

# Nevada Prescribed Fire Alliance

## 2016-2020 Strategic Plan

### **Background**

Prescribed fire is one of many vegetation management tools used by federal and state agencies and other organizations and associations in Nevada and throughout the nation. It is used to reduce fuels along roads, around homes, in overgrown forests, and for other ecological benefits such as reducing vegetation competition and promoting biological diversity. Prescribed fire use faces many challenges in Nevada, including a limited number of burn days, limited staffing, habitat alteration, smoke impacts, and public perception. Formation of the Nevada Prescribed Fire Alliance would increase the pool of shared resources and the efficiency of their use; use the best science to optimize burn locations, amounts, and timing of acres treated with prescribed fire; improve information exchange; increase training opportunities; and improve public education about prescribed burning. National Cohesive Wildland Fire Management Strategy leaders state that “Prescribed Fire Councils are an example of what’s working in fire management.”

### **Importance of Prescribed Fire**

As the amount, intensity, and frequency of wildfires continue to increase in the western US, the use of prescribed fire to reduce wildfire threat is as important as ever. Drought, build-up of fuels, and extreme climatic conditions can all contribute to uncharacteristic wildland fire behavior. While we cannot control the weather, we can manage fuels. Decadent shrubs and trees, uncharacteristically dense vegetation, downed wood, thick forest litter, and other surface fuels can all contribute to catastrophic wildfires that normally wouldn’t be seen on the landscape. Prescribed fire is used to reduce these fuels during times of the year when environmental conditions allow for slower consumption rates, less heat production, lower flame lengths, and less extreme fire behaviors, which can harm human health and safety, property, and sensitive ecosystems.

Many plants and wildlife species are adapted to fire and some even require periodic fire for regeneration or persistence. When excess vegetation or plant litter is burned off, certain nutrients are released into the soil and bare soil can be exposed, which is necessary for some regenerating plants. Additionally, removal concentrations of fuel that would have historically been removed through periodic, low-intensity fire would allow sunlight and moisture to reach new vegetation that establishes from seed or by post-fire sprouting. Some native plant species and forest communities have adapted to fire for their germination, growth, and resilience. Seed contact with bare soil (such as that exposed by a fire) is necessary for some species to naturally regenerate. Others require fire to provide heat to the seed structures to make them available to germinate. Wildlife may also benefit from prescribed fire when forage and habitat quality and quantity are increased.

Encouraging new plant growth can decrease the risk of wildfire for several years following prescribed fire. Historically, both natural and anthropogenic fires functioned in thinning Nevada's forests. Thinned forests often recover faster and are more resistant to insect and disease attacks, and mechanical approaches to vegetation and fuels management are not always an option due to funding, access, terrain, and other limiting features and conditions. In addition, mechanical treatments do not always fulfill the same role in the ecosystem that natural fire would have. Prescribed fire can act as substitute where it's feasible.

### **Prescribed Fire in Nevada/Great Basin**

Fire use in the Great Basin has a long history starting with Indian burning of forests and rangelands. American Indians used fire to reduce the future fire risk to pine nut collection areas, improve wildlife forage, and increase harvest foods. In the Sierra Nevada, Indians burned frequently to keep camp sites clean, open up forests, drive deer to hunters, and to promote growth of vegetation used for basket making. European settlement of the Great Basin in the mid to late 1800s eliminated Indian burning and the Indian way of ecosystem management. Without anthropogenic fire, and with a new policy of fire suppression from natural starts, ecosystems in the Great Basin and Sierra Nevada began to see the effects in overgrown forest stands and vegetation encroachment into traditionally clear areas.

The scientific community has backed and encouraged prescribed fire for decades. It was used in Great Basin forests and rangelands prior to 1980 and in National Parks in the Sierra Nevada as early as the 1960's. Although supported by land managers and scientists, fear of wildfire has been a major reason for resistance to prescribed burning and limited use of prescribed fire. The combination of reduced anthropogenic fire, limited prescribed fire, active fire suppression, and changing climatic conditions has contributed to a build-up of fuels across the Great Basin landscape.

In Nevada between 1970 and 2010, an increase of 1.5 million acres per decade burned due to wildfire. These staggering statistics highlighted the need to perform more fuels reduction treatments across the Great Basin. Agencies began fuels reduction treatments, but are still treating the backlog of fuel volumes left from a century of effective fire suppression and limited landscape-scale fuel treatments.

### **Challenges for Prescribed Fire in Nevada and the Great Basin**

The use of prescribed fire faces many challenges in Nevada, including a limited number of burn days, limited staffing, smoke impacts, public perception, and special status or endangered or threatened species. As human populations grow and urban areas expand, large wildfires will continue to have negative impacts on all facets of public and ecosystem health. Prescribed fire is not appropriate everywhere, but can be an important tool in many areas to mitigate these negative impacts. These challenges will need to be overcome to be as effective as possible.

### **Limited Burn Days**

Prescribed fires are conducted when predicted fire behavior is acceptable and manageable. Prescribed burns have goals such as area to be treated, post-burn ecosystem conditions and characteristics, as well as amount and sizes of fuels to be consumed. Prescribed burn windows that contain all the right elements in the right amounts that allow a prescribed fire to accomplish its burn goals, such as burn size and amount and size of fuels to be consumed, while still enabling control are limited. Additionally, air quality concerns can further restrict burn windows. Inversions restrict smoke movement and dispersal, leading to unfavorable burning conditions. Availability of burn days is typically limited to a month or two in the spring and fall depending on local climates and fuel types.

### **Resource Availability**

The agencies or organizations supporting qualified prescribed fire personnel have limited staff, and these staff generally have obligations that also need to be aligned with burn windows. For example, prescribed fire staff are often wildland firefighters working in and outside of the Great Basin, are responsible for implementing fuel reduction projects throughout their jurisdiction, and are involved with administration of fire-adapted communities and prevention programs. Additionally, qualified overhead personnel to manage complex burns, and funding to support these overhead personnel, are limited.

### **Smoke Impacts**

Smoke impacts, which affect public health and visibility, require consideration when planning for prescribed fires. The impacts of smoke can affect public health and welfare. Proper notification to the public and smoke-sensitive groups can allow for preparation to limit smoke exposure. It is important to support education about strategic prescribed fire planning and execution and how it can limit the health and visibility impacts of smoke while maximizing fire use benefits.

### **Public Perception**

Public perception plays a big role in forming public policy, and public perception of prescribed fire use, goes beyond smoke impacts. The few prescribed fires that have escaped and resulted in loss of life and/or property are widely publicized and are vivid for local communities. If organizations are perceived as incapable of protecting life and property while burning, the tool may be taken off of the table before it has a chance to prove its worth for safely and effectively creating fire-adapted communities and resilient landscapes. Fire use as a management tool is a risk but its risks can be mitigated. Risk mitigation approaches, successes, and the benefits of prescribed fire as it relates to future fire risk and health concerns need to be better communicated to the public.

### **Special Status Species**

Greater sage-grouse, a special status species, is negatively impacted by wildfires, which are larger and more frequent with the invasion and dominance of annual grasses. Large amounts of greater sage-grouse

habitat occur in Nevada so fire use planning and fuel treatments including prescribed fire have been limited.

## **History of the Nevada Prescribed Fire Alliance**

Prescribed fire acceptability and use has been growing in Nevada within the last decade. While practicing agencies have become better equipped, improved training protocols, and gained more experience, burning challenges remain. Several agencies and organizations began inquiring about working together to share knowledge, equipment, and personnel and to facilitate public education and engagement. In 2015, a group met to discuss the development of a prescribed fire cooperative to meet current prescribed burning challenges. With the assistance of the Great Basin Fire Science Exchange, the Desert Research Institute, and members of the Coalition of Prescribed Fire Councils, Nevada agencies and organizations held a series of meetings and out of those meetings formed the Nevada Prescribed Fire Alliance. This cooperative group has grown to include representatives from the prescribed fire implementation and regulation sectors of Nevada land management agencies, natural resource agencies, and research institutions.

## **Nevada Prescribed Fire Alliance**

### **Vision**

To have broad support for the use of prescribed fire to manage natural resources, restore ecosystem processes, and to protect community health and safety.

### **Mission**

To promote the appropriate use of prescribed fire as a natural resource management tool through collaboration, facilitation, and shared learning experiences.

### **Goals and Objectives**

- **Enhance resource sharing among collaborators (in support of the National Cohesive Wildland Fire Management Strategy, the Integrated Rangeland Fire Management Strategy, and State objectives)**
  1. Develop, implement and maintain a website to list or display spatially, planned prescribed fires including basic attribute data such as size, fuel type, target dates and resources required
  2. Develop and maintain an agency contact list for prescribed fire planning and implementation coordination
  3. Develop statewide interagency agreements to provide a means for agencies to cover the cost of assisting other agencies with prescribed fire planning and implementation and to provide a mechanism for sharing and leveraging resources
  
- **Expand community of practice through training opportunities**
  1. Support peer learning to complement instructor-led training

2. Support peer coaching around the implementation of a practice following technical assistance
  3. Create a culture of peer support that has the potential to outlive the training and technical assistance tasks
  4. Identify major areas of expertise within group, and identify how this might be used to address identified needs
  5. Facilitate the exchange of evaluator(s) between agencies to mentor and qualify trainees
  6. Working with USFS, BLM and NDF review agency procedures, policies and regulations related prescribed fire and work on revisions when appropriate
  7. Recognize the National Wildfire Coordination Group (NWCG) requirements with the implementing agency to meet congruent qualifications
    - a. Selecting trainees based on unit needs
    - b. Ensuring that the trainee meets the training and experience requirements for the position
    - c. Issuing position task books to document task performance
    - d. Explaining to the trainee the purpose and processes of the PTB, as well as the trainee's responsibilities
    - e. Providing evaluation assignments and/or making the trainee available for evaluation assignments
    - f. Providing a qualified evaluator for local assignments
    - g. Tracking progress of the trainee
    - h. Confirming PTB completion
    - i. Determining certification per agency policy
    - j. Issuing proof of certification
  8. Organize annual workshop (aimed at resource managers/fire practitioners) to share new research, lessons learned, and training opportunities
  9. Provide training opportunities, presentations, and technical documents on website
  10. National Air Resource Advisors (ARA) training opportunities
- **Support the capacity to do outreach and public education**
    1. Develop a uniform, consistent message that is easily understood and can be delivered through multiple outlets to achieve a greater understanding by both the general population and specifically targeted audiences regarding:
      - a. The natural and beneficial role of fire in the evolution of Western forests and rangelands
      - b. Departure from natural wildfire regime (invasives, damage, etc.)
      - c. The resilience to catastrophic damage that results when fire is allowed to function in its natural role and create/restore a fire adapted ecosystem.
      - d. The gains in efficiency and effectiveness when fire is used to reduce or remove hazardous fuel and thereby beneficially alter wildfire behavior
      - e. The limits of practical and effective application and situations where prescribed fire is not recommended

- f. Risk to resistance and resilience without fire
  - g. The cautionary steps and detailed procedure that is required before any prescribed ignition is allowed
  - h. The regulatory role of public air quality agencies in the monitoring and permitting process for the use of prescribed fire
  - i. The relative health impacts of prescribed fire smoke versus wildfire smoke.
  - j. Support post-prescribed fire land use management and treatments (prescribed grazing, strategic revegetation, invasive species control)
2. Encourage all public information organizations, including agency public information offices, to utilize the message(s) developed in releases and all forms of public information outreach efforts
  3. Develop a uniform notification process to keep the public informed regarding future landscape treatment plans as well as prescribed ignitions that are planned, or especially are imminent
  4. Create a Prescribed Fire Awareness/Appreciation Week
  5. Partner with Living with Fire and other organizations that already have a known presence
  6. Work with the National Weather Service
  7. What can the Alliance do to help these successful organizations? This council supports implementation you can see on the ground. This alliance can connect the message to the ground. Social media to get the message out.
- **Support data availability and dissemination**
    1. Data Availability\* and Project Tracking: Provide a website to house project summaries, monitoring data, factsheets, and other information to the prescribed fire community. Data made available may include:
      - a. Project summaries with photos and contact info (like Utah Partners: <https://wri.utah.gov/wri/project/search.html>)
      - b. Air quality factsheets
      - c. Rx burn factsheets
      - d. Project plans
      - e. Monitoring data
      - f. Geospatial data
      - g. Weather and forecasts
      - h. Science information/data (FEIS, fire modeling tools, GBFSE, etc.)
      - i. Library of literature pertinent to Nevada and Eastern Sierra ecosystems
    2. Data Dissemination and outreach: Information may be disseminated via:
      - a. Workshops/meetings (like the SRM winter meeting)
      - b. Special session at conferences
      - c. Newsletters
      - d. Social media

- e. Radio
- f. Website
- g. Demonstration site
- h. Annual field trips

\*A committee or subgroup will most likely need to be formed to assess similar efforts in the state so as to avoid overlap. The committee would need to work with agencies to figure out the data/summary upload process; that will do it, how often, support from upper management, etc. Develop an evaluation plan. NVPFA may not be the lead but can help facilitate or create a dashboard.

- **Facilitate landscape-scale collaborative planning and management objectives:**
  1. Work with agencies, NGO's, and private citizens to foster positive working relationships to promote the use of prescribed fire across ownership boundaries
  2. Support the development of interagency prescribed fire teams
  3. Host annual field trips to share success stories
  4. Develop a platform to connect private landowners with available grants
  
- **Influence local, state, and regional policy to maximize prescribed fire use flexibility**
  1. Build stakeholder support for prescribed fires as an important tool for forest health
    - a. Educate the community on the long-term benefits vs. short-term impacts of prescribed fire
    - b. Educate policy makers on the long-term benefits vs. short-term impacts of prescribed fire
    - c. Engage the media to tell the story
    - d. Engage surrounding local agencies (TRPA, Conservation Districts, etc.)
    - e. Raise community tolerance for prescribed fire smoke vs. wildfire smoke through educational campaign
    - f. Participate in EPA workshops and webinars to provide comments on changes to standards effecting Rx fire
  2. Revise local Smoke Management Programs to maximize prescribed fire use flexibility
    - a. Identify possible areas to increase flexibility
  3. Connect forest and rangeland health to other community concerns such as resiliency, sustainability, productivity, safety, beauty, wildlife, and economy
    - a. Evaluate and document pollutant concentrations from prescribed fire vs. wildfire (PM2.5 and Ozone).

## FOR MORE INFORMATION

Please visit our website at [www.NVRxFireAlliance.org](http://www.NVRxFireAlliance.org).