

Mapping rangeland condition & trends using threat-based ecostates

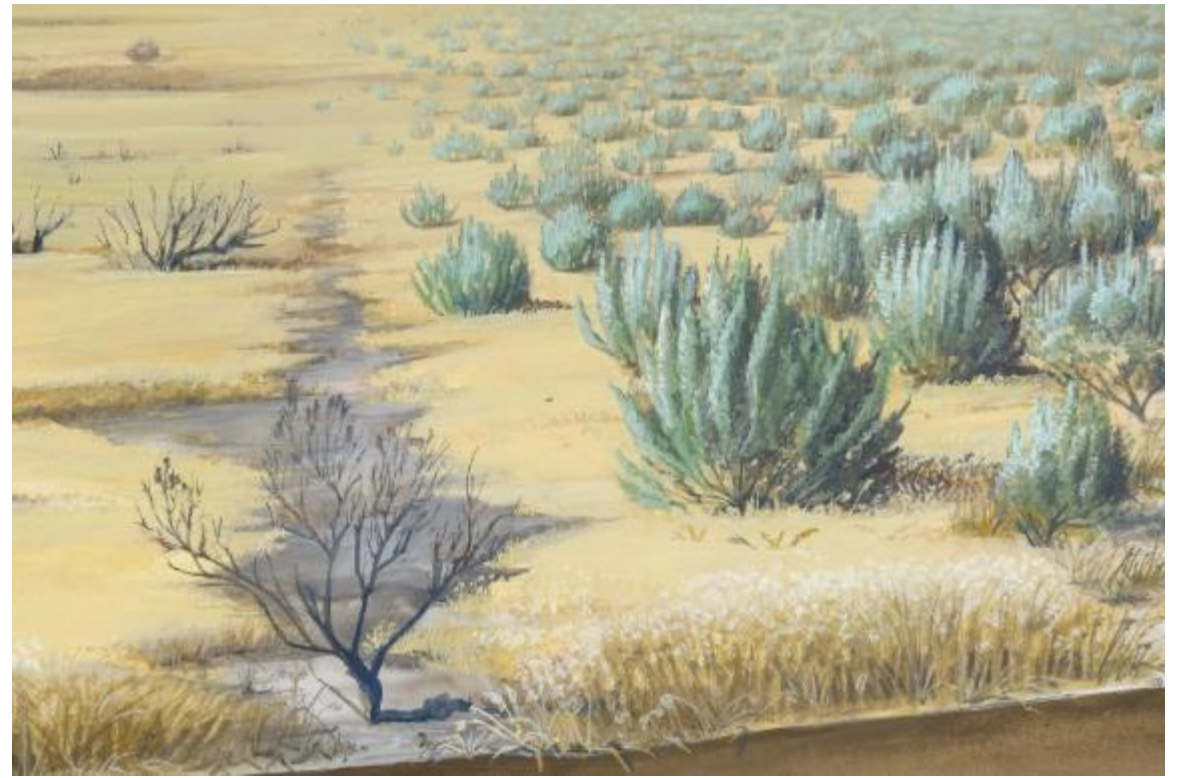
Anya Tyson

Sage-steppe Conservation Specialist

The Nature Conservancy in Oregon





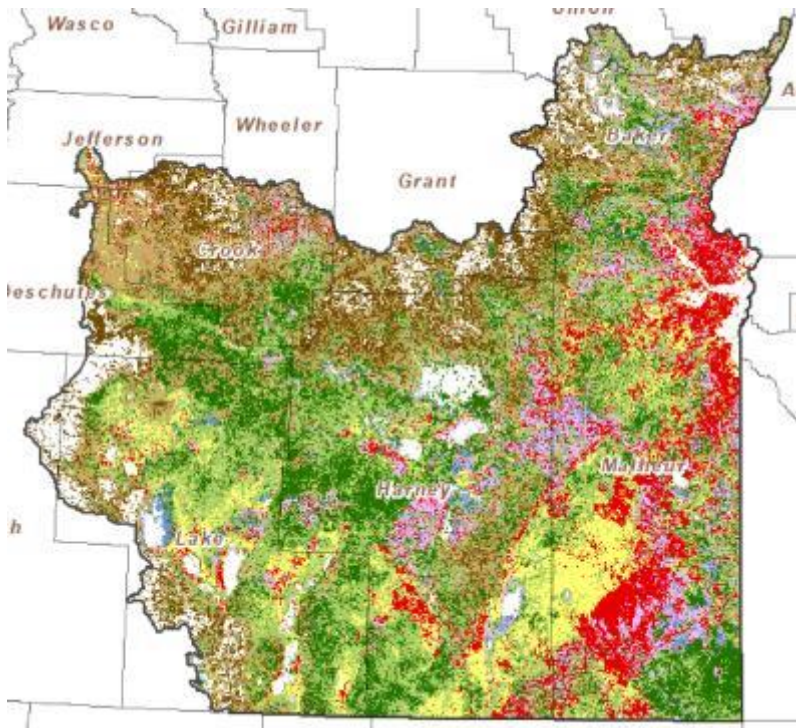




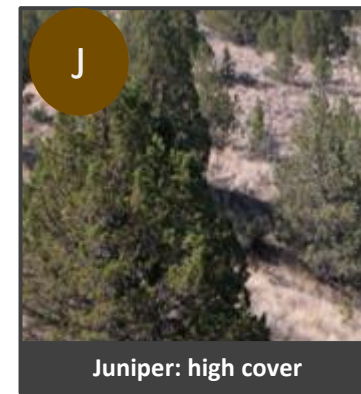
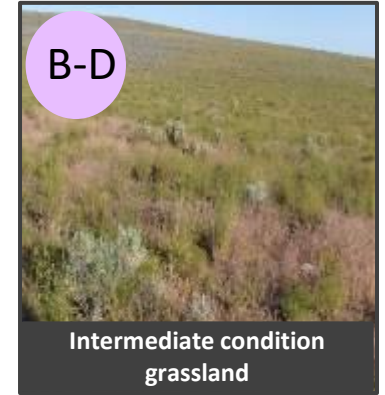
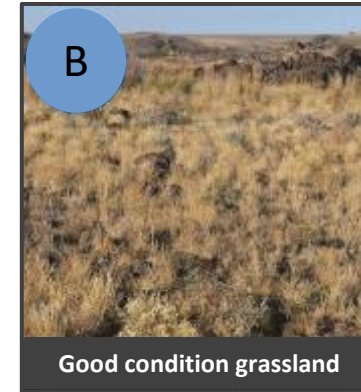
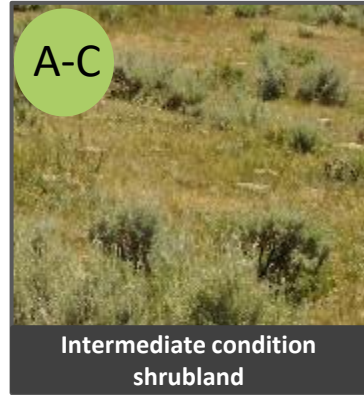
Threat-based Ecostates

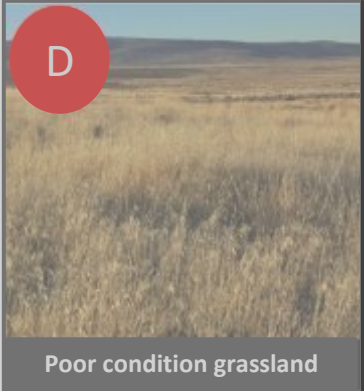
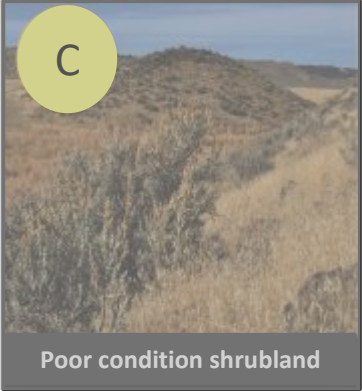
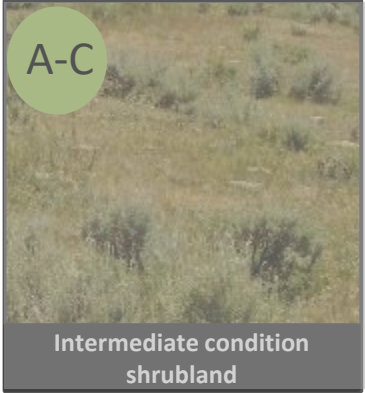
Underlying rule set based on data from the Rangeland Analysis Platform:

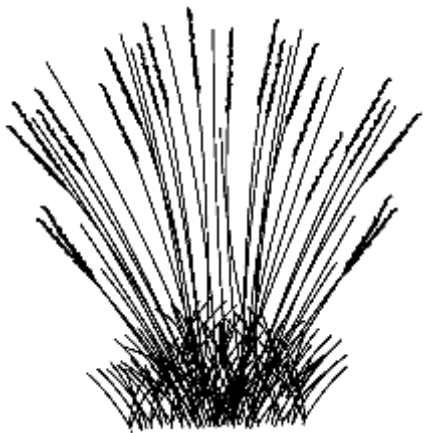
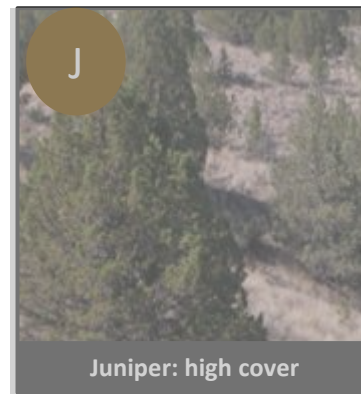
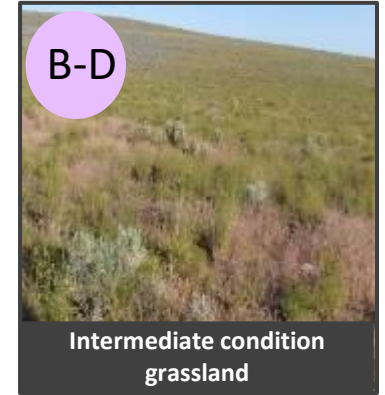
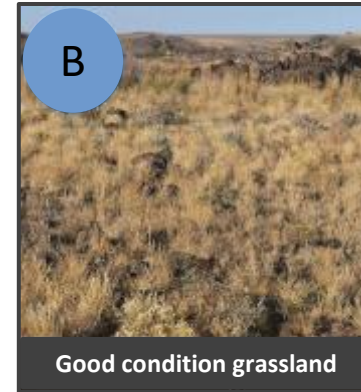
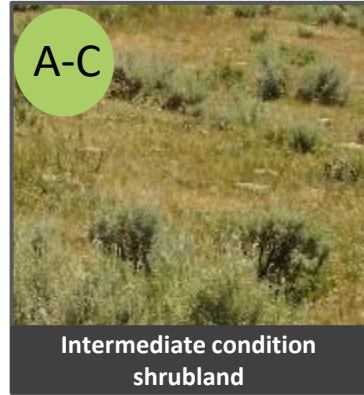
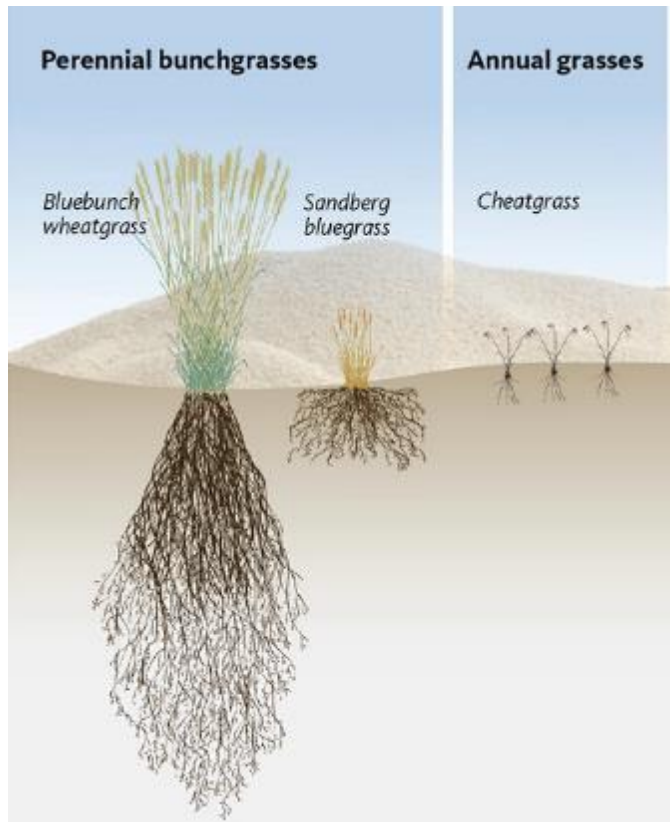
- Tree cover
- Shrub cover
- Herbaceous condition: ratio of annual forb & grass to perennial forb & grass



- A: Good condition shrubland
- A-C: Intermediate condition shrubland
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- Juniper: low-mid cover
- Juniper: high cover



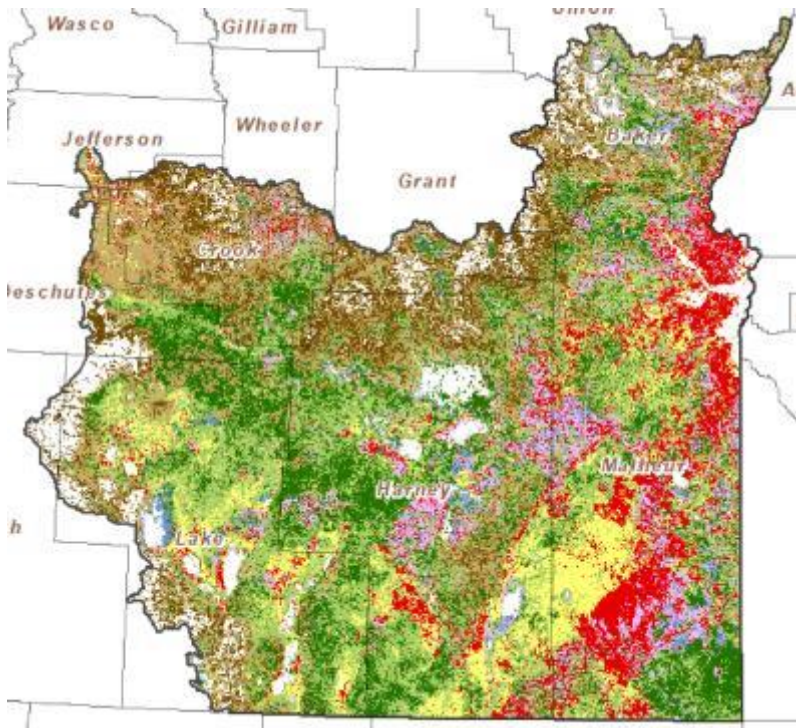




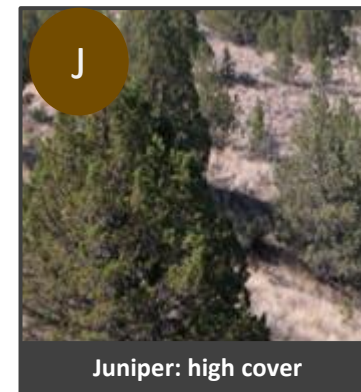
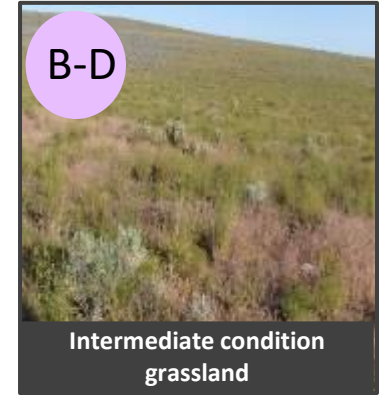
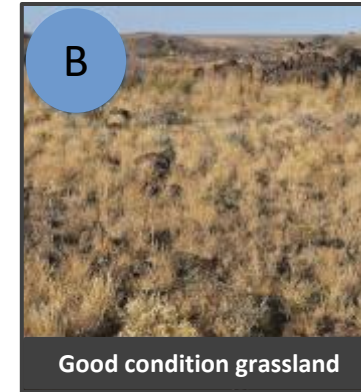
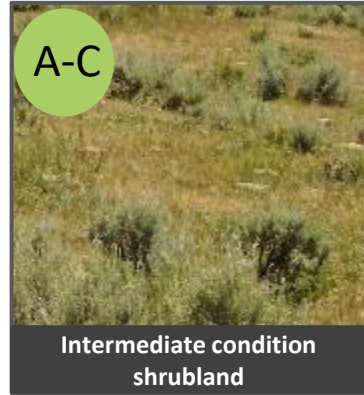
Threat-based Ecostates

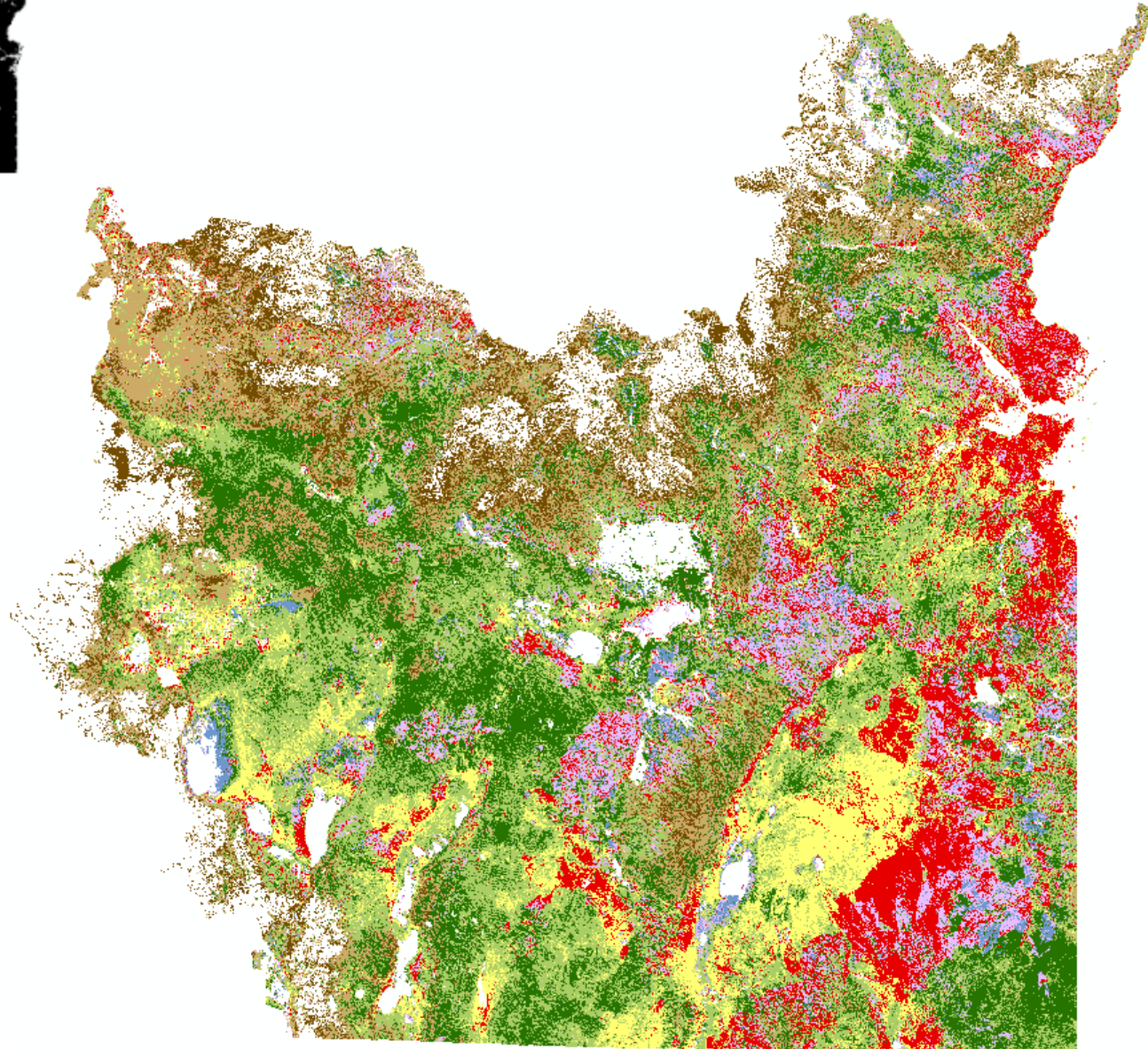
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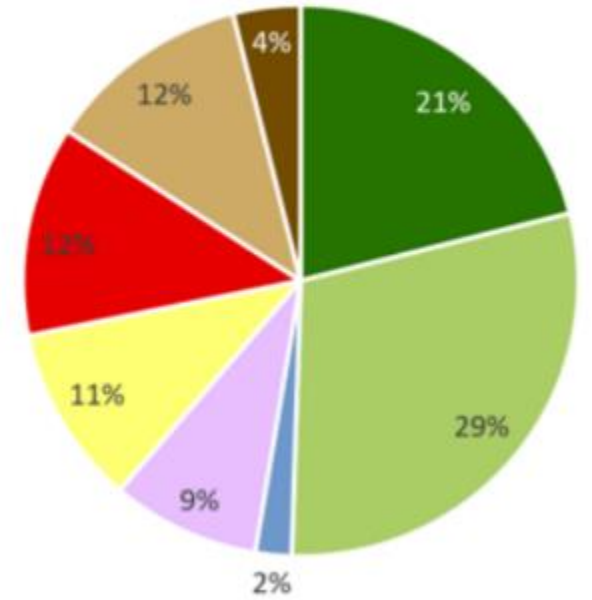


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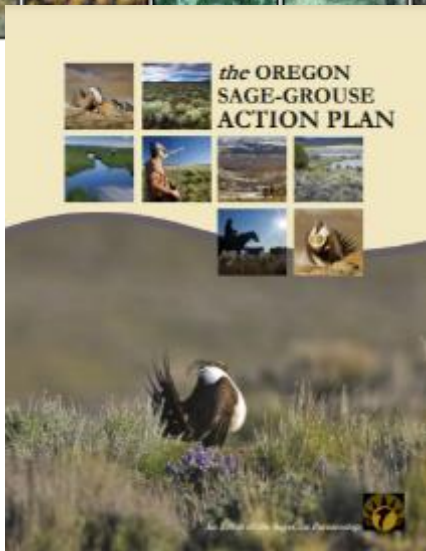
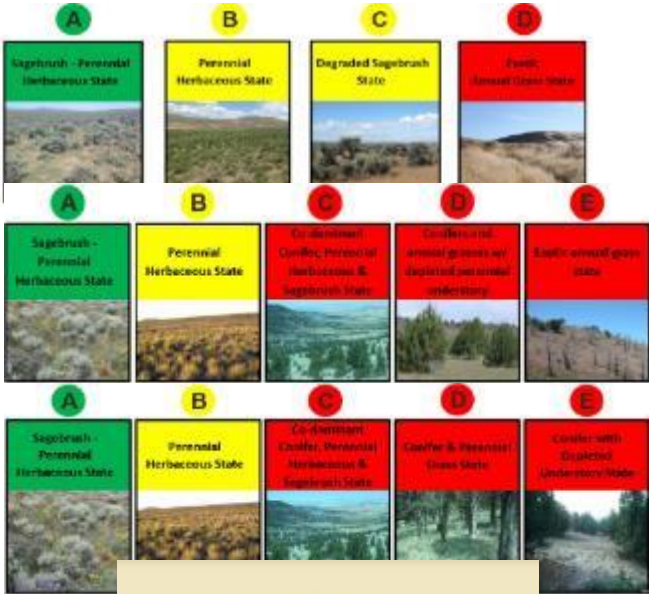


Condition summary across southeastern Oregon rangelands

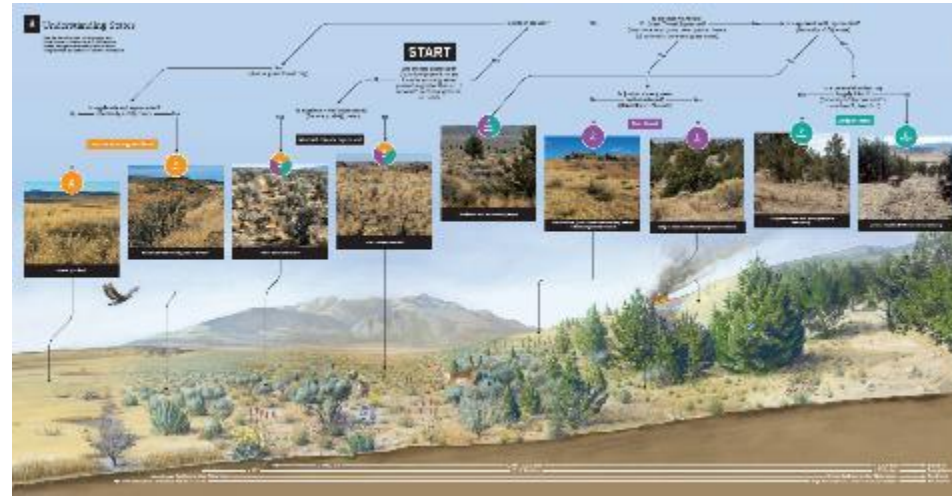


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Three original simplified models

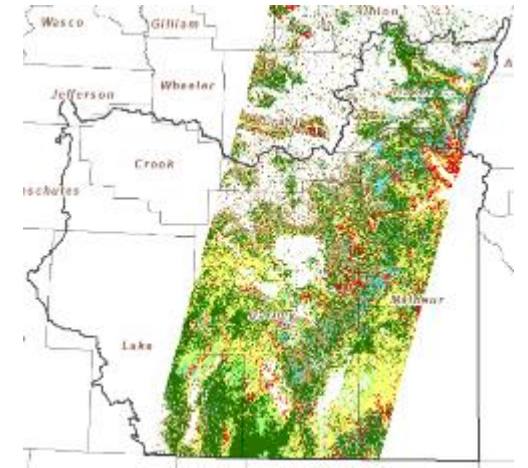


Single unified threat model

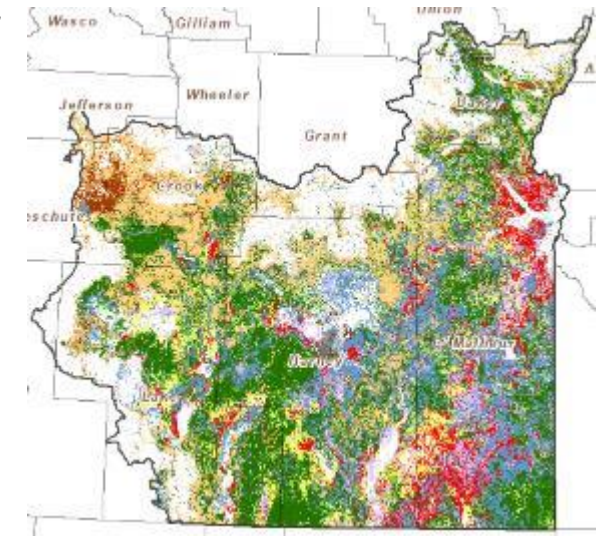


Site/pasture applications
Field-based mapping of CCAs and CCAAs

Open Range Consulting maps



SE Oregon NN veg composition map

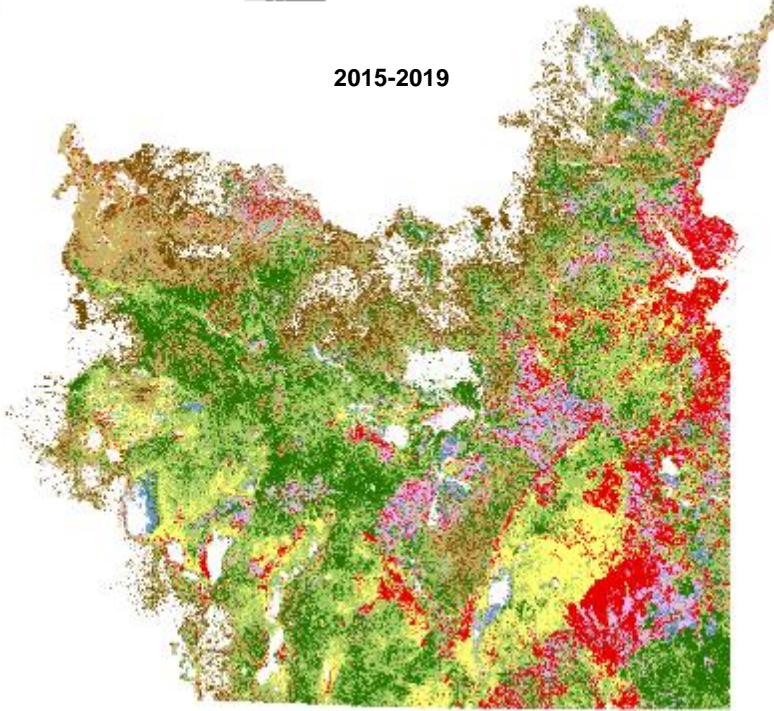
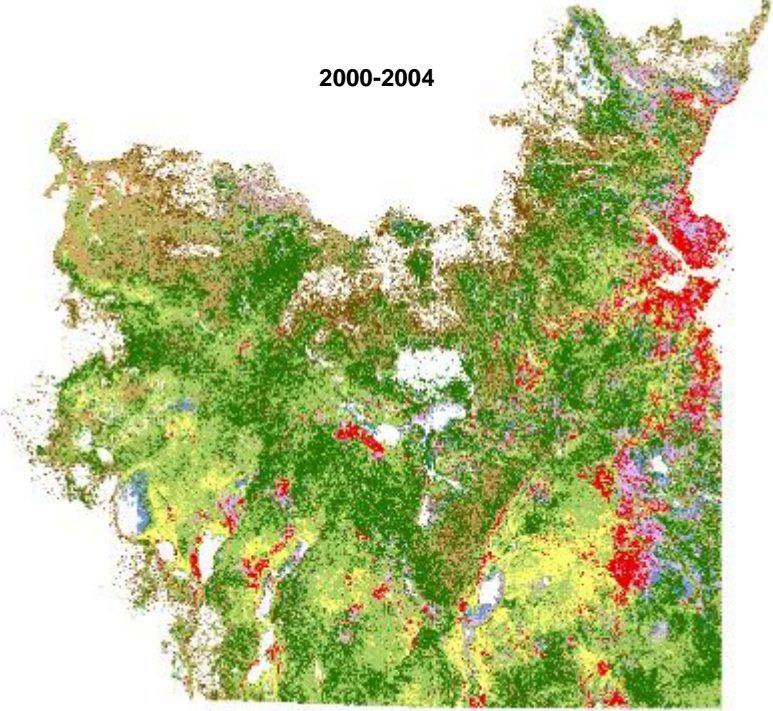
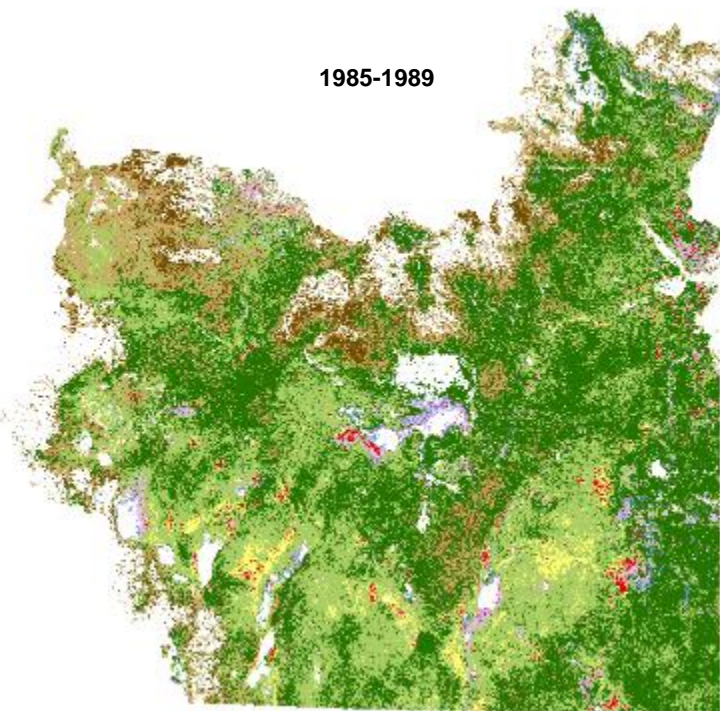


Landscape-scale applications
Ecostate mapping using remotely sensed data

Ecostate Time Series map – capturing trend over time

Vegetation condition (ecostate)

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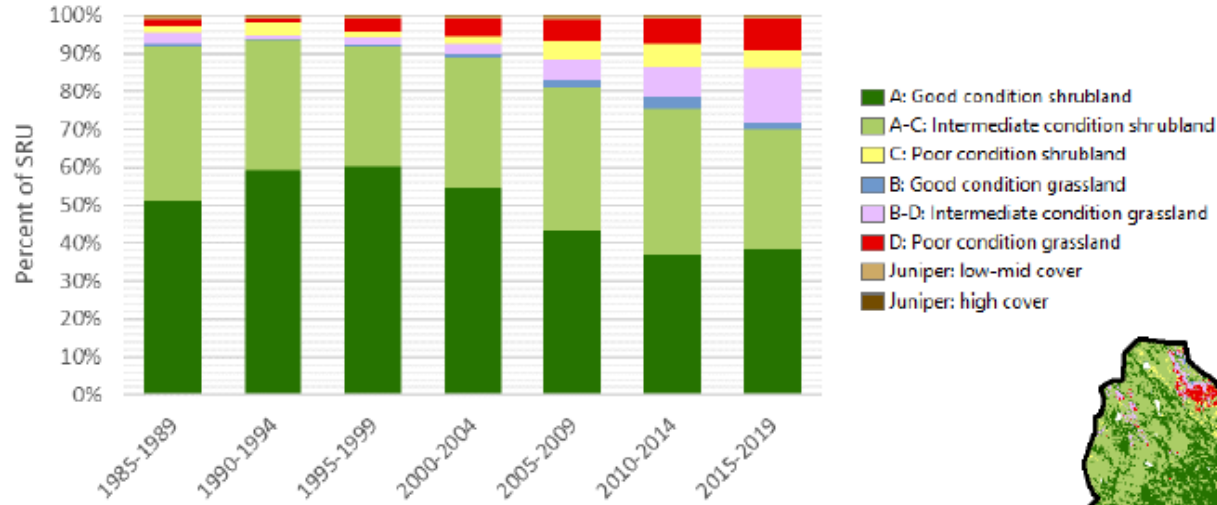
For more information see: https://oe.oregonexplorer.info/Wildlife/ExternalContent/SageCon/Oregon_Ecstate_Time_Series_Map_Description.pdf

Statewide condition & trend monitoring

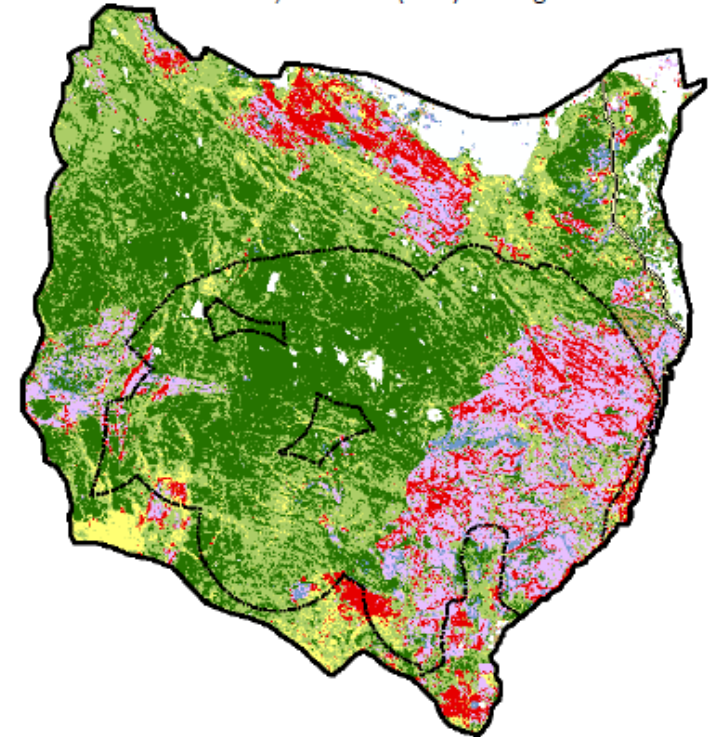
[SageCon Rangeland Condition Report](#)

DRY VALLEY SAGEBRUSH REPORTING UNIT

The Dry Valley SRU covers 970,000 acres and 906,000 acres of sagebrush rangelands, including the Dry Valley-Jack Mountain PAC (449,000) acres and 306,000 acres of low-density habitat. Land ownership is 92% federally-managed, 1% state-managed, and 7% private.



This SRU contains large areas of intact shrub steppe, except where large fires have occurred, including the 2012 Miller Homestead that burned 160,000 acres on the eastern side of the PAC. Areas of relatively intact shrub steppe (A and A-C) cover 634,000 acres (70%) of the SRU and 302,000 acres (68%) of rangelands in PAC.

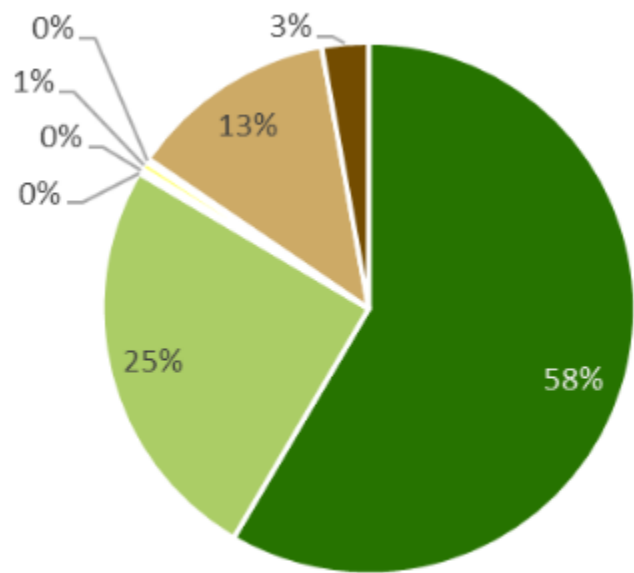


VEGETATION MAP SUMMARY Primary Threat	ACRES & PERCENT RANGELANDS AFFECTED			
	Dry Valley SRU		Dry Valley - Jack Mountain PAC	
IAG dominated (2015-2019)	121,000	13%	47,000	11%
Juniper encroached (2015-2019)	5,000	1%	2,000	<1%
Wildfire (burned 2003-2020)	171,000	18%	146,000	33%

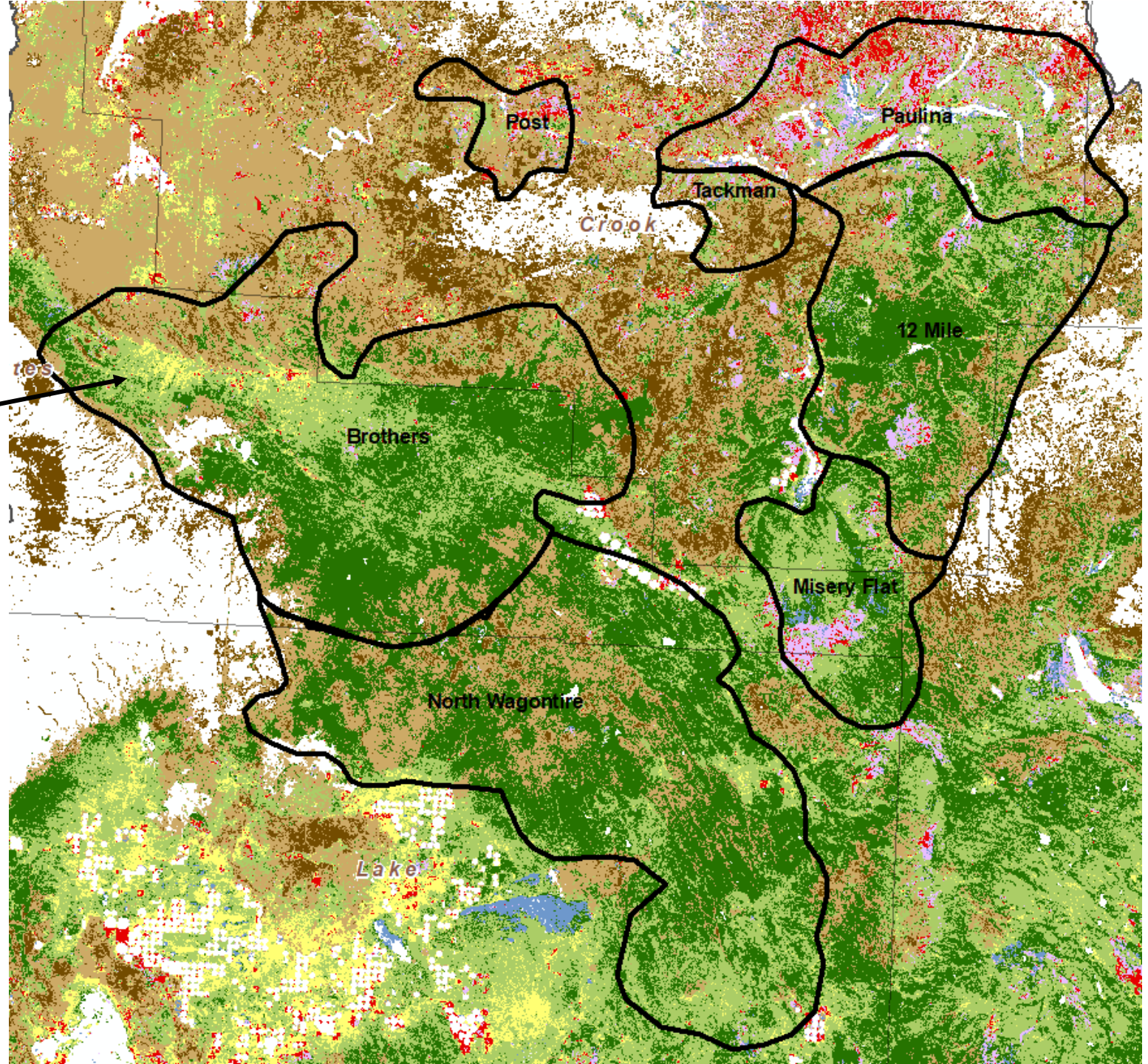
AIM PLOT SUMMARY (BLM MANAGED ONLY) Selected Rangeland Health Indicators	NUMBER (%) OF AIM PLOTS	
	Dry Valley SRU	Dry Valley - Jack Mountain PAC
Plots with 10-25% sagebrush cover	57 (34%)	46 (33%)
Plots with ≥15% deep-root perennial grass cover	60 (36%)	49 (35%)
Plots with ≥5% perennial forb cover	54 (32%)	50 (35%)

Number of BLM AIM plots (2016-2020) in SRU: 167, PAC: 141.

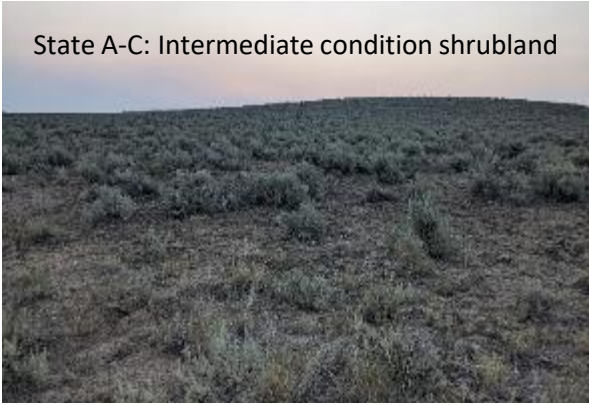
Rangeland Condition: Collaborative-Scale



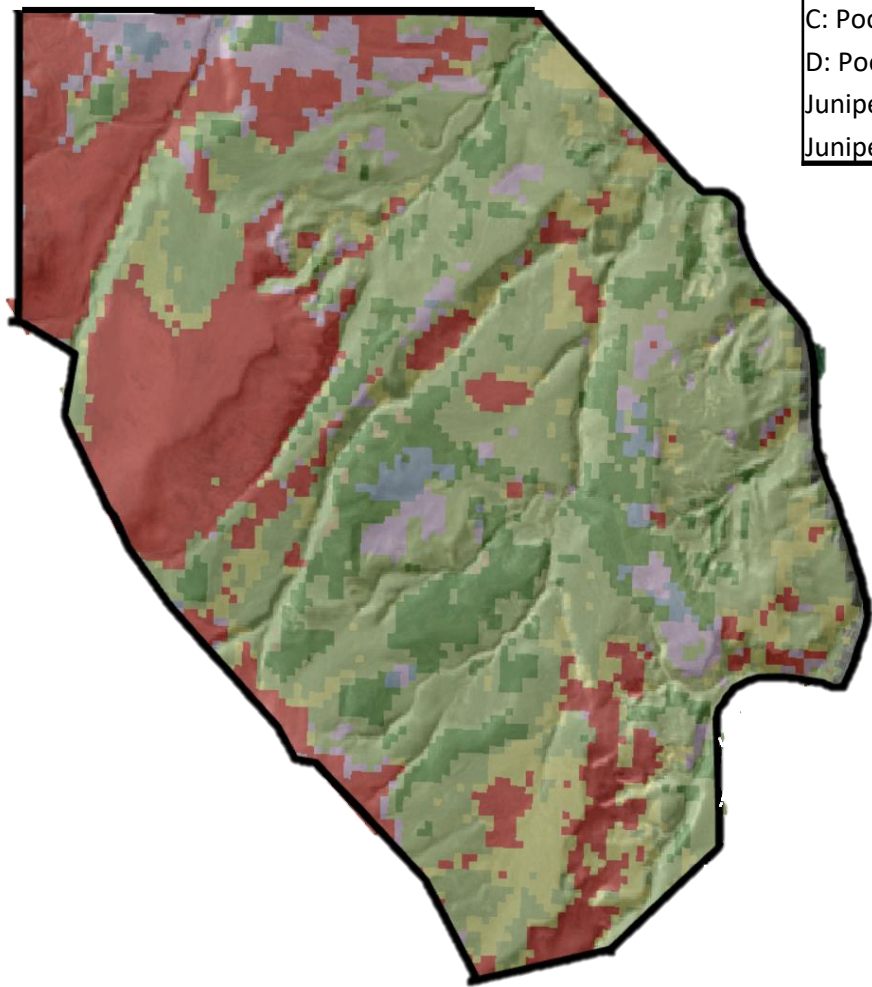
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Rangeland Condition: Pasture-scale

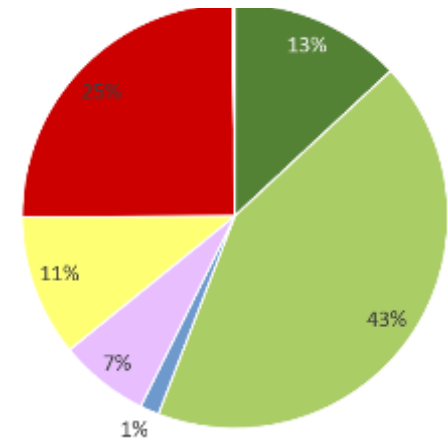


Ecostates



Ecostate	Acres	Percent
A: Good condition shrubland	271	13%
A-C: Intermediate condition shrubland	890	43%
B: Good condition grassland	30	1%
B-D: Intermediate condition grassland	142	7%
C: Poor condition shrubland	224	11%
D: Poor condition grassland	517	25%
Juniper: Low-mid cover	4	0%
Juniper: High cover	0	0%

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I want to...

