

Ecological site R227XY204AK

Gravelly and Sandy Hills Pippod, Chistna

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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.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs on pitted outwash plains and hills formed in deep, sandy and gravelly glacial outwash. Sandy blowouts are common in some areas. Slopes range from 0 to about 30 percent. Elevation is 2750 to 3000 feet (838 to 914 m).

In the Gulkana River area, this site is of minor occurrence in the uplands around Dickey Lake. It continues for a number of miles to the west beyond the survey area and probably occurs elsewhere in the Copper River basin also.

Table 2. Representative physiographic features

Landforms	(1) Outwash plain
Flooding frequency	None
Elevation	823–914 m
Slope	0–30%
Water table depth	152 cm
Aspect	Aspect is not a significant factor

Climatic features

The subarctic continental climate of this site is characterized by long cold winters and short warm summers. Mean January temperature is -2 °F.; mean July temperature is 54 °F. Mean annual precipitation ranges from 15 to 21 inches. Annual snowfall ranges from 54 to 102 inches. The frost-free season is about 60 to 80 days (28 °F. base temperature). The growing season varies greatly from year to year and frosts can occur during any summer month.

Table 3. Representative climatic features

Frost-free period (average)	0 days
Freeze-free period (average)	0 days
Precipitation total (average)	0 mm

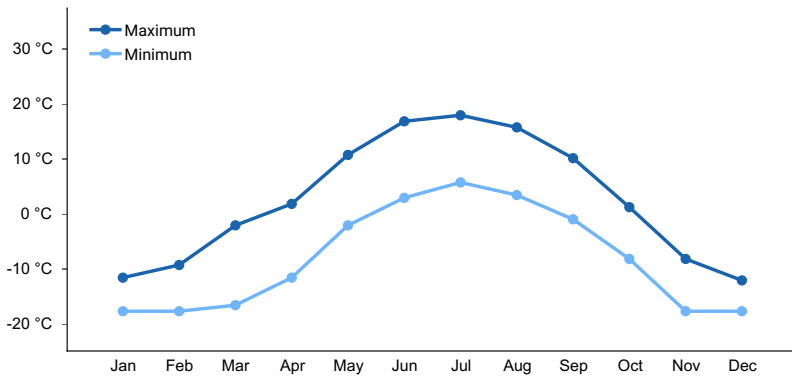


Figure 1. Monthly average minimum and maximum temperature

Influencing water features

Soil features

The weakly to moderately well developed soils on this site have a mantle of silty eolian material 1 to 8 inches (2 to 20 cm) thick over very gravelly or sandy glaciofluvial material. The soils have low moisture holding capacity and are somewhat excessively drained.

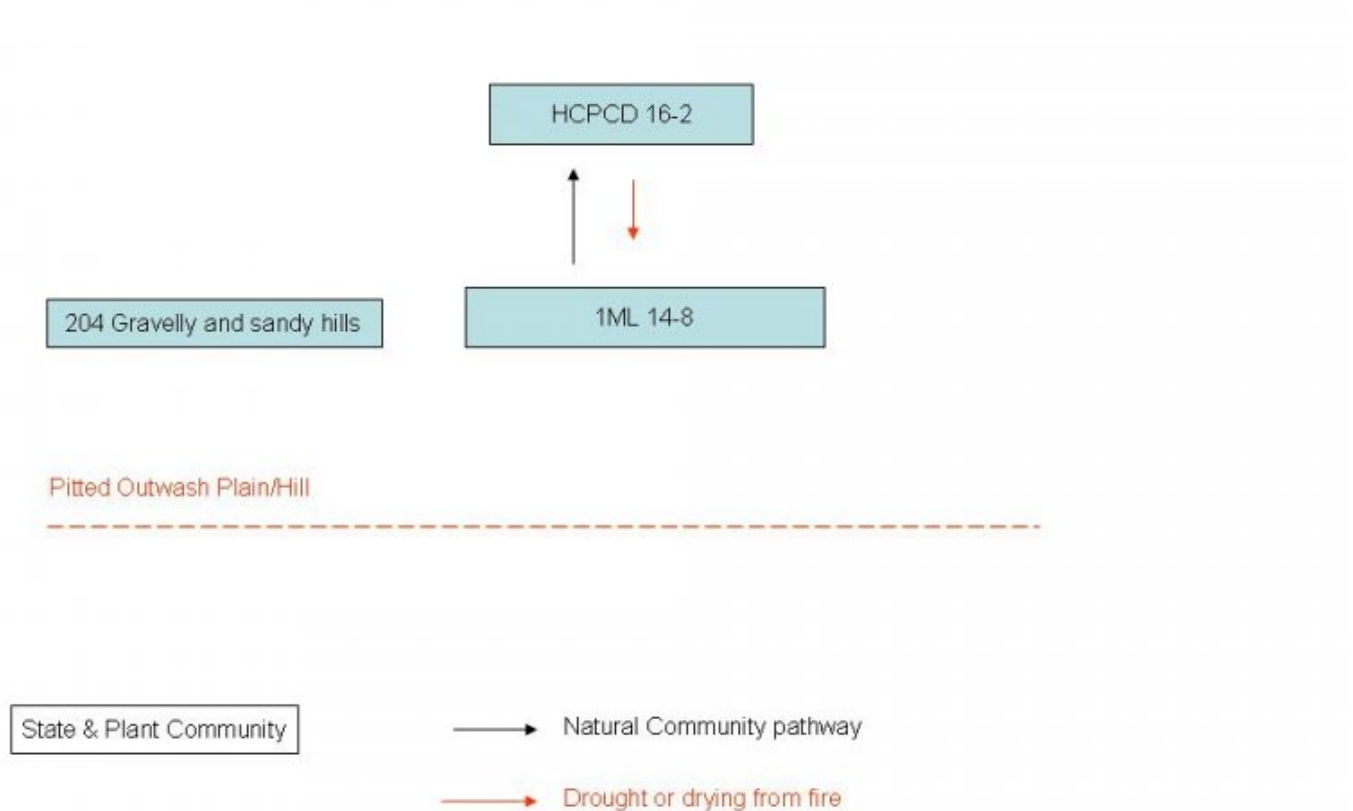
Table 4. Representative soil features

Soil depth	152 cm
Available water capacity (0-101.6cm)	0.05–0.58 cm

Ecological dynamics

The soils and vegetation on this site are generally relatively dry, however, shrub cover is open to sparse with little cover of herbaceous vegetation in the understory. Susceptibility to fire is probably low. If burned, seral lichens and scattered herbs would be expected to dominate the post-fire vegetation.

State and transition model



State 1 Low Shrub Birch-willow/water sedge scrub

Community 1.1 Low Shrub Birch-willow/water sedge scrub

Low shrub birch/lichen scrub consists of moderately open to closed stands of medium and low shrubs dominated by *Betula glandulosa*, *Ledum* spp., *Vaccinium uliginosum*, and *Salix* spp., with abundant to very abundant fruticose lichens in the ground layer. Setting In most places, Low shrub birch scrub is an early, post-fire seral stage leading to Spruce/lichen woodland and Spruce/shrub birch woodland. It appears to develop only on relatively xeric sites or other sites that have been moderately to severely burned. Most stands have common to well-represented scattered trees and unburned woodland to reseed the stand. *Picea glauca* and *P. mariana* seedlings and saplings are common in most stands. On pitted outwash plains and hills in the vicinity of Dickey Lake and at higher elevations in the subalpine zone, this type probably is late seral or potential vegetation. Riparian-Wetland Classification: upland

Forest understory. Dwarf shrub, primarily *Vaccinium vitis-idaea* and *Empetrum nigrum*, are also usually well-represented to abundant. *B. glandulosa* is typically 3.5 to 5.5 feet (1.1 to 1.8 m) in height and forms a nearly continuous open to moderately closed upper shrub layer. Other shrubs are usually about 3 feet (0.9 m) in height or less and fill in the spaces between and below the birch. In many stands, *Picea glauca* and/or *P. mariana* saplings, small trees, and relic trees are common to well-represented. Total shrub canopy cover is usually between 50 and 90 percent.

Abundant to very abundant lichen cover, patches of mosses, and litter characterize the aspect of the ground layer. In most stands, the herb layer is sparse to occasionally open and the number of herb species is low. An important herb in many stands is *Festuca altaica*. Other frequently occurring herbs include *Epilobium angustifolium*,

Pedicularis labradorica, *Senecio* spp., *Petasites frigidus*, *Arctagrostis latifolia*, and *Calamagrostis canadensis*. Most stands show evidence of recent burns, and snags and woody litter are common to well-represented.

Table 5. Ground cover

Tree foliar cover	1-2%
Shrub/vine/liana foliar cover	1-55%
Grass/grasslike foliar cover	1-15%
Forb foliar cover	1-5%
Non-vascular plants	5-70%
Biological crusts	0%
Litter	1-20%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	1-6%
Water	0%
Bare ground	2-10%

State 2

Low Shrub Birch Scrub

Community 2.1

Low Shrub Birch Scrub

Low shrub birch scrub consists of moderately open to closed stands of medium and low shrubs dominated by *Betula glandulosa*, *Ledum* spp., and *Vaccinium uliginosum*. Dwarf shrub, primarily *Vaccinium vitis-idaea* and *Empetrum nigrum*, also are usually abundant. *B. glandulosa* is typically 4.5 to 7 feet (1.4 to 2.1 m) in height and forms an irregular, broken upper shrub layer. Other shrubs are usually about 3 feet (0.9 m) in height or less and fill in the spaces between and below the birch. In many stands, *Picea glauca* and/or *P. mariana* saplings, small trees, and relic trees are common to well-represented. Canopy cover of the upper shrub layer ranges from 25 to 70 percent. Total shrub canopy cover is usually between 50 and 90 percent. In most stands, the herb layer is sparse to open. The number of different herb species is usually fairly high; however, no species are particularly abundant.

Forest understory. Important herbs include *Equisetum* spp., *Petasites frigidus*, *Epilobium angustifolium*, *Arctagrostis latifolia*, and *Calamagrostis canadensis*. A mosaic of feathermoss, lichen, and litter covers the ground surface. In some stands on more mesic sites, *Carex lugens* is abundant to very abundant, and lichen is usually considerably more abundant. Most stands show evidence of recent burns, and snags and woody litter are common to well-represented.

Table 6. Ground cover

Tree foliar cover	0%
Shrub/vine/liana foliar cover	1-25%
Grass/grasslike foliar cover	1-3%
Forb foliar cover	1%
Non-vascular plants	25-50%
Biological crusts	0%
Litter	25%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%

Bedrock	0%
Water	0%
Bare ground	0%

Additional community tables

Contributors

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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	
Approved by	
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:**

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

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

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

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

-
8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):**
-
9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**
-
10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**
-
11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):**
-
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:
-
13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**
-
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:**
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17. **Perennial plant reproductive capability:**
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