

Nevada Sagebrush Habitat Plan and Strategic Action Plan

Governors Executive Order 2021-18



January 2023

Road Map

- Why
- Background
 - Nevada Habitat Conservation Framework (EO 2021-018)
 - Sagebrush Habitat Plan
 - Wildlife Connectivity Plan
 - Sagebrush Ecosystem Program Strategic Action Plan
- Sagebrush Conservation Design (SCD)
- Overview of recent mapping products and examples from other states
- Update on efforts to date
- Next Steps

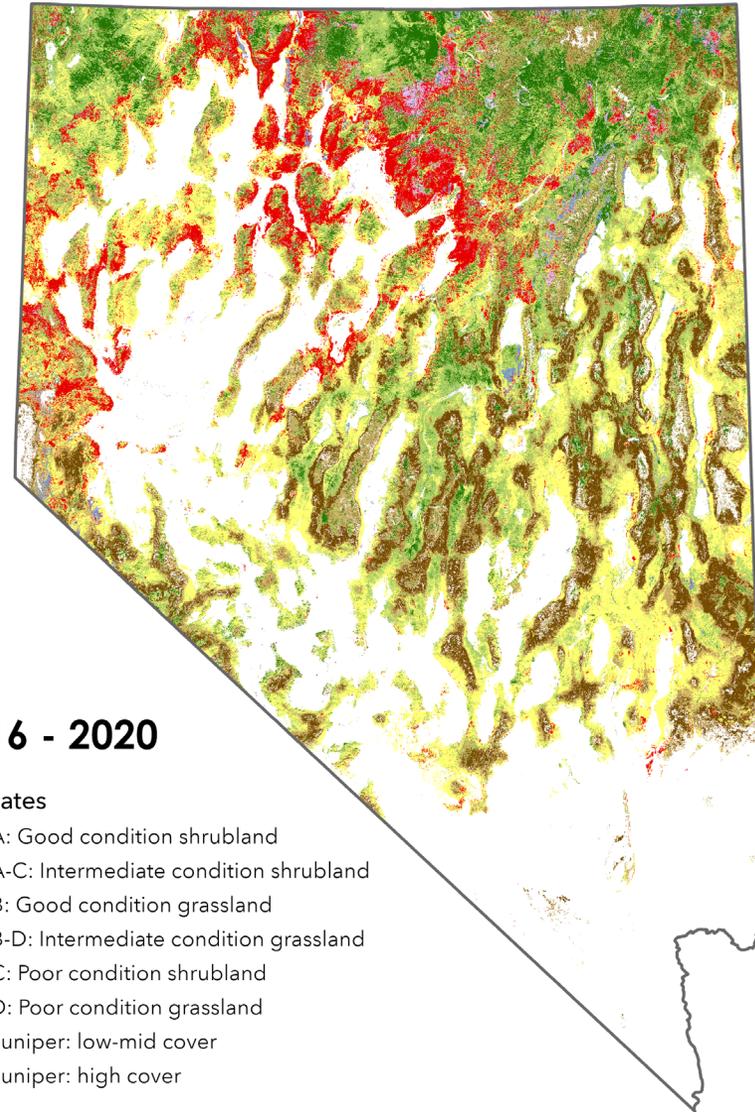
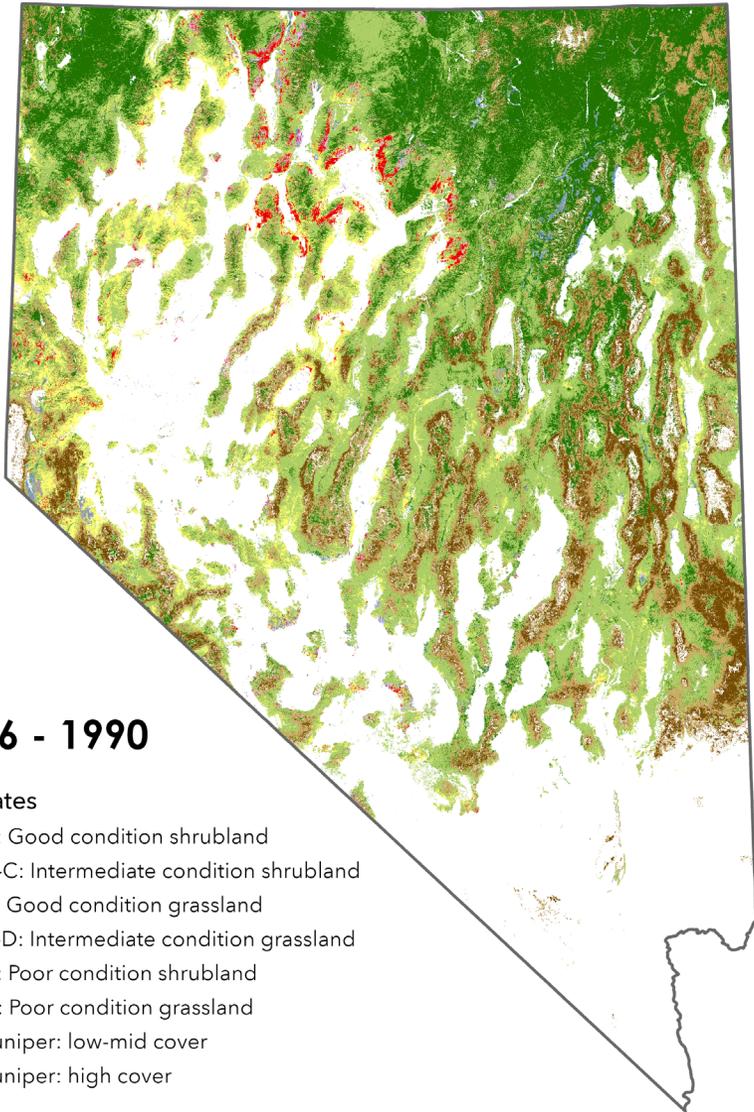


Sagebrush Habitat Plan - Why?

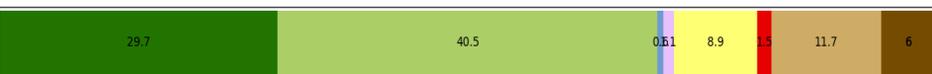
- Across the West sagebrush habitats now occupy <55% of its historic range (Sagebrush Conservation Design [SCD]).
- In last 20 years the West is losing about 1.3 million acres of good (Core) and pretty good (Growth Opportunity Areas) sagebrush habitat every year (i.e. converting to “Other Rangelands”) (1.34% loss annually)(SCD).
- The rate of sagebrush degradation and habitat conversion is most dramatic in NV (Kleinhesselink et al 2023).
- Loss of sagebrush habitats negatively impacts wildlife, recreation, livestock grazing, local economies, tribes, carbon sequestration, etc.....all Nevadan’s.
- This loss is unsustainable despite the great conservation work that is occurring.



Sagebrush Loss in Nevada



- Estimated 31,704,818 acres, or 44.8% of NV estimated to historically supported sagebrush habitats
- 1986-2020 good and intermediate quality sagebrush declined from estimate 70.1% of potential sagebrush habitats to 35.5% of potential habitat, while poor quality habitat increased four-fold.





- Given the sagebrush habitat degradation, conversion, and loss, how can we (all Nevadan's) collectively address this issue?
- EO 2021-018 (i.e. Habitat Conservation Framework and Sagebrush Habitat Plan) – A management paradigm shift towards embracing strategic conservation based on defending and growing core areas.

Background - Nevada Habitat Conservation Framework (HCF) Executive Order 2021-018

- Concept began with Conservation Partners desires to protect migration corridors, then expanded to include sagebrush habitats, and ultimately all Nevada Habitats.
- The EO states, “NDOW shall collaboratively establish a Habitat Conservation Framework (HCF) to provide for habitat conservation, restoration, rehabilitation, and protection in a coordinated and inclusive manner across landownerships and in partnership with federal land management agencies, other relevant state and local agencies, stakeholders, and local entities.”
- Goals:
 - Conserving and propagating diverse and productive wildlife habitats;
 - Addressing the priority threats to key habitats such as the wildfire and annual invasive grass cycle, and conifer encroachment; and
 - Maintaining connectivity of habitats and corridors
- The EO calls out two primary components:
 - Sagebrush Habitat Plan
 - Wildlife Connectivity Plan



EO states the Sagebrush Habitat Plan will:

- 1) Be developed collaboratively with counties, federal land management and state agencies, and other stakeholders
- 2) Identify priority landscapes for action in consideration of associated resource values, site potentials and feasibility;
- 3) Include identification of the primary threats and challenges to Nevada's sagebrush biome;
- 4) Identify and prioritize strategies and actions to enhance, restore, or maintain priority habitats for all species dependent upon those habitats for their lifecycles;
- 5) Be informed by best available science and reference other management plans that overlap within different priority habitats

Sagebrush Habitat Plan

- Development of a Nevada centric map and or mapping toolset based on values and threats to help prioritize conservation actions across the various land management/ownership
 - Will consider recent mapping products (e.g. Sagebrush Conservation Design, SageCon, PReSET)
 - Evaluate Nevada centric threats and values
 - May choose from existing categories e.g. Core, Growth Opportunity, Other) or develop NV centric categories
 - Likely to develop descriptive (not prescriptive) approaches, strategies and actions
 - Broadly used by all agencies, landowners, work groups, etc. to inform habitat conservation work
 - Collaboratively developed with collective buy-in from partners
 - A useful communication tool
- What it is not
 - A scientific literature synthesis
 - A large planning document
 - An NDOW/SEP only product
 - Replace existing plans, agreements, or partnerships
 - Mandatory participation



Strategic Action Plan: Update

Vision: **Prioritization, Collaboration, and Action**

- Use statewide identified sagebrush core areas and tools to prioritize conservation actions in habitat that maximizes the ecological potential for sage-grouse, while indirectly benefitting other sagebrush associated species.
- Guide collaboration efforts with Federal, State, Counties, Tribal Nations, Local conservation groups, NGOs and Others





Strategic Action Plan: Outcomes

Outcomes:

1. Should be adaptable, flexible and updatable
 - Shorter more applied document linked to the appropriate supporting plans, maps and tools
2. In step and part of the larger collaborative conservation effort
 - No need to reinvent the conservation wheel
3. Sage-grouse centric but inclusive of other sagebrush obligate species
 - 350 sagebrush associated species that can benefit



Strategic Action Plan: Outcomes

4. Justification for funding
 - Use for a guiding document to produce economic resources for species conservation
5. Prepares agencies to develop funding proposals
 - Point conservation to pre-define areas that best utilize finite resources
6. Allows for shovel ready funding and NEPA ready projects
 - Identifying action ready uplift areas on the front end
7. Assurance of effective results
 - Using best available science and tools
 - 1) USGS's Conservation Planning Tool, Raven Density, Topographical Impedance Tool
 - 2) SETT's Habitat Quantification Tool and Invasive Annual Tool
 - 3) Population/Demographic based measurable outcomes





Region and Local input across Nevada

- All these layers to consider when prioritizing conservation efforts
- Have planning tools to aid in process as applicable
- We can assist local conservation groups in application of tools and prioritization
- Incorporate into adaptive management process
- Collaboration with local agency partners



Sagebrush Conservation Design

- Diverse working group of experts

Prepared in cooperation with the Western Association of Fish and Wildlife Agencies, the Bureau of Land Management, and the U.S. Fish and Wildlife Service

Sagebrush Conservation Strategy— Challenges to Sagebrush Conservation



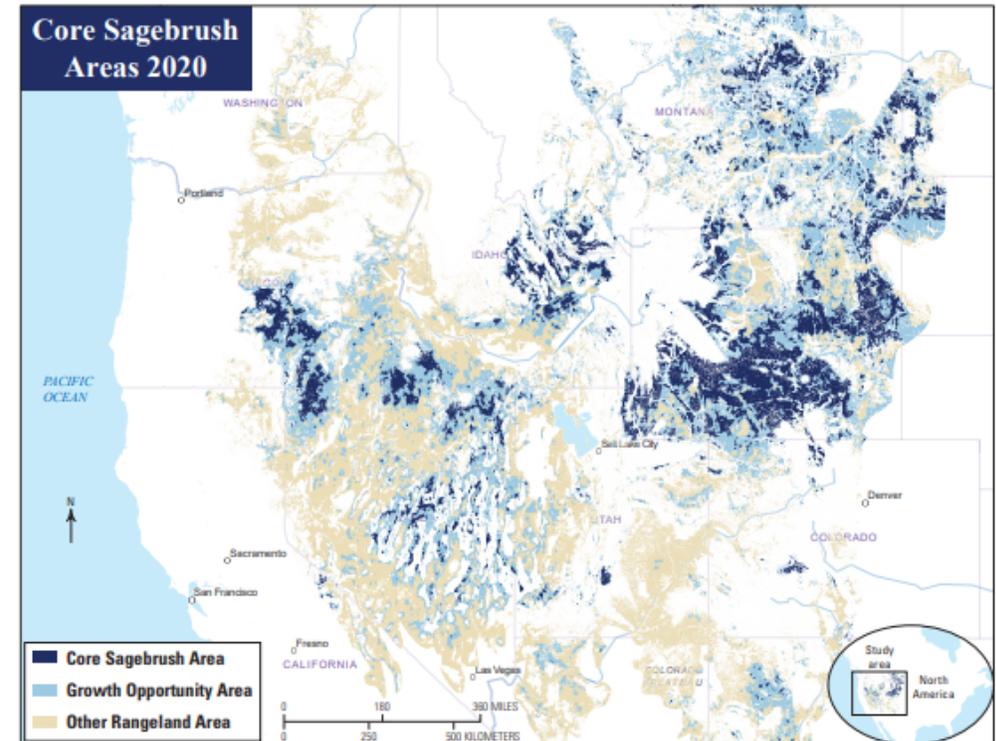
Open-File Report 2020–1125

Sagebrush Conservation Design

- Diverse working group of experts
- Spatially and temporally explicit maps of sagebrush rangeland condition and landscape threats
 - Ecological integrity
 - Ecologic relevance by validating maps with independent sagebrush obligate species data.
 - Assessed primary threats to parse out areas with higher integrity and lower threats.
 - Complex ecosystem problems are driving 73% of threats (rather than point source e.g. human development)
 - Developed trend estimates
 - Assessed climate threats

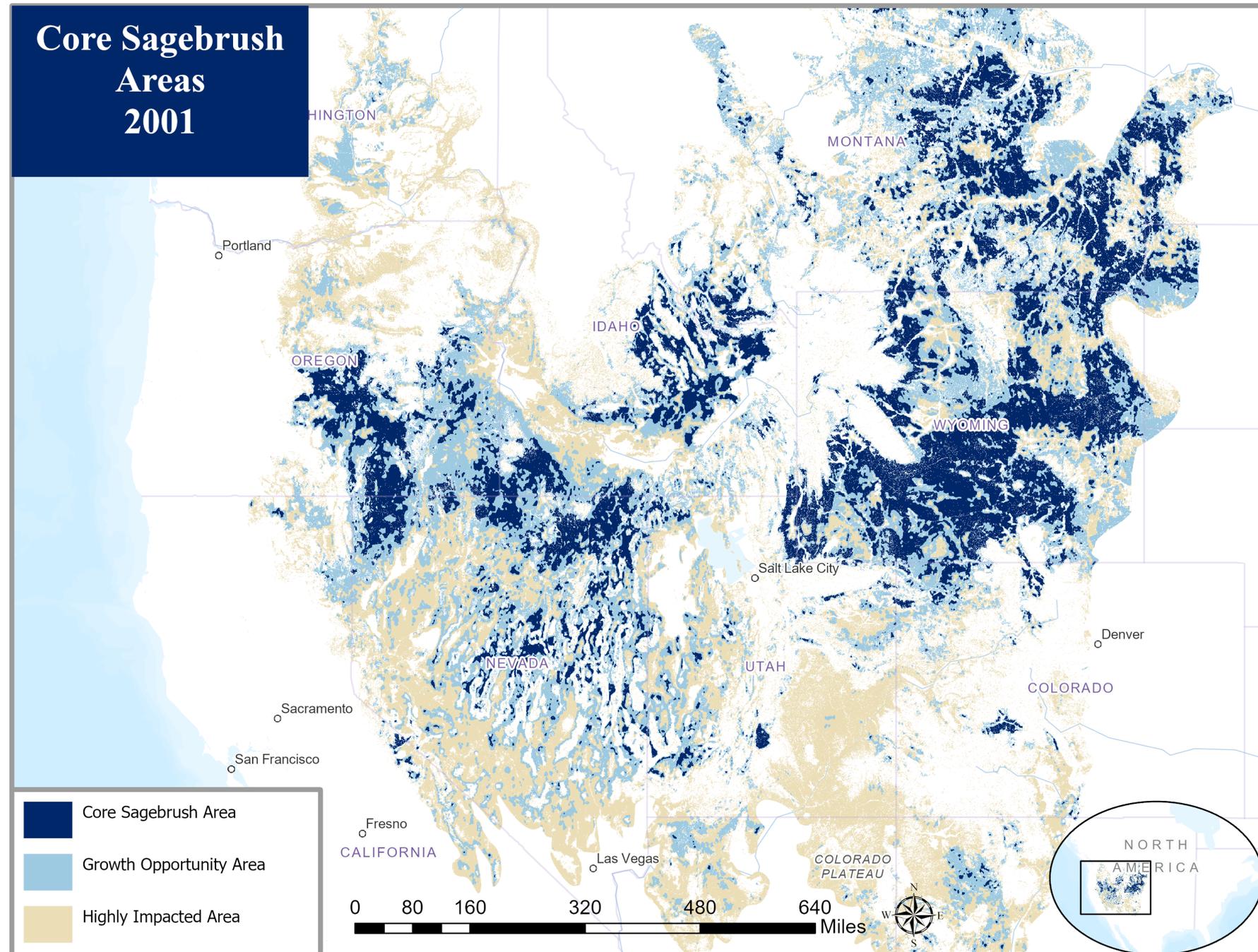
Prepared in cooperation with the Western Association of Fish and Wildlife Agencies and the U.S. Fish and Wildlife Service

A Sagebrush Conservation Design to Proactively Restore America's Sagebrush Biome

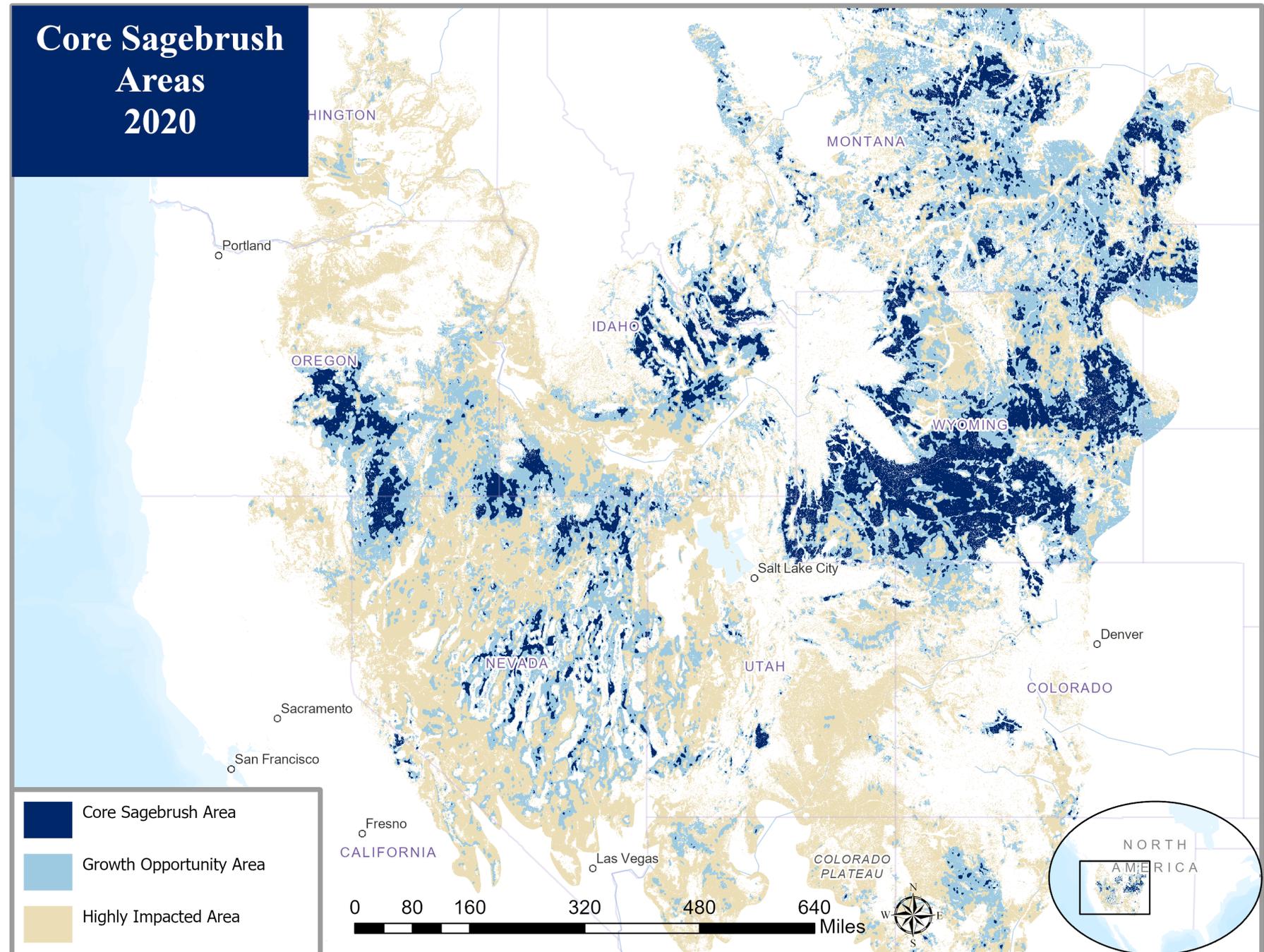


Open-File Report 2022-1081

- Core Areas
- Growth Opportunity Areas
- Other Rangeland Areas

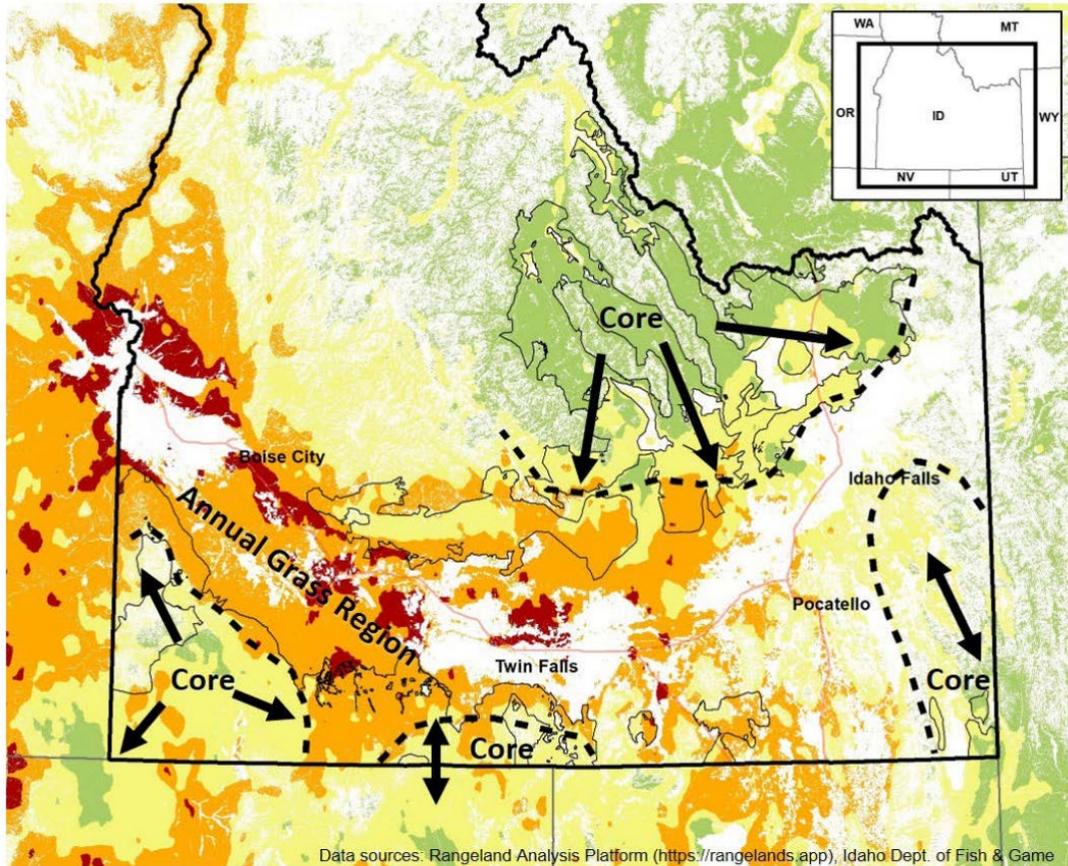


- Core Areas = 33.4 million acres (~14%)
- Growth Opportunity Areas = 84.3 million acres (~34%)
- Other Rangeland Areas = 127.2 million acres (% 52%)
- What are other states doing and what other products exists?



Idaho Cheatgrass Challenge

Defend the core → Grow the core → Mitigate impacts



Landscape Cover of Annuals on Rangelands

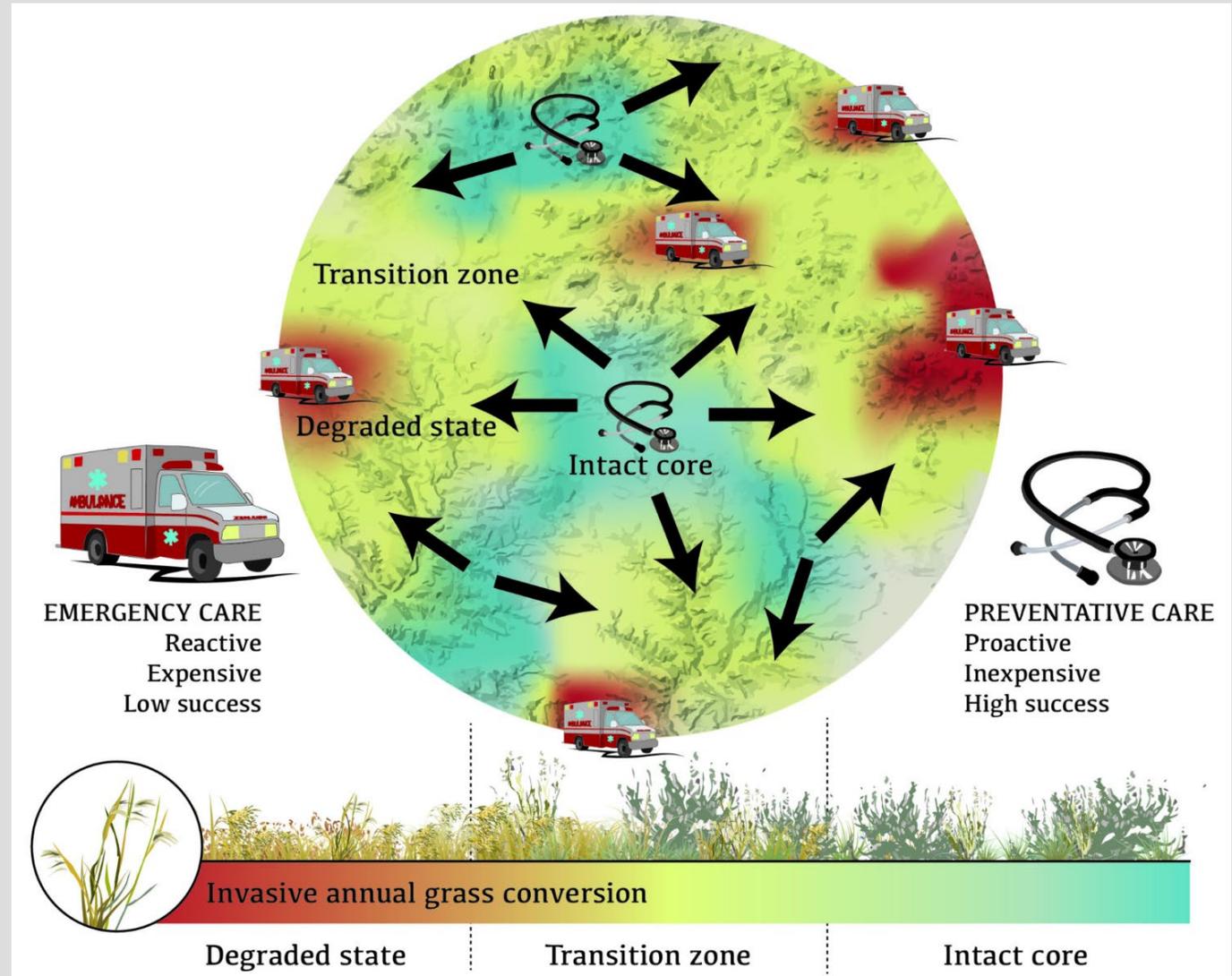
Low (<10%) Mild (11-25%) Moderate (26-50%) High (>50%)



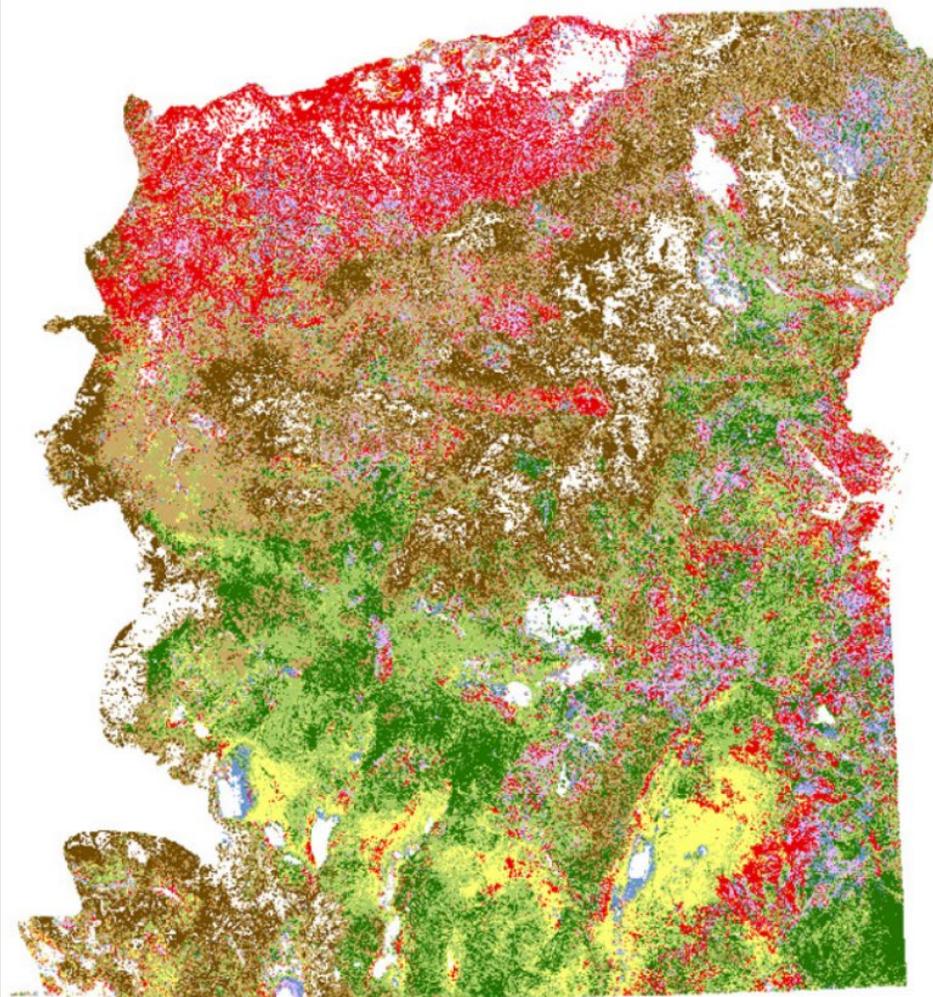
Core → Transition Zone → Annual Grass Region



□ Sage Grouse Priority Areas

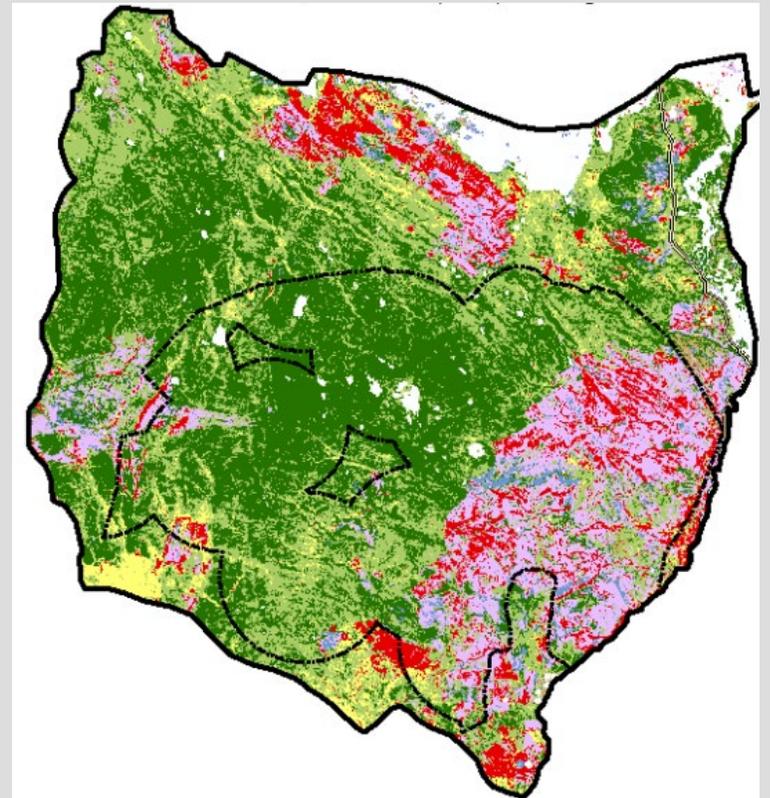
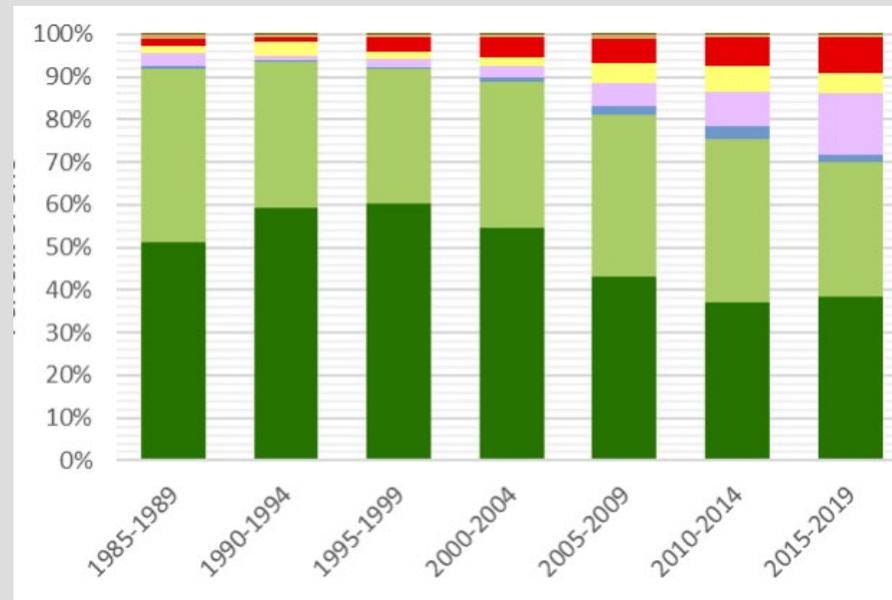


SageCon Threat Based Map



Ecostates (2019-2021)

- 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



Threat-based ecostate mapping depicts rangeland condition across eastern Oregon based on shrub, grass and tree cover.

Tools

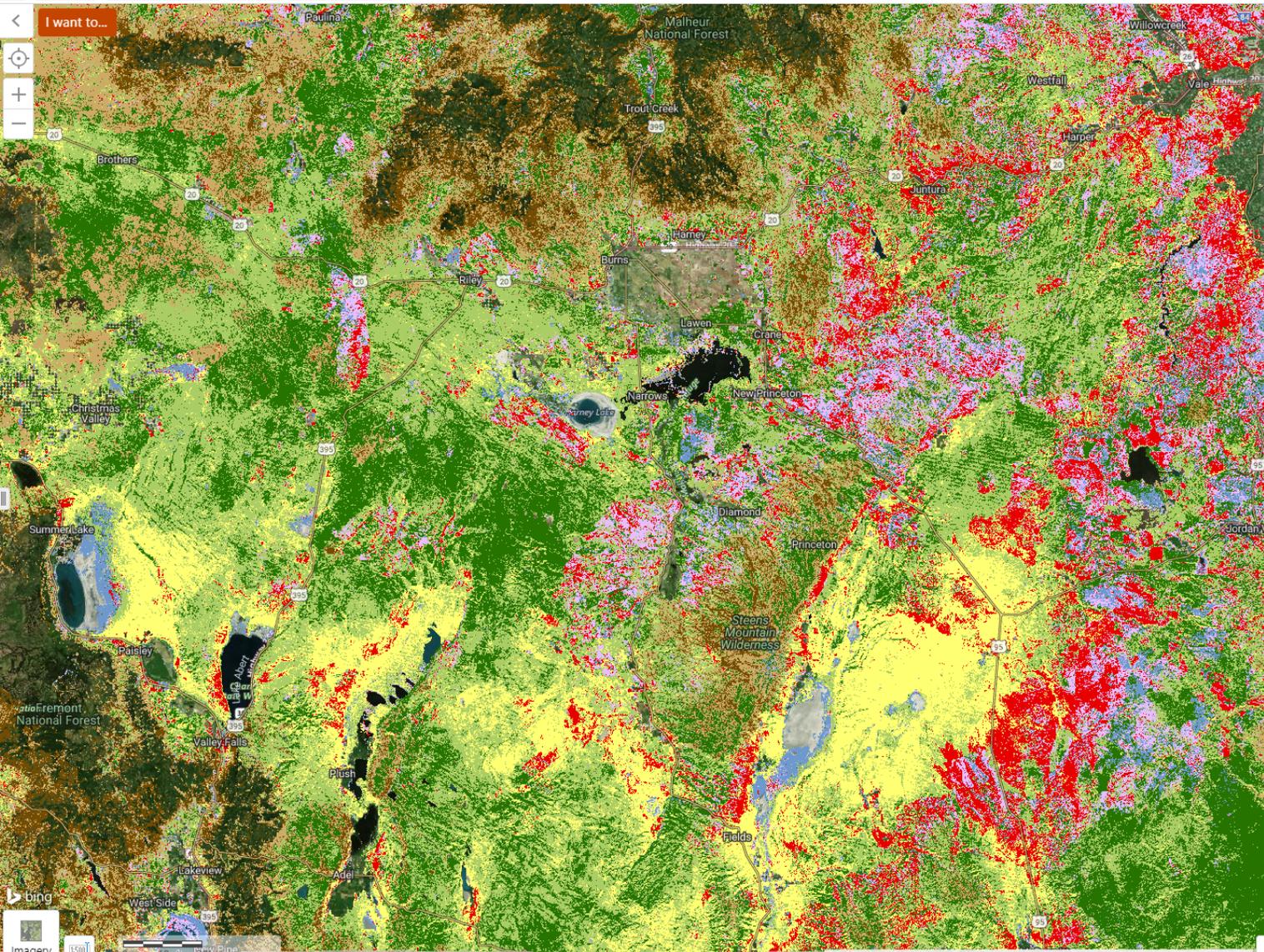
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Layers

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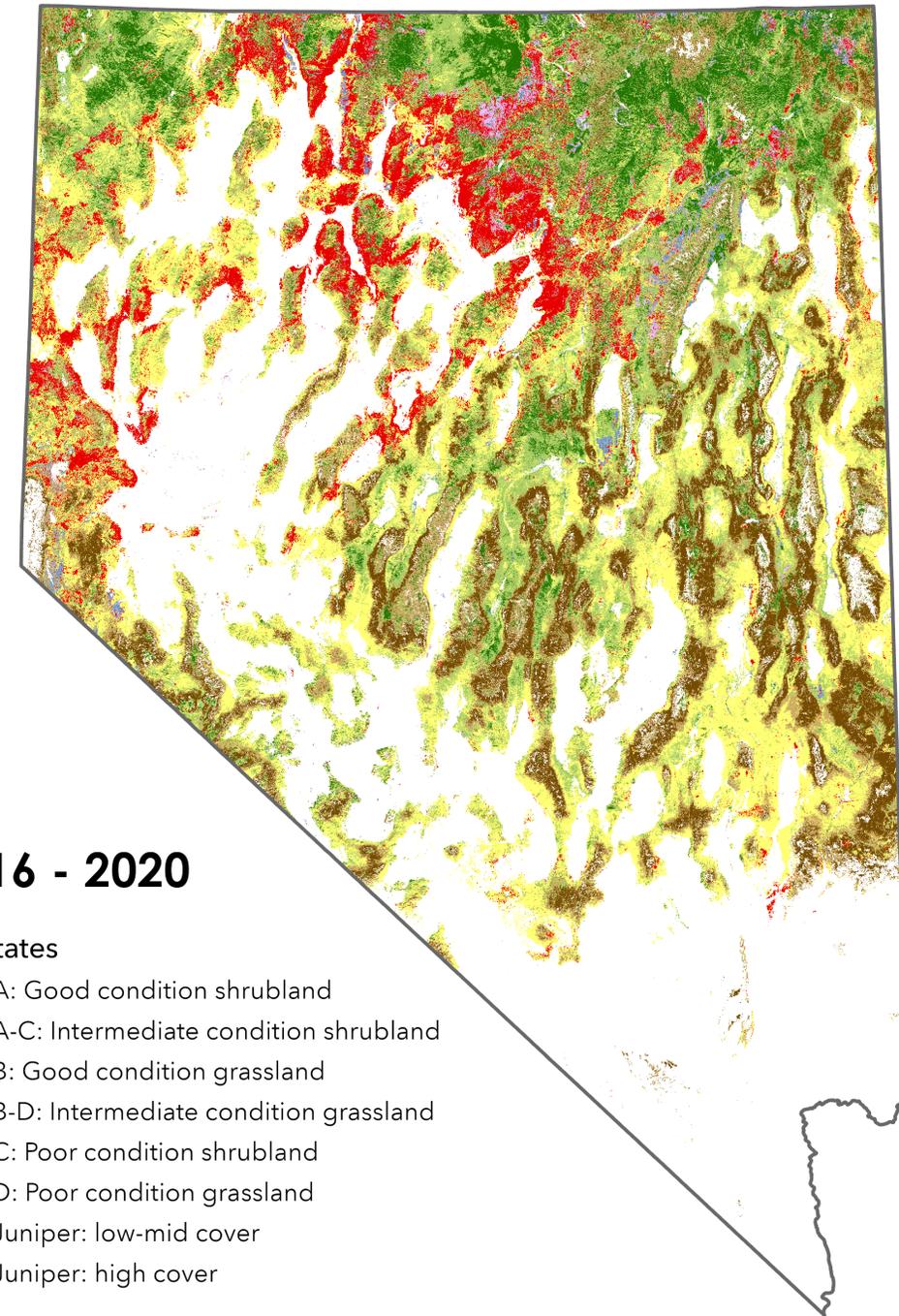
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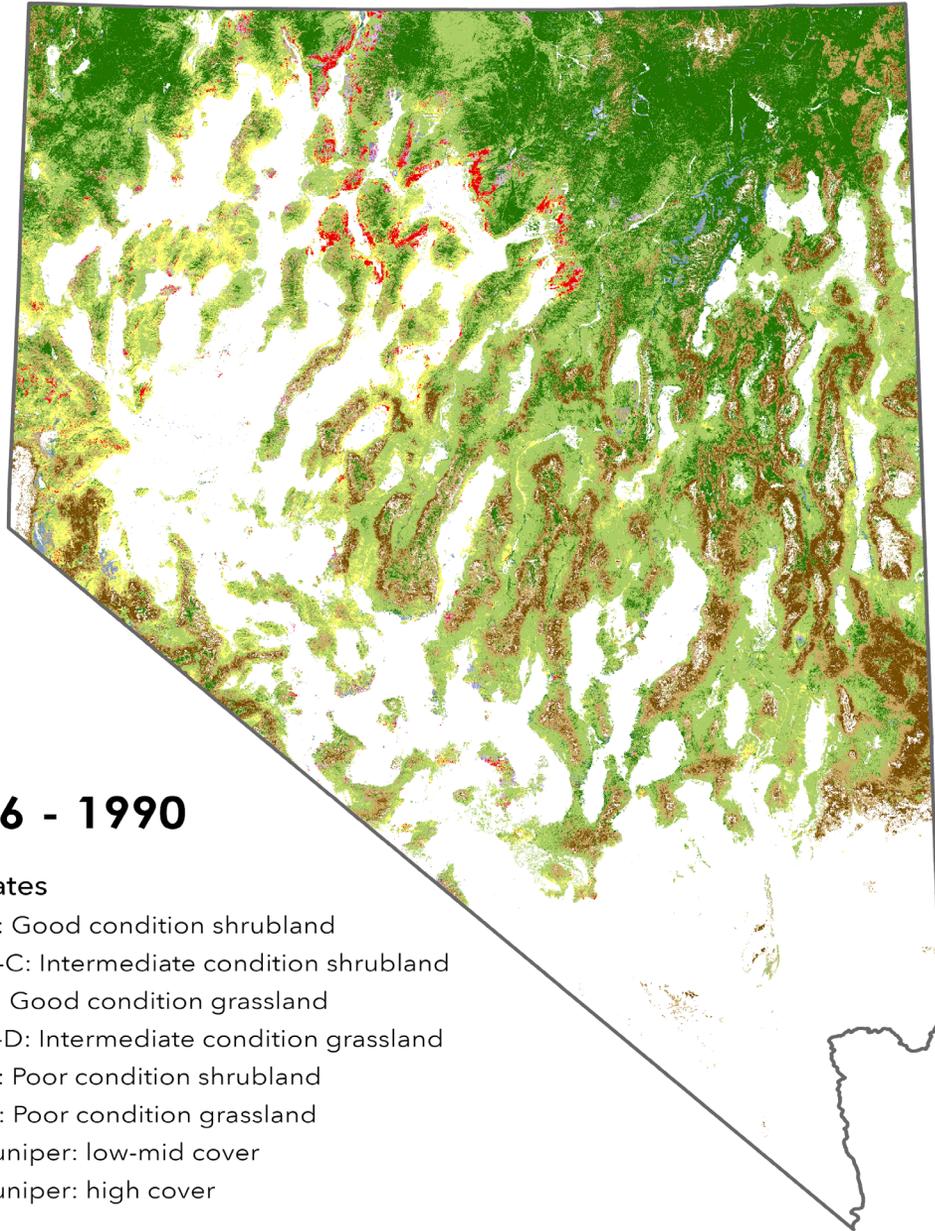
- Filter Layers... Filter
- Rangeland Vegetation Condition
 - Threat Based Ecostates (2019 to 2021)
 - Likelihood of Post-Fire Transition to Annuals
 - Oregon Sagebrush Conservation Design Geographic Strategy
 - Annual Forb and Grass Cover (2021)
 - Perennial Forb and Grass Cover (2021)
 - Shrub Cover (2021)
 - Tree Cover (2021)
 - Bare Ground Cover (2021)
 - Resistance and Resilience
 - Conservation and Restoration Actions
 - Conservation Actions - BLM (2000 to 2021)
 - OWEB Conservation Actions (2000 to 2020)
 - DSL Conservation Actions (2000 to 2018)
 - Wildfire
 - Current Year Fire Perimeters (NIFC)
 - Recent Fires (2000 to 2021)
 - Historic Fires (pre 2000)
 - Burn Probability
 - Sage-Grouse Habitat
 - Management Boundaries
 - Basemaps



Nevada Sagebrush Threats Map

- Followed Oregon's SageCon Threat Analysis Approach
<https://oe.oregonexplorer.info/externalcontent/sagecon/SageCon%20Rangeland%20Condition%20Report.pdf>
- Uses Rangeland Analysis Platform
 - 30 x 30 meter gid cell data

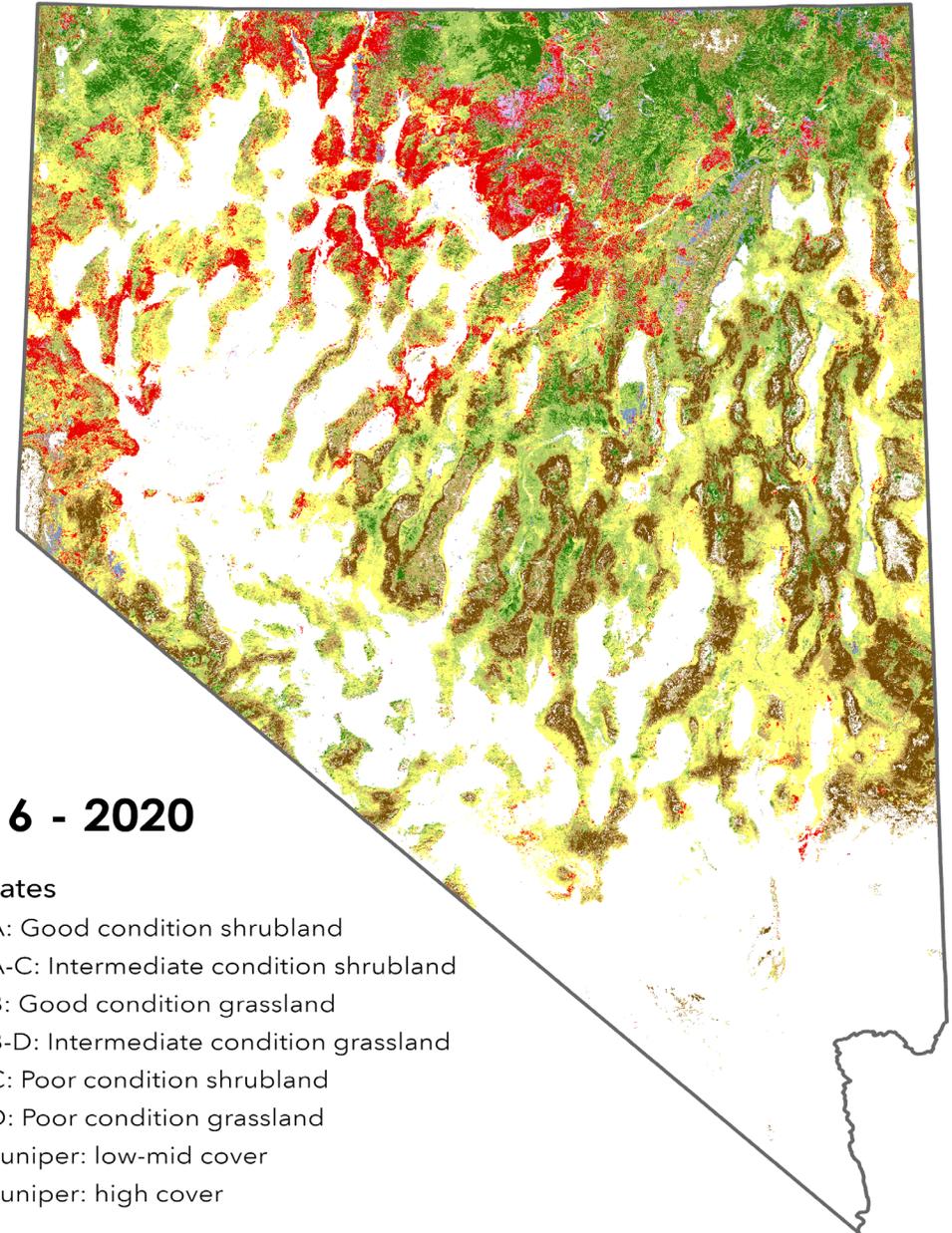
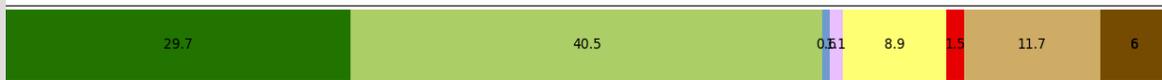




1986 - 1990

Ecostates

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



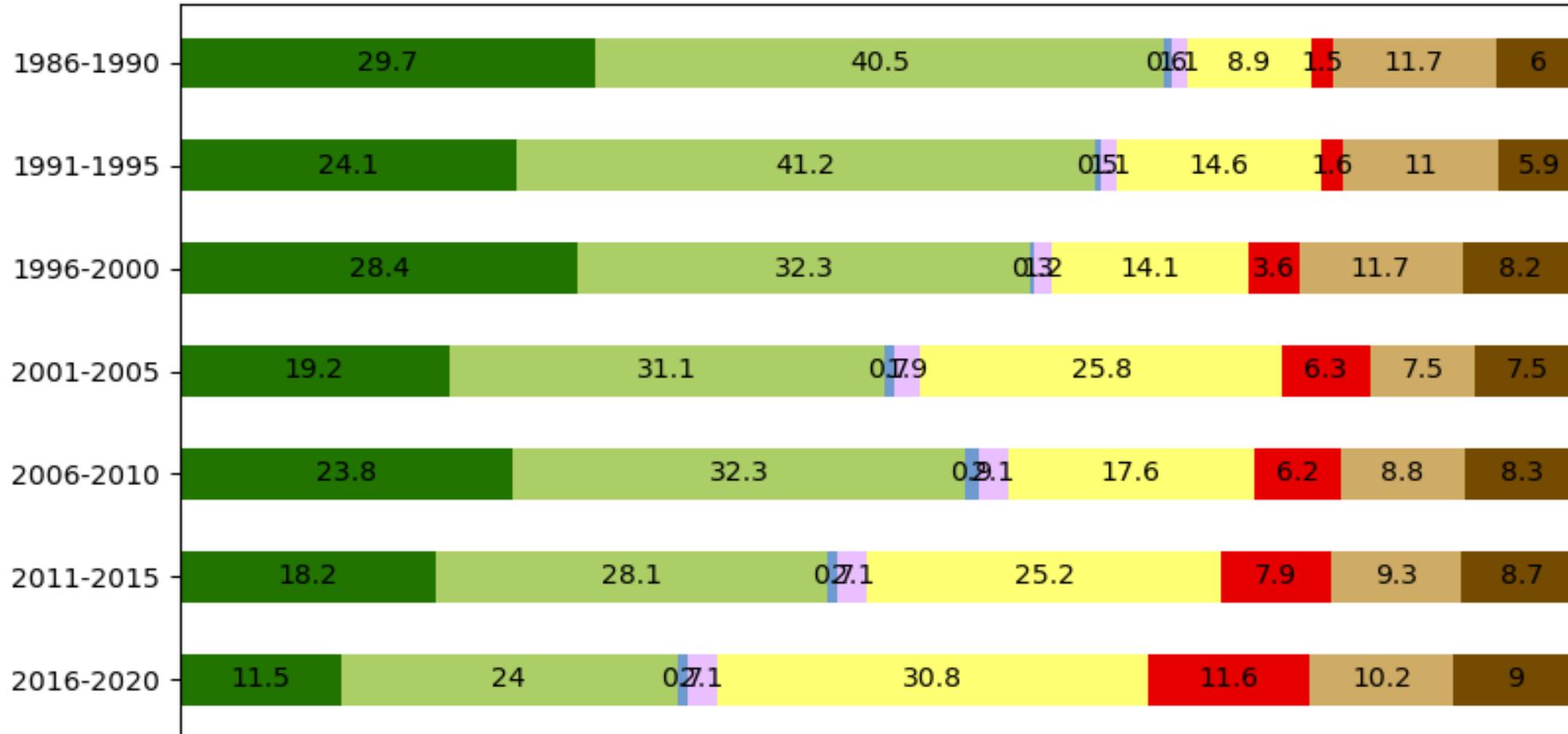
2016 - 2020

Ecostates

- A: Good condition shrubland
- A-C: Intermediate condition shrubland
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- C: Poor condition shrubland
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Over the last 30 years Nevada's habitats characterized as moderate-to-good shrub and grasslands have decreased by half while areas classified as being in poor condition have increased four-fold.



The percent of landscape change through time in Nevada.

Values and Threats

Values

- Wildlife
 - LCT
 - Mule Deer
 - Pronghorn
 - Pygmy rabbit
 - Sage-grouse
 - Songbirds (sagebrush obligates, Pinyon Jay)
 - Connectivity data
 - Critical habitat
- Water (WETT Tool, TNC groundwater dependent ecosystems (GDE), DRI products)
 - Surface
 - Ground
 - Riparian/wetland
 - Mesic
 - Springs – spring database
 - Guzzlers
- Conservation Easements – USGS protected lands database
- Vegetation treatments (Fuel breaks, Fire rehabilitation)

Threats

- Catastrophic Wildland Fire
- Fire probability per 100 years
- Fire Perimeters
- Invasive annual grasses
- Conifer cover
- Climate - Prolonged Drought
- Wild horse and burro populations
- Mining and Energy
- Land Use and Development (Roads, fences disturbed land, development, urban, recreation, land disposal, etc.)
- Ravens
- Noxious Weeds
- Resistance and Resilience
- Ecostate time series maps
- Other Limitations (surface management, clearances, tool restrictions, people/capacity, funding)

Sagebrush Plan Timelines

- Public Kick-off meeting (at NDOW HQ and zoom) – July 20, 2022
- Developed Core Agency Team – Hosting meetings September 14 and November 16, 2022
- Local Area Meetings in Winnemucca, Elko, Ely, Las Vegas, and Reno January 2023
- Develop Draft – Summer/Fall 2023
- Public Review of Draft – Fall 2023
- Final Draft – Winter 2023
- Continue refining into the future/living plan





Desired Outcomes:

- Improved Communication
- Common Priorities
- More and Better Projects



Increased Restoration Efforts and Improved Rangeland and Wildlife Health

How you can Help – Your input matters!

- Ask questions
- Participate in discussion
- Visit or write your recommendations on note cards and share with Mark, Lee, Justin, or Emily
- Share missing or recommended geospatial Threats and Values layers
- Review future mapping products and plan narratives providing input
- Participate in future surveys
- Send any recommendations and thoughts to: ndowshp@ndow.org





Questions?
