

Ecological site R013XY016ID Moist Mountain Loam 20+ PZ POTR

Last updated: 5/01/2020
Accessed: 04/26/2024

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): 013X–Eastern Idaho Plateaus

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Precipitation or Climate Zone: 20+” P.Z.

<https://soils.usda.gov/survey/geography/mlra/index.html>

Classification relationships

Land Resource Unit: B (Northwestern Wheat and Range)

MLRA: 13 (Eastern Idaho Plateaus)

EPA EcoRegion: Level III (Middle Rockies)

Aspen community types of the Intermountain Region

Gen. Tech. Rep. INT-250. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station. 135 p.

(<https://www.fs.usda.gov/treesearch/pubs/32906>)

Ecological site concept

Site does not receive any additional water.

Soils are:

not saline or saline-sodic.

moderately deep, deep, with < 3% stone (10-25”) and boulder (>25”) cover. may be skeletal within 20” of soil surface.

not strongly or violently effervescent in surface mineral 10”.

textures usually range from very fine sandy loam to clay loam in surface mineral 4”.

Slope is 5-40%.

Clay content is = <32% in surface mineral 4”.

Site does not have an argillic horizon with > 35% clay.

Associated sites

R013XY005ID	Loamy 16-22 PZ ARTRV/FEID-PSSPS
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Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs in semi-wet pockets, ravines, valleys and high canyons. It also occurs on upland ridges at higher elevations and east and north aspects at lower elevations. Slopes range from 5 to 40 percent. Elevations will range from 5500 to 9000 feet (1675-2740 meters).

Table 2. Representative physiographic features

Landforms	(1) Mountains > Mountain slope
Elevation	5,500–9,000 ft
Slope	5–40%

Climatic features

MLRA 13, the Eastern Idaho Plateaus, is part of the Northwestern Wheat and Range Region. Its elevation ranges from 4209 to 9331 feet above sea level, with an average elevation of 5787 feet. The average annual precipitation is 16.41 inches, with a range of 13.56 to 18.75 inches, based on ten long term climate stations located throughout the MLRA. A spike in precipitation amount often occurs in late spring, usually in May.

Temperatures vary widely in the MLRA throughout the year. A maximum temperature of 103° Fahrenheit occurred at the McCammon climate station (# 105716; elevation 4770 feet), while a minimum of -41° was recorded at the Kilgore station (#104908). At all stations temperatures throughout the year are usually below the national average. Kilgore also recorded the greatest annual snowfall amount of 217 inches. The average temperature is 41.4 degrees F. with an average high of 55.3 degrees and an average low of 27.5 degrees.

The frost-free period ranges from 64 to 90 days, while the freeze-free period can be 98 to 123 days.

Table 3. Representative climatic features

Frost-free period (characteristic range)	39-43 days
Freeze-free period (characteristic range)	87-88 days
Precipitation total (characteristic range)	17-22 in
Frost-free period (actual range)	38-44 days
Freeze-free period (actual range)	87-88 days
Precipitation total (actual range)	16-24 in
Frost-free period (average)	41 days
Freeze-free period (average)	88 days
Precipitation total (average)	19 in

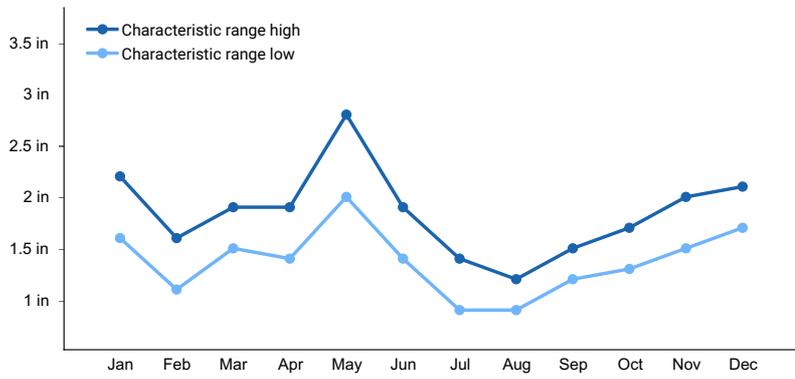


Figure 1. Monthly precipitation range

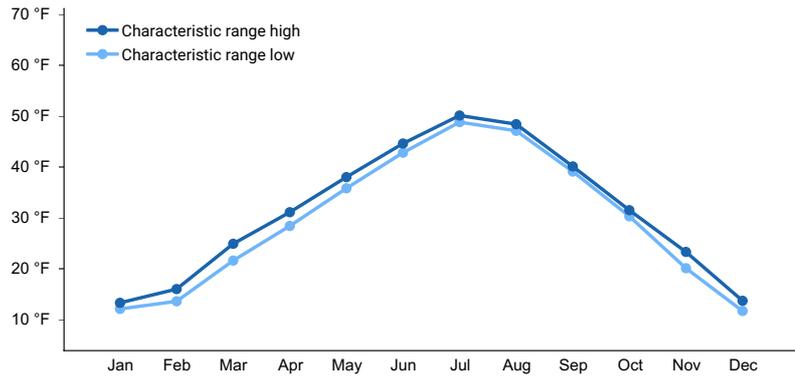


Figure 2. Monthly minimum temperature range

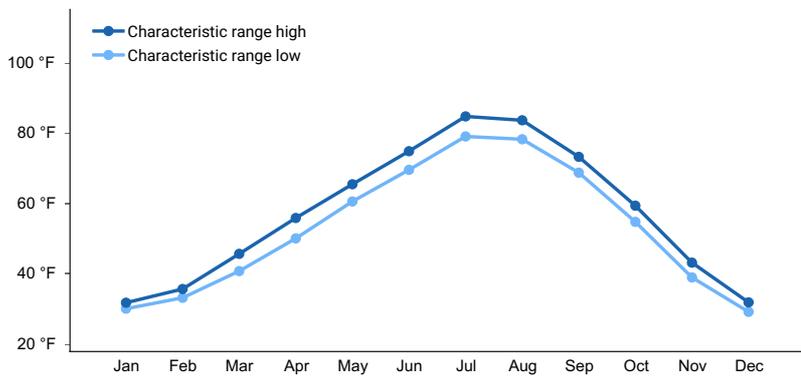


Figure 3. Monthly maximum temperature range

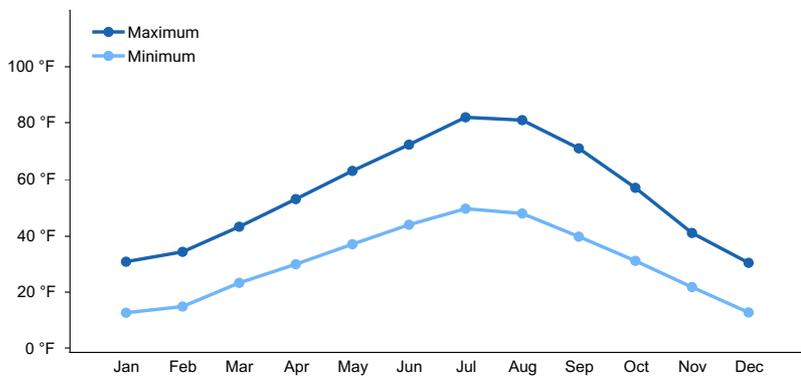


Figure 4. Monthly average minimum and maximum temperature

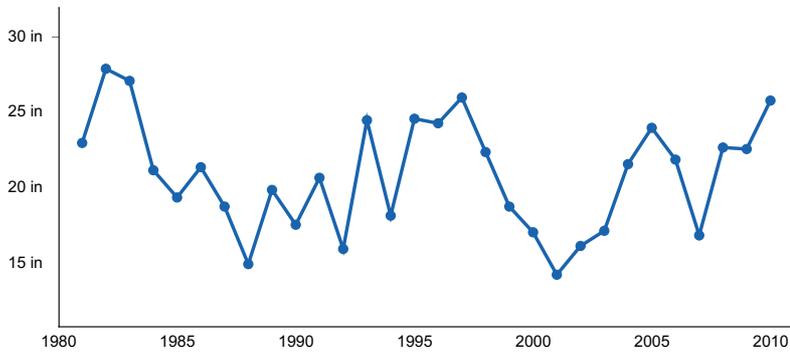


Figure 5. Annual precipitation pattern

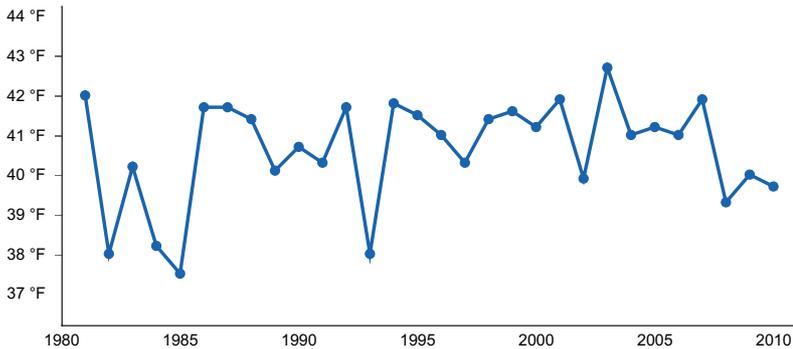


Figure 6. Annual average temperature pattern

Climate stations used

- (1) LAVA HOT SPRINGS [USC00105143], Lava Hot Springs, ID
- (2) ALTA 1 NNW [USC00480140], Alta, WY
- (3) IDAHO FALLS 16 SE [USC00104456], Iona, ID

Influencing water features

This site is influenced by streams, springs, seeps or run on from snow pockets.

Wetland description

No data.

Soil features

The soil surface is covered by a layer of organic material consisting of none decomposed or partially decomposed leaves, twigs, and grasses. The soils are moderately deep to very deep, well-drained silt loams and loams. The surface horizon is very dark brown. The subsurface soils are medium textured. Fifteen to forty percent coarse fragments may be present below 45 inches. The parent material is fine grained sandstone, siltstone, and quartzite, sedimentary and metasedimentary material. Some soils may contain a calcareous soils layer down deep, but the overlying soil is usually non-calcareous. These soils have a very slow to moderate permeability. The available water capacity is low to high. These soils are characterized by a xeric or udic soil moisture regime or a xeric bordering on aridic. The soil temperature regime is either frigid or cryic.

Soil Series Correlated to this Ecological Site

- Buckskin Dranburn Dranyon
- Greybo Greys Grunder
- Hagenbarth Lavacreek Pavohroo
- Poulridge Streek Toponce

Table 4. Representative soil features

Parent material	(1) Alluvium–sandstone (2) Colluvium–quartzite (3) Loess–siltstone
Surface texture	(1) Gravelly, stony, extremely stony silt loam (2) Loam
Surface fragment cover <=3"	0–24%
Surface fragment cover >3"	0–16%
Available water capacity (Depth not specified)	3.6–9.2 in
Calcium carbonate equivalent (Depth not specified)	0%
Electrical conductivity (Depth not specified)	0 mmhos/cm
Sodium adsorption ratio (Depth not specified)	0
Soil reaction (1:1 water) (Depth not specified)	4.5–7.3
Subsurface fragment volume <=3" (Depth not specified)	0–42%
Subsurface fragment volume >3" (Depth not specified)	0–42%

Ecological dynamics

Ecological Dynamics of the Site:

The dominant visual aspect of this site is a grove of quaking aspen trees with a heavy stand of grass and forbs in the understory. This site is composed of one to several quaking aspen clones, each with a common genetic makeup and individual phenological and physiological characteristics. Composition by weight for the entire plant community is approximately 5 percent grass, 3 percent forbs, 2 percent shrubs and 90 percent trees.

During the last few thousand years, this site has evolved in an arid climate characterized by dry summers and cold, wet winters. The site has evolved in pockets and basins that accumulate snow or in the vicinity of seeps and springs. Snow may be present on the site from mid-October to late June. This site is typically multi-layered. Sufficient light is able to penetrate the canopy to support abundant understory growth. Most aspen stands are even-aged because of the rapid reproduction by suckering after major disturbance. Uneven-aged stands are likely to form under stable conditions where the overstory gradually disintegrates with disease or age and is replaced by suckers. Uneven aged stands also occur where individual clones gradually expand into adjacent grasslands or shrublands. Species that occur near the periphery of a clone are generally shade intolerant. They include basin wildrye, bluebunch wheatgrass, bottlebrush squirreltail, mountain brome, slender wheatgrass, bittercherry, mountain big sagebrush and common chokecherry.

Herbivory has historically occurred on this site at low levels of utilization. Herbivores include mule deer, Rocky Mountain elk, moose and beaver if a watercourse is in the vicinity.

Fire plays a role in maintaining the plant community by providing bare mineral soil with full sunlight to germinate aspen. Fire stimulates suckering from the root system. The fire frequency on the site is dependent on the frequency of fire on adjacent range sites and moisture in the fuels on the site. Fire conditions generally need to be severe to carry a fire through this plant community. Often due to higher humidity and fuel moisture within the aspen grove, fire is knocked down once it enters the site. Therefore fire frequency is generally less frequent than on adjacent upland range sites. The normal fire frequency is 75-120 years.

The total annual production is 6000 pounds per acre (6666 kilograms per hectare) in a normal year. In a below

normal year production is 4800 pounds per acre. In an above normal year production is 7200 pounds per acre.

Structurally, trees are very dominant followed by cool season deep-rooted perennial grasses, followed by perennial forbs with shrubs being sub-dominant.

The Reference State (State 1), Historic Climax Plant Community (HCPC), moves through many phases depending on the natural and man-made forces that impact the community over time. State 1, described later, indicates some of these phases. State 1, Phase A is the Reference Plant Community Phase. The plant species composition of Phase A is listed later under "Reference Plant Community Phase Species Composition".

The following are the major successional stages that this site may go through in its development.

Herbaceous: Vegetation is dominated by grasses and forbs under full sunlight. Dominant grasses found in this stage include a mix of shade tolerant and shade intolerant plants. This stage is experienced after a major disturbance such as root-rot, insect damage, fire or tree harvest. Following a major disturbance, the aspen root system gives rise to many root suckers, assuming the root system has remained healthy and intact. This stage is shown as Phase C in the state and transition model. This stage occurs for a short period of time.

Shrub-Herbaceous: Herbaceous vegetation and woody shrubs dominate the site. Species found in this stage include Utah serviceberry, snowberry, Wood rose, mountain brome, Columbia needlegrass, western wheatgrass, lupine and yarrow. There may be a variety of other species including some that have invaded from adjacent sites. Various amounts of tree vegetative shoots (less than 20 inches in height) may be present up to the point where they are obviously a major component of vegetal structure. This stage is shown as Phase C in the state and transition model. This state occurs for a short period of time.

Sapling: In the absence of disturbance, vegetative shoots develop into saplings (20 inches- 4.5 feet) with a range in canopy cover of about 5 to 10 percent. Vegetation consists of grasses, forbs and shrubs in association with tree saplings. Species in this stage are a mix of shade tolerant and shade intolerant species (see above). If a conifer seed source is in the vicinity, conifers such as Douglas fir or Utah or Rocky Mountain juniper will begin to invade. In the state and transition model, this stage is transitional between Phase C and Phase A.

Snow drift pockets with heavy, deep snow packs may keep the plant community in the "sapling" stage for long periods of time. This results in low-growing quaking aspen with a scrubby form. When trees finally start to form true boles, they are usually curved near the base.

Immature forestland: The visual aspect and vegetal structure are dominated by quaking aspen greater than 4.5 feet in height. Vegetative shoots and saplings are present in the understory. Understory vegetation is moderately influenced by a tree overstory canopy of about 10 to 20 percent. Shade tolerant species common to this stage include sedges, Columbia needlegrass, western needlegrass, blue wildrye, violet, waterleaf, forget-me-not, clover, bulbous oniongrass, Wood's rose and currant. In the state and transition model, this stage is transitional between Phase C and Phase A.

Mature forestland: The visual aspect and vegetal structure are dominated by quaking aspen that have reached or are near maximal heights for the site. Tree heights range from 30 to 60 feet, depending upon site and clonal genotype. Trees have developed tall, straight, clear stems with short, high rounded crowns. Tree canopy cover ranges from 20-40 percent. Understory vegetation is strongly influenced by tree competition, overstory shading, duff accumulation, etc. Aspen is self-thinning. This thinning process occurs primarily in this phase. A tall shrub stratum sometimes grows beneath this tree layer. Tall shrubs form a very open and intermittent layer. Tall grasses and forbs frequently form a rather continuous layer. An even lower layer of forbs and grasses occurs below the tall grasses. All understory species are shade tolerant or intermediate shade tolerance. Few vegetative shoots and/or saplings of quaking aspen occur in the understory. This stage is shown as Phase A of the state and transition model. If Douglas fir or Utah and Rocky Mountain juniper have invaded the site, it is a transitional stage towards the over-mature forestland stage.

Over-mature forestland: In the absence of wildfire or other naturally occurring disturbances, tree canopy on this site can become very dense. As less light penetrates to lower levels of vegetation, competitive relationships are altered, and the understory shrubs and forbs progressively decrease in abundance until few remain. This stage is dominated by quaking aspen that have reached maximal heights for the site. Trees have straight, clear stems with short, high

rounded crowns. Understory vegetation is sparse to absent. If Douglas fir has invaded the plant community, tree competition, overstory shading, duff accumulation, etc. can further reduce the understory. Tree canopy cover is commonly greater than 50 percent. This stage is shown as Phase D in the state and transition model.

FUNCTION:

This site is suited for livestock grazing in late spring, summer and fall. This site is usually heavily used by livestock, particularly in the summer. Prescribed grazing must be planned to avoid degradation of the site. This is an important site for wildlife for cover, nesting and food. If the site is associated with perennial streams, a fisheries resource could also be present. The site has high value for recreation such as camping and picnicking on flatter slopes. Hunting opportunities are good where the site is isolated from human activity. Degradation of the site can occur with high recreational use and improper grazing management.

Impacts on the Plant Community.

Influence of fire:

This site can burn from wildfire. Burning usually occurs from fire spreading from an adjacent range site when the fuel moisture levels are low in this site. Since the plant community in this site is dependent on moist soils which allow deep-rooted plants to grow throughout most of the summer, the fuels often are not dry enough to burn. The fire frequency is usually longer than adjacent range sites. Most of this site is associated with the sagebrush steppe where the normal fire frequency is estimated at 20-50 years. A wildfire can damage or kill most of the above ground plant material. Aspen and most of shrubs adapted to the site are root- sprouting plants and regenerate rapidly. In order for this site to remain intact, fire needs to be a component of plant community development since conifers will ultimately over-top the aspen, resulting in aspen mortality.

Influence of improper grazing management.

Season-long grazing and/or excessive utilization can be very detrimental to this site. Fall use, year after year, will result in excessive utilization of the aspen regeneration. This may lead to a single age class stand of trees. Uncontrolled beaver populations may eliminate the overstory component if a watercourse is in the proximity. Due to improper grazing management, grasses, forbs, shrubs and young trees can all decline in the plant community. Shrubs usually increase initially, but with continued improper management, will decline. Continued improper grazing management will result in a stand of forbs and Kentucky bluegrass with reduced vigor. This site is particularly difficult to manage because animals seek out the site for shade and it is usually in the proximity of water.

Good grazing management that addresses frequency, duration, and intensity of grazing can maintain the integrity of the plant community and the moist soils on which it is dependent. Properly managed ungulate grazing and browsing does not have a detrimental effect on stand development.

Weather influences:

Because of the deep moist soils, the production of this site changes little during wet or dry precipitation years. The overall production can be influenced adversely with prolonged drought. Prolonged drought can lead to more frequent fires. Overall plant composition is normally not effected when perennials have good vigor.

Below normal temperatures in the spring can have an adverse impact on total production regardless of the run-off and flooding. A hard, early freeze can occasionally kill some plants and stop the growth of trees and shrubs.

Influence of insects and disease:

Periodic disease and insect outbreaks can affect vegetation health. Aspen is susceptible to injury or mortality from a variety of borers and fungus. It is most susceptible following fire, logging or when the clone becomes older than 60-70 years. An outbreak of a particular insect is usually influenced by weather but no specific data for this site is available.

Influence of noxious and invasive plants:

Annual and perennial weeds can compete with desirable plants for moisture and nutrients. The result is reduced production and change in composition of the understory. There are several noxious or invasive weeds that are adapted to this site, particularly following fire. As the canopy closes most of the shade intolerant weeds decline.

Influence of wildlife:

This site is important for many species of mammals and birds for food and life cycles. Total numbers are seldom high enough to adversely affect the plant community. The site is primarily used in the late spring, summer, and fall by big game. Many birds use the site for food, nesting or brood rearing in the late spring and summer. Uncontrolled beaver populations can be very detrimental on the site if there is suitable aquatic habitat in the vicinity.

Watershed:

When ground cover is at or near potential, the erosion hazard is slight. The largest threat to degradation of this site is improper grazing management. Season long or repetitive fall grazing effectively removes aspen suckers, preventing regeneration. This results in a stand that is even aged. Mortality of the entire stand can occur in a relatively short period of time. If improper grazing management continues to remove the aspen suckers, the entire aspen clone can be lost.

Plant Community and Sequence:

Transition pathways between common vegetation states and phases:

State 1. Phase A to B. Develops with improper grazing management and no fire.

Phase A to F. Develops with old age, disease and/or insect infestation.

Phase A to D. Results from no fire with or without improper grazing management, conifers invading.

Phase B to D. Results from no fire and with or without improper grazing management, conifer invading.

Phase D to E. Results from no fire over a long time period, conifers invading.

Phase D to C. Results from fire or prescribed burning and prescribed grazing.

Phase E to C. Results from prescribed burning, wildfire or mechanical removal of conifers and prescribed grazing.

Phase F to C. Results from wildfire or prescribed burning.

Phase B to A. Results from wildfire or prescribed burning and prescribed grazing.

Phase C to A. Results from no fire and prescribed grazing.

Phase F to A. Results from prescribed grazing and no fire.

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State 1 to State 2. This State develops over a long period of time with no fire and improper grazing management. Aspen is the dominant overstory species. Kentucky bluegrass is dominant in the understory. The plant community may go through successional stages similar to Phases A, B, C, D and F as in State 1 but the Kentucky bluegrass has created an understory that may rarely if ever burn. The stages are reached primarily through disease, insect infestations and old age triggering successional stages rather than fire. Improper grazing management continues. The plant community crosses a vegetational threshold. It is no longer economically feasible to move the site back to State 1.

State 1 Phase E or State 2 to Unknown New Site. This unknown new site develops due to continued increase in Douglas fir with no fire, mechanical removal or other factors to reduce the Douglas fir. The result is a change in potential with no aspen present. Fire now occurs based on a Douglas fir-like site or 150 to 300 year cycle. This community can probably be managed as a Douglas fir site with silvicultural practices, although production maybe low. This state could also be dominated by invaded Utah and Rocky Mountain juniper.

State 2 to State 3. This state will develop from continued improper grazing management. There is no aspen in the community.

Practice Limitations.

Only slight limitations exist for implementing vegetation management practices, but livestock tend to concentrate on this site. Slight limitations exist for implementing facilitating practices. However, it may be desirable to locate salt and water away from this site to help improve animal distribution and reduce concentration on this site. Severe limitations exist for seeding except following a fire, but may not be necessary if desirable species are present. Prescribed burning may be needed to revitalize decadent stands of aspen. Potential for sheet and rill erosion is moderate to severe if the tree canopy is removed by severe, hot fire and slopes are greater than 15 percent.

Plant Community Narrative:

State 1, Reference State (Historic Climax Plant Community)

State 1, Phase A (Reference Plant Community Phase)

The visual aspect and vegetal structure are dominated by quaking aspen that have reached or are near maximal heights for the site. Tree heights range from 30 to 60 feet, depending upon site and clonal genotype. Trees have developed tall, straight, clear stems with short, high rounded crowns. Tree canopy cover ranges from 25-40 percent. Understory vegetation is strongly influenced by tree competition, overstory shading, duff accumulation, etc. A tall shrub stratum composed of Woods rose, snowberry, low Oregon grape and currant sometimes grow beneath this tree layer. Tall shrubs form a very open and intermittent layer. Tall grasses such as pine reedgrass, blue wildrye and mountain brome and forbs frequently form a rather continuous layer. An even lower layer of forbs and grasses is always part of the understory. This layer may include elk sedge, Idaho fescue, sticky geranium, groundsel and cinquefoil. Few vegetative shoots and/or saplings of quaking aspen occur in the understory. Historic fire frequency is 75-120 years. This plant community is described as the mature forestland stage in "Ecological Dynamics of the Site".

State 1, Phase B

This plant community is composed of an even-aged stand of quaking aspen in the overstory. Reduced amounts of perennial grasses and palatable forbs are present. Few aspen suckers are present. Douglas fir may have invaded the site. Tall shrubs such as Woods rose and snowberry are increasing. Kentucky bluegrass has invaded the site. This phase has developed from improper grazing management and no fire.

This state can resemble the sapling to over-mature stages as described in "Ecological Dynamics of the Site".

State 1, Phase C

This plant community is composed of quaking aspen seedlings and saplings in the overstory with root sprouting shrubs such as snowberry in the understory. Fine leaved grasses such as Idaho fescue and Nevada bluegrass have been reduced or lost completely due to recent fire. This phase most closely resembles the herbaceous and shrub-herbaceous stages as described in "Ecological Dynamics of the Site". The sapling and immature stages are transitional plant communities that are moving back towards the HCPC.

State 1, Phase D

This plant community is composed of a dense canopy of aspen with conifers growing within the stand. Fire has not occurred for at least 100 years. The conifers will ultimately over-top the aspen. Since aspen is shade intolerant, mortality will occur. Understory vegetation is sparse to absent due to invasion of Douglas fir, tree competition, overstory shading, duff accumulation, etc. Tree canopy cover is commonly greater than 50 percent. This phase most closely resembles the over-mature stage as described in "Ecological Dynamics of the Site".

State 1, Phase E

This plant community is a conifer forestland. A few remnants of aspen are present in the stand. Little to no understory is present. This phase has developed with no fire over a long period of time. This Phase can still go toward the HCPC with a wildfire, prescribed burning or mechanical removal of conifers. There is no conifer forestland stage described above in the successional stages in "Ecological Dynamics of the Site".

State 1, Phase F

This phase develops with old age of mature aspen, insect infestations and/or disease. The mature aspen dies and falls. The resulting understory has good sunlight, grows vigorously and can dry faster leaving it more susceptible to wildfire or prescribed burning. The understory resembles Phase A understory but with more vigor.

State 2, Phase B

This plant community is dominated by aspen with Kentucky bluegrass in the understory. There are a variety of other grasses, forbs and shrubs in minor amounts. Kentucky bluegrass controls the understory. Kentucky bluegrass prevents fires from becoming a force in the development of successional stages. But the community can proceed through phases that are similar to A, B, C, D and F in State 1 but old age, disease and insect infestations are the driving forces. The plant community has crossed a vegetational threshold. It is not economically feasible to move this state back to the State 1

State 3.

This plant community is dominated in the overstory with root-sprouting shrubs such as snowberry and Kentucky bluegrass in the understory. No aspen regeneration is occurring. The plant community has crossed the threshold. Aspen no longer is present on the site. It is not economically feasible to move this state back to State 1. This state has developed from continued improper grazing management and no fire

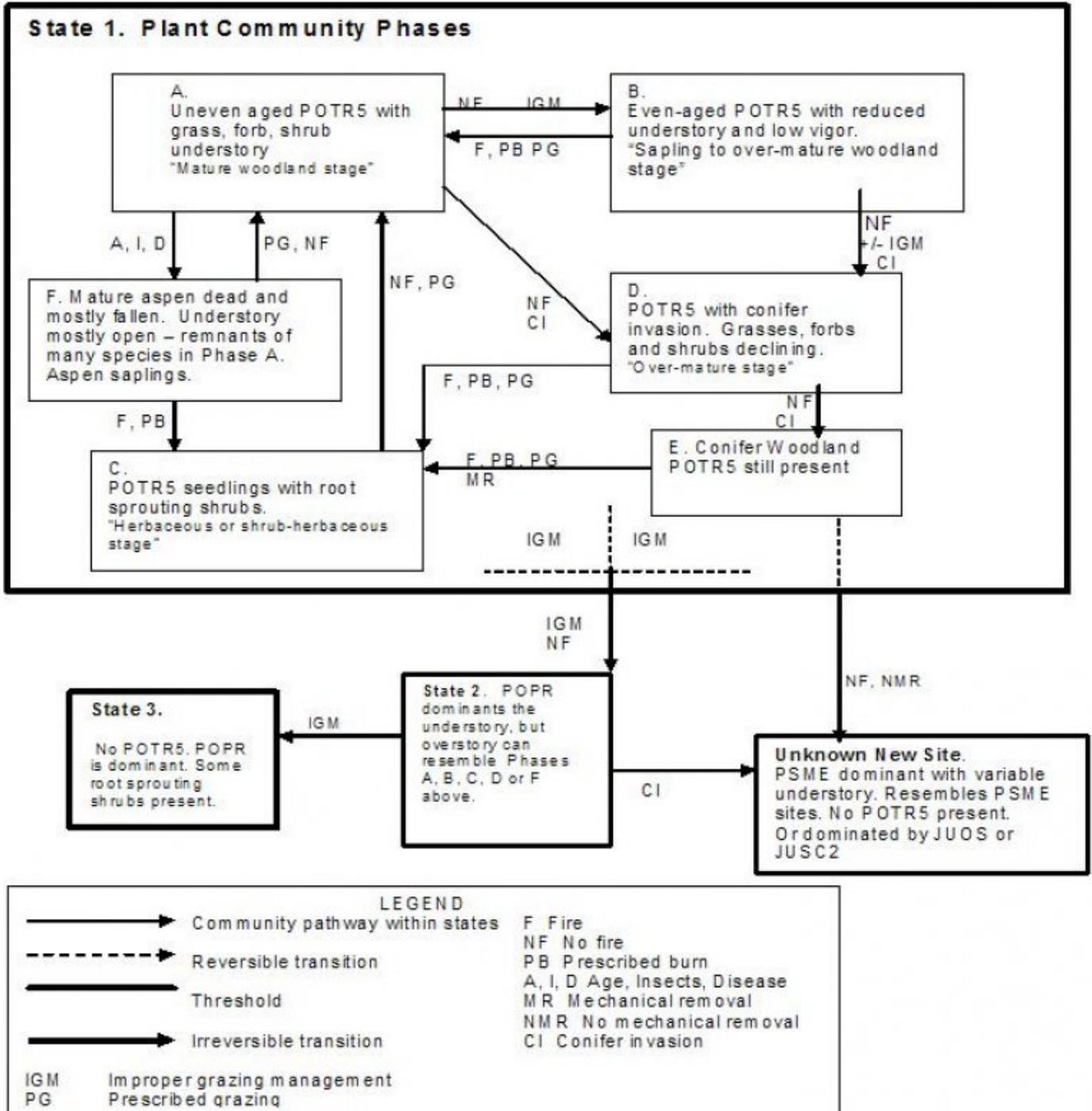
Unknown New Site:

This plant community is generally dominated by Douglas fir. The understory is sparse with a few grasses, forbs and shrubs. The site has lost its aspen potential as no aspen is present. The site resembles Douglas fir forest ecological sites with lowered production and can be managed with silvicultural practices. The community could also be dominated with Utah or Rocky Mountain juniper in lower elevation or precipitation areas.

State and transition model

State and transition model diagram:

The Reference State, the Historic Climax Plant Community (HCPC), moves through many phases depending on the natural and man-made forces that impact the community over time. The Reference Plant Community Phase is Phase A. The plant species composition of Phase A is listed later under "Reference Plant Community Phase Plant Species Composition".



Animal community

Wildlife Interpretations:

The aspen community is important habitat for many species of birds and mammals, especially where it is the only upland tree species. Mule deer and Rocky Mountain elk use aspen mostly in the summer and fall for browse, thermal and hiding cover. Commonly associated birds using this site during breeding season include the Western tanager, common nighthawk, mourning dove, Swainson’s hawk and various species of bluebird, thrush and flycatcher. Those using the site during the winter season include the Ruby-crowned kinglet, Townsend’s solitaire, rough-legged hawk, Cooper’s hawk, sharp-shinned hawk and various species of finch and waxwing. Those using this site yearlong or as migrants include the American robin, American kestrel, mountain chickadee, scrub jay,

yellow-bellied sapsucker, long-eared owl, screech owl, great-horned owl, California quail, red-tailed hawk, golden eagle and various species of sparrow, nuthatch and woodpecker. Commonly associated mammals using the site include various species of shrew, myotis, bat, mouse and vole. Some very common species include deer mouse, Nuttall's cottontail, least chipmunk, Western gray squirrel, bushy-tailed woodrat, raccoon, long-tailed weasel and the North American porcupine. The mountain lion and bobcat use edges and sometimes the interior of the aspen site for hunting. Moose may also use the site occasionally.

Grazing Interpretations:

This site provides limited grazing unless the overstory has been thinned. Livestock use the site extensively for shade.

Estimated initial stocking rate will be determined with the landowner or decision-maker. They will be based on the inventory which includes species, composition, similarity index, production, past use history, season of use and seasonal preference. Calculations used to determine estimated initial stocking rate will be based on forage preference ratings

Plant Preference by Animal Kind:

Plant list for Beef Cattle and Rocky Mountain Elk.

CARU
BRMA4
TRIFO
FEID
CAGE2
ROWO
AMAL2
MEBU
PUTR2
POTR5

Plant list for sheep, mule deer.

CARU
BRMA4
TRIFO
FEID
CAGE2
ROWO
AMAL2
MEBU
PUTR2
POTR5

Hydrological functions

The soils on this site are in hydrologic group B. When ground cover is at or near potential the erosion hazard is slight. Potential for sheet and rill erosion is moderate to severe if the overstory cover is removed.

Recreational uses

Aesthetic value is derived from the rich hues and textures of the aspen trees, particularly in the fall. The diverse flora and fauna, the colorful wildflowers in the summer enhance the beauty of this site. The site offers rewarding opportunities to photographers and for nature study. It has high value for hunting, camping and picnicking on lesser slopes, cross-country skiing and family wood gathering. Aspen fits well into management for dispersed recreation activities, but does not tolerate concentrated use, as found in established campgrounds. Encouraging concentrated

recreation or developing within aspen stands can lead to serious damage, including carving on trees, vandalism, destruction or removal of young suckers and trampling and disturbance of the soil.

Wood products

Firewood gathering is common on this site

Other products

None

Inventory data references

Information presented here has been derived from NRCS clipping and other inventory data. Also, field knowledge of range-trained personnel was used. Those involved in developing this site description include

Dave Franzen, co-owner, Intermountain Rangeland Consultants, LLC

Jacy Gibbs, co-owner, Intermountain Rangeland Consultants, LLC

Jim Cornwell, State Rangeland Management Specialist, NRCS, Idaho

Kristen May, Resource Soil Scientist, NRCS, Idaho

Lee Brooks, Range Management Specialist, IASCD

Data Source Number of Records Sample Period State County

State Correlation-

None

Type Locality

State: Idaho County: Power, Oneida

Latitude: Longitude:

N. 43o 11.649 W. 111o 43.580 private land, Mature stand, 7/11/06

N. 43o 06.398 W. 111o 44.367 private land, mature stand, 7/12/06.

N. 43o 12.153 W. 111o 45.112 private land, like Phase F, 7/13/06.

Township: Range: Section:

12 S 32 E. SE ¼, SE ¼, SEC. 34

16 S 35 E SW ¼, SE ¼, SEC. 9

13 S 33 E NE ¼, SE ¼, SEC. 35

Is the type locality sensitive? (Y/N): No data General Legal Description:

Other references

USDA Forest Service, Rocky Mountain Research Station. 2004. Restoring Western Ranges and Wildlands. General Technical Report RMRS-GTR-136-vols. 1-3.

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Approval

Kendra Moseley, 5/01/2020

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.

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Approved by	Kendra Moseley
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** do not occur on this site

2. **Presence of water flow patterns:** are rare on the site. Where they do occur they are typically at the base of the snow drifts that are commonly found just above the aspen clone.

3. **Number and height of erosional pedestals or terracettes:** do not occur on the site

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** data is not available. On sites in mid-seral status bare ground may range from 2-10 percent. Immediately following a fire bare ground may range from 20-40 percent. Following leaf-drop in the fall, bare ground approaches zero percent.

5. **Number of gullies and erosion associated with gullies:** none

6. **Extent of wind scoured, blowouts and/or depositional areas:** does not occur on the site

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7. **Amount of litter movement (describe size and distance expected to travel):** fine litter may move up to one foot on the steeper slopes. Coarse litter generally does not move.
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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):** Values should range from 3 to 5 but needs to be tested.
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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** The A or A1 horizon is typically 3 to 36 inches thick. Structure ranges from weak or moderate very fine, fine granular to weak very thin and thin platy to weak or moderate very fine, fine and medium subangular blocky. Soil organic matter (SOM) ranges from 2 to 95 percent.
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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** The aspen overstory intercepts raindrops and reduces compaction. Deep rooted perennial grasses, forbs and shrubs slow run-off and increase infiltration.
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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):** is not present
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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: Trees are >> perennial grasses > forbs >shrubs
- 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):** Some mortality can occur in the shrub and herbaceous layers as tree canopy closes. Decadence and mortality of aspen can occur with age, disease and beaver activity. Aspen mortality can also occur from invasion of Douglas fir, which ultimately over-tops the aspen.
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14. **Average percent litter cover (%) and depth (in):** Additional litter cover data is needed but is expected to be 40-50 percent to a depth of 0.5-1.5 inches at the end of the growing season. Litter cover may be 90-100 percent following leaf-drop of aspen.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** is 6000 pounds per acre (6666Kg/ha) in a year with normal precipitation and temperatures. Perennial grasses and sedges produce 5 percent of the total production, forbs 3 percent, shrubs 1 percent and trees 90 percent.

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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: include whitetop, leafy spurge, dock, Canadian thistle, scotch thistle, toadflax, knapweed and teasel. Other invasive species may include meadow foxtail, redtop and Kentucky bluegrass. Most weeds are present on the site following a fire. Since many of the weeds are shade intolerant, they decline as the canopy closes.
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17. **Perennial plant reproductive capability:** in all functional groups have the potential to reproduce in most years. Aspen reproduction is primarily vegetative. If regeneration is to occur from seedlings, bare mineral soil must be present.
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