Ecological site group DX035X02EESG08
Arizona Strip - Ustic Aridic - Sandstone or Sandy Loam Upland

Last updated: 10/26/2022
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Key Characteristics

- Arizona Strip (E)
- Site parent material is sandstone or sandy loam.
- Soils are ustic aridic, or precipitation is within the range of 10 to 14 inches.
- Site is and/or located in an upland with slopes <15%.

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.

Physiography

Site is and/or located in an upland with slopes <15%. Aspects tend toward northeast except along escarpments.

Climate

Site soils are ustic aridic or within a 10-14" precipitation zone. Precipitation comes monsoonal patterns during months of July, August, and September, and is supplemented by winter storm patterns from November through March.

Soil features

Parent material is sandstone. Soils are sandy loams. Site consists of limited amounts of gently sloping sheet alluvial or eolian deposits over residuum of plateaus and structural benches.

Vegetation dynamics

Production is 25 to 50% grasses 5 to 10% forbs, and 50 to 70% shrubs.

Major Land Resource Area

MLRA 035X
Colorado Plateau

Subclasses

- R035XC317AZ–Sandy Loam Upland 10-14" p.z.
- R035XC334AZ–Sandy Loam Upland 10-14" p.z. Calcareous
- R035XC339AZ–Shallow Sandy Loam 10-14" p.z. Calcareous
- R035XY216UT–Semidesert Sandy Loam (Wyoming Big Sagebrush)

Correlated Map Unit Components

22338431, 22338551, 22340903, 22340907, 22340971, 22340994, 22340996, 22340998, 22341010, 22395156

Stage

Provisional

Contributors

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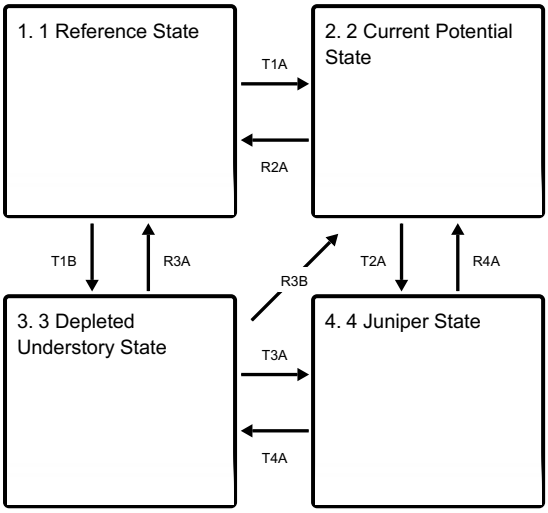
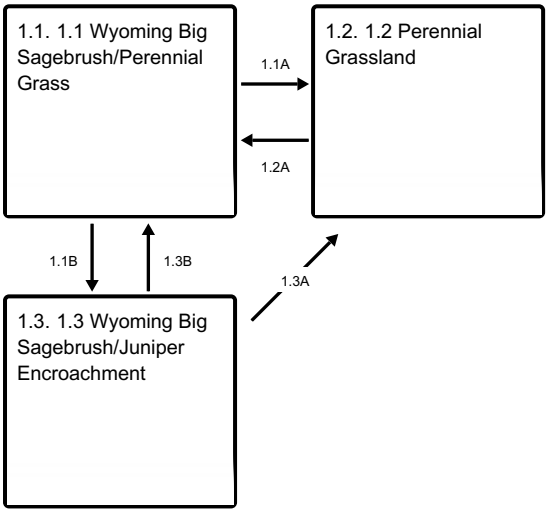
State and transition model

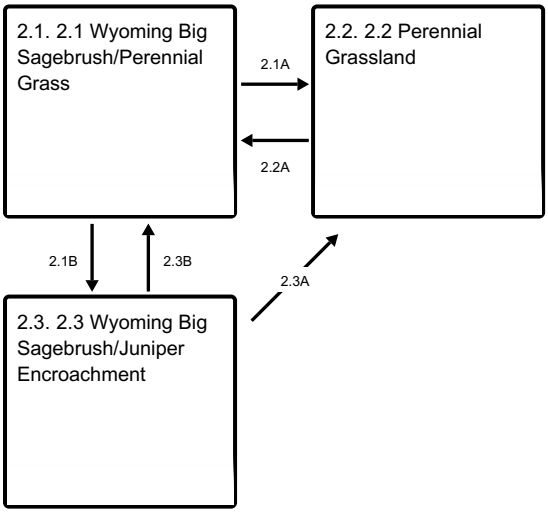
Ecosystem states



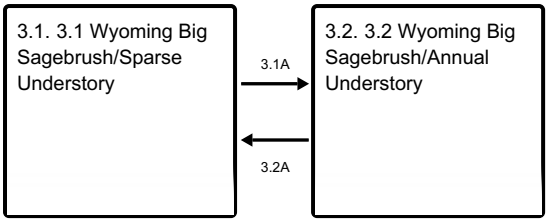
State 1 submodel, plant communities



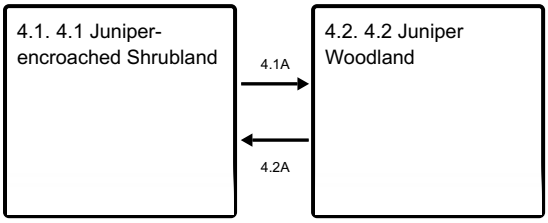
State 2 submodel, plant communities



State 3 submodel, plant communities



State 4 submodel, plant communities



State 1
1 Reference State

The reference state contains plant communities presumed to occur prior to the introduction of non-native plants, livestock grazing, and other modern disturbances. Wyoming big sagebrush dominance depends on time since fire, winter browsing, aroga moth, and/or extended drought. Utah juniper may occur as a minor component of the plant community and is removed by fire prior to maturity.

Community 1.1
1.1 Wyoming Big Sagebrush/Perennial Grass

Production is 25 to 50% grasses 5 to 10% forbs, and 50 to 70% shrubs

Community 1.2
1.2 Perennial Grassland

Production is 50 to 90% grasses, 5 to 15% forbs, and 5 to 35% shrubs.

Community 1.3
1.3 Wyoming Big Sagebrush/Juniper Encroachment

Production is 10 to 25% grasses, 2 to 5% forbs, 65 to 85% shrubs, and 5 to 15% junipers

Pathway 1.1A
Community 1.1 to 1.2

Fire taking out the sagebrush in patches.

Pathway 1.1B
Community 1.1 to 1.3

Encroachment of juniper

Pathway 1.2A
Community 1.2 to 1.1

Time as sagebrush fills in burned areas.

Pathway 1.3B
Community 1.3 to 1.1

A disturbance or treatment to the juniper.

Pathway 1.3A
Community 1.3 to 1.2

Fire burning sagebrush and juniper or mechanical/chemical treatment

State 2
2 Current Potential State

Community 2.1
2.1 Wyoming Big Sagebrush/Perennial Grass

Production is 20 to 50% grasses, 5 to 10% forbs, and 50 to 70% shrubs. Invasive species present but not dominant.

Community 2.2
2.2 Perennial Grassland

Production is 50 to 90% grasses, 5 to 15% forbs, and 5 to 35% shrubs. Invasive species present, but not dominant.

Community 2.3
2.3 Wyoming Big Sagebrush/Juniper Encroachment

Production is 5 to 15% grasses, 2 to 5% forbs, 65 to 85% shrubs, and 5 to 15% Utah juniper. Invasive species present but not dominant.

Pathway 2.1A
Community 2.1 to 2.2

Fire, burning patches of sagebrush.

Pathway 2.1B
Community 2.1 to 2.3

Juniper encroachment

Pathway 2.2A
Community 2.2 to 2.1

Time as sagebrush re-colonizes burned areas.

Pathway 2.3B
Community 2.3 to 2.1

Juniper treatment, drought, or disease.

Pathway 2.3A
Community 2.3 to 2.2

Fire burning large patches of sagebrush and juniper.

State 3
3 Depleted Understory State

Community 3.1
3.1 Wyoming Big Sagebrush/Sparse Understory

Production is 0 to 10% grasses 0 to 5% forbs, 75 to 95% shrubs and 0 to 15% Utah juniper

Community 3.2
3.2 Wyoming Big Sagebrush/Annual Understory

Production is 10 to 30% grasses, 0 to 5% forbs, 60 to 80% shrubs and 0 to 15% Utah juniper.

Pathway 3.1A
Community 3.1 to 3.2

Further degradation and loss of soil with spread of annuals.

Pathway 3.2A
Community 3.2 to 3.1

Stabilizing soil enough to begin colonization of perennial understory plants.

State 4
4 Juniper State

Community 4.1
4.1 Juniper-encroached Shrubland

Production is 0 to 5% grasses, 0 to 5% forbs, 20 to 40% shrubs, and 75 to 95% trees.

Community 4.2
4.2 Juniper Woodland

Production is 0 to 2% grasses, 0 to 5% forbs, 2 to 20% shrubs, and 75 to 95% trees.

Pathway 4.1A
Community 4.1 to 4.2

Extensive coverage of juniper with little understory.

Pathway 4.2A
Community 4.2 to 4.1

Fire or mechanical treatment to set juniper back coupled with colonization of shrubs.

Transition T1A
State 1 to 2

Invasion of introduced species.

Transition T1B
State 1 to 3

Repetitive, high utilization of palatable grass species have increased bare ground and has degraded the site.

Restoration pathway R2A
State 2 to 1

In theory, treatment of introduced species coupled with management to improve soil, water, and plant resources.

Transition T2A
State 2 to 4

Juniper encroachment

Restoration pathway R3A
State 3 to 1

A slow restoration of soil, grass, and hydrologic processes.

Restoration pathway R3B
State 3 to 2

Restoring grass production and cover through careful management.

Transition T3A
State 3 to 4

Juniper encroachment.

Restoration pathway R4A
State 4 to 2

Juniper treatment coupled with effective soil, plant, and hydrology management.

Transition T4A
State 4 to 3

Juniper treatment coupled with accelerated erosion.

Citations