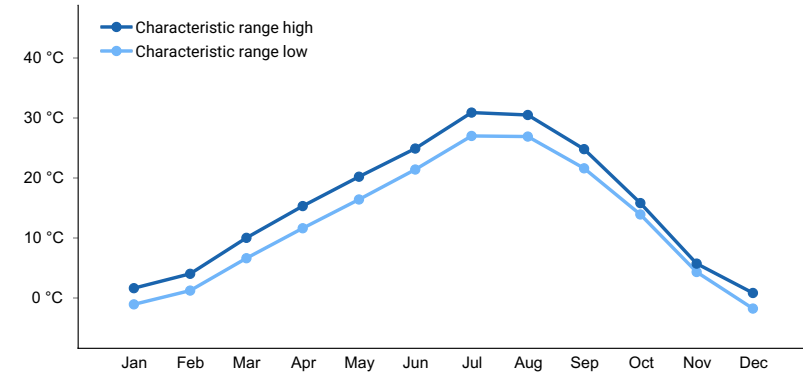


Figure 3. Monthly maximum temperature range

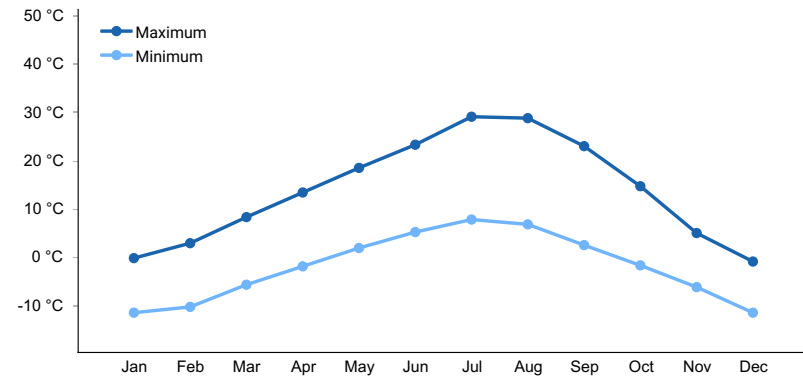


Figure 4. Monthly average minimum and maximum temperature

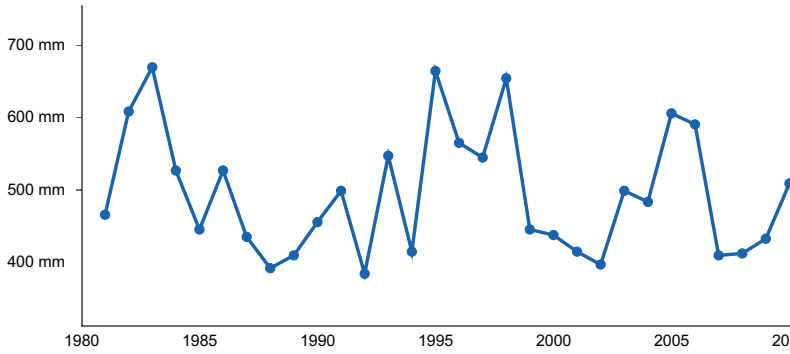


Figure 5. Annual precipitation pattern

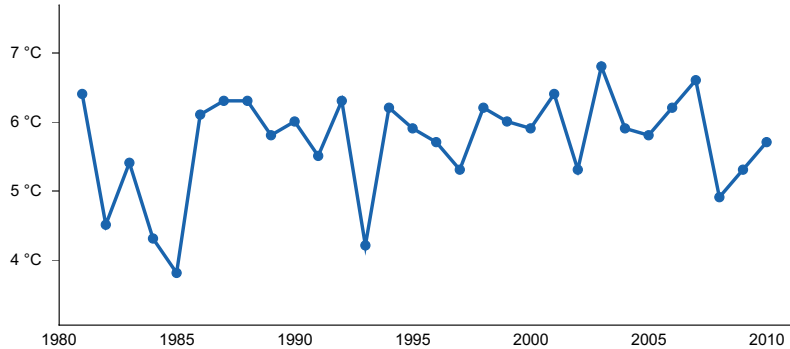


Figure 6. Annual average temperature pattern

### Climate stations used

- (1) ISLAND PARK [USC00104598], Island Park, ID
- (2) SWAN VALLEY 2 E [USC00108937], Swan Valley, ID
- (3) KETCHUM RS [USC00104845], Ketchum, ID
- (4) IDAHO CITY [USC00104442], Idaho City, ID
- (5) STANLEY [USC00108676], Stanley, ID
- (6) YELLOWPINE 7 S [USC00109951], McCall, ID
- (7) TAYLOR RCH [USC00109000], McCall, ID
- (8) SHOUP [USC00108395], Shoup, ID
- (9) YELLOWPINE BAR [USC00109963], Elk City, ID
- (10) GIBBONSVILLE [USC00103554], Gibbonsville, ID

### Influencing water features

Site is located adjacent to the flood plain of perennial or intermittent streams; however, is not located in the floodplain. Site receives additional moisture from these nearby streams and will have a water table within 40 inches of the soil surface.

### Wetland description

Associated to wetland soils.

### Soil features

Soil will have a water table within 40 inches of the mineral surface. Soils often have a thick organic horizon above the mineral surface. Soils are formed from alluvium of mixed geology.

Table 4. Representative soil features

Parent material	(1) Alluvium–igneous, metamorphic and sedimentary rock
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Surface texture	(1) Peat (2) PeatStony, very stony loam (3) PeatStony, very stony loamChannery, cobbly silt loam (4) Fine sandy loam (5) Silty clay loam
Drainage class	Somewhat poorly drained to very poorly drained
Permeability class	Slow to moderate
Soil depth	102–254 cm
Surface fragment cover <=3"	0–40%
Surface fragment cover >3"	0–40%
Available water capacity (0-101.6cm)	2.79–17.27 cm
Clay content (0-101.6cm)	11–33%
Soil reaction (1:1 water) (0-101.6cm)	4.5–8.4
Subsurface fragment volume <=3" (0-101.6cm)	0–60%
Subsurface fragment volume >3" (0-101.6cm)	0–45%

## Ecological dynamics

1.1 Douglas fir dominated forest with minor components of Subalpine fir, Englemann's spruce, and Cottonwood. Grasses and sedges tend to be limited. Forbs and shrubs dominate understory canopy.

T1A Post Disturbance includes stand replacement fire (primary driver in this community), insect pestilence and disease. Fire frequency is long but fire is intense.

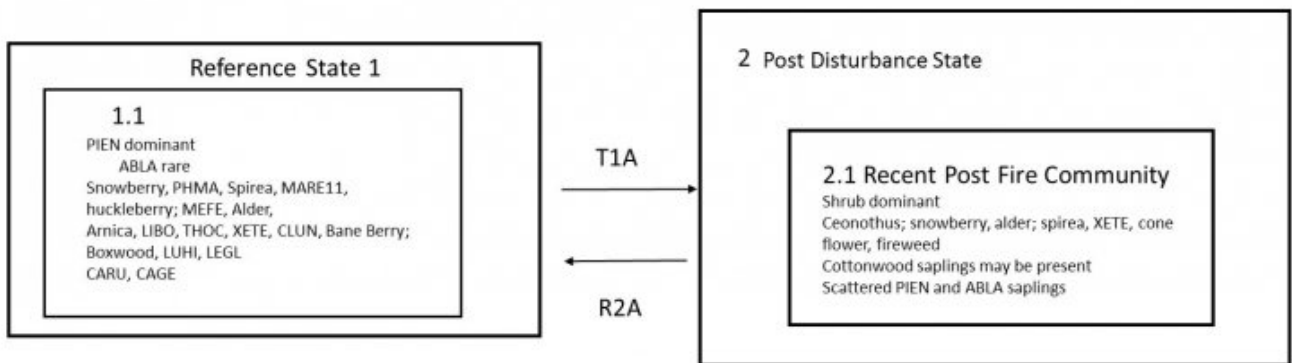
2.1 Shrub dominant condition post disturbance. Saplings of multiple trees present. Forbs increase in composition particularly colonizing species like fireweed and coneflower

2.1A Time where trees start to re-establish

R2A Restoration pathway where the site, over time, without fire, insect pestilence, or disease moves back to the reference state. Englemann Spruce with some subalpine fir comes back in and shades out the other tree species. This process can take over 150 years.

## State and transition model

## 43B Subirrigated Cool Woodland



1.1 Englemann's Spruce dominated forest with minor components of Subalpine fir and Cottonwood. Grasses and sedges tend to be limited. Forbs and shrubs dominate understory canopy.

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### Animal community

This ecological site is considered important habitat for large wild game such as deer, elk, and moose, as well as upland birds such as ruffed, dusky, and spruce grouse.

Typically this site is considered marginal to poor for livestock grazing.

### Hydrological functions

Site is adjacent to streams and water sources. The plant community typically acts as a buffer for these smaller

systems. Degradation of the site may result in increased seasonal runoff and stream sedimentation.

## 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. Site location adjacent to stream acts as a forest riparian buffer and not considered appropriate for timber harvest as per Best Management Practices (BMPs)

## 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

Grant Petersen  
Bryan Christenson

## 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	05/17/2024
Approved by	Kirt Walstad
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

## Indicators

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

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

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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):**

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

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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:**

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17. **Perennial plant reproductive capability:**

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