

# Tracking landscape change over time

Threat-based ecostate mapping and  
the SageCon Landscape Planning Tool



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Institute for Natural Resources  
SageCon Summit 2022

# “Threat-based Ecostates”?

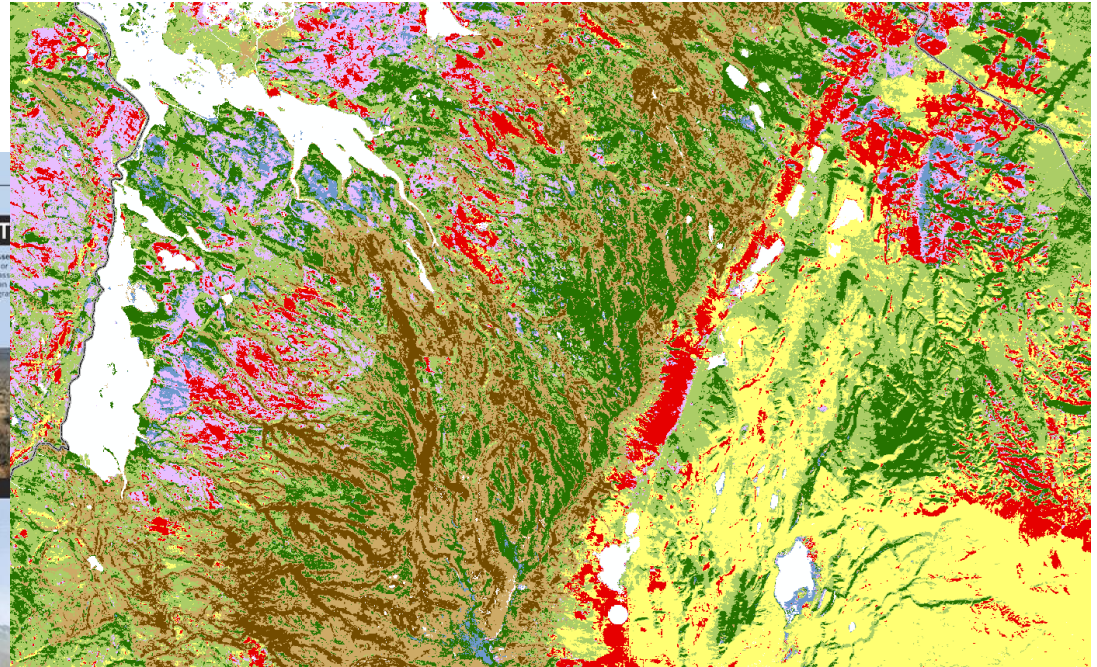
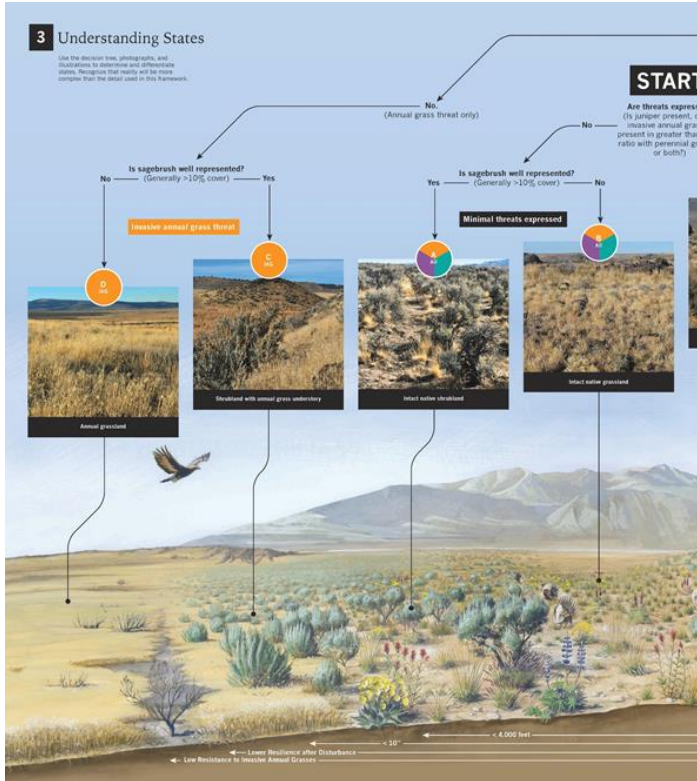


- ❖ What are Threat-based Ecostate maps?
- ❖ How is the SageCon Partnership using them?
- ❖ How can you access and use the data?



# Threat-based Land Management

❖ Use remote sensing data to map ecostates across all lands



## Ecostates

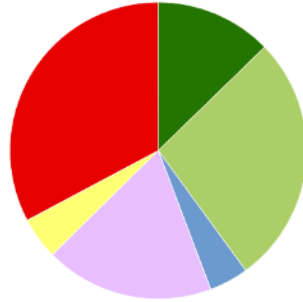
- A: Good condition shrubland
- A-C: Intermediate condition shrubland
- B: Good condition grassland
- B-D: Intermediate condition grassland
- C: Poor condition shrubland
- D: Poor condition grassland
- Juniper: low-mid cover
- Juniper: high cover

# Monitoring rangeland condition across multiple scales

## Ecostates

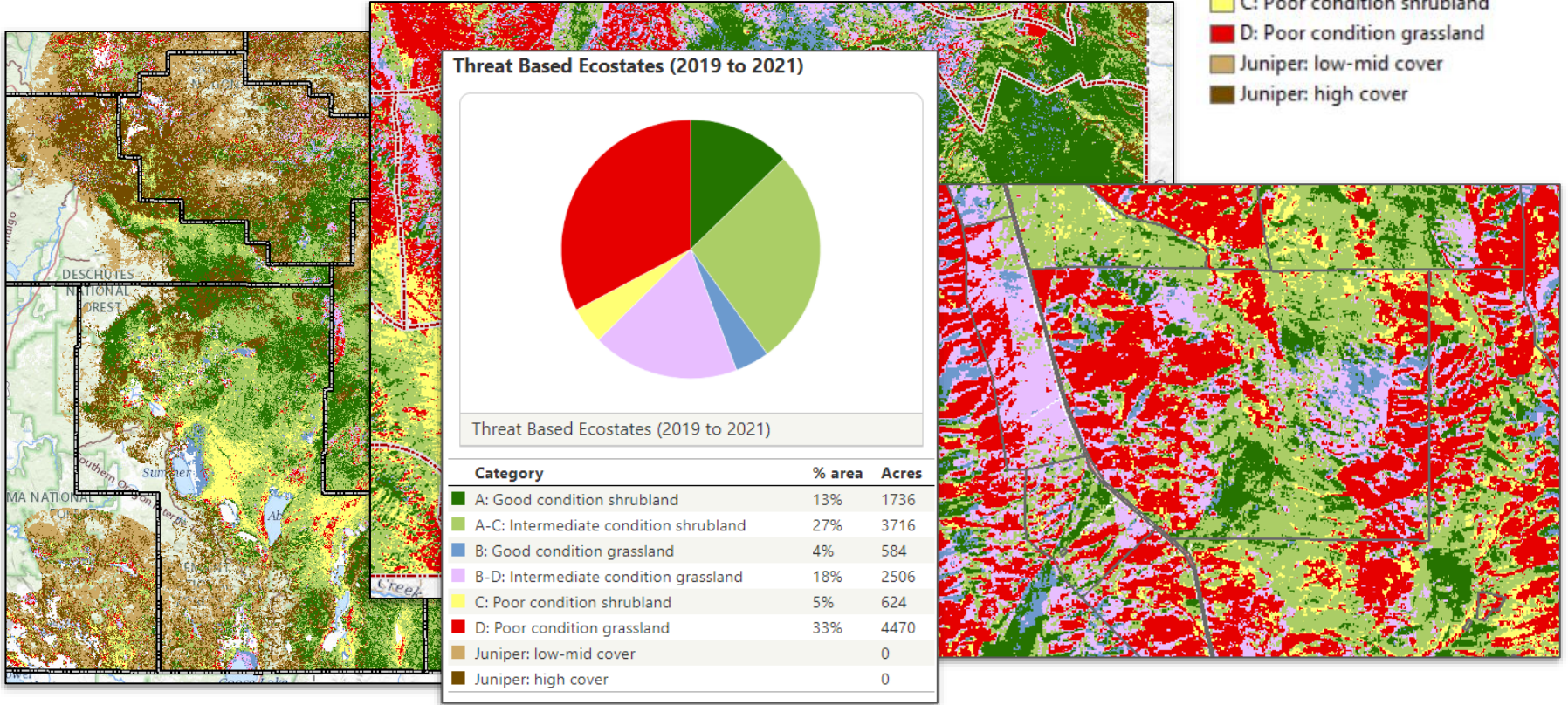
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Threat Based Ecostates (2019 to 2021)



Threat Based Ecostates (2019 to 2021)

Category	% area	Acres
<span style="color: green;">■</span> A: Good condition shrubland	13%	1736
<span style="color: lightgreen;">■</span> A-C: Intermediate condition shrubland	27%	3716
<span style="color: blue;">■</span> B: Good condition grassland	4%	584
<span style="color: purple;">■</span> B-D: Intermediate condition grassland	18%	2506
<span style="color: yellow;">■</span> C: Poor condition shrubland	5%	624
<span style="color: red;">■</span> D: Poor condition grassland	33%	4470
<span style="color: brown;">■</span> Juniper: low-mid cover	0	0
<span style="color: darkbrown;">■</span> Juniper: high cover	0	0



# Monitoring rangeland change through time

## Ecostates

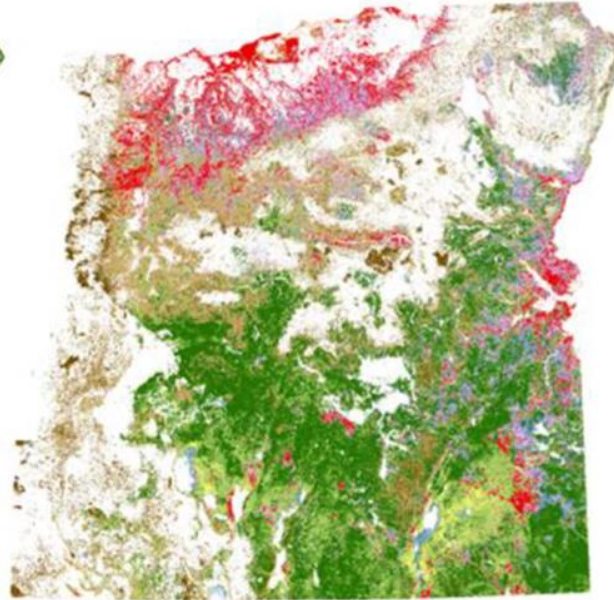
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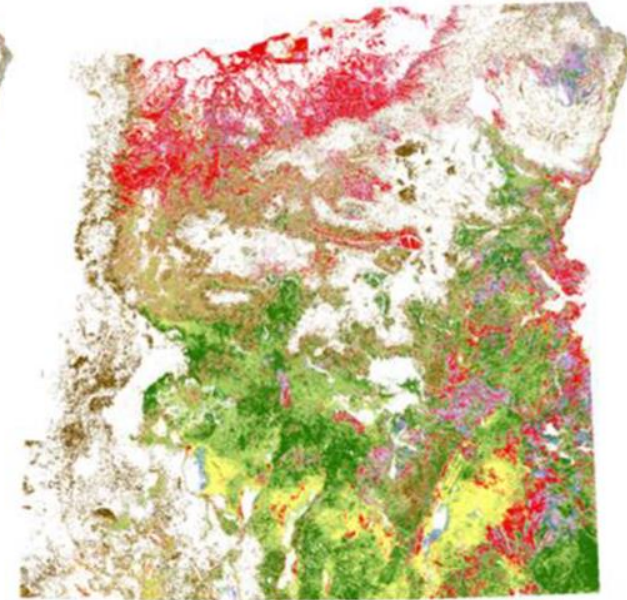
1989-1991



1999-2001



2019-2021

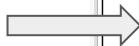


# Integrating rangeland vegetation datasets

Map data



Fire perimeter data

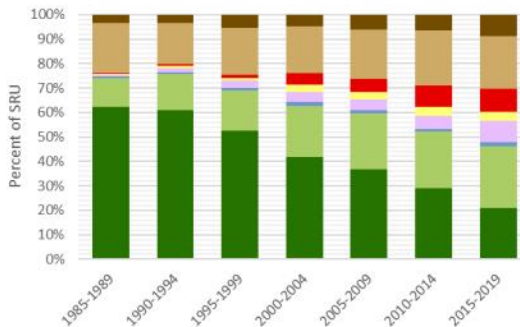


BLM plot data

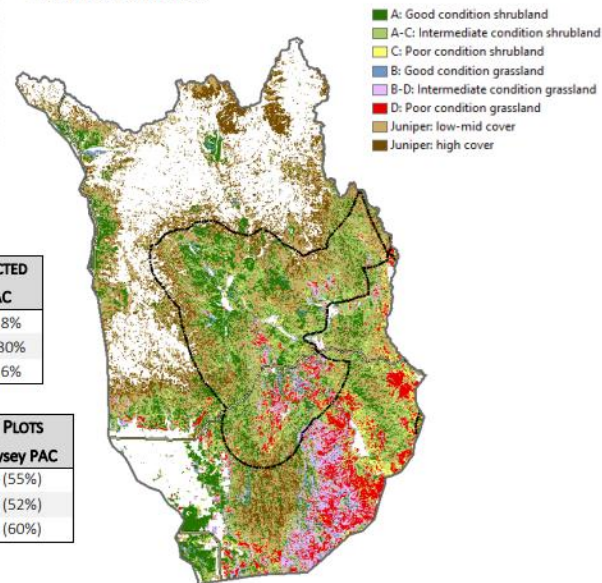


## DREWSEY SAGEBRUSH REPORTING UNIT

The Drewsey SRU covers nearly 1.4 million acres, with 853,000 acres of sagebrush rangelands including the Drewsey PAC (368,000 acres) and 210,000 acres of low-density sage-grouse habitat. Land ownership is 67% federally-managed, 1% state-managed, and 31% private, and 1% tribal lands.



The Drewsey area contains high levels of juniper encroachment throughout and invasive grasses in pockets. Areas of relatively intact shrub steppe (A and A-C) cover approximately 394,000 acres (36%) of the SRU and 182,000 (55%) of rangelands in the PAC.




VEGETATION MAP SUMMARY Primary Threat	ACRES & PERCENT RANGELANDS AFFECTED			
	Drewsey SRU		Drewsey PAC	
IAG dominated (2015-2019)	112,000	13%	26,000	8%
Juniper encroached (2015-2019)	259,000	30%	98,000	30%
Wildfire (burned 2003-2020)	150,000	11%	23,000	6%

AIM PLOT SUMMARY (BLM MANAGED ONLY) Selected Rangeland Health Indicators	NUMBER (%) OF AIM PLOTS	
	Drewsey SRU	Drewsey PAC
Plots with 10-25% sagebrush cover	38 (46%)	23 (55%)
Plots with ≥15% deep-root perennial grass cover	45 (55%)	22 (52%)
Plots with ≥5% perennial forb cover	44 (54%)	25 (60%)

Number of BLM AIM plots (2016-2020) in SRU: 82, PAC: 42.

# SageCon Landscape Planning Tool

OREGON EXPLORER  SageCon Landscape Planning Tool

Tools

Home

The SageCon Landscape Planning Tool allows users to view and download the most relevant and up-to-date spatial data in the sagebrush ecosystem of southeast Oregon. Each function can be accessed by clicking the icons below, under the red "I want to..." menu in the upper left corner of the map, or by activating the Tools menu in the upper right corner of the map.

**View Layers** To view data through the interactive map, click View Layers. The viewer contains a curated list of the most helpful and relevant datasets for sagebrush and sage-grouse conservation in Oregon.

**Ecostate Summarization Tool** Use the Ecostate Summarization Tool to summarize and download Threat-Based Ecostate Time Series data.

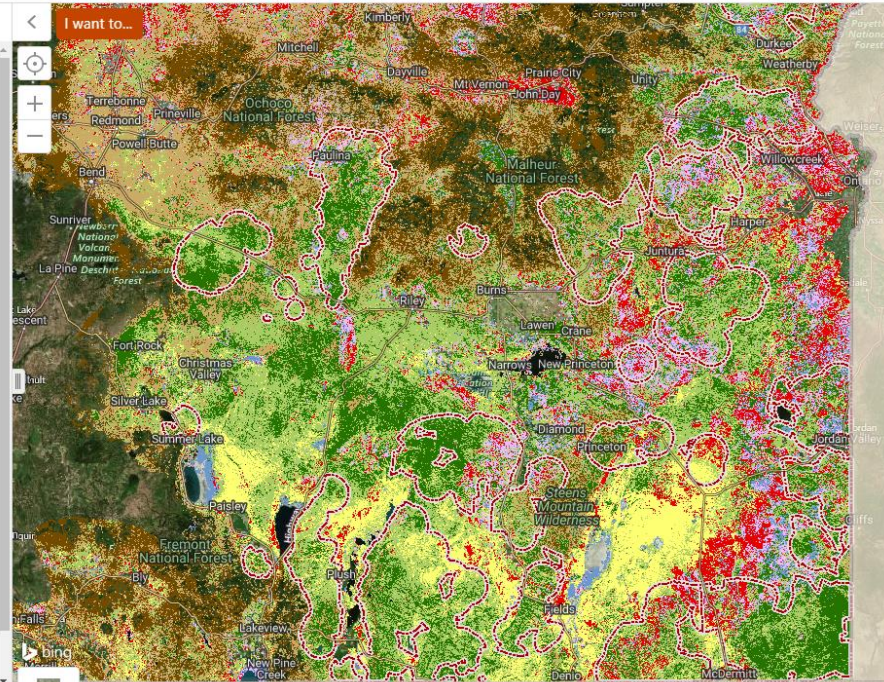
**Download Data** To download data for an area of interest, use the Download Data tool.

**Technical Resources** The Rangeland Assessment and Management Tools webpage contains practical resources for using maps and tools in rangeland management.

**Help?** View a short document for Help and tips on navigating the site.

**SageCon Tools Navigator** The Oregon SageCon Partnership has developed a suite of tools and resources for partners planning activities in sagebrush habitat in Oregon, accessible from the SageCon Tools Navigator.

This tool incorporates numerous data layers designed to offer guidance about rangeland condition, threats, and sage-grouse habitat within a landscape context. Data layers contain errors and vary in their accuracy and appropriate scales for use, and should not replace on-the-ground siting decisions. Data are



Home Layers Imagery 0 20 40km

## Functions

- ❖ View data through interactive map
- ❖ Download data
- ❖ Create printable maps
- ❖ Ecostate Summarization Tool



# SageCon Landscape Planning Tool

OREGON EXPLORER SageCon Landscape Planning Tool

Search... Sign in

Layers

I want to...

- Rangeland Vegetation Condition
  - Threat Based Ecostates (2019 to 2021)
  - Invasives Geographic Strategy Map
  - Annual Forb and Grass Cover (2021)
  - Perennial Forb and Grass Cover (2021)
  - Shrub Cover (2021)
  - Tree Cover (2021)
  - Bare Ground Cover (2021)
- Conservation and Restoration Actions
  - Conservation Actions - BLM (2000 to 2021)
    - BLM Chemical Treatments
    - BLM Prescribed Fire Treatments
    - BLM Mechanical Treatments
    - BLM Revegetation Treatments
    - OWEB Conservation Actions (2000 to 2020)
    - DSL Conservation Actions (2000 to 2018)
  - OWEB Conservation Actions (2000 to 2020)
  - DSL Conservation Actions (2000 to 2018)
- Wildfire
- Sage-Grouse Habitat
- Management Boundaries

Tools

Home Layers Imagery

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## Data Layers

- ❖ Vegetation condition
- ❖ Conservation & restoration actions
- ❖ Wildfire data
- ❖ Sage-grouse layers
- ❖ Management boundaries

# SageCon Landscape Planning Tool

## Ecostate Summarization Tool

OREGON EXPLORER SageCon Landscape Planning Tool

Tools

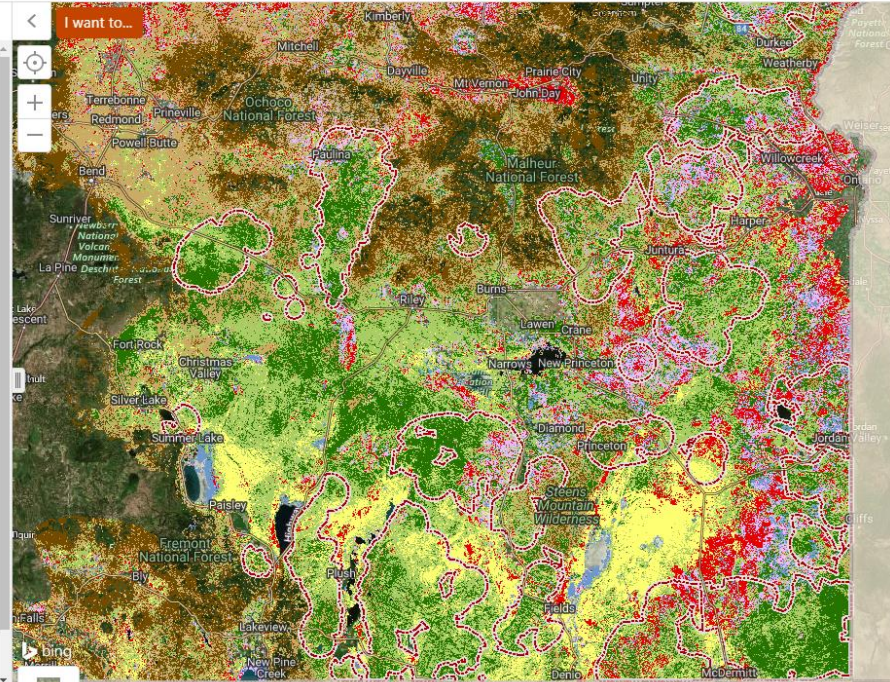
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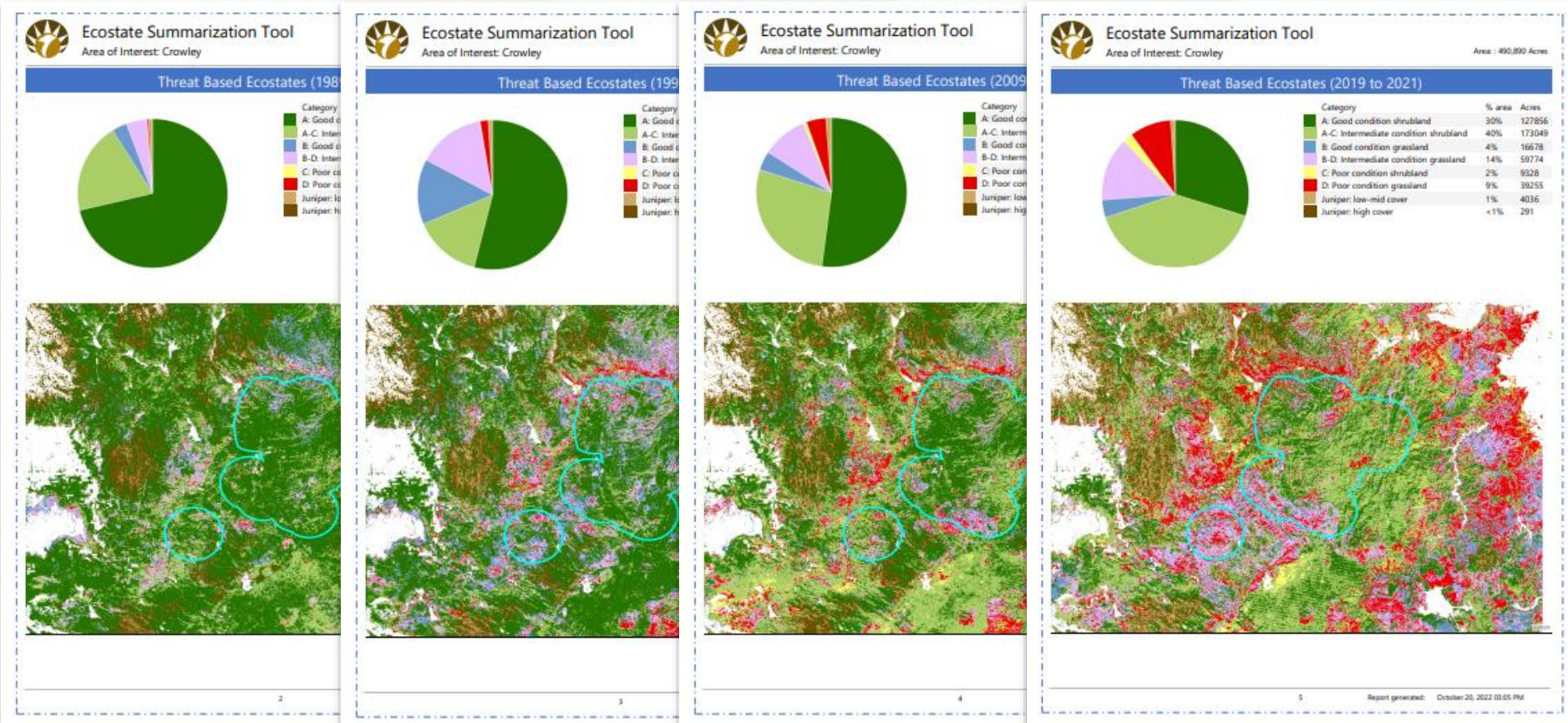
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- ❖ Choose a customized area
- ❖ Select time frames
- ❖ Generate a summary report

# SageCon Landscape Planning Tool

## Ecostate Summarization Tool



# Rangeland vegetation data & resources

<https://sageconpartnership.com/technical-tools>

