Ecological site group DX035X02BESG02
Coconino Plateau - Ustic Aridic - Limestone or Loamy Upland

Key Characteristics

- Coconino Plateau (B)
- Site parent material is limestone or dolomite, or soil is loamy.
- Site soils are ustic aridic or within a 10-14" precipitation zone.
- 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 to be southwest in the eastern half, and east in the western half of the LRU.

Climate

Site soils are ustic aridic or within a 10-14" precipitation zone. Precipitation comes predominantly from monsoonal patterns during months of July, August, and September.

Soil features

Subset subgroup- Parent Material Limestone or Dolomite, or Soil is Loamy. Site consists of limited amounts of gently sloping sheet alluvial or eolian deposits over residuum of plateaus and structural benches.

Vegetation dynamics

Grasses mixed with shrubs.

Major Land Resource Area

MLRA 035X
Colorado Plateau

Subclasses

- R035XA119AZ–Shallow Loamy 10-14" p.z.
- R035XA125AZ–Limy Upland 10-14" p.z. Shallow
- R035XB232AZ–Limestone/Sandstone Upland 6-10" p.z.
- R035XC310AZ–Limy Slopes 10-14" p.z.
- R035XC319AZ–Limestone/Sandstone Upland 10-14" p.z.
- R035XC350AZ–Limestone Upland 10-14" p.z. Warm

Correlated Map Unit Components

22341067, 22341081, 22341082, 22341085, 22341083, 22341126, 22341186, 22341187, 22341189, 22341188, 22341196, 22341201, 22341605, 22396790, 22396755, 22396795, 22396785, 22396844
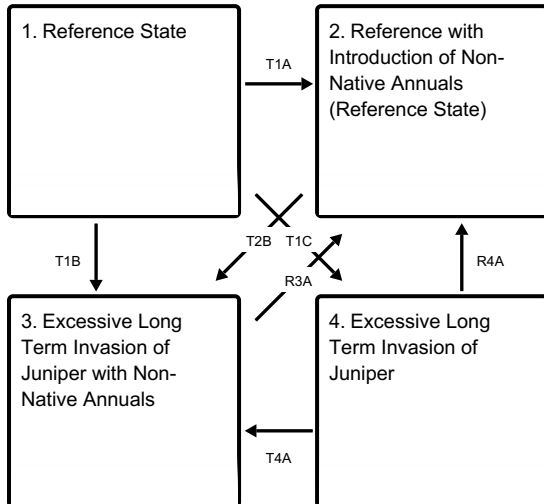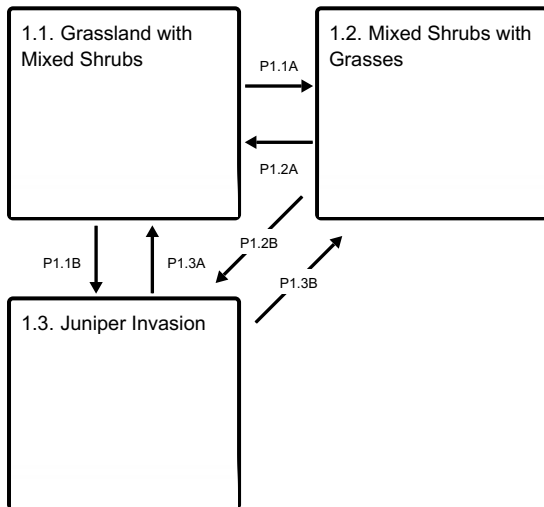
Stage

Provisional

Contributors

Curtis Talbot
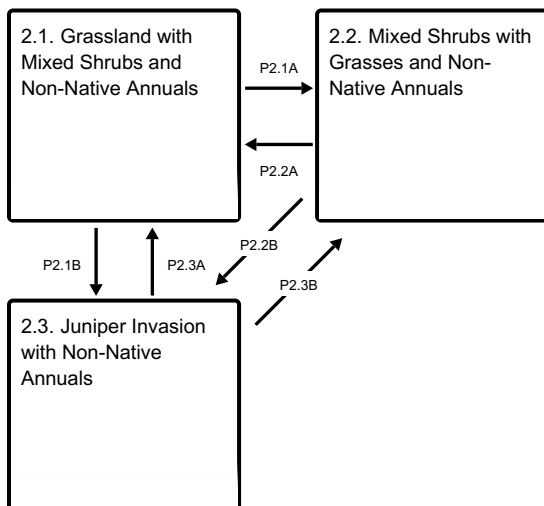
State and transition model

Ecosystem states

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┌──────────────────┐        ┌──────────────────┐
│ 1. Reference     │  T1A   │ 2. Reference with│
│ State            │ ─────► │ Introduction of  │
│                  │        │ Non-Native       │
│                  │        │ Annuals          │
│                  │        │ (Reference State)│
│                  │        │                  │
└──────────────────┘        └──────────────────┘
     │              T2B  T1C
  T1B│                R3A
     ▼                        R4A
┌──────────────────┐        ┌──────────────────┐
│ 3. Excessive Long│        │ 4. Excessive Long│
│ Term Invasion of │        │ Term Invasion of │
│ Juniper with Non-│        │ Juniper          │
│ Native Annuals   │ ◄───── │                  │
│                  │  T4A   │                  │
└──────────────────┘        └──────────────────┘
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State 1 submodel, plant communities

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┌──────────────────┐        ┌──────────────────┐
│ 1.1. Grassland   │ P1.1A  │ 1.2. Mixed Shrubs│
│ with Mixed Shrubs│ ─────► │ with Grasses     │
│                  │ ◄───── │                  │
│                  │ P1.2A  │                  │
└──────────────────┘        └──────────────────┘
     │          ▲      P1.2B
 P1.1B│    P1.3A│         P1.3B
     ▼          │
┌──────────────────┐
│ 1.3. Juniper     │
│ Invasion         │
│                  │
└──────────────────┘
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State 2 submodel, plant communities

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┌──────────────────┐        ┌──────────────────┐
│ 2.1. Grassland   │ P2.1A  │ 2.2. Mixed Shrubs│
│ with Mixed Shrubs│ ─────► │ with Grasses and │
│ and Non-Native   │ ◄───── │ Non-Native       │
│ Annuals          │ P2.2A  │ Annuals          │
└──────────────────┘        └──────────────────┘
     │          ▲      P2.2B
 P2.1B│    P2.3A│         P2.3B
     ▼          │
┌──────────────────┐
│ 2.3. Juniper     │
│ Invasion with    │
│ Non-Native       │
│ Annuals          │
└──────────────────┘
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State 3 submodel, plant communities

| 3.1. Grassland with Mixed Shrubs | P3.1 →
 ← P3.2 | 3.2. Mixed Shrubs with Grasses |
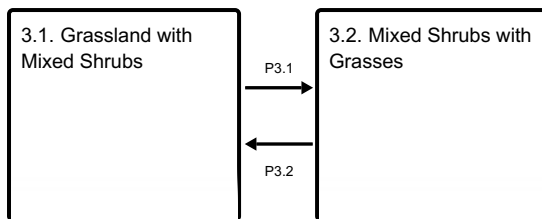
State 4 submodel, plant communities

| 4.1. Grassland with Mixed Shrubs | P4.1A →
 ← P4.2A | 4.2. Mixed Shrubs with Grasses |
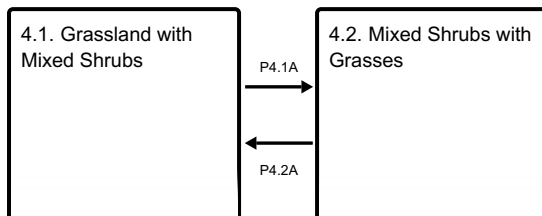
State 1
Reference State

Community 1.1
Grassland with Mixed Shrubs

Community 1.2
Mixed Shrubs with Grasses

Community 1.3
Juniper Invasion

Pathway P1.1A
Community 1.1 to 1.2

Excessive grazing and/or drought

Pathway P1.1B
Community 1.1 to 1.3

Removal of fire

Pathway P1.2A
Community 1.2 to 1.1

Improved grazing management and/or return to normal precipitation

Pathway P1.2B
Community 1.2 to 1.3

Removal of fire

Pathway P1.3A
Community 1.3 to 1.1

Reintroduction of fire

Pathway P1.3B
Community 1.3 to 1.2

Reintroduction of fire

State 2
Reference with Introduction of Non-Native Annuals (Reference State)

Community 2.1
Grassland with Mixed Shrubs and Non-Native Annuals

Community 2.2
Mixed Shrubs with Grasses and Non-Native Annuals

Community 2.3
Juniper Invasion with Non-Native Annuals

Pathway P2.1A
Community 2.1 to 2.2

Excessive grazing and/or drought

Pathway P2.1B
Community 2.1 to 2.3

Removal of fire

Pathway P2.2A
Community 2.2 to 2.1

Improved grazing management and/or return to normal precipitation

Pathway P2.2B
Community 2.2 to 2.3

Removal of fire

Pathway P2.3A
Community 2.3 to 2.1

Reintroduction of fire

Pathway P2.3B
Community 2.3 to 2.2

Reintroduction of fire

State 3
Excessive Long Term Invasion of Juniper with Non-Native Annuals

Community 3.1
Grassland with Mixed Shrubs

Community 3.2
Mixed Shrubs with Grasses

Pathway P3.1
Community 3.1 to 3.2

Excessive grazing and/or drought

Pathway P3.2
Community 3.2 to 3.1

Improved grazing management and/or return to normal precipitation

State 4
Excessive Long Term Invasion of Juniper

Community 4.1
Grassland with Mixed Shrubs

Community 4.2
Mixed Shrubs with Grasses

Pathway P4.1A
Community 4.1 to 4.2

Excessive grazing

Pathway P4.2A
Community 4.2 to 4.1

Improved grazing management and/or return to normal precipitation

Transition T1A
State 1 to 2

Introduction of non-native annuals

Constraints to recovery. Not feasible to remove non-native annuals

Transition T1B
State 1 to 3

Simultaneous long term removal of fire with introduction of non-native annuals

Transition T1C
State 1 to 4

Long term removal of fire

Transition T2B
State 2 to 3

Long term removal of fire

Constraints to recovery. The understory biomass hase been reduced and the trees have become to large/tall to be removed by reintroduction of broadcast fire

Restoration pathway R3A
State 3 to 2

Tree removal by mechanical, chemical, or biological means

Restoration pathway R4A
State 4 to 2

Tree removal by mechanical, chemical, or biological means with simultaneous introduction of non-native annuals

Transition T4A
State 4 to 3

Introduction of non-native annuals

Constraints to recovery. Not feasible to remove non-native annuals

Citations