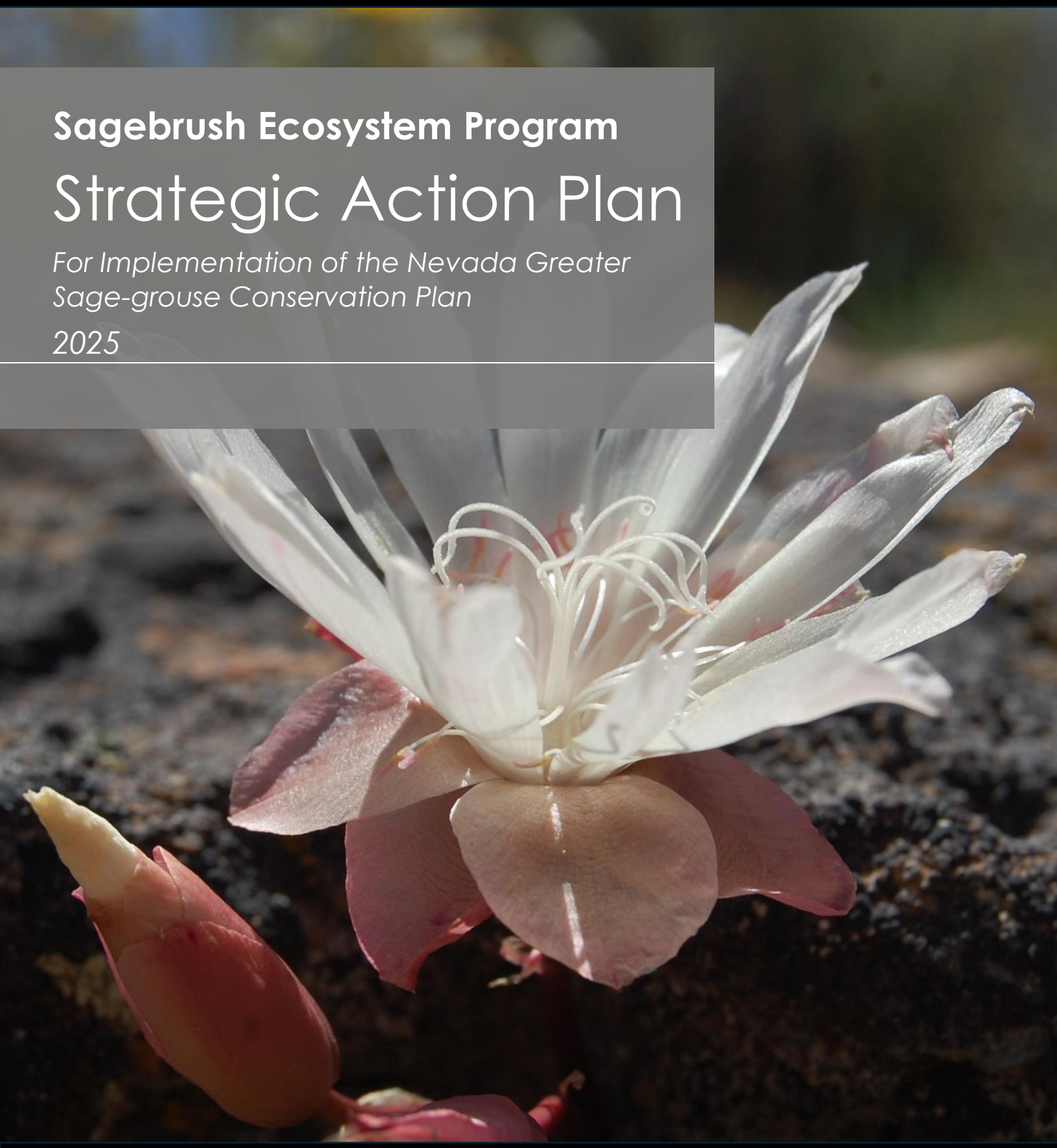

**Sagebrush Ecosystem Program**

# Strategic Action Plan

*For Implementation of the Nevada Greater Sage-grouse Conservation Plan*

*2025*

## FOR INFORMATION AND QUESTIONS ABOUT THE NEVADA CONSERVATION CREDIT SYSTEM, PLEASE CONTACT:

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# INTRODUCTION

The Nevada Sagebrush Ecosystem Program (SEP) was established by the Sagebrush Ecosystem Council (SEC) and is managed by the Sagebrush Ecosystem Technical Team (SETT) to address conservation challenges in Nevada's sagebrush ecosystems. Created by Executive Order 2012-19 from Governor Brian Sandoval in 2012 and authorized by legislation in 2013, the SEC serves as a cross jurisdictional collaborative body representing conservation and environmental interests and energy, agriculture, ranching, mining, local government, and Native American Tribes. In coordination with state and federal natural resource agencies, the SEC oversees policy decisions, operations of the SETT, and the Nevada Conservation Credit System (CCS).

To ensure consistent and resilient mitigation practices, the SEC, and subsequently the Legislative Commission, adopted permanent mitigation regulations (NAC 232.400 – 232.480) in 2019. These regulations mandate compensatory mitigation for Greater Sage-grouse (*Centrocercus urophasianus*; GRSG) through the CCS, requiring mitigation for specific man-made disturbances on public lands as outlined in the 2019 Nevada Greater Sage-grouse Conservation Plan ~~(~~(Sagebrush Ecosystem Program State of Nevada 2019)~~)~~. By leveraging scientifically quantified mitigation credits, the SEC continues to offset sagebrush ecosystem disturbances and enhance GRSG habitat in key areas.

The SETT is a multidisciplinary team composed of staff from the Nevada Department of Wildlife (NDOW), Nevada Department of Agriculture (NDA), Nevada Department of Conservation and Natural Resources (NDCNR), Nevada Division of Forestry (NDF; NDCNR), and Nevada Division of State Lands (NDSL; NDCNR). Working closely with state and federal partners, the team leads mapping, restoration, and management strategies to support sagebrush conservation. Under SEC guidance, the SETT developed the State Plan in 2014, with an update in 2019. The plan provides a balanced, science-based framework for coordinated conservation and adaptive management efforts.

The SEP Strategic Action Plan (SAP) builds on the 2019 State Plan by outlining implementation strategies for the next 5–10 years. Using the best available science and established conservation tools, the SETT will guide SEP efforts to mitigate key threats identified in ~~NDOW's GRSG Planning Areas~~the SAP located in SAP Priority Areas. The SAP provides a framework for setting priorities, guiding best management practices, and supporting rehabilitation, restoration, and conservation initiatives. Because many sensitive wildlife species, including GRSG, use both private and public lands to complete their lifecycles, successful conservation depends on collaboration across jurisdictions. The SEP is committed to using the best available science, adaptive management, and inter-collaborative stakeholder engagement to address complex conservation challenges and promote stable GRSG populations in the future.

## VISION

The Sagebrush Ecosystem Program envisions resilient, healthy, and intact sagebrush ecosystems that thrive alongside industry and resource management practices important to Nevada's economy.

## MISSION STATEMENT

The Sagebrush Ecosystem Program's mission is to sustain and enhance Nevada's sagebrush ecosystems and the species that depend on them while supporting the State's economy through responsible land stewardship and resource management.

The SAP provides tools and guidance to achieve the SEP's four long-term strategic goals:

1. **Restore sagebrush ecosystems** by addressing threats to Nevada's landscapes and Greater Sage-grouse populations.

2. **Enhance the Nevada Conservation Credit System** to mitigate impacts and ensure a net conservation gain for Greater Sage-grouse habitat and enhance population resiliency.
3. **Strengthen collaboration and outreach** to address ecosystem threats and engage stakeholders in conservation efforts.
4. **Advance scientific knowledge** of sagebrush ecosystems to reduce management uncertainty and improve conservation outcomes.

To achieve these goals, the 2025 SAP outlines actionable recommendations and provides a clear framework for implementation.

The SAP is organized into the following sections:

- Threats – A comprehensive list of perceived threats to GRSG and their habitat, and links to current information and resources.
- Goals and Objectives – A detailed outline of strategic actions with measurable outcomes aimed at addressing the four strategic goals identified by the SEP.
- Areas of Conservation Importance Map – A detailed map outlining important areas for GRSG habitat conservation and restoration.
- Resources – Information on funding opportunities, tools, project assessment resources, and current policies and regulations that affect GRSG management in Nevada. This section provides guidance for local entities and landowners in making informed management decisions to maintain intact, functional sagebrush ecosystems.
- References – A compilation of literature, reports, and sources consulted in developing this document, providing a foundation for the SAP's recommendations and ensuring transparency in the decision-making process.

The SAP will be updated as new scientific information emerges and lessons are learned during its implementation. Annual updates on activities will allow the SETT to adjust the SAP based on project progress, the latest research, partner contributions, and public policies. The SETT will work closely with project partners to promote science-based management decisions that benefit Nevada's GRSG and sagebrush ecosystems.

# SAGEBRUSH ECOSYSTEM AND SAGE-GROUSE THREATS

For a comprehensive review of threats to the sagebrush ecosystem, refer to the *Nevada Sagebrush Habitat Plan* (Nevada Department of Wildlife in prep) and the *2019 Nevada Greater Sage-Grouse Conservation Plan* (Sagebrush Ecosystem Program State of Nevada 2019). These foundational documents outline the broad, interacting pressures that degrade sagebrush ecosystems and affect Nevada's GRSG populations.

The sagebrush ecosystem is one of the most threatened landscapes in the western United States, with more than half of its historical extent degraded, fragmented, or lost entirely due to a combination of human land use and natural stressors (Knick et al. 2003, Chambers et al. 2014a, Mahood and Balch 2019).As a result, populations of GRSG, a sagebrush-obligate species and indicator of ecosystem health, have declined by an estimated 80% across their range since the 1960s (Coates et al. 2021).

The threats to sagebrush ecosystems in Nevada are complex and interacting, often reinforcing one another in feedback loops that accelerate ecosystem loss and species decline. The following section provides a synthesis of the most pressing threats to sagebrush integrity and GRSG conservation across Nevada:

**Invasive Annual Grasses**

Invasive annual grasses, particularly cheatgrass (*Bromus tectorum*), are the most pervasive problematic stressor in Nevada's sagebrush biome. These species reduce ecosystem resilience and resistance to disturbance, especially when combined with drought, grazing management stressful to perennial grasses,~~overgrazing~~, and frequent fire (Miller et al. 2011a, Chambers et al. 2014b). Thatch, or dead vegetation, creates continuous fine fuel beds that promote frequent, ~~high-intensity~~ large wildfires, which degrade native perennial plant assemblages and communities and drive self-reinforcing fire-invasion cycles (D'Antonio and Vitousek 1992, Brooks and Pyke 2001, Chambers et al. 2024). Even without fire, annual grasses can dominate and transform sagebrush ecosystems by exhibiting a broader ecological amplitude (i.e., existing in over a larger gradient of xeric and mesic ecological sites), displacing native vegetation in unburned areas (Smith et al. 2023) and further reducing an ecosystem's and individual plant species' ability to regain and retain its fundamental structure (both spatially and compositionally) and functionality (Miller et al. 2011b). See the USGS ScienceBase resource on invasive grasses for additional context and resources (Devendra Dahal et al. 2025).

**Wildfire**

Wildfires are the dominant driver of wildlife habitat loss across Nevada, fueled by the expansion of invasive annual grasses and subsequent tightened fire cycles~~invasive annual grasses~~. In many mid to low elevation sagebrush ecosystems of Nevada, fire return intervals have been tightened to < 12 years. Historically, it is estimated that fire rotations in lower xeric Wyoming big sagebrush communities were 50-100 years and in higher mesic Mountain big sagebrush communities as frequently as 15 to 25 years (Baker 2006, Miller and Heyerdahl 2008, Chambers et al. 2014c). Wildfires can reduce sagebrush cover, reduce (or increase) native understory vegetation, and contribute to landscape fragmentation (Coates et al. 2016, Dudley et al. 2021). Fire perimeters, frequency, and severity are well-documented through resources like Nevada Fire Info and the USGS Fire Science Portal (Nevada Fire Info 2025, U.S. Geological Survey 2025).

**Predation by Common Ravens**

The populations of common ravens (*Corvus corax*) in the western United States have increased significantly due to human-induced changes such as urbanization, agriculture, and infrastructure development, which provide more food and nesting opportunities (Kristan and Boarman 2007, Bui et al. 2010, Sauer et al. 2013, Howe et al. 2014). In Nevada, common ravens have become the primary nest predators of GRSG (Lockyer et al. 2015). The rise in raven populations, driven by human activities, is linked to a decrease in GRSG nest success and has altered their population dynamics, as the availability of natural prey no longer restricts ravens. Research indicates that raven densities exceeding 0.40 ravens per

square kilometer are associated with declines in GRSG population numbers (O'Neil et al. 2018, Coates et al. 2020). Since 2013, common ravens have experienced a 94% exponential population increase to the current estimate of 370,000 ~~Raven populations have doubled over the past two decades~~ (Harju et al. 2021), further intensifying ~~these~~ top-down negative effects transferred to GRSG and other sagebrush obligate species. The U.S. Fish and Wildlife Service has recognized this population increase of common ravens and the potential impacts to GRSG and in 2024 revised Nevada's common raven environmental assessment and NDOW's take permit to increase lethal removal of common ravens from 2,500 to 12,500.~~.~~

**Improper Management**

Unsustainable land management practices, including ~~overgrazing~~poorly managed grazing, poor development siting, and inadequate fire response, compound the effects of natural stressors. These practices can reduce recovery capacity and lead to lasting ecosystem transitions (Coates et al. 2021, Crist et al. 2023).

**Habitat Fragmentation & Human Alterations**

Infrastructure associated with energy development, roads, fencing, and urban expansion fragments GRSG habitat, reduces patch size, increases negative rather than positive edge effects, disrupts connectivity, and provides subsidies for predators. Anthropogenic disturbances, including mining, overgrazing of livestock ~~grazing~~, and off-highway vehicle use, contribute to regional and localized degradation and functional GRSG habitat loss (Beever and Aldridge 2011, Coates et al. 2021).

**Excess Wild Horses and Burros**

In March of 2020, the Bureau of Land Management (BLM) estimated that there were 95,114 free-roaming wild horse and burros occupying BLM-administered herd management areas (HMAs; BLM Report 2018). This number demonstrates more than three times the designated appropriate management level (AML). As of March 1, 2018, AML for BLM-administered WHB herds was set at 26,690 (BLM Report 2018). Nevada hosts approximately 60–80% of the wild horses and burros in the United States (Nevada Department of Wildlife 2024a), and ~~their~~ HMA populations are often well above AML and the ecological carrying capacity. In Fiscal Year 2018 alone, the BLM spent $49.8 million, 61% of its $81.2 million budget to care for animals in holding facilities (BLM 2018). Overpopulation leads to overgrazing, soil compaction, water resource depletion, and loss of native plant communities, especially in arid and semi-arid landscapes (Burdick et al. 2021, Beck et al. 2024, Street et al. 2025). For current data, see the BLM Wild Horse and Burro Program website, Nevada Policy 67, and the NDOW Wild Horse and Burro Report (Nevada Department of Wildlife 2024a, Bureau of Land Management 2025).

**Conifer Encroachment**

The encroachment of pinyon-juniper (P-J) woodlands into sagebrush ecosystems reduces herbaceous cover, fragments GRSG habitat, and lowers suitability for GRSG and other sagebrush obligate species (Coates et al. 2017). (Crawford et al. 2004) estimated a 10-fold expansion in conifer woodlands, particularly juniper and pinyon-pine, in the past 130 years that has impacted 18.9 million hectares of sagebrush (*Artemisia* spp.) ecosystems. Stiver et al. (2006) estimated that 60,000-90,000 ha of sagebrush communities across the range are impacted annually because of conifer encroachment. With cheatgrass establishment on lower xeric sagebrush sites and pinyon – juniper encroachment and infill occur on mesic higher elevation sites, continued loss of contemporary sagebrush habitat could be exacerbated if mitigation techniques in the form of habitat treatments are not employed (Miller et al. 2011a). Furthermore, e~~E~~ncounters with P-J communities alter movement speeds and increase daily mortality for GRSG across all life history stages (Sandford et al. 2017, Prochazka et al. 2017, Small 2021). Targeted conifer removal has proven effective for GRSG habitat restoration in areas experiencing early phases of encroachment (Coates et al. 2024). This potential increase in suitable habitat could reduce the seasonal movements for certain sagebrush obligate species, such as GRSG, due to providing more continuous useable habitat; distances for an individual bird or population often directly reflect the availability of

suitable habitat (Dahlgren et al. 2016). Resources include the Pinyon-Juniper Woodland Climate Response and Species Distribution Models (Noel, A.R and Bradford 2024).

**Climate Change**

Climate change compounds ecosystem threats through rising temperatures, altered precipitation patterns, and increased drought frequency. Mismatched timing of winter and spring precipitation decouples native plant communities' succession stages and further reduces recruitment success ~~of native vegetation~~ (Blomberg et al. 2012, Gibson et al. 2017). Warmer temperatures decrease critical forb availability for GRSG brood-rearing, while wet, cold springs increase chick mortality (Gregg and Crawford 2009, Guttery et al. 2013). Resources include the NatureServe Climate Change Vulnerability Index for Ecosystems and Habitats and the U.S. Gridded Palmer Drought Severity Index (PDSI) (NatureServe 2019, U.S. Department of Agriculture 2025).

# GOALS AND OBJECTIVES\

The four overarching goals presented in this updated Strategic Action Plan remain consistent with those outlined in the original SAP. However, the objectives and strategies have been revised and refined to reflect current priorities and to focus specifically on actions that fall within the Sagebrush Ecosystem Technical Team's (SETT) scope of authority and operational capacity.

This update aims to provide a more actionable and focused framework, with strategies designed to be both feasible and impactful under the SETT's leadership. While SETT will take primary responsibility for coordinating and advancing these strategies, full implementation will require collaboration with partner agencies, stakeholders, and land managers. More specific roles and timelines will be addressed during the development of implementation plans or operational work plans aligned with this SAP.

In some cases, detailed actions outlined in the 2019 Nevada Greater Sage-Grouse Conservation Plan (Sagebrush Ecosystem Program State of Nevada 2019) were not reiterated here to avoid redundancy. However, those details remain relevant and can serve as a foundation for future implementation efforts. Where appropriate, cross-references or integration with that plan may be incorporated during subsequent planning and prioritization phases.

## GOAL 1

**Address threats to Nevada sagebrush ecosystems and Greater Sage-grouse populations through land stewardship and resource management.**

Objective 1: Identify and expand funding opportunities for restoration efforts.

- Strategy: Identify and pursue grant opportunities to finance restoration projects.
- Strategy: Assist partners and stakeholders with grant applications.

Objective 2: Reduce and limit the spread of invasive species.

- Strategy: Protect undisturbed and uninvaded areas from invasive species by increasing resistance and resilience at the margins.
- Strategy: Prioritize mapping and quantifying invaded areas to guide treatment actions.
- Strategy: Facilitate strategic treatment measures in prioritized areas.

Objective 3: Address ecosystem fragmentation.

- Strategy: Use integrated approaches to address threats like wildfires, invasive species, conifer encroachment, and human disturbances to minimize fragmentation.
- Strategy: Promote avoid, minimize, and mitigate hierarchy during project development.

Objective 4: Ensure proper management of sagebrush and supporting ecosystems.

- Strategy: Promote innovative technologies to enhance ecosystem management practices.
- Strategy: Prioritize limiting~~Limit~~ disturbances in sensitive areas.
- Strategy: Provide support for permit renewals ~~and~~ with adaptive grazing practices.
- Strategy: Assist land managers with riparian restoration techniques to maintain and improve ecosystem function.

Objective 5: Reduce wildfire threats to the sagebrush ecosystem.

- Strategy: Prioritize protection of undisturbed and intact areas to reduce fire risk.

Strategy: Map burned areas and prioritize regions requiring post-fire restoration.

Strategy: Support fuels management and fire suppression efforts ~~in~~ for priority GRSG habitat areas.

Objective 6: Address conifer encroachment.

Strategy: Prioritize and map encroached areas to quantify and guide restoration treatments.

Strategy: Apply measures to prevent and reduce loss of resistance and resilience to at-risk sagebrush habitats~~further encroachment~~.

Objective 7: Manage raven populations to reduce predation pressures on GRSG.

Strategy: Support the increased take of ravens where needed to control populations.

Strategy: Reduce food subsidies and perching opportunities that support raven populations.

Strategy: Support the implementation of the NDOW Predator Management Plan to reduce anthropogenic threats to GRSG nests (Nevada Department of Wildlife 2024b).

## GOAL 2

**Refine the Nevada Conservation Credit System (CCS) to mitigate anthropogenic impacts and ensure net conservation gain for Greater Sage-grouse habitat.**

Objective 1: Increase enrollment and use of the Nevada CCS.

Strategy: Execute and maintain a Memorandum of Understanding (MOU) with the BLM and USFS to enroll public land credits in the Nevada CCS.

Strategy: Define and implement a process that satisfies all requirements for mitigation on public lands.

Strategy: Encourage credit developers and public land restoration projects to enroll in the Nevada CCS.

Strategy: Ensure all anthropogenic disturbances affecting GRSG habitat are enrolled and compliant with the Nevada CCS.

Objective 2: Update and improve the CCS based on the latest science.

Strategy: Update the CCS User's Guide, Manual, and HQT Methods document and tools with the latest available science as needed or every 5 years at a minimum.

Strategy: Create a working Literature Review Document that can be updated along with other annual updates and referenced by other program documents to ensure scientific relevance.

Strategy: Develop and execute a public lands restoration process for CCS to enhance sagebrush and supporting ecosystems in Nevada.

Strategy: Develop and execute CCS Debit Project End of Life policies and procedures.

Strategy: Update the SAP objectives and strategies, and the Areas of Conservation Importance Map every 5 to 10 years.

Objective 3: Enhance CCS outreach, education, and training.

Strategy: Host workshops for credit and debit proponents and other stakeholders to ensure effective program implementation and expand stakeholder engagement with the CCS.

Strategy: Provide annual formal training and certification for CCS verifiers.

Strategy: Develop an online library of training videos for CCS verifiers to enhance understanding of CCS procedures and duties.

Strategy: Keep stakeholders and federal agencies updated on state accomplishments and new findings related to the CCS.

Objective 4: Improve the conservation effectiveness of the CCS.

Strategy: Use the programmatic improvement processes to incorporate new data and scientific findings into the CCS Manual and User's Guide.

Strategy: Investigate and implement incentives for minimization to adjust disturbance decay curves when minimization actions are applied.

## GOAL 3

**Increase collaboration and outreach to address sagebrush ecosystem threats and support the Programmatic mission.**

Objective 1: Foster continuous collaboration with stakeholders and partners.

Strategy: Facilitate statewide and local area working group meetings to identify causal factors for the GRSG population or habitat triggers and determine adaptive management actions.

Strategy: Engage with land management and conservation agencies, permittees and private landowners, and others to engage in collaborative management of land and habitats in locations identified through the adaptive management process.

Strategy: Support education on riparian management through partnerships with the Nevada Creeks and Communities Team.

Strategy: Participate in annual State Mitigation Summits and subsequent technical meetings to remain informed about mitigation strategies and policies beyond Nevada.

Objective 2: Maximize restoration efforts through partnerships.

Strategy: Collaborate with state and federal agencies, private landowners, and local partners to design and implement restoration treatments.

Strategy: Promote and support the implementation of the Wild Free-Roaming Horses and Burros Act of 1971 and related BLM/USFS land use plans.

Strategy: Collaborate with local groups to initiate large-scale restoration efforts and/or conduct field trials evaluating the effectiveness of invasive weed control techniques.

Strategy: Facilitate the development of locally sourced native seeds for use in restoration projects and enhance the seed market conditions.

## GOAL 4

**Expand scientific knowledge of sagebrush ecosystems, reduce management uncertainty, and strive for successful conservation.**

Objective 1: Foster research collaboration to enhance scientific understanding.

Strategy: Collaborate with research institutions such as the USGS or University of Nevada, Reno to enhance the scientific understanding of GRSG populations and habitat health.

Strategy: Collaborate with research institutions to create publicly available tools that enhance conservation efforts.

Strategy: Prioritize research on GRSG population dynamics, habitat use, and landscape connectivity, particularly in under-studied or isolated populations.

Objective 2: Promote ongoing education for staff.

Strategy: Promote participation in workshops and conferences to keep staff updated on the latest tools and scientific advancements.

# AREAS OF CONSERVATION IMPORTANCE MAP

Nevada's extensive ~~vast~~ sagebrush ecosystem presents a significant challenge when prioritizing where to invest in restoration. To address this, the Areas of Conservation Importance map was developed to identify focal regions for public land restoration over the next 5 to 10 years through the CCS. This map is a planning tool to guide the SETT in strategically targeting restoration efforts based on the best available science.

The Areas of Conservation Importance highlight regions with high ecological significance for sage-grouse and sagebrush ecosystems. ~~While the map highlights broad areas of ecological significance,~~ However, successful implementation and restoration will always involve the expertise of local biologists, land managers, ~~all restoration projects will ultimately depend on localized expertise and site-specific knowledge from~~ county, state, and federal partners~~.~~ This map aims to enable a coordinated, long-term restoration approach where efforts can be built upon one another to create broader landscape-scale benefits over time.

**The Areas of Conservation Importance** were derived by integrating the following key data layers:

- **Core Sagebrush Areas (CSA):** Regions of intact sagebrush with healthy perennial herbaceous understories and minimal threats from invasive annual grasses, wildfire, and human disturbance (Doherty et al. 2022).
- **Lek Connectivity Components:** Based on the GRSG Lek Components layer (Knick and Hanser 2011), these spatial units represent interconnected clusters of leks. Connectivity within components suggests areas with higher GRSG abundance and reduced exposure to wildfire and human disturbance.
- **Priority+ and Priority Habitat Management Areas (PHMA+/PHMA):**
    - *PHMA+:* High-quality GRSG source habitat for any reproductive life stage within high-use areas, with high certainty of current occupancy (Milligan et al. 2024).
    - *PHMA:* GRSG habitat selection areas overlapping with high-use zones, source habitat in low-use areas, and a 500 m buffer around leks to capture satellite sites. These categories guide the conservation of both occupied and restorable areas (Coates et al. 2024, Milligan et al. 2024).

~~By combining these spatial layers, the map~~These combined data identify~~ies~~ regions where GRSG habitat restoration and protection will yield the greatest ecological benefits for GRSG and the broader sagebrush biome.

### SAP Priority Areas

The SAP Priority Areas (shown in green on the map figures) were identified in collaboration with NDOW to further refine where the SETT will focus its restoration resources in the near term. These areas represent a subset of the Areas of Conservation Importance that offer the greatest potential return on investment for sage-grouse conservation, credit generation, and long-term habitat integrity. The~~se~~ SAP ~~areas~~ Priority Areas were selected based on:

- Their importance to GRSG population persistence, density and connectivity;
- Observed population responses to past restoration efforts;
- Ongoing or recent declines in GRSG habitat quality; and
- Opportunities to support areas showing GRSG population recovery due to previous restoration and management efforts.

These areas are not "more important" than the broader Areas of Conservation Importance, but are designed to help the SETT prioritize restoration actions within its scope and authority. Both area types represent high-value GRSG habitat and strong credit-generating potential within the CCS. Importantly, while these maps serve as tools for strategic planning, actual restoration decisions will be guided by localized, expert knowledge. Collaboration with on-the-ground biologists and land managers will ensure projects are ecologically appropriate, feasible, and aligned with the best opportunities for meaningful conservation outcomes.

These focal areas represent where the SETT will prioritize restoration actions over the next decade to maximize long-term conservation outcomes.

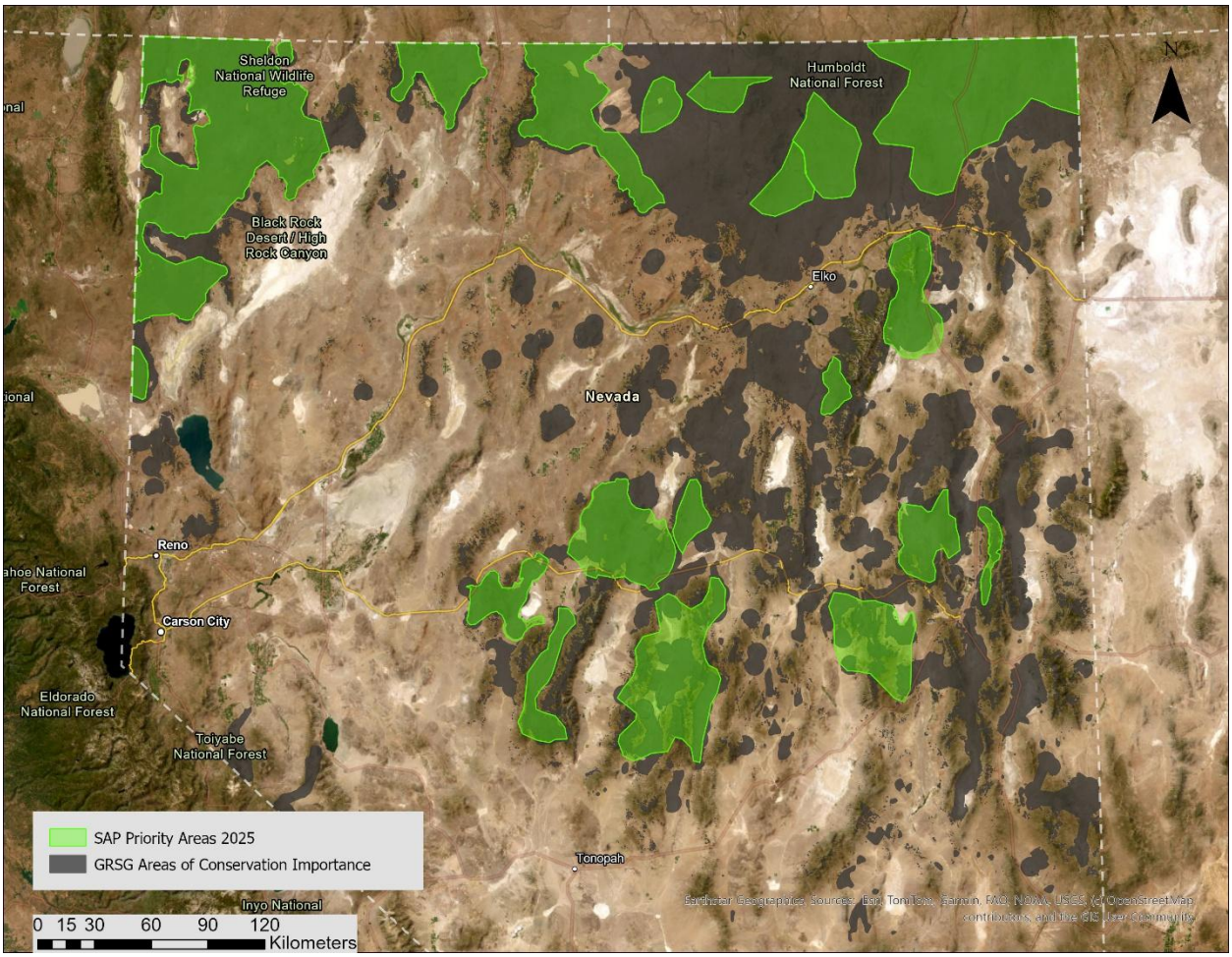


**Figure 1. Areas of Conservation Importance in Greater Sage-Grouse Habitat in~~Across~~ Nevada.**

This statewide map illustrates two spatial planning layers used to guide restoration efforts through the Nevada Conservation Credit System. The **Areas of Conservation Importance** (gray) were developed using Core Sagebrush Areas, Lek Connectivity Components, and Priority+/Priority Habitat Management Areas (PHMA+/PHMA), and represent regions with high ecological value for sage-grouse and the broader sagebrush ecosystem. The **SAP Priority Areas** (green) reflect focal zones where the SETT will prioritize restoration and enhancement actions over the next 5 to 10 years, based on ecosystem condition, restoration response, and opportunities to support sage-grouse population persistence.~~integrates four key data layers—Core Sagebrush Areas, Lek Connectivity Components, and Priority+/Priority Habitat~~

~~Management Areas (PHMA+/PHMA). Together, they define Areas of Conservation Importance (gray), which inform where restoration would be most beneficial. SAP Priority Areas (green) highlight the locations where the SETT will prioritize restoration and enhancement efforts over the next 5–10 years.~~

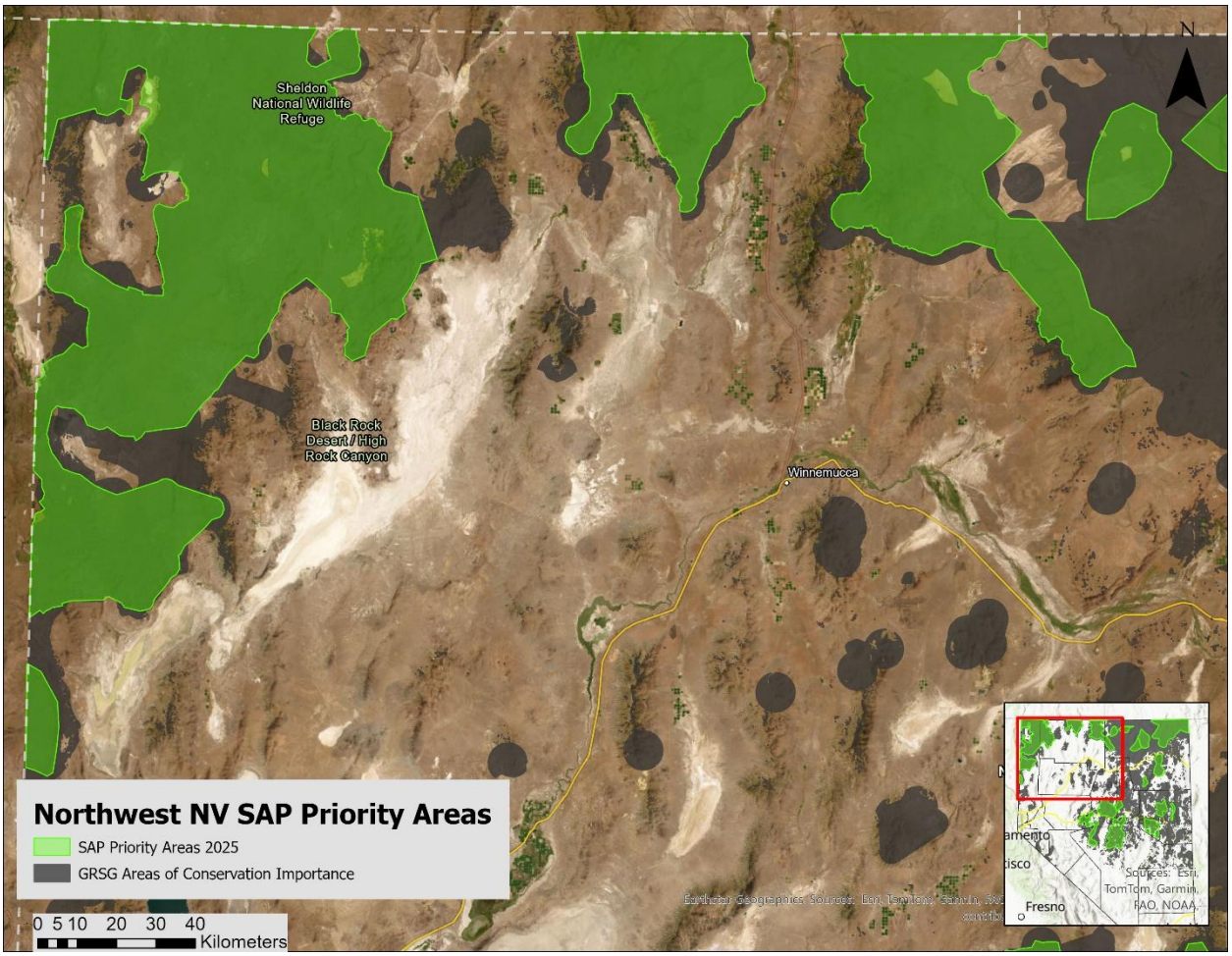


**Figure 2. Northwest Nevada – ~~Core Greater Sage-Grouse Habitat and Connectivity Focus.~~Areas of Conservation Importance and SAP Priority Areas.**

This regional map highlights the extensive overlap between **Areas of Conservation Importance** (gray) and **SAP Priority Areas** (green) in northwest Nevada. The region encompasses high-value sagebrush habitat and critical lek connectivity zones, including the Sheldon National Wildlife Refuge and surrounding area. These areas are essential for sustaining long-term Greater Sage-Grouse populations and are a focal point for restoration through the Nevada Conservation Credit System.~~Most Areas of Conservation Importance in northwest Nevada overlap with SAP Priority Areas. This region supports high-value core GRSG habitat and lek connectivity, critical for sustaining long-term GRSG populations.~~

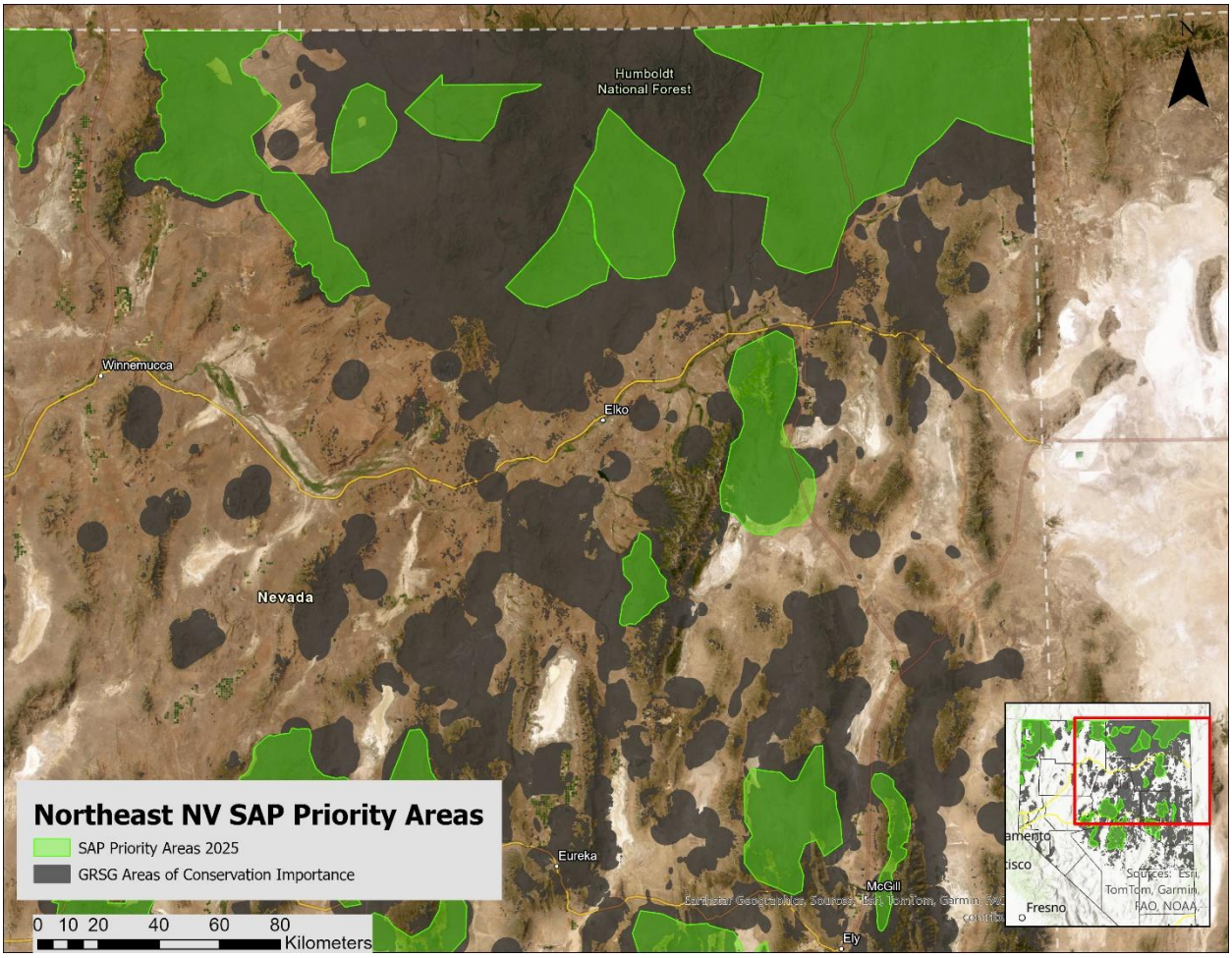


**Figure 3. Northeastern Nevada – ~~High-Density Populations and Threat Reduction.~~SAP Priority Areas in Core Greater Sage-Grouse Habitat.**

Northeast Nevada supports some of the highest Greater Sage-Grouse (GRSG) population densities in the state. This map highlights **Areas of Conservation Importance** (gray) and **SAP Priority Areas** (green), where restoration efforts will focus on post-wildfire recovery, conifer removal, and reducing anthropogenic disturbance. These actions are critical to maintaining habitat integrity and ensuring long-term population viability.~~Northeastern Nevada supports the majority of the state's GRSG population. SAP Priority Areas in this region emphasize post-wildfire rehabilitation, conifer removal, and mitigation of human disturbance to support continued population stability.~~

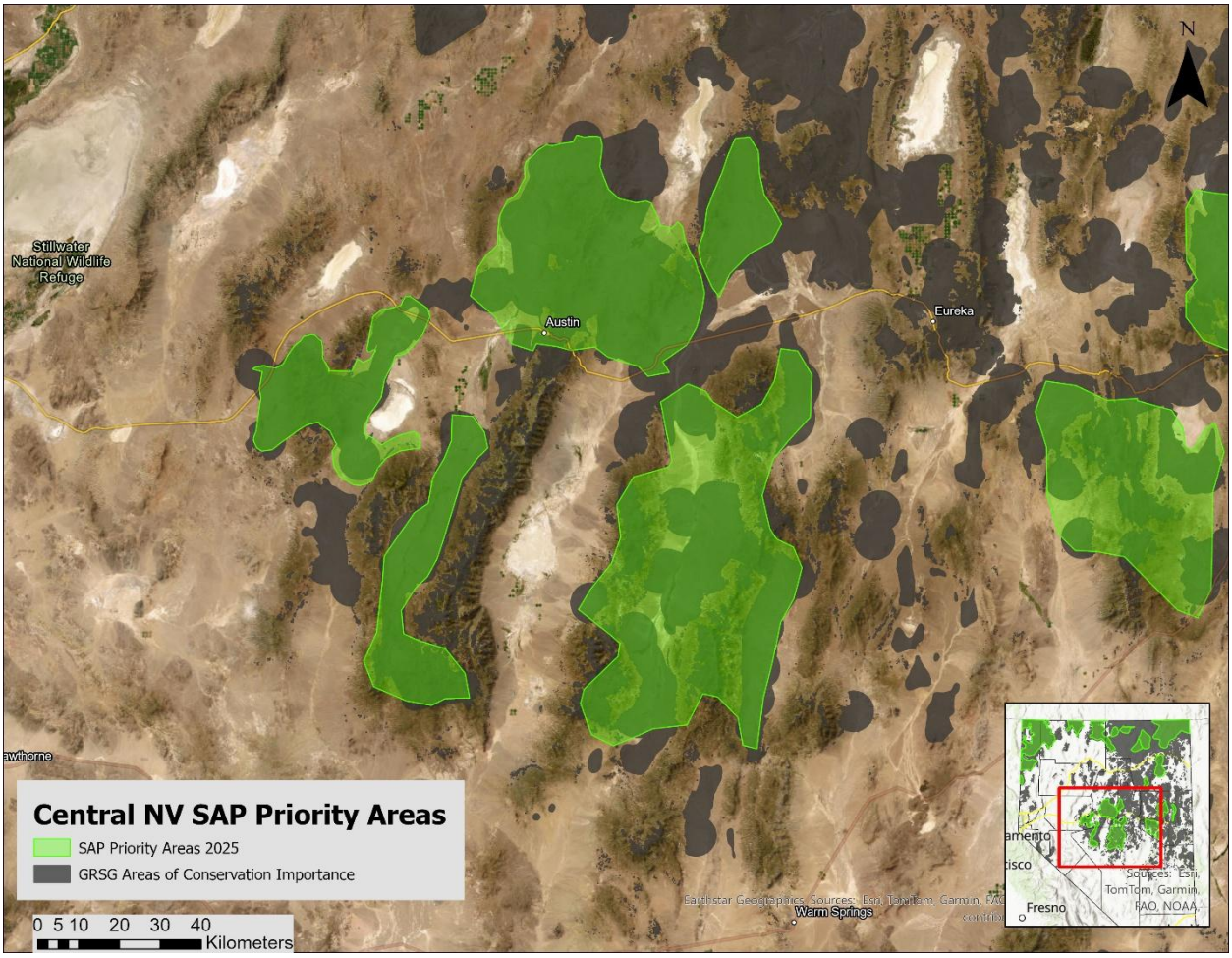


**Figure 4. Central Nevada – ~~Population Recovery and Emerging Threats.~~SAP Priority Areas Supporting Population Recovery.**

Central Nevada has experienced recent gains in Greater Sage-Grouse (GRSG) populations. This figure shows **Areas of Conservation Importance** (gray) and **SAP Priority Areas** (green), where restoration will focus on mitigating emerging threats such as conifer expansion and development pressure. These areas represent key opportunities for proactive management to reinforce recovery trends and improve sagebrush ecosystem resilience.~~GRSG populations in central Nevada have been increasing in recent years. SAP Priority Areas in this region aim to protect and enhance GRSG habitat amid growing development and conifer encroachment. Strategic SETT-led restoration efforts will be crucial for sustaining this momentum.~~

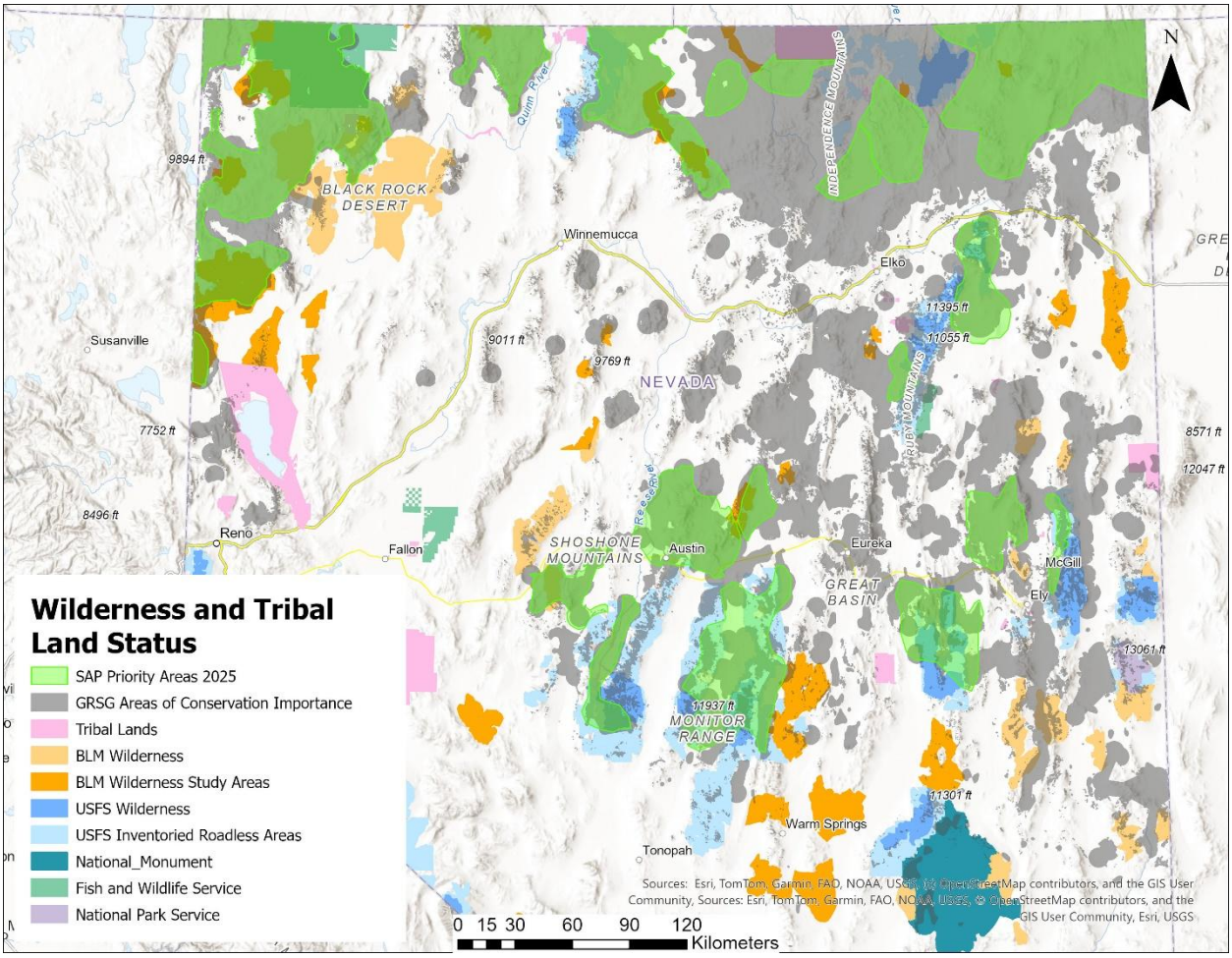


**Figure 5. SAP Priority Areas, Wilderness, and Tribal Land Constraints.**

This map overlays 2025 SAP Priority Areas (green) and Greater Sage-Grouse Areas of Conservation Importance (gray) with Tribal Lands, designated Wilderness, Wilderness Study Areas, US Fish and Wildlife Service, National Monuments, and National Park Service Lands, which present additional constraints for on-the-ground restoration. While SAP Priority Areas identify where conservation work is most needed, implementation may be limited or require special coordination in areas managed by the National Park Service, Tribal governments, or under wilderness protections. These considerations underscore the need for careful project planning, landowner engagement, and collaboration with land management agencies to ensure effective and feasible restoration efforts.~~Restoration work may not be as easy to do in Wilderness, Wilderness Study areas, and Tribal Land is not Public Land.~~

# RESOURCES

## CURRENT POLICIES

Nevada State Plan

- 2019 Nevada Greater Conservation Plan

NRS 232.161-162

- Account to Restore the Sagebrush Ecosystem: Creation; powers and duties of Director; limitations on use of money in Account; claims.
- Sagebrush Ecosystem Council: Creation; members; terms; vacancies; compensation; powers and duties; biannual report to Governor.

NRS 321.592-594

- Division authorized to establish and carry out programs to preserve, restore, and enhance sagebrush ecosystems.
- Powers and duties of Administrator and Division regarding programs to improve sagebrush ecosystems; Division authorized to make certain grants and enter into certain contracts and agreements; regulations.

NAC232.400-480

- Sagebrush Ecosystem Council: Mitigation of Adverse Impact to Greater Sage-grouse and Habitat

Existing Management Plans (RMPs)

The BLM Resource Management Plans (RMPs) provide land use plan guidance specific to GRSG habitat conservation and management for public lands within the GRSG Habitat Management Areas (HMAs) in Nevada. The plans for each region can be found on the BLM Nevada Planning and NEPA website.

National Forest Land and Resource Management Plans (LRMPs)

The Land and Resource Management Plans (LRMPs) provide land-use plan guidance specific to GRSG habitat conservation and management for National Forest lands within the GRSG HMAs in Nevada. The Humboldt-Toiyabe National Forest plan can be found on the USFS Plan Documents website.

## FUNDING

The successful implementation of a long-term, sustainable conservation strategy will rely on a combination of state and federal grant programs alongside local funding sources to fulfill matching requirements. Utilizing the Nevada Conservation Credit System (CCS) to mitigate anthropogenic disturbances will support restoration efforts, fostering measurable environmental improvements through private sector investments. This list is not exhaustive and will be updated periodically to reflect evolving funding opportunities and program availability.

**Agricultural Conservation Easement Program (ACEP):**
ACEP assists landowners, land trusts, and other organizations in protecting, restoring, and enhancing wetlands or preserving working farms and ranches through conservation easements.
Learn more about ACEP.

**Agricultural Land Easements (ALE):**
ALE focuses on helping private and tribal landowners, land trusts, and government agencies conserve cropland and grassland on operational farms and ranches by restricting non-agricultural uses through conservation easements.
Explore ALE opportunities

**Agricultural Management Assistance (AMA):**
AMA supports agricultural producers by assisting with financial risk management through diversification, marketing, and implementing natural resource conservation practices.
More on AMA

**Conservation Reserve Program (CRP):**
Administered by the Farm Service Agency (FSA), CRP encourages farmers and landowners to convert highly erodible and environmentally sensitive land into vegetative cover, such as native grasses and riparian buffers. Participants receive rental payments and cost-share assistance to establish long-term conservation practices that enhance water quality, reduce soil erosion, and provide wildlife habitat.
Find out more about CRP.

**Conservation Stewardship Program (CSP):**
CSP helps landowners strengthen their agricultural operations by building on their existing conservation practices. This program supports improvements in grazing, crop resilience, and wildlife habitat development, offering customized plans and financial assistance to address resource concerns effectively.
Details on CSP

**Environmental Quality Incentives Program – Nevada (EQIP):**
EQIP provides technical and financial support to agricultural producers and forest landowners to address natural resource concerns, such as water and air quality, soil health, erosion control, and wildlife habitat improvement, while mitigating drought and extreme weather impacts.
More about EQIP in Nevada

**Grazing Lands Conservation Initiative (GLCI):**
The GLCI works to identify key issues affecting private grazing lands, offer solutions, and enhance existing conservation programs to improve land management.
Explore GLCI

**Landscape Conservation Initiatives:**
This initiative accelerates the benefits of voluntary conservation programs to improve environmental outcomes such as cleaner water, healthier soil, and enhanced wildlife habitats.
Learn about Landscape Conservation

**National Water Quality Initiative (NWQI):**
NWQI aims to speed up on-farm conservation investments and direct resources to improve water quality where they can have the greatest impact.
Read about NWQI

**Nevada Conservation Districts Grant Opportunities**

The Nevada Department of Conservation and Natural Resources, Conservation Districts Program offers grant opportunities and hosts links to other grant opportunities for land owner's wanting to Protect Sage-grouse.

Conservation Districts Grant Opportunities

**Nevada Division of Forestry Grants:**
The Nevada Division of Forestry (NDF) provides funding opportunities for urban and rural natural resource conservation projects, as outlined in Nevada's Forest, Range, and Watershed Action Plan. The NDF collaborates with various partners and receives funding from the State of Nevada, the U.S. Forest

Service, and other sources to address conservation issues and support impactful projects.
Explore NDF Grants

**Sage Grouse Initiative:**
This initiative targets conservation efforts to improve GRSG habitat through sustainable land management practices.
Discover more about the Sage Grouse Initiative

**Wetland Reserve Easements (WRE):**
Through conservation easements, WRE allows landowners to protect, restore, and enhance wetlands degraded due to previous agricultural use.
Details on WRE

**Wetland Reserve Enhancement Partnership (WREP):**
WREP is a voluntary program in which NRCS partners with eligible organizations to support high-priority wetland protection, restoration, and enhancement projects that benefit wildlife habitats.
More on WREP

**Working Lands for Wildlife (WLFW):**
Through targeted conservation efforts, WLFW focuses on enhancing agricultural and forest productivity while improving wildlife habitats in working landscapes.
Learn about WLFW

## TOOLS

The tools and resources below are designed to support project planning, prioritization, and treatment implementation at the site scale. These tools assist landowners, resource managers, and conservation professionals in assessing, managing, and restoring sagebrush ecosystems critical to GRSG populations in Nevada. This updated list ensures stakeholders access the most relevant and effective tools for sagebrush ecosystem conservation and GRSG habitat management in Nevada.

**Bureau of Land Management (BLM) Geospatial Business Platform Hub**

A centralized hub for accessing BLM geospatial data, including maps, datasets, and tools for landscape-level planning. Users can search for relevant information by keyword, geographic location, or subject category.
BLM Geospatial GIS Data

**BLM Field Office Technical Guide (FOTG)**

The FOTG is a primary scientific reference for conservation planning, providing technical information on soil, water, air, plant, and animal resource management.
FOTG

**BLM Fire and Invasives Assessment Tool (FIAT)**

FIAT is an assessment protocol to evaluate threats to GRSG habitat, such as wildfire, conifer encroachment, and invasive annual grasses. It integrates resistance and resilience concepts to guide land management decisions.
BLM FIAT GIS Data

**BLM Habitat Assessment Framework (HAF)**

HAF provides a standardized methodology for assessing sagebrush ecosystem quality, including vegetation composition, structure, and anthropogenic impacts. This tool aids in evaluating GRSG habitat

availability and suitability across different scales.
BLM HAF

**Integrated Rangeland Fire Management Strategy Actionable Science Plan**

This plan provides a science-based adaptive management approach to protect, conserve, and restore the sagebrush ecosystem. It addresses fire regimes, invasive species, restoration strategies, and climate impacts on sagebrush ecosystems.
Plan Document

**Multi-Resolution Land Characteristic (MRLC) Consortium**

The MRLC is a partnership among federal agencies to create consistent, nationwide land cover and condition data to support a broad range of resource management and environmental monitoring needs. MRLC provides access to datasets such as the National Land Cover Database (NLCD) and the Rangeland Condition Monitoring Assessment and Projection (RCMAP) time series. These resources include ecological potential, vegetation fractions, and future condition projections, which are available for download and web-based services.
MRLC

**Nevada Conservation Credit System (CCS)**

The CCS is a market-based conservation program that provides a framework for mitigating impacts and enhancing sagebrush ecosystems. It allows landowners and developers to generate or purchase credits to offset disturbances, ensuring net conservation benefits for GRSG. CCS serves as the primary tool for implementing compensatory mitigation in Nevada.
Nevada Conservation Credit System

**Nevada Connectivity Plan**

A planning document aimed at maintaining and improving habitat connectivity for GRSG and other sagebrush-dependent species.

Nevada Connectivity Resources

**Nevada Sagebrush Habitat Plan**

A strategic plan outlining management approaches for conserving sagebrush ecosystems and addressing threats.

**Nevada State Wildlife Action Plan (SWAP)**

The SWAP outlines a comprehensive statewide strategy to conserve Nevada's wildlife and habitats, including 367 priority species and 20 key ecotypes (referred to as 'key habitat types'). It highlights the species and ecosystems most needing protection over the next decade to ensure their persistence for future generations.

Nevada SWAP

**Nevada Rangeland Monitoring Handbook (NRMH) and Rancher's Monitoring Guide**

Provides short- and long-term rangeland monitoring guidelines to inform adaptive management.
NV Rangeland Monitoring Handbook

**Nevada Rancher's Monitoring Guide**: Offers practical monitoring techniques for landowners to track rangeland health and management outcomes.
Nevada Rangeland Research Resources

**Proper Functioning Conditions for Lentic and Lotic Sites**

This assessment methodology provides a consistent approach to evaluating the physical functioning of riparian-wetland areas. It helps land managers determine whether these areas are functioning properly, functioning at risk, or non-functional. Properly functioning riparian areas contribute to water quality and ecosystem stability and resilience. PFC assessment is the first step in an integrated riparian management process also described in these handbooks.

PFC - Lentic Areas

PFC - Lotic Areas

BLM Technical References

**Resistance and Resilience Concepts**

A strategic multi-scale approach to managing invasive annual grasses and altered fire regimes in sagebrush ecosystems. This report outlines conservation strategies based on ecosystem resistance to invasives and resilience to disturbances.
Resistance and Resilience Concepts Document

**Sagebrush Conservation Design**

A proactive approach to restoring and conserving sagebrush ecosystems across the western United States. This framework helps land managers identify priority areas for conservation and restoration efforts by integrating ecological resilience, resistance to invasive species, and GRSG habitat needs.

Sagebrush Conservation Design

**SAGEMAP: GIS Database for Sage-Grouse and Shrub-steppe Management**

SAGEMAP provides spatial data to support the management of GRSG and sagebrush steppe ecosystems in the western United States.
SAGEMAP

**USGS Tools**

The Science-based Management of Ravens Tool (SMaRT) is an online decision-support tool designed to help land and resource managers create adaptive management plans for areas affected by high numbers of common ravens. Based on recent studies and mapping tools, SMaRT identifies where raven densities may impact sensitive wildlife, agricultural resources, or public safety (Dettenmaier et al. 2021). The tool walks users through building site-specific management strategies using a user-friendly web interface.

SMaRT Tool

Additional USGS tools coming soon…

**Anthropogenic Disturbance Tool**

**Conservation Planning Tool**

**Habitat Management Map Tool**

**Grazing Management and Planning Tool**

**NRCS Web Soil Survey (WSS)**

WSS offers detailed soil data and maps to assist land managers in making informed conservation and restoration decisions.
Web Soil Survey

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