

Ecological site R010XY007ID

Loamy 12-16 PZ

Accessed: 11/21/2024

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.

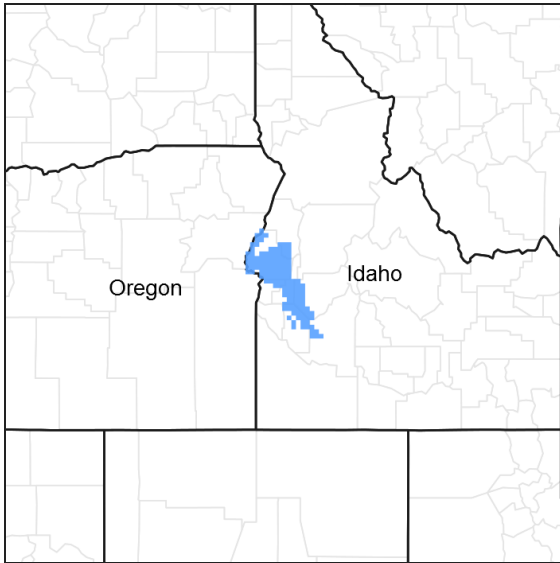


Figure 1. Mapped extent

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

Ecological site concept

This ecological site meets the NESH 2014 requirements for PROVISIONAL. A provisional ecological site is established after ecological site concepts are developed and an initial state-and-transition model is drafted. Following quality control and quality assurance reviews of the ecological site concepts, an identification number and name for the provisional ecological site are entered into ESIS. A provisional ecological site may include literature reviews, land use history information, some soils data, legacy data, ocular estimates for canopy and/or species composition by weight, and even some line-point intercept information. A provisional ecological site does not meet the NESH 2014 standards for an Approved ESD, but does provide the conceptual framework of soil-site correlation for the development of the ESD.

Associated sites

R010XY002ID	Very Shallow 12-20 PZ ARRI2/POSE
R010XY019ID	South Slope Loamy 12-16 PZ ARTRX/PSSPS

Similar sites

R010XY008ID	South Slope Granitic 12-16 PZ PUTR2/PSSPS
R010XY001ID	North Slope Loamy 12-16 PZ FEID-PSSPS

Table 1. Dominant plant species

Tree	Not specified
Shrub	(1) <i>Artemisia tridentata ssp. xericensis</i>
Herbaceous	(1) <i>Pseudoroegneria spicata</i>

Physiographic features

This site generally occurs on gently sloping to steeply sloping foothills. Slopes predominantly range from 0-35 percent but occasionally exceed 35 percent. Elevation ranges from 2500-4500 feet (762-1350m).

Table 2. Representative physiographic features

Landforms	(1) Hill (2) Terrace (3) Fan remnant
Flooding frequency	None
Elevation	762–1,372 m
Slope	1–65%
Water table depth	152 cm

Climatic features

The elevation of MLRA 10 ranges from 1791 feet to 9236 feet, with a mean of 4602 feet. Overall, elevation increases from west to east. However, average annual precipitation decreases from west to east, ranging from 16.59 inches to 22.17 inches, with a mean of 19.56 inches, based on 7 long term climate stations throughout the MLRA. In general, precipitation peaks in December and January, with a steady decline to a low in July and August, then a steep increase during the autumn months. Most of the winter precipitation falls as snow, and maximum annual snowfalls of up to 82 inches have been recorded.

There is considerable variation in temperature throughout the year. Temperatures as low as -52° Fahrenheit and as high as 117° Fahrenheit are on record. Some areas have recorded the occurrence of more than 50 days with temperatures above 90° Fahrenheit. The average maximum annual temperature is 63 degrees F, while the average minimum temperature is 36.2 degrees F. The frost-free period can range from 128 to 152 days, while the freeze-free period can be from 164 to 189 days.

Both the average morning and average afternoon relative humidity values are lowest in July and August, and are below the national average. The number of clear, sunny days peaks during this same period, and is higher than the national average. During the Spring and Summer months high-intensity convective thunderstorms are not unusual.

Table 3. Representative climatic features

Frost-free period (average)	152 days
Freeze-free period (average)	189 days
Precipitation total (average)	559 mm

Influencing water features

This site is not influenced by adjacent wetlands, streams or run on.

Soil features

The soils of this site are moderately deep to very deep. The soils are well drained, permeability is slow to moderately rapid. Runoff is medium to very high. Available water holding capacity (AWC) is very low to moderate. The erosion hazard is slight to severe. The soil texture is generally dark colored loams, clay loams, and sandy loams. Some gravels or stones may be present but do not affect kind and amount of vegetation. These soils are

characterized by a xeric soil moisture regime. Soil temperature regime is mesic.

Table 4. Representative soil features

Parent material	(1) Alluvium–basalt (2) Colluvium–tuff
Surface texture	(1) Gravelly loam (2) Stony clay loam (3) Ashy sandy loam
Drainage class	Well drained
Permeability class	Slow to moderately rapid
Soil depth	51–152 cm
Surface fragment cover <=3"	0–24%
Surface fragment cover >3"	0–28%
Available water capacity (0-101.6cm)	6.1–21.08 cm
Soil reaction (1:1 water) (0-101.6cm)	5.6–7.8
Subsurface fragment volume <=3" (Depth not specified)	0–50%
Subsurface fragment volume >3" (Depth not specified)	0–45%

Ecological dynamics

The dominant visual aspect of this site is bluebunch wheatgrass and foothills sagebrush. Composition by weight is approximately 60-70 percent grass, 10-20 percent forbs and 15-25 percent shrubs.

In the last few thousand years, this site has evolved in a semi-arid climate characterized by dry summers and cold, wet winters. Herbivory has historically occurred on this site at low levels of utilization. Herbivores include mule deer, pronghorn antelope, lagomorphs and small rodents.

Fire has historically occurred on the site at intervals of 50-70 years. The Reference Plant Community Phase (Phase 1.1) is dominated by bluebunch wheatgrass in the understory and foothills sagebrush in the overstory. Subdominant species include Thurber's needlegrass, Sandberg bluegrass, bottlebrush squirreltail, prairie junegrass, arrowleaf balsamroot, tapertip hawksbeard, biscuitroot and lupine. Total annual production is 1200 pounds per acre (1344 kilograms per hectare) in a normal year. Production in a favorable year is 1900 pounds per acre (2128 kilograms per hectare). Production in an unfavorable year is 800 pounds per acre (896 kilograms per hectare). Structurally, cool season deep rooted perennial bunchgrasses are very dominant, followed by tall shrubs being more dominant than perennial forbs while shallow rooted bunchgrasses are subdominant.

The Historic Climax Plant Community (HCPC), the Reference State (State 1), 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. The Reference Plant Community Phase is Phase 1.1. The plant species composition of Phase 1.1 is listed later under "Reference Plant Community Phase Plant Species Composition".

FUNCTION:

This site is suited for livestock grazing in the spring, summer and fall. There are few limitations to grazing. The distance to water may be a problem in some areas. Usually this site is a key area in a management program. This site provides good habitat for mule deer, sage grouse, lagomorphs, songbirds and others due to the variety of grasses, forbs and shrubs which occur. Due to its accessibility by livestock and lack of surface stones, this site is easily degraded by improper grazing management.

Impacts on the Plant Community.

Influence of fire:

In the absence of normal fire frequency, foothill sagebrush can gradually increase on the site. Grasses and forbs decrease as shrubs increase. With the continued absence of fire, foothills sagebrush can displace most of the primary understory species.

When fires become more frequent than historic levels (50-70 years), foothills sagebrush is reduced significantly. Rabbitbrushes can increase slightly. With continued short fire frequency, foothills sagebrush and antelope bitterbrush can be completely eliminated along with many of the desirable understory species such as bluebunch wheatgrass, Indian ricegrass and Thurber's needlegrass. These species may be replaced by Sandberg bluegrass, Fendler threeawn and bulbous bluegrass along with a variety of annual and perennial forbs including noxious and invasive plants. Cheatgrass and medusahead will invade the site. These fine fuels will increase the fire frequency.

Influence of improper grazing management:

Season-long grazing and/or excessive utilization can be very detrimental to this site. This type of management leads to reduced vigor of the bunchgrasses. With reduced vigor, recruitment of these species declines. As these species decline, the plant community becomes susceptible to increase in foothills sagebrush and noxious and invasive plants.

Continued improper grazing management influences fire frequency by increasing fine fuels. If cheatgrass and/or medusahead increase and become co-dominant with Sandberg bluegrass and other annuals, fires become more frequent.

Proper grazing management that addresses frequency, duration, and intensity of grazing over time, can also keep fine fuels from developing, thereby reducing fire frequency. This can lead to gradual increases in foothills sagebrush. A planned grazing system can be developed to intentionally accumulate fine fuels in preparation for a prescribed burn. Any brush management should be carefully planned, as a reduction in shrubs without a suitable understory of perennial bunchgrasses can increase cheatgrass and/or medusahead which will lead to more frequent fire intervals.

Weather influences:

Above normal precipitation in March, April and May can dramatically increase total annual production of the plant community. These weather patterns can also increase viable seed production of desirable species to provide for recruitment. Likewise, below normal precipitation during these spring months can significantly reduce total annual production and be detrimental to viable seed production. Overall plant composition is normally not affected when perennials have good vigor.

Below normal temperatures in the spring can have an adverse impact on total production regardless of the precipitation. An early, hard freeze can occasionally kill some plants.

Prolonged drought adversely affects this plant community in several ways. Vigor, recruitment, and production are usually reduced. Mortality can occur. Prolonged drought can lead to a reduction in fire frequency.

Influence of Insects and disease:

Outbreaks of grasshoppers and Mormon crickets occur occasionally. Since defoliation occurs only once during the growing season, mortality seldom occurs. Disease outbreaks can affect vegetation health but no specific data is available for this site.

Influence of noxious and invasive plants:

Many of these species add to the fine-fuel component and lead to increased fire frequency. Perennial and annual invasive species compete with desirable plants for moisture and nutrients. The result is reduced production and change in composition of the understory.

Influence of wildlife:

Big game, primarily mule deer, utilize this site in the spring, summer, fall, and in moderate winters. Their numbers are seldom high enough to adversely affect the plant community. Pronghorn antelope use this site very little due to the height of foothills sagebrush.

Watershed:

Decreased infiltration and increased runoff occur with an increase in foothills sagebrush. Desired understory species can be reduced. This composition change can affect nutrient and water cycles. Increased runoff also causes sheet and rill erosion. Abnormally short fire frequency also gives the same results, but to a lesser degree. The long term effect is a transition to a different state.

Plant Community and Sequence:

Transition pathways between common vegetation states and phases:

State 1.

Phase 1.1 to 1.2. Develops with improper grazing management and no fire.

Phase 1.1 to 1.3. Develops with fire.

Phase 1.2 to 1.1. Develops with prescribed grazing.

Phase 1.3 to 1.1. Develops with prescribed grazing and no fire.

State 1 Phase 1.3 to State 2. Develops through frequent fire or continued improper grazing management. This state has crossed the threshold. It is not economically feasible to move this state back towards the reference state with accelerating practices.

State 2 to State 3. Develops through range seeding.

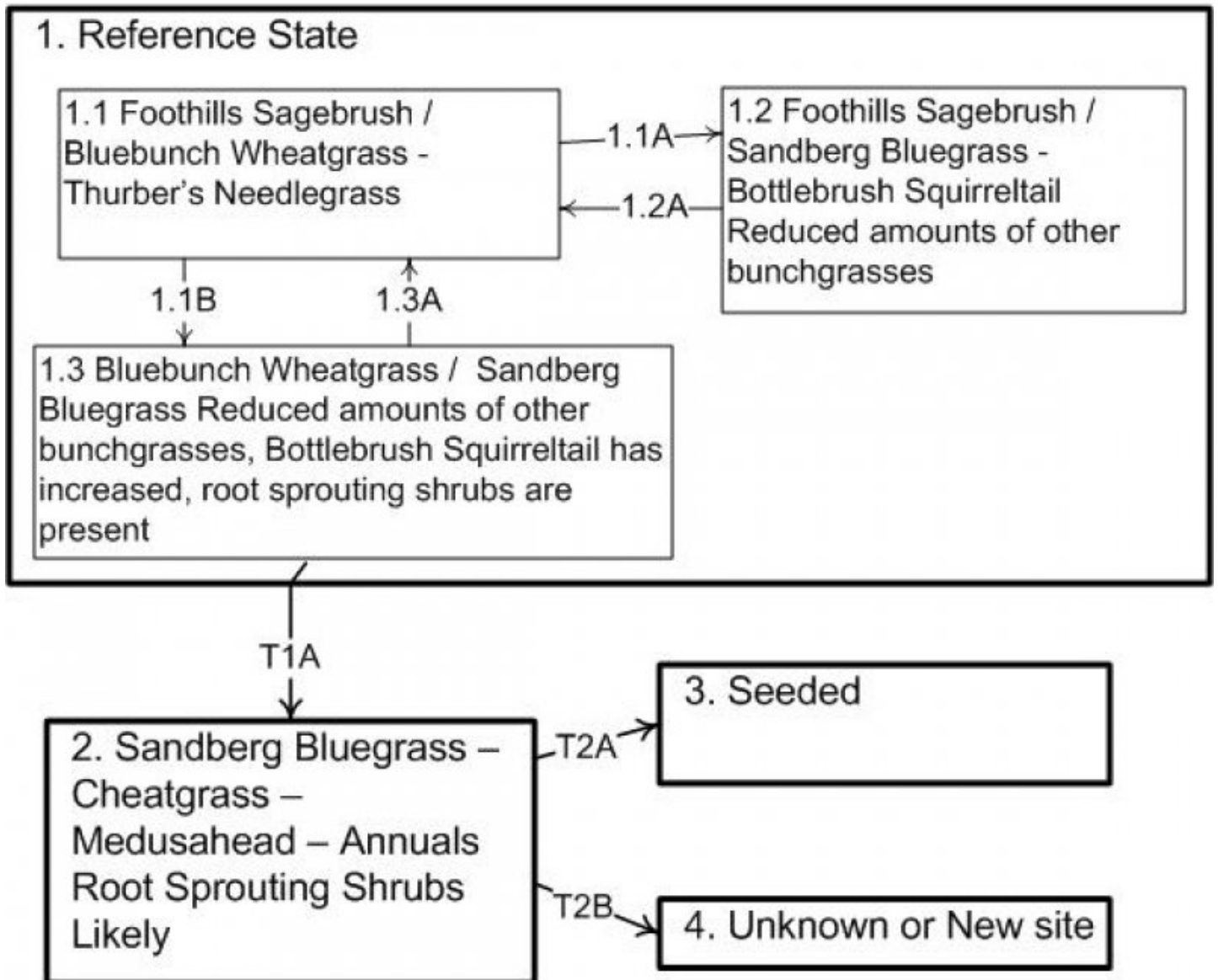
State 2 to unknown site. Excessive soil loss and changes in the hydrologic cycle caused by continued improper grazing management and/or frequent fire cause this state to cross a threshold and regress to a new site with reduced potential. It is not economically feasible to move this state back towards the HCPC with accelerating practices.

Practice Limitations.

Only slight limitations exist on this site for implementing vegetation management practices. Usually this site is a key area for livestock management due to flatter slopes and non-stony soils. This site is suited to seeding if needed. Adapted species would include the crested wheatgrass group, beardless wheatgrass, dryland alfalfa, and adapted native species. Areas of this site where the soils are very stony present severe limitations to seeding with ground moving equipment. Mechanical, chemical and fire are satisfactory methods of brush management on this site. Stony areas may also present limitations to control of brush using ground moving equipment. Planning should carefully analyze the stand of perennial grasses and forbs, because removal of foothills sagebrush can result in a significant increase in cheatgrass. If the plant community becomes dominated with cheatgrass and medusahead, increased fire frequency could irreversibly degrade the community.

State and transition model

R010XY007ID – Loamy 12-16 ARTRX/PSSPS



**State 1
Reference State**

**Community 1.1
Reference Plant Community**

This plant community has foothills sagebrush in the overstory with bluebunch wheatgrass dominating the understory. Thurber’s needlegrass, Sandberg bluegrass, bottlebrush squirreltail and arrowleaf balsamroot are sub-dominant species. Other significant species in the plant community can include prairie junegrass, Tapertip hawksbeard, Biscuitroot, Penstemon, lupine, rubber rabbitbrush and antelope bitterbrush. Natural fire frequency is 50-70 years.

Table 5. Annual production by plant type

Plant Type	Low (Kg/Hectare)	Representative Value (Kg/Hectare)	High (Kg/Hectare)
Grass/Grasslike	583	874	1384
Shrub/Vine	179	269	426
Forb	135	202	319
Total	897	1345	2129

Community 1.2 Foothills Sagebrush with reduced bunchgrasses

This plant community is dominated by foothills sagebrush with reduced amounts of bluebunch wheatgrass. Sandberg bluegrass and bottlebrush squirreltail has increased in the understory. There is a reduced amount of Thurber's needlegrass. All deep-rooted bunchgrasses are typically in low vigor. Foothills sagebrush has increased. This state has developed due to improper grazing management and no fire. Some cheatgrass and medusahead may have invaded the site.

Figure 5. Plant community growth curve (percent production by month).
ID0901, D25 ARTRV .

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	5	20	35	25	10	0	0	5	0	0

Community 1.3 Bluebunch Wheatgrass- Sandberg Bluegrass

This plant community is dominated by bluebunch wheatgrass and Sandberg bluegrass. Thurber's needlegrass and Idaho fescue can be lost due to fire. Bottlebrush squirreltail has increased. Forbs remain about in the same proportion as Plant Community 1.1. Very little foothills sagebrush is present due to wildfire, but some rabbitbrush and horsebrush are present due to sprouting. Some cheatgrass and medusahead may have invaded the site. This plant community is the result of wildfire.

Figure 6. Plant community growth curve (percent production by month).
ID0901, D25 ARTRV .

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	5	20	35	25	10	0	0	5	0	0

State 2 Sandberg Bluegrass-Annuals

Community 2.1 Sandberg Bluegrass- Annuals

This plant community is dominated by Sandberg bluegrass, cheatgrass, medusahead and other annuals. Root sprouting shrubs such as rabbitbrush and horsebrush can be present, dependent upon, how frequent, fire has occurred. Some soil loss has occurred. This state has developed due to frequent fires or continued improper grazing management. This state has crossed the threshold of the site. It is not economically feasible to move this state back towards State 1.

Figure 7. Plant community growth curve (percent production by month).
ID0902, D25 ARTRV Early Seral.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	10	30	40	15	0	0	0	5	0	0

State 3 Seeded

Community 3.1 Seeded

This state is a range seeding. It is seeded to adapted improved species or native species that attempt to mimic the native plant community.

State 4 Unknown or new

Community 4.1 Unknown or New site

Unknown new site. This plant community has gone over the threshold to a new site. Site potential has been reduced. Significant soil loss has occurred. Infiltration has been reduced and run-off has become more rapid. This state has developed due to continued improper grazing management and/or frequent fires. It is not economically feasible to move this unknown new site back towards State 1.

**Figure 8. Plant community growth curve (percent production by month).
ID0901, D25 ARTRV .**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	5	20	35	25	10	0	0	5	0	0

Additional community tables

Table 6. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Kg/Hectare)	Foliar Cover (%)
Grass/Grasslike					
1	grass			583–1384	
	bluebunch wheatgrass	PSSPS	<i>Pseudoroegneria spicata ssp. spicata</i>	291–695	–
	Thurber's needlegrass	ACTH7	<i>Achnatherum thurberianum</i>	112–269	–
	Sandberg bluegrass	POSE	<i>Poa secunda</i>	34–78	–
	western wheatgrass	PASM	<i>Pascopyrum smithii</i>	1–67	–
	prairie Junegrass	KOMA	<i>Koeleria macrantha</i>	28–67	–
	Columbia needlegrass	ACNE9	<i>Achnatherum nelsonii</i>	1–67	–
	squirreltail	ELEL5	<i>Elymus elymoides</i>	28–67	–
	thickspike wheatgrass	ELLA3	<i>Elymus lanceolatus</i>	1–67	–
	Idaho fescue	FEID	<i>Festuca idahoensis</i>	0–56	–
	needle and thread	HECO26	<i>Hesperostipa comata</i>	1–45	–
	Letterman's needlegrass	ACLE9	<i>Achnatherum lettermanii</i>	1–45	–
	basin wildrye	LECI4	<i>Leymus cinereus</i>	1–34	–
	sedge	CAREX	<i>Carex</i>	1–34	–
	oniongrass	MEBU	<i>Melica bulbosa</i>	1–22	–
	Fendler threeawn	ARPUL	<i>Aristida purpurea var. longiseta</i>	0–11	–
Forb					
2	Forb			135–319	
	arrowleaf balsamroot	BASA3	<i>Balsamorhiza sagittata</i>	67–163	–
	tapertip hawksbeard	CRAC2	<i>Crepis acuminata</i>	45–112	–
	desertparsley	LOMAT	<i>Lomatium</i>	28–67	–
	lupine	LUPIN	<i>Lupinus</i>	28–67	–
	beardtongue	PENST	<i>Penstemon</i>	28–67	–
	cutleaf balsamroot	BAMA4	<i>Balsamorhiza macrophylla</i>	1–67	–
	buckwheat	ERIOG	<i>Eriogonum</i>	1–45	–
	common yarrow	ACMI2	<i>Achillea millefolium</i>	1–45	–
	pussytoes	ANTEN	<i>Antennaria</i>	1–34	–
	aster	ASTER	<i>Aster</i>	1–34	–
	erigenia	ERIGE	<i>Erigenia</i>	1–34	–
	longleaf phlox	PHLO2	<i>Phlox longifolia</i>	1–34	–
	mule-ears	WYAM	<i>Wyethia amplexicaulis</i>	1–34	–
Shrub/Vine					
3	shrub			179–426	
	big sagebrush	ARTRX	<i>Artemisia tridentata ssp. xericensis</i>	135–325	–
	rubber rabbitbrush	ERNA10	<i>Ericameria nauseosa</i>	28–67	–
	antelope bitterbrush	PUTR2	<i>Purshia tridentata</i>	28–67	–
	Utah snowberry	SYORU	<i>Symphoricarpos oreophilus var. utahensis</i>	28–67	–
	spineless horsebrush	TECA2	<i>Tetradymia canescens</i>	1–22	–

Animal community

Wildlife Interpretations.

Animal Community – Wildlife Interpretations

This rangeland ecological site provides diverse habitat for many native wildlife species. Large herbivore use of this ecological site is dominated by mule deer and elk. Important seasonal habitat is provided for resident and migratory animals including western toad, sagebrush lizard, western rattlesnake, shrews, bats, jackrabbits, ground squirrels, mice, coyote, red fox, badger, sage-grouse, Ferruginous hawk, prairie falcon, horned lark and western meadowlark. The shallow soils limit animals' ability to dig burrows for nesting and habitation. Changes in the plant community composition can reduce the number and diversity of wildlife species in the area. With reduced shrub cover, shrub obligate avian species become rare including sage-grouse, brewer's sparrow, sage sparrow, and sage thrasher. Encroachment of noxious and invasive plant species (cheatgrass, Medusahead) can replace native plant species which provide critical feed, brood-rearing and nesting cover for a variety of native wildlife. Water features are sparse provided by seasonal streams, artificial water catchments and springs.

State 1 Phase 1.1 - Foothills Big Sagebrush/ Bluebunch Wheatgrass/ Thurber's Needlegrass Idaho Fescue Reference Plant Community (RPC): This plant community provides a diversity of grasses, forbs and shrubs used by native insect communities that assist in pollination. The reptile and amphibian community is represented by leopard lizard, short horned lizard, sagebrush lizard, western skink, western rattlesnake, western toad, boreal chorus frog and northern leopard frog. Amphibians are associated with springs and isolated water bodies adjacent to this plant community. Spring developments that capture all available water would preclude the use of these sites by amphibians. The plant community provides habitat for prey species and cover for these resident reptiles and amphibians. Shrub-steppe obligate avian species include the Brewer's sparrow, sage sparrow, sage thrasher and sage-grouse. Critical habitat (lek sites, nesting areas, winter cover and food) for sage-grouse is provided by this diverse plant community. The plant community supports the needs of large mammals (mule deer and elk) providing food and cover on a seasonal basis. Antelope bitterbrush and Idaho fescue are preferred browse for mule deer. A diverse small mammal population including golden-mantled ground squirrels, chipmunks and yellow-bellied marmots utilize this plant community. The deer mouse is the primary vector for planting bitterbrush seed.

State 1 Phase 1.2 – Foothills Big Sagebrush/Sandberg Bluegrass/ Bottlebrush Squirreltail Plant Community: This phase has developed due to improper grazing management and no fire. An increase in canopy cover of sagebrush contributes to a sparse herbaceous understory. Grasses, forbs and shrubs, are used by native insects that assist in pollination but the reduced herbaceous understory results in lower diversity and numbers of insects. The reptile community is represented by leopard lizard, short horned lizard, sagebrush lizard, western skink and western rattlesnake. Diversity and populations of the reptile community would decline due to a reduced understory and associated loss of invertebrate habitat. Spring developments that capture all available water would preclude the use of these sites by amphibians. Key shrub-steppe obligate avians include Brewer's sparrow, sage sparrow, sage thrasher and sage-grouse. Reduced herbaceous understory is a key factor in limiting the use of this plant community by avian species. Critical habitat (lek sites, nesting areas, winter cover and food) for sage grouse is limited due to a less diverse herbaceous plant community. The plant community supports the needs of large mammals (mule deer and elk) providing food and cover on a seasonal basis. Antelope bitterbrush is preferred browse for wild ungulates. The deer mouse is the primary vector for planting bitterbrush seed. A diverse small mammal population including golden-mantled ground squirrels, chipmunks, deer mouse and yellow-bellied marmots would utilize the habitat.

State 1 Phase 1.3 - Bluebunch Wheatgrass/ Sandberg Bluegrass Plant Community: This plant community is the result of fire. The plant community, dominated by herbaceous vegetation with little or no sagebrush provides less vertical structure for wildlife. Insect diversity would be reduced but a diverse native forb plant community would still support select pollinators. An increase in rabbitbrush would provide fall pollinator habitat. Reptile use including short horned lizard, sagebrush lizard and western rattlesnakes, would be limited or excluded due to the absence of sagebrush. The dominance of herbaceous vegetation and little or no sagebrush canopy cover would eliminate use of these areas for nesting by Brewer's sparrow, sage sparrow, sage thrasher, and sage grouse. This plant community provides limited brood-rearing habitat for sage-grouse when sagebrush cover is adjacent to the site. Sage-grouse would not use the area for wintering habitat. The dominant herbaceous vegetation improves habitat for grassland avian species (horned lark, savannah sparrow and western meadowlark). Large mammal (mule deer and elk) forage use would be seasonal and the site would offer little thermal cover and young of year cover. The

populations of small mammals would be dominated by open grassland species like the Columbian ground squirrel.

State 2 – Sandberg Bluegrass/ Cheatgrass/ Medusahead Plant Community: This plant community is the result of continued improper grazing management and/or frequent fire. With the loss of the native shrub and herbaceous plant community the site would not support a diverse insect community. The reduced forb component in the plant community would support a very limited population of pollinators. An increase in rabbitbrush would provide fall pollinator habitat. Most native reptilian species are not supported with food, water or cover and would be absent from this site. This plant community does not support the habitat requirements for sage-grouse, sage thrasher, Brewer's sparrow or sage sparrow. Diversity of grassland avian species is reduced due to poor cover and food. Birds of prey including hawks and falcons may range throughout these areas looking for prey species. Large mammals may utilize the herbaceous vegetation in the early part of the year when the invasive annuals (cheatgrass) are more palatable. At other times of the year large mammals would not regularly utilize these areas due to poor food and cover conditions. The populations of small mammals would be dominated by open grassland species like the Columbian ground squirrel.

State 3 - Range Seeding Plant Community: The seeding mixture (native or non-native) determines the animal species that will utilize this site. A diverse seed mixture of grasses and forbs would provide similar habitat conditions as in the herbaceous plant community described in State 1 Phase 1.3. A diverse seed mixture of grasses, forbs and shrubs would provide similar habitat conditions as described in State 1 Phase 1.1 or 1.2. A monoculture of non-native grass species would not support diverse populations of insects, reptiles, birds, mammals or sagebrush obligate species. Grassland animal species including western meadowlark, horned lark, savannah sparrow, deer mouse, kangaroo rat and elk would utilize this site for nesting and/or foraging. Birds of prey including hawks and falcons may range throughout this community looking for prey species.

Grazing Interpretations.

This site is suitable for grazing in the spring, summer and fall by domestic livestock.

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.

Hydrological functions

The soils in this site are in hydrologic groups B and C. They have moderately low to moderately high runoff potential.

Recreational uses

This site has fair to good aesthetic appeal and natural beauty due to the large number of forbs and shrubs that bloom from late spring through mid-summer. It has poor to fair value for camping and picnicking. Hunting for upland game is fair to good on this site.

Wood products

None

Other products

None

Other information

Field Offices:

Weiser, ID

Emmett, ID

Mountain Home, ID
Meridian, ID
Cascade, ID

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, Range Management Specialist, IASCD
Brendan Brazee, State Rangeland Management Specialist, NRCS, Idaho
Lee Brooks, Range Management Specialist, IASCD
Leah Juarros, Resource Soil Scientist, NRCS, Idaho

Type locality

Location 1: Washington County, ID
Location 2: Washington County, ID

Other references

Hironaka, M., M.A. Fosberg, A. H. Winward. 1983. Sagebrush- Grass Habitat Types of Southern Idaho. University of Idaho. Moscow, Idaho. Bulletin Number 35
USDA Forest Service, Rocky Mountain Research Station. 2004. Restoring Western Ranges and Wildlands. General Technical Report RMRS-GTR-136-vols. 1-3.
USDA, NRCS.2001. The PLANTS Database, Version 3.1 (<http://plants.usda.gov>). National Plant Data Center, Baton Rouge, LA 70874-4490 USA
USDA, Forest Service, Fire Effects Information Database. 2004. www.fs.fed.us/database.
USDI Bureau of Land Management, US Geological Survey; USDA Natural Resources Conservation Service, Agricultural Research Service; Interpreting Indicators of Rangeland Health. Technical Reference 1734-6; version 4-2005.

Contributors

Dave Franzen

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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Date	03/24/2008
Approved by	Brendan Brazee
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** rarely occur on this site. If rills are present they are likely to occur on slopes greater than 20 percent and immediately following wildfire. Rills are most likely to occur on soils with surface textures of silt loam and clay loam

2. **Presence of water flow patterns:** rarely occur on this site. When they occur they are short and disrupted by cool season grasses and tall shrubs and are not extensive

3. **Number and height of erosional pedestals or terracettes:** are rare on this site. In areas where slopes approach 20 percent and where flow patterns and/or rills are present, a few pedestals may be expected. Terracettes would be rare.

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** bare ground may range from 25-45 percent.

5. **Number of gullies and erosion associated with gullies:** do not occur on this site.

6. **Extent of wind scoured, blowouts and/or depositional areas:** usually not present. Immediately following wildfire some soil movement may occur on lighter textured soils.

7. **Amount of litter movement (describe size and distance expected to travel):** fine litter in the interspaces may move up to 3 feet following a significant run-off event. Coarse litter generally does not move.

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 4 to 6

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** the A or A1 horizon is typically 0-5 inches thick. Structure ranges from weak, fine to medium granular or weak sub-angular blocky. Soil organic matter (SOM) ranges from 0.5 to 5 percent.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** bunchgrasses, especially deep-rooted perennials, slow run-off and increase infiltration. Tall shrubs accumulate snow in the interspaces.

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

Sub-dominant: tall shrubs>perennial forbs>shallow rooted bunchgrasses.

Other:

Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** foothills sagebrush will become decadent in the absence of fire and ungulate grazing. Grass and forb mortality will occur as tall shrubs increase.
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14. **Average percent litter cover (%) and depth (in):** additional litter cover data is needed but is expected to be 20-25 percent to a depth of 0.2 inches. Under mature shrubs litter is >0.5 inches deep and is 90-100 percent ground cover.
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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** is 1200 pounds per acre (1344 kilograms per hectare) in a year with normal temperatures and precipitation. Perennial grasses produce 60-70 percent of the total production, forbs 10-20 percent and shrubs 15-25 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 cheatgrass, medusahead, Fendler threeawn, bulbous bluegrass, whitetop, rush skeletonweed, annual sunflower, musk and scotch thistle and diffuse and spotted knapweed.
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17. **Perennial plant reproductive capability:** all functional groups have the potential to reproduce in most years.
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